Dr. Pamela Ventola knew that girls are diagnosed with autism in far fewer numbers than boys. And knew that girls with autism generally behave differently than boys with autism. She also knew that a treatment program had demonstrated efficacy in helping boys with autism become more socially engaged and function successfully.

What she did not know was whether girls with autism might also benefit from that same treatment. So with a grant from Women’s Health Research at Yale in 2015, that’s what she set out to do. And according to the results, she now knows that at the end of treatment, the magnitude of improvement was greater for the girls than for the boys.

“We knew that our treatment works,” Ventola said. “I didn’t realize it would work so much better in girls.”

Boys are diagnosed with autism roughly four times as often as girls, a discrepancy that isn’t fully understood or even widely studied. The little research available shows that girls with autism appear to be lower functioning in terms of their IQ. But some of the higher functioning girls are more socially interested and chatty than boys and so might not be diagnosed as having autism.

About one in 68 American children have been diagnosed as appearing somewhere on a broadly defined autism spectrum.

Ventola, an Assistant Professor at the Yale Child Study Center, designed a study in which 21 girls and 24 boys with autism would undergo four months of Pivotal Response Therapy, or PRT, participating in play-based sessions with a therapist who rewards certain social goals. The children might get to play...
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.

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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. Women’s Health Research at Yale is a program within Yale School of Medicine. Yale University is a 501(c)(3) nonprofit organization.
What the 21st Century Cures Act Means for Women’s Health

Before signing the omnibus healthcare bill known as the 21st Century Cures Act in December, President Barack Obama said it could help cure Alzheimer’s disease. And he didn’t stop there.

“It could end cancer as we know it and help those seeking treatment for opioid addiction,” Obama said. “It’s an opportunity to save lives, and an opportunity we just can’t miss.”

Congress passed the bill with overwhelming bipartisan support. And like any piece of legislation gaining large majorities from both parties, it contained compromises.

The law calls for a $4.8 billion increase to the National Institutes of Health budget over 10 years. That includes $1.8 billion for Vice President Joe Biden’s “cancer moonshot” to speed research toward a cure, $1.6 billion to tackle Alzheimer’s and other brain diseases, and $1 billion over two years in state grants to help people addicted to opioids. The law also calls for $500 million in new funding over 10 years for the Food and Drug Administration.

But the money will require annual appropriations by Congress, an arrangement that leaves the door open for new and future members to use the money to fill budgetary shortfalls. And opponents of the bill, including Rep. Rosa DeLauro, D-Conn., and Sen. Elizabeth Warren, D–Mass., argued that the provisions intended to speed the FDA approval process for new drugs and devices put lives at risk.

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“The 21st Century Cures Act, in an attempt to expedite the drug and device approval, forgets about those who the science and clinical trials are meant to help — the patients,” DeLauro said.

“Rather than protect those who rely on our health care system, this bill reduces the already weak regulations on medical devices, allows drugs to be approved with only limited evidence of the drug’s safety and efficacy, and rushes the use of new and unproven antibiotics.”

Women’s Health Research at Yale Director Carolyn M. Mazure, Ph.D., applauded the law’s attention to funding vital science aimed at improving and saving lives struck by deadly diseases. But she also expressed a need for great caution around the measures designed to accelerate approval of treatments, noting that it is difficult to confirm safety and efficacy based on preliminary data. She called for careful attention to how the law is implemented, particularly because it’s very difficult to remove something from the market once approved.

“There are certainly possible benefits to be gained by speeding therapies and devices through the approval process to more quickly help patients with few or no current alternatives,” Mazure said.

“But we must not do so at the expense of public safety or of advancing our knowledge of how treatments affect sub-groups within our heterogeneous population.”

In addition, the law supports NIH requirements for reporting the proportion of female clinical research subjects to better track efforts underway in NIH-funded studies to fully consider sex and gender as a variable. The law also creates a task force to explore research specific to pregnant and lactating women, a development that Dr. Mazure supports while pointing out that biomedical science should not focus entirely on women’s role in reproduction.

“There is progress in this law as it pertains to marshalling the resources necessary to address the health challenges we face,” she said. “But the FDA and NIH implementation of the law through guidance and oversight will determine if the resources are well spent.”

