Gender Equity as Institutional Change

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Today’s Presentation

• What is gender equity and why it is important for academic medicine?
• How social science research helps us understand the slow pace of achieving gender equity
• Review of some of our research
What is “gender equity”?

Gender equity in an academic institution means that men and women enjoy equal opportunities for education, employment, success, advancement, and satisfaction.
% Men (red) and Women (blue), AAMC, 2009

<table>
<thead>
<tr>
<th>Position</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med Students</td>
<td>51%</td>
<td>49%</td>
</tr>
<tr>
<td>Int Med Residents</td>
<td>56%</td>
<td>44%</td>
</tr>
<tr>
<td>Assist Prof Int Med</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Assoc Prof Int Med</td>
<td>72%</td>
<td>28%</td>
</tr>
<tr>
<td>Professors Int Med</td>
<td>85%</td>
<td>15%</td>
</tr>
<tr>
<td>Chair all depts</td>
<td>84%</td>
<td>13%</td>
</tr>
<tr>
<td>Dean</td>
<td>88%</td>
<td>12%</td>
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</tbody>
</table>
% Men (red) and Women (blue), AAMC, 2009

UW DOM Tenure Track

Percent

Med Students: 51% Men, 49% Women
Int Med Residents: 56% Men, 44% Women
Assist Prof Int Med: 60% Men, 40% Women
Assoc Prof Int Med: 72% Men, 28% Women
Professors Int Med: 85% Men, 15% Women
Chair all depts: 86% Men, 14% Women
Dean: 88% Men, 12% Women
Importance of women leaders

- Link between women leaders and improvements in women’s health (Carnes et al. JWH, 2008)
- Role models for future MDs (Carnes, JWH 1997)
- Multiple social identities increases creativity (Amabile and Khaire, HBR Oct, 2008)
- Women leaders more likely to be transformational (Eagly et. al., Psychol Bull 2003)
The easy answers have proven inadequate

<table>
<thead>
<tr>
<th>“Pipeline” problem</th>
<th>Women over 30% in medical school since 1980; ~50% PhDs in bio/beh sciences since 1995</th>
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<tbody>
<tr>
<td></td>
<td>Women comparable or more effective leaders (Eagly et al. Psychol Bull 2003; Rosser, Equity &amp; Excel in Educ, 2003; Griffin et al. JWH (in press))</td>
</tr>
<tr>
<td>Women are less interested or less committed</td>
<td>Male and female med faculty express comparable commitment and interest in career advancement (Broaddus &amp; Feigel, Chest, 1994; Wright et al. Acad Med, 2003; Shollen et al., Acad Med, 2009)</td>
</tr>
</tbody>
</table>
What we find instead

- Women faculty offered fewer opportunities for advancement (Wright et al., 2003)
- Women physicians who submit R01 proposals to NIH are significantly less likely than men to be funded (Ley & Hamilton Science, 2008)
- Women faculty more likely assigned “institutional housekeeping” (Bird et al., NSWA Journal, 2004; Shollen et al., Acad Med, 2009)
- Letters of recommendation for women med school faculty are shorter, have more references to personal life, and contain fewer “outstanding” descriptors (Trix & Psenka, Discourse & Soc, 2003)
- When the gender of the author is known, women are less likely to have their publications accepted (Budden et al, Trends Ecol Evol, 2008)
- “Goldberg” designs indicate that work performed by women rated of lower quality than the work performed by men regardless of gender of rater (Isaac et al, Acad Med 2009)
If no conscious intent to discriminate against women, why?

- Widely shared and deeply pervasive assumptions about men and women exist (e.g. work of Heilman, Eagly, Fiske, others)

- These stereotype-based assumptions are easily and automatically activated and readily applied – even against our own explicit beliefs (e.g. work of Devine, Uhlman, Biernat, others)

- Anything that focuses attention on gender vs individual enables mind to fill in the gaps with stereotypes and promotes gender bias (Carnes et al., 2007; reviewed by Isaac et al., Acad Med, 2009)

- Those who profess the greatest objectivity exhibit the greatest bias (Uhlman & Cohen Psychol Sci, 2005; Uhlmann EL, Cohen GL. Organ Behav Hum Decis Process. 2007)
Prescriptive Gender Norms
Assumptions about the way men and women in the abstract behave

**Women** = *communal*: Nurturing, gentle, supportive, sympathetic, dependent

**Men** = *agentic*: Decisive, competitive, ambitious, independent, willing to take risks

Relevant points:
- **Leaders, scientists, professors, chairs, deans, physicians**: Decisive, competitive, independent
- **Social penalties** for violating prescriptive gender assumptions
Gender difference in NIH Award rates, 2003-07

2003-07 R01- Experienced

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-appl-M</td>
<td>PhDs</td>
<td>0.35</td>
</tr>
<tr>
<td>All-award-M</td>
<td>MD/PhDs</td>
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</tr>
<tr>
<td>All-appl-F</td>
<td>MDs</td>
<td>0.32</td>
</tr>
<tr>
<td>All-award-F</td>
<td>MDs</td>
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MDs - First R01s

