In January, President Barack Obama pledged in his final State of the Union address to launch a “new national effort” aimed at finding a cure for cancer.

“For the loved ones we’ve all lost, for the family we can still save, let’s make America the country that cures cancer once and for all,” the President said.

This year, 1.7 million people in the United States will be newly diagnosed with some form of cancer. By the end of the year, 595,690 people will have died from the diseases. One great challenge for researchers is that cancer is not one disease with one cure but a collection of diseases that affect different organs and tissues differently, requiring different therapeutic methods and strategies to save lives.

And yet after years of often slow and painstaking effort, researchers have arrived at what could be the threshold of a series of new therapies that use the body’s own natural defenses and amazing new microscopic technologies to fight and possibly eliminate these cancerous invasions. Many of those researchers are working at Yale School of Medicine, including two teams who are preparing to harvest the fruits of seeds planted years ago with funding from Women’s Health Research at Yale.

Humans are not mice. Their differences are both obvious and subtle. But they possess significant biological similarities. And Yale researchers have developed models of mice that could prove the key to creating individualized treatment for some of the deadliest diseases for women, such as breast cancer and uterine serous cancer (USC).

The first of these videos depicts a talented cartoonist for the Yale Daily News drawing characters and situations, offering an appealing approach to help women cope with health conditions that disproportionately affect them.

The series follows the popular bite-sized videos from our public awareness campaign begun last summer on the streets of New Haven to alert people to the problems the country faces in advancing women’s health.

In addition, WHRY has begun to investigate the effectiveness of our video messaging through focus groups and questionnaires.

It’s never too late to quit smoking. And it’s never too early to build strong bones and muscles to avoid falls and fractures. For 18 years, WHRY has worked to draw distinctions between men and women. And now we are drawing distinct pictures to tell stories that can benefit us all.

Watch May 31 at www.yalewhr.org
Women’s Health Research at Yale was founded in 1998 with initial funding from The Patrick and Catherine Weldon Donaghue Medical Research Foundation. Women’s Health Research at Yale is a program within Yale School of Medicine. Yale University is a 501(c)(3) nonprofit organization.

**EXECUTIVE DIRECTOR**
Carolyn M. Mazure, Ph.D.
Norma Weinberg Spungen
and Joan Lebson Bildner Professor of Psychiatry and Psychology

**DEPUTY DIRECTOR**
Sherry A. McKee, Ph.D.
Professor of Psychiatry

**EXECUTIVE ADMINISTRATOR**
Ramona E. Gregg

**COMMUNICATIONS OFFICER**
Rick Harrison

**GRANTS & FINANCE ADMINISTRATOR**
Marco Mutonji

**MEDIA & DESIGN SPECIALIST**
Carissa R. Violante

**COUNCIL FOR WOMEN’S HEALTH RESEARCH AT YALE**
Diane F. Aiker
Elisa Spungen Bildner
Kim A. Healey
Sharon Wolfsohn Karp
Susan Lustman Katz
Katharine Kenny
Bobbi Mark
Kevin McCann
Ellen Gibson McGinnis
Roslyn Milstein Meyer
Marta E. Moret
Wendy Underwood Naratil
Eve Hart Rice
Carol F. Ross — Chair
Patricia Russo
Diane Young Turner
Diana S. Wakerley
Patricia Doukas Zandy

**SPECIAL ADVISORS**
Marjorie “Kitty” Northrop Friedman
Kimberly M. Goff-Crews
Linda Koch Lorimer

**HONORARY MEMBERS**
U.S. Representative Rosa L. DeLauro
Eileen S. Kraus
Joanne Woodward
Lieutenant Governor Nancy Wyman

**LEGACY SOCIETY**
Rosemary Hudson

---

**RECOGNIZING OUR SUPPORTERS**

**Gifts Made to Women’s Health Research at Yale**

**IN MEMORY OF...**
Mary B. Arnstein
Gertrude Z. Gessner
Betty Hollander
Rella Rubenstein
Cherry Swords
Edith Wiley
Elizabeth Welch

**IN HONOR OF...**
Elin Brockman
Joann Knudson, M.D.
Jackie Mark
Marilyn Mark
Sydney Perry
Jan L. Roth
Doss Venema
Joan Winant

---

**Join the Society of Friends**

Consider a donation to Women’s Health Research at Yale in celebration of a birthday, a special occasion, or to honor someone in your life.

