Designing Health Promotion and Disease Prevention For Vulnerable Populations

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Professor and Vice Chair, DEI Department of Medicine
Asst. Dean, Professional Development
Emory School of Medicine
Personal/ Professional Financial Relationships: Jada Bussey-Jones

<table>
<thead>
<tr>
<th>External Industry Relationships *</th>
<th>Company Name</th>
<th>Role</th>
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<tbody>
<tr>
<td>Equity, stock, or options in biomedical industry companies or publishers</td>
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<td>Board of Directors or officer</td>
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<td>Royalties from Emory or from external entity</td>
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<tr>
<td>Industry funds to Emory for my research</td>
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<td>Other</td>
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* Race is used in clinical/professional cases. As context, the use of race demonstrates social—not biologic—implications of race categories in this teaching session.

All images of people in this PPT (other than my family) were downloaded from Google Images and are openly available on the WWW.
Objectives this session

• Describe the impact/ importance of diversity on adverse health and communities

• Recognize how our backgrounds inform our perspectives and how we relate to pts and colleagues

• Explore example programs/ structural change
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Why is this important

• Increasing diversity in US
• Current climate...
Challenging Times...
Importantly...

• We are having this discussion b/c biases/ diversity impact:
  • Our profession
  • Our patients
  • Our communities

• Goal is to think about our role...
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Implicit Bias:
Attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner

- are pervasive
- do not necessarily align with our declared beliefs
- generally but not always favor our own ingroup
- are malleable

Ohio State University Kirwin Institute for the Study of Race and Ethnicity.
http://kirwaninstitute.osu.edu/research/understanding-implicit-bias/ Accessed 10/4/17
Impact of unconscious bias on clinical & workplace decisions

- Recruitment
- Hiring decisions
- Salary & resource allocation
- Performance reviews
- Retention/Promotion
- Teamwork
- Clinical Environment
My Biases
We are not born to exhibit racial prejudice – we learn it...early in life

• Newborn infants demonstrated no spontaneous preference for faces from either their own-or other-ethnic groups.
• 3-month-old infants demonstrated a significant preference for faces from their own ethnic group.

*David J. Kelly, University of Sheffield, United Kingdom
picture a doctor
Clear if unspoken message about who leads
So, is it possible to have bias but tx pts. equally?
IOM: RACE & MEDICAL CARE

Across Healthcare

- Minorities receive fewer procedures and poorer quality medical care than whites.

Difference Persist After Controlling For

- Insurance
- SES
- Stage and severity of disease, co-morbidity
- Medical facility

Persist in Medicare & the VA Health System

- Differences in economic status and insurance coverage are expected to be minimized

Institute of Medicine, 2002
Physicians & Implicit Bias

Study Population: ~300 IM/EM residents at 4 AMCs in Atlanta and Boston;

Study Design: Internet Clinical vignette of black or white patient presenting to ED with ACS, followed by a questionnaire and three IAT’s.

Measures: IAT scores, decision for thrombolysis, assessment of explicit racial biases by questionnaire.
Physicians reported no explicit preferences
IAT’s revealed implicit preference favoring whites (mean IAT score = 0.36, P < .001).

As physicians’ prowhite implicit bias increased, so did their likelihood of treating white patients and not treating black patients with thrombolysis (P = .009).
Implicit Bias & Workplace Decisions: Compensation, Resource Allocation

- Science faculty (n=127) at research-intensive universities rated applications for students applying for lab manager positions

- Applications randomly assigned male or female names

- Faculty asked to judge student competency, hireability, interest in mentoring, and assign salary

Emory Bias Training: Moss-Racusin CA et al. PNAS 2012;109:16474-16479
Implicit Bias and Workplace Decisions

“White” names:
Emily, Anne, Allison, Neil, Todd

“Black” names:
Aisha, Keisha, Tamika, Tyrone, Tremayne

Callback Gap: 50% attributed to name categories

Letters of Recommendation Reflect Gender Bias

- 1224 letters for highly competitive STEM postdoctoral positions - categorized as Excellent, Good, Doubtful
- Letter tone rated Excellent among: 24% of Men applicants, 15% Women applicants

Men Applicants
- Longer
- Excellent Letters
- Strong Language
  - "Brilliant Scientist"
  - "Trailblazer"
  - One of the Best"
- "Confident"
- "Assertive" / "Intellectual"

Women Applicants
- Shorter
- Solid Letters - did not set them apart from other applicants
- "Knowledgeable"
- "Highly Intelligent"
- Relationship Building characteristics such as "Nurturing" and "Caring"

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• Explore example programs/structural change
Diversity can be mitigating

Social Justice

Talent Management
Competitive Advantage
Financially Advantageous
Best Place to Work
Financial Gains

**PROFIT INCREASE**

For every 10% improvement in gender diversity, there is a 2-4% increase in profits.

