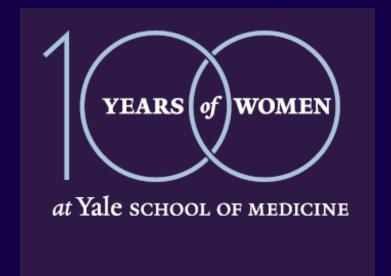
Swimming upstream: Outlook for women in science/medicine in 2019

Elizabeth Jonas, MD



Women in medicine: Search for respectability and femininity



Elizabeth Blackwell was the first woman to get a MD in 1849. Admitted to Geneva Medical College as a joke, the college then refused to accept any more women.



Women medical students, New York, 1870s

Nancy Rogers, YSM

Women in medicine in the 19th century

Women were practicing regular medicine in Connecticut since 1872 (and homeopathic medicine as early as 1865) and were members of the state medical society since 1879. Many were graduates of women's medical colleges, especially Woman's Medical College of Pennsylvania (later Medical College of Pennsylvania and now Drexel), the only women's medical college to survive past 1918.



The Yale School of Medicine, founded in 1810 and opened in 1813.

Women in medicine in the early 20th century

- In the United States in the nineteenth century, women were accepted into the Homeopathic and Eclectic medical schools, whose second-rate standing was consistent with the expected role of woman as nurturer, not healer.
- These medical schools closed during the conversion to a more scientific curriculum in the 1890s and early 1900s.
- Access to the medical profession became difficult for women.
- In Boston in 1890, 18 percent of the doctors were women whereas even in 1976, during a growth in the number of women seeking a medical degree, only 8.6 percent of the doctors in America were women.

The growth of interest in the scientific basis of medical care left women out

- The professionalization of medicine required the change in medical education in favor of systematic instruction along scientific lines
- This excluded women, since they lacked opportunities to obtain college degrees; few women could meet the necessary chemistry and biology requirements for admission.

Flexner report (1910) helps professionalize medicine but marginalizes women

- Recommended dissolution of medical schools that could not teach the scientific basis of medicine or did not have access to a large patient population.
- The report recommended mandated entrance criteria
- This led to the closing of many schools so that the number of medical schools dropped from 130 to 85.
- The restrictions hurt women.
- Tufts Medical School is a classic example: in 1900, 42 percent of its graduates were women, by 1908 this dropped to 9.4 percent.

Early 20th century women's struggles

- Yale admitted the first women in 1916.
- The medical school of the University of Pennsylvania admitted women in 1914;
- Columbia followed Yale in 1917.
- Harvard did not admit women until 1945.
- Johns Hopkins was one of the first medical schools on the East Coast to admit women. In 1889 Mary Elizabeth Garrett agreed to finance Johns Hopkins provided women were admitted.

Why did Yale admit women to medical school in 1916?

- Growing acceptance of careers outside the home.
- 2 million women worked in the women's suffrage movement.
- 1916 National Women's Suffrage movement received support from President Wilson.
- By 1920 the amendment had been ratified, demonstrating that women could change the law.

Why did Yale admit women to medical school in 1916?

- Trend toward higher education for women.
- Vassar, Smith, Bryn Mawr, Mount Holyoke opened during the 19th century.
- These provided prerequisites for medical school.

THE DECISION TO ADMIT WOMEN

The only other record pertaining to the decision to admit women to the Yale School of Medicine, besides the Yale Corporation and the Board of Permanent Officers' minutes cited in the Introduction, is a letter from Henry Farnam to President Hadley. It reads:

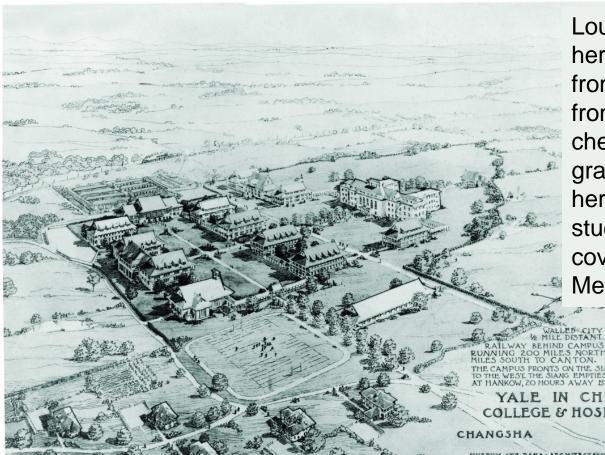
Word has reached me informally that the faculty of the Medical School are willing to admit a limited number of women provided they are graduates of a college and provided funds can be raised to put in a suitable lavatory. As the latter condition seems to have been considered a serious one, I write to say that in case the facts are as I understand them I shall be glad to be responsible for meeting the expenses of suitable lavatory arrangements.

Believe me

Yours very sincerely,

Henry W. Farnam [42]

1920: First women graduate from Yale Medical School



Louise Farnam received her bachelor's degree from Vassar and a Ph.D. from Yale in physiological chemistry in 1916. She graduated at the top of her medical class of 19 students, winning the coveted Campbell Gold Medal.



