

Promoting Equity for Women in Academic Medicine: An Evidence-Based Approach

Reshma Jagsi, MD, DPhil

Newman Family Professor

Deputy Chair, Department of Radiation Oncology

Director, Center for Bioethics and Social Sciences in Medicine

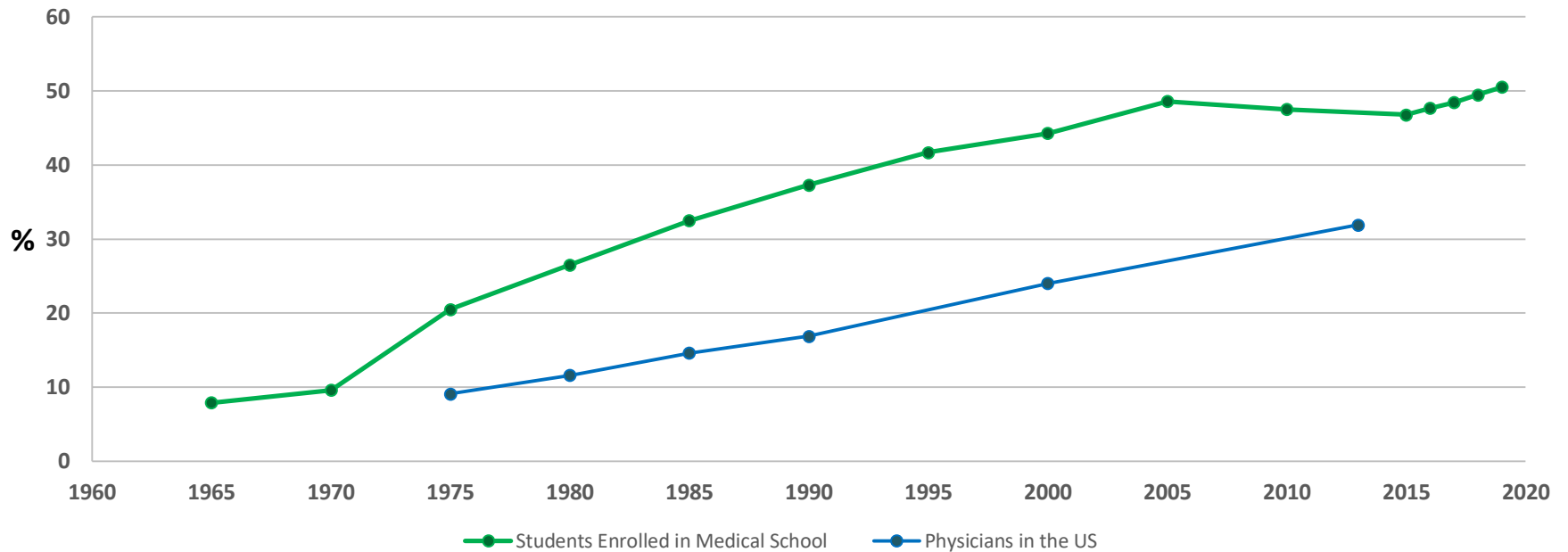
University of Michigan

Outline

- Nature and causes of gender inequity in academic medicine
 - Not simply due to a slow pipeline
 - Rather, reflects the differential impact of
 - Unconscious biases
 - Gendered expectations of society
 - Harassment
- Evidence-based interventions

Women in the Medical Profession

Representation of Women in the Medical Profession, 1965 to 2019



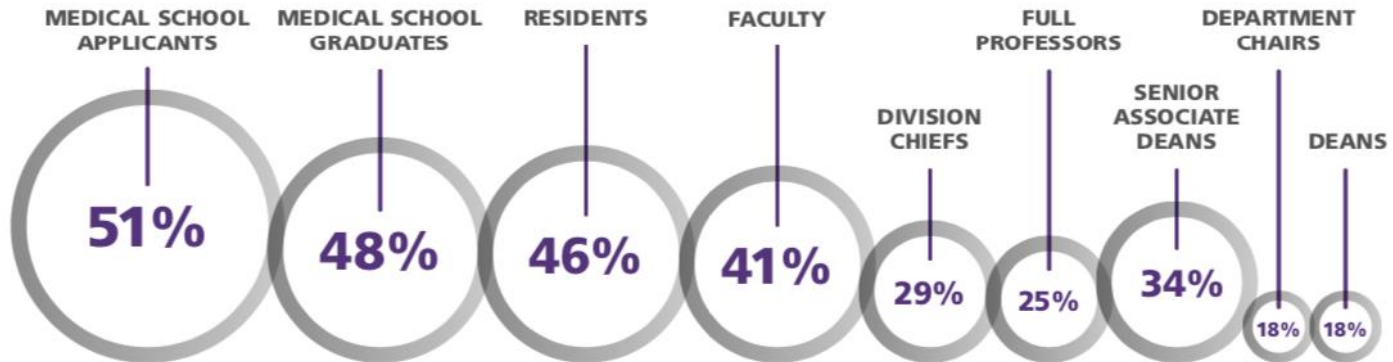
Women in Leadership

THE STATE OF WOMEN IN ACADEMIC MEDICINE, 2018-2019

Executive Summary



REPRESENTATION OF WOMEN IN ACADEMIC MEDICINE 2018-2019



SPECIAL ARTICLE

The “Gender Gap” in Authorship of Academic Medical Literature — A 35-Year Perspective

Reshma Jagsi, M.D., D.Phil., Elizabeth A. Guancial, M.D., Cynthia Cooper Worobey, M.D., Lori E. Henault, M.P.H., Yuchiao Chang, Ph.D., Rebecca Starr, M.B.A., M.S.W., Nancy J. Tarbell, M.D., and Elaine M. Hylek, M.D., M.P.H.

