

Women in Medicine (and Surgery)

Suturing the Gender Gap



Krista Evans MD

Assistant Professor of Colon and Rectal Surgery



THE
University of Vermont
MEDICAL CENTER



The University of Vermont
LARNER COLLEGE OF MEDICINE

No financial disclosures



The University of Vermont
LARNER COLLEGE OF MEDICINE

THE
University of Vermont
MEDICAL CENTER

The Changing Face and Stories of Surgeons



University of North
Carolina at Chapel Hill
General Surgery
Graduation 2016



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL



The University of Vermont
LARNER COLLEGE OF MEDICINE

THE
University of Vermont
MEDICAL CENTER

Outline

- Why is this topic relevant and timely?
- Where do we currently stand?
- What are our barriers?
- Thoughts for improvement



Should You Choose a Female Doctor?

Studies show that female doctors tend to listen more, and their patients — both male and female — tend to fare better.



Agnes Lee



By [Tara Parker-Pope](#)

Aug. 14, 2018



[Leer en español](#)

Does gender matter when choosing a doctor?





Patient–physician gender concordance and increased mortality among female heart attack patients

Brad N. Greenwood^{a,1}, Seth Carnahan^b, and Laura Huang^c

^aCarlson School of Management, University of Minnesota–Twin Cities, Minneapolis, MN 55455; ^bOlin Business School, Washington University in St. Louis, St. Louis, MO 63130; and ^cHarvard Business School, Harvard University, Boston, MA 02163

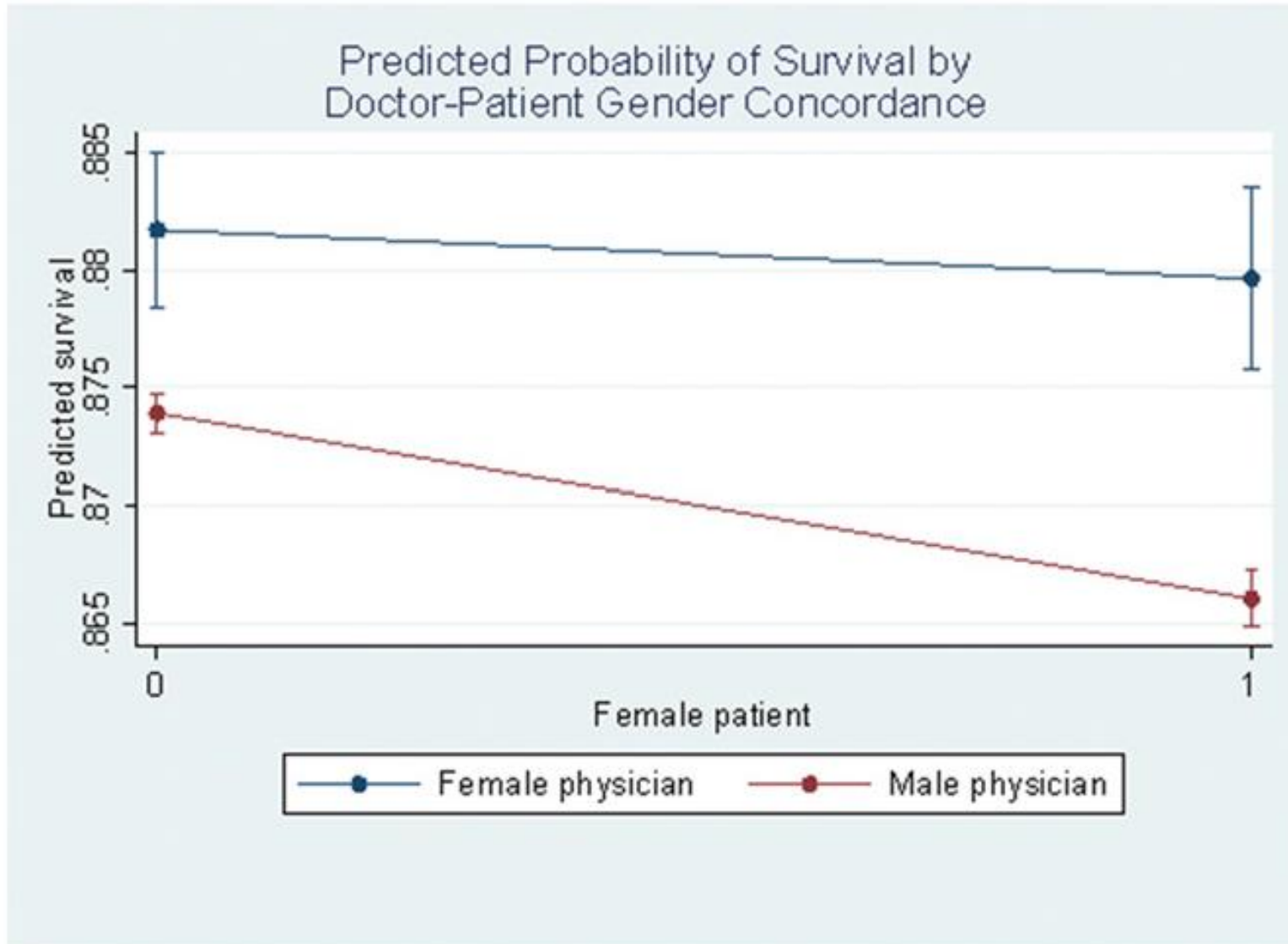
Edited by Michael Roach, Cornell University, Ithaca, NY, and accepted by Editorial Board Member Mary C. Waters July 3, 2018 (received for review January 3, 2018)

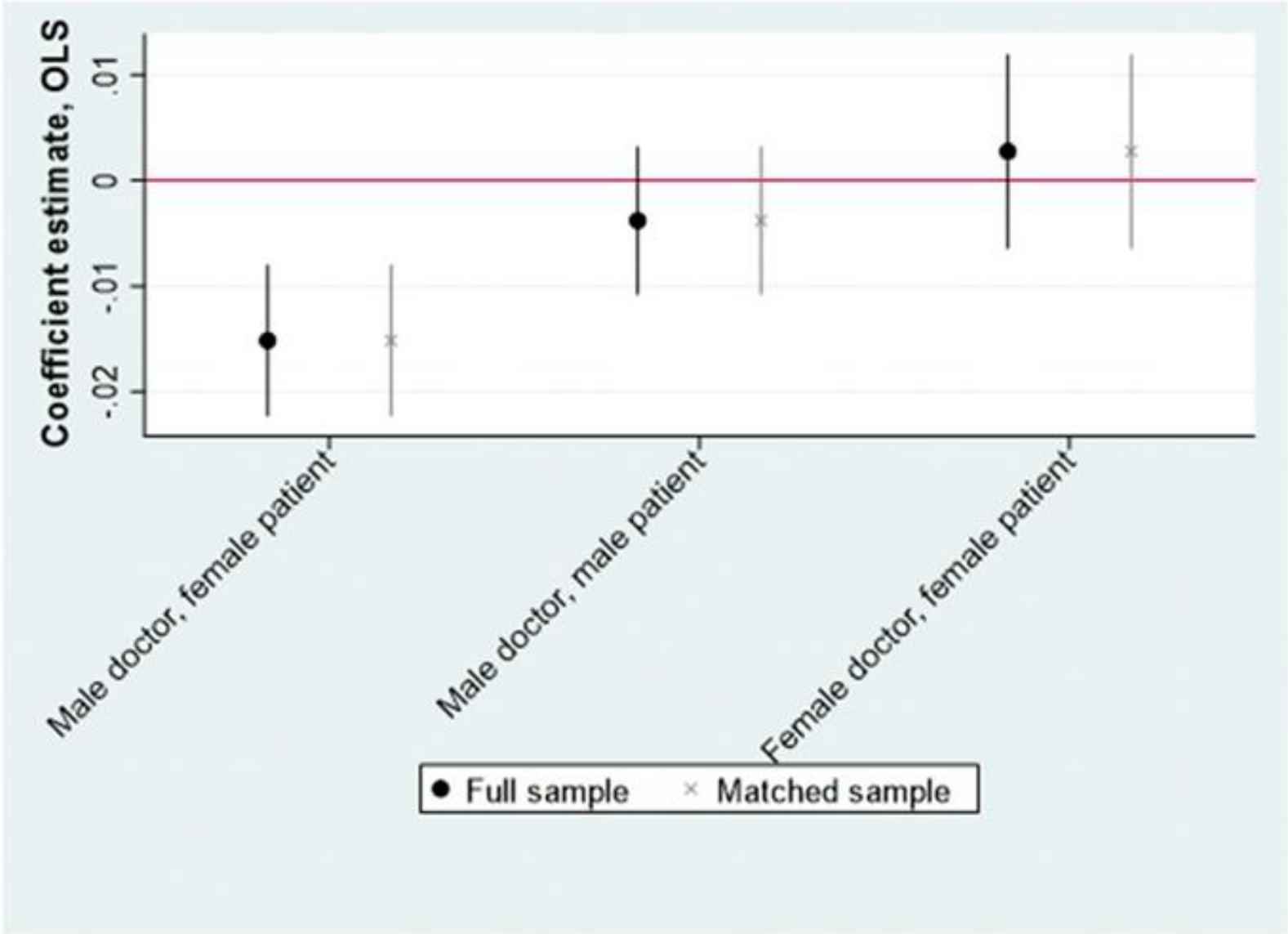
PNAS



The University of Vermont
LARNER COLLEGE OF MEDICINE

THE
University of Vermont
MEDICAL CENTER





Significance

A large body of medical research suggests that women are less likely than men to survive traumatic health episodes like acute myocardial infarctions. In this work, we posit that these difficulties may be partially explained, or exacerbated, by the gender match between the patient and the physician. Findings suggest that gender concordance increases a patient's probability of survival and that the effect is driven by increased mortality when male physicians treat female patients. Empirical extensions indicate that mortality rates decrease when male physicians practice with more female colleagues or have treated more female patients in the past.