**FINANCIAL GAINS** are not only associated with the proportion of female board members BUT also with the proportion of FEMALE EXECUTIVES.

Source: 2016 PIIE

Source: 2015 McKinsey : Diversity Matters
More innovation...

**Companies with Above-Average Diversity Also Have Higher Innovation Revenues**

SHARE OF INNOVATION REVENUES FROM PRODUCTS LESS THAN THREE YEARS OLD

**NOTE**  
N=1,606, R^2=0.257 (SIGNIFICANT AT P<0.001 LEVEL); *TOTAL DIVERSITY INDEX IS THE AVERAGE OF THE BLAU INDICES FOR SIX DIMENSIONS OF DIVERSITY: MIGRATION, INDUSTRY, CAREER PATH, GENDER, EDUCATION, AND AGE.  
**SOURCE**  
BCG ANALYSIS OF MORE THAN 1,600 COMPANIES ACROSS EIGHT COUNTRIES  
© HBR.ORG
Clinical care: Diversity can be mitigating factor

• Black pts get more preventive services w/ black MDs;
• Female pts less likely to die after MI when treated by female MDs
• URM MDs more likely to serve minority, poor, and Medicaid populations.
• Race and language concordance associated w/ improved satisfaction, adherence, trust, infant mortality

Alsani M, Garrick O, Graziani GC. National Bureau of Economic Research, 2018
Cooper-Patrick, L. JAMA. 1999; 282: 583-589
Examples: Structural change

Strategies for supporting an inclusive environment
Food as Medicine Program

When physicians think of health...
• Diagnosing and treating “a disease”
• Related to great diagnostic and therapeutic skills!

Yes but...
Proportional Contribution to Premature Death

- Genetic predisposition: 30%
- Behavioral patterns: 40% (obesity, gun violence, tobacco, etc)
- Environmental exposure: 5% (neighborhood, pollution, etc)
- Social circumstances: 15% (income, education, employment, etc)
- Healthcare: 10%

Food Insecurity & disease management

- Higher in Georgia (about 20%)
- Grady prim care study >300 pts – 51% food insecure, 62% in DM
- Food insecure adults less likely to:
  - Purchase costly medication
  - Adhere to recommended prescription guidelines


Imagine…

• Health professionals screening for SDH (housing, food, transport)
• Instead of prescribing pills and procedures...
• Health care supported apples and oranges...
• Makes intuitive sense but does it work?
6-month PR-X program structure
Intervention Design & Recruitment

- Proactive and targeted recruitment
- Screening for food insecurity
- Understanding of program requirements
Data Collected

Surveys
• Baseline survey
• 6-week follow-up survey (at the end of Cooking Matters)
• Endline survey (6 months)

Biometrics
• Collected monthly:
  • Height
  • Weight
  • Blood pressure
  • A1C - South Georgia
Results: Food insecurity decreased significantly over the 6 months program

*Data from Grady Health System cohorts 2017-2019, n=271 participants
Results: Diet & nutrition practices improved significantly over the 6 months program

<table>
<thead>
<tr>
<th>Dietary Variable</th>
<th>Baseline Mean ± SD</th>
<th>End line Mean ± SD</th>
<th>Adjusted change from baseline to end line β [95% CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily unique fruit count</td>
<td>1.39 ±1.47</td>
<td>2.39 ±1.45</td>
<td>0.13*** [0.07,0.19]</td>
</tr>
<tr>
<td>Daily unique vegetable count</td>
<td>1.99±1.77</td>
<td>2.77±1.69</td>
<td>0.10*** [0.04,0.14]</td>
</tr>
<tr>
<td>Healthy food consumption score</td>
<td>3.86±1.29</td>
<td>4.38±1.27</td>
<td>0.38*** [0.23,0.51]</td>
</tr>
<tr>
<td>Healthy Beverage consumption score</td>
<td>5.14 ±1.70</td>
<td>4.98±1.44</td>
<td>0.27*** [0.11,0.36]</td>
</tr>
<tr>
<td>Healthy Purchase score</td>
<td>5.64 ±1.86</td>
<td>6.70±1.74</td>
<td>0.59*** [0.44,0.67]</td>
</tr>
<tr>
<td>Resource management score</td>
<td>6.30±1.95</td>
<td>7.10±1.74</td>
<td>0.61*** [0.44,0.65]</td>
</tr>
</tbody>
</table>

*Data from Grady Health System cohorts 2017-2019, n=271 participants
## Results - Health Metrics Improvements