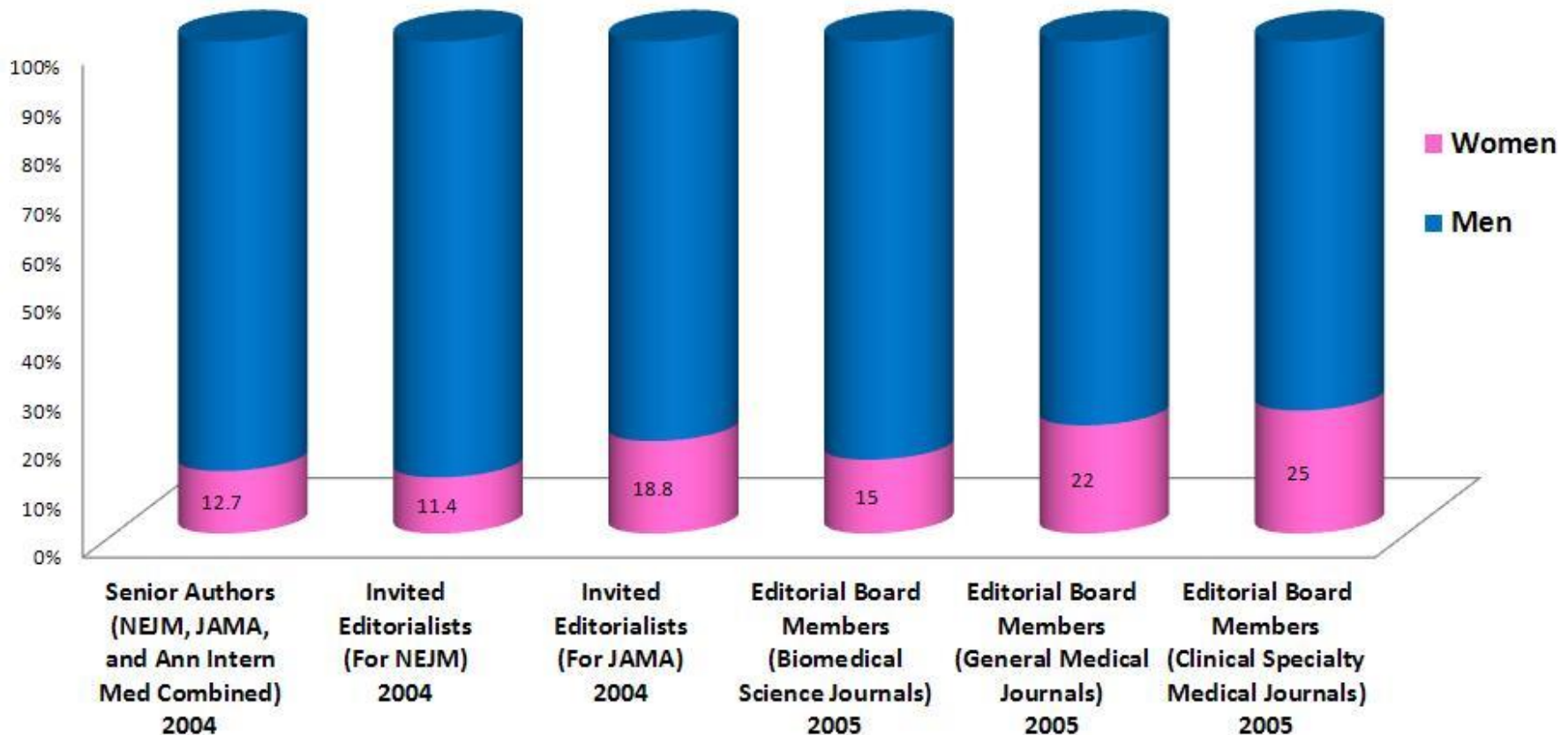
RESEARCH LETTER

Arch Intern Med. 2008;168(5):544-548.

The Representation of Women on the Editorial Boards of Major Medical Journals: A 35-Year Perspective

Reshma Jagsi, MD, DPhil
Nancy J. Tarbell, MD

Lori E. Henault, MPH
Yuchiao Chang, PhD
Elaine M. Hylek, MD, MPH



An Ethical Imperative to Act



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Perspective
APRIL 9, 2020

Standing Up against Gender Bias and Harassment — A Matter of Professional Ethics

Michelle M. Mello, J.D., Ph.D., and Reshma Jagsi, M.D., D.Phil.

Teleological Arguments

PNAS

Proceedings of the
National Academy of Sciences
of the United States of America

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

Brad N. Greenwood, Seth Carnahan, and Laura Huang

PNAS published ahead of print August 6, 2018 <https://doi.org/10.1073/pnas.1800097115>

Ethological observations of social behavior in the operating room

Laura K. Jones, Bonnie Mowinski Jennings, Melinda K. Higgins, and Frans B. M. de Waal

PNAS July 17, 2018 115 (29) 7575–7580; published ahead of print July 2, 2018 <https://doi.org/10.1073/pnas.1716883115>



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

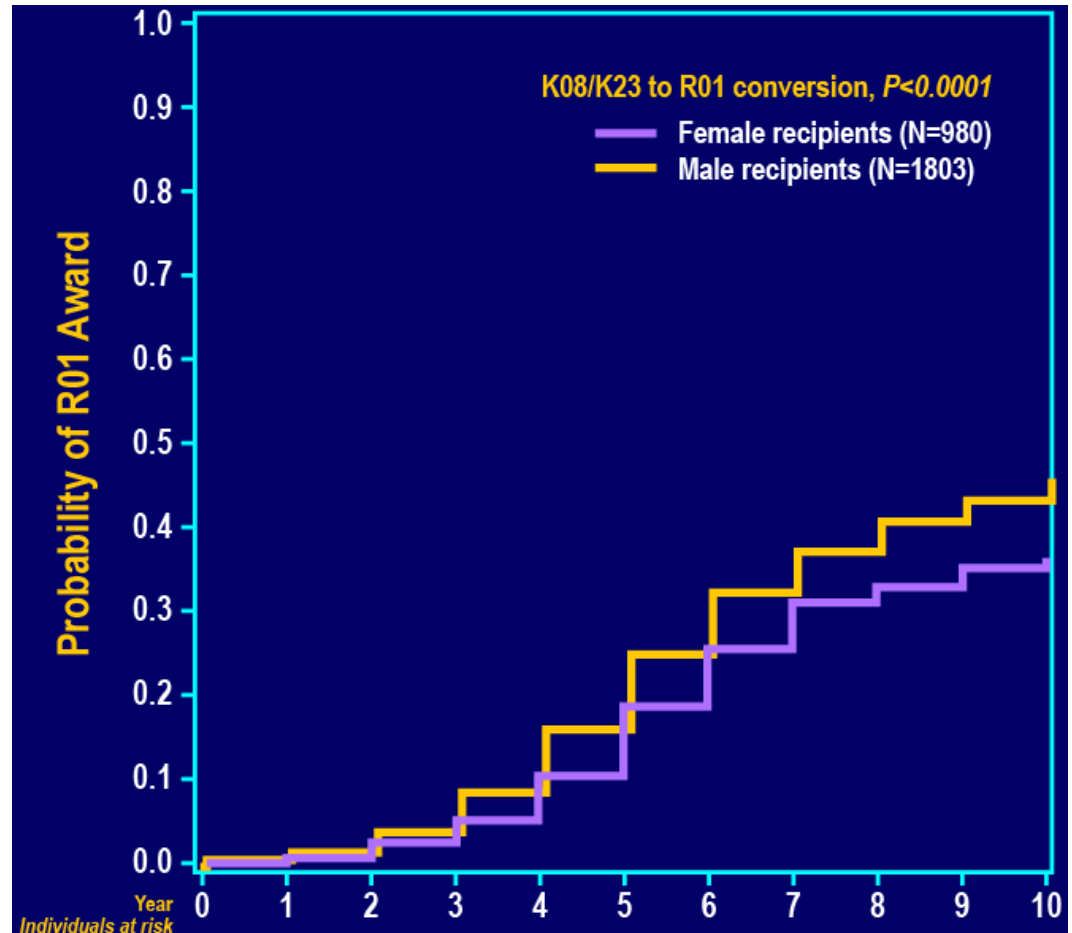
Should We Just Be Patient?