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<th>Number</th>
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<tbody>
<tr>
<td>MD-M-appl</td>
<td>MDs</td>
<td>0.24</td>
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<tr>
<td>MD-M-award</td>
<td>MDs</td>
<td></td>
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<tr>
<td>MD-F-appl</td>
<td>MDs</td>
<td>0.20</td>
</tr>
<tr>
<td>MD-F-award</td>
<td>MDs</td>
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Ley & Hamilton Science, 2008
NIH R01
- High prestige
- Scientific leadership
- Keen competition for scarce resources with high status

Agentic

NIH K23
- Mentored (usually by senior male)
- Lower status than reviewers
- Lower budget
- Less competitive

Communal

MALE
- Role congruity for men
- Gender norm violation for agentic women

FEMALE
- Status differential replicates societal gender roles

Study Section
Our Research

• Provide multiple portals of entry to an academic career
• Define the problem
• Examination of processes at gatekeeping junctures in an academic career that promote or mitigate gender bias in decision-making
Acknowledgements

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• Department of Medicine
• UW School of Medicine and Public Health, College of Engineering, School of Pharmacy, School of Veterinary Medicine, College of Letters and Sciences, and College of Agricultural and Life Sciences
• Meriter Hospital; William S. Middleton VA Hospital
Our Research

• Provide multiple ports of entry to an academic career
  • Define the problem
  • Examination of processes at gatekeeping junctures in an academic career that promote or mitigate gender bias in decision-making
Programs in the “Living Laboratory”

- WiscAMP
- TEAM-Science
- Undergraduate
- Graduate
- Postdoctoral
- Women’s Health Aging T32
- Health Disparities Scholars T32
- VA Women’s Health Fellowship
- BIRCWH K12
- (Roadmap K12)
- (WH Aging K12)

Education → → Career Development

Faculty
Health Disparities Research Scholars - T32

Tiffany Green, PhD
Current research: Disparities of child health, race and social determinants of health

Nancy Geer Williams, PhD
Current research: Mental health, obesity, and minority groups, African American litter

HDRS - T32 (cont.)

Vera Tsenkova, PhD
Current research: Interpersonal influence of physiological salivary

M. Allison Brooks, MD, MPH
Current research: HIV/AIDS
Number of trainees/scholars supported through CWHR programs (excluding RM K12)

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<thead>
<tr>
<th></th>
<th>Past</th>
<th>Current</th>
</tr>
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<tbody>
<tr>
<td>Postdoc/scholar</td>
<td>32</td>
<td>13</td>
</tr>
<tr>
<td>Grad student</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Women</td>
<td>57/62 = 92%</td>
<td></td>
</tr>
<tr>
<td>URM</td>
<td>25/62 = 40%</td>
<td></td>
</tr>
</tbody>
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Total: 62
Our Research

• Provide multiple ports of entry to an academic career

• Define the problem

• Examination of processes at gatekeeping junctures in an academic career that promote or mitigate gender bias in decision-making
UW Gender Climate Survey:

- 836 Med Sch faculty; 61% response
- Example of climate questions:
  “Are you aware of informal networking which systematically (even if not purposely) excludes faculty members on the basis of gender?”

  Yes: 24% women; 6% men (p < .001)

UW Gender Climate Survey

Gender differences in responses (p<.001)

• I feel like a welcome member of the academic community
• I feel my advice is sought
• My career is not taken seriously
• I have observed situations in which women are denigrated based on their gender
• Perceived obstacles to academic success – women 2-3X men

Gender norms predict that it would be more difficult for women physicians to give verbal orders: Is that true?

Mixed methods

• Survey:
  – 65/100 UW Medicine Residents responded
  – Vignettes with varying degrees of assertive responses
  – Self-assessment of stress in giving orders
  – Rating of factors that affect effectiveness in directing patient care

• Semi-structured interview:
  – 16 residents

Bartels et al. JWH, 17:1615-21, 2008
Survey results

- Male residents higher cumulative assertiveness score (p=0.047) (year of training, p=0.09)
- Difference in self-reported stress by year of training (p=0.008) but not gender (p=0.86)
- 30% female and no male resident ranked gender as the greatest disadvantage in directing patient care (p<0.01)
Interviews

Congruent with gendered norms:
• Men more likely “authoritative” “confident” “assertive”
• Women more likely “reflective” “self-conscious”
• “Tone” noted to be important for women

Representative quotes:
• “I’ve seen men able to say things in just terrible tones, but it’s just accepted. Whereas if a woman tried that…” Senior M
• “It just didn’t seem right for me to tell people what to do, even if I was asking them in a nice way.” Junior F
• “Sometimes you’re afraid that you’ll be thought of as being bossy or too aggressive.” Junior F
Conclusion

• Gender impacts the residency experience, especially for women
• Include discussion of research on gender in resident orientation & curriculum
Our Research

• Provide multiple ports of entry to an academic career
• Define the problem
• Examination of processes at gatekeeping junctures in an academic career that promote or mitigate gender bias in decision-making
The Impact of Gender Stereotype Priming

• Exposure to stereotype-congruent information affects subsequent decision-making (multiple studies by Banaji’s group, Steele’s group including Davies et al. Pers Soc Psychol. 2005)
Semantic gender priming and tenure criteria?

