



BRIGHAM AND
WOMEN'S HOSPITAL

The Mary Horrigan Connors Center for Women's Health and Gender Biology

TEN YEARS of Health Advancements for
Women of All Ages, Ethnicities and Nations

**Life. Giving.
Breakthroughs.**



Dear Friends,

Just 20 years ago, few people understood that women are affected differently than men by many health problems. Women were excluded from clinical investigations for fear of the impact on their reproductive health, and treatments for women with serious diseases were often based on research conducted only on men.

Today, an emerging field of women's health recognizes the enormous impact of sex (being male or female) and gender (one's sense of one's self as male or female in society) on health and disease. Our knowledge that differences in the cellular physiology of men and women affect health across the life span is propelling significant advances in our prevention, diagnosis, and treatment of disease.

The Mary Horrigan Connors Center for Women's Health and Gender Biology at Brigham and Women's Hospital (BWH) was launched in 2002 with a simple yet profound mission: *to improve the health of women and transform their care*. Building on the long-standing commitment of BWH to the health of women, the Connors Center promotes a vibrant and synergistic model that bridges research, clinical care, training, leadership, and public policy to produce outcomes that improve women's health.

Accelerating our progress is paramount, as pervasive gender disparities in health remain. As essential contributors to the workforce, caregivers, bearers of children, and navigators of services for families and friends, women are central to the productivity and vitality of societies around the world. Societal factors such as gender inequality, changes in lifestyles, the economy, and the environment contribute to the disparate burden of disease in women, and call for a public health approach that incorporates prevention and community support as essential to good health.

We invite you to join us in celebrating the Connors Center's tenth anniversary. We are enormously grateful to our faculty and staff, and to an ever-growing community of global colleagues who are committed to improving women's health. The generosity of our donors has enabled us to develop and sustain our work. Most importantly, we are deeply indebted to our patients, from whom we learn valuable lessons every day. We are eager to continue our journey together to enhance the health and wellbeing of women worldwide.

Sincerely,



Paula A. Johnson, MD, MPH
Chief, Division of Women's Health
Executive Director, Mary Horrigan Connors Center
for Women's Health and Gender Biology
Brigham and Women's Hospital
Professor of Medicine, Harvard Medical School



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ESTABLISHING THE FIELD



The health of women is vital to the health of families and communities around the globe. Women make more than 70 percent of healthcare decisions for themselves and their families, are major contributors to the economy as nearly 50 percent of the labor force, and are the predominant frontline workers in hospitals, nursing homes, and long-term care facilities.

Women bear a greater burden of disease and trauma than men. The first and second leading causes of death among women in the United States are cardiovascular disease and lung cancer, respectively, and gender differences are pronounced in both diseases. More than one-third of women struggle with at least one chronic illness, and women are more likely than men to suffer from multiple chronic diseases,¹ with crippling impact on both their own health and their families' health and well being. Maternal

mortality rates remain high and disturbing disparities persist; in 2007, the maternal mortality rate among non-Hispanic Black women in the U.S. was roughly three times the rate for non-Hispanic White women.² Female caregivers are six times more likely to suffer symptoms of depressive and anxiety disorders and twice as likely to suffer from coronary heart disease as men.³ Alarming, one in four women will experience intimate partner violence in her lifetime.⁴

1832

The Boston Lying-In Hospital was created

1847

Anesthesia was administered during childbirth for the first time

BWH'S COMMITMENT TO WOMEN'S HEALTH

BWH's extraordinary commitment to women's health dates back to 1832 when the Boston Lying-In Hospital, one of the nation's first maternity hospitals, was established "for the care and relief of poor and deserving women." Accordingly, advances in women's health research and care have always been at the forefront of our exceptional history. Today, BWH is New England's largest birthing center, with 8,000 deliveries each year. As the first hospital in the nation to focus on gender medicine in a comprehensive way, BWH is home to experts in high-risk obstetrics and newborn care, reproductive cancers, and a number of diseases affecting women: cardiovascular disease, lung cancer, rheumatoid arthritis, osteoarthritis, osteoporosis, and neurological diseases. BWH is home to the landmark Nurses' Health Study, begun in 1976 and now one of the largest ongoing women's health studies ever undertaken. Today, as celebrations of BWH's remarkable 180-year history begin, women's health is at the forefront of our identity and leadership in improving the health of women.

