21st Century Realities for Diversifying and Expanding the Dental Health Field

And how Implicit Bias could be Standing in the Way.

Sharon L. Davies
Executive Director, Kirwan Institute
Gregory H. Williams Chair in Civil Rights & Civil Liberties
“Minorities” in the United States

A national picture of our growing diversity
21st CENTURY REALITY—GROWING “MAJORITY MINORITY” STATES
What is driving these changes?

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Minority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>65.8%</td>
<td>34.2%</td>
</tr>
<tr>
<td>2000</td>
<td>59.7%</td>
<td>40.3%</td>
</tr>
<tr>
<td>2011</td>
<td>49.5%</td>
<td>50.5%</td>
</tr>
</tbody>
</table>
Diversification of American Children

Kirwan Institute for the Study of Race & Ethnicity
<table>
<thead>
<tr>
<th>Generation</th>
<th>Birth Span</th>
<th>% Minority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby Boomers</td>
<td>1946 – 1964</td>
<td>21%</td>
</tr>
<tr>
<td>GenXers</td>
<td>1965 – 1980</td>
<td>26%</td>
</tr>
<tr>
<td>Millennials</td>
<td>1981 – 2000</td>
<td>44%</td>
</tr>
<tr>
<td><strong>Post-Millennials</strong></td>
<td><strong>2001 – 2020</strong></td>
<td><strong>49%</strong></td>
</tr>
<tr>
<td>Post-Millennials 2</td>
<td>2021 – 2040</td>
<td>57%</td>
</tr>
<tr>
<td>Post-Millennials 3</td>
<td>2041 – 2060</td>
<td>65%</td>
</tr>
</tbody>
</table>

the “new normal”: each generation has been more and more diverse
First-Year United States Dental School Enrollment by Gender, 2004 to 2014-15

<table>
<thead>
<tr>
<th>Year</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-05</td>
<td>43%, 1971</td>
<td>57%, 2641</td>
<td>4,612</td>
</tr>
<tr>
<td>2006-07</td>
<td>43%, 2047</td>
<td>57%, 2686</td>
<td>4,733</td>
</tr>
<tr>
<td>2008-09</td>
<td>44%, 2174</td>
<td>56%, 2744</td>
<td>4,918</td>
</tr>
<tr>
<td>2010-11</td>
<td>46%, 2377</td>
<td>54%, 2793</td>
<td>5,170</td>
</tr>
<tr>
<td>2012-13</td>
<td>47%, 2688</td>
<td>53%, 3009</td>
<td>5,697</td>
</tr>
<tr>
<td>2014-15</td>
<td>48%, 2847</td>
<td>52%, 3120</td>
<td>5,967</td>
</tr>
</tbody>
</table>

Source: American Dental Association
United States Dental School Graduates By Gender, 2004 to 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>42%, 1,814</td>
<td>58%, 2,536</td>
<td>4,350</td>
</tr>
<tr>
<td>2006</td>
<td>45%, 2,026</td>
<td>55%, 2,489</td>
<td>4,515</td>
</tr>
<tr>
<td>2008</td>
<td>45%, 2,135</td>
<td>55%, 2,661</td>
<td>4,796</td>
</tr>
<tr>
<td>2010</td>
<td>45%, 2,261</td>
<td>55%, 2,735</td>
<td>4,996</td>
</tr>
<tr>
<td>2012</td>
<td>46%, 2,416</td>
<td>54%, 2,813</td>
<td>5,229</td>
</tr>
<tr>
<td>2014</td>
<td>47%, 2,607</td>
<td>53%, 2,884</td>
<td>5,491</td>
</tr>
</tbody>
</table>

Source: American Dental Association
First-Year United States Dental School Enrollment by Race/Ethnicity, 2004-2014

2004-05:
- AM IND: 0%, 16
- PACIF: 6%, 267
- ASIAN: 6%, 273
- BLACK: 5%, 243
- HISPA: 62%, 2911
- NONRES: 63%, 2884
- 2 OR MORE: 4,612
- Unknown: 1%
- White: 21%

2006-07:
- AM IND: 0%, 16
- PACIF: 6%, 291
- ASIAN: 6%, 295
- BLACK: 5%, 212
- HISPA: 62%, 2911
- NONRES: 63%, 2884
- 2 OR MORE: 4,733
- Unknown: 1%
- White: 21%

