Celebrating 15 Fabulous Years

A research center focused on women’s health and gender differences was only an idea when Dr. Carolyn M. Mazure began meeting more than 15 years ago with Raymond Andrews, then the Trustee of The Patrick and Catherine Weldon Donaghue Medical Research Foundation. Over time, they shared a vision for advancing much-needed health research of practical value for women. In February 1998 the foundation committed the initial funding to make The Ethel F. Donaghue Women’s Health Investigator Program – then to become Women’s Health Research at Yale – a reality.

Today, Women’s Health Research at Yale is the leading model for initiating inventive studies on crucial areas of women’s health, placing the exploration of gender differences squarely onto the nation’s research agenda, training a new generation of women’s health investigators, creating a bond with the community through outreach, and, above all, turning discoveries into real-world improvements in health and health care.

As we celebrate our influential health findings and the growth of our center, we recognize the many friends who made this success possible. As we look to the future, we envision even more success, and call on those wishing to speed the advancement of women’s health to join in our mission.

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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.

To make an online gift visit www.yalewhr.org or mail your gift to Women’s Health Research at Yale P.O. Box 208091 New Haven, CT 06520-8091

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Women’s Health Research at Yale was founded in 1998 with initial funding from The Patrick and Catherine Weldon Donaghue Medical Research Foundation.

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Recollections of an Incredible Adventure

When I met Dr. Mazure in 1998 to interview for the program coordinator position, we hadn’t yet started the program, hired staff, or even found an office. I recall being cautioned by others that this new and exciting research effort might not exist beyond the initial generous grant award from The Donaghue Foundation. But Dr. Mazure’s vision for factoring gender into studies on women’s health interested me, and I was thrilled about the opportunity to work in a cutting-edge, start-up research center that would make a real difference in our lives.

Just a month into the start of the program, after advertising for innovative new pilot study ideas that would address pressing issues in women’s health, we received over 80 grant applications. It was clear that we had touched on something very important and we were immediately on our way! Among my favorite experiences in that first year was reading the research proposals and learning about the science. At first I didn’t quite understand the scientific language, so I bought a medical dictionary, read everything I could find on the Internet and reviewed published articles, if any were available. I felt I needed to understand how the research would benefit women and, more importantly, I wanted to be able to explain it to my mom. From the start, the “practical benefit” of the research has been so very important in our mission.

Looking back on 15 years, I am flooded with memories of special moments - communicating with the researchers, engaging community leaders, meeting with students, and working with our staff. There have been many great events over the years - too many to list here. I never imagined I would have the chance to meet and work with so many accomplished scientists, prominent and influential leaders like Geraldine Ferraro, Judy Collins, Gloria Steinem, and especially our own women and men in the community - WHRY’s Advisory Council and honorary members - who have steadfastly championed our efforts on behalf of women and girls.

Most importantly, what we have been able to accomplish since 1998 would not have been possible without a dedicated and talented staff. They all brought their distinctive styles and skills, and made my role of administering the day-to-day activities of Women’s Health Research at Yale less a job and more an inspiring, energizing adventure.

And my family - for all the times I called my office “home” - you have helped me more than you know.

To have been part of this now nationally-known center since the beginning, as well as part of its future - knowing that my time and effort is in some part integral to its success - brings me great satisfaction. It all goes back to those first days when my friend and mentor, Carolyn Mazure, shared with me her vision of a new research center - Women’s Health Research at Yale. I am so very thankful to Carolyn for giving me the unique opportunity to share in this story. We have learned a lot and come a long way over 15 years. I truly look forward to the future - in what we have to do and can accomplish.

Ramona E. Gregg
Program Coordinator
Women’s Health Research at Yale
Highlights Through the Years

1998: $6.5 million grant from The Patrick and Catherine Weldon Donaghue Medical Research Foundation establishes The Ethel F. Donaghue Women’s Health Investigator Program at Yale, now Women’s Health Research at Yale. * First health study grants awarded.