THE CONNORS CENTER FOR WOMEN'S HEALTH AND GENDER BIOLOGY

During the late 1990s, leaders at BWH articulated a vision to advance women's health as a priority of the institution, recognizing that women's health extends beyond reproductive health to include the unique and combined impact of gender, biology, and economic, social, and cultural factors on health. The hospital's leadership in the emerging field of women's health was affirmed in 2001 by the Institute of Medicine's call for the entire medical community to focus research on understanding sex differences in disease.⁵

In 2002, in a pioneering move made possible by Jack and Eileen Connors and other generous donors, BWH launched the Mary Horrigan Connors Center for Women's Health and Gender Biology, with a mission to improve the health of women and transform their care. Working with the National Institutes of Health and other public and private partners—locally and globally—the Connors Center pursued its goals to:

- Advance research about differences between men and women in health and disease
- Deliver the highest standard of gender-specific comprehensive and integrated clinical care for women
- Develop leaders through the advancement of women's health faculty
- Inform and influence policy to improve the health of women
- Build the field by training and mentoring leaders in global women's health



"I THINK THERE'S A VACUUM IN WOMEN'S HEALTH RESEARCH AND CARE. PAULA AND HER TEAM HAVE REALLY SEEN THAT THERE'S AN OPPORTUNITY FOR EXCELLENCE HERE. THEY'RE EXCITED ABOUT THAT, AND THEY'RE VERY FOCUSED ON IT IN A VERY IMPRESSIVE WAY."

Jack Connors

Chairman Emeritus, Partners HealthCare

CONNORS CENTER FOR WOMEN'S HEALTH AND GENDER BIOLOGY:
HOW WE'RE FULFILLING OUR MISSION

- Produce, test, and disseminate scientific knowledge on women's health and gender biology
- Develop and encourage adoption of new models of comprehensive and integrated gender-specific care
- Train leaders with the experience, creativity, skills, and determination to improve the health of women
- Support leaders to improve women's health globally through research, education, and care
- Influence women's health policy at institutional, local, and national levels



1875

The Free Hospital for Women was established to provide care to poor women and as a teaching hospital for Harvard Medical School

1883

Antiseptic techniques were introduced to ward off infection following childbirth, dramatically reducing maternal and child deaths

ADVANCING RESEARCH

Since 2002, the Connors Center has been home to research at BWH focused on sex and gender differences in diseases across the lifespan. In 2005, the Connors Center and the BWH Biomedical Research Institute (BRI) formed the Connors-BRI Center for Research on Women's Health and Gender Biology. As one of the original BRI Centers of Excellence, the institution-wide Connors-BRI Center leads the discovery of mechanisms that explain sex differences in diseases and develops gender-specific treatment and prevention strategies.

Since then, our faculty has published more than 200 articles in areas including cardiovascular disease, neuropsychiatric disorders, metabolic syndrome disorders, autoimmune disorders, menopause, musculoskeletal diseases, high-risk obstetrics, diabetes, and obesity. The Connors-BRI Center leverages basic and clinical research across BWH, convenes leading researchers, and establishes women's health research as a field of study nationally and globally.

SEX DIFFERENCES AND THE RISK FOR DEPRESSION

An overwhelming 62 million people, or one in five adults in the U.S., suffer from mental health disorders. These issues co-occur with almost every chronic disease, resulting in poor health and debilitating social costs for families and society. Depression is the leading cause of disability worldwide, and by 2020, the comorbidity of depression and cardiovascular disease (CVD) will be the number one cause of disability globally. Women have a two-fold risk of depression compared to men, and almost twice the risk of comorbidity of depression and CVD.

Connors Center scientists have conducted research to understand sex differences in depression and its comorbidity with CVD. We identified maternal exposures and women's biologic responses during pregnancy that resulted in sex differences in fetal brain development. These were significantly associated with sex differences in mood, stress, and cardiac regulation in adulthood. Using this knowledge, we have discovered pathways connecting the brain and heart, and we will partner with industry to develop novel sex-dependent therapies to improve mood and cardiac regulation among women and men.



Jill Goldstein, PhD, Professor of Psychiatry and Medicine and Director of Research for the Connors-BRI Center

Researchers fertilized a human ovum in a test tube for the first time

ADVANCING RESEARCH

CONNORS-BRI CENTER RESEARCHERS HAVE MADE SUBSTANTIAL ADVANCES IN UNDERSTANDING

Sex differences in cardiovascular disease, lung cancer, diabetes, and obesity

The increased risk of cardiovascular disease in women who had earlier pregnancy complications

The impact of genetic and hormonal disruptions during fetal development on sex differences in psychiatric disorders in adulthood

Early biomarkers for sex differences in the brain to better understand dementia and Alzheimer's disease in women

The impact of fortifying milk with vitamin D on the health of Mongolian youth

The effects of sex and race/ethnicity on the risk of exposure to chemicals found in common products and their impact on diabetes, puberty, and other endocrine functions

CONNORS-BRI CENTER GOALS FOR WOMEN'S HEALTH RESEARCH

Investigate sex differences in morbidity and mortality across the lifespan

Investigate shared mechanisms involving hormones, genes, and inflammation

Promote research across continuums of biology from physiology and clinical trials to policy

Recruit top investigators

Continually relate knowledge to sex-specific treatment and prevention



1966

The Boston Lying-In Hospital merged with the Free Hospital for Women to form the Boston Hospital for Women

1976

The BWH Nurses' Health Study was launched as the single largest cohort study of 127,000 women, and has identified the powerful role of lifestyle changes in disease prevention

IMPROVING THE CARE OF WOMEN

In 2005, thanks to a landmark gift, the Connors Center established the Gretchen S. and Edward A. Fish Center for Women's Health. This flagship model of integrated, gender-specific care within an academic medical center continuously applies knowledge gained in leading-edge research to transform the care of women across the lifespan. The Fish Center includes primary care and 12 specialties, and focuses on areas of health where the risk and prevalence of disease in women is particularly acute, and those disease areas where women have been traditionally underdiagnosed, undertreated, or underserved.