- Top 25 ranked medical schools
- Tenure criteria from websites
- Scanned for “Leader”
- Slopes of regressions for annual % tenured women x 7 years
- “Leader” = OR 6.0 (1.02, 35.37) for slope below median compared to those without

Marchant, Bhattacharya, Carnes. J Woman’s Health, 2007
Semantic gender priming and the NIH Director’s Pioneer Award?

- 2004: 0 women out of 9
- 2005: 6 women out of 14 (43%)
- 2006: 4 women out of 13 (31%)
- 2007: 4 women out of 12 (33%)
- 2008: 4 women out of 16 (25%)
- 2009: 7 women out of 18 (39%)

Were women doing better science after 2004 or was there something else?
<table>
<thead>
<tr>
<th>2004</th>
<th>≥ 2005</th>
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<tbody>
<tr>
<td><strong>Emphasis on risk</strong></td>
<td><strong>Emphasis on risk removed:</strong></td>
</tr>
<tr>
<td>Risk-taking emphasized:</td>
<td>• “pioneering approaches”</td>
</tr>
<tr>
<td>• “exceptional minds willing and able to explore ideas …considered risky”</td>
<td>• “potential to produce an unusually high impact”</td>
</tr>
<tr>
<td>• “take…risks”</td>
<td>• “ideas that have the potential for high impact”</td>
</tr>
<tr>
<td>• “aggressive risk-taking”</td>
<td>• “highly innovative”</td>
</tr>
<tr>
<td>• “high risk/high impact research”</td>
<td>• URL no longer includes “risk”</td>
</tr>
<tr>
<td>• “take intellectual risks”</td>
<td></td>
</tr>
<tr>
<td>• URL includes “highrisk”</td>
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| **Focus on technological advances**                                 |                                                                       |
| Technological advances highlighted as desirable:                   | Mention of technological breakthroughs removed; human health added:    |
| • “support the people and projects that will produce tomorrow’s conceptual and technological breakthroughs” | • “encourage highly innovative biomedical research with great potential to lead to significant advances in human health.” |

Carnes et al. JWH, 2005; Carnes, Nature, 2006
Principles of adult education

Tenets favoring dissemination and institutional change

Present evidence-based strategies

Introduce research on biases and assumptions

Active learning

Teach faculty how to run effective searches

UW-Madison WISELI: Searching for Excellence and Diversity – Workshops for faculty search committees
Figure 1. Percentage of New Women Faculty Hired in the UWSMHP by Any Workshop Attendance, 2000 – 2008

* Participating departments sent at least one faculty member to a workshop sometime between 2004-2007. Non-participating departments have sent no faculty to a workshop.

Sheridan et al., Acad Med, in press
Figure 2. Percentage of New Women Faculty Hired in the UWSMPH by Number of Workshops Attended, 2000 - 2008

- 0 Workshop (N=9)
- 1 Workshop (N=10)
- 2-3 Workshops (N=7)

Legend:
- □ 2000-2004 (before workshops implemented)
- □ 2005-2008 (after workshops implemented)
Systematic Review of Interventions Affecting Gender Bias in Hiring

• 9639 from 9 electronic data bases
• 1920 abstracts screened
• 130 articles reviewed in full
• 27 met criteria:
  – After 1972
  – Randomized, controlled design
  – “Goldberg” paradigm (M and F with identical qualifications rated for employment outcomes)
  – Participants blinded to intent
  – Both genders in applicant pool and raters

What can institutions do to mitigate bias against women in hiring settings?

At least 1 RCT = level 1 evidence

- Infuse environment with statements that research evidence shows equivalent gender competence in relevant roles
- Encourage raters to take adequate time
- Allow applicants to provide individuating evidence of job-relevant competency
- Work for applicant pool to have at least 25% women
- Do not ask about parenthood status
- Use structured vs unstructured interview questions
- Avoid man-suffix job titles (e.g. use chair rather than chairman)
- Use inclusion vs. exclusion strategy for selection from final list
- Implement training workshops for personnel decision-makers

Next Steps

• Approaching gender bias on the individual level as an unconscious habit
• Mobilizing research on facilitating intentional behavioral change
• Qualitative studies of internal medicine residents and faculty; women chairs and their faculty
• Examining words and descriptors in dean’s letter for resident applicants and in grant reviews
Summary & Conclusions

• No magic bullet; issues are complex
• As with any institutional change, achieving gender equity will require multi-level interventions with the goal of changing our cultural norms
• Awareness is a key first step = become “bias literate”
• Level 1 evidence exists for interventions that can reduce the impact of gender bias
Thanks to ALL!!

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- Jessica Winchell, PhD

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- Alex O’Neill
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Questions?