- Pipeline hypothesis
- Nonnemaker (*N Engl J Med* 2000;342:399-405)
 - 15 cohorts graduating medical school 1979-1993
 - proportion of women who advanced to associate professor significantly lower than expected in all but 2 of the 15 cohorts
 - even women who reached the rank of associate professor less likely to become full professor than male counterparts
 - criticisms
- Need for further research

Sex Differences in Attainment of Independent Funding by Career Development Awardees

Reshma Jagsi, MD, DPhil; Amy R. Motomura, BSE; Kent A. Griffith, MS; Soumya Rangarajan, MPP; and Peter A. Ubel, MD

- 5-yr rate of R01 attainment: 19% among women and 25% among men
- Gender (HR 0.8, $p=0.002$) independently significant predictor of R01 attainment on multivariable analysis controlling for K award type, year of award, funding institute, institution, and specialty



Compensation

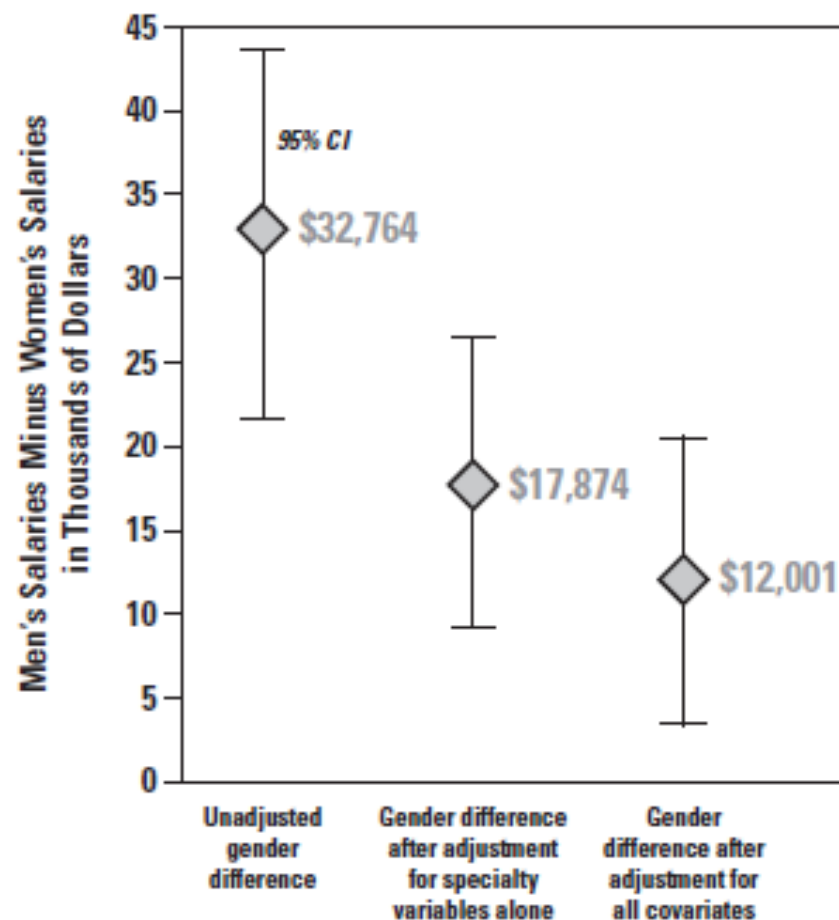
- 800 MDs who were still working at academic institutions responded to our surveys of K awardees from 2000-2003
- Significant gender difference in annual salary even after adjustment for numerous measures of success/productivity, specialization, and other factors
 - Age
 - Race
 - Marital status
 - Parental status
 - Additional doctoral degree
 - Academic rank
 - Leadership positions
 - Specialty
 - Current institution type (public/private)
 - Current institution region
 - Current institution NIH funding rank group
 - Whether changed institutions since K award
 - K award type
 - Years since K award
 - K award funding institute
 - Receipt of R01 or >\$1 million in grants
 - Publications
 - Work hours
 - Percent time in research

ORIGINAL CONTRIBUTION

JAMA The Journal of the
American Medical Association

Reshma Jagsi, MD, DPhil
Kent A. Griffith, MS
Abigail Stewart, PhD
Dana Sambuco, MPPA
Rochelle DeCastro, MS
Peter A. Ubel, MD

Gender Differences in the Salaries of Physician Researchers



What Drives These Differences?

- Specialty “choice”
 - Women may be encouraged to occupy lower-paid specialties, specialties chosen by women may pay less partly because they are predominated by women or involve less valued “feminine” behaviors
- Differences in productivity, hours, and “willingness” to change institutions
 - Constraints of a gender-structured society
- Differences in rank and leadership
 - May reflect biased processes for determining rewards
- But a substantial unexplained gender difference remained even after accounting for all of these factors and more

Gender Differences in Values or Behavior?

- Perhaps mothers are more likely to sacrifice pay for unobserved job characteristics such as flexibility and fathers wish to earn more to support their families
 - Relatively homogeneous job type
 - No interaction between gender and parental status; even women without children had lower pay than men
- Perhaps women don't ask

Differences in Employer Behavior towards Men and Women?

- Statistical discrimination
 - employers make inferences based on group characteristics (such as mean productivity level) rather than considering individual characteristics when setting salaries
- The concept of the family wage

Unconscious Biases

- Deeply ingrained notions held by all
- NAS report
 - *“An impressive body of controlled experimental studies and examination of decision-making processes in real life show that, on the average, people are less likely to hire a woman than a man with identical qualifications, are less likely to ascribe credit to a woman than to a man for identical accomplishments, and, when information is scarce, will far more often give the benefit of the doubt to a man than a woman.”*

ARE EMILY AND GREG MORE EMPLOYABLE
THAN LAKISHA AND JAMAL?
A FIELD EXPERIMENT ON LABOR MARKET DISCRIMINATION

Marianne Bertrand
Sendhil Mullainathan

Working Paper 9873
<http://www.nber.org/papers/w9873>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
July 2003

Science faculty's subtle gender biases favor male students

Corinne A. Moss-Racusin^{a,b}, John F. Dovidio^b, Victoria L. Brescoll^c, Mark J. Graham^{a,d}, and Jo Handelsman^{a,1}

^aDepartment of Molecular, Cellular and Developmental Biology, ^bDepartment of Psychology, ^cSchool of Management, and ^dDepartment of Psychiatry, Yale University, New Haven, CT 06520

Edited* by Shirley Tilghman, Princeton University, Princeton, NJ, and approved August 21, 2012 (received for review July 2, 2012)

