Diversity and Inclusion in Radiology: A Necessity for Improving the Field

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BACKGROUND

What is diversity?
Range of human differences including but not limited to: race, ethnicity, gender, gender identity, sexual orientation, age, physical ability, religion, political beliefs, etc.

Benefits of diversity in medicine:1,2
- Enhanced communication
- Improved risk assessment
- Decreased implicit bias & prejudice
- Increased financial efficiency of care & lower long-term costs
- More accurate diagnoses
- Higher patient satisfaction and trust
- Greater compliance
- Increased access to care for underserved communities

According to a 2009 study, the cost of health disparities was >$1.2 trillion. Diverse providers can work to reduce disparities → better patient outcomes & reduced economic burden.3

AIMS

1. Summarize gaps in diversity in medical education, research, and leadership (especially in the field of radiology)
2. Discuss methods for closing the gaps

CURRENT GAPS

Medical Education

<table>
<thead>
<tr>
<th>Student Type</th>
<th>Acceptance Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>44%</td>
</tr>
<tr>
<td>Asian</td>
<td>42%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>42%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>34%</td>
</tr>
</tbody>
</table>

Figure 1. Medical school acceptance rates
Source: AAMC 2016 Facts & Figures Report.4

Research

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Probability of NIH R01 award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>10%</td>
</tr>
<tr>
<td>African-American</td>
<td>6%</td>
</tr>
<tr>
<td>White</td>
<td>25%</td>
</tr>
<tr>
<td>Black &amp; African-American</td>
<td>9%</td>
</tr>
</tbody>
</table>

Figure 2. Probability of NIH R01 award by race and ethnicity, 2000-2006. ‡, P < .001
Source: Ginther et al. (2011)

Leadership

<table>
<thead>
<tr>
<th>Minority Status</th>
<th>Leadership Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Chairpersons</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>Deans</td>
</tr>
<tr>
<td>White</td>
<td>Vice Chairs</td>
</tr>
</tbody>
</table>

Figure 3. Racial and gender representation in academic medicine: 12-year averages.
Source: Yu et al. (2013)

- Black applicants are less likely to be accepted to medical school6
- 15.3% of US medical graduates vs. 35% of US population were racial/ethnic URM (in 2010)7
- URM students more likely to: be dismissed (6x), withdraw (3x), be enrolled for 6th year (3x)9
- Among 20 largest residency specialties, radiology:
  - 17th in representation of women5
  - 20th in representation of URM5
- Black or African-American applicants for NIH R01 grants are 10% less likely to be awarded funding than a white applicant7
- 31.6% of 1st authors & 19.3% of last authors in radiology journals were female8
- Impact of COVID-19 pandemic: women with young children experience 17% greater decrease in research productivity than male counterparts9
- These data are particularly concerning because research productivity is important in academic medicine & often factored into promotions to leadership

CLOSING THE GAPS

Flatting Hierarchies in Academia6

- Collaborative leadership → platforms for new ideas and voices to come forth
- Enables input from people of all demographic backgrounds
- Adopted by companies such as Novartis → higher employee satisfaction & performance

Inclusion Is Important Too14
- Diversity is more effective when inclusivity is also emphasized
- Often difficult to represent the full spectrum of diverse identities in any setting
- Emphasizing inclusivity → avenues for people of different identities to freely participate in our systems/institutions as they choose, even if we cannot represent all diverse identities at once

Other Steps
- Mentorship of URM students & women
- Directed financial support, research opportunities, career counseling for underrepresented groups
- Working to decrease unconscious biases
- Decreasing gender & race pay gaps

REFERENCES

1. Yu et al. (2013)
2. Ginther et al. (2011)
5. Source: Emory University, School of Medicine, Department of Radiology and Imaging Sciences