1999: Interdisciplinary Research Cores established to facilitate collaborations among scientists/institutions and answer emerging questions. Cores on Women and Cardiovascular Disease, and Women and Addiction begin. Women and Trauma Core follows later.

2000: Community Advisory Council formed. * Geraldine Ferraro delivers keynote address at WHRY’s “Conference 2000 – Factoring in Gender” - New Haven, CT.


2002: First benefit “Regatta for Research: Racing for Women’s Health” - Essex, CT. * WHRY travels to Fairfield County, draws 300 women and men to “Conference 2002 – Factoring in Gender” - Stamford, CT.


2006: “An Evening with Judy Collins” benefit concert draws sellout crowd. ♦ In event featuring talk by Dr. Mazure, Yale President Richard Levin highlights women’s health and our mission in speaking about Yale’s future. ♦ Dr. Mazure and Yale Psychiatry researchers awarded federal grant to train junior faculty as researchers on women’s health and drug abuse.

2007: National Institutes of Health awards grant to Yale team for interdisciplinary research consortium on Stress, Self-Control and Addiction, Dr. Mazure’s role is fostering “team science,” developing investigator training and mentoring programs.

2008: Guests attend “A Day of Pilot Pen Tennis to benefit WHRY” courtside reception - New Haven, CT, part of 10th Anniversary celebrations.

2009: CT Women’s Hall of Fame inducts Dr. Mazure as WHRY founder. ♦ Dr. Mazure returns to speak to Women’s Initiative of prominent law firm Holland & Knight - NYC.

2010: Facebook, Twitter sites launch. ♦ Dr. Mazure speaks to Yale alumnae at “Celebrating Yale Women: 40 Years in Yale College, 140 Years at Yale.” ♦ WHRY/U.S. Dept. of Veterans Affairs begin nationwide study on gender differences in how female and male combat veterans readjust to civilian life. ♦ Second federal grant awarded to Dr. Mazure, Yale Psychiatry researchers to train junior faculty as researchers on women’s health and addictive behaviors.

2011: WHRY begins partnership with, receives unsolicited, first-ever multi-year grant awarded by Community Fund for Women & Girls. ♦ Dr. Mazure serves as Visionary Delegate of Vision 2020, national project fostering gender equality by 100th anniversary of women voting - Chicago, IL. ♦ WHRY YouTube channel launches.

2012: New video series on WHRY studies and mission launched. ♦ WHRY-funded scientist Dr. Sherry McKee awarded NIH grant for Specialized Center of Research on Women’s Health to develop gender-sensitive treatments for women to quit smoking. ♦ WHRY partners with YaleWomen, new alumnae group. ♦ WHRY is key partner in first-ever report on “The Status of Women and Girls in New Haven.” ♦ WHRY’s short video, “See the Whole Picture,” premieres.

2013: WHRY celebrates 15th anniversary.
Our investigators have completed 58 studies; 7 more are ongoing. A selection of our findings includes:

Nicotine receptors in the brain: In a major breakthrough relating to depression and smoking cessation, Dr. Marina Picciotto discovered that nicotine receptors are necessary for the behavioral effects of antidepressant action. Her results showed sex differences in the effects of nicotine which helps to explain why women may smoke to relieve depression. Her findings prompted research on gender-sensitive approaches to help women quit smoking, and opened a new path for drug discovery now under way to decrease depressive symptoms, particularly in women.

BRCA1 and BRCA2 genetic markers predict vulnerability to breast cancer recurrence: This study revealed that BRCA1/2 genetic markers predict a vulnerability to breast cancer recurrence in either the treated breast or the untreated breast. Dr. Bruce Haffty’s landmark results, with lasting national and global implications, continue to inform clinical decisions by patients and health care providers about treatments to prevent breast cancer recurrence.

Adequate protein is necessary for women’s bone health: Dr. Karl Insogna’s surprising results showed that diets based exclusively on soy (vegetable) protein rather than animal protein can reduce calcium absorption, necessary for bone health, unless care is taken to include essential amino acids. This is particularly important for post-menopausal women who tend to consume less than 25% of the recommended daily allowance and who face greater osteoporosis-related risks than men. His results led directly to ongoing work to develop dietary supplements and drug discovery to prevent osteoporosis.