A new law offers the promise of greater funding for research into treatments for diseases such as cancer and Alzheimer’s, but the money is not guaranteed and potentially speedier drug and device approvals worry critics.
Going Viral

USING A DEADLY DISEASE TO KILL OVARIAN CANCER

In some cases, the Lassa virus starts with a fever and general weakness, moving toward headache, muscle pain, possible facial swelling, deafness, and worse. About 15 percent of patients hospitalized with severe cases die.

Lassa fever is contagious, endemic in West Africa, and Dr. Anthony van den Pol thinks he can use it to cure ovarian cancer.

“We can employ microorganisms to do the job for us,” van den Pol said. “Like using penicillin from a fungus to fight bacteria. They can be our friends.”

The version of Lassa virus van den Pol works with has been rendered safe in combination with a variant of vesicular stomatitis virus (VSV). So there is little danger of infection. And with a grant from Women’s Health Research at Yale, van den Pol hopes to prove Lassa-VSV treatment can eliminate chemotherapy-resistant ovarian tumors.

“The body does not recognize ovarian cancer as a foreign invader that would normally trigger the immune system to attack, so the cancer can continue to grow unimpeded,” van den Pol said. “But the reason these viruses can infect cancer cells, and particularly ovarian cancer cells, is that 80 percent of human tumors have a deficient innate immune response. The cancer cell cannot defend itself against a virus.”

About one in every 60 women in the United States will develop ovarian cancer. It is the eighth most common form of cancer for American women and the fifth leading cause of death.

One of the reasons ovarian cancer can become deadly is that it recurs in about 80 percent of patients who receive successful surgery and chemotherapy treatment. And when it comes back, it often invades deep into large portions of the abdomen and pelvis where it is hard to find and difficult to remove surgically. Worse, the cancer often mutates to develop a resistance to chemotherapy.

But the ability of cancer cells to mutate can hold a key to their possible destruction.

Normal, healthy cells detect a virus and generate interferon, a type of protein that signals the presence of a pathogen, increasing the expression of up to 200 genes that then serve to block infections through various mechanisms of the immune system.

Previous research has found that even as advanced cancer with a greater number of mutations becomes more resistant to chemotherapy, the large number of gene mutations within the DNA of the cancer cells make them more susceptible to infection from a virus.

“A virus doesn’t have a brain but it has an evolutionary mission to find things to infect,” van den Pol said. “Viruses also replicate to seek and destroy on their own. They don’t need to know where the tumors are but seem able to find most if not all of them.”

Van den Pol’s team has studied viruses for this purpose over the past 15 years, focusing in part on variants of VSV. However, VSV on its own likes to infect electricity-conducting cells of the nervous system called neurons, causing damage.

About the Investigator —

Dr. Anthony N. van den Pol earned his Ph.D., M.S., and M.Phil. degrees from Yale and his B.A. from Occidental College. He has been a Professor in Yale School of Medicine’s Department of Neurosurgery since 1990.

For the last 16 years, Dr. van den Pol has worked with viruses to treat brain tumors, research that he now hopes to apply to ovarian cancer.
So the researchers began testing viruses containing the genes of different unrelated viruses together with some VSV genes to discover any that do not infect neurons. They found that using a combination of Lassa and VSV was completely safe when injected into normal and immune-deficient mice. And when Lassa-VSV was tested in mice with a brain tumor called glioma, the virus crossed the blood-brain barrier and selectively infected the tumors. Untreated mice died within a month, but those treated with Lassa-VSV survived indefinitely with no trace of the tumors. In addition, the virus can activate the body’s natural immune system to target cancer cells, eventually taking over the job of killing them.

“The immune system has a very long memory,” van den Pol said. “The virus is only around for two or three weeks.” And when it’s gone, the virus appears to have no lasting negative effect.

“The virus seems to be completely eliminated,” van den Pol said. “It can’t be detected.”

Now van den Pol is using the WHRY grant to test whether it can have the same safe, positive effect on ovarian cancer. He credits a collaboration with the lab of Dr. Gil Mor, Professor of Obstetrics, Gynecology, and Reproductive Sciences, who has spent years studying ovarian cancer.

“Microbes scare us,” van den Pol said. “But they can also be beneficial in helping us target and kill cancer cells.”

“He hopes to eventually secure funding to ensure his virus is safe to test in humans, expressing confidence in the future of viruses as therapy for deadly cancers.

ADVANCING WOMEN’S HEALTH RESEARCH AT YALE

Moving Forward Together

As we begin a new year, the country faces great change, great uncertainty, and — as always — great potential.