Our Society of Friends ensures the future of Women’s Health Research at Yale. Gifts are welcome at all levels.

<table>
<thead>
<tr>
<th>Level</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visionary</td>
<td>$100,000 and above</td>
</tr>
<tr>
<td>Partner</td>
<td>$25,000 – $99,999</td>
</tr>
<tr>
<td>Investor</td>
<td>$10,000 – $24,999</td>
</tr>
<tr>
<td>Advocate</td>
<td>$5,000 – $9,999</td>
</tr>
<tr>
<td>Contributor</td>
<td>$2,500 – $4,999</td>
</tr>
<tr>
<td>Friend</td>
<td>$1,000 – $2,499</td>
</tr>
<tr>
<td>Supporter</td>
<td>$500 – $999</td>
</tr>
<tr>
<td>Affiliate</td>
<td>up to $499</td>
</tr>
</tbody>
</table>

**MAIL YOUR GIFT TO:**
Women’s Health Research at Yale
New Haven, CT 06520-8091
Attn: Ramona E. Gregg

**TO MAKE AN ONLINE GIFT, VISIT:**
www.yalewhr.org

---

**Did you know your gift supports...**

- ground-breaking research with practical applications to advance women’s health
- training of the next generation of scientists focused on sex and gender differences
- efforts to share our findings with the public to make more informed decisions about their health

---

Women’s Health Research at Yale
Tomorrow is Today
BIRCWH Scholars Unraveling Addiction

More men suffer from addiction than women, but women tend to move more quickly from using substances to becoming addicted. Women more often find it harder to quit using. And they are more likely to relapse after a quit attempt.

Among the first six junior faculty graduates of our Building Interdisciplinary Research Careers in Women’s Health (BIRCWH) Scholar Program funded by the National Institutes of Health, all former Scholars focused their work on addictive behaviors.

And in this second of two stories profiling this impressive class of researchers, we visit with three women who have already contributed significant knowledge toward understanding the roots and dynamics of addiction and how we can better help people who struggle to escape its hold.

As a Research Scientist and Associate Director of Policy and Research Analysis for The National Center on Addiction and Substance Abuse (CASA) in New York, DR. AZURE THOMPSON is leveraging her BIRCWH training to help communities and influence public policy.

While a BIRCWH Scholar with a focus on smoking in black women, Thompson demonstrated how young adult black women with children are particularly vulnerable to begin smoking.

“I think the policies that we currently have available to prevent tobacco use have been limited in their impact on black women,” Thompson said about the federal minimum legal age of 18 to purchase cigarettes. “Black women, if they start smoking, usually start smoking at a later age.”

While smoking among adults in the United States has declined by 4 percent over the last decade, nearly 17 percent of adults currently smoke cigarettes. That’s 40 million Americans, of whom 16 million live with a smoking-related disease. Cigarette smoking kills 480,000 Americans each year and remains the leading cause of preventable disease and death. Declines in smoking have been less in women than in men, and women remain more vulnerable to smoking-related diseases than men.

Currently, Thompson is collaborating with the City University of New York (CUNY) and New York University to explore the influence of tobacco-free campus policies on student smoking behaviors. She notes that a number of schools are located in areas with a high concentration of tobacco retailers, particularly schools located in racial/ethnic minority communities. CUNY is also one of the most diverse university systems in the country. And even as rates of tobacco use continue to decline for adolescents and young adults, Thompson’s research shows that the decline is less or nonexistent among some racial/ethnic minorities.

“We need to know what influence this kind of policy can have in a non-residential campus and whether it differs for sub-populations, such as women and ethnic minorities,” Thompson said. “Nearly everyone commutes and can step outside the building or the gate of the campus and smoke.”

Dr. Sherry McKee, WHRY Deputy Director and one of Thompson’s

CONTINUED NEXT PAGE
former mentors, stressed the importance of this work.

“Dr. Thompson engages the fight against addiction on the front lines, among those most vulnerable and disproportionately targeted,” McKee said. “Her ability to join rigorous, innovative research with practical policy recommendations promises a healthier future for these neighborhoods.”