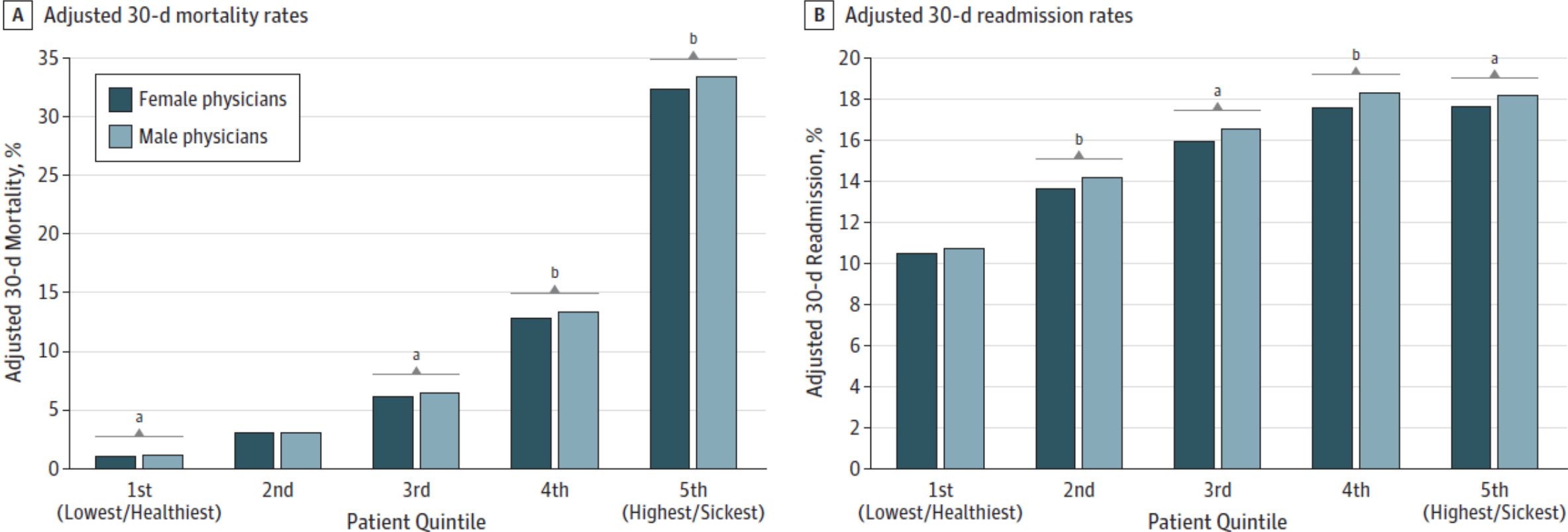
JAMA Internal Medicine | [Original Investigation](#)

Comparison of Hospital Mortality and Readmission Rates for Medicare Patients Treated by Male vs Female Physicians

Yusuke Tsugawa, MD, MPH, PhD; Anupam B. Jena, MD, PhD; Jose F. Figueroa, MD, MPH; E. John Orav, PhD;
Daniel M. Blumenthal, MD, MBA; Ashish K. Jha, MD, MPH



Figure. Association Between Physician Sex and Patient Outcomes by Expected Mortality Rates



A, Adjusted 30-day mortality rates. B, Adjusted 30-day readmission rates. Risk-adjusted mortality rates were calculated with additional adjustment for physician characteristics and with hospital fixed effects (model 3). Standard errors were clustered at the physician level.

^a*p* < .05.

^b*p* < .001.

If male physicians practiced more like female physicians:

223 admissions to prevent 1 death

182 admissions to prevent 1 readmission



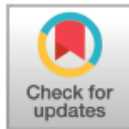
Researchers Find Women Make Better Surgeons Than Men



BY ALICE PARK  OCTOBER 10, 2017


If you had a choice between going under the knife with a female surgeon or a male surgeon, which would you choose? Would your surgeon's gender even make a difference?





RESEARCH

Comparison of postoperative outcomes among patients treated by male and female surgeons: a population based matched cohort study

 OPEN ACCESS

Christopher JD Wallis *resident*^{1,2}, Bheeshma Ravi *surgeon and assistant professor*³, Natalie Coburn *surgeon and*⁴ *associate professor*⁴, Robert K Nam *surgeon and professor*¹, Allan S Detsky *internist and professor*^{2,5}, Raj Satkunasivam *surgeon and assistant professor*^{1,6}

¹Division of Urology, Sunnybrook Health Sciences Centre, University of Toronto, ON M4N 3M5, Canada; ²Institute of Health Policy, Management, and Evaluation, University of Toronto; ³Division of Orthopedic Surgery, Sunnybrook Health Sciences Centre; ⁴Division of General Surgery, Sunnybrook Health Sciences Centre; ⁵Department of Medicine, Mount Sinai Hospital, University Health Network, University of Toronto; ⁶Department of Urology and Center for Outcomes Research, Houston Methodist Hospital, Houston, TX, USA.



- Risk stratified by patient illness severity, physician and hospital
- No difference in outcomes in emergency surgery
 - Typically no choice in surgeon characteristics
- 30 day mortality rate:
 - adjusted odds rate: 0.88 (p=0.04)
- 30 day complication or readmission rate
 - No significant difference, but a slight improvement
- Challenging to match by surgical subspecialty as females were not well represented in many practices



Does gender matter when choosing a doctor?

- Men and women practice medicine differently:
 - Perform as well on standardized examinations
 - More likely to adhere to clinical guidelines
 - More likely to provide preventive care more often
 - Use more patient-centered communication
 - Provide more psychosocial counselling



Where does Japan stand?



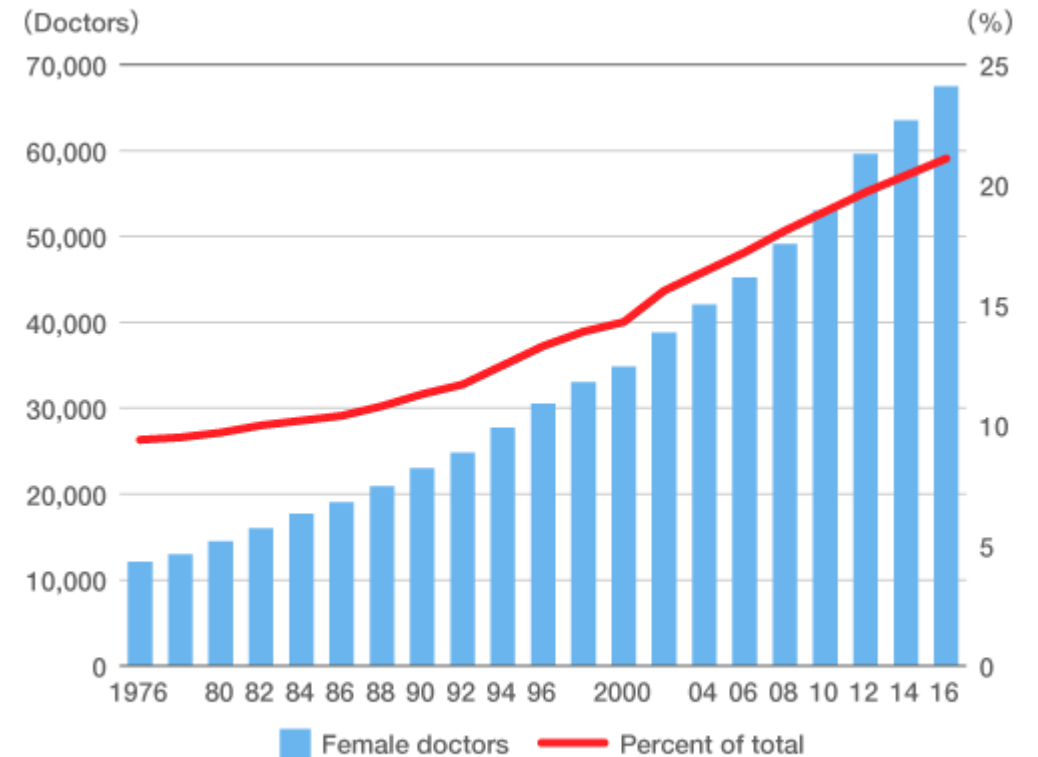
Japan Data >

Too Few Female Doctors: Japan Ranks Last Among OECD Nations

Society Aug 9, 2018

In 2016, women accounted for just 21.1% of all doctors in Japan, the lowest level among all OECD nations.