Our team at Women’s Health Research at Yale is prepared to advance the health of women and men while overcoming historical obstacles that persist in making it difficult to reach a place where sex and gender are fully considered in all aspects of biomedical science and health care.

Over the last 19 years, WHRY has demonstrated a commitment to rigorous research, clear communication, and the championing of data-driven health policies. With our talented staff, innovative researchers, and promising trainees, we contribute meaningfully to a world in which everyone has a better opportunity to live a happy, healthy, productive life.

But we can’t do it without your help. Donations to WHRY fuel our work. Whether through a direct donation, a Yale reunion gift, a donation through a nonprofit organization like The Community Foundation for Greater New Haven, a contribution matched by an employer, or planned giving options such as a charitable annuity, a gift to WHRY helps us close the gap in knowledge about women’s health widened by decades in which women were excluded from clinical trials.

While nobody knows for sure how the new administration and Congress will address funding of biomedical research in the years ahead, Women’s Health Research at Yale stands as a sturdy bulwark against political storms. We will continue to advance science and encourage changes in policies that need changing.

WHRY has a long and successful track record in amplifying these necessary efforts, highlighted by our Pilot Project Program, which has provided $4.9 million in seed grants for research that has gone on to generate more than $85 million in external funding.

With your help, we can fund more studies, train more students and junior faculty members, grow more interdisciplinary partnerships, spread more health information to benefit the community, and advocate louder and wider for institutions to adopt the best education and research practices accounting for sex and gender.

I can’t thank you enough for your interest in making sure that this work continues. I’m as confident as ever that together we can secure a better, healthier future for everyone.

Sincerely,

Bobbi Mark,
Philanthropy Chair
PILOT PROJECT PROGRAM

Solving the Puzzle of Girls with Autism

(Continued from front cover)

a game they like if, for example, they make eye contact or engage in a back-and-forth conversation rather than voice an inner monologue.

At the start of the study, the girls displayed lower functioning than the boys, showing lower scores on measures of adaptive communication, socialization, and daily living skills that required more support from caregivers. And though they were more impaired at the beginning, the girls made larger gains than the boys over the course of the treatment.

“The girls were worse off than the boys in terms of their behavior,” Ventola said. “At the end there was no difference. They didn’t catch up to typically developing children; they still have autism. But they caught up to the boys with autism.”

For Ventola, the results underscore a need to treat girls regardless of their age and the severity of their impairments. “These girls are not newborns,” she said. “They’ve had up to nine years for potential improvement and haven’t seen it. And then they have this intensive treatment with positive results.”

Researchers have found evidence that girls possess some kind of natural protection against autism that might account for sex differences in how the condition develops because of the need to first overcome this natural protection.

Ventola also believes that the results should encourage researchers and behavioral therapists to treat girls and boys differently. “I think if we combine boys and girls, we might lose some of our effectiveness,” she said. “We might discount treatment approaches that are just so-so for boys but potentially excellent for girls.”

Ventola’s team didn’t stop there. The study included brain imaging to

ABOUT THE INVESTIGATOR —
Dr. Pamela Ventola earned her Ph.D. from the University of Connecticut and her B.A. from Hamilton College. Since 2013, she has been an Assistant Professor and the Clinical Director of the Center for Translational Developmental Neuroscience at the Yale Child Study Center.

Since her undergraduate studies, Dr. Ventola has worked with individuals with developmental disabilities. She treats children and adults with autism and studies the treatment response of preschool-age girls with autism.
examine the malfunctioning circuitry that underlies autism and see how it might react to the therapy.

While in a functional magnetic imaging machine (fMRI), the children watched videos depicting points of light that either resembled human motion, such as a stick figure walking, or scrambled motion with no biological similarity. In typically developing children, the lights mimicking biological motion cause blood to flow in the social areas of the brain.

At the beginning of the study, girls with autism showed lower levels of blood flow in these social areas when shown social stimuli compared with boys with autism. Much like with the behavioral results, the girls with autism showed a greater magnitude of change in their neural response than the boys after PRT.

“The brain is plastic,” Ventola said. “When you learn something, the brain changes. And we’re overtly changing behavior. We’re teaching them new social skills and seeing the results of this teaching inside the brain itself.”

An additional aspect of the study explored the impact of the children’s treatment for autism on their mothers, finding a significantly lower level of reported parenting stress after the children completed PRT. There were no significant changes in maternal symptoms of anxiety or depression, though these symptoms were low at the start of the study and did not differ from a sample of mothers of typically developing children.