Focusing on women who do not have recommended mammography screening for early detection of breast cancer: Dr. Peter Salovey found that health messages tailored to individual women’s information-processing styles increase mammography rates. In research that continues to have far-reaching implications, persuasiveness of positively framed messages (if you get a mammogram, you will live to see your grandchildren) vs. negatively framed messages (if you don’t get a mammogram, you may not live to see your grandchildren), when matched to processing styles, resulted in greater screening utilization. This approach is now incorporated into the design of messages motivating countless women to seek breast cancer screening and in other successful health-promotion messages.

Women fare worse than men after heart bypass surgery: In the first study to show gender differences in recovery after heart bypass surgery, Dr. Viola Vaccarino discovered that women recovering from this surgery suffer more pain, infection, lower physical functioning and twice the likelihood of hospital readmission. Her results alerted the cardiology world, and prompted care givers to ensure that women recovering from heart bypass complete cardiac rehabilitation, which dramatically reduces mortality after heart attack.

Uncontrollable stress impairs key decision-making brain center: Dr. Amy Arnsten discovered that stress-induced impairment of the brain’s pre-frontal cortex, essential in emotional regulation and executive decision making, is more pronounced in females, likely due to circulating levels of estrogen. This stress reactivity may make women more vulnerable than men to symptoms of post-traumatic stress disorder and depression. Understanding the neurobiological basis for these symptoms aided her development of a medication now approved for treating disorders related to pre-frontal cortex dysfunction.

Genital herpes transmission in women may be blocked: In research with national and global implications, Dr. Akiko Iwasaki discovered the receptor on the vaginal surface that must be blocked in order to stop transmission of genital herpes, a virus that affects a fifth of women worldwide. Her results are being used in drug development to prevent transmission of the virus.
Genetic markers signal degree of breast cancer cells’ invasiveness: Dr. Harriet Kluger identified genetic markers that correlate with breast cancer cells’ varying capability to spread to other cells and parts of the body. Health care providers are using her analytic technique that screens thousands of genes simultaneously to inform decisions on when chemotherapy is necessary and when it can be avoided.

Gender differences affect smoking behavior and cessation: In studies now influencing the national direction of smoking cessation approaches for women, Dr. Sherry McKee identified gender differences in the perceived “risks” for women quitting smoking - including not being able to manage negative mood, stress and weight gain. These innovative studies re-focused smoking cessation therapies for women on what women vs. men found most difficult about quitting, and resulted in a new National Institutes of Health specialized center of research on gender-specific treatment and drug discovery to help women quit smoking.

Endometrial marker predicts receptivity to embryo implantation: Reproductive health research initiated by Dr. Harvey Kliman to treat infertility found biochemical markers highly predictive of the endometrium’s receptivity to embryo implantation. Using the association of these markers with endometrial receptivity to implantation, he developed a widely used test that guides physicians and patients in treating infertility.

Gender differences in brain that affect smoking behaviors: In a groundbreaking study with far-reaching implications for neurobiology, Dr. Julie Staley discovered that radiotracers used in brain imaging to identify nicotine-receptor availability - as a measure of vulnerability to smoking - are metabolized differently by women compared to men. This critically important finding influenced the field’s understanding of when there were gender differences in receptor availability vs. radiotracer metabolism. Following Dr. Staley’s untimely passing, her post-doctoral student, Dr. Kelly Cosgrove, now Assistant Professor of Psychiatry, carried her work forward and showed that nicotine receptor availability is affected by sex hormones and correlated with cigarette craving in women smokers. These findings now widely inform gender-specific drug development for smoking cessation.

Women in heavy manufacturing hurt more often, more severely than men in same jobs: Dr. Oyebode Taiwo’s findings debunked an idea suggested in previous studies that women in jobs traditionally done by men would suffer the same kinds of injuries at the same rates. His findings showed women in heavy manufacturing jobs were hurt more frequently and more severely, often because equipment and industry workplace design are oriented toward men. Alcoa, Inc. is using his research to develop ways to reduce women’s workplace injuries.