The need for a new model of care is urgent. Primary care physicians are under pressure to improve access and quality of care for the increasing number of patients with complex healthcare needs who will soon have health insurance under national health reform. By 2030, 171 million people in the U.S., including many women and particularly older women, are expected to have chronic illnesses. Yet many women report they do not receive the care they need, receive different diagnoses from different providers, and undergo duplicate tests.

The Fish Center serves as a learning laboratory to test new models of gender-specific care. Primary care and specialist physicians of the Fish Center have piloted a "medical neighborhood" model for shared decision making and coordination of care for their mutual patients with multiple, complex chronic illnesses that are often complicated by mental health issues. We have also developed interprofessional teams to improve the quality

of care of physician and staff work life, and to encourage a "distributed leadership" model that is expanding opportunities for leadership among faculty and staff.

TRAINING THE NEXT GENERATION OF PROVIDERS: FAMILY PLANNING FELLOWSHIP

In 2005, the Connors Center, in partnership with the BWH Department of Obstetrics/ Gynecology and Planned Parenthood League of Massachusetts, launched the BWH/Harvard Family Planning Fellowship. With ongoing funding from a nationally-recognized foundation, the two-year program responds to shortages of physicians skilled in family planning care by providing training in pregnancy termination, contraception, sterilization, and gynecologic surgery. Fellows conduct clinical research, complete a Master's degree at the Harvard School of Public Health, and participate in an international training experience. Family planning fellows helped create a high-risk contraceptive clinic for patients with complex medical issues such as lupus and congenital heart disease, and guided the Department of OB/GYN's family planning curriculum for residents. Fellowship graduates have faculty positions in leading academic centers across the country.



Benefactors Edward and Gretchen Fish, at the dedication of the Gretchen S. and Edward A. Fish Center for Women's Health on May 17, 2006

1980

BWH was formed through the merger of the Boston Hospital for Women, the Peter Bent Brigham Hospital and the Robert Breck Brigham Hospital

1993

BWH was selected by the National Institutes of Health (NIH) as one of 16 Vanguard Centers nationwide to lead the Women's Health Initiative, the largest clinical trial ever undertaken of American women

IMPROVING THE CARE OF WOMEN

CENTER FOR CARDIOVASCULAR DISEASE IN WOMEN

The Center for Cardiovascular Disease in Women was launched in 2001 to develop new sex- and gender-specific strategies to prevent and treat coronary heart disease in women. Cardiovascular disease is the leading cause of death and disability among women in the U.S. Fifty percent of women will develop heart disease in their lifetime, yet only 57% are aware that heart disease is a significant risk factor for death in women. African-American women have the highest rates of heart disease and are more likely to die prematurely from the disease. The Center's clinical programs combine the most up-to-date findings with specialized care:

- The Program for Arrhythmias and Women treats abnormal heart rhythms, which have a much higher incidence in women than in men (launched 2007)
- The Women's Interventional Cardiology Diagnostic Health Program uses advanced technologies to diagnose conditions that are more common in women (launched 2007)
- The Cardiovascular Disease and Pregnancy Program delivers care to women of child-bearing age with serious heart disease and complications through a collaboration with the BWH Division of Cardiology and Department of OB/GYN (launched 2011)



Research leader Tamarra James-Todd, PhD (right) and her mentor Janet Rich-Edwards, ScD, MPH, Director of Developmental Epidemiology at the Connors Center

- The Cardiometabolic Health and Pregnancy Program manages cardiovascular risk to reduce short- and long-term risk and complications for women with preeclampsia and gestational diabetes (launched 2011)

In unprecedented research, Connors Center faculty members are investigating the heightened risk for subsequent cardiovascular disease among women who had earlier pregnancy complications. About

one-quarter of pregnant women experience preeclampsia, gestational diabetes, premature delivery, or fetal growth restriction, and each of these conditions has been linked to doubling their future risk of cardiovascular disease. By following women across the lifespan, we can identify those at greatest risk for future disease and implement risk reduction strategies before complications develop.

THE WOMEN'S LUNG CANCER PROGRAM

In 2005, the Connors Center worked with the BWH Department of Thoracic Surgery and the Dana-Farber Cancer Institute to establish the nation's first Women's Lung Cancer Program. Lung cancer is the leading cause of cancer death among women in the U.S., accounting for more deaths each year than breast, ovarian, and uterine cancers combined. Nearly 200 women die of lung cancer every day, and the number of deaths among women is increasing, while the number among men is decreasing.