The study prompted Ventola to partner with Dr. Wendy K. Silverman, Director of the Yale Child Study Center Program for Anxiety Disorders, on a paper comparing differences in parenting behaviors of parents of children with autism and parents of children with anxiety disorders to improve treatment approaches and help support parents. In addition, the project has inspired Ventola to form new interdisciplinary collaborations building on the study’s complex neuroimaging analyses, furthering predictions of treatment responses based on evaluations of sex-based differences found in the neural mechanisms, and advancing the evaluation of sex-based differences in the use of social robotics and eye tracking in autism research.

Ventola has applied for a grant from the National Institutes of Health to expand the study to a larger group of children, hoping to support arguments for strong interventions with girls with autism.

“Girls can be quite impaired, and people may not intervene as strongly because they don’t have as much hope,” she said. “I don’t think that’s the case. I think there is significant hope for these girls even if they start with lower functioning.”

The Girls in the Study Started with Lower Functioning on Measures of Communication, Daily Living Skills, and Socialization. But the Girls Made Larger Gains Than the Boys Over the Course of the Treatment.
Pinsker steered successful efforts to obtain grants and implement pilot programs in her nine years as Director of Guilford Youth and Families Services, an organization she led following four years as Director of Woodbridge Youth Services. In addition, she has held volunteer leadership posts with various organizations focused on youth services and advocacy. She won several awards for her contributions, including a national award for a program that invited professional and student musicians to play for hospital patients and their families.

Pinsker graduated summa cum laude from the University of Connecticut with a bachelor’s degree in Human Services. She lives in Milford, not far from her son and two grandchildren. Pinsker has begun reaching out to council members and supporters, establishing relationships and gathering information for plans to expand the center in new and creative ways that will enhance its ability to serve communities in Connecticut and across the country.

“It’s very important that I get to know people — where everyone fits in terms of the mission, the vision,” she said. “My job is to provide the necessary support so we can grow together.”

I’m so excited to work with this talented and dedicated staff and Advisory Council.

NEW EXECUTIVE ADMINISTRATOR ROBIN PINSKER CONSULTS WITH GRANTS AND FINANCE ADMINISTRATOR MARCO MUTONJI.
WHRY Advisory Council Grows by Three

“Barbara, Ruby, and Cynthia offer the council valuable insight from years of coordinating complicated endeavors with many moving parts,” Council Chair Carol Ross said. “With their caring attitudes and sense of community, we are so pleased to have them on the team.”

BARBARA RILEY lives to learn.

“I never found anything as exciting as learning,” Riley said. “One of life’s great thrills is gaining knowledge and pulling it together in a way that is useful for others.”

Following her retirement as Head of Hopkins School in New Haven, Riley now hopes to apply her experience as an educator to helping WHRY create a happier and healthier future for everyone.

“What a perfect organization this is,” Riley said. “It’s got all the essential ingredients. It’s got a noble purpose, it’s necessary, it’s got a practical effect. And it’s successful. It’s a dreamy organization to be a part of.”

Riley joined Hopkins, the 350-year-old independent school for grades 7-12, as a history teacher in 1996, teaching at every level of the school’s history curriculum and serving as a Head Adviser and Chair of the Head Advisers. In 2001, she was invited to fill in for a year as interim Head of School, a position she held in a permanent capacity the following year and until her retirement in 2016.

For three years before arriving at Hopkins, Riley taught history and English at the Foote School in New Haven.

Riley earned B.A., M.A., and M.Phil degrees in American Studies at Yale, concentrating on American public policy in the 20th century, 19th century literature, and African-American history. She also worked at Yale as a Teaching Assistant, research assistant on the Frederick Douglass papers, and an editor of historical papers at Sterling Memorial Library.

She has participated in the Yale Teacher Preparation Program and the Stanley King Counseling Institute. In 2005 she was a recipient of Columbia University’s Klingenstein Fellowship for School Heads. She has co-chaired New England Association of Schools and Colleges accreditations at the Pingry School in Massachusetts and St. Paul’s School in New Hampshire. In 2009 she chaired the NEASC accreditation of Nobles and Greenough School in Massachusetts.

RUBY MELTON might have gone to film school if not for an uncomfortable new pair of shoes.