In addition, Thompson hopes to find ways for smoking cessation or avoidance interventions to reach disconnected youth, young adult women and men who are between the ages of 16 and 25 who are not in school and are unemployed.

“It’s going to be a challenge,” she said. “You’re not going to be able to intervene in traditional ways like at colleges or jobs. We are thinking about ways you can target this important population.”

CASA has also included other products, such as e-cigarettes, smokeless tobacco, and hookahs, in its investigations. And last year, the center began a collaboration with Yale School of Medicine and Yale School of Public Health to form a research and policy center in New Haven targeting all addictions.

“I really want to make an impact,” Thompson said. “What I have learned as a BIRCWH Scholar is you have to be committed to whatever it is you are working on. Because the fruits of it may not be immediate. And you have to believe and have faith that you will make a difference.”

DR. MARCI MITCHELL collaborated with her primary mentor Dr. Marc Potenza, Professor of Psychiatry and Director of Women and Addictive Disorders for Women’s Health Research at Yale, to study sex differences on the neurobiology of how people make choices and how those choices affect the possibilities of future choices. She also studied the possible influence of sex hormones on the process of making choices.

“Addictions often develop into compulsive, repetitive behaviors that interfere with the ability of people to live balanced, safe lives,” Potenza said. “And addictions often possess biochemical components that we’re only beginning to understand. But they also often begin as simple choices to engage in behaviors that provide pleasure before becoming burdens and serious health threats.”

Dr. Potenza’s team looks to the origins of those behaviors for clues to prevention.

“Research into what drives those choices and what role gender might play can help people to avoid bad decisions,” Potenza said.

Mitchell conducted analyses of women and men, both addicted to cocaine and without any addiction, in search of differences in brain activity as revealed on a scan while participating in a validated measure of choice behaviors. She conducted similar gender analyses on the brain activity of healthy men and women during a task designed to assess responses to reward and punishment.

She and Dr. Potenza found that women and men differed not only with respect to the brain regions involved in processing rewards and exerting control, but also with respect to the connectivity patterns of the regions during these processes. Furthermore, addiction seemed to influence these brain processes in different manners in women and men.

In addition, Mitchell worked with a group of international investigators to help document how to best assess choice impulsivity across species. And she was the primary author of two book chapters on the neuroscience of cocaine dependence, including sex differences.

“The contributions of Dr. Mitchell and others have given us a better understanding of the ways in which the brains of men and women experience the world in different ways,” Potenza said. “From the commonplace decisions and stresses we all face to the ravages of addiction, gender exerts an influence we continue to decipher for the benefit of everyone.”

Upon completion of her BIRCWH training, DR. ELISE DEVITO continued working with the Psychotherapy Development Center for Drug Abuse — a highly productive interdisciplinary research group led by Dr. Kathleen Carroll. Recently, she has also begun a collaboration with The Yale Tobacco Center of Regulatory Science (TCORS), contributing to studies and designing her own to directly inform federal tobacco regulations.

Gender exerts an influence we continue to decipher for the benefit of everyone.

While studying how men and women respond to therapies to treat cocaine addiction as a BIRCWH Scholar, DeVito demonstrated that while women and men experienced similar results from behavioral therapies, women had poorer cocaine use outcomes than men in response to disulfiram, a medication approved for the treatment of alcoholism.
DeVito’s work has brought us closer to understanding the importance of considering gender when developing treatments for addiction.”

DeVito now hopes to build on previous findings that demonstrate the different reactions of women to nicotine as compared to men and at different points in their menstrual cycles.

“If we’re really going to understand the whole overarching span of addiction — when the highest risks are and how behavior changes over time — we’re going to have to take these biological factors into account,” DeVito said.

DeVito’s latest research includes an investigation into how flavorings in electronic cigarettes might undermine the harsh effects of nicotine that cause some people to avoid smoking. Therefore, flavorings could make the habit more palatable and more likely to lead to addiction. The addition of flavorings could possibly have a disproportional impact on African Americans, who are more likely to have a gene that makes them more sensitive to nicotine’s aversive effects that is possibly masked by the flavorings.

Another investigation focuses on strategies to diminish withdrawal symptoms in women, looking at a smoking cessation medication that may mimic a protective effect found in some women who experience less craving after they quit.