Female Doctors in Japan



Created by Nippon.com based on data from the Ministry of Health, Labor, and Welfare's 2016 Survey of Physicians, Dentists, and Pharmacists.

nippon.com

Table 6. Gender distribution by health profession
(2012)

Health professional categories	Total	Female	% Female
Doctors/Medical practitioners	303 268	59 641	19.7
Nurses ^a	1 015 744	952 423	93.8
Practical nurses ^a	357 777	334 629	93.5
Midwives	31 835	31 835	100
Public health nurses	47 279	46 549	98.5
Occupational public health nurses ^a	4 119	4 096	99.4
Dentists ^b	102 551	22 295	21.7
Pharmacists ^b	280 052	170 788	61.0
Unclear	1 943 038	-	-
TOTAL	1 618 160	1 618 160	73.5
TOTAL (incl. unskilled/nurse assistants/nurse aides)	(3 561 198)	-	-

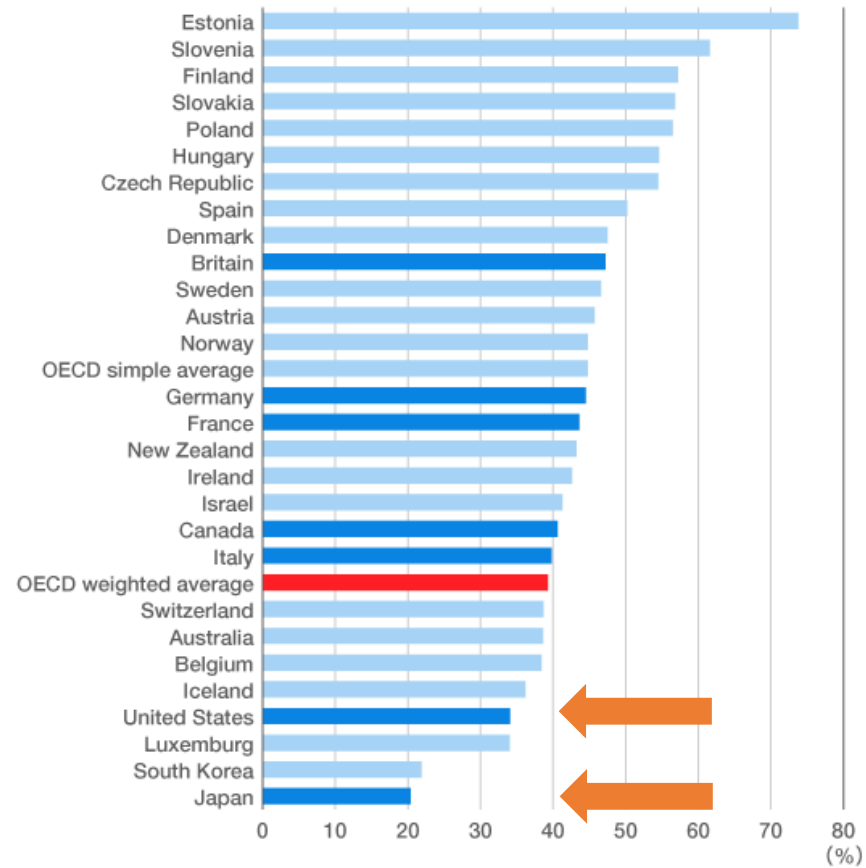
^a Data from a tracking survey of certified nurse specialists by Japanese Nursing Association.

^b Data from Ministry of Health, Labour and Welfare (14).

Source: Ministry of Health, Labour and Welfare (8).



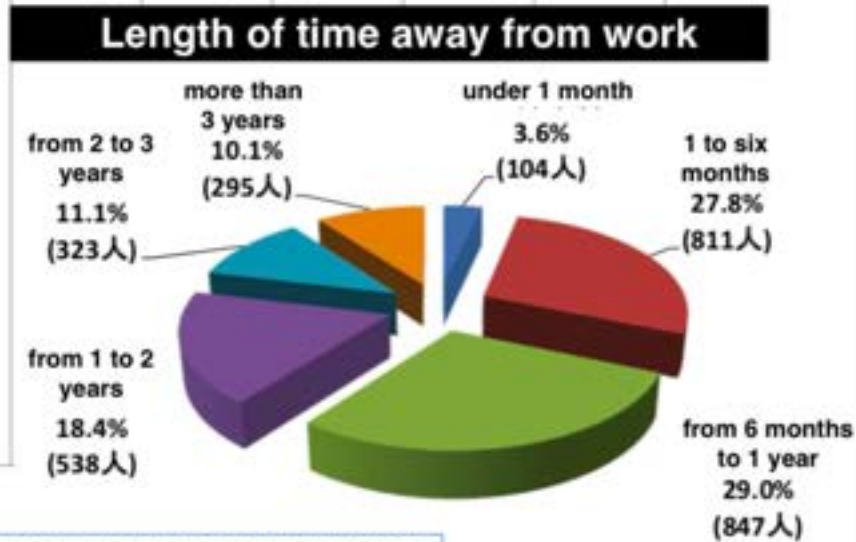
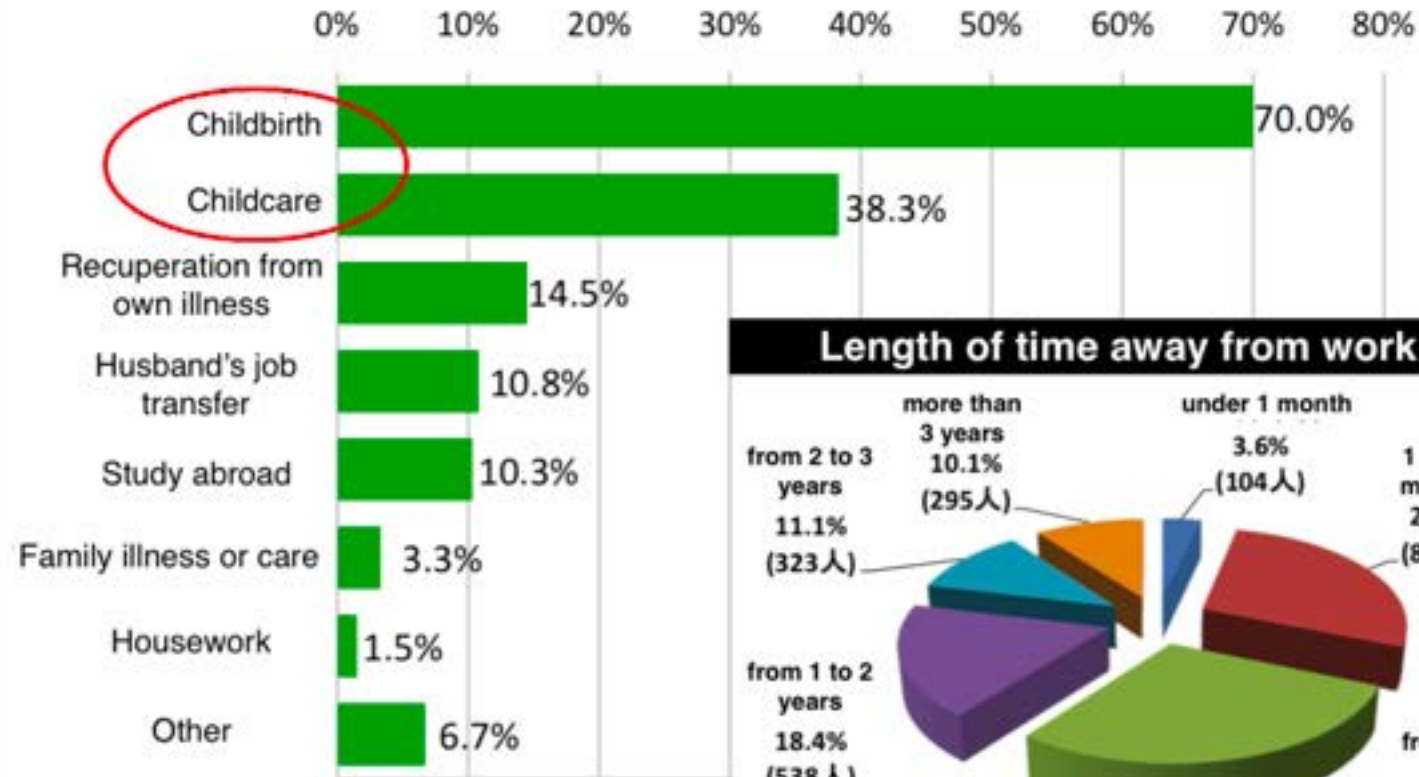
Percentage of Female Doctors for OECD-member Nations



Notes: Survey years vary among countries (2012–14). The OECD weighted average is calculated by dividing the total number of female doctors among OECD countries by the total number of doctors in those countries. Dark blue bars indicate G7 nations.
 Created by *Nippon.com* based on the OECD's 2015 Health Statistics report and data from the Ministry of Health, Labor, and Welfare's Survey of Physicians, Dentists, and Pharmacists.



