Equity and Success in Academic Medicine

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Outline

• Current participation of women and racial/ethnic minorities in medicine
• Evidence suggesting dysfunction in the pipeline
• Examining the nature and causes of inequities in academic medicine
• Interventions targeting inequity
Women in the Medical Profession

Representation of Women in the Medical Profession, 1965 to 2012

- Students Enrolled in Medical School
- Practicing Physicians in Healthcare
Women in Leadership

- Low proportions of senior academic positions are held by women
  - In 2013-2014
    - 21% of full professors were women
    - 15% of department chairs were women
    - 16% of medical school deans were women
The “Gender Gap” in Authorship of Academic Medical Literature — A 35-Year Perspective

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RESEARCH LETTER


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

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Gender versus Racial/Ethnic Minority Representation in Medicine

From: Diversity in Graduate Medical Education in the United States by Race, Ethnicity, and Sex, 2012
Does it matter?

- Deontological arguments
- Teleological arguments
Role Models

Data from the AAMC, 2007

# Female Professors
# Male Professors
# Female Residents
# Male Residents

Data from the AAMC, 2007
Should we worry?

- Pipeline hypothesis
  - suggests that we need to increase efforts to recruit URMs to medicine but can just wait for gender equity to spontaneously develop
  - 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
NIH K08 and K23 Awards

• Highly competitive grants made to junior academic medical faculty
  – clinical doctorates
  – demonstrated aptitude and commitment towards research careers

• Articulated goal: to foster career development into independent investigators

• Ideal study population: homogeneous & recent cohort among whom success would be expected
  – Lends insights into the mechanisms underlying observed gender differences
  – Too few URMs to study race effects
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 multivariate analysis controlling for K award type, year of award, funding institute, institution, and specialty
Similarities and Differences in the Career Trajectories of Male and Female Career Development Award Recipients

Reshma Jagsi, MD, DPhil, Rochelle DeCastro, MS, Kent A. Griffith, MS, Sourya Rangarajan, MPP, Cristina Churchill, Abigail Stewart, PhD, and Peter A. Ubel, MD


**Graph:**

- **Grants**
  - Female: 93 (44.1%)
  - Male: 211 (55.8%)

- **Publications**
  - Female: 50 (23.7%)
  - Male: 136 (36.0%)

- **Leadership**
  - Female: 24 (11.4%)
  - Male: 54 (14.3%)

**Success by Gender**

- **Total Number**
  - Female: 211
  - Male: 378

- **Success in at least one area**
  - Female: 118 (55.9%)
  - Male: 274 (72.5%)
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
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
  - Important because negotiation doesn’t only impact salary but also access to all resources necessary to succeed
Differences in Employer Behavior towards Men and Women?

- Statistical discrimination
  - employers make inferences based on the mean characteristics of a group rather than considering individual characteristics when setting salaries

- The concept of the family wage
Unconscious Biases

• Deeply ingrained notions of gender roles and stereotypes about racial/ethnic minorities

• 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.”

• Qualitative studies & anecdotes
Not a Level Playing Field

- Seemingly gender-neutral norms, practices, and policies can have a disparate negative impact upon women
  - Examples
    - Leave policies
    - Expectations regarding work hours
    - Tenure clocks & limits on grant eligibility
  - Mechanisms
    - forcing collision of biological & professional clocks
    - magnifying the inequities of the traditional gendered division of labor in our society, in which many women continue to bear the greater burden of domestic responsibility
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%).
• 40% of these were more severe forms (unwanted sexual advances, subtle bribery to engage in sexual behavior, threats to engage in sexual behavior, coercive advances)
• 59% perceived a negative effect on confidence in themselves as professionals
• 47% reported that these experiences negatively affected their career advancement
Accumulation of Disadvantage

Martell, Lane, and Emrich's (1996) model assumed a tiny bias in favor of men, which accounted for only 1% of variance in promotion.

Operating at a systematic minute disadvantage can have substantial long term effects.

After many iterations the top level was 65% male.

Martell, Lane & Emrich (1996)
Source: Valian (2007)
Developing Targeted Interventions

- Concrete, targeted interventions necessary
- Just as many practices contributing to inequity appear gender- or race-neutral, interventions may not need to be obviously gender- or race-specific either
- Success with initiatives at one institution should be shared to promote development of similar programs elsewhere
Mentoring Programs

- May allow women and URMs access to opportunities that otherwise might be allocated by an informal network to which they are not privy

- May help “outsiders” to “play games” not learned in childhood

- May teach negotiation skills

- Should help develop mentor networks rather than hierarchical dyads

- Still, must be careful not to focus exclusively on “fixing the victim”
Institutional Changes

• Ultimately, equity must be promoted through recognition and changes at the institutional level
  – Interventions to provide support at stages of particular vulnerability
    • Distinguished Scholar Awards, FRCS
  – Bias literacy and cultural transformation
    • Hopkins (Task Force), Mount Sinai (Just Desserts), Michigan (ADVANCE: recruitment, retention, climate, leadership), Wisconsin (WISELI: Bias Literacy Workshop), Penn (cultural transformation initiative)
  – Development of transparent & consistent criteria for advancement & compensation
Conclusions

• Women and URMs are important contributors to the medical workforce, but gaps remain (at senior levels for women and throughout for URMs)

• The cause is not simply a slow pipeline: even similarly situated men and women do not appear to be rewarded similarly even today, and URM representation in medical student body is far lower than in the population

• Institutions must develop targeted interventions to support equity and success of all with the potential to contribute to the mission of academic medicine
Acknowledgments

Collaborators
• Nancy Tarbell, MD
• Peter Ubel, MD
• Abigail Stewart, PhD
• Sherrie Kaplan, PhD
• Kent Griffith, MS
• Rochelle DeCastro Jones, MS
• Dana Sambuco, MA
• Natalie Clark, MD
• Emma Holliday, MD
• Chithra Perumalswami, MD
• Elizabeth Patton, MD
• Shruti Jolly, MD
• Pamela Douglas, MD
• Kyoko Nomura, MD
• Amy Motomura, BSE
• Soumya Rangarajan, MPP
• Deb Weinstein, MD
• Rebecca Surender, DPhil
• Elaine Hylek, MD
• Rebecca Starr, MSW, MBA
• Elizabeth Guancial, MD
• Cynthia Cooper, MD
• Lori Henault, MPH
• Yuchiao Chang, PhD
• AAMC GWIMS

Funders
• National Institutes of Health
• Robert Wood Johnson Foundation
• American Medical Association
• The Doris Duke Charitable Foundation
• University of Michigan IRWG & OVPR
• Burroughs-Wellcome Fund/Alliance for Academic Internal Medicine