“There is a large amount of data showing clinically relevant bases for biological differences in smoking,” DeVito said. “And yet these data frequently are not included in discussions of possible treatment strategies because I think people are more comfortable considering all the social factors that play a role in smoking. We need to understand the mechanisms of the biology more precisely or at least manipulate those factors more precisely to help people achieve smoking cessation.”

Like all the BIRCWH Scholars,

DeVito’s work seeks real-world applications to help people live better lives. “The point is there are clinical applications,” DeVito said, referring as an example to her pending study to determine whether a medication could decrease nicotine withdrawal symptoms in women. “Such as considering when you start a treatment program or use medications. Or just knowing what your risk factors are.”

DeVito praised the Yale BIRCWH Program for its focus on mentorship, noting that she benefited greatly from the guidance of Drs. Mazure and Samuel Ball and that she continues to work closely with Drs. Carroll and Mehmet Sofuoglu. She also expressed gratitude for the opportunity to build relationships among her fellow Scholars.

“They encouraged us to get to know each other, learn peer science and peer interactions,” DeVito said. “Our generation will be the next mentors and Principal Investigators all interacting with each other. The BIRCWH Program gave me an opportunity to work with these other Scholars who were amazing and had different areas of interest from my own.”

---

**TRAINING THE NEXT GENERATION**

Women’s Health Research at Yale helps fulfill its mission to teach students, fellows, and junior faculty interested in pursuing research in women’s health and gender differences in part through a $2.5 million grant from the National Institutes of Health’s Office of Research on Women’s Health, the National Institute on Drug Abuse, and the National Institute on Alcohol Abuse.

The Yale Building Interdisciplinary Research Careers in Women’s Health (BIRCWH) Scholar Program is led by Principal Investigator Carolyn M. Mazure, Ph.D., and Research Director Sherry McKee, Ph.D.

Dr. Azure Thompson was mentored by Dr. McKee and Dr. Jacob Kraemer Tebes, Professor of Psychiatry and Director of The Consultation Center.

Dr. Marci Mitchell was mentored by Dr. McKee and Dr. Marc Potenza, Professor of Psychiatry and Director of Women and Addictive Disorders for Women’s Health Research at Yale.

Dr. Elise DeVito was mentored by Dr. Kathleen Carroll, the Albert E. Kent Professor of Psychiatry, and Dr. Mehmet Sofuoglu, Professor of Psychiatry.

---

**DEFINITIONS OF SEX AND GENDER**

**Sex:** The classification of living things, generally as male or female according to their reproductive organs and functions assigned by chromosomal compliment.

**Gender:** A person’s self-representation as male or female, or how that person is responded to by social institutions based on the individual’s gender presentation. Gender is rooted in biology and shaped by environment and experience.

*Source: The Institute of Medicine*
The possibilities are enormous,” said Dr. Alfred Bothwell, a Professor of Immunobiology at Yale School of Medicine. “It’s an amazing time.”

Breast cancer is the most common cancer in women, affecting 220,000 women and killing 41,000. Uterine serous cancer spreads quickly and kills 70 percent of patients within five years.

Using a unique type of mouse developed at Yale, Bothwell and Therapeutic Radiology and Genetics Professor Joann Sweasy, Ph.D. have led WHRY-sponsored efforts to develop new ways to treat these and other cancers.

**THE HUMAN IMMUNE SYSTEM AND CANCER**

A technique commonly used to test the effect of a drug on a cancer is to implant human tumors into mice to see if the drug might shrink the tumor. Researchers often find that a drug might shrink the tumor in mice but fail to have a similar beneficial effect when the drug advances to trials in human subjects.

The reason? The tumor does not exist in a vacuum. Dr. Alessandro Santin, Yale Professor of Professor of Obstetrics, Gynecology, and Reproductive Sciences, determined that the immune system of the animal fighting the cancer plays a role in tumor growth and responses to therapies.

“All of us have cells growing inside us that could become tumors, but our immune systems work to eradicate these aberrant cells before they become tumors,” Sweasy said. “This important concept has led the way to a new kind of cancer therapy.”

But first the researchers needed proof of their concept. And to get that proof, they needed a special kind of mouse.