A critical “window” for estrogen therapy to preserve memory: Building on results of earlier WHRY-funded work, Dr. Karyn Frick demonstrated that to preserve memory, estrogen likely needs to be administered when females are just entering menopause. This work addresses the controversy about whether women starting estrogen at or past menopause likely will benefit or possibly increase health risks from this therapy.

Severe stress in adolescence can alter brain circuitry involved in regulating mood: Dr. Hilary Blumberg’s study located effects on the brain of severe childhood stress which are greater in girls than boys. These effects on the development of the brain’s circuitry affect mood regulation and suggest a neurobiological basis for why depression worldwide is twice as prevalent in women vs. men. These results allowed her to obtain NIH funding designed to identify and develop interventions that protect brain circuitry under stress and help repair disruptions - thus reducing the risk of depression, especially in teenage girls and young women.

Nanoparticles can be specially designed to combat ovarian cancer: Drs. Alessandro Santin and W. Mark Saltzman demonstrated they can formulate ultra-tiny nanoparticles that strategically target and destroy chemotherapy-resistant ovarian cancer cell lines in the laboratory with greater accuracy and tumor-killing power than existing therapies. Using their preliminary results, they obtained NIH funding to develop their approach so as to ultimately design a totally new treatment for ovarian cancer - the most lethal gynecological cancer.
Scientists’ Observations

Why is it so important to advance women’s health?
What is needed? Women’s Health Research at Yale...

“...provides pilot funding for new studies. Without this center raising the money and awarding seed grants, it would be very difficult for researchers at Yale to investigate women’s health.”
- Dr. Joann Sweasy (Therapeutic Radiology)

“...has made it safe to do gender-specific research. There had been very little interest in gender-specific research nationally and the center has really reset the national agenda. It has attracted investigators like me as well as many other investigators to look into issues specific to women’s health.”
- Dr. Karl Insogna (Internal Medicine, Endocrinology)

“...is training the next generation of researchers how to have independent research careers within a collaborative team-science approach. As we increase the complexity of the questions we’re addressing, this approach is vitally needed, and Women’s Health Research at Yale is leading the effort globally in training this new generation of researchers.”
- Dr. Sherry McKee (Psychiatry)

“...brings together people from disparate disciplines that can combine their talents to work on important problems in women’s health.”
- Dr. W. Mark Saltman (Biomedical Engineering)

“...allowed me as a surgeon to leave the operating room to go to the laboratory to do research at the bench that I can ultimately look forward to bringing back to my clinic or to the operating room to treat patients.”
- Dr. Julie Ann Sosa (Surgery, Endocrine & Medical Oncology)

Research, by the Numbers

More than $4.4 million in “pilot project” grants from Women’s Health Research at Yale have produced nearly $50 million in new external grants - an enormous “return on investment.” The new external grants are channeled directly into the labs and clinics of those receiving the pilot funds, so investigators can continue the important and innovative work they have begun with our seed funding.

Since 1998, WHRY has funded 65 studies, in a vast array of medical fields - addressing a multitude of health questions and concerns.

- 75% of investigators have been junior or mid-level faculty. Our pilot grants have played a critical role in funding the work of new scientists.

- 58% of those funded have been female faculty members.

- 53% of our investigators have obtained external awards based upon their pilot study results - five times the success rate for comparable NIH grant applications.

The need for pilot funding continues to grow. In the past year, we received 50% more applications that seek $1 million more than last year.
The Way Forward

As Director of Women’s Health Research at Yale, thinking of new ways to ensure our success is one of my essential tasks. When I recently was asked to speak to a faculty group about the advancement of women in academic medicine, their interest was in knowing how to succeed in their chosen fields. As I often do, I found myself stepping back to speak first about the context in which these women find themselves - in fact the economic, political and cultural context in which we all find ourselves - and then narrowing down to the more local view of the challenges and opportunities of where and how we work. Knowing these layers of contextual background, it seems to me that we are in a better position to know what to do to succeed.