Reasons given for female doctors' suspending work, leaving work (n=2,931 / multiple answers possible)

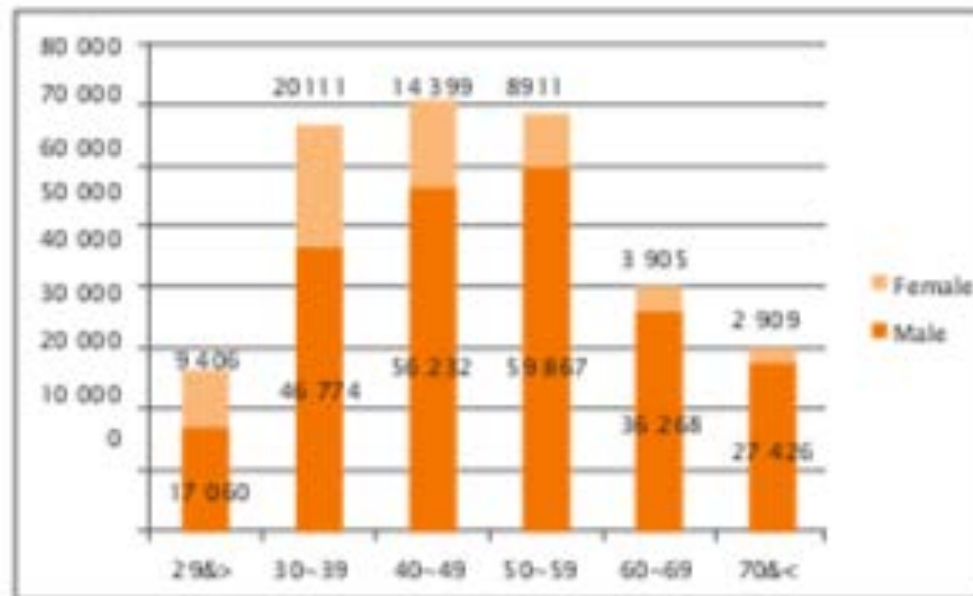


女性医師の勤務環境の現状に関する調査報告書(平成21年3月日本医師会)
 [調査票配布数15,010 有効回答数7,467(有効回答率 49.7%)]
 [調査対象:病院に勤務する女性医師]

Source: Ministry of Health, Labour and Welfare³⁸



Figure 9. Ratio of male to female doctors by age group



Source: Based on Ministry of Health, Labour and Welfare (14).



ORIGINAL ARTICLE

Analysis of gender-based differences among surgeons in Japan: results of a survey conducted by the Japan Surgical Society. Part. 2: personal life

Kazumi Kawase¹ · Kyoko Nomura² · Ryuji Tominaga³ · Hirotaka Iwase⁴ · Tomoko Ogawa⁵ · Ikuko Shibasaki⁷ · Mitsuo Shimada⁶ · Tomoaki Taguchi⁸ · Emiko Takeshita⁹ · Yasuko Tomizawa¹⁰ · Sachiyo Nomura¹¹ · Kazuhiro Hanazaki¹² · Tomoko Hanashi¹³ · Hiroko Yamashita¹⁴ · Norihiro Kokudo¹⁵ · Kotaro Maeda¹⁶



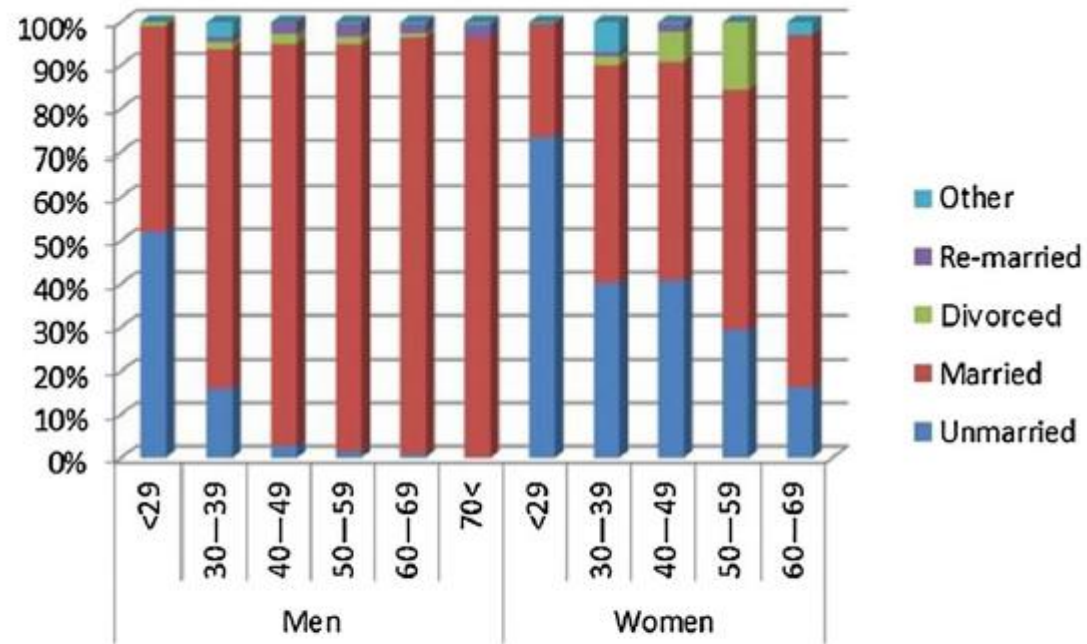


Fig. 1 Marriage status stratified by gender and age. Women were significantly more likely to be single or divorced than their male counterparts



Where does the US stand?



Association of Women Surgeons

The climb to break the glass ceiling in surgery: trends in women progressing from medical school to surgical training and academic leadership from 1994 to 2015



Jonathan S. Abelson, M.D.^a, Genevieve Chartrand, M.D.^b,
Tracy-Ann Moo, M.D.^a, Maureen Moore, M.D.^a,
Heather Yeo, M.D., M.H.S.^{a,*}



^aDepartment of Surgery, New York Presbyterian Hospital – Weill Cornell Medicine, New York, NY, USA;
^bWeill Cornell Medical College – Weill Cornell Medicine, New York, NY, USA

