The Lack of Diversity in the US Physician and Cardiology Workforce is a National Emergency

Quinn Capers, IV, MD, FACC

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Associate Dean for Admissions

Associate Professor of Medicine (Cardiovascular Medicine)

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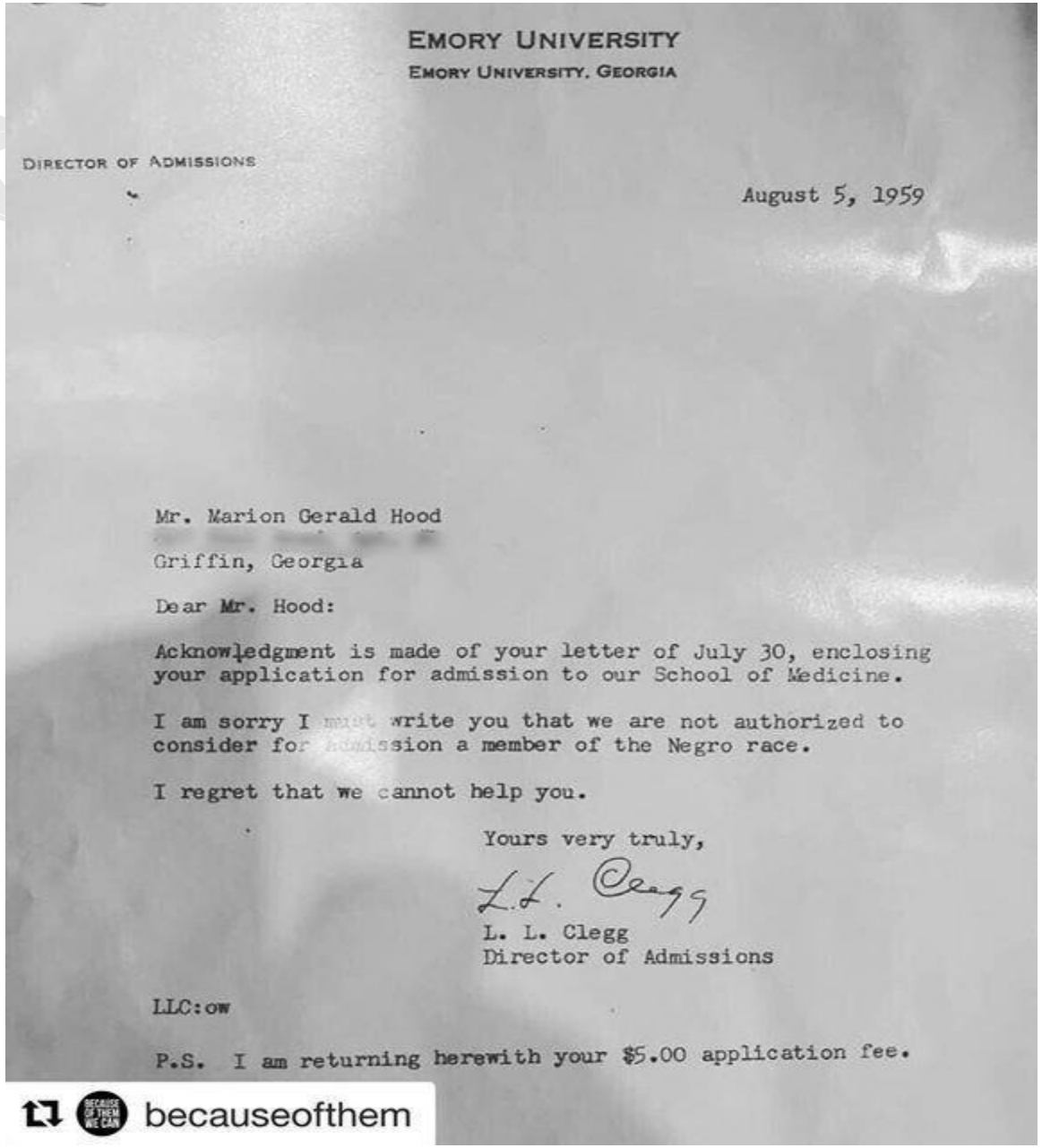
The Ohio State University

Wexner Medical Center



EMORY UNIVERSITY
EMORY UNIVERSITY, GEORGIA

DIRECTOR OF ADMISSIONS

August 5, 1959

Mr. Marion Gerald Hood
Griffin, Georgia

Dear Mr. Hood:

Acknowledgment is made of your letter of July 30, enclosing your application for admission to our School of Medicine.

I am sorry I must write you that we are not authorized to consider for admission a member of the Negro race.

I regret that we cannot help you.

Yours very truly,

L. L. Clegg
Director of Admissions

LLC:ow

P.S. I am returning herewith your $5.00 application fee.

becauseofthem

From Emory University, Aug 5, 1959

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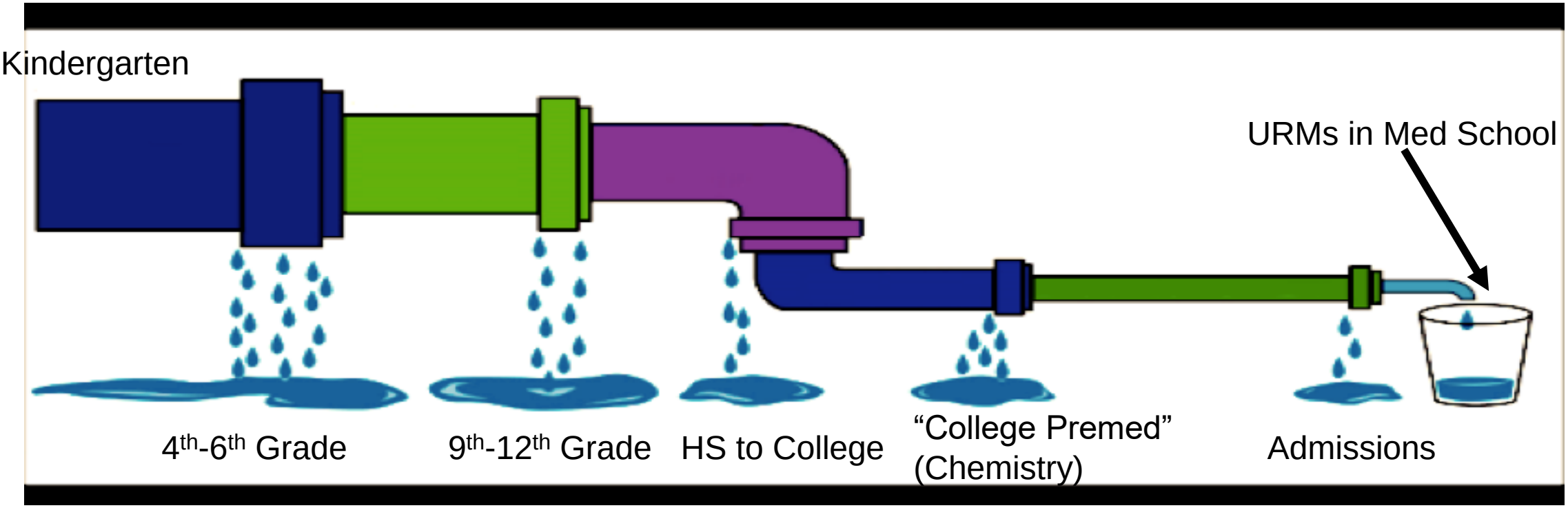
Underrepresented in Medicine Minorities:
Blacks, Hispanics,Native Americans, Native Alaskans/Pacific Islanders

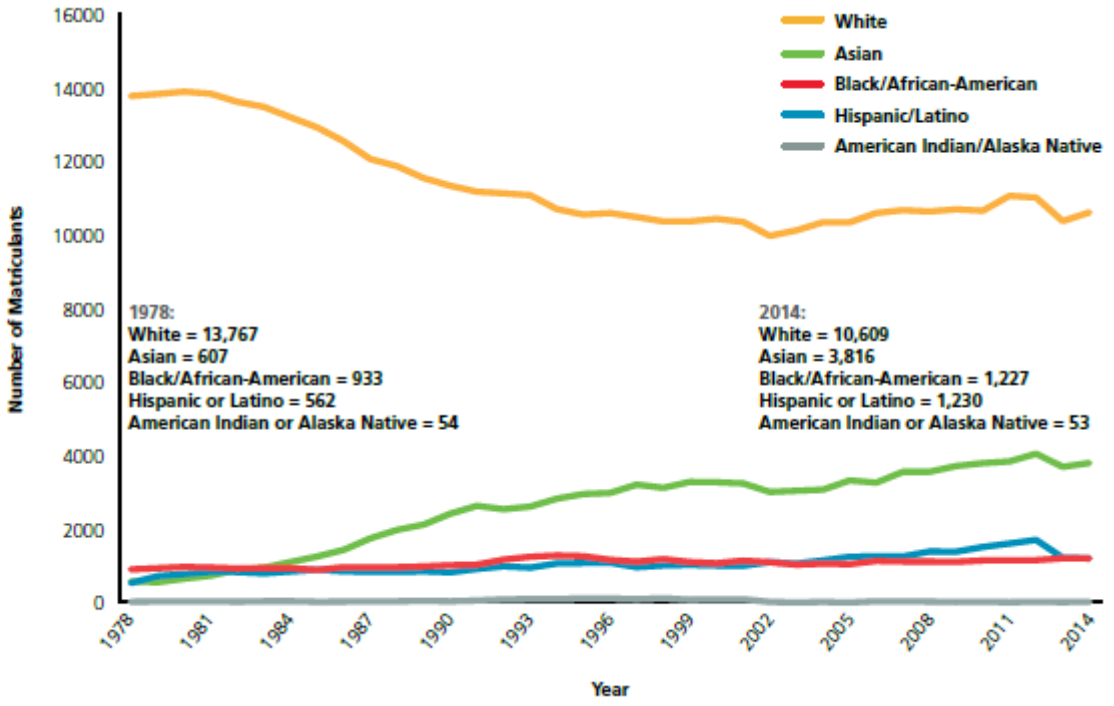
- Underrepresented in Medical Profession Compared to US Population
- What are the Consequences of this Underrepresentation?
- What are Potential Benefits of Increasing URMs in Medicine?
- What are the Barriers?/How to Overcome?