1994

BWH opened the Center for Women and Newborns, featuring birthing suites, private rooms that promote family-focused care, and a 46-bed Newborn Intensive Care Unit

2001

The Center for Cardiovascular Disease in Women was founded at BWH by Dr. Paula Johnson

Lung cancer develops differently in women and men. One in five women who develop lung cancer has never smoked, compared to one in 10 men. Women tend to develop lung cancer at younger ages than men; they are more likely than men to be diagnosed in early stages of lung cancer, and to live longer than men after treatment for the disease. Research suggests that genetic, hormonal, behavioral, and environmental factors influence the different patterns of lung cancer in women and men.

Despite this expanding knowledge, the public underestimates the impact of lung cancer on women—67% of respondents in one study stated that breast cancer is the leading cause of death in women—and lung cancer research is the least funded of all the major cancers. Advances in treatment are encouraging, but deeply concerning trends are on the horizon. As developing countries become increasingly industrialized, we may see rises in global lung cancer rates resulting from increased rates of smoking and toxic exposures as well as genetic and hormonal influences.

The Women's Lung Cancer Program provides interdisciplinary care based on the latest research, works to increase the effectiveness of screening protocols for those at high risk, and addresses barriers to care in vulnerable populations. At the Women's Lung Cancer Forum, women and their families receive information about the disease from specialists, advocates, and lung cancer survivors. In 2010, the Connors Center published *Out of the Shadows: Women and Lung Cancer*, a landmark report of research on sex and gender differences in lung cancer, which raised awareness of these important issues among policymakers, the media, and the public.

IMPROVING CARDIOVASCULAR HEALTH IN THE COMMUNITY

The Connors Center launched the *Healthy Heart Initiative* to investigate barriers among low-income African American women to adopting a heart healthy diet. The research found that the cost of a culturally appropriate healthy diet exceeds the maximum federal Food Stamp benefit, and served as a springboard for *Food in the Hub*, the first government, industry, and healthcare partnership to address affordability and access to healthy food in Boston. The Center also worked with community and academic partners to create two educational series—*Sister Talk 2* and *To the Heart of Minority Women*—and increased access to information with a novel Women's Heart Health website.



Kendra Taylor, PhD (left) and Yolonda Colson, MD, PhD, Director, Women's Lung Cancer Program

2002

The Connors Center for Women’s Health and Gender Biology was established

2005

The Gretchen S. and Edward A. Fish Center for Women’s Health opened

IMPROVING THE CARE OF WOMEN

WOMEN AND NEUROLOGY PROGRAM

The first-in-the-nation Women and Neurology Program was established by the Connors Center and the BWH Department of Neurology in 2008 to:

- Offer a clinical program with specialized faculty to address women’s health in neurology
- Investigate neurological diseases in women and the impact of gender issues on these diseases
- Provide resources and educational information for patients and physicians

For example, the program conducts cutting-edge research on how hormonal and reproductive changes across a woman’s lifespan, including pregnancy, menopause, and the use of oral contraceptives, impact neurological health and disease.



“THE VISIONARY WORK DONE BY THE FACULTY OF THE CONNORS CENTER IS EMBLEMATIC OF THE WORK WE ARE DOING AT THE BRIGHAM TO TRANSFORM THE FUTURE OF HEALTHCARE. THROUGH RESEARCH, CLINICAL INNOVATION, AND ADVOCACY,

WE ARE MAKING PROGRESS IN IMPROVING ALL AREAS OF WOMEN’S HEALTH—AND WE REMAIN WHOLLY COMMITTED TO THIS WORK.”

Betsy Nabel, MD

President
Brigham and Women’s Hospital
Brigham and Women’s Faulkner Hospital

The risks for women are alarming. Almost two-thirds of people living with Alzheimer’s disease and 60% of unpaid caregivers for family and friends with the disease are women, totaling 10 million women.⁶ Women are three times more likely than men to develop relapsing forms of multiple sclerosis,⁷ and more than one million women and girls in the U.S. have seizure disorders.⁸ To respond to these devastating diseases, the Women and Neurology Program’s specialties include dementia, epilepsy, headaches, movement disorders, multiple sclerosis, neuropsychiatry, sleep disorders, and stroke. In 2011, the program added a robust interdisciplinary continuing medical education program for physicians and other care providers in neurology, neurosurgery, psychiatry, primary care, obstetrics/gynecology, and anesthesia to expand clinical and research knowledge and its application to improving patient care.