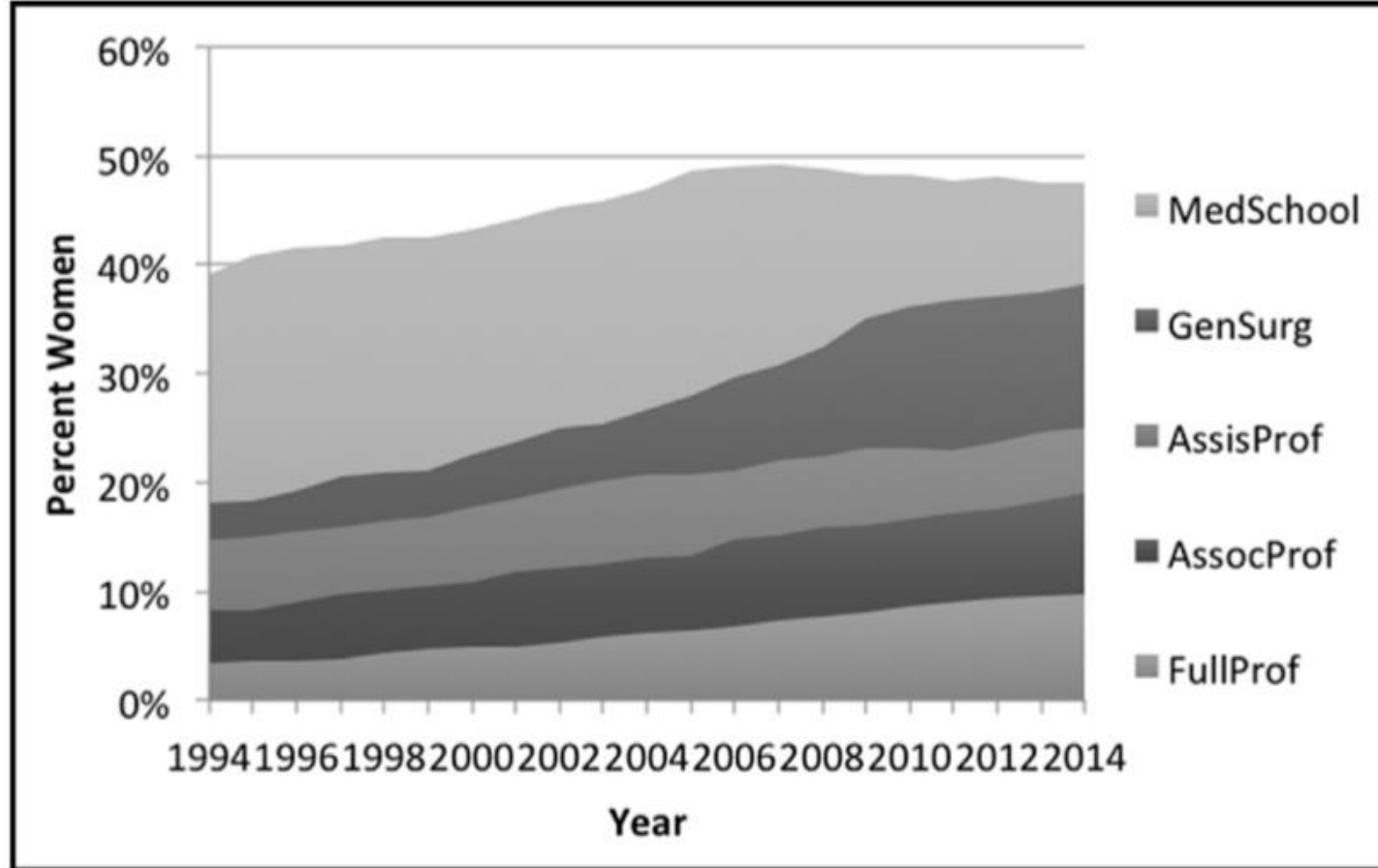
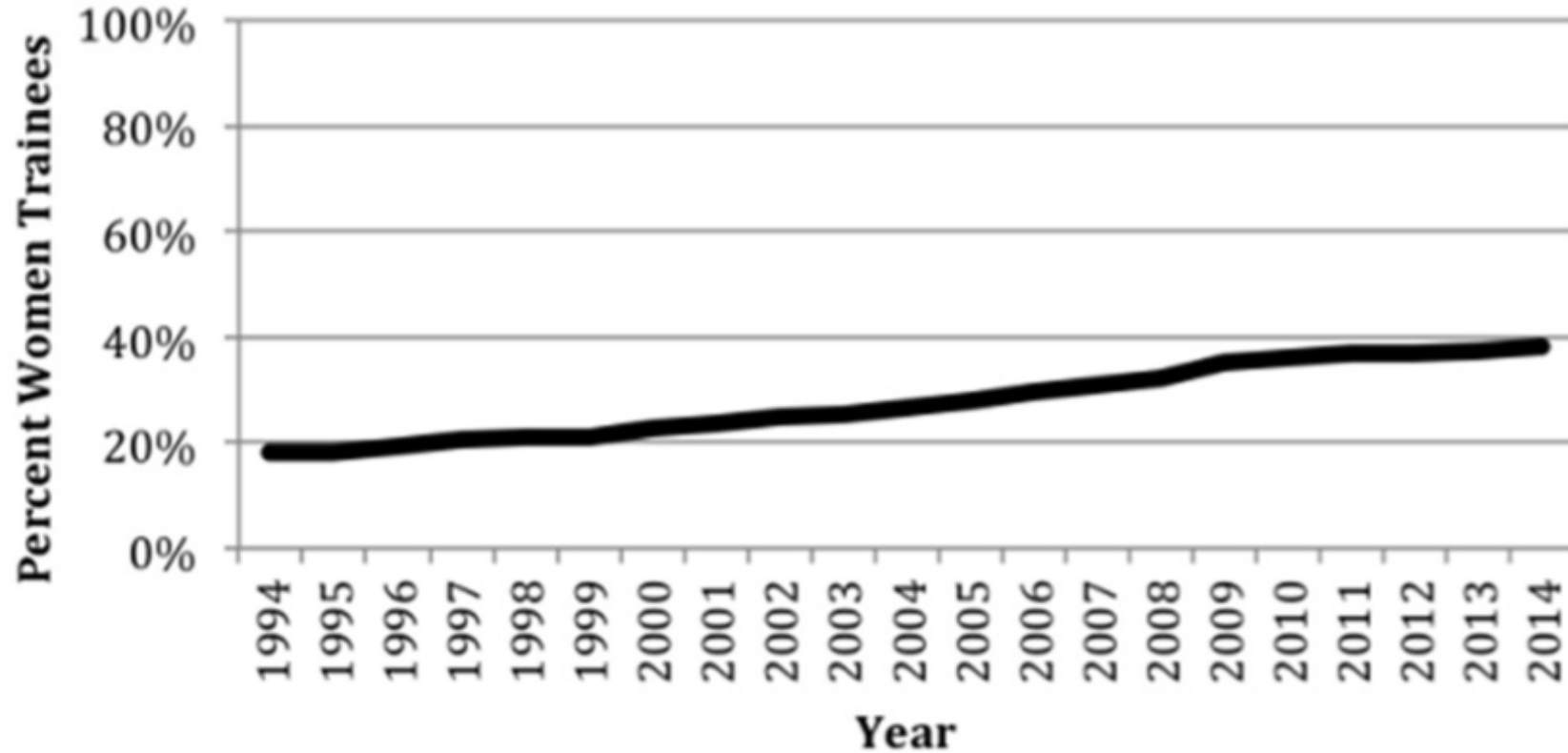


Figure 1 Trends over time of the proportion of women along the pipeline to becoming a leader in academic surgery.



General Surgery



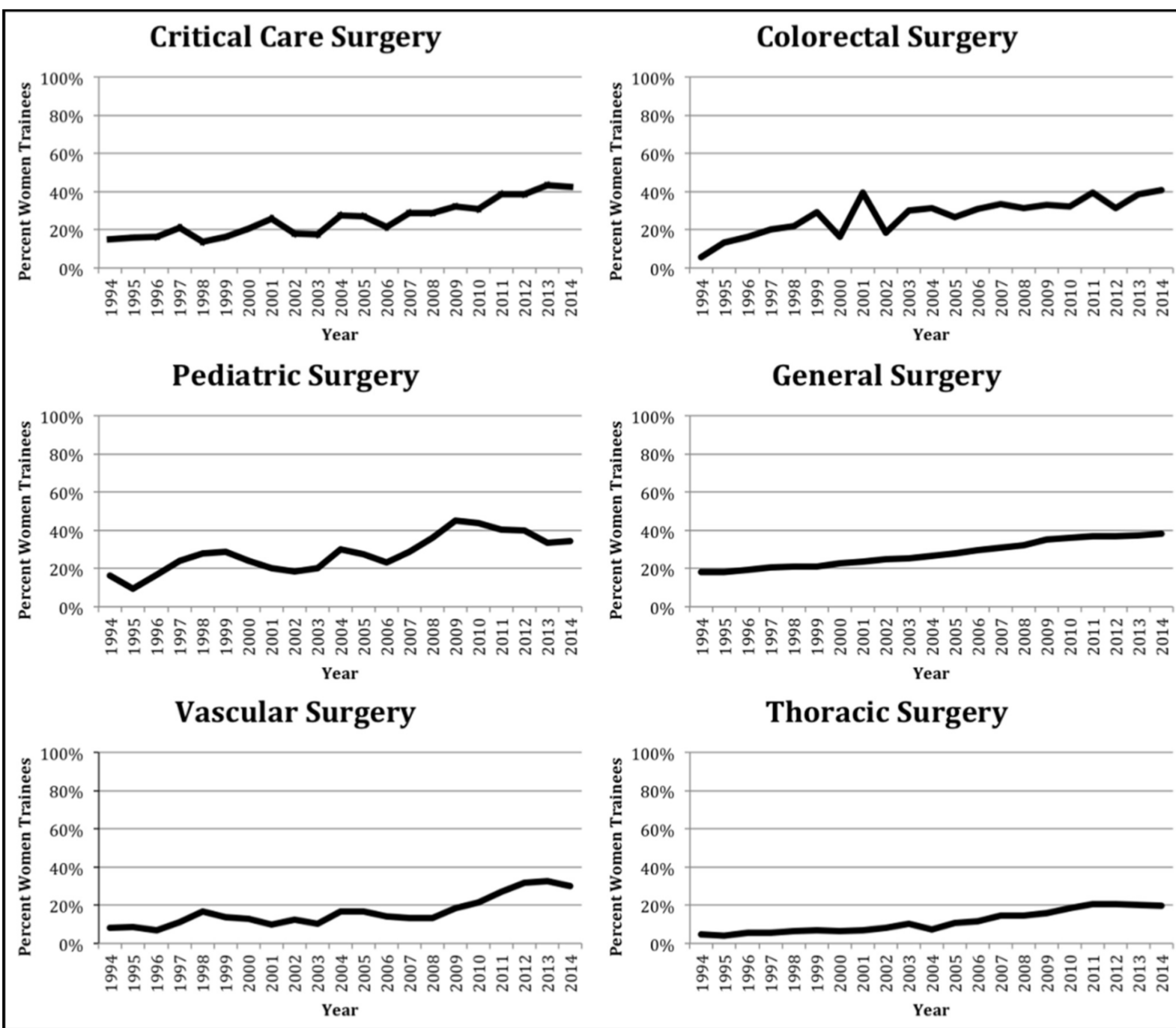
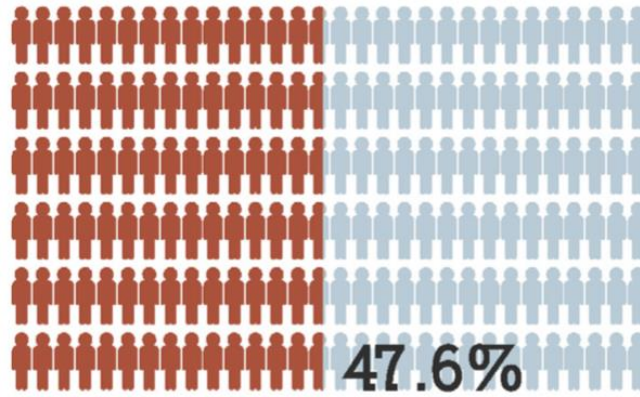


Figure 2 Trend of women trainees in surgical subspecialties from 1994 to 2014.