“Kindergarten-to-Med School Pipeline”
Underrepresented Minorities

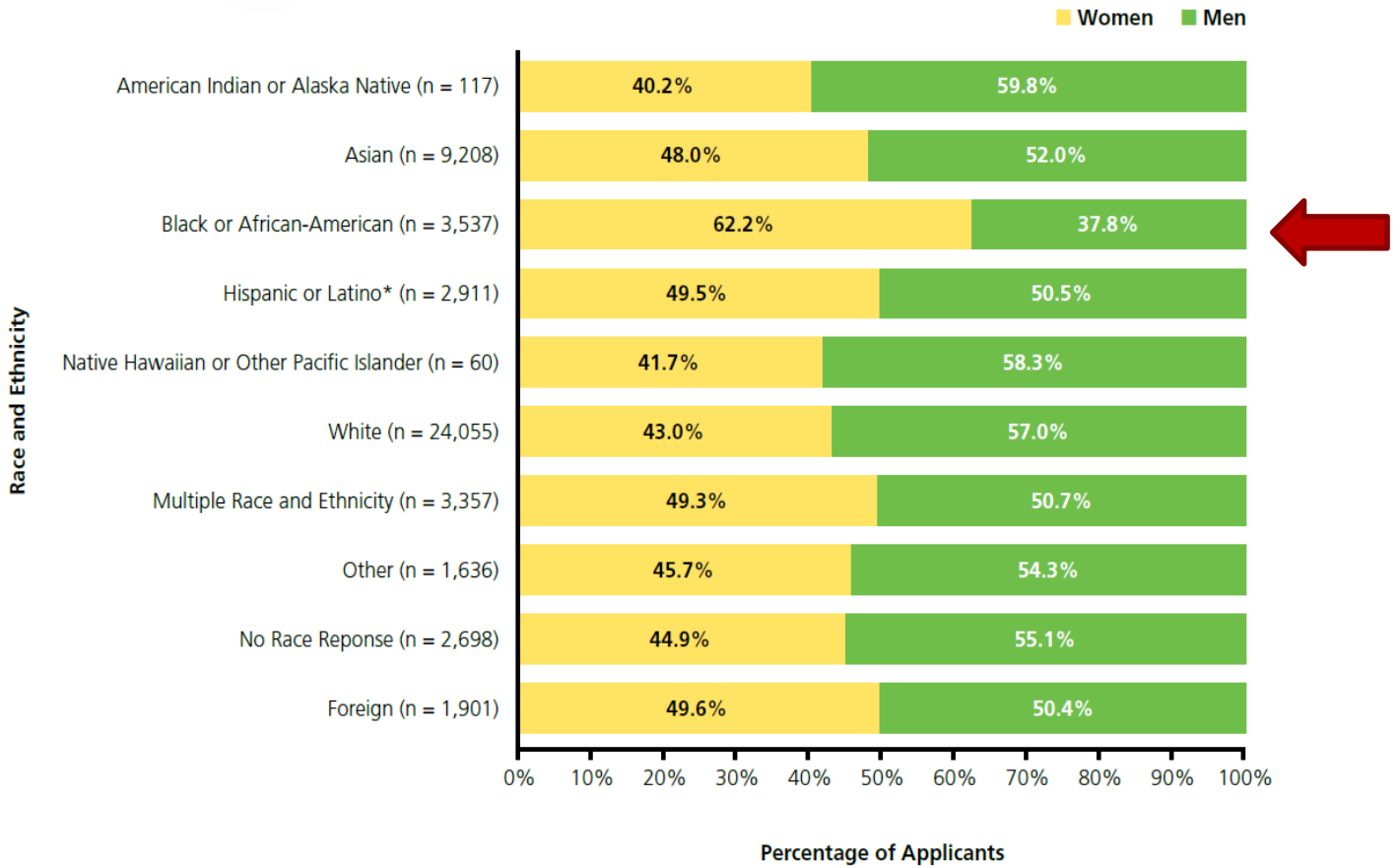


Matriculants

FIGURE 2. U.S. medical school matriculants by race and ethnicity, 1978–2014.