THE WOMEN’S ORTHOPEDIC AND JOINT DISEASE CENTER

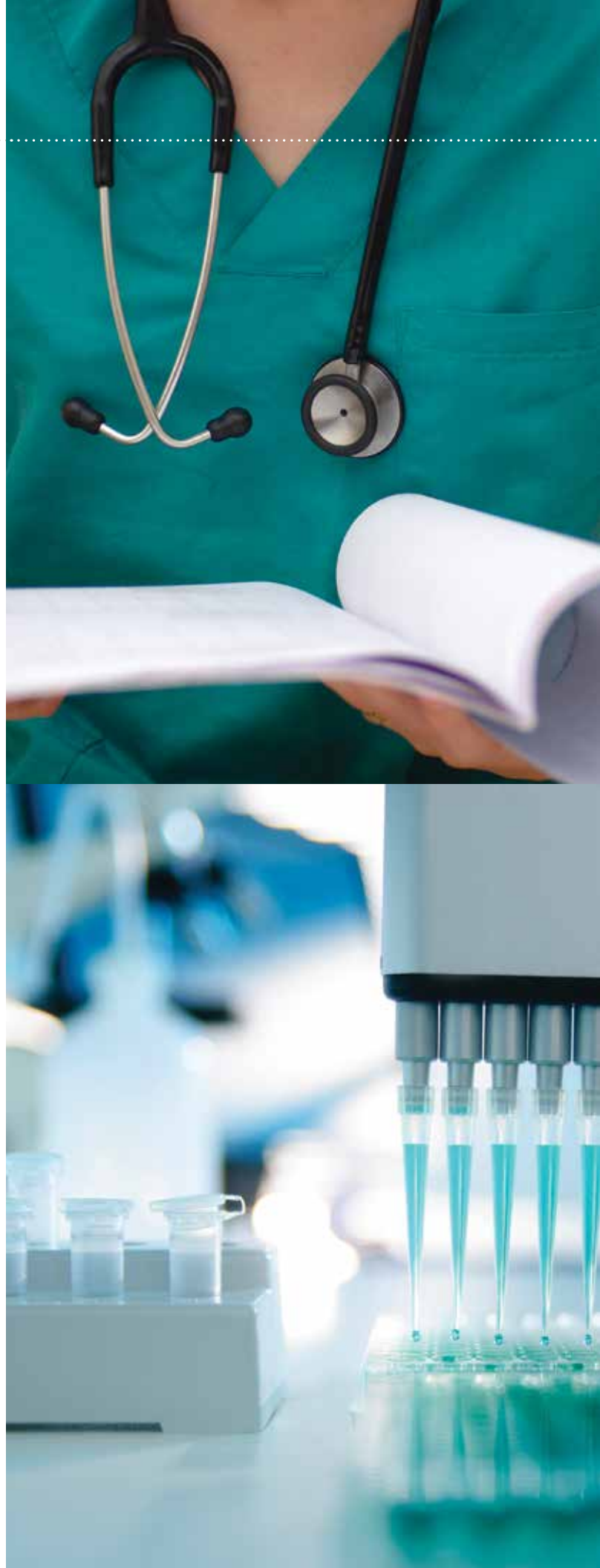
The Women’s Orthopedic and Joint Disease Center was formed in 2006 to address growing needs among women with bone and joint pain caused by arthritis, joint diseases, and sports injuries. By age 65, women are five times more likely than men to suffer from arthritis. Women with arthritis are more likely than men to ignore symptoms, live with pain, and postpone care. Osteoarthritis, the wearing down of cartilage in the joints, is the most common form of arthritis. Women are at greater risk than men for osteoarthritis, and account for almost 70% of ambulatory care visits for osteoarthritis as a primary diagnosis.⁹ Women are also 80% more likely to suffer from osteoporosis.¹⁰

The Center's team of specialists in rheumatology, orthopedic surgery, endocrinology, physical rehabilitation, nutrition, and mental health addresses bone and joint disease issues in women across the lifespan, based on emerging research on gender differences in musculoskeletal health. Mounting evidence suggests that the types, prevalence, and causes of sports injuries among men and women vary, stemming from hormonal differences and contrasting hip and knee structure and function. The Center's Women's and Sports Medicine Program, launched in 2011, offers comprehensive multidisciplinary care for women with musculoskeletal sports injuries, including competitive and recreational athletes and women who want to become more active. The Center also increases access to information by routinely offering talks and podcasts.

ADDRESSING WOMEN'S MENTAL HEALTH

The Connors Center works with the BWH Department of Psychiatry to investigate why men and women have different risks for psychiatric disorders. Connors Center research, funded by NIH, is improving our understanding of the fetal antecedents and sex differences in adult onset of depression. Other studies are exploring the role of hormones, genes, and inflammatory factors in psychiatric disorders among women.

The need for new solutions has never been more urgent. Annually, an estimated 26% of Americans ages 18 and older suffer from a diagnosable mental health disorder.¹¹ Depression is one of the country's most serious public health problems, and twice as many women as men suffer from this crippling disease—12 million women in the



2005

BWH named Women's Health as one of its five Centers of Excellence and a top strategic priority. Women's Health is unique in its integration across the other four BWH Centers of Excellence: Cancer, Cardiovascular, Neurosciences, and Orthopedics/Arthritis

2005

The Connors Center and the BWH Biomedical Research Institute (BRI) formed the Connors-BRI Center for Research on Women's Health and Gender Biology

IMPROVING THE CARE OF WOMEN



JoAnn E. Manson, MD, DrPH, Chief, Division of Preventive Medicine and Michael and Lee Bell Professor of Women's Health, Harvard Medical School

U.S. alone.¹² Recent studies have shown significant underdiagnosis and treatment of depression in women with heart disease, potentially confounding patients' recoveries.