2008-09:
- AM IND: 0%, 16
- PACIF: 6%, 274
- ASIAN: 6%, 283
- BLACK: 5%, 257
- HISPA: 60%, 2969
- NONRES: 63%, 2884
- 2 OR MORE: 4,918
- Unknown: 1%
- White: 21%

2010-11:
- AM IND: 0%, 16
- PACIF: 6%, 289
- ASIAN: 6%, 331
- BLACK: 5%, 257
- HISPA: 3%, 166
- NONRES: 60%, 2969
- 2 OR MORE: 5,170
- Unknown: 0%
- White: 21%

2012-13:
- AM IND: 0%, 12
- PACIF: 6%, 312
- ASIAN: 7%, 423
- BLACK: 2%, 121
- HISPA: 2%, 123
- NONRES: 56%, 3215
- 2 OR MORE: 5,697
- Unknown: 0%
- White: 21%

2014-15:
- AM IND: 0%, 17
- PACIF: 5%, 282
- ASIAN: 8%, 458
- BLACK: 3%, 186
- HISPA: 2%, 138
- NONRES: 56%, 3346
- 2 OR MORE: 5,967
- Unknown: 0%
- White: 21%

Source: American Dental Association
United States Dental School **Total Enrollment** by Race/Ethnicity, 2010–11 and 2014-15

**2010 - 11**
- 58%, White, 11,886
- 22%, Asian, 4,566
- 6%, Black, 1,138
- 6%, Hispanic, 1,287
- 1%, Am In, 111
- 2%, NONRES, 359
- 0%, Two or More, 91
- 0%, Hawaiian, 23
- 5%, Unknown, 944

**2014 - 15**
- 55%, White, 12,866
- 24%, Asian, 5,640
- 8%, Hispanic, 1,838
- 5%, Black, 1,172
- 4%, NONRES, 917
- 2%, Two or More, 479
- 1%, Am In, 162
- 0%, Hawaiian, ...
- 2%, Unknown, 455
- 5%, Two or More, 50

Source: American Dental Association
United States Dental School Graduates By Race/Ethnicity, 2004 to 2014

- **2004**: 25% 1,073 (AM IND), 5% 196 (PACIF), 6% 276 (ASIAN), 1% 48 (BLACK), 63% 2745 (HISPA)
- **2006**: 23% 1,023 (AM IND), 5% 231 (PACIF), 6% 261 (ASIAN), 2% 93 (BLACK), 64% 2880 (HISPA)
- **2008**: 24% 1,120 (AM IND), 5% 243 (PACIF), 6% 291 (ASIAN), 5% 234 (BLACK), 60% 2884 (HISPA)
- **2010**: 25% 1,248 (AM IND), 6% 273 (PACIF), 6% 303 (ASIAN), 1% 33 (BLACK), 58% 2917 (HISPA)
- **2012**: 23% 1,224 (AM IND), 5% 266 (PACIF), 6% 323 (ASIAN), 2% 128 (BLACK), 1% 24 (NONRES), 4% 231 (2 OR MORE), 57% 3000 (HISPA)
- **2014**: 22% 1,187 (AM IND), 5% 271 (PACIF), 7% 363 (ASIAN), 5% 274 (BLACK), 1% 54 (NONRES), 6% 302 (2 OR MORE), 55% 3002 (HISPA)

Source: American Dental Association
FULL-TIME AND PART-TIME DENTAL SCHOOL FACULTY BY RACE AND ETHNICITY, 2013-14 ACADEMIC YEAR

- American Indian or Alaska Native: 15 Full-Time, 20 Part-Time
- Asian: 605 Full-Time, 594 Part-Time
- Black or African American: 242 Full-Time, 141 Part-Time
- Hispanic or Latino: 425 Full-Time, 322 Part-Time
- Native Hawaiian or Pacific Islander: 17 Full-Time, 20 Part-Time
- White: 3,113 Full-Time, 4,088 Part-Time
- Two or More Races: 20 Full-Time, 37 Part-Time
- Do Not Wish to Report or Unknown: 298 Full-Time, 436 Part-Time
- Nonresident Alien: 229 Full-Time, 89 Part-Time
- All Faculty: 4,964 Full-Time, 5,747 Part-Time

Source: American Dental Education Association, Survey of Dental School Faculty, 2013-14
DISTRIBUTION OF RACE AMONG PROFESSIONALLY ACTIVE DENTISTS, 2006