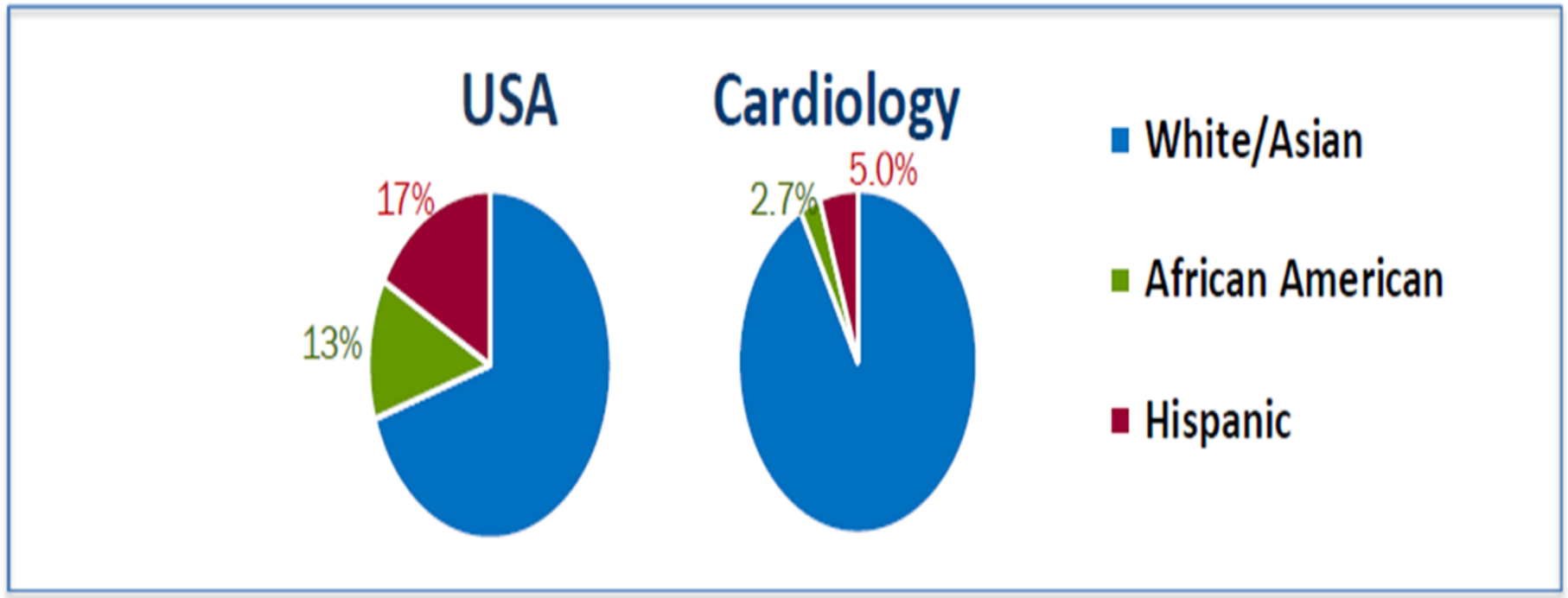


Women predominant applicant pool among Blacks



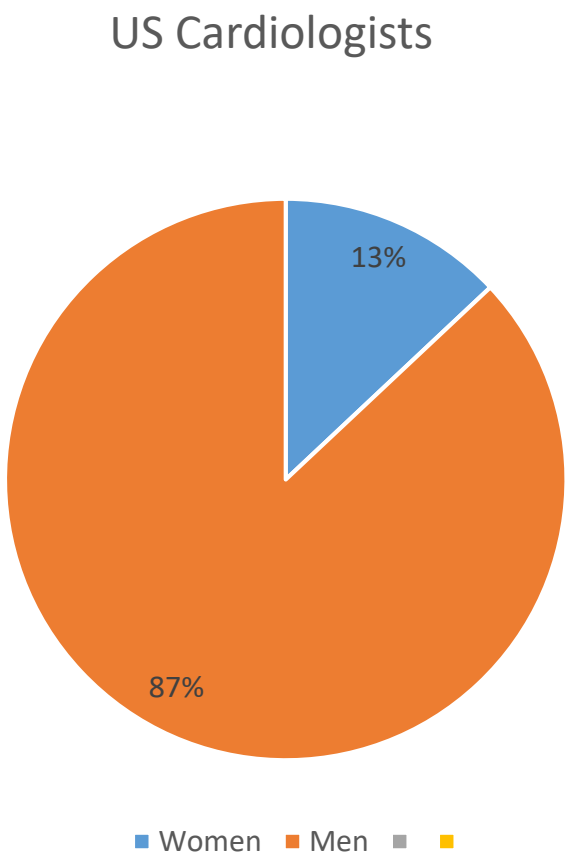
AAMC. *Altering the Course*. 2015

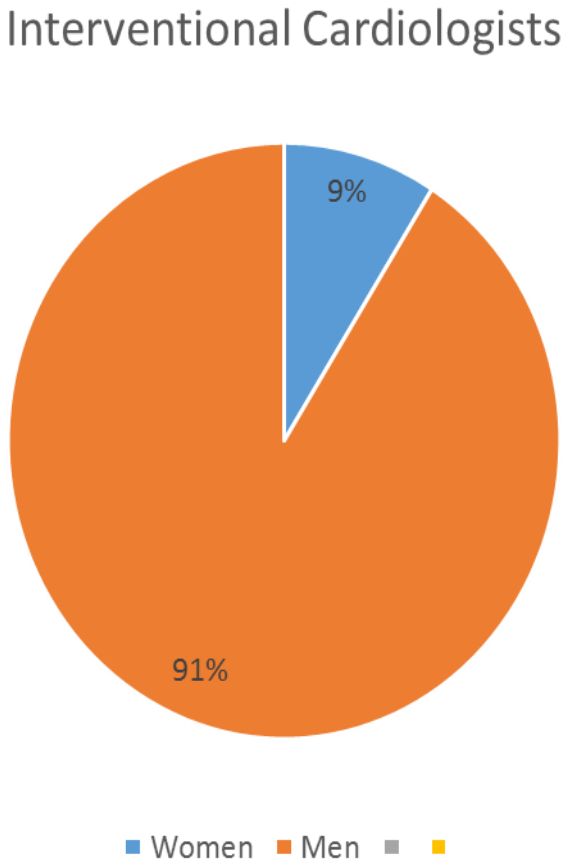
The Problem …

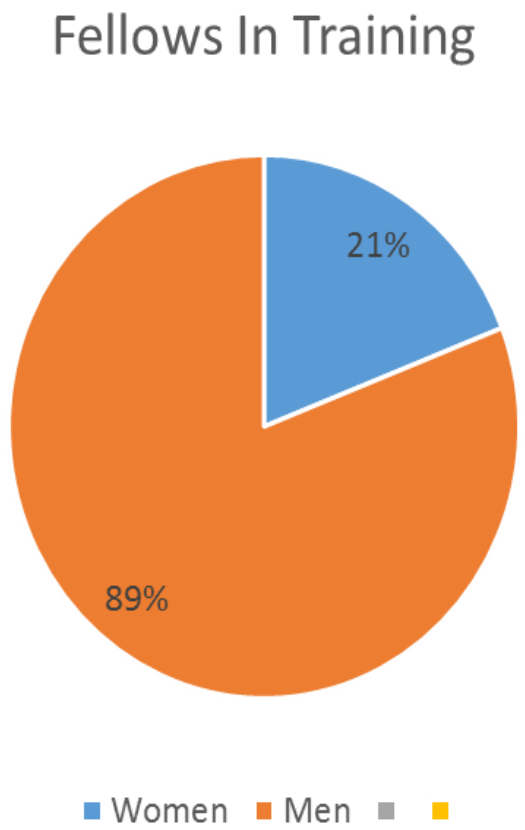


AAMC Diversity Facts and Figures 2014

Women in Cardiology







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European Journal of Heart Failure (2009) **11**, 299–303
doi:10.1093/eurjhf/hfn041

Influence of gender of physicians and patients on guideline-recommended treatment of chronic heart failure in a cross-sectional study

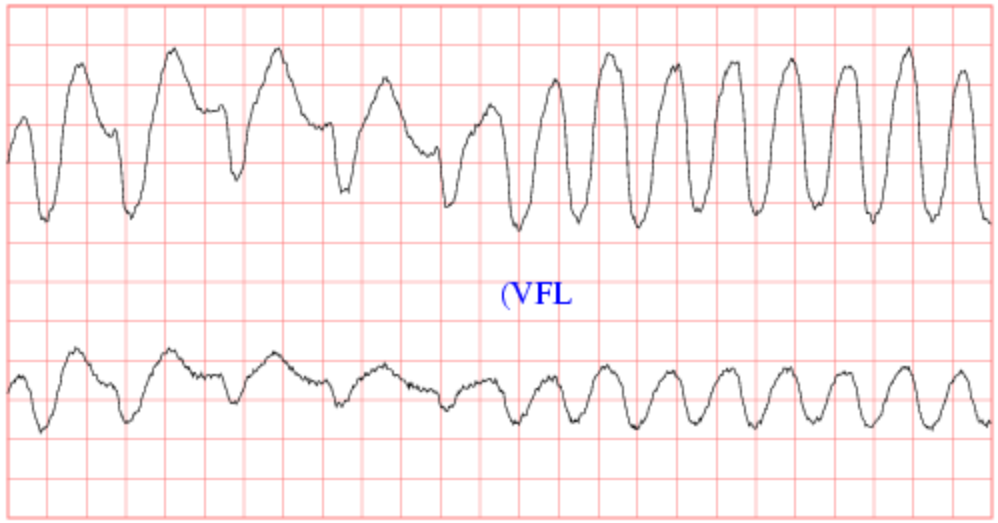
Magnus Baumhäkel[1]*, Ulrike Müller[2], and Michael Böhm[1]

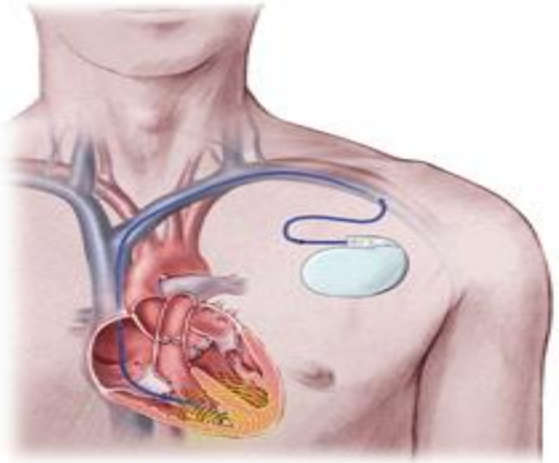
[1]Department of Cardiology, University Hospital of the Saarland, Kirrbergerstr. 1, 66421 Homburg/Saar, Germany; and [2]AWD Pharma GmbH & Co. KG, Wasastraße 50, 01445 Radebeul, Germany

Received 22 August 2008; revised 5 November 2008; accepted 9 December 2008; online publish-ahead-of-print 21 January 2009

- Guideline-recommended drug use and achieved target doses tended to be higher in pts treated by female physicians
- Male physicians used significantly less medication and lower doses in female pts
- There was no different treatment for male or female pts treated by female physicians

I. AICD therapy in pts at risk for SCD





AICD Therapy in Patients at Risk for Cardiac Arrest

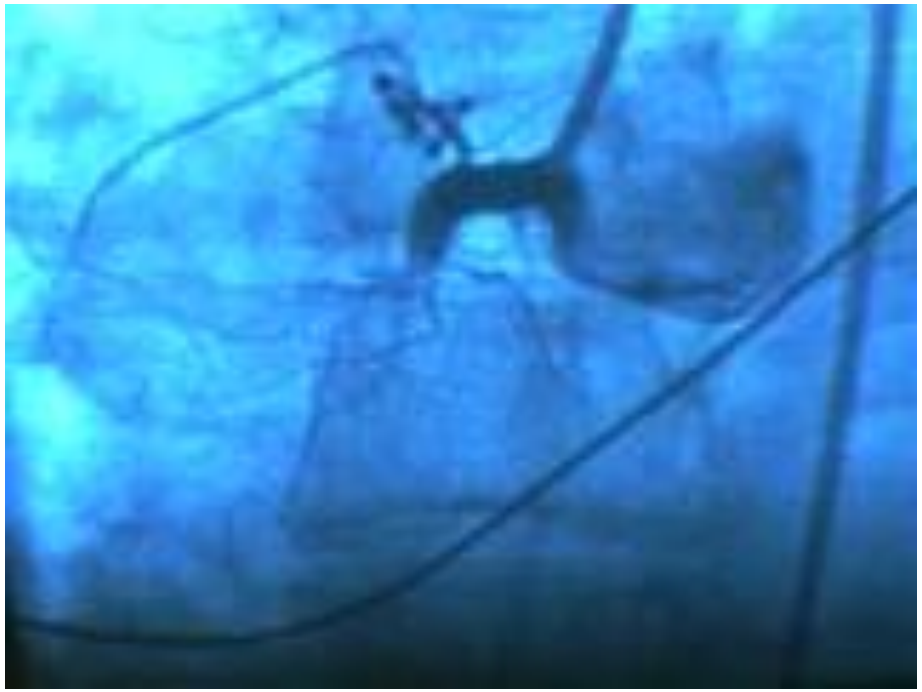
Am Heart J. 2007 Feb; 153(2): 320-7
50,000 VA pts at risk for cardiac arrest
OR for Blacks (vs Whites) to receive AICD: 0.54