Dr. Richard A. Flavell, Sterling Professor of Immunobiology and Chair of the department, developed a mouse with no internal immune system. These mice had none of the specialized white blood cells called lymphocytes that make proteins called antibodies to target antigens — potentially harmful outside substances such as viruses, bacteria, chemicals, and parasites.

Starting in 2009, Sweasy’s team used a pilot project grant from Women’s Health Research at Yale to implant human breast cancer cells into this new strain of immune-deficient mice. They then injected lymphocytes — called B and T cells — from the patients into the mice to reconstitute each patient’s
individual immune system and see how the mice reacted to various treatments compared to mice without a human immune system.

When the researchers treated the mice with ionizing radiation — a standard therapy for breast cancer — they found the best results in mice receiving the treatment that also possessed the patients’ immune systems.

“The mice with the patients’ immune systems definitely had human lymphocytes in the tumor,” Sweasy said. “A clear sign that the patients’ immune systems were fighting the tumor.”

But immune systems can overreact. Sometimes the body mistakes its own cells for dangerous invaders and attacks them, producing serious complications called autoimmune disorders. To protect against this type of self-inflicted damage, the body uses a series of immune checkpoints — molecules on immune cells that need to be activated in order to trigger an immune response.

And many times, cancerous tumors hijack this self-defense against collateral damage, avoiding destruction by acting like the body’s own harmless cells and inactivating the T cells that would otherwise fight invaders and harmful cancer cells.

But recently, Yale researchers have led the way in developing methods to block these checkpoints and release this natural anti-tumor immunity to fight cancer, a therapy dubbed immune checkpoint blockade.

**GENETICS AND CANCER**

Heredity of traits from generation to generation of almost all living things is conducted by deoxyribonucleic acid, or DNA, a self-replicating material that carries a genetic code directing the production of proteins, the building blocks of cells.

Cells occasionally undergo mutations, a permanent change in the sequence of DNA created through replication error or unrepaired damage.

Santin observed that 8 percent of patients with uterine serous cancer had thousands and thousands of mutations in their tumors when typically USC tumors only have hundreds of mutations. These hypermutations were likely due to a change in the proofreading function of a DNA-creating enzyme called DNA polymerase E (POL E).

Because of all of these mutations, proteins in a USC tumor cell look different, with the potential to act as what researchers call neo-antigens, which are foreign substances that the body has not previously encountered and identified. No longer blocked by a cancer-manipulated immune checkpoint, the T cells recognize the neo-antigens as foreign bodies and kill the tumor.

Taking advantage of this dynamic, doctors can now inject neo-antigens into a patient who does not have the hypermutations to disrupt these immune checkpoints and let the body’s immune system do its job.

“Yale is the leader in this new therapy,” Sweasy said. “It’s what we’re known for.”

Dr. Santin discovered that patients with the POL E mutation do not appear to benefit from chemotherapy because the tumors are resistant to it. Instead, they would be better treated with immune therapy.

In 2014, Dr. Bothwell received a pilot project grant from Women’s Health Research at Yale to understand the mechanism of this protective effect, possibly leading to new therapeutic strategies.

“We are working to identify more precise biological targets to render tumors more detectable by the immune

---

**ABOUT THE INVESTIGATOR —**

**Dr. Joann Sweasy** earned her bachelor’s degree from Beaver College in Pennsylvania before receiving her Ph.D. from Rutgers University and becoming a postdoctoral fellow at The University of Washington in Seattle. At Yale, she is a Professor of Therapeutic Radiology and Genetics and Vice-Chair for Basic Research. She also serves as Associate Director for Basic Science at Yale Cancer Center.

Her research focuses on genetic instability and how mutations lead to human diseases such as cancer. Her lab has begun to understand how the special proteins that form DNA occasionally make mistakes that result in mutations.

**Dr. Alessandro Santin** graduated with honors and received his postgraduate training in Obstetrics and Gynecology at the University of Brescia in Italy. At Yale, he is a Professor of Obstetrics, Gynecology, and Reproductive Sciences and a Clinical Research Program Leader for the Gynecologic Oncology Program at Yale Cancer Center.