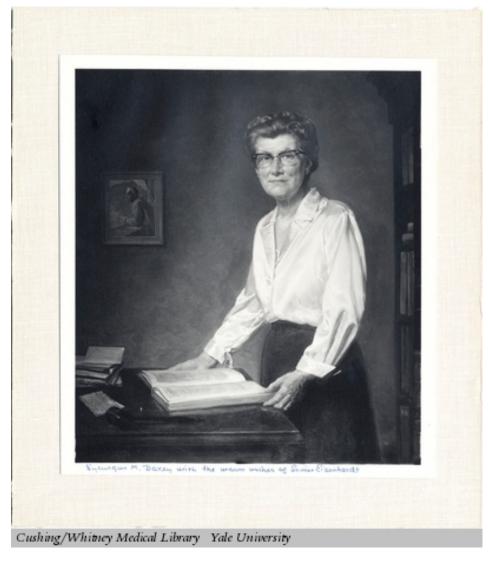
Cushing/Whitney Medical Library Yale University

Farnum continued her training in pediatrics at Johns Hopkins. While there, she wrote to Dr. Edward Hume, who was organizing a medical school and hospital in China, sponsored by Yale. In 1921, Farnam became the first woman to become a faculty member at Yali, in Changsha.

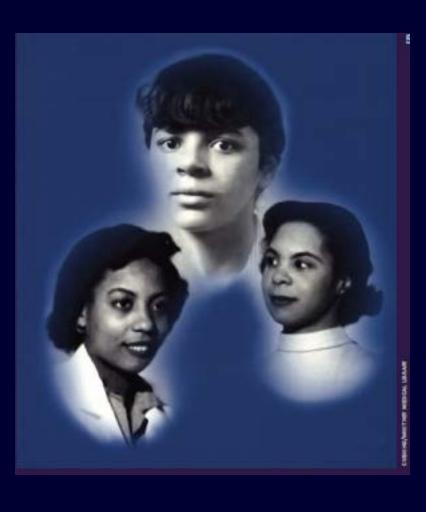
Though several male graduates of the Yale School of Medicine in the 1920s and 1930s eventually became professors at Yale, that was not an option for any of the women.

Louise Eisenhardt (1891-1967), Department of Pathology

- Graduated from Tufts Medical School with the highest scholastic record ever attained there, and after residency she became a junior associate in surgery of Dr. Cushing from 1928-1934.
- Eisenhardt became an international authority on intracranial tumors, maintaining a scientific record of Cushing's operative cases and all of the tumors he removed.
- As a member of the Department of Pathology at Yale, she co-authored with Cushing, *Meningiomas, their classification, regional behavior, life history and surgical end results* (1938).
- After Cushing's death, she remained at Yale as Curator of the Brain Tumor Registry from 1944 to 1960.
- She organized the Brain Tumor Registry and trained generations of students.
- Despite a distinguished career, her faculty rank at Yale remained Research Associate.



YSM admits African American women- Dr. Beatrix Ann McCleary Hamburg



First African American woman to enroll at YSM

Vassar College, YSM 1948

Developed models in child psychiatry: Focused on preventing violence among children

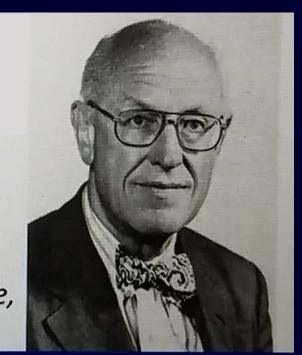
Work drew international recognition

A generation would pass before the majority of U.S. medical schools admitted black women

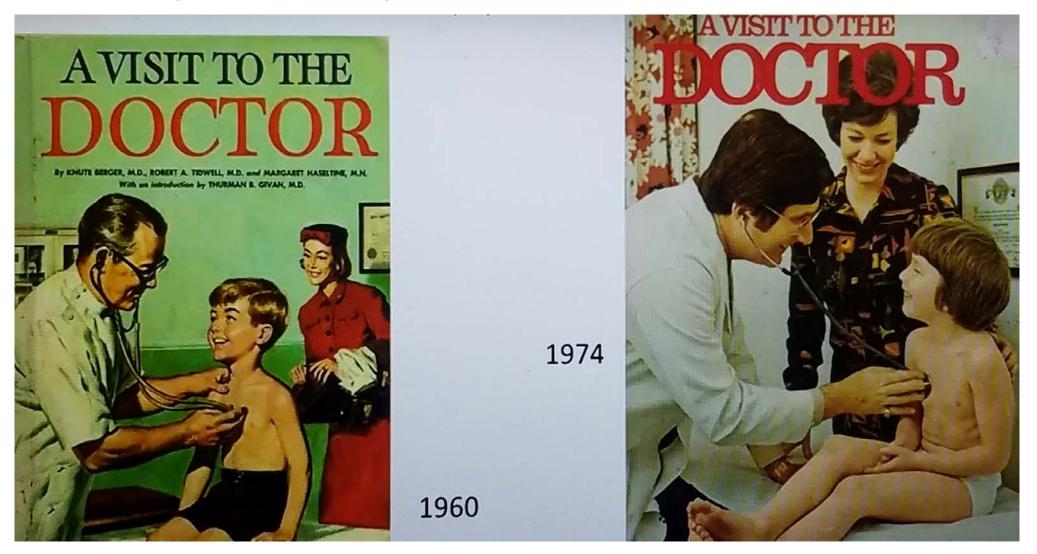
She said "It wasn't a...big deal to be an African American at Yale...it was much more of a challenge to be a woman...In medical school, a woman, when a question was tossed out, would answer it and it would be as if [it] hadn't happened. Later on a man would say the same thing-the same thing!- and they'd say, God, John, that was so fabulous!"