<table>
<thead>
<tr>
<th>Clinical Variable</th>
<th>Obs.</th>
<th>N</th>
<th>Unconditional Means (95% CI)</th>
<th>Unadjusted Change Over Time (95% CI)</th>
<th>Adjusted for Clinic, Cohort, Sex, Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI (kg/m²)</td>
<td>1,464</td>
<td>273</td>
<td>36.54 (35.53, 37.56)</td>
<td>-0.2 (-0.1, 0.0)</td>
<td>-0.1 (-0.1, 0.0)</td>
</tr>
<tr>
<td>Weight (lbs)</td>
<td>1,464</td>
<td>273</td>
<td>226.7 (220.0, 233.4)</td>
<td>-0.4 (-0.6, -0.2)</td>
<td>-0.49 (-0.6, -0.2)</td>
</tr>
<tr>
<td>Waist circumference (in)</td>
<td>1,461</td>
<td>273</td>
<td>45.3 (44.0, 46.1)</td>
<td>-0.4 (-0.5, -0.3)</td>
<td>-0.4 (-0.5, -0.3)</td>
</tr>
<tr>
<td>Diastolic blood pressure</td>
<td>1,460</td>
<td>273</td>
<td>81.8 (80.4, 83.2)</td>
<td>-0.4 (-0.7, -0.2)</td>
<td>-0.4 (-0.7, -0.2)</td>
</tr>
<tr>
<td>Systolic blood pressure</td>
<td>1,460</td>
<td>273</td>
<td>140.4 (138.1, 142.6)</td>
<td>-1.0 (-1.4, -0.5)</td>
<td>-1.0 (-1.5, -0.6)</td>
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</table>
Strategy: Structural Change / Support

- Programs to support promotion in my division, institution
- Curricular transformation
- Structural change
• **Barriers for Success**
  ○ Less Mentorship
  ○ Bias experiences
  ○ Disproportionate share of non-career advancing activities

• **Consequently:**
  ○ Less likely to achieve senior promotion
  ○ Remain in rank longer
  ○ Lower levels of job satisfaction
  ○ More likely to leave academia

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**The Problem:**

Barriers for women & URiM Faculty

There's this feeling that, I don't understand why I'm always outside of this club. Some people are put on this leadership launch pad on Day 1. People have come and waited for five, ten years [to get promoted] and have been completely left out.

FACULTY MEMBER
The Plan: Objectives

• Design systematic structure to support faculty advancement

• Develop a standard review of faculty to identify opportunities for faculty development, positions, & recognition
Faculty Review Committee: Process

• Meetings quarterly

• Review all faculty unless “opt out” prioritized based on time in rank

• T-2 years before earliest possible promotion

• Study section style review with a primary and secondary reviewer

• Review focus: Ways to support and recognize faculty
  • Development opportunities
  • Award opportunities
  • Other opportunities (important committees, editorial boards, speaking)
Sample faculty letter

I feel that we will be able to present you for promotion to Associate Professor the summer of 2016 on the basis of excellent teaching, very good service, and participation in scholarship based on definitions from the SOM (attached along with some additional promotion info).

1. Statement of plans for promotion, likely criteria

Recommendations of the committee:

- Use your educational initiatives and curricular advances (EKG instruction, technology, etc...) as sources of publications as you will need more publication.
- There is limited service at region/ national society/organization for which you have interest—possibly AAMC, ACP, or SHM and CDIM and join a committee(s).
- You have won several Institutional Awards and could be nominated for regional and national teaching awards. Membership and activity discussed above will help. We feel you would be a good candidate for J Willis Hurst GA-ACP as you have attended this meeting and presented in the past. **We will assist with this nomination.**
- Update international lectures (India) and other ones missing on CV
- For development opportunities, we are aware that you are considering the Harvard Macy Program in 2016—suggest that you consider the Harvard Macy Program in 2016.