His current research focuses on immunotherapy for ovarian and endometrial cancer, developing vaccines against human papillomavirus (HPV), and the use of antibodies against chemotherapy-resistant gynecologic tumors.
DEFINITIONS

DNA:  Deoxyribonucleic acid, a self-replicating material that carries the genetic code of almost all living things and directs the production of proteins, the building blocks of cells.

Gene:  A part of the DNA molecule that forms the basis of heredity, passing traits from parents to offspring.

Mutation:  A permanent change in the sequence of DNA created through replication error or unrepaired damage.

Cancer:  A group of diseases that occur when abnormal cells begin dividing without stopping and then spread to surrounding tissues.

Tumor:  An abnormal growth that can be benign or malignant (cancerous).

Immune System:  The body’s defense against infectious organisms and other harmful substances, composed of physical barriers, general reactions, and specialized cells that can target and remember specific invasive agents.

Antibody:  A protein that the body produces to fight foreign substances such as bacteria, viruses, parasites, fungi, and chemicals that can lead to disease.

Autoimmune Disorder:  When the immune system mistakes its own cells for dangerous invaders and attacks them, producing serious complications.

SPECIAL, LIFE-SAVING DELIVERY

A surgeon peers through an imaging device that magnifies the open abdomen of her patient, revealing a malignant mass that she carefully removes, leaving no visible evidence of disease behind.

Or so she hopes.

To eliminate all doubt, the surgeon flips a switch to turn on an ultraviolet light that shines across the surgical field where a fluorescent dye has attached to tumor cells, making them glow.

Easily spotting every cluster of glowing cancer, she methodically vaporizes all traces of the disease with a laser.

Dr. Alessandro Santin pioneered the research that led to this technique for use in surgery for ovarian cancer, the most deadly of all gynecological cancers because of its recurrence and resistance to drugs.

“Ovarian cancers come back with a vengeance,” Santin said. “Because they survived the chemotherapy.”

Santin had discovered that the lining of ovarian cancer cells create a large number of two particular proteins — claudin-3 and claudin-4 — that are receptors for a bacteria called Clostridium perfringens enterotoxin, or CPE, that leads to a common form of food poisoning.

Using a WHRY grant in 2010 and the expertise of Dr. W. Mark Saltzman, Yale’s first chair of biomedical engineering, Santin’s team began working with nanoparticles. They have explored using these ultra-tiny non-toxic and biodegradable objects, coated with the non-toxic CPE peptide binding agent, as a method for locating ovarian tumors.

Years later and with additional funding from the National Institutes of Health, Santin has begun to show that not only can nanoparticles deliver a fluorescent dye to locate and highlight tumors, but they can deliver a small cargo of chemotherapy agents to the cancer cells and kill them from the inside.

“A nanoparticle is like a small cargo container,” Santin said. “We can place a lot of things inside, like chemotherapy agents. And make treatment highly effective and less toxic. The chemotherapy remains inside the shell of the particle until it’s inside the cancer.”

But the team will not stop there. Another method under development involves filling the nanoparticles not...
As the end of the fiscal year approaches on June 30, we could not be more grateful for the thoughtful and dedicated support of our donors. The Annual Appeal appears on track to reach our goals so that we can continue to close the gap in knowledge about women’s health and guarantee that researchers and practitioners fully consider the influence of sex and gender.

While we remain focused on achieving true sex and gender equity in biomedical research to make up for decades in which women were not even included in most studies, that mission stands to benefit everyone.

Today, when researchers do include adequate numbers of female subjects in their studies, they often do not analyze their results by sex or gender. This leaves us in the dark about any differences that could either influence the development of sex- and gender-specific treatments or lead to better-informed decisions benefiting both men and women.

A gift to Women’s Health Research at Yale, a national leader in the study of how sex and gender affects health conditions, represents a tremendous opportunity to spread better research practices and discover new avenues for treatment with a relatively small investment that can be amplified for the greatest impact.

Over 18 years, WHRY has funded 76 pilot projects with a total of $4.8 million in seed money aimed at obtaining the preliminary data needed to receive larger National Institutes of Health grants. With our backing, those projects have gone on to receive $73 million in external funding to advance and expand the work — money spent on research, training, and outreach efforts needed to confront serious challenges.