JAMA 2007 Oct 3; 298 (13), 528-532
13,000 pts with severely weakened heart muscle
OR for BW (compared to WM) to receive AICD: 0.56

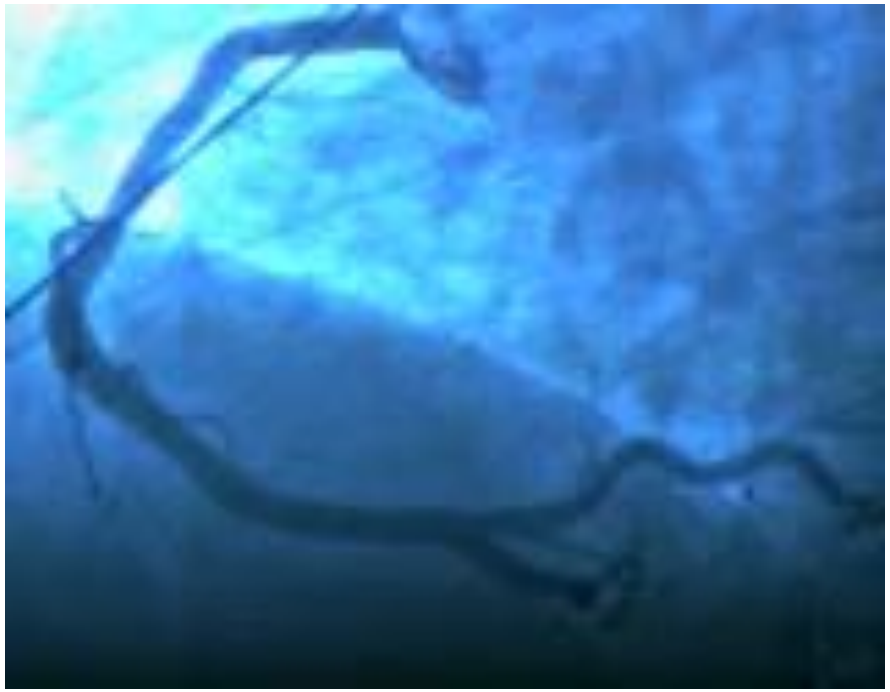
Circ 2016 Aug 16;134(7):517-26
21,000 pts with severely weakened heart muscle
Blacks and Hispanics less likely than Whites to get counseled re: ICD
Among pts counseled re: need for ICD, Black were less likely than Whites to ultimately receive ICD

II. Rapid Treatment of Blocked Heart Arteries in Heart Attack Victims

Before stent, artery closed, no blood flow to heart



After stent, artery open, blood flow to heart restored



The Effect of Race and Sex on Physicians' Recommendations for Cardiac Catheterization

"Men and whites were significantly more likely to be referred than women and blacks."

Kevin Schulman, MD, et. al, NEJM, February, 1999

Rapid Treatment of Heart Attacks

Am Heart J 2001;142: 604-10

10,469 Black patients with massive heart attacks from 1994 to 1998 (NRMI database)

53% received thrombolytic therapy

JAMA 1994 Apr 20;271 (15): 1175-80

33,641 pts in VAMCs with dx of AMI

Compared to Whites, Blacks:

33% less likely to undergo cath

42% less likely to undergo PCI

54% less likely to undergo CABG

Anstey et al.
Clin Cardiol. 2016 Oct;39(10):585-595

- 289,322 STEMI and NSTEMI patients at 464 hosp
- STEMI tx followed algorithms/NSTEMI tx did not
- Diagnostic cath rates:
  - STEMI: no racial difference
  - NSTEMI: Blacks < Whites
- Revascularization (PCI) rates:
  - Lower in Black patients with STEMI or NSTEMI

Temporal trends and predictors of time to coronary angiography following non-ST-elevation acute coronary syndrome in the USA

Muhammad Rashid[a,b], David L. Fischman[f], Sara C. Martinez[g], Quinn Capers IV[h], Michael Savage[f], Azfar Zaman[c], Nick Curzen[d], Joie Ensor[a], Jessica Potts[a], Mohamed O. Mohamed[a,b], Chun Shing Kwok[a,b], Tim Kinnaird[e], Rodrigo Bagur[a,i] and Mamas Mamas[a,b]

- National US Inpatient Sample, 4.3 million NTEMI/USA pts, 2004-2014
- 57% of pts received coronary angiography
- Endpoint: Early (within 24 hrs) vs Late (> 3d after admission) coronary angiography

Coronary Artery Disease 2019,

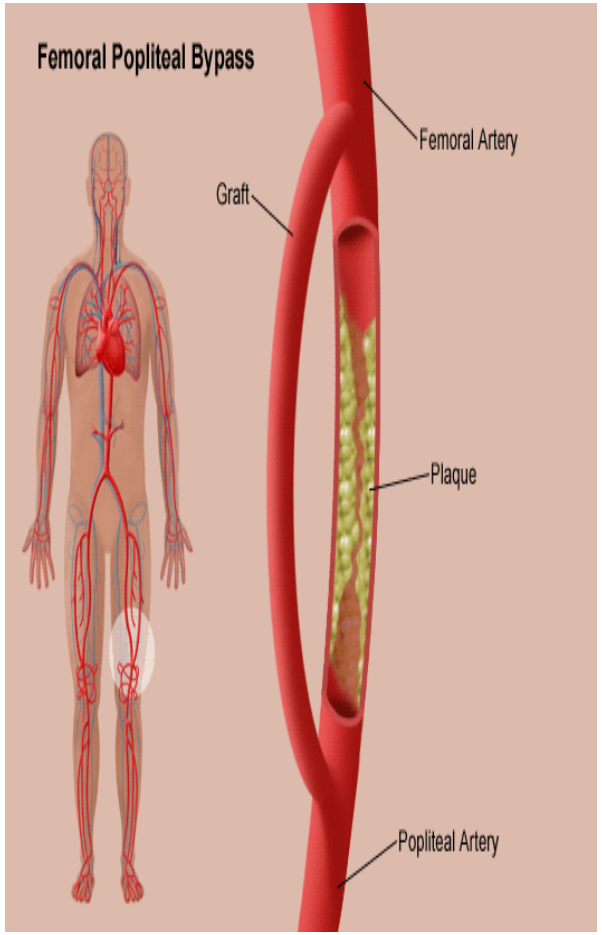
Temporal trends and predictors of time to coronary angiography following non-ST-elevation acute coronary syndrome in the USA

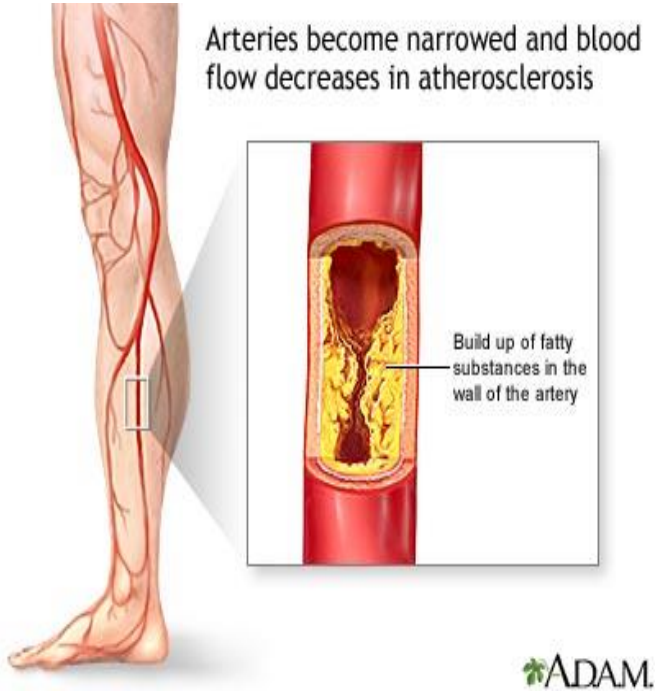
Findings:
Independent predictors of LATE vs EARLY coronary angiography:

- Female gender
- African American race
- Weekend admission
- Lack of Private Insurance

Coronary Artery Disease 2019

III. Restoring Blood Flow to Blocked Leg Arteries





Which would you prefer?

Treating Poor Circulation

- ***Arch Surg 1995 Apr; 130 (4): 381-6***
- **19,236 Medicare pts with LE ischemia**
- **African Americans compared to Whites:**
  - **More likely to undergo amputation**
  - **Less likely to undergo revascularization**

- ***J Vasc Surg 2007 Jan; 45 (1): 55-9***
- **691,833 pts with LE ischemia**
- **66% underwent revasc. or amputation**
- **Risk factors for amputation:**
  - **Black race (1.9x more likely than Whites)**
  - **Low income (1.4x more likely than high income)**

J. Racial and Ethnic Health Disparities (2014) 1:171–180
DOI 10.1007/s40615-014-0021-7

Racial Disparities in Cardiovascular Care: A Review of Culprits and Potential Solutions

Quinn Capers IV · Zarina Sharalaya

Received: 28 January 2014 / Revised: 25 March 2014 / Accepted: 30 April 2014 / Published online: 23 May 2014

J of Racial and Ethnic Health Disparities: 2014

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JAMA Internal Medicine | Original Investigation

Comparison of Hospital Mortality and Readmission Rates for Medicare Patients Treated by Male vs Female Physicians

Yusuke Tsugawa, MD, MPH, PhD; Anupam B. Jena, MD, PhD; Jose F. Figueroa, MD, MPH; E. John Orav, PhD; Daniel M. Blumenthal, MD, MBA; Ashish K. Jha, MD, MPH

CONCLUSIONS AND RELEVANCE Elderly hospitalized patients treated by female internists have lower mortality and readmissions compared with those cared for by male internists. These findings suggest that the differences in practice patterns between male and female physicians, as suggested in previous studies, may have important clinical implications for patient outcomes.