- White, 86.2%
- Hispanic, 3.4%
- Asian/Pacific Islander, 6.9%
- African American, 3.4%
- American Indian, 0.12%

Source: American Dental Association, 2006
## Professionally Active Dentists by Gender and Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>84%</td>
</tr>
<tr>
<td>Female</td>
<td>16%</td>
</tr>
<tr>
<td>Native American</td>
<td>0.1%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>7%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>3.5%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>3.5%</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>86%</td>
</tr>
</tbody>
</table>

- Women will comprise 30% of professionally active dentists by 2020
- Based on current dental school enrollment trends and growth of the population by race/ethnicity, the future dental workforce will remain unrepresentative of the population to be served

Source: American Dental Association, Bureau of Health Professions, HRSA
Why this matters…

The American Dental Association reports a lack of dental coverage is such a problem, every 15 seconds someone goes to a hospital emergency room complaining of mouth pain.

Rural communities (poorer and less likely to have dental insurance) face serious challenges to oral health.

60% of dental shortage areas are in non-metropolitan areas.

Research from the Health Resources and Services Administration indicates the number of dentists in every state does not meet the demand for care – a problem that is projected to increase over the next 10 years.

By 2025, the dentist deficit is projected to double despite new dental schools opening and dentists joining the workforce.
Dental Shortage Areas or “dental deserts” are often said to exist for two reasons:

1. supply of dentists and
2. location/patient preferences of graduating dental students.

If one believes there are shortages.
“There remains substantial disagreement regarding whether the primary problems lies with the profession or the population…”

Source: APHA, Examining Whether Dental Therapist Constitute a Disruptive Innovation in US Dentistry.
**SOLUTION #1: Increase The Number Of Dentists Who Will Treat The Underserved by diversifying dental schools: the **Dental Pipeline Program**

To reduce access to care disparities these 3 organizations created a program to work with dental schools to increase URMs in a national demonstration pilot. Characteristics:

1. Dental seniors spend an average of 60 days in community clinics/practices treating underserved.
2. Curriculum was developed to increase cultural competencies to prepare students to treat diverse/disadvantaged patients.
3. Set goal to increase URM students in the 15 dental pipeline schools.

After completion of the pipeline project, did efforts to enroll greater numbers of URMs persist? If not, that is not a “commitment” to greater diversity, that’s just a “thank you for the check.”
SOLUTION #2: **Expand the field** of providers who can treat the underserved -- dental therapists

**PROs**

- Despite increased dental graduates, by 2020 the ratio of dentists will be less than it was in 2010.
- Expand the dental healthcare field by adding dental therapists.
- Dental therapists have been used successfully outside U.S. and in Alaska and Minnesota.
- Akin to NPs and PAs in medicine.
- Will help address provider shortages and expand access to care.

**CONs**

- Shortage, Schmorgage. The problem is not provider shortage, it is **patient behavior**: the failure of individuals to seek care and to engage in healthful conduct.
- Even if there are shortages, DTs present quality of care concerns.
- Would create 2d-tier patients, second class care system for most vulnerable.
- **False assumptions.** DTs will not improve access to care, won’t fill the provider gap.
- Fixing Medicaid reimbursement rates will.
HOW MIGHT IMPLICIT BIASES GET IN THE WAY OF BOTH OF THESE PROPOSALS?

- Are efforts to build a better mousetrap (i.e., produce more “socially conscious” dental students) implicit bias proof?
- Is the debate about DTs, or is it about the people who will become the DTs?
ALL PEOPLE, INCLUDING DENTAL STUDENTS, ARE SUSCEPTIBLE TO HARMFUL IMPLICIT BIASES

- Pediatricians (Sabin et al., 2008)
  - Residents (Penner et al., 2010)
  - Medical doctors (Sabin et al., 2009)
- Primary care providers (Blair et al., 2013a)
- Primary care clinicians (Blair et al., 2013b; Cooper et al., 2012)
- Medical, pharmacy, and nursing students (White-Means et al., 2009)
WHY DIVERSITY?

- Can we just build a better mousetrap (i.e., produce more socially conscious graduates)?
- Research shows student origins matter.
- Data show that where students originate has a big impact on where they go to practice.
- Students from rural areas are 3 times more likely to practice in a rural area than their peers.
- Black patients are far more likely to receive their care from Black dentists (62%) than white dentists (10.5%)
Likelihood of Working in Underserved Areas

Definitely or Probably Yes

Probably or Definitely Not

Source: American Dental Education Association
PERCEPTIONS OF CARE

- Research shows that minority patients’ compliance and satisfaction with care are improved when they are treated by practitioners with the same cultural and linguistic backgrounds.