Fast-forward to 1970s...nothing has changed

Women doctors at a recent Harvard Medical Alumni Day were "handsome in countenance, dressed with elegant simplicity, far from shapeless, and... married" Franz Ingelfinger, editor New England Journal of Medicine, 1974

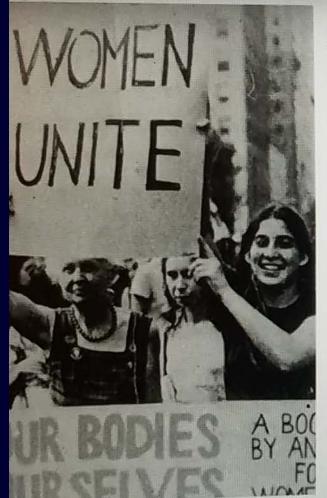


Nothing has changed: Views of the typical "doctor"



...Or has it?

History - Naomi Rogers 1970s - Feminism and Medical Schools



Radical feminists and liberal feminists

opened self-help clinics and fought sexist quotas

1970 Women's Equity Action League

- 250 class action lawsuits of every medical school alleging violations of Executive Order 11246
- hearings on gender discrimination in education

1972 Education Amendments Title IX:

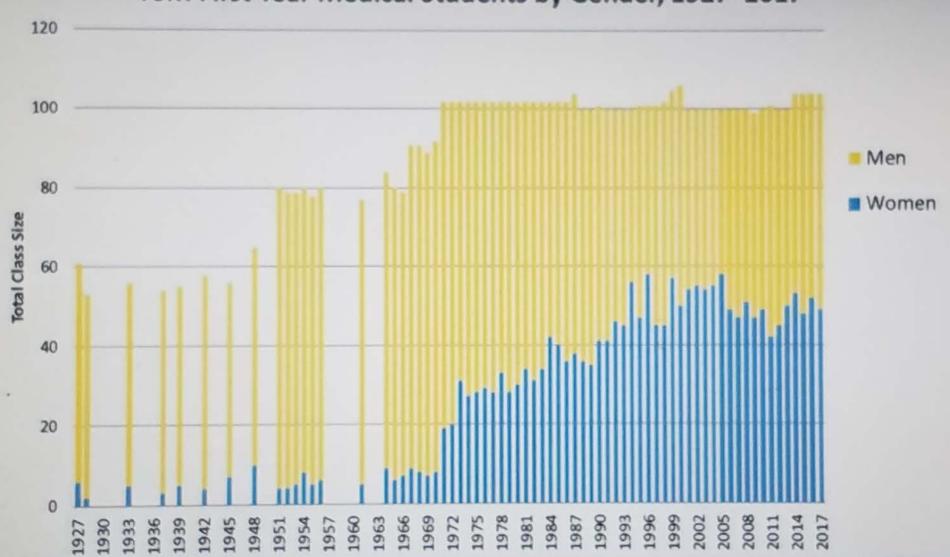
 banned sex discrimination in educational institutions



Gynecological Self-Help

PARTERYET 25% of physicians and around 50% of medical school students were women

YSM First Year Medical Students by Gender, 1927-2017



Phyllis Bodel modernizes view of women in

medicine



- In 1972, Phyllis Bodel, senior research associate in the Department of Internal Medicine, and Elizabeth Short, a post-doctoral fellow, wrote an article entitled "Women in Medicine: Views from a Medical School," based on a survey of 135 women who entered YSM between 1944 and 1965.
- Bodel and Short challenged widely held views of women medical practitioners:
- "...'everyone knows' women have a high drop-out rate from medical school, get married ...have children and never practice, or practice just a little in second-rate jobs."
- Bodel and Short discovered that most women's jobs emphasized teaching, research and administrative responsibilities. Only 3/77 respondents were not working in the field,
- BUT only 12 women were in full-time practice (40-100 hours per week).
- Although 36 women held teaching appointments, only 13 were assistant or associate professors, and none were full professors.
- Facing barriers, only 22 women were board certified.

Results of Bodel survey illustrated problems for women in medicine

'The results of our survey...provide no evidence that women do not follow through with their careers [but] several areas [are of] concern...

- 1. [some of] Yale's women work part-time at some time in their [careers].
- 2. Very few of those engaged in teaching have reached the higher faculty posts.
- 3. Very few are in full-time practice.
- 4. "...Are these necessary features of women's roles in medicine? Are they a result of intrinsic biological demands, or are they conditioned by the current framework of social and medical institutions? What kind of lives do young women entering medicine today see for themselves as individuals and as professionals? To answer these questions it is necessary to explore some of the larger issues relating to women and their current place in our society."

Results of Bodel survey illustrated problems for women in medicine

- Dr. Bodel suggested:
- Admissions committees consider women applicants as individuals
- Training opportunities for women in medicine should be significantly improved.
- Part-time internships and residencies should be made available for women (and men)
- She advocated for flexible career paths
- She noted that more women should be represented on faculties of medical schools.
- She said "... men as well as women can benefit from such changes."