JAMA Intern Med. 2017;177(2):206-213. doi:10.1001/jamainternmed.2016.7875
Published online December 19, 2016.

Does Diversity Matter for Health? Experimental Evidence from Oakland*

Marcella Alsan† Owen Garrick‡ Grant Graziani§

September 2018

Abstract

We study the effect of diversity in the physician workforce on the demand for preventive care among African-American men. Black men have the lowest life expectancy of any major demographic group in the U.S., and much of the disadvantage is due to chronic diseases, which are amenable to primary and secondary prevention. In a field experiment in Oakland, California, we randomize black men to black or non-black male medical doctors and to incentives for one of the five offered preventives — the flu vaccine. We use a two-stage design, measuring decisions about cardiovascular screening and the flu vaccine before (ex ante) and after (ex post) meeting their assigned doctor. Black men select a similar number of preventives in the ex ante stage, but are much more likely to select every preventive service, particularly invasive services, once meeting with a doctor who is the same race. The effects are most pronounced for men who have little experience obtaining routine medical care and among those who mistrust the medical system. Subjects are more likely to talk with a black doctor about their health problems and black doctors are more likely to write additional notes about the subjects. The results are most consistent with better patient-doctor communication during the encounter rather than discrimination or measures of doctor quality and effort. Our findings suggest black doctors could help reduce cardiovascular mortality by 16 deaths per 100,000 per year — leading to a 19% reduction in the black-white male gap in cardiovascular mortality.

Alsan. Nat Bureau Econ Rsrch. 2016

- Patients: Black Males
- Physicians: White, Black, Asian Males
- Design: Patients first “met” MD by photo, then were asked which preventive care “procedures” they would have today (BMI measurement, BP measurement, Diabetes screening, Cholesterol screening)
- Patients then told that flu shots were “available” ($0, $5, or $10 incentive)

Alsan. Nat Bureau Econ Rsrch. 2016

- Next: Pts met assigned Drs (had already seen photo)

- Patients then made final selection about which tests they would like (they could change their minds after discussing with MD)

- Results:
  - Diabetes screening (finger stick): 63% with BM MD vs 43% with WM MD
  - Cholesterol screening (finger stick): 62% of BM MD vs 36% with WM MD
  - Flu shot: 56% with BM MD vs 46% of BM with WM MD

Alan. Nat Bureau Econ Rsrch. 2016

- The white and Asian Drs' notes were short and referred to med recs only:
  - "Weight loss."
  - "TB test."
  - "Anxiety."

- The black doctors often left more personal notes:
  - "Needs food, shelter, clothing, job."
  - "'Flu shot makes you sick,' but he got one anyway."
  - "Subject yelled at me, but then agreed to get flu shot because I recommended it."
  - "Made patient laugh."

Alsan. Nat Bureau Econ Rsrch. 2016

- Black men who saw white doctors wrote evaluation comments like:
  - “It was a great and ***fast*** experience, doctor was great as well.”
  - “very informative, very appreciated.” (comments described Dr’s competence)

- Black men who saw black doctors wrote evaluation comments like:
  - “The entire day made me feel very comfortable and relaxed”
  - “cool doctor” (comments that described an emotional response)

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Differences in Physicians' Verbal and Nonverbal Communication With Black and White Patients at the End of Life. Elliott. J Pain Symptom Manage. 2016

- 33 hospital-based physicians (White) completed two encounters with prognostically similar terminally ill black and white pts.
- Detailed content analysis of audio and video recordings. Verbal and nonverbal communication scores with the black patient vs white patient.
- Physicians' verbal communication scores did not differ by patient race
- Nonverbal communication scores did differ: they were significantly lower with the black patient than with the white patient

Differences in Physicians' Verbal and Nonverbal Communication With Black and White Patients at the End of Life. Elliott. J Pain Symptom Manage. 2016

- Nonverbal communication:
  - touch (for non-diagnostic purposes)
  - open body position
  - proximity
  - eye contact

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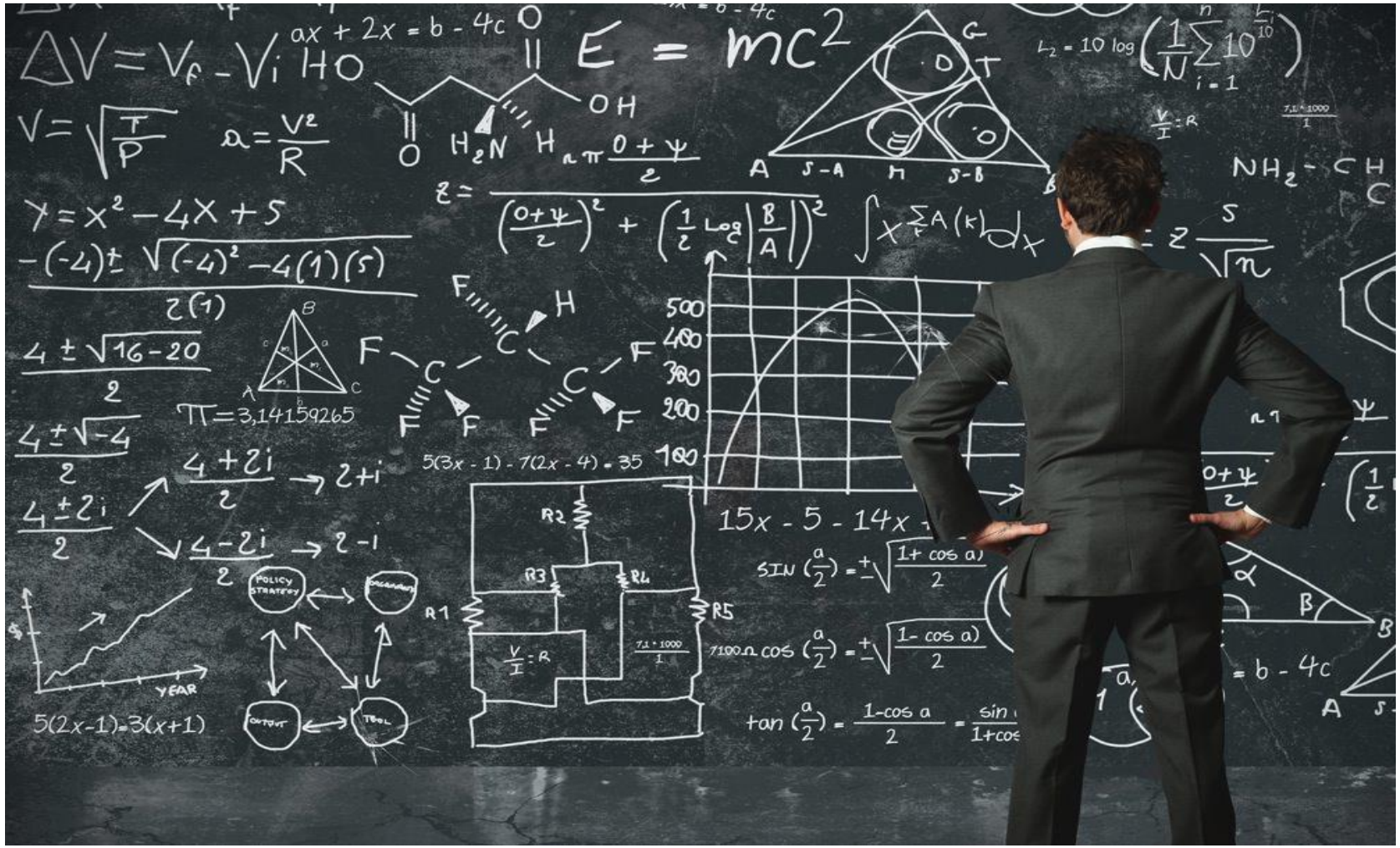
Solve the equation for diversity ...



The Culprits …

1. Supply Chain
    1. Low numbers from HS graduation thru Med School
    2. Lack of visible role models

2. Admissions Committees/Program Directors
    1. Indifferent to recruiting (PDs)
    2. Place little importance on diversity when ranking (PDs)
    3. Unconscious Bias?