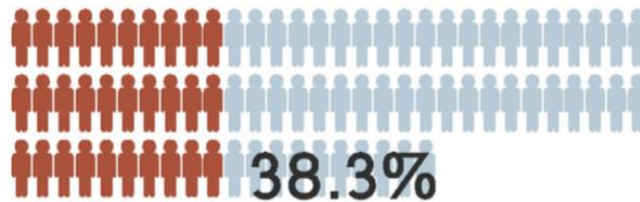
Cross-sectional Analysis of Women in the Academic Surgery Pipeline



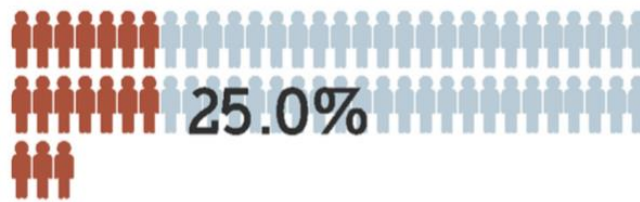
Medical Students
18,705 total *



General Surgery Trainees
8,043 total *



Assistant Professors
6,285 total **



Associate Professors
3,071 total **



Full Professors
3,525 total **



* number updated as of 2014 ** number updated as of 2015

Figure 3 Cross-sectional analysis of women in the academic surgery pipeline.

What influences career decisions?

Table II. Potential factors influencing career choice

<i>Factor</i>	<i>Yes</i>	<i>No</i>
Shorter training	42%	56%
Part-time training/childbearing time	57%	41%
Lifestyle controlled	61%	37%
Daycare on site	44%	54%
General surgery not required	61%	37%





Original Investigation | Medical Education

Estimating Implicit and Explicit Gender Bias Among Health Care Professionals and Surgeons

Arghavan Salles, MD, PhD; Michael Awad, MD, PhD; Laurel Goldin, MA; Kelsey Krus, BS; Jin Vivian Lee, BA; Maria T. Schwabe, MPHS; Calvin K. Lai, PhD

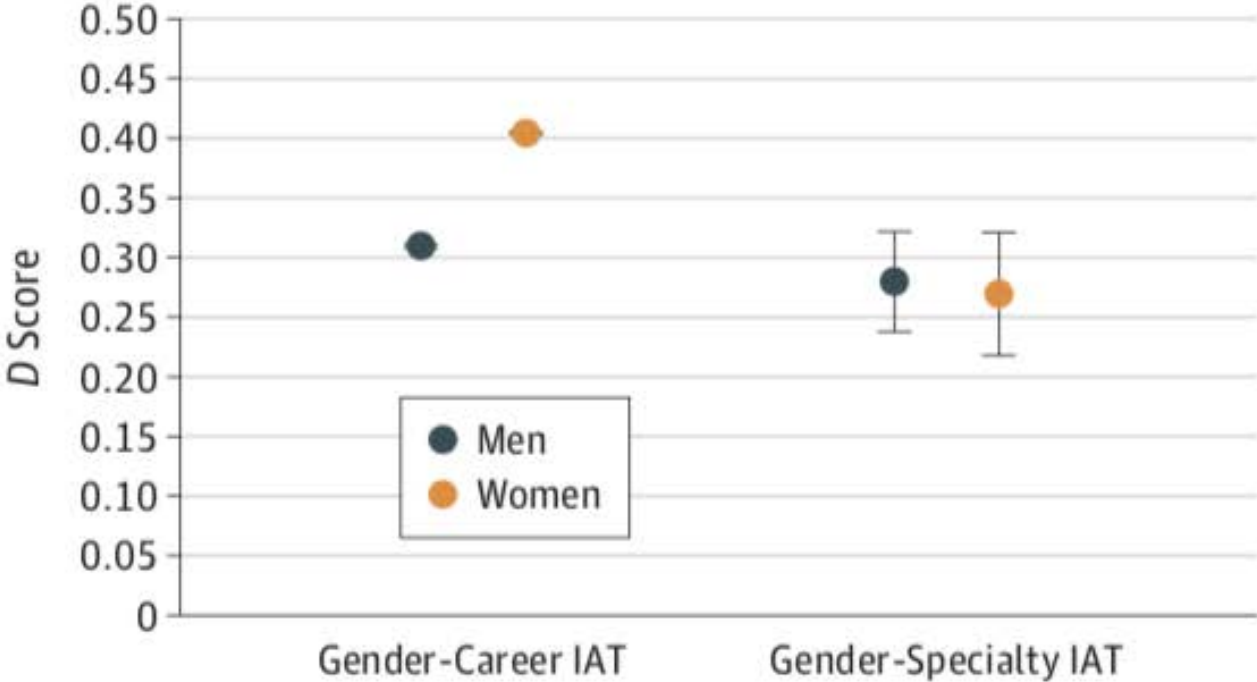


The University of Vermont
LARNER COLLEGE OF MEDICINE

THE
University of Vermont
MEDICAL CENTER

July 2019

Figure 1. Implicit Association Test (IAT) Standardized *D* Scores by Participant Gender



Is there a generation gap in expectations?

- Baby Boom Era (1946-1964)
 - Values: work, leadership, and hierarchy
- Gen X (1965-1976)
 - More controlled lifestyle
 - Work is a means to achieve life goals rather than a goal in its own right
 - Demanded flexible work hours to allow for social activities
- Generation Y (1977+)
 - Family given higher priority than career

Does a Surgical Career Affect a Woman's Childbearing and Fertility? A Report on Pregnancy and Fertility Trends among Female Surgeons



Elizabeth A Phillips, MD, Tony Nimch, MD, Julie Braga, MD, Lori B Lerner, MD

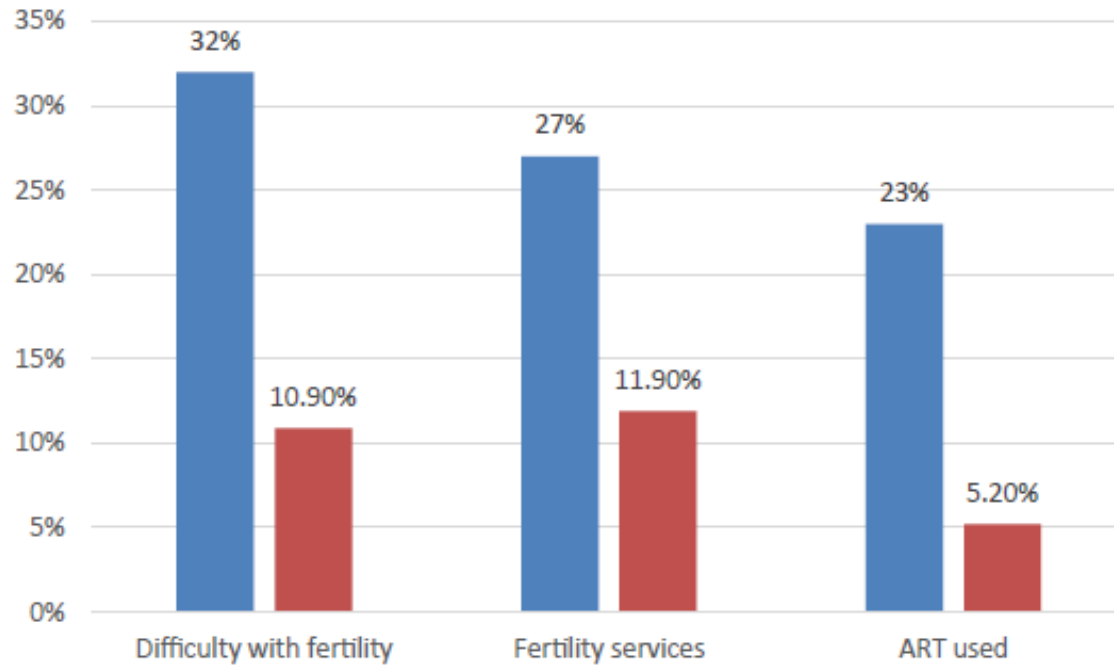


Figure 2. Female surgeons vs US population. ART, assisted reproductive techniques. Red bar, female surgeons; blue bar, US population.