- Implicit bias can impact Black patients' perceptions of care. Higher levels of bias against Black people (higher IAT scores) correlated with...
  - Less Perceived Respect
  - Less favorable affinity toward clinician
  - Less confidence in clinician
  - Lower likelihood of recommending clinician to others

The greater the clinician’s implicit preferences for Whites were, the worse Black patients perceived the quality of care provided by that physician.

SOLUTIONS

Build the case for both proposals from “without” and “within” the dental academy by increasing allies (adding diversity).

- Understand Implicit Bias influences.
- Revamp admission process to make diversity a top priority.
- Give weight in admissions to students from dental shortage areas and URMs who pledge to serve underserved communities after graduation, and/or to take Medicaid patients.
- Set ambitious goal of $\frac{1}{2}$ of entering class will do that. Support with forgivable loans.
Questions?
Comments?
REAL-WORLD IMPLICATIONS:
IMPLICIT BIAS IN THE CLINICAL SETTING
MULTIDIRECTIONAL NATURE OF BIAS

Implicit biases are held by patients too:

“I would say that the number of times that people have questioned whether I’m actually the doctor – or the nurse, or the tech, or the this, or the that – just gets to be routine pretty much.”

- Anonymous Focus Group Participant
WHERE MIGHT BIAS OPERATE IN OUR DAY-TO-DAY TASKS?

- Decisions made with *incomplete* or *ambiguous* information. Perhaps no clear guidance is given, leaving the decision open to interpretation.

- Decisions made in moments of intense *time pressures*.

- Decisions made under *compromised cognitive load* (e.g. high stakes, high fatigue, or when distracted)

- Decisions made with *overconfidence in our own objectivity*. 
IMPLICIT BIAS IN A CLINICAL SETTING

The Manifestation of Bias

• When are we most susceptible to implicit biases?
• How does bias manifest in the clinical setting?
• How does the manifestation of bias impact patient perceptions?

Clinical Decision-Making

• The impact of implicit bias on clinical decision-making & patient outcomes.
Higher levels of implicit bias against a group have been associated with:

- Fewer Positive Gestures
- Less Smiling
- Less Visual Contact
- Fewer Impromptu Comments

THE VERBAL EMERGENCE OF BIAS

Verbal dominance: indicator of the level of participation of the clinician relative to the patient in the dialogue

The higher the physician’s bias is against the perceived racial identity of a patient, the more likely they are to be verbally dominant and less cooperative with the patient.

PERCEPTIONS OF CARE

- How do implicit & explicit racial/ethnic biases held by clinicians relate to patient perceptions of care?

- Patient telephone survey with 4 subscales (N = 2,908):
  - Interpersonal treatment
  - Communication
  - Trust
  - Contextual Knowledge

IMPLICIT BIAS IN A CLINICAL SETTING

The Manifestation of Bias

• When are we most susceptible to implicit biases?
• How does bias manifest in the clinical setting?
• How does the manifestation of bias impact patient perceptions?

Clinical Decision-Making

• The impact of implicit bias on clinical decision-making & patient outcomes.
IMPLICIT STEREOTYPING

Do stereotypes unconsciously influence the thinking and behavior of physicians?

“Our participants implicitly associated specific diseases with African Americans. This is important because (1) it occurred without the doctors realizing they were invoking stereotypes (or even that they were thinking about African Americans), suggesting that stereotypes influenced them in ways and at times they did not consciously intend, and (2) these implicit associations were apparent for both conditions associated with lifestyle choices [e.g. drug use, HIV, obesity] and diseases associated with genetic predisposition [e.g. hypertension, stroke].”

(Moskowitz, Stone, & Childs, 2012, p. 1000)
How does race influence thrombolysis treatment for coronary heart symptoms?

UNCONSCIOUS CONFIRMATION BIAS

“The tendency to look for what confirms our beliefs and to ignore what contradicts our beliefs while disregarding facts that contradict our point of view.” – Ross (2014)
Implicit biases may manifest in relation to any perceived identity.
• All moments of human decision-making are susceptible to the operation of implicit biases.

• Implicit associations that fail to align with reality may cause us to make decisions that are detrimental to our best interests, personally and/or organizationally.