Establishment of Office for Women in Medicine

- Based on Bodel's recommendations, Dean Robert Berliner approved and funded the creation of the <u>Office for Women in Medicine (OWM)</u> in June 1975, with Bodel as its first director.
- The OWM assisted in a large list of issues facing women in the medical school, including
 - lack of visible role models,
 - gender based pay disparities,
 - "micro-inequities" women faced daily
 - limited advancement opportunities
 - discrimination in hiring and promotion

Women's Faculty Forum was established in 2001 with the goal of studying women's issues systematically



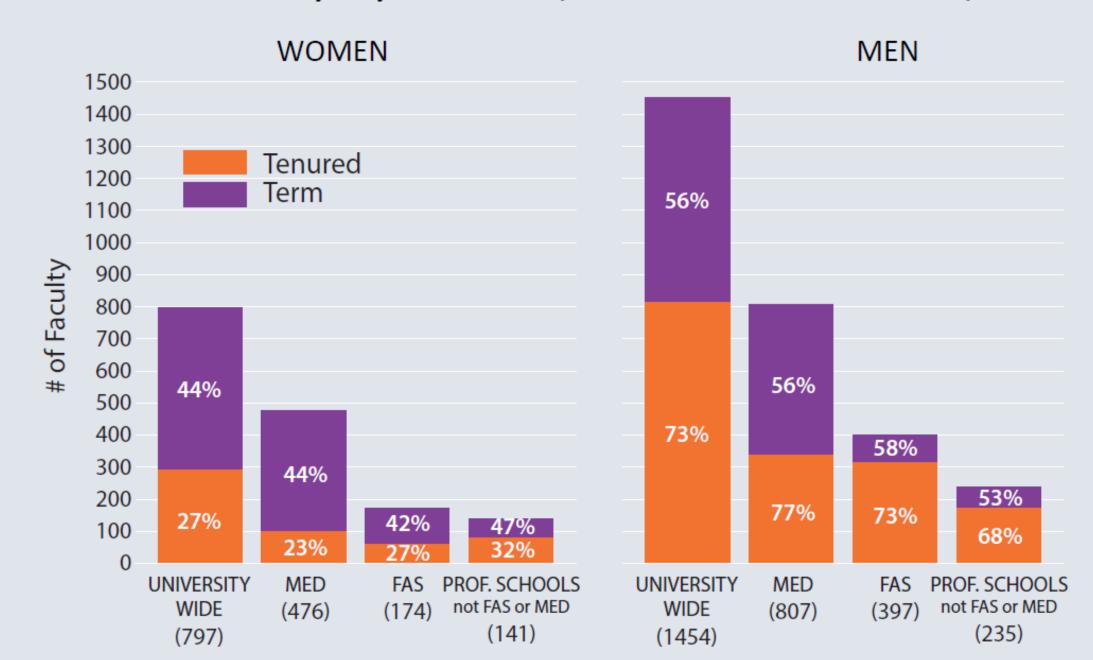
Women and Men Faculty Yale University

A View of 2016-2017



1

A.3. Ladder Faculty by Gender, Tenured vs. Term (2016-2017)



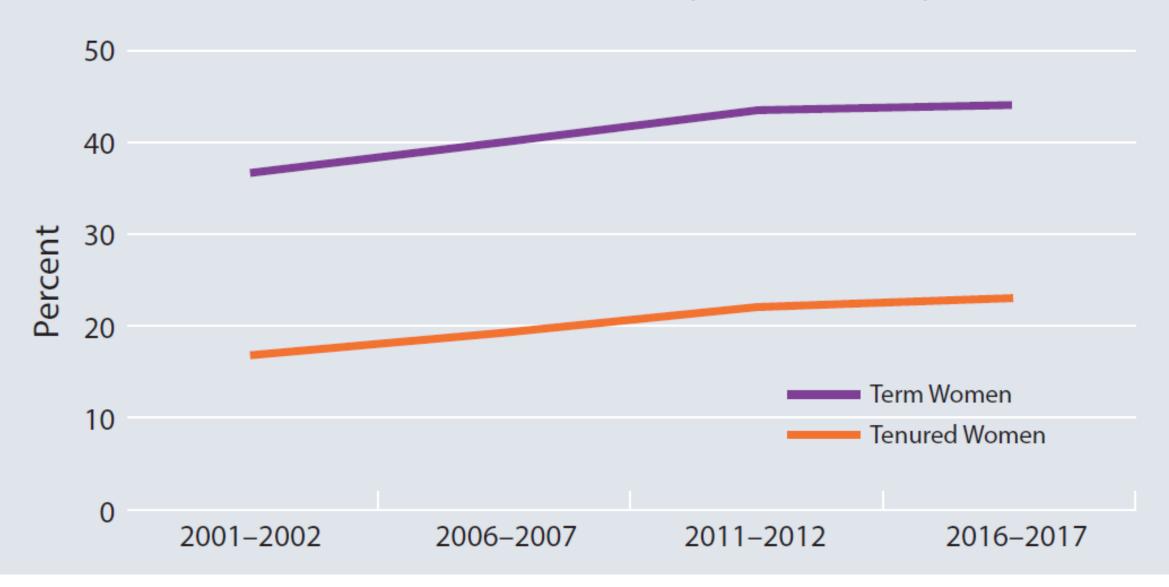
A.4.b. Faculty of Medicine and Public Health