JAMA Surgery

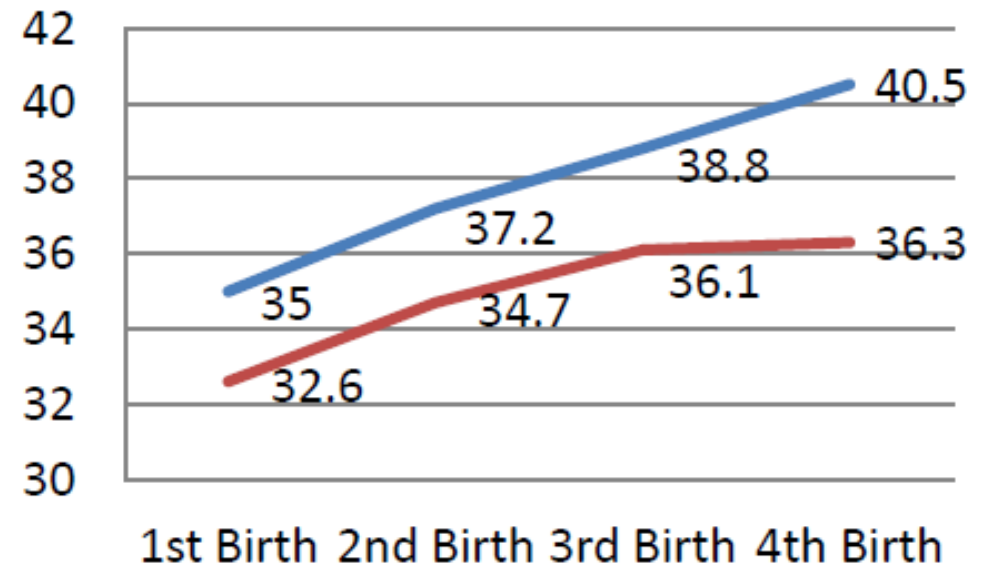


Figure 1. Maternal age in years at time of birth. Blue line, fertility issues; red line, no fertility issues.

Mistreatment and Burnout





The NEW ENGLAND JOURNAL of MEDICINE

Discrimination, Abuse, Harassment, and Burnout in Surgical Residency Training

Yue-Yung Hu, M.D., M.P.H., Ryan J. Ellis, M.D., M.S.C.I., D. Brock Hewitt, M.D., M.P.H., Anthony D. Yang, M.D., Elaine Ooi Cheung, Ph.D., Judith T. Moskowitz, Ph.D., M.P.H., John R. Potts, III, M.D., Jo Buyske, M.D., David B. Hoyt, M.D., Thomas J. Nasca, M.D., and Karl Y. Bilimoria, M.D., M.S.C.I.

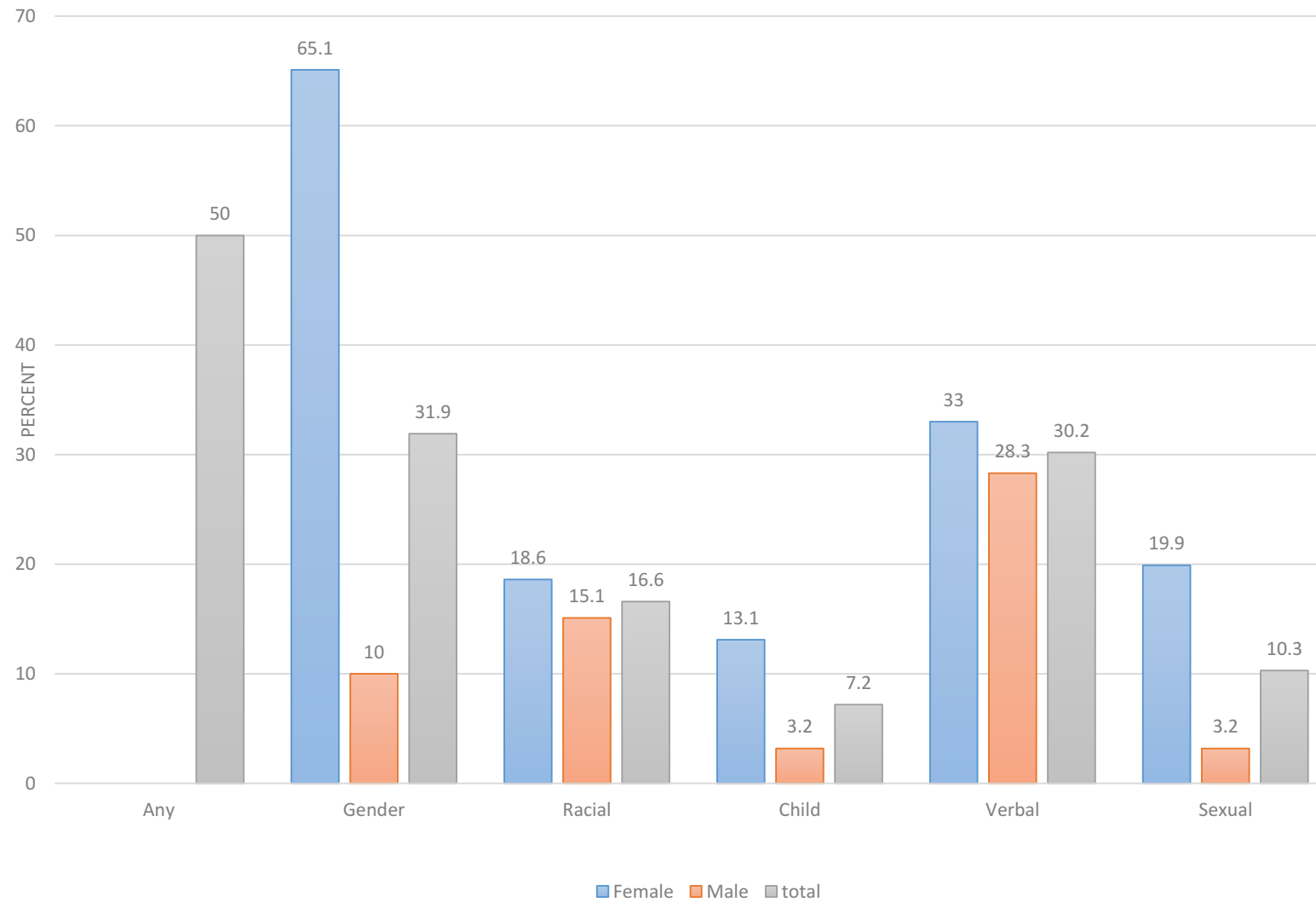
October 2019



The University of Vermont
LARNER COLLEGE OF MEDICINE

THE
University of Vermont
MEDICAL CENTER

Percent of Surgical Residents that Experienced Mistreatment



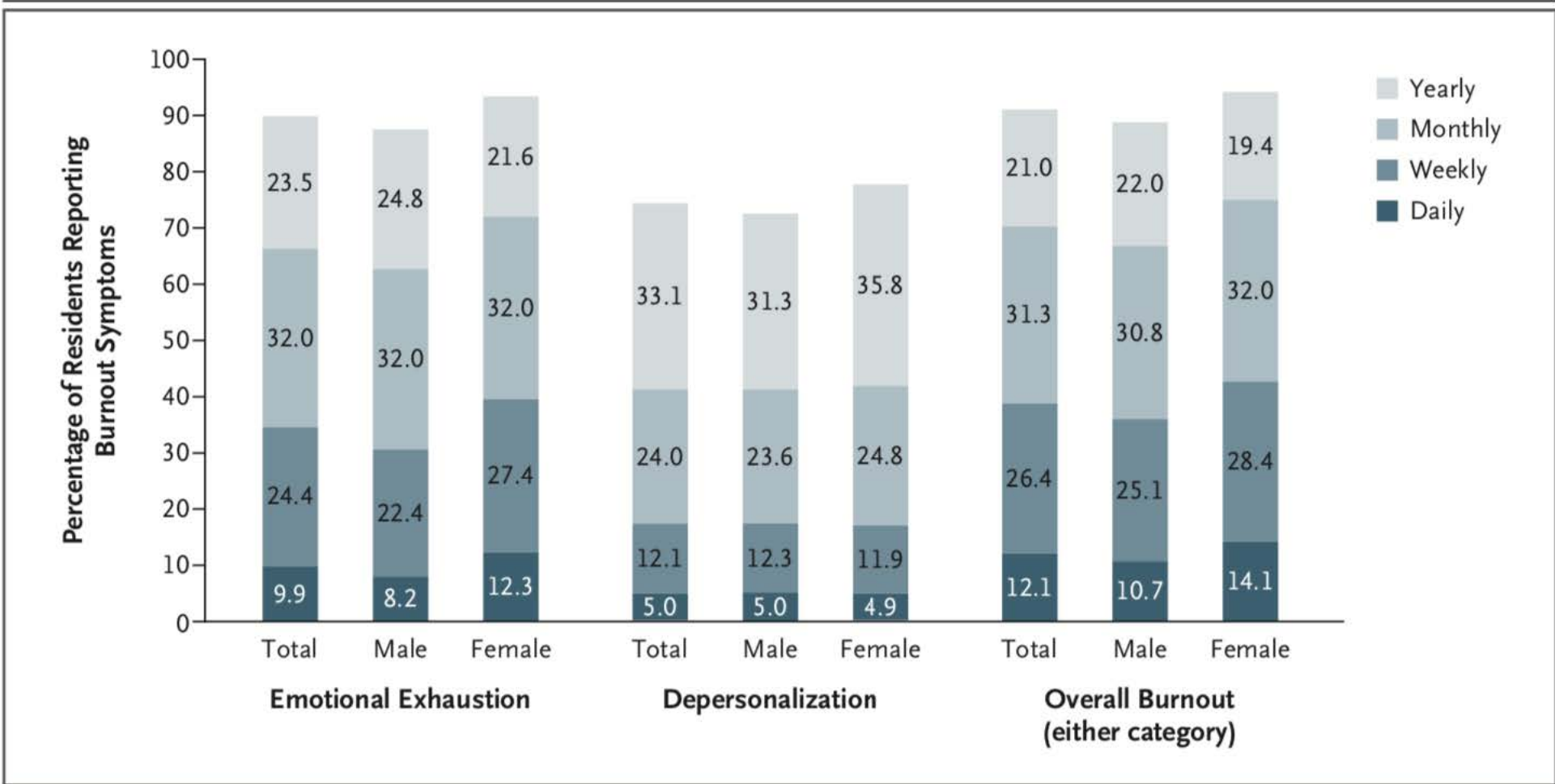


Figure 1. Frequency of Burnout Symptoms Reported by Surgical Residents, According to Self-Identified Gender.