2. Summary / recommendation

Importantly, in preparation for a potential submission, please update your CV to Emory's format and begin to prepare your personal statement, teaching, and service portfolio (keeping evaluations, letters, documents from learners and colleagues). Leigh and Danielle will assist w/ this.
<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th></th>
<th></th>
<th>2020</th>
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<tbody>
<tr>
<td></td>
<td>Grady GIM</td>
<td>SOM</td>
<td>AAMC</td>
<td>Grady GIM</td>
<td>SOM</td>
<td>AAMC</td>
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<tr>
<td>Total Faculty</td>
<td>46</td>
<td>2,210</td>
<td>159,943</td>
<td>50</td>
<td>2,883</td>
<td>184,682</td>
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<tr>
<td>URiM</td>
<td>10 (22%)</td>
<td>246 (11%)</td>
<td>13,825 (9%)</td>
<td>12 (24%)</td>
<td>393 (14%)</td>
<td>17,484 (9%)</td>
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<tr>
<td>Women</td>
<td>24 (52%)</td>
<td>839 (38%)</td>
<td>61,121 (38%)</td>
<td>31 (62%)</td>
<td>1,283 (45%)</td>
<td>79,174 (43%)</td>
</tr>
<tr>
<td>Assistant</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>All</td>
<td>31 (67%)</td>
<td>1,208 (55%)</td>
<td>71,903 (45%)</td>
<td>23 (46%)</td>
<td>1,642 (57%)</td>
<td>86,485 (47%)</td>
</tr>
<tr>
<td>URiM</td>
<td>6 (60%)</td>
<td>162 (66%)</td>
<td>7,732 (56%)</td>
<td>6 (50%)</td>
<td>289 (74%)</td>
<td>9,777 (56%)</td>
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<tr>
<td>Women</td>
<td>17 (71%)</td>
<td>534 (64%)</td>
<td>31,457 (51%)</td>
<td>12 (39%)</td>
<td>612 (48%)</td>
<td>41,243 (52%)</td>
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<tr>
<td>Associate</td>
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<tr>
<td>All</td>
<td>10 (22%)</td>
<td>353 (16%)</td>
<td>32,231 (20%)</td>
<td>17 (34%)</td>
<td>551 (19%)</td>
<td>37,781 (20%)</td>
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<td>URiM</td>
<td>4 (40%)</td>
<td>37 (15%)</td>
<td>2,489 (18%)</td>
<td>3 (25%)</td>
<td>48 (12%)</td>
<td>3,271 (19%)</td>
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<tr>
<td>Women</td>
<td>7 (29%)</td>
<td>102 (12%)</td>
<td>11,027 (18%)</td>
<td>13 (42%)</td>
<td>172 (13%)</td>
<td>15,006 (19%)</td>
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<tr>
<td>Professor</td>
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<tr>
<td>All</td>
<td>5 (11%)</td>
<td>370 (17%)</td>
<td>35,789 (22%)</td>
<td>10 (20%)</td>
<td>461 (16%)</td>
<td>39,001 (21%)</td>
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<td>URiM</td>
<td>0 (0%)</td>
<td>14 (6%)</td>
<td>1,880 (14%)</td>
<td>3 (25%)</td>
<td>30 (8%)</td>
<td>2522 (14%)</td>
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<tr>
<td>Women</td>
<td>0 (0%)</td>
<td>65 (8%)</td>
<td>7,669 (13%)</td>
<td>6 (19%)</td>
<td>93 (7%)</td>
<td>10,421 (13%)</td>
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</table>
Outcomes

• **Majority** Grady GIM faculty at senior rank (54% associate or full professor)

• 100% success of submitting packets through 2019

• 65% women w/ senior promotion

• 42% URiM w/ senior promotion

Context: 0% of all professors are black women...
SOM wide URIM FACULTY DEVELOPMENT PROGRAM

- DOM, SOM collaboration, HRSA supported
- 5-month longitudinal program
- WLA inspired match w/ leaders as mentors
- Experiential seminars
- Meaningful discussions about navigating academic health sciences as a URM faculty member (peer support)
Emory SOM Community Learning and Social Medicine (CLSM course)

Voluntary Elective → Required Course → Graded course → Featured course

The MD Curriculum
(actual dates can vary and content is subject to change)

Sample SM Content/Experiences in SOM Curriculum

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<th>YEAR</th>
<th>AUG</th>
<th>SEPT</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
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</table>

**PHASE 1: FOUNDATIONS OF MEDICINE**

- Healthy Human
- Human Disease
- Community Learning & Social Medicine (CLSM)
- Small Group - Essentials of Patient Care (EPC)
- Orientation: Clinical Experience (OCE)
- Anatomy (Dissection) Lab

**Sample SM Content/Experiences in SOM Curriculum**

- **M1**: CLSM, other foundations lectures
- **M2**: Social determinants of health, race as a social construct, bias, poverty, disparities, privilege
- **M3**: Health literacy, addressing SDH, population health, language barriers, LGBTQ health
- **M4**: Understanding Grady, community resources, advocacy, health policy

**SM elective (optional)**
Jason Cobb led CPC Presentation

Emory wide eGFR SYSTEM CHANGE

• Many Medical Decision Tools Disadvantage Black Patients
• Gina Kolata, New York Times, June 17, 2020
• Bias pervasive

• Impact clinical care

• Structural change in organizations to support a diverse/inclusive work force AND patients directly needed

• We must be proactive & intentional

In Summary

With great power comes great responsibility!

Structural and individual change needed...