Departments (% Female)

(Ladder faculty by primary appointment)

YSM Departments	Total	% Female		YSPH Departments	Total	% Female	
Obstetrics, Gynec & Reproductive Services	48	65	50-70 %	Chronic Disease Epidemiology Environmental Health Sciences	31	71	
History of Medicine	4	50			10	60	
Pediatrics	114	47		Health Policy and Management	17	53	
Psychiatry	137	46		Biostatistics	32	41	
Ophthalmology and Visual Science	16	44		Epidemiology of Microbial Diseases	28	39	
Internal Medicine	303	40	30-49 %				
Anesthesiology	88	40					
Pathology	48	40					
Emergency Medicine (Dept.)	39	38					
Dermatology	21	38					
Genetics	24	38					
Laboratory Medicine	16	38					
Child Study Center	30	37					
Orthopaedics and Rehabilitation	28	32					
Therapeutic Radiology	22	32					
Cellular and Molecular Physiology	17	29					
Neurology (Dept.)	51	27					
Comparative Medicine	15	27					
Radiology and Biomedical Imaging (MMRC)	81	26	10–29 %				
Immunobiology	17	24					
Neurosurgery	22	23					
Neuroscience	14	21					
Pharmacology	19	21					
Surgery	69	19					
Cell Biology	22	18_		*YSM Includes faculty in the traditional, clinicia educator, clinician scholar, and investigator tra			
Urology	11	9	0.00/				
Microbial Pathogenesis	6	0	0–9 %	,			

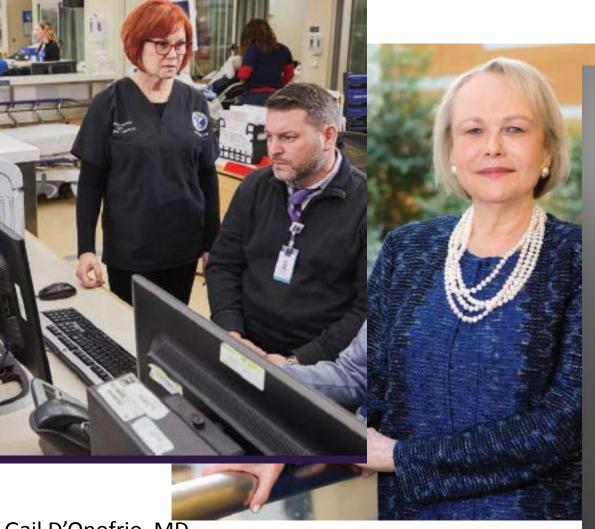
A.5.b. Trend in Term and Tenured Women Faculty, School of Medicine (2002–2017)



C.2. Department Chairs by School and Gender (2016-2017)

School	Female	Male	Total	% Female
Public Health	2	3	5	40%
Faculty Arts & Sciences	13	26	39	33%
Engineering	1	4	5	20%
Medicine*	3	24	27	11%
Total	18	56	76	24%