The prevalence and impact of mental

health issues on women informed our decision in 2006 to embed mental health services within the Fish Center, the first such model at BWH. Mental health providers help women address issues that impact their mental and emotional health such as menopause, eating disorders, infertility, pregnancy loss, chronic disease, and breast and uterine cancer. In an unusual innovation, women's health psychiatrists coach primary care providers during joint patient visits about how to engage patients who are in distress. The providers then collaborate on medication management and integrate mental health treatment into medical treatment.

To provide advanced training in gender differences in mental health care for patients with complex medical issues, the Fish Center and the BWH Department of Psychiatry launched the Women's Mental Health Fellowship in 2007. Fellows develop expertise in the influence of sex, gender, social, economic, and cultural factors on psychiatric illness, and learn to care for patients who experience issues that are 1) specific to women (post-partum, infertility, miscarriage, abortion, obstetrics, breast cancer, menopause; 2) more common in women (intimate partner violence, sexual abuse, eating disorders; and 3) those with comorbidities such as depression in women who have cardiovascular disease.



2005

The Connors Center was awarded the five-year research training grant *Building Interdisciplinary Research Careers in Women's Health* by NIH

FISH CENTER FOR WOMEN'S HEALTH

15,285 patients (85% women and 15% men)

40,164 patient visits a year

45 faculty

13 internal medicine residents

40% of patients are age 55 and older

33% of patients have complex chronic conditions

Training site for fellows in gastroenterology, neurology, and mental health

Fish Center specialties: primary care, gynecology, mental health, endocrinology, cardiology, gastroenterology, neurology, rheumatology, nephrology, dermatology, physical medicine and rehabilitation, orthopedics, and nutrition

FAMILY PLANNING FELLOWSHIP PROJECTS

Sexual behavior and contraceptive choice

Improving adherence to oral contraceptive use with daily text message reminders

Pain control for surgical abortions

Laparoscopy and family planning in Vietnam

Integrating family planning training into a family practice residency in Rwanda



2006

The Women's Orthopedic and Joint Disease Center was launched

2007

The Connors Center launched the Global Women's Health Fellowship, the first of its kind to train physicians across disciplines.

BUILDING LEADERSHIP

We believe that developing and recognizing leaders in women's health strengthens the field. The Connors Center engages our faculty in leadership roles, publicly recognizes their contributions, supports faculty research on women's health, and involves patients and donors in raising awareness about the field.

CREATING OPPORTUNITIES FOR CLINICAL LEADERS

The Fish Center promotes new models of clinical leadership, through:

- The Women's Health Medical Leadership Group—faculty leaders and managers across specialties who guide operational goals, quality, safety, teaching, and patient satisfaction
- Faculty participation in the BWH Leadership Program at Harvard Business School and the Harvard Medical School Leadership Course
- Enrollment as collaborative physician-staff teams in the BWH Lean Practitioner Program, focused on rapid-cycling performance improvement projects to support care redesign
- Distributed leadership that create pathways for career advancement and foster transformational change as physicians step forward to lead care improvement teams
- Shared resident precepting to enable resident education by part-time physician leaders
- Donor awareness and resources dedicated to advancing leadership and career development among clinical faculty



Elinor A. Mody, MD, Medical Director, Fish Center for Women's Health, and Director, Orthopedic and Joint Disease Center, Women's Health Division

BUILDING CAREERS IN WOMEN'S HEALTH RESEARCH

Beginning in 2005, the Connors Center was awarded the NIH grant *Building Interdisciplinary Research Careers in Women's Health: From Bench to Bedside (BIRCWH)*. This BWH-based, Harvard-wide training program supports scholars in mentored translational research about the role of hormones and genes in diseases in women across the lifespan. Scholars have focused on cardiovascular, reproductive endocrine, neuroendocrine, neuropsychiatric, and autoimmune disorders, and female cancers, and have developed careers

in women's health as independently funded, published investigators. Based on its success in 2010, NIH funding for the BIRCWH program was renewed for another five years.

RECOGNIZING SUCCESS

Between 2002 and 2012, Connors Center faculty received more than 50 awards, appointments, and distinctions. We have also created non-traditional awards for faculty who are emerging leaders in women's health and for whom award funds accelerate their research and clinical work. Our faculty is committed to mentoring junior medical and research faculty to support their advancement. These important mechanisms acknowledge the talent of our faculty while building motivation for leadership among future generations of women's health experts.

2008

The Women and Neurology Program was established, the first in the country

2010

The Connors Center published *Out of the Shadows: Women and Lung Cancer*, a seminal report on sex differences in lung cancer.