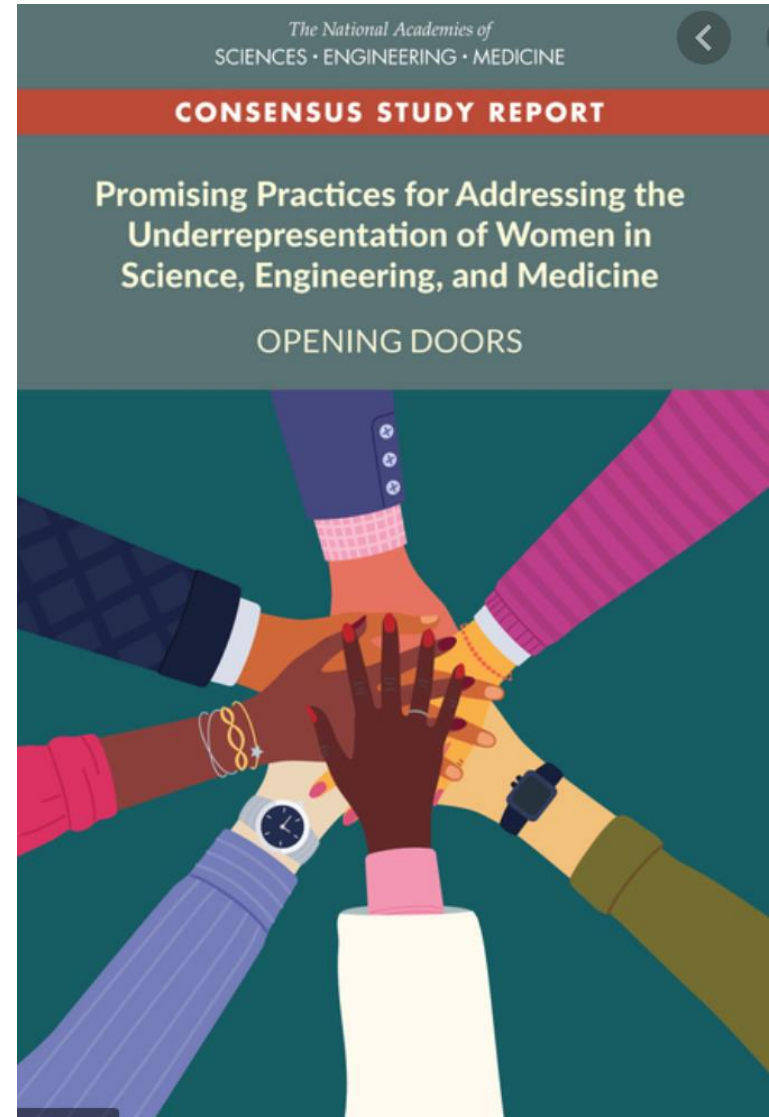
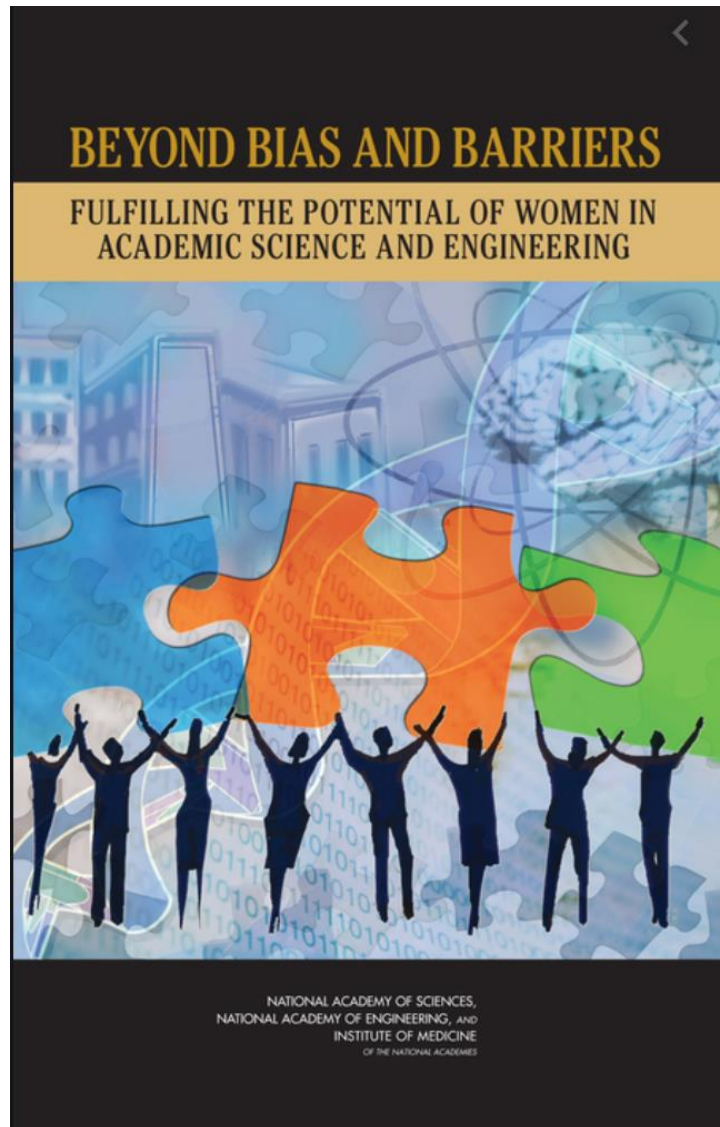
Despite efforts to recruit and retain more women, a stark gender disparity persists within academic science. Abundant research has gender disparity in science (9–11), and that it “is not caused by discrimination in these domains” (10). This assertion has r

Multiple Identities

Jagsi R. How Deep the Bias? *JAMA* 2008.



Key NASEM Reports

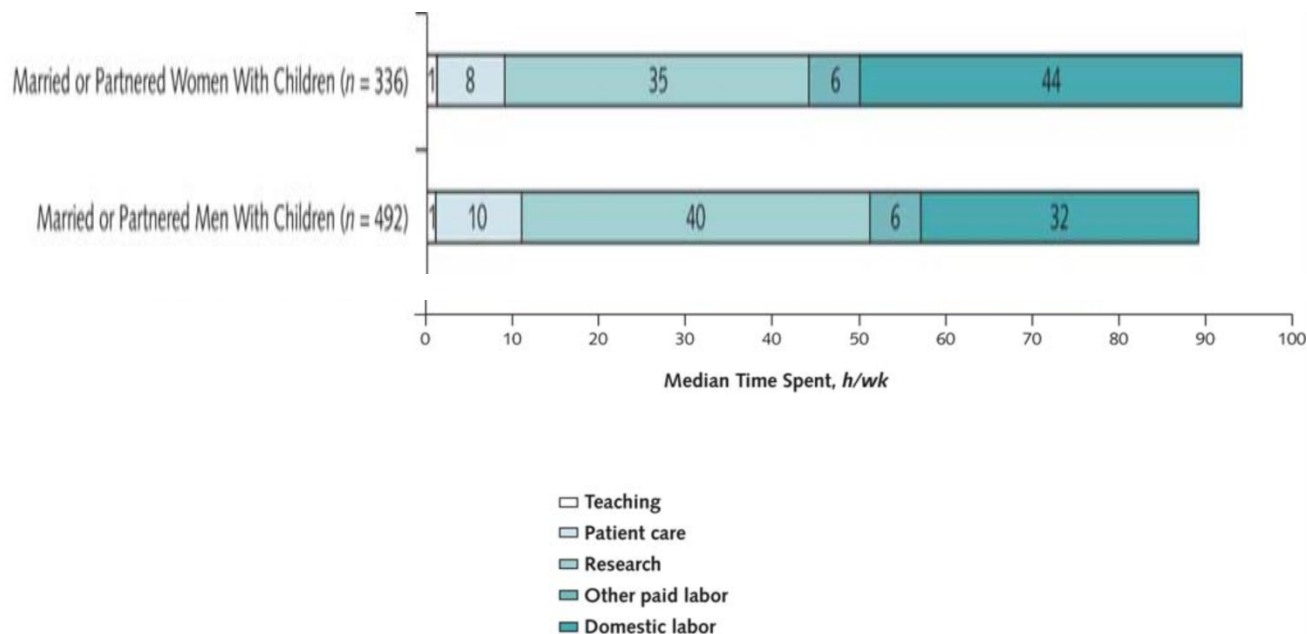


Not a Level Playing Field

- Seemingly gender-neutral norms, practices, and policies can have a disparate negative impact upon women
 - Examples
 - Leave policies
 - Jagsi, Weinstein, Tarbell, *N Engl J Med* 2007
 - Magudia, Bick, Cohen, Ng, Weinstein, Mangurian, Jagsi, *JAMA* 2018
 - Expectations regarding work hours
 - Jagsi & Surender, *Soc Sci Med* 2002
 - Tenure clocks & limits on grant eligibility
 - Mechanisms
 - forcing collision of biological & professional clocks
 - magnifying the inequities of the traditional gendered division of labor

Gender Differences in Time Spent on Parenting and Domestic Responsibilities by High-Achieving Young Physician-Researchers

Ann Intern Med. 2014;160(5):344-353. doi:10.7326/M13-0974



- Among married or partnered respondents with children, after adjustment for work hours, spousal employment, and other factors, women spent 8.5 more hours per week on domestic activities.
- In the subgroup with spouses or domestic partners who were employed full-time, women were more likely to take time off during disruptions of usual child care arrangements than men (42.6% vs. 12.4%).