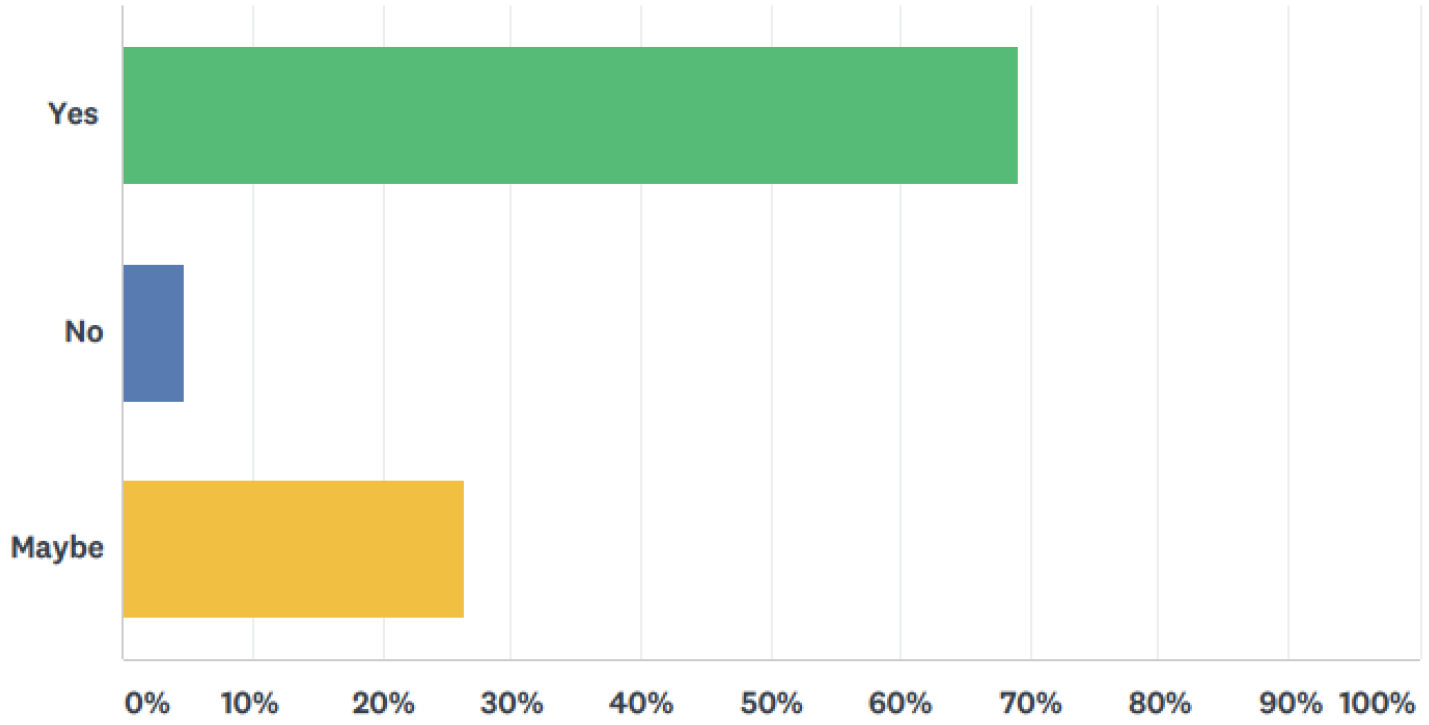
3. Culture in Academic Medicine
    1. Unconscious bias
    2. Inertia

2017 ACC Program Director' Survey

- 110 respondents
  - 55% Adult General Cardiology
  - 45% Adult Subspecialty Cardiology

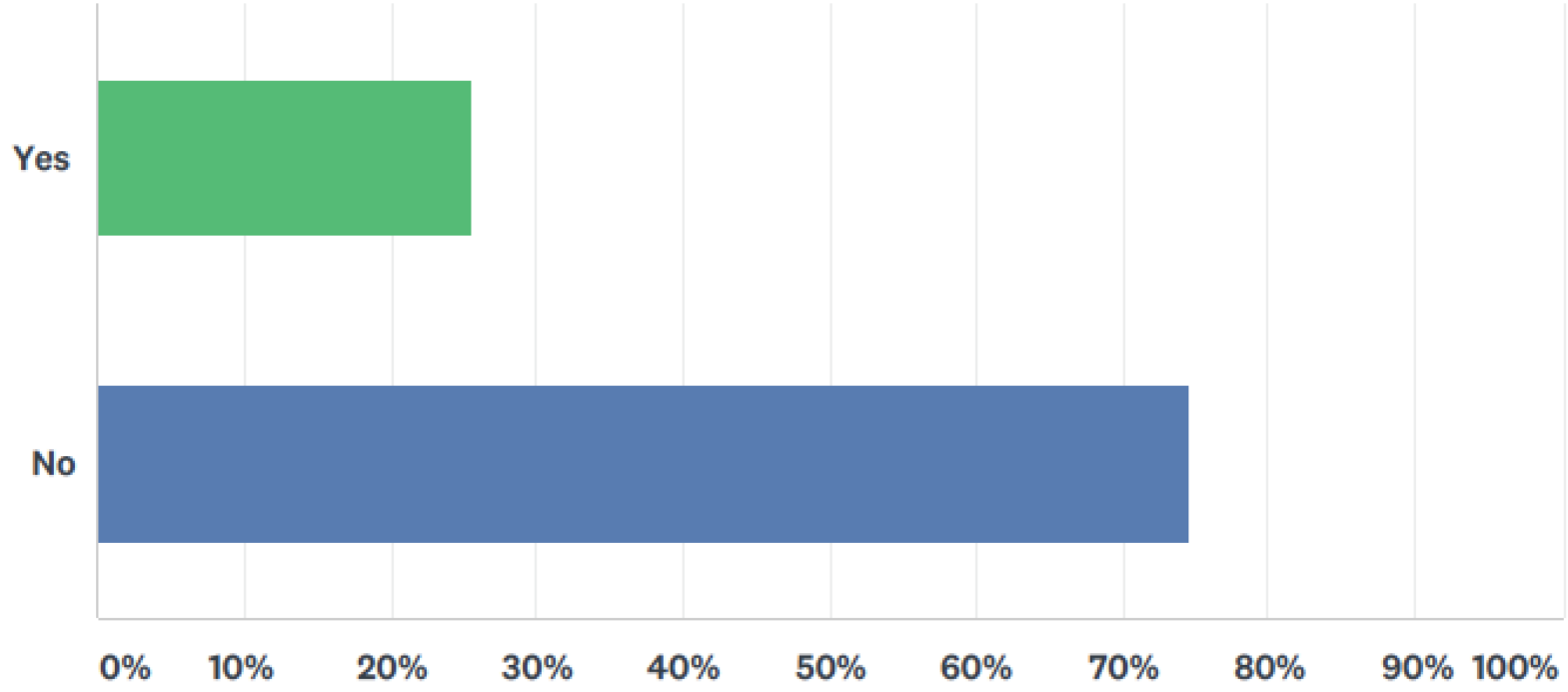
Q3 “Diversity is a driver of excellence in healthcare delivery, ” in other words, the more diversity represented amongst your health care providers, the better the care delivered to patients. Do you believe this statement is true?

Answered: 110 Skipped: 0



Q4 Can you quote 1-2 references that support this statement?

Answered: 110 Skipped: 0

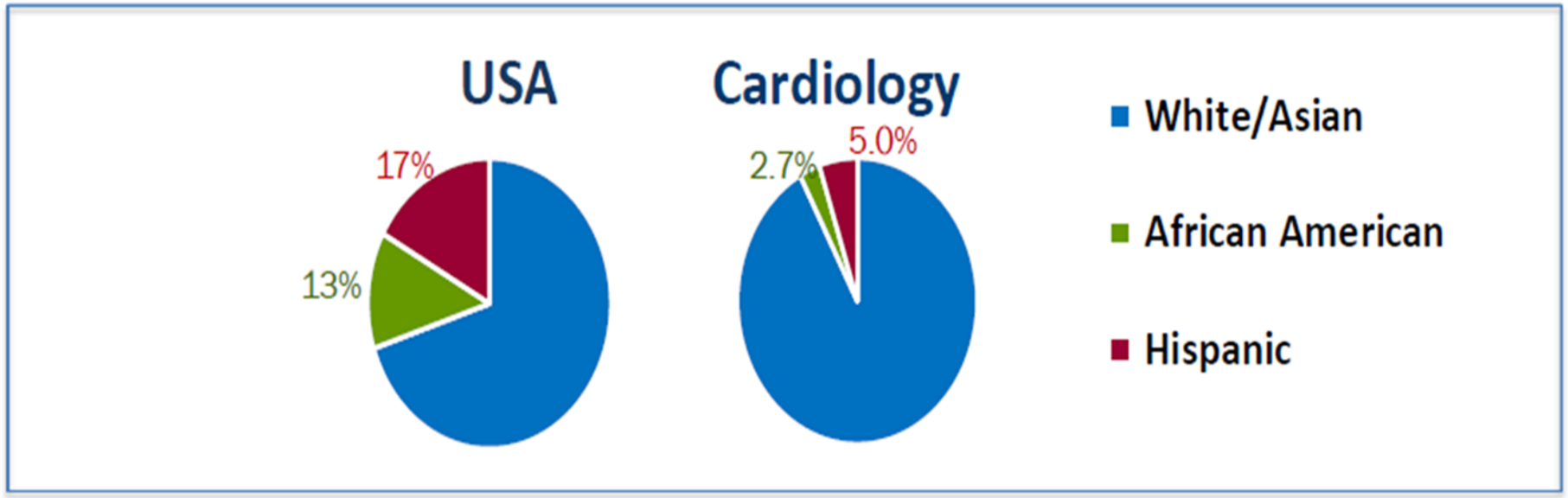


Q8 Which statement most accurately describes your position with respect to increasing diversity in your program?

1) 21%: We want to Increase Diversity in Our Program, But Don't Know How to Do it

2) 18%: We want to Increase Diversity in Our Program, and Have a Plan to Do it

3) 61%: Our Program is Diverse Already So Diversity Does not Need to be Increased



Top 3 Considerations When Making Your Rank List?