YSM Women Chairs



Gail D'Onofrio, MD Emergency Medicine

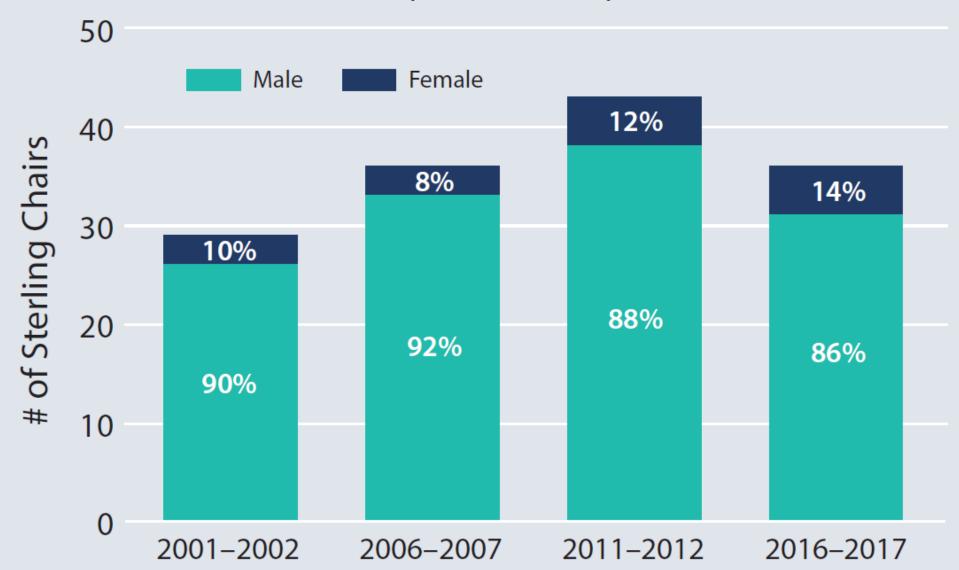
Robert Hines, MD Anesthesiology



Nita Ahuja, MD, MBA Surgery



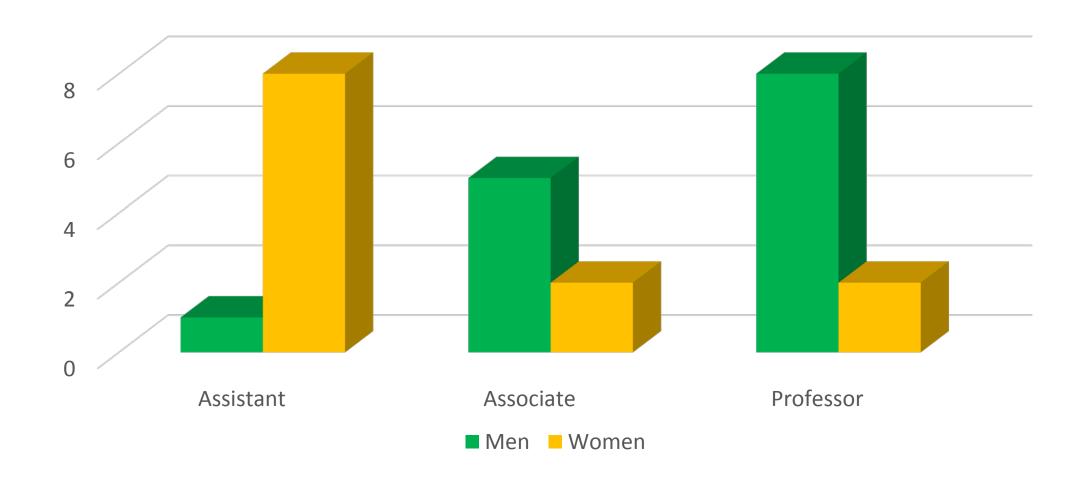
D.3. Trends in Sterling Chairs by Gender (2002–2017)



Endocrinology as a Women's Profession

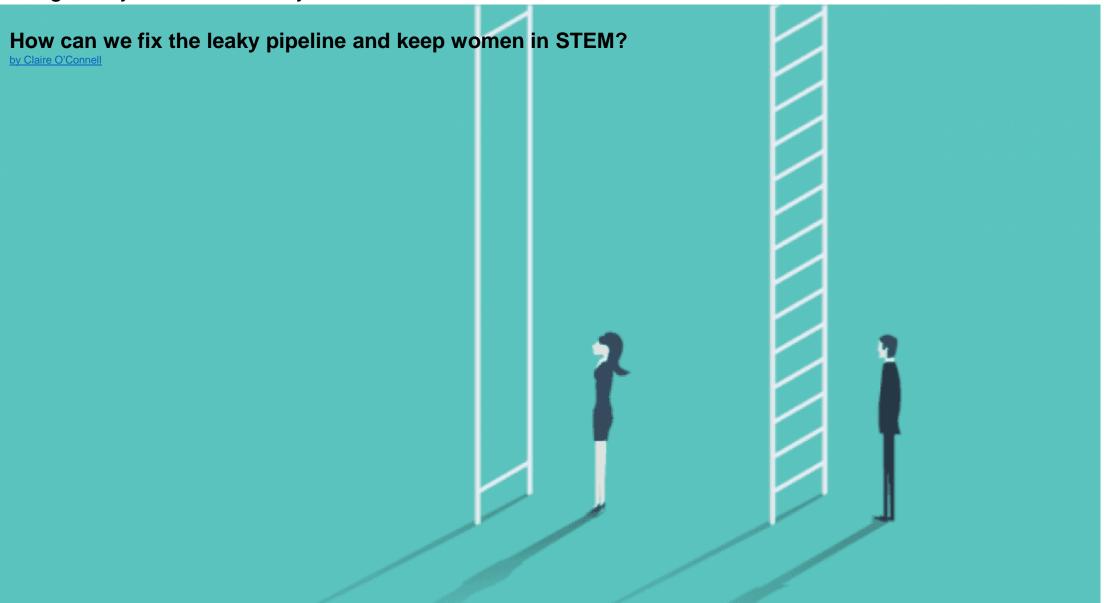
- •Yale Fellows:
 - From 2008-2018: 22 fellows
 - 20 Women
 - 2 Men

Endo Faculty Level by Sex



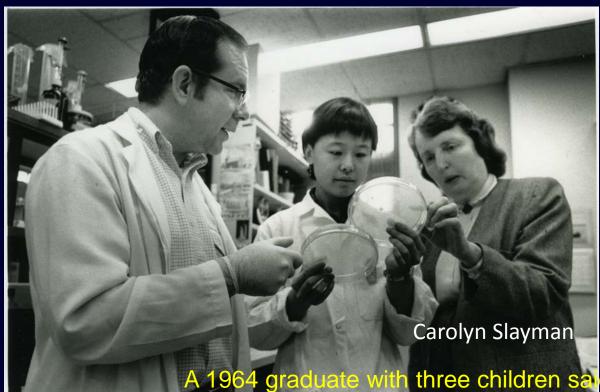
Careers

Image: Royal Irish Academy



Modernizing view of women in medicine







A 1964 graduate with three children sa d: "...When I attended Yale there was a quota for women of five percent and an attitude (common in most medical schools) that a woman was 'wasting' a man's place. It was ...difficult at times to manage full time school, then training and a growing family. However, once training is completed, the medical profession, with its flexible hours, is an ideal job for a 'working mother.'