Work-Related Burnout in Physician-Scientists

Surveyed 816 Participants

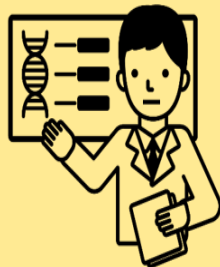


NIH K grant recipients still in academia 5 to 8 years after award

Prevalence of Work-Related Burnout



Women
41%



Men
32%

Drivers of Burnout

Time pressures



Perceptions of work climate



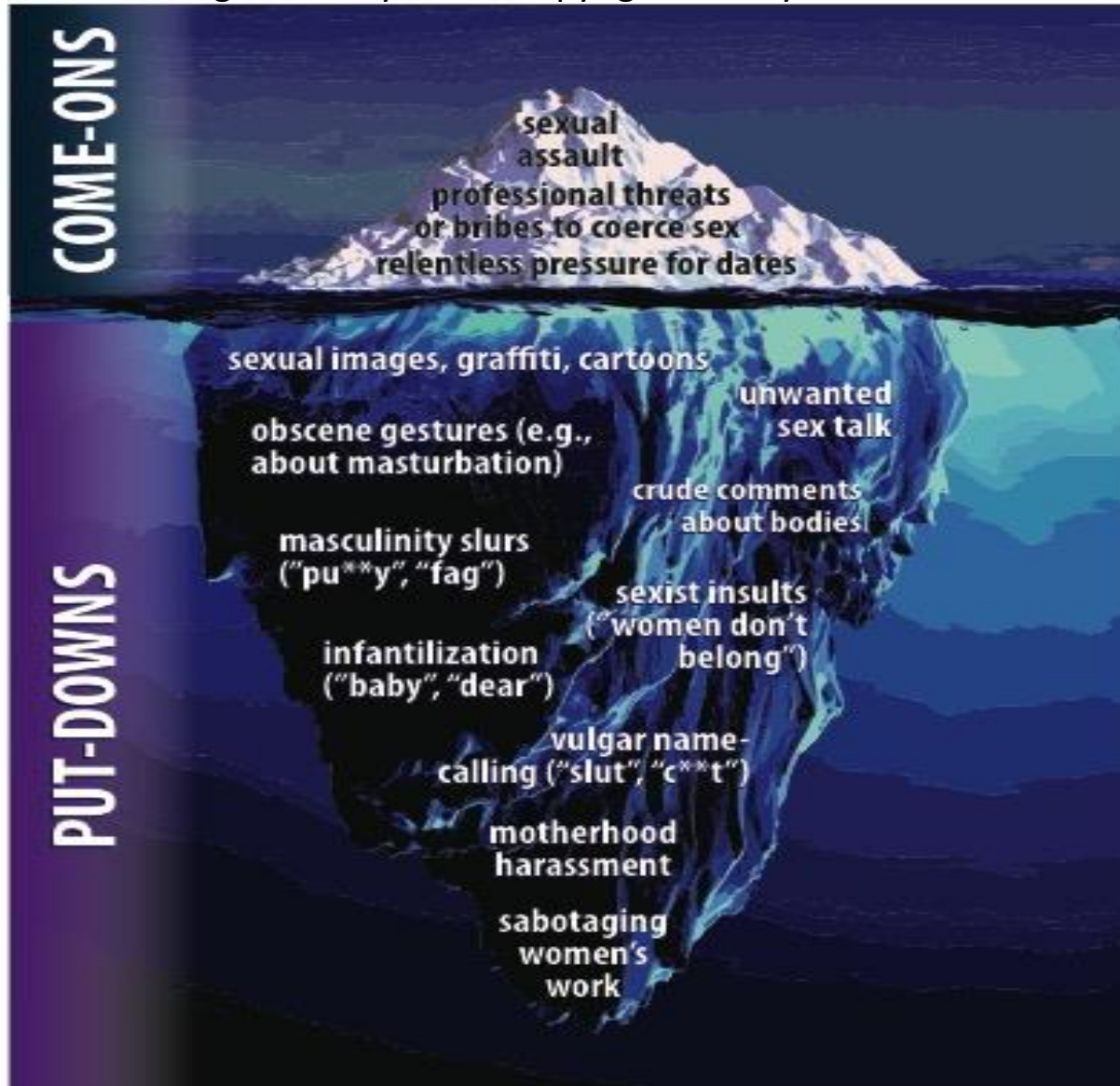
Implications



Need to improve work climate through civility & respect and mitigate competing demands

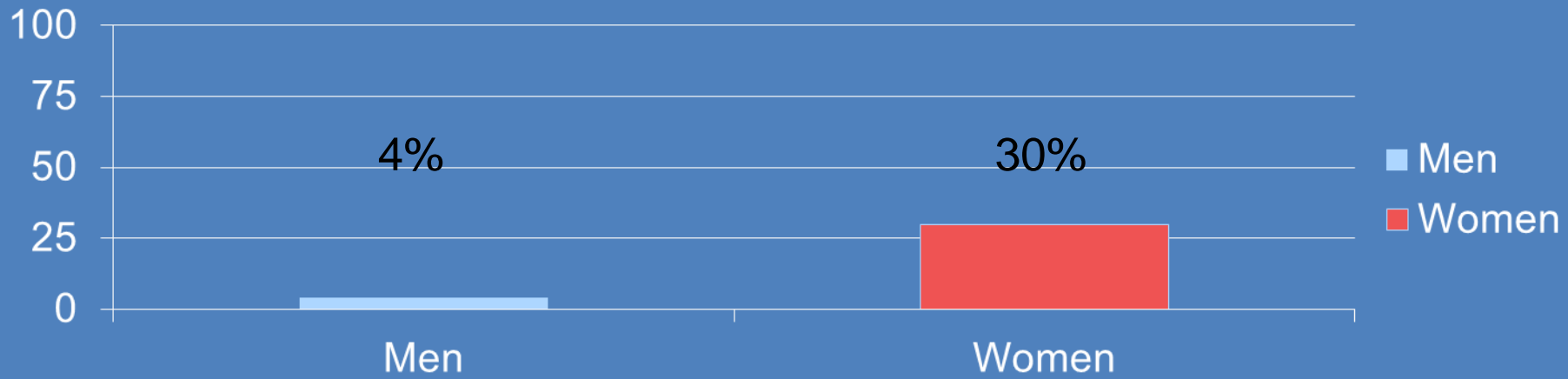
The Iceberg of Sexual Harassment

Image courtesy of and copyright held by Lilia Cortina



Sexual Harassment and Discrimination Experiences of Academic Medical Faculty

In your professional career, have you encountered unwanted sexual comments, attention, or advances by a superior or colleague?