“Cigar smoke-filled backroom”

Top 3 Considerations When Making Your Rank List?

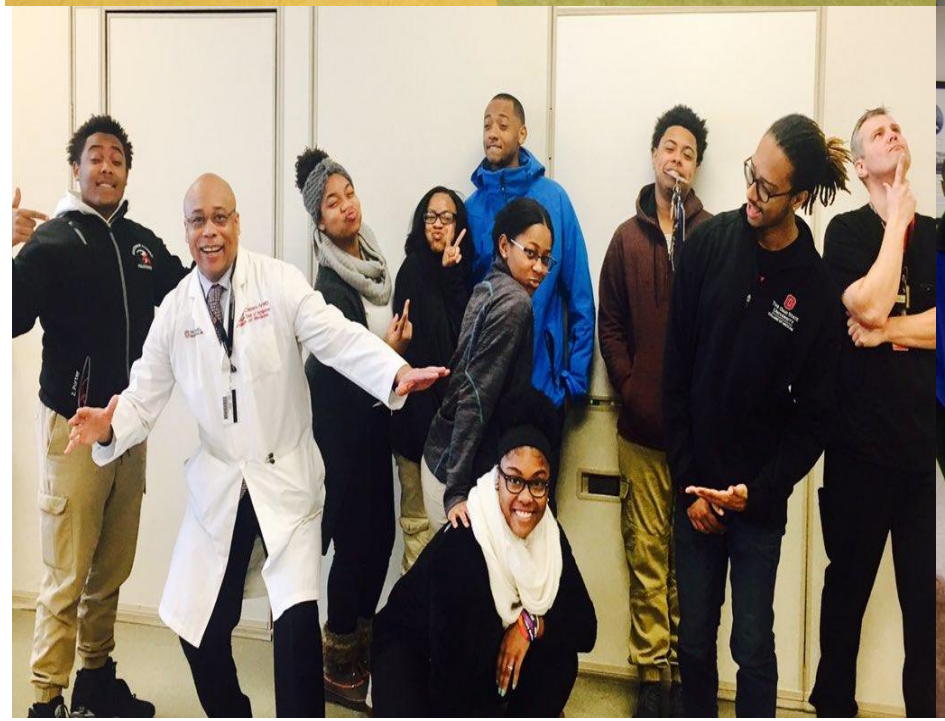
1. Clinical Skills/Acumen
2. Ability to Fit in Well/Team Player
3. Research Productivity
4. Strength of PD Letter
5. USMLE scores
6. Prestige of AMC
7. Communication Skills
8. Potential to be an Academic Leader
9. Humanitarian/Commitment to Society
10. Diversity/Ability to Enhance Cultural Competency of Program (6%)

The ABCs of Diversity Enhancement …

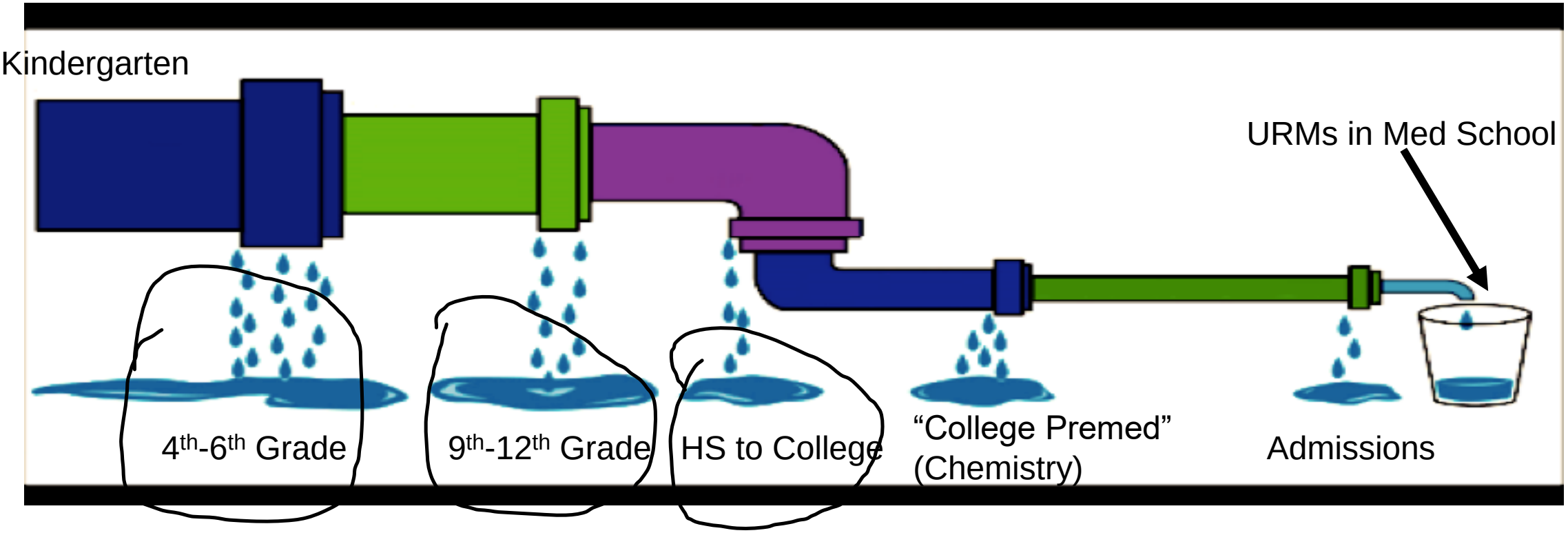
1. Reach Back (into the Deep Pipeline)
2. Mentor Premed and Medical Students
3. Be Visible! (In person and Social Media)
4. Encourage Mentees to Enter Academic Medicine
5. Confront Implicit Bias
6. Engage “Gate Keepers”
7. Make Diversity/Ability to Enhance Cultural Competence a Top Priority When Making Rank List
8. JUST DO IT!! (And write about it so others can follow)

Step 1: Reach Back


Warriors



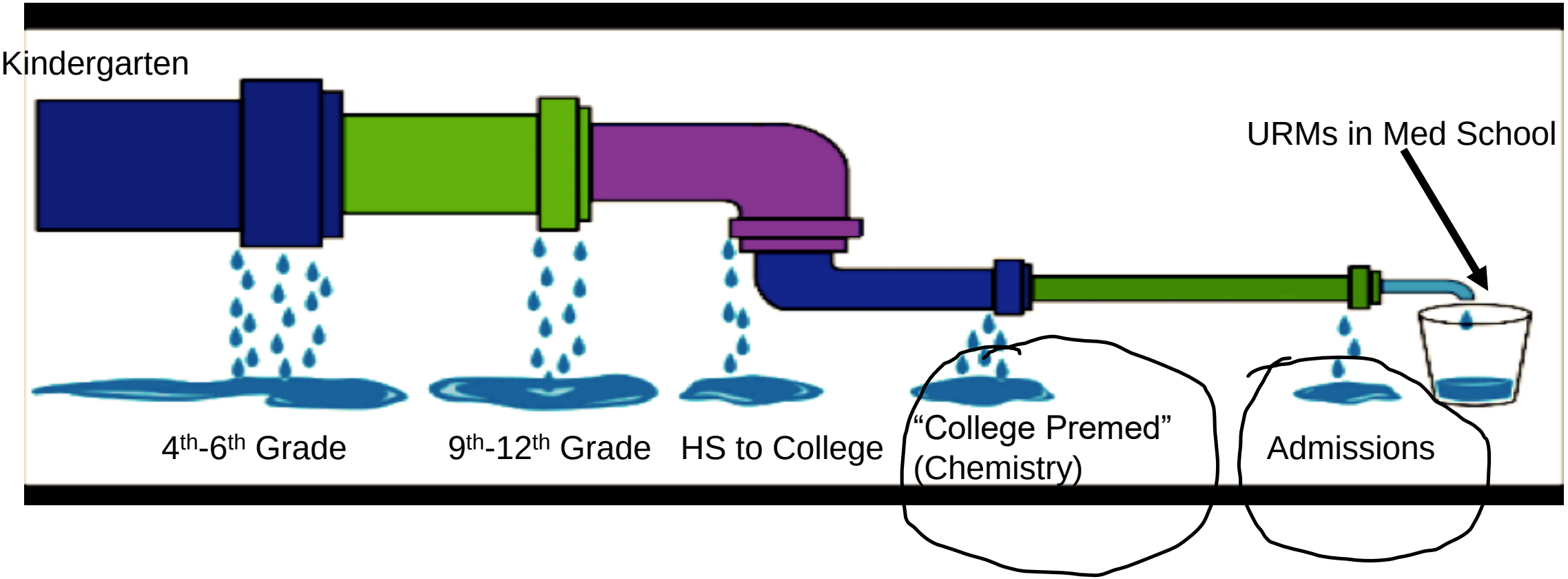
“Kindergarten-to-Med School Pipeline”
Underrepresented Minorities