After graduating college, she received a scholarship to attend New York University’s Tisch School of the Arts Graduate Film program. Before deciding whether to attend the program, she scheduled a visit to the school and, while in the city, an interview with a ship brokerage firm that was preparing to open an office in Greece. As she walked around the NYU campus in fresh footwear, thinking about her life, Melton’s feet began to hurt and, not coincidently, she became less enthusiastic about the prospect of film school. By the time she arrived at her Wall Street job interview, her feet aching, she had decided to take the job in Greece and train as a shipbroker, arranging deals between ship owners and charterers transporting cargoes around the world. Two years later she returned to the United States and soon joined the Louis Dreyfus Group.

“It turned out quite well,” said Melton, who spent many years with the company before and after earning a law degree. “And since I’ve retired, I’ve been able to indulge my passion for the arts and theater as a donor and a board member.”

Now Melton plans to apply her interests and talents to WHRY.

“I’m interested in policy and providing treatment and insurance coverage for health conditions affecting women,” Melton said. “To get there, you really need science to lead the way. Which is where Women’s Health Research at Yale excels.”

Melton practiced maritime and international law at the New York firm of Nourse & Bowles before joining the Switzerland-based Louis Dreyfus Group, one of the world’s oldest commodities merchants. She retired in 2008 as Deputy General Counsel of Louis Dreyfus Highbridge Energy, overseeing all legal and compliance functions for the company’s worldwide energy activities.

Melton earned her bachelor’s degree in English and French Literature from what is now Hollins University in Virginia before graduating from Fordham University School of Law. She serves on the boards of Shepherds, a Bridgeport-based organization providing financial support for inner city students to attend private schools; the Long Wharf Theatre; the Shubert Theater-New Haven.
Continued: An Uncertain Prognosis

A scientist, I can’t say I’m not worried. Particularly as I see so many peers hesitant to dedicate themselves to a precarious system.

We have witnessed the purchasing power for the National Institutes of Health, the single largest source of biomedical research funding, fall by 22 percent over the course of the Bush and Obama administrations amidst a climate of political polarization which shows no signs of abating. Over this time, the number of funded NIH grant applications has shrunk from one in three to one in six. National Science Foundation data show fewer than one in six biology Ph.D. recipients land a tenure-track job. Those who want to be a scientist are faced with a system that expects students to spend six years scraping by on graduate stipends and many more years making slightly more money in post-doctoral positions — all with the nagging knowledge that they will most likely be forced to start a different career in their mid-30s.

Women’s Health Connecticut, spread across 35 offices in the state.

McCraven embraces how her work allows her to build relationships.

“We’re not just dealing with people who have a condition or a disease in just one moment of time,” she said. “We see our patients yearly and for many years.”

She has also seen how women have been disadvantaged by the ways in which they haven’t been fully represented in biomedical research on diseases and conditions that affect them most. McCraven hopes to help guide WHRY as it continues to correct for this historical misstep and expand the center’s ability to improve the health of everyone.

She wants to promote health literacy, particularly among minority communities.

“We need to get the community at large to trust the medical community,” she said. “People need to be more comfortable with regular checkups and seeking treatment and to trust the science that is being done to help them with health issues.”

Originating from Toledo, Ohio, McCraven cultivated an interest in medicine by shadowing a parent of a schoolmate who worked as a pathologist in the local hospital. She started doing forensic work, spent summers working with a neurologist, and after graduating from Dartmouth College, earned her M.D. from Yale School of Medicine, where she also completed her residency.

McCraven volunteers with The Links, an international nonprofit service organization composed of 14,000 professional women of color. She has served on the boards of the Visiting Nurse Services of Southern Connecticut and the New Haven Symphony Orchestra.

The news hasn’t all been grim. The latest proposed budget increase for the NIH would manage to outpace the Biomedical Research and Development Price Index (BRDPI) for a second year in a row. On top of this, the 21st Century Cures Act invests about $480 million per year over the next decade in the NIH. This comes mainly in the form of special projects, such as Vice President Joe Biden’s “moonshot” cancer research initiative. However encouraging, this progress is fragile. The funding allocated by the law is still subject to the yearly appropriations process and can still be used to fill budget shortfalls as occurred with the Public Health Prevention Fund. The tentative progress toward more sustained NIH funding increases was made possible by the temporary removal of government spending caps in the Congressional budget deal made last fall. When this deal expires this year, there is no indication that it will be renewed — particularly in a conservative Congress reinvigorated by the election.

With public support of biomedical research, it is possible to do incredible things.