- 59% perceived a negative effect on confidence in themselves as professionals
- 47% reported that these experiences negatively affected their career advancement

Dr. Jagsi,

Your paper struck a particular chord with me... I brushed what happened under the rug; and **in a residency program where the chair invites the male (and not female) residents & attendings over every week for poker, these things largely go unnoticed.**

Over the past 4 years, **I've wondered if something was pathologically wrong with me that I invited that kind of behavior (was it because I wasn't smart enough, was it because I was soft-spoken, was it because there was something so wrong with me that I couldn't even recognize it) and whether it would keep me from achieving anything of merit.**

I read your article with a mixture of simultaneous dismay and relief - dismay because how could such successful women be subject to that kind of discrimination - relief because despite what they endured, they were successful...and if they have gone through similar things, then maybe I'm not defective.

I don't think I can ever talk about my experiences partially because of fear, partially because it seems ungrateful to do so...

I hope institutions pay attention. I hope people care. Your article helped me gain the closure that I didn't realize I needed.



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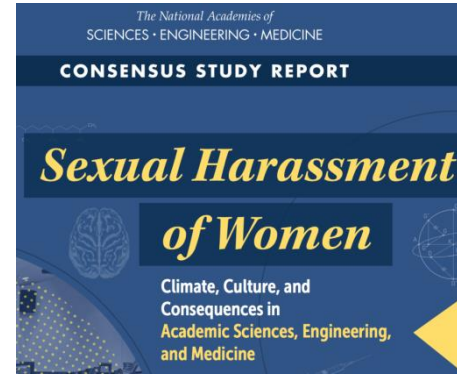
Perspective

Sexual Harassment in Medicine — #MeToo

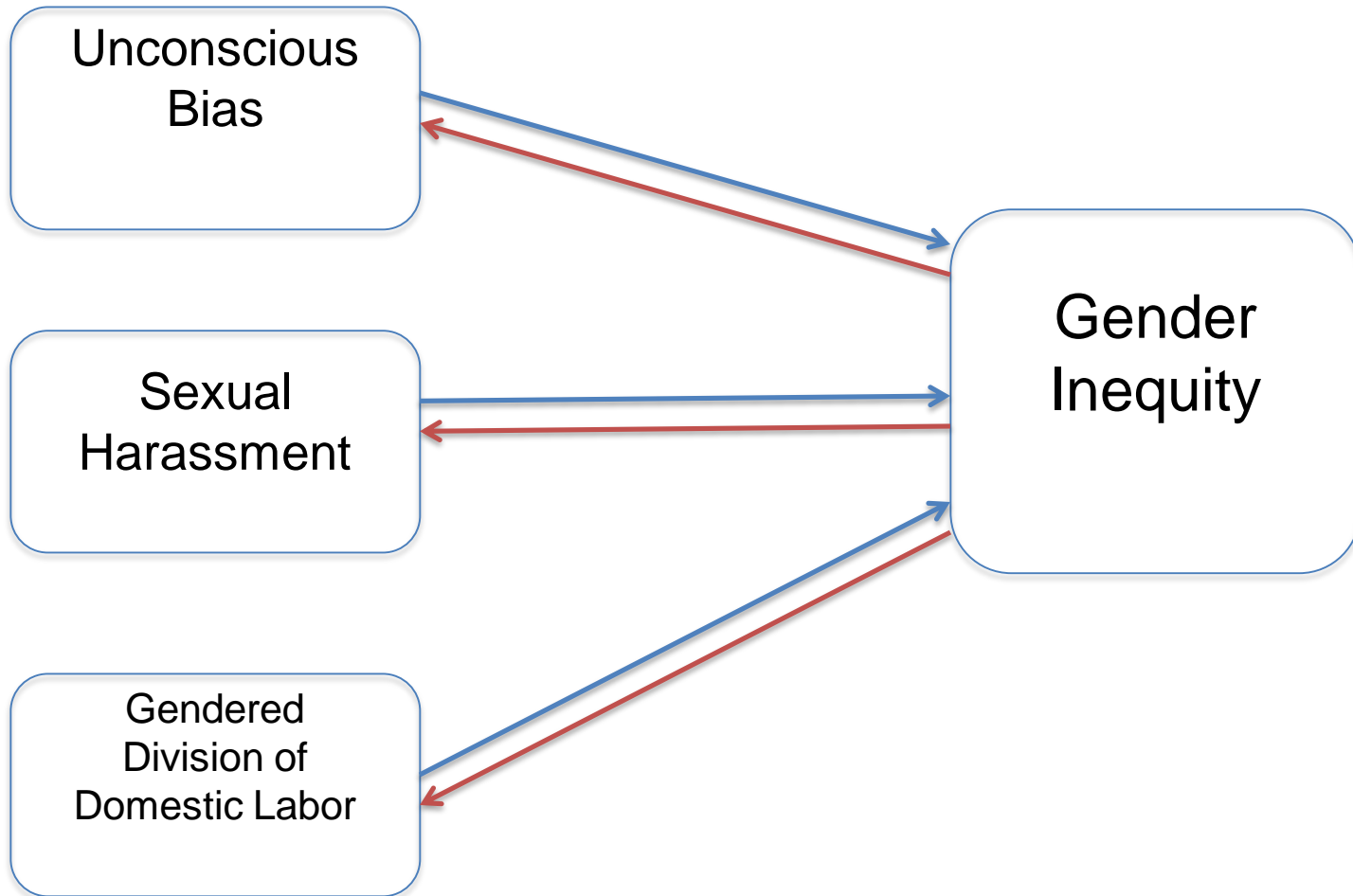
Reshma Jagsi, M.D., D.Phil.

Interventions

- To address strikingly high rates of harassment in medicine, must learn from evidence:
 - Gather data
 - Improve understanding (especially regarding women in under-represented or vulnerable groups)
 - Inform interventions
 - Demonstrate commitment
 - Facilitate reporting and offer choices
 - Clarify policies
 - *Lowest rates of sexual harassment in organizations that proactively develop, disseminate, and enforce sexual harassment policy (Gruber 1998)*
 - Address harassment by patients & families