EXPANDING INFLUENCE IN THE FIELD

To strengthen the field of women's health as a fixture within academic medicine, the Connors Center established two influential volunteer leadership groups. The Women's Health Leadership Council advances women's health by advising on Connors Center initiatives, providing philanthropic support for novel, cross-disciplinary research in gender biology, supporting the training and development of women's health leaders, and educating others about the work of the Connors Center. The Women's Health Board of Advocates is comprised of patients, donors, and friends, who act as ambassadors of the Connors Center, offer their expertise, lend their goodwill, and introduce new friends to the Connors Center.



Paula A. Johnson, MD, MPH, Anita F. Hill, JD and Diane B. Patrick, Esq. (First Lady of Massachusetts) at the 2013 Spring Women's Health Luncheon



"I AM VERY IMPRESSED WITH THE STUDY YOU ALL JUST DID ON ANALYZING THE MASSACHUSETTS HEALTHCARE LAW, AND WHAT A DIFFERENCE IT'S MADE IN COVERING WOMEN, AND HOW THE EXPANDED COVERAGE HERE

IN MASSACHUSETTS HAS IMPROVED THE HEALTH OF WOMEN."

Victoria Reggie Kennedy

Honorary Chair, Women's Health Luncheon, April 26, 2011

The Connors Center successfully advocated for the inclusion of amendments in landmark Massachusetts legislation aimed at containing the cost of healthcare

BWH is a market leader in obstetrics, gynecology, gynecological oncology, breast cancer, women's neurological, orthopedic, and cardiac care, and care and support for women experiencing intimate partner violence

INCREASING AWARENESS AND IMPROVING POLICY



Paula A. Johnson, MD, MPH speaking at the 2012 Spring Women's Health Luncheon

In an era of historic health reform that will disproportionately impact women as patients, caregivers, and providers, the Women's Health Policy and Advocacy Program is leading state

and national efforts to promote policies that support the highest standard of health and healthcare for all women. Launched in 2003 with generous funding from the Fannie E. Rippel Foundation, this unique program within academic medicine leverages the Connors Center's research and clinical expertise and partners with groups at the vanguard of women's health to:

- Analyze health policy from a women's health perspective
- Develop policy recommendations to improve women's health
- Advise policymakers, public health officials, and clinical leaders
- Build bridges between the public policy, clinical, and research communities
- Address disparities affecting the health of women

The Policy and Advocacy Program's analysis of the impact of Massachusetts health reform on women is informing the implementation of national health reform. Recent publications and accomplishments include:

- *Opportunities to Maximize Women's Health Under the Affordable Care Act*, produced in 2013 for Grantmakers in Health and including potential areas for involvement by funders
- *Ensuring the Healthcare Needs of Women: A Checklist for Health Exchanges*, published in 2013 in collaboration with the Kaiser Family Foundation and the Jacobs Institute of Women's Health to guide policymakers and advocates as states implement health reform
- Successful advocacy for several amendments to landmark state legislation aimed at containing the cost of healthcare, such as inclusion of obstetrics and gynecology as a service to be considered when establishing standards for Accountable Care Organizations
- A 2012 Issue Brief on women's preventive services under the Affordable Care Act
- *Lack Of Access Due To Costs Remains A Problem For Some In Massachusetts Despite The State's Health Reforms*, a report published in *Health Affairs* in 2011
- *Massachusetts Health Reform: Impact on Women's Health*, released at a June, 2010 conference held in partnership with the Massachusetts Health Policy Forum and the Blue Cross Blue Shield Foundation of Massachusetts, a first-ever gathering to place a spotlight on women's health
- Two seminal reports released in 2010 that received significant national press: *Massachusetts Health Reform: Impact on Women's Health*, and *Out of the Shadows: Women and Lung Cancer*



**CONNORS CENTER'S
STRATEGIC PARTNERS**

- The Agency for Healthcare Research and Quality
.....
- U.S. Department of Health and Human Services (DHHS)
Office on Women's Health
.....
- The DHHS Assistant Secretary for Health
.....
- The Health Resources and Services Administration
.....
- The White House Office of Health Reform
.....
- The White House Council on Women and Girls
.....
- The Jacobs Institute of Women's Health
.....
- The Kaiser Family Foundation
.....
- The National Women's Law Center
.....
- Massachusetts Women's Health Network



BUILDING THE FIELD GLOBALLY

Women are essential contributors to developing economies, but in many countries they face a disproportionate burden when it comes to health. Sixty percent of cancer deaths are among women,¹³ and complications of pregnancy and childbirth are among the leading causes of death for women between the ages of 15 to 49 in developing countries. Globally, more than 20 million women have HIV and AIDS, and in southern Africa, women and girls account for 60% of all cases. Beyond these and other health issues, four million women and girls are subjected to trafficking and forced into prostitution, slavery, or marriage every year,¹⁴ and 80% of the global population displaced due to war and natural disaster is women and children.