Your gift can discover the latest advances in breast cancer detection.
Your gift can help design nanoparticles to block sexually transmitted diseases.
Your gift can explore treatments for girls with autism.

Your gift can engage the public and professional communities with new gender-specific health information.
Your gift can train the next generation of researchers to study the influence of sex and gender on health outcomes.
Your gift can help provide a national voice on women’s health that informs public policy.

So please give what you can, whenever you can, to make sure that this vital work continues to thrive and expand.

And thank you so much for your valued partnership as we work to secure a better, healthier future for everyone.

Sincerely,

Bobbi Mark
Philanthropy Chair
COUNCIL NEWS

WHRY Welcomes Katharine Kenny

Growing up outside of Cleveland, Katharine Kenny embraced healthy living. But she noticed a lack of attention paid to girls.

“Times have certainly changed, but we still don’t do a great job differentiating between men’s and women’s needs,” Kenny said. “And that goes to all aspects of women’s lives, including physical and psychological well-being.”

As the latest addition to Women’s Health Research at Yale’s Advisory Council, Kenny plans to help the center advance its mission toward achieving true sex and gender equity in biomedical research to better serve both men and women.

“I’m thrilled that there is an organization like Women’s Health Research at Yale, and I was so impressed when I came to visit,” Kenny said. “This is a great opportunity for me.

Since 2009, Kenny has served as Vice President of Investor Relations for CarMax, the Virginia-based Fortune 500 used car retailer with nearly 160 stores across the country.

With an undergraduate degree in Theater and English from Kenyon College in Ohio and an M.B.A. in finance and accounting from Cleveland State University, Kenny’s career in investor relations has made stops at corporations in Dallas and Charlotte before arriving in Richmond, Va., first for a job with Massey Energy Company.

Kenny hopes her corporate experience and diverse geographical background can help guide the council.

“My career in IR has helped me develop strong skills in writing, public relations, and outreach,” she said. “I focus on helping potential shareholders understand the benefits of investing in my company. This is something that WHRY has done so well with its donors.”

Kenny serves as a member of the National Investor Relations Institute’s Senior Roundtable Steering Committee and as Co-Chair of the Global Council of Investor Relations Executives for The Conference Board, an independent international association providing research and analysis for businesses. She also serves on the Board of Directors of FeedMore, a Richmond-based nonprofit hunger relief organization composed of Meals on Wheels and the Central Virginia Food Bank.

“We are thrilled to welcome Katharine to the Council,” said Chair Carol Ross. “Her enthusiasm, expertise, and compassion will make a valuable contribution to our talented and dedicated team.”

Kenny is aware that her life has been enhanced by a successful career and healthy living, and she is now grateful to have the opportunity to help others.

“I’m getting to the age where I’m realizing what I’ve done to stay healthy over the last 25 years will hopefully make a huge difference as I grow older,” she said. “And many people are living longer. I want to make sure everyone has the best opportunity to live as happy and as healthy as possible.”

STAFF UPDATE

Carissa Violante Earns Master’s Degree, Wins Award

WHRY Media & Graphics Specialist Carissa Violante has earned The Information Design and Technology Program Award along with a master’s degree from SUNY Polytechnic Institute in Utica.

Not only did her award-winning thesis project impress the school administration, but it echoes our mission at WHRY to inspire and train the next generation of researchers to help build a better world for everyone.

For her project, Violante designed a website and mobile app to engage young women in science, technology, engineering, and math (STEM) subjects.

“What we do here at WHRY is so important, and I’m always looking for the best ways to reach and increase those interested in science and in our work,” she said. "Carissa Violante"
Why We Fight for Women’s Health

What does it mean to be a proponent of women’s health?

In April at the American College of Cardiology Scientific Session & Expo in Chicago, a Yale-led group of international researchers presented study results showing that women around the world died twice as often as men of the most deadly type of heart attack while in the hospital. Mortality rates for women after 30 days, six months, and a year after the heart attack were all 70 percent higher than men.

And yet women remain underrepresented in clinical trials exploring the development and treatment of cardiovascular disease and cancer.

In our current polarized political climate, so often the term “women’s health” becomes synonymous with “reproductive health” or the highly emotional arguments surrounding if, when, or how a woman should be able to end a pregnancy.