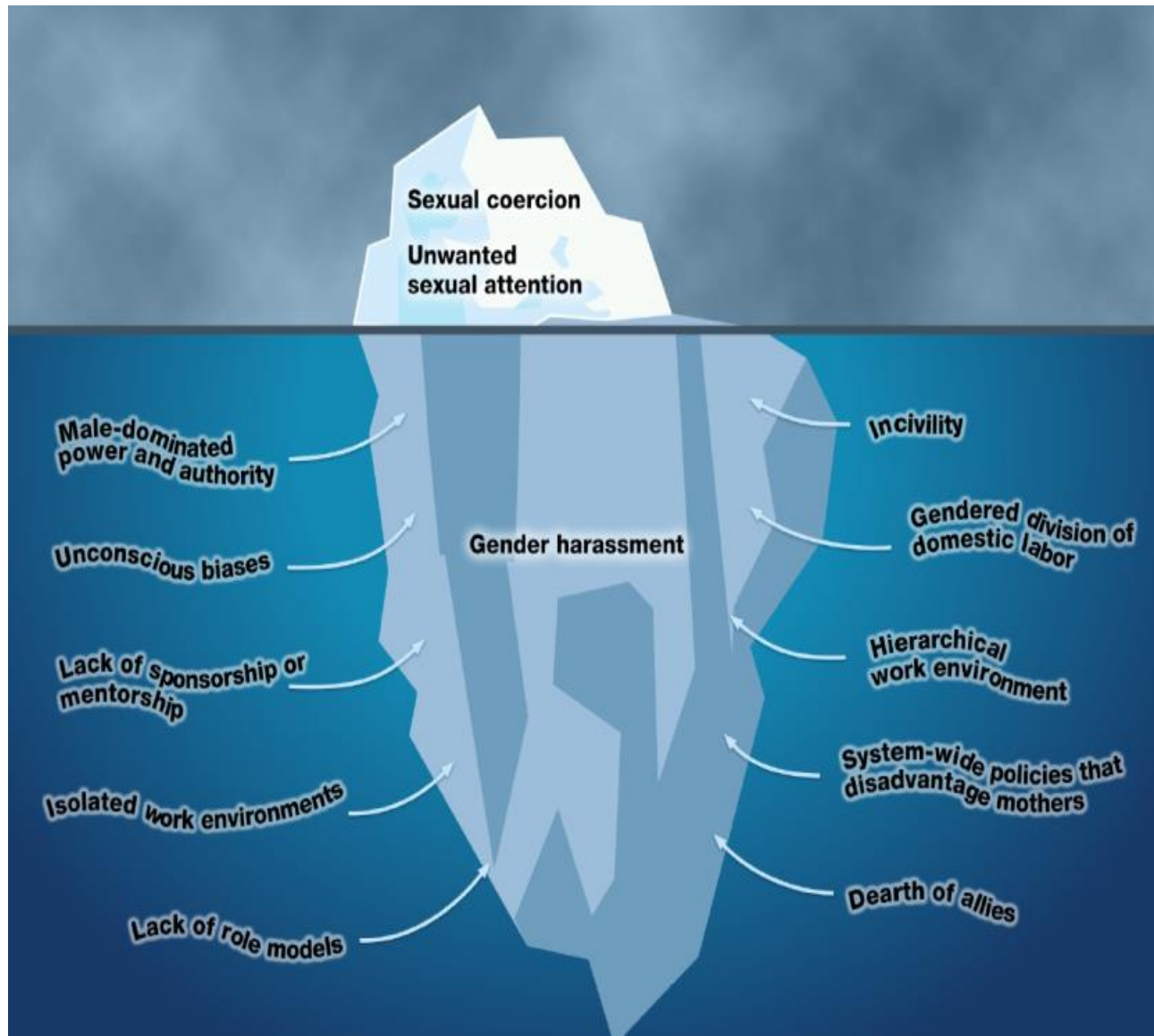


Causal Mechanisms



Why Does the Iceberg Form?

Beeler, Cortina, Jagsi. JCI 2019.



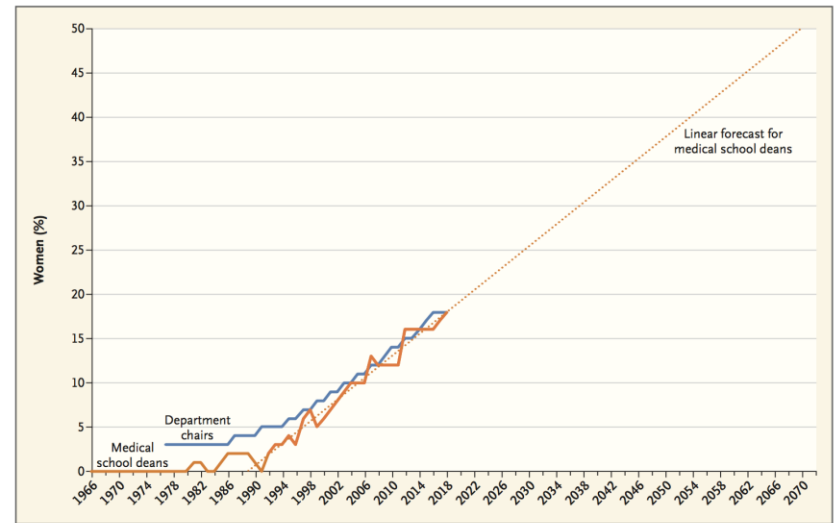
EQUITY IS ESSENTIAL

- Change the structures that support harassment
 - Employ more women
 - Promote more women
 - Integrate more women into every level of the organization

Goal: “a ‘well-integrated, structurally egalitarian workplace,’ in which women and men equally share power and authority” (Schultz 2003 qtd in Cortina & Berdahl 2008)



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Trends in Female Representation among Leaders in Academic Medicine.

The percentages of permanent, acting, or interim department chairs (blue) and medical school deans (orange) who are women have risen slowly over time.¹ A linear forecast of trends in female representation among deans since 1992 demonstrates that it could take another 50 years to reach gender parity unless the rate of change accelerates.

Perspective

Unplugging the Pipeline — A Call for Term Limits in Academic Medicine

Whitney H. Beeler, M.D., Christina Mangurian, M.D., M.A.S., and Reshma Jagsi, M.D., D.Phil.

Don't Fix the Women: Fix the Systems

- Gender equity must be promoted through recognition and changes at the institutional level
 - Mentorship and Sponsorship Programs
 - Decastro R, Sambuco D, Ubel PA, Stewart A, Jagsi R. Mentor Networks in Academic Medicine: Moving Beyond a Dyadic Conception of Mentoring for Junior Faculty Researchers. *Acad Med* 2013.
 - Patton E, Griffith K, Jones R, Stewart A, Ubel P, Jagsi R. Differences in Mentor-Mentee Sponsorship in Male vs Female Recipients of National Institutes of Health Grants. *JAMA Intern Med* 2017.
 - Evidence-based implicit bias training
 - Carnes M et al. The effect of an intervention to break the gender bias habit for faculty at one institution: a cluster randomized, controlled trial. *Acad Med* 2015.
 - Cultural transformation
 - Michigan ADVANCE, Hopkins Task Force
 - Pati S et al. Tradition meets innovation: transforming academic medical culture at the University of Pennsylvania's Perelman School of Medicine. *Acad Med* 2013.
 - Transparent and consistent criterion-based evaluation, promotion, compensation processes
 - Gold, Roubinov, Jia, Griffith, Carethers, Mangurian, Jagsi. Gender Differences in Endowed Chairs in Medicine at Top Schools. *JAMA Internal Medicine* 2020.

Promote Work-Life Integration

Distinguished Scholar Awards

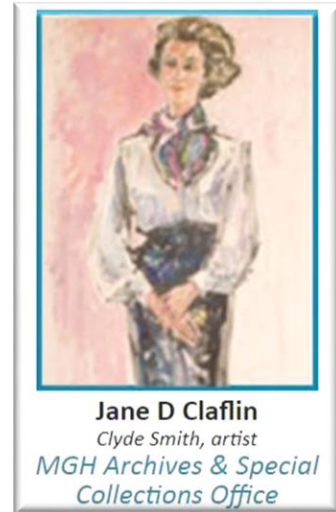
- Jagsi R et al. A Targeted Intervention to Promote Women's Careers in Academic Medicine. Arch Intern Med 2007.
- Jagsi R et al. An Innovative Program to Support Gender Equity and Success in Academic Medicine: Early Experiences from the Doris Duke Charitable Foundation's Fund to Retain Clinical Scientists. Ann Intern Med. 2018;169(2):128-130

On-Site Childcare at Conferences and Facilitating Use of Funds to Support Travel-Related Dependent Care Expenses

- Knoll M, Griffith K, Jones R, Jagsi R. Association of Gender and Parenthood With Conference Attendance Among Early Career Oncologists. JAMA Oncol 2019.
- Ormseth C, Mangurian C, Jagsi R, et al. Implementation of Federal Dependent Care Policies for Physician-Scientists at Leading US Medical Schools. JAMA Int Med 2019.