Specific to their interest, I outlined some of what I believe are the necessary steps to success. “Starting with being informed and knowing the factors that affect your work, having a vision for the future with a clear view of what one wants to accomplish, establishing a rolling business plan, forging good collaborations and essential alliances,” I told them. Yet, no matter how good your plan or targeted your trajectory, one sure thing is that our circumstances - especially in science and medicine - will continue to evolve. So, “anticipate change.”

Change has always been with us. Because of the slower pace of change in the past, we often had time to “react deliberately.” Now, as we experience change daily - in our revenue streams, in our costs, in our business practices, in our communications, in how we conduct science, in our new discoveries, in the need for practical solutions - an essential component to success is to expect further change and be ready for the more rapidly approaching future.

For us to be prepared for what lies ahead, we need to reaffirm and expand Women’s Health Research at Yale’s commitment to developing science that serves the public and tailoring medical care by gender to improve individual outcomes - for I believe that attaining these goals is what will be increasingly expected as a national priority in the years ahead.

It is also clear that while the pressure to generate this type of practically-oriented biomedical research increases, we will also face the challenges produced by decreased federal funding for research, reductions in support for scientific training, and increased demand for rapid translation and communication of findings.

We are well positioned to achieve our aims despite these challenges because we have built a forward-looking plan, developed and nurtured key scientific collaborations, and established the necessary methods for generating a track record of research success. Nonetheless, just as the future of scientific investigation will depend upon interdisciplinary alliances, our future will only be ensured with the continued partnership and support of the community. Only then will our strategic planning for future change result in women and gender differences being studied and scientific findings quickly converted into useful, even lifesaving, practice for the benefit of all.

My sincere thanks to all who have made these 15 years possible, from the Donaghue Foundation to the scientists, staff, advisors, and the community of individual and foundation supporters. With your continued enthusiasm and help, I am confident that our next 15 years will be even more productive and fruitful.

Carolyn M. Mazure, PhD
Professor of Psychiatry
Director, Women’s Health Research at Yale
We wish to thank and honor all of our many donors. You have provided the support that has fueled our research and made our success possible!

We value each and every contributor who has provided funds to advance our research on an array of health conditions greatly affecting women, such as breast cancer, cardiovascular disease, depression, osteoporosis, ovarian cancer, smoking, and health policy, and allowed us to develop further the field of gender-specific investigation.

Your individual, foundation and corporation commitments and dedicated contributions through annual giving are essential to us and make a critical difference in our generating new findings that propel advancements in health and health care.

We also wish to acknowledge and thank the **Founding Members of WHRY** who in 2001 initiated our current endowment fund. The income from our endowment continues to foster our research success and progress in making gender-specific medicine a mainstream reality. This very important revenue source which ensures smoother sailing in rough waters has been strengthened over the years by family foundations committed to ensuring that women and gender differences continue to be studied.

With your continued support, we will ensure that meaningful research is conducted to improve the health of our communities.

Thank You – All!
Council Reflections

“Fifteen years ago I was intrigued when a letter came across my desk stating that “Women’s Health Research is ‘factoring in gender.’ Now, as Council Chair, I have had the opportunity to see the dramatic growth of the center and the powerful impact of its research findings.” - Carol F. Ross

“Our vision, passion and commitment assure scientific parity on behalf of the female population, who until very recently had not been studied as a gender. We are making medical history for women!” - Patti Russo

“We see dollars turn into groundbreaking research, which leads to new discoveries and treatments - improving people’s lives - not just women, but the men who love, care for and depend on them as well.” - Kevin McCann, JD

“I discovered WHRY when I heard Dr. Mazure speak at a Yale alumni event, and was inspired by the work the center is doing to change health care in fundamental ways that benefit women directly, and benefit everyone.” - Ellen Gibson McGinnis, JD
Join WHRY’s Society of Friends

Your support directly funds medical research aimed at improving the health of women and addressing gender differences in disease and treatment.

Donate Online: www.yalewhr.org
Contact us: whresearch@yale.edu, (203)764-6600

When women are healthy, communities are stronger!

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