But there is more to the health of a woman than her ability to reproduce. And there’s more to truly being a proponent of women’s health than focusing on any one aspect of what makes women different than men.

There are the obvious differences, learned early in life. And then there’s what we’ve only learned through years of careful study.

Research has shown that women are twice as likely to be diagnosed with depression. And yet the American Psychological Association reports that women are misdiagnosed up to 50 percent of the time.

Women suffer dementia at higher rates than men, even as the Alzheimer’s Association reports that 65 percent of those caring for people with Alzheimer’s disease are women. And women 60 and older are about twice as likely to develop Alzheimer’s disease than breast cancer.

Women are also more likely to develop osteoporosis, particularly after menopause. Half of all women over the age of 50 who have osteoporosis will break a bone.

Women still live longer than men. But a study in 2008 found that mortality rates for women were declining faster than men in the United States, mostly in poor areas and the southern part of the country. Researchers blame the declining longevity on obesity, high blood pressure, and smoking.

Obesity, high blood pressure, and smoking are contributing factors to cardiovascular disease. That’s the number one preventable cause of death and illness in the country. Lung cancer has killed more women than breast cancer since 1987.

And yet here we are, more than 20 years after Congress passed a law requiring that women be included in federally funded clinical studies, continuing to fight for equality in biomedical research.

To be truly a proponent of women’s health means applying resources and solid scientific scrutiny to sex and gender differences and to health conditions that disproportionately affect women. It means not only including female subjects in studies but analyzing results with an eye toward sex and gender differences.

Because being a proponent of women’s health means uncovering potential differences that can lead to more individualized prevention and treatment of disease for women and men.

It means treating people like people. But understanding, finally and completely, what makes us different.

WHRY Congratulates Our Inaugural Undergraduate Fellows

BIRUKTAWIT “BIRDY” ASSEFA, under the supervision of WHRY Deputy Director Sherry McKee, Ph.D., explored whether menthol smokers — who are more often black, female, and lower-income — are less likely to quit smoking than non-menthol smokers.

LILLIAN BITNER, also working with Dr. McKee, was involved in clinical research at the Forensic Drug Diversion Clinic, an outpatient center serving people referred by the judicial system for substance abuse treatment.

BENJAMIN FAIT, working with Dr. Mazure, was instrumental in producing six videos in WHRY’s public awareness campaign while writing about factors affecting student decisions to pursue a scientific research career.

LAURA GOULD GOETZ, working with Dr. Kelly Cosgrove, studied the neurochemical and molecular basis of addiction and psychiatric disorders through brain imaging technology.

Best wishes to all of our talented students as we look forward to following their promising academic and professional careers.
Women’s Health Research at Yale

135 College Street, Suite 220
New Haven, CT 06510

Women’s Health Research at Yale generates research on women’s health and sex and gender differences, dedicated to improving well-being for all through scientific knowledge translated into medical and personal practice.

To learn more, visit our website:
www.yalewhr.org

Email us:
WHRResearch@yale.edu

And join us on social media:
@WHRYale
facebook.com/WHRYale
youtube.com/WHRYale

HELP WITH THE HEADLINES
According to a recent study, consumption of caffeinated beverages did not cause a detrimental disturbance of cardiac rhythm (extra heartbeats called ectopy) that is associated with increased disease and death.

For more information on this and other health topics in the news, join our email list or visit our website: www.yalewhr.org.

Educational and outreach activities are made possible through the generous support of:

• The Community Foundation for Greater New Haven
• The Grace J. Fippinger Foundation
• Maximilian E. & Marion O. Hoffman Foundation, Inc.
• Seymour L. Lustman Memorial Fund
• The Werth Family Foundation
• Anonymous Donors

Scan this code with your smart-phone or email whresearch@yale.edu to join our email list.

CURRENT RESEARCH
Killing Cancer, p. 1

EDUCATION UPDATE
Tomorrow is Today, p. 3

ADVANCING WOMEN’S HEALTH RESEARCH AT YALE, P. 9

COUNCIL NEWS
WHRY Welcomes Katharine Kenny, p. 10

STAFF UPDATE, P. 10
PRESS NOTES, P. 11
RESEARCH TRAINING FELLOWSHIP, P. 11