Time Banking

- Fassiotto MA, Maldonado YA. A time banking system to support workplace flexibility. <http://wellmd.stanford.edu/content/dam/sm/wellmd/documents/Time-banking-system.pdf>.





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Becoming a Doctor, Starting a Family — Leaves of Absence from Graduate Medical Education 2007

Reshma Jagsi, M.D., Nancy J. Tarbell, M.D., and Debra F. Weinstein, M.D.

2019

Parenting during Graduate Medical Training — Practical Policy Solutions to Promote Change

Debra F. Weinstein, M.D., Christina Mangurian, M.D., and Reshma Jagsi, M.D., D.Phil.

Recommendations for Supporting Parenting during GME.*

National oversight organizations

- Establish a minimum of 6 weeks of paid leave for all GME trainees, with an intent to move toward 12 weeks
- Abandon requirements for making up time and for minimum numbers of cases or procedures in favor of competency assessments
- Track and report national data related to parenting during GME
- Facilitate institutional development of part-time training options

Sponsoring institutions

- Ensure that institution-level policies address parental leave
- Extend 12 weeks of leave provided under FMLA to all trainees
- Continue full salary for at least 6 weeks of family leave
- Ensure sufficient staffing to protect trainees from negative effects when colleagues are on leave
- Facilitate access to child care and lactation facilities
- Cultivate cross-specialty trainee parenting collaboratives

Individual residency and fellowship programs

- Clarify implications of parental leave for applicants and trainees
- Develop creative pilots that will enhance flexibility for trainee-parents

Perspective



@reshmajgsi

Social Media

Knoll M, Jagsi R. JAMA Oncology 2018.



#WomenWhoCurie

In honor of Marie Curie's birthday on November 7th, the Society for Women in Radiation Oncology (SWRO) is spearheading the #WomenWhoCurie Day which aims to:

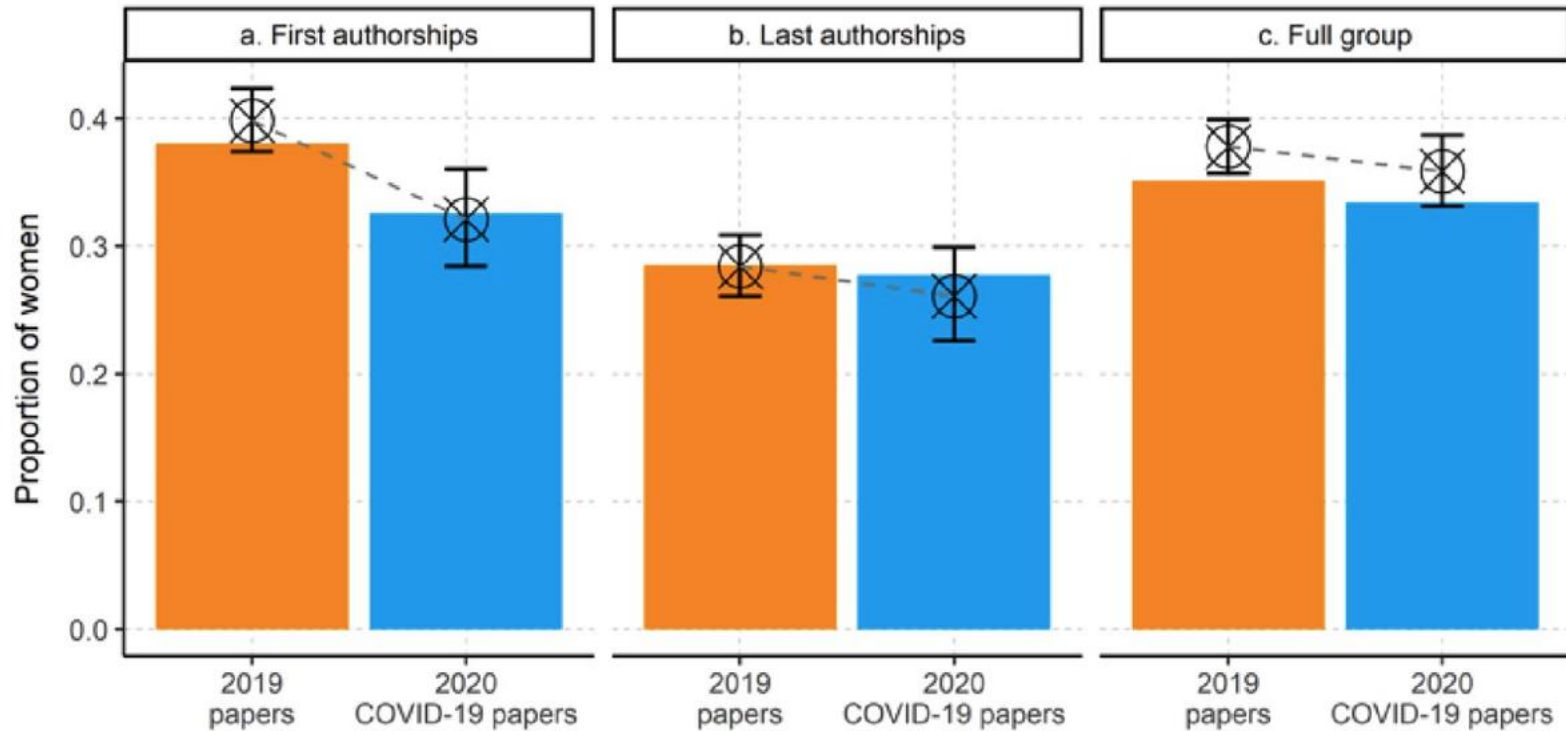
- celebrate the amazing female radiation oncologists across the world that are treating patients with cancer and conducting research
- increase awareness of radiation oncology alongside other oncologic specialties
- increase awareness of radiation oncology as a fantastic specialty among female medical students who are interested in oncology.

Similar to the recent #ILookLikeASurgeon social media movement, we encourage you to take a picture of yourself and/or female physician colleagues that captures what it means to be a radiation oncologist. Examples include posing next to your LINAC, engaging in treatment planning, or performing a brachytherapy procedure. Then post to social media (Twitter, Facebook, Instagram, department's website, etc) on 11/07/2018 with #WomenWhoCurie!



COVID Is Amplifying Challenges

Andersen JP, Nielsen MW, Simone N, Lewiss R, Jaggi R.
ELife 2021.



Conclusions

- We inhabit a momentous time in history
- Opportunity to move from awareness to action
- Principles
 - Dignity, safety, equity
 - Fair equality of opportunity
 - Equal pay for equal work
- Health care quality improvement framework: structures, processes, outcomes

Acknowledgments

Collaborators

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- Lilia Cortina, PhD

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Alliance for Academic Internal Medicine