As the Wall Street Journal reported in September, “Whoever wins in November will enjoy far less latitude to spend money or cut taxes than any president since World War II.” The paper cited increasing deficits despite a growing economy and the commitment of nearly 2/3 of all spending to pay interest on the national debt and fund mandatory programs such as Medicare and Social Security. It was fiscal pressure and political brinkmanship that led to the decade-long stagnation of the NIH budget, and in the long-run neither of these factors seem likely to go away. Because of this, I fear that upward trend we’ve seen recently has been a blip in the continuing downward trend in funding for biomedical research.
Common Ground

Fact Check: It is true that there are such things as scientific facts.

And yet one of the disturbing developments in recent years, injected with steroids during the recent election, involves the inability of people to agree on even the most basic of facts.

Political campaigns have always involved accusations of deception and intentional shadings of the truth. But the internet and social media now allow people to erect walls around themselves with unprecedented ease, seeking out information that shores up their preconceived positions while leaving them unprotected from showers of intentionally fraudulent news generated by profiteers and provocateurs. And even should legitimate, contradicting facts slip through, people are more likely to reject them rather than rethink what they already believe they know.

Science, practiced responsibly, offers an antidote. Science is a method, not an ideology. It seeks only truths that can be tested again and again and only accepted for as long as they remain untouched by newer, better data. Good scientists do not often speak in absolutes. They constantly question their results and welcome the possibility that something will arrive to upend what they’ve learned.

This method is the only way we know anything. The way we have invented everything (even happy accidents require verification and testing and adapting). It is the only way we will survive as a species on this planet and explore the worlds beyond.

Of course, scientists are human. They can miss things. They can overthink and overcompensate for previous errors. For example, biomedical researchers mostly excluded women from clinical trials for decades, in part to protect women of reproductive age.

Now we know better. We know that diseases can develop differently in women and men. We know that treatments can vary in effectiveness and side effects. We know that sex differences affect much more than our reproductive parts.

And yet there is far more to know when considering either the mysteries of the universe or even how our bodies function. It was only in 1994 that the federal government began enforcing a law requiring the inclusion of women in studies seeking grants from the National Institutes of Health, the world’s largest single funder of biomedical research. And it wasn’t until last year that studies funded with NIH dollars required the consideration of female animals, tissues, and cells.

Today, researchers still do not always report or analyze their study results by sex or gender, mixing their data together, which can mask differences that might help develop more effective treatments for diseases, avoid dangerous side effects, and help men and women make better, more informed health decisions.

So good scientists learn from mistakes. They adapt and grow. They employ the scientific method to test and retest, challenge their assumptions, and overcome their biases. Because this is the only way forward.

Women’s Health Research at Yale provides leadership and a strategic vision to close the dramatic gap in knowledge caused by historical approaches to research. Our researchers serve to advance science for the common good, increasing our understanding of diseases and conditions without bias and to benefit everyone.

There is so much we don’t know, but we will never know what we don’t study. We must continue to advance scientific knowledge and work to overcome our very human tendency toward interpreting new information to confirm preexisting beliefs. We can do this armed with carefully tested evidence delivered impartially. Because facts matter.

Not long ago, I was drinking coffee with a friend and asked why she was applying to medical school despite her love and talent for research. She shrugged, “I need stability,” she said. I’ve heard the same sentiment echoed again and again in dining halls, in between classes, and in the quieter corners of labs. For students with significant debt or a family to support, a career in science would seem almost irresponsible, particularly when the same skill set fostered by science can lead to a stable and rewarding career in other areas.

I want nothing more than to pursue a career in science. With public support of biomedical research, it is possible to do incredible things. But we need a serious commitment, such as the gradual doubling of the NIH budget accomplished by President Bill Clinton and a Republican Congress in 1994. If the federal government does not rededicate our country to advancing biomedical research, we risk losing an entire generation of scientists and the contributions they might have made to our economy, health, and well-being.
Women’s Health Research at Yale

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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.

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Smoking is the leading cause of preventable death and illness in the United States. And studies have shown that women are more susceptible to tobacco-related health conditions such as cardiovascular disease, respiratory disease, and stroke.

The Yale Specialized Center of Research to Develop Gender-Sensitive Treatment for Tobacco Dependence brings together leading basic and clinical science experts to address this disparity.

Visit www.psychiatry.yale.edu/scor for the latest research findings and resources to help quit smoking.

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