Jennifer Scott, MD, MBA, MPH, Global Women's Health Fellow, training students in the Democratic Republic of Congo

GLOBAL WOMEN'S HEALTH FELLOWSHIP

The Connors Center launched the Global Women's Health Fellowship in 2007 to improve the health of women around the world. The two-year program is a collaboration of BWH, the Harvard Humanitarian Initiative, the Harvard Global Health Institute, and the Harvard School of Public Health. The Fellowship builds physician leadership within the global community through rigorous research training to develop expertise in specific populations of women, while contributing knowledge to the field. Fellows complete a Master's in Public Health, receive intensive mentoring, and undertake an international field-based research project. For example, 2013 Fellowship graduate Neha Pagidipati, MD, MPH, adapted a tool for cardiovascular screening among women in India and created a model to determine its cost effectiveness. The results of her study may inform policies to address the growing rate of heart disease in women in India.

CONNORS CENTER GLOBAL WOMEN'S HEALTH PROGRAM

The Global Women's Health Program—working in partnership with the Harvard Global Health Institute and the FXB Center for Health and Human Rights at the Harvard School of Public Health—has recruited global women's health faculty, engaged research mentors, and developed a framework for a curriculum in global women's health leadership. The program will develop and advance the field by:

- Sustaining excellence via a network of promising leaders in different world regions
- Building the field through robust research and case development

- Creating an academic home for practitioners in the field
- Supporting growth by leveraging the full resources of BWH and Harvard
- Informing policy that impacts women’s health on a national and global scale

The Global Women’s Health Program has recruited global women’s health faculty, engaged research mentors, and developed a framework for a curriculum in global women’s health leadership. We have identified areas of expertise including women’s health and the workforce, the health of women in conflict, HIV and HPV prevention, and aging. To expand and sustain the field, we will share our research across global networks, collaborate with entities at Harvard and elsewhere, form international partnerships, and create an online forum for women’s health leaders around the world.

IMPROVING PUBLIC HEALTH IN MONGOLIA

25% of Mongolian children suffer from rickets, an ailment easily cured with vitamin D, and up to 99% of all Mongolians have vitamin D deficiency due to long winters and a lack of fortified food. Connors Center scientists worked with the Mongolian government and UNICEF to study the impact of fortified milk on children’s levels of vitamin D. The data demonstrated very low levels of vitamin D that were “jaw dropping” to local officials, convincing them to adopt regulations to fortify foods with vitamin D. The research is impacting public policy while spawning new studies, for example about the possible impact of vitamin D on preeclampsia. In a remote country with little exposure to the scientific world, training by Connors Center researchers of Mongolian medical students is opening new doors to improving health through locally-driven research.

RESEARCH PROJECTS: GLOBAL WOMEN’S HEALTH FELLOWS

- HPV vaccine roll-out strategies in South Africa
- Improving maternal care and preventing mother-to-child transmission of HIV in Botswana
- Gender-based violence and reproductive health in displaced populations and conflict settings in the DRC and South Sudan
- Epidemiological and economic impact of screening for cardiovascular disease in women in India
- Family planning and breast cancer screening in Rwanda
- Methods to improve health care delivery for Palestinian women
- Strategies to improve contraception in Uganda
- Barriers to healthcare for women and children displaced by Hurricane Katrina

CURRENT LEADERSHIP ROLES AMONG FORMER FELLOWS

- Jennifer Scott, MD, MBA, MPH: Director of the Global and Community Health Program, Department of Obstetrics & Gynecology, Beth Israel Deaconess Medical Center
- Felicia Lester, MD, MS, MPH: Director of Global Women’s Health, Department of Obstetrics & Gynecology, University of California, San Francisco
- Marisa Nádas, MD, MPH: Co-Director, Section of Global Health, Department of Obstetrics & Gynecology, Boston Medical Center

TRANSFORMING THE CARE OF WOMEN

In 2013, the Connors Center completed our newest strategic plan to chart an ambitious course for advancing excellence in women's health locally and globally. The plan aligns with the BWH strategic plan to transform healthcare, spark innovation, achieve excellence and health equity, assure affordable care, and create a culture of wellness in a time of unprecedented change in healthcare.

Our goals going forward are to:

- Study the health of women and gender differences across the lifespan and to advance knowledge in preventing and treating women's cardiovascular, musculoskeletal, neuropsychiatric, and reproductive health
- Test and disseminate models of care that integrate gender-specific knowledge into the care of women, in order to deliver measurable improvements
- Bridge the worlds of academic medicine, public health, and public policy to promote the highest standard of health and healthcare for all women
- Develop leaders in the field of women's health with competencies that reflect the integration of clinical care, research, education, and public policy
- Build the field of global women's health

Together with our valued partners, we have made immense progress since 2002. Today, there is a growing recognition of the central role of women as drivers of the social, educational, and economic growth of societies around the world, and new opportunities are emerging to leverage our knowledge and resources for demonstrated impact. We graciously thank our generous supporters and welcome new partners as we renew our commitment, determination, and resolve to improve the health of all women and transform their care.

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“A woman’s health is her capital.”

Harriet Beecher Stowe



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To learn more or speak with someone about how to get involved, please contact:

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