Shown are the percentages of residents with symptoms of emotional exhaustion, depersonalization, and burnout (either emotional exhaustion or depersonalization).



What's the solution?



Mission Statement:

- “inspire(ing), encourage(ing), and enable(ing) women surgeons to realize their professional and personal goals.”



AWS SPEAKS OUT

The gender salary gap that appears early in a woman's career is likely to widen over time.⁷ Women earn about what men are paid until they have children. Thereafter, the median earnings for women are 76–81% of what men are paid.⁶ Although there is a perception that early in their careers during childbearing years, women are less productive, this pay discrepancy persists when accounting for rank and seniority.⁵ In a national longitudinal study of women in academic medicine, the gender salary gap was found to be similar in both men and women.

Women in academic medicine make 90 cents for every dollar earned by their male counterparts.



Resources at AWS

- Pay equity toolkits
 - How to negotiate
 - Average salaries per academic rank and private practice
 - “know your worth, then ask for it,” Casey Brown at TEDxColumbusWomen
- Coaching project
- Sexual harassment resources
- Job boards
- Residency and Fellowship advice
- Early career mentorship
- Articles on pregnancy, family well being, and personal wellness during training and practice

Ensuring Equity, Diversity, and Inclusion in Academic Surgery

An American Surgical Association White Paper

Michaela A. West, MD, PhD, FACS, Shelley Hwang, MD, MPH, FACS,† Ronald V. Maier, MD, FACS,‡
Nita Ahuja, MD, FACS,§ Peter Angelos, MD, PhD, FACS,¶ Barbara L. Bass, MD, FACS,||
Karen J. Brasel, MD, FACS,** Herbert Chen, MD, FACS,†† Kimberly A. Davis, MD, FACS,§
Timothy J. Eberlein, MD, FACS,‡‡ Yuman Fong, MD, FACS,§§ Caprice C. Greenberg, MD, MPH, FACS,¶¶
Keith D. Lillemoe, MD, FACS,|||| Mary C. McCarthy, MD, FACS,*** Fabrizio Michelassi, MD, FACS,†††
Patricia J. Numann, MD, FACS,‡‡‡ Sareh Parangi, MD, FACS,|||| Jorge D. Reyes, MD, FACS,‡
Hilary A. Sanfey, MB, BCh, MHPE, FACS,§§§ Steven C. Stain, MD, FACS,¶¶¶
Ronald J. Weigel, MD, PhD, FACS,||||| and Sherry M. Wren, MD, FACS*****



Task Force on Equity, Diversity, and Inclusion
American Surgical Association

September 2018

1. Recognizing individual and organizational barriers to diversity and inclusion
2. Ethics of diversity
3. Recruitment and retention of diversity: impacting change
4. Success in academic surgery: faculty focus
5. Creating a culture of respect, equity and inclusion
6. Initiatives for faculty leadership development, retention and promotion
7. Ongoing self assessment
8. Service and altruism





#ILookLikeASurgeon



The University of Vermont
LARNER COLLEGE OF MEDICINE

THE
University of Vermont
MEDICAL CENTER



Hanin Gomawi  MBS

@DrGomawi



. @NewYorker Cover challenge! @KickAsana kicks Where's yours? #ILookLikeASurgeon @susieQP8 @WomenSurgeons all the way from Saudi Arabia 



♡ 220 4:41 PM - Apr 6, 2017



💬 114 people are talking about this



The University of Vermont
LARNER COLLEGE OF MEDICINE

THE
University of Vermont
MEDICAL CENTER

#ILookLikeASurgeon

Dr. Susan Pitt, “Women surgeons are saying to other women surgeons, ‘I see you,’ and to the world, ‘See us’”



Susan Pitt, MD MPH
@susieQP8



#NYerORCoverChallenge >150 @WomenSurgeons from 🇮🇹
🇧🇷🇹🇷🇸🇦🇷🇺🇺🇸🇸🇲🇮🇲🇪🇬🇬🇬🇬 inspired by @NewYorker
@malikafavre If you #ILookLikeASurgeon Join us!!!



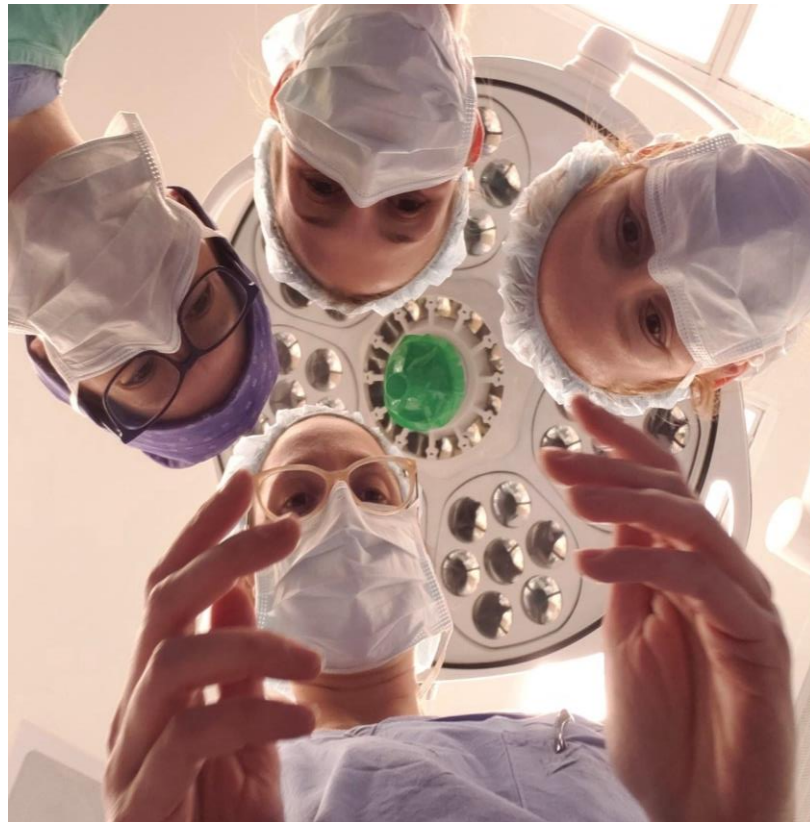
♡ 310 9:08 PM - Apr 10, 2017

💬 222 people are talking about this

Faculty	Female	Total
Acute Care	2	6
Bariatric	0	2
Colorectal	1	3
Cardiothoracic	1	3
Foregut/MIS	0	1
General	1	2
Neuro	1	6
Oncology	2	3
Orthopedics	3	23
Otolaryngology	5	11
Pediatric	0	2
Plastics	1	3
Transplant/HPB	0	2
Urology	1	11
Vascular	2	5

Residency	Female	Total
General Surgery	15	24
Neurosurgery	2	5
Orthopedics	3	15
Otolaryngology	2	5
Urology	0	6
Vascular Fellowship	0	2





#ILookLikeA  Surgeon



The University of Vermont
LARNER COLLEGE OF MEDICINE

THE
University of Vermont
MEDICAL CENTER

What influences career decisions?

- Positive exposure to practicing surgeons
- Mentors who observe skills, achievements and direct recommendations to students
 - Seems even more important in women than men trainees
- More flexible lifestyle both in training and practice
 - 80 hr work week
- More hospitable environment for childbearing during training

What's the big deal?

- Pay equality
- Ascension to leadership positions
- Educational outcomes
- Legal dispute resolution
- Medical treatment:
 - Increased adherence to preventive care protocols
 - Improved patient-physician communication



- The proportion of men to women passing the National Medical Practitioners Qualifying Examination is 7:3
- Those who actually practice is even lower



What influences career decisions?

Table I. Career choice of medical students

<i>Field</i>	<i>On entering</i>	<i>Now</i>
Family medicine	8%	9%
Internal medicine	8%	14%
Medical subspecialty	6%	14%
Pediatrics	13%	14%
Psychiatry	3%	5%
Obstetrics/gynecology	11%	9%
Surgery	4%	8%
Surgery subspecialty	9%	11%
Radiology	2%	4%
Other	7%	7%
Unsure/no answer	51%	14%



Barriers to women in surgical careers

- “Surgical personality”
- Surgical culture
- Gender based discrimination
- Lifestyle factors
- Workload
- Difficulty identifying mentors
 - Less women in leadership positions in surgery



Do Women Work Less Than Men in Urology: Data From the American Urological Association Census



Sima P. Porten, Thomas W. Gaither, Kirsten L. Greene, Nima Baradaran, Jennifer T. Anger, and Benjamin N. Breyer