 In 2016 15% (22/149) of medical school deans were women (lower % than law school deans and university presidents)

- 2007 Nancy C. Andrews MD, Dean of Duke School of Medicine
- "I sit in a lot of meetings where I'm the only woman or one of only a couple of women."



- 2016 Kelsey Martin MD PhD, Dean of UCLA David Geffen Medical School
- PhD YSM 1991; MD YSM 1992
- "I was told frequently 'You can't be a great scientist if you're going to have kids."



Recommendations

Based on the findings in this report, the areas for prioritizing actions are the following:

- 1. Create plans with benchmarks to increase women faculty in departments and programs that currently have low numbers of women faculty.
- Institute more effective efforts to attain faculty diversity through hiring and retention.
- 3. Correct leadership imbalances for heads of institutes and chairs at YSM.
- 4. Take serious steps to address the lack of gender parity in named professorships, especially Sterling Professors.
- 5. Reconsider the honor of a named professorship for faculty guilty of sexual misconduct or other serious violations of conduct.*

^{*}Specific data are not in the report.

Why Are There Still So Few Women in Science?

By EILEEN POLLACK

...researchers at Yale published a study proving that physicists, chemists and biologists are likely to view a young male scientist more favorably than a woman with the same qualifications.

Presented with identical [CVs] of imaginary applicants, professors at six major research institutions were significantly more willing to offer the man a job.

If they did hire the woman, they set her salary, nearly \$4,000 lower than the man's.

...female scientists were as biased as their male counterparts.

Formation of the Committee on the Status of Women in the School of Medicine (SWIM)

- Also formed in 1975
- Reported directly to the Dean
- Comprised of a liaison officer, faculty members, students, minority groups, researchers, and clinicians
- The OWM and SWIM worked closely together on women's issues in the medical school
- SWIM's early activism focused on:
 - Pregnancy disability
 - Parental leave of absence
 - Provided advocates for women and minorities in the selection of house officers



A History of SWIM

- In 1999 senior women faculty wrote a "Bill of Rights" for women faculty
 - Salary equity, equal access to resources, representation on important committees, promotion, climate, hospital day care

Recommendations for Addressing Gender Inequity Issues At Yale Medical School

submitted for discussion by the senior women faculty of the YMS

The Senior Women Faculty members of the Yale University School of Medicine are concerned that there continue to be considerable impediments to progress for women in their pursuit of successful academic careers. In addition, there are continued difficulties experienced by the School in recruiting and retaining senior faculty women. We believe that the reasons for these difficulties include salary inequity, space and resource inequity, and an environment that is often unreceptive to women faculty. In an effort to

Marie Robert
Joanne Sweazy
Shirley McCarthy

SWIM Structure

- Executive Committee
 - 22 members- Clinicians and Scientists
 - Liaison from the Minority Organization for Retention and Expansion (MORE)
- Monthly committee meetings
- Quarterly committee meetings with Dean
- Quarterly meetings with Liaisons from departments
- Website and Facebook page
- Committee Bylaws

Other Interfaces

- Deputy Provost, Faculty Development and Diversity
- Meet with Associate Dean Faculty Affairs
- Chair of Faculty Advisory Council
- Meet with Deputy Provost in charge of Health Affairs and Academic Integrity who is the Leader of University wide Title IX compliance
- Meet with Dean of Diversity and Inclusion on ad hoc basis

Role of Liaisons

- Meet regularly with women in departments
 - Disseminate information
 - Discuss climate in department
- Communicate with SWIM
 - Two way communication to keep SWIM grounded in reality of unique microenvironments
- SWIM conveys information to Dean

SWIM Accomplishments, 2014-16

- Chief Diversity Officer- Darin Latimore 1/1/17
 - Asked to write job description
- Chair search committees now have 50% women
- Proportional representation on Yale Medicine committees- 30% women
- Web site management
- Proposed Faculty Senate (with task force)
 - Faculty Advisory Council Formed- we communicate regularly

Other Goals yet to be addressed

- Equity in resource allocation
- Transparency in promotion process
- Evaluation of leaders with respect to equity for women/URM
 - Section Chiefs, Chairs
- Improvements in overall climate
- Hire women/URM to leadership positions

SWIM spreadsheet

1-Jan-20	SWIM	Increase women into Section Chief and Vice Chair positions. 40 % by January 1, 2020.	positions; or process for	1) Formal request written to Dean Alpern and discussed in 12/4/18 meeting. No clear answer yet.	Dean Alpern, CDO	Open
19-Jan-19	SWIM	1. Goal of 40% women/URM chairs 2. Evaluate current search firm's success in recruiting women/URM faculty/staff leadership; Emphasize to search firm that we would like to recruit URM and women to open Chair position as priority. 3 transparency in chair appointment process and other associated institutes with YSM. 4. add experts in URM and women recruitment to	Develop ongoing list all active chair, dean and senior leadership searches, beginning with: Orthopedics, Pathology. Search committees should be formed for all positionsincluding basic science; or process for choosing positions should be open. Orthopedics, Pathology follow up to see if progress has been made in these here, especially with regard to success in recruiting URM and women.	The extent to which he will have influence is unclear.	Dean Alpern, CDO, SWIM	Open

Celebration of 100 years of women at YSM

- SWIM initiative
- Day long celebration with talks on history and accomplishments of women at YSM
- Dinner previous night where speakers were each paired with a female medical student
- Exhibition created online: Biographies of women proposed by the communityhundreds of women were honored.
- History of the previous 100 years of women at YSM written and illustrated by medical library archivists: http://exhibits.library.yale.edu/exhibits/show/100-years-women-ysm
- Videos created
- Banners of women in different categories

Women in Clinical Science





- reatment of cervical uterine, and vulvar cancer
- 7 Rajita Sinha, PhD, is the Foundations Fund Professor of Psychlatry and professor of neuroscience and in the Child Study Center; chief of the Psychology ection in Psychiatry; and co-director of education at

















Women in Clinical Care













Women in the Community













Time's Up for Medicine? Only Time Will Tell

Esther K. Choo, M.D., M.P.H., Jane van Dis, M.D., and Dara Kass, M.D.

Since all
forms of harassment have
negative
effects on women's careers
and on their physical and
psychological
health, there is no clear
rationale for ignoring the full
range of behavior that falls under
this umbrella.

For a female researcher, a lower salary translates into less fringe funding and a lower indirect cost contribution, thereby making her less valuable to the institution than a male peer who is paid more

When women are systematically devalued, promoted later than men, and paid less, this treatment undermines their institutional power and their ability to report or defend themselves against ongoing sexual abuse, particularly at the hands of male superiors

interventions targeting sexual harassment are sure to fail in an environment that fosters the devaluation of women in every other sense.

Time's Up for Medicine? Only Time Will Tell

Esther K. Choo, M.D., M.P.H., Jane van Dis, M.D., and Dara Kass, M.D.

The

narrative that sexual harassment occurs because of the psychopathology of a single person overlooks the critical role of institutional permissiveness, fosters a sense of futility (How can we root out sporadic, unique, unpredictable events?), and absolves institutions of responsibility.

By making discussions of gender-based harassment routine and system-focused

- taking a preventive approach
- we gain the opportunity to examine harassment openly and frankly.

Research indicates that when an organization consists of greater than 30-35% percent women in leadership roles, women are able to change organizational culture.

- Sexual harassment thrives in male-dominated environments
- Groups focusing on diversity, inclusivity training and mentoring can help
- But the ultimate solution to harassment is shifting the power dynamic between men and women in an organization
- Increasing gender diversity at the top makes a difference

Changing the power dynamic: Improving Climate Through Leadership

- 1) Refrain from honoring guilty faculty, past and present for their scientific achievements
- 2)Consideration of pending sexual misconduct investigations or recent discipline
- 3) Develop a system of monitoring individual's conduct in the workplace

Changing the power dynamic: Improving Climate Through Leadership

- **Promote more women into leadership positions:** Focus on process and results
- Increase women into Chair, Section Chief and Vice Chair positions at YSM by January 1, 2020
- Adopt the <u>Mansfield rule</u>: Women and people of color should comprise 30% of candidate pools for leadership roles.

Changing the power dynamic: Improving Climate Through Leadership changes

- i. Term limits. we propose two terms for Department Chairs and heads of institutes
- ii.Take advantage of talent at home and outside: Provide resources to recruit, groom and retain women in leadership positions
- iii.Tackle biases that prevent accurate evaluation of women as leaders
- iv.Require accountability regarding improvements

Moral character and leadership

- 1) Deans should ensure that the officers they appoint to run the YSM are honorable and of high moral character.
- 2) Four key character traits correlated with successful leaders are integrity, responsibility, forgiveness, and compassion.
- 3) Before hiring these officers, it is critical to speak with individuals who have worked with the candidate and it is necessary to perform thorough background checks of the history of workplace harassment and conflicts-of-interest.

Nina Stachenfeld

Honor and commemorate women



Maya Lin, The Women's Table



Acknowledgements

- Susan Baserga, MD, PhD, Professor of Molecular Biophysics and Biochemistry. Author of The Early Years of Coeducation at the Yale University School of Medicine; Yale Journal of Biology and Medicine, 1980.
- Naomi Rogers, PhD, Professor, History of Medicine and History
- Paula Kavathas, PhD, professor of Laboratory Medicine, Chair of the Women's Faculty Forum, Author of the View
- Nina Stachenfeld, PhD, Senior Research Scientist in Ob/Gyn, Chair of SWIM
- Renata Belfort De Aguiar, MD, Head of Equity and Inclusion Task force Section Endocrinology
- Joanne Sweazy, Marie Robert, Shirley McCarthy of SWIM
- Margaret Bia, MD, Professor Emeritus of Medicine (Nephrology); Senior Transplant nephrologist and co-chair of 100 years of Women in Medicine Celebration
- Jill Max, Lena Parker, Justin Navarro for key roles in organizing the celebration
- Melissa Grafe, John R. Bumstead Librarian for Medical History, Head of the Medical Historical Library and Tobey Appel, archivist
- Darin Latimore, MD, Dean of Diversity and Inclusion, YSM
- Nancy Angoff, MD, Associate Dean for Student Affairs