Step 2: Mentor Premed and Medical Students


ADMISSIONS AND STUDENT RECORDS
EXIT

“Kindergarten-to-Med School Pipeline”
Underrepresented Minorities



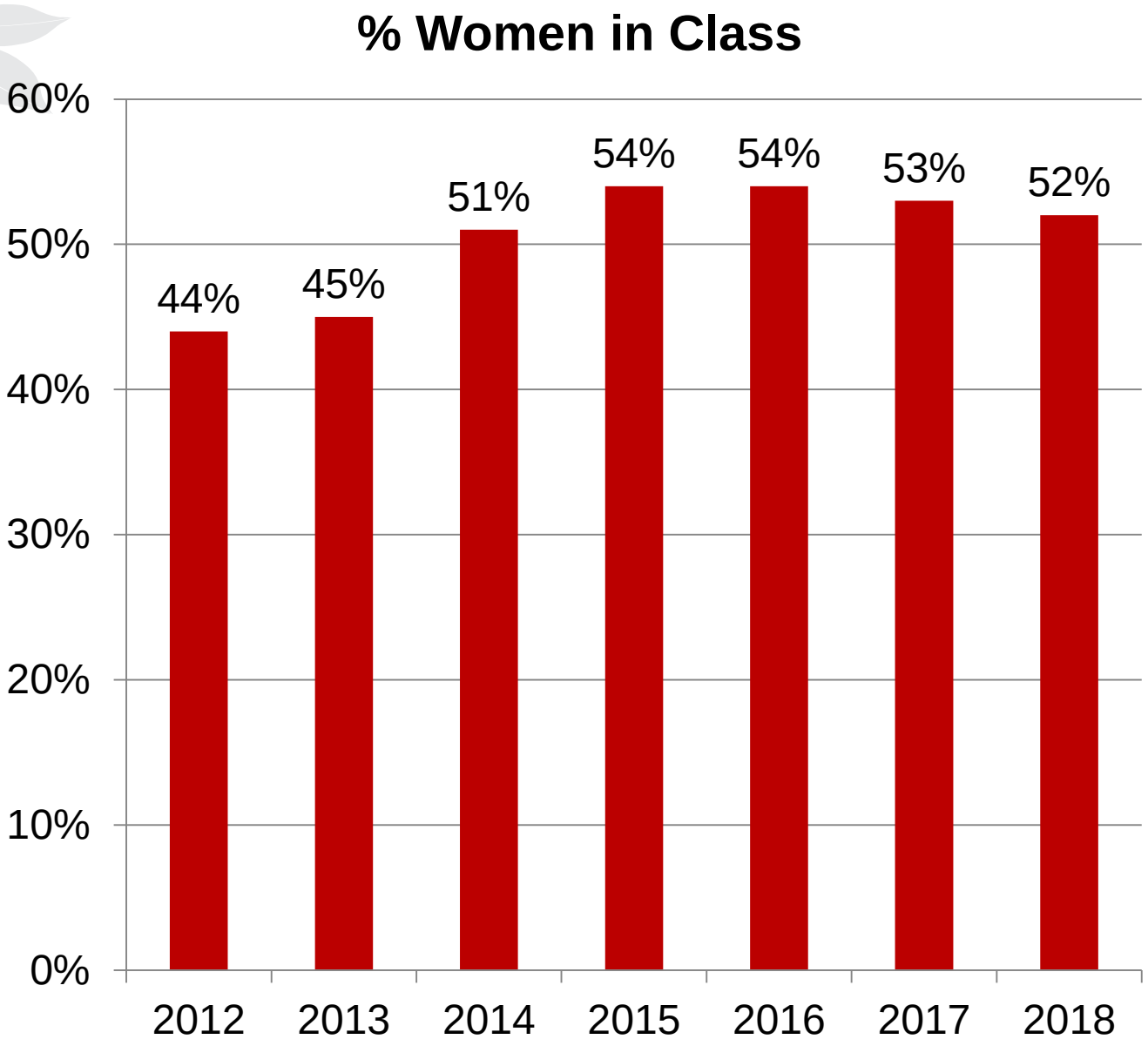

Habib T Kadir

Step 3: Be Visible (In person/social media/etc)

Twitter Campaign to Inspire and Encourage


ECPR
Please
remember
To Waste or
return
All narcotics
HALYARD

6 Year Data on % Women **Matriculants** at OSUCOM



“Take a Woman to the Cath Lab”

Step 4: Encourage Mentees to Go into Academic Medicine

Blacks and African-Americans

Represent 2% of male full-time faculty at MD-granting institutions

Diversity in the physician workforce: facts & figures. Washington, DC: Association of American Medical Colleges, 2014.
Image from *AAMC Altering the Course*, 2015.

Cardiologists of The Ohio State University Medical Center

Step 5: Confront Implicit Bias

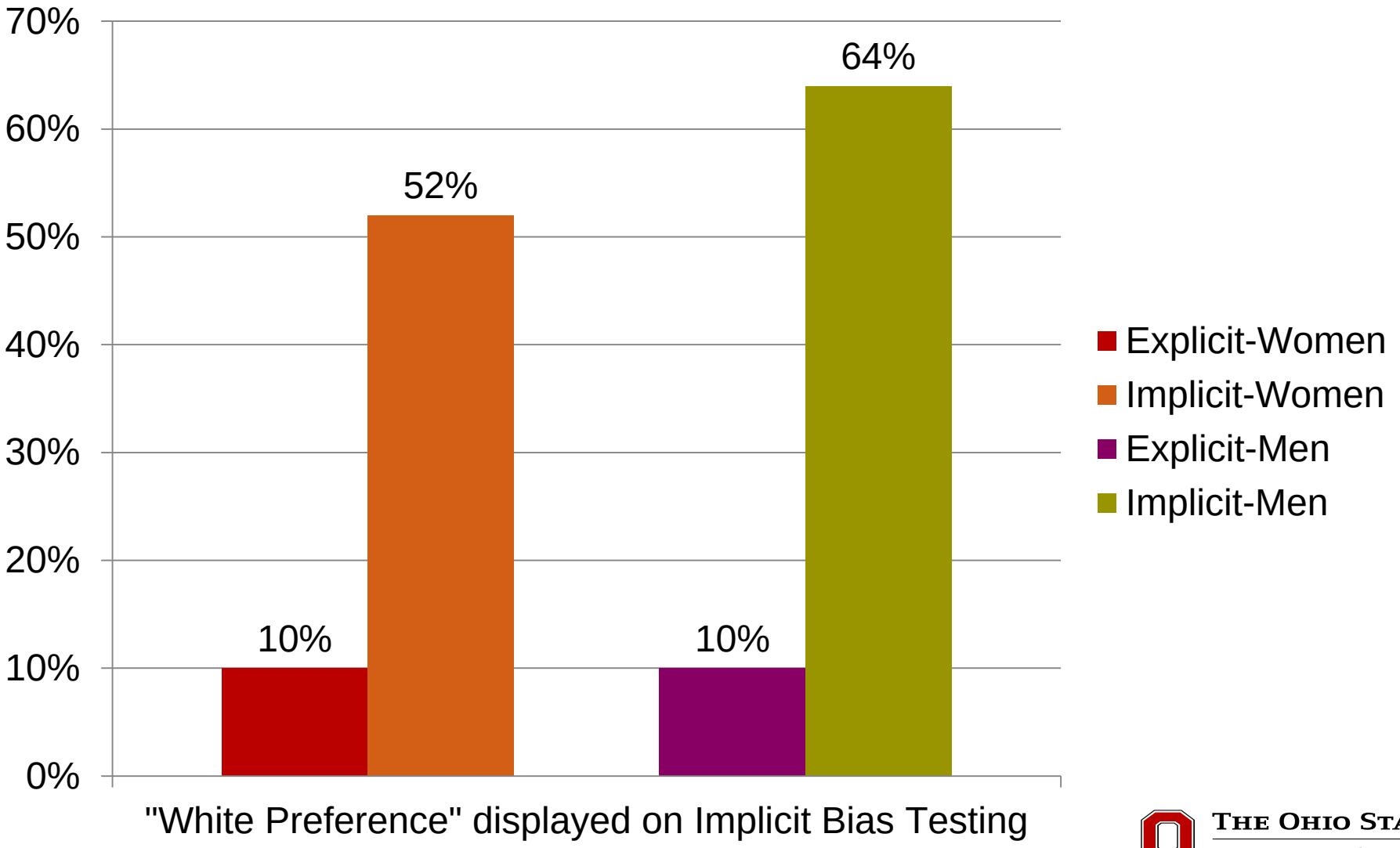
Black-White IAT

- First question (explicit preference):

- "What best describes you?
  1. I prefer White Americans to Black Americans
  2. I like White Americans and Black Americans equally
  3. I prefer Black Americans to White Americans"

Then the IAT begins to test implicit bias

Implicit Bias Testing: White Preference
OSU COM Admissions Committee 2012



Implicit Bias in Medical School Admissions

Conscious Mind:

"I will Review Objective Measures"

Experiences
References
Personal Essay
Academic Record

Implicit Bias in Medical School Admissions

Unconscious Mind:

Black Face =

Danger
Fear
Violence

Implicit Racial Bias in Medical School Admissions

Quinn Capers IV, MD, Daniel Clinchot, MD, Leon McDougle, MD,
and Anthony G. Greenwald, PhD

Abstract

Problem
Implicit white race preference has been associated with discrimination in the education, criminal justice, and health care systems and could impede the entry of African Americans into the medical profession, where they and other minorities remain underrepresented. Little is known about implicit racial bias in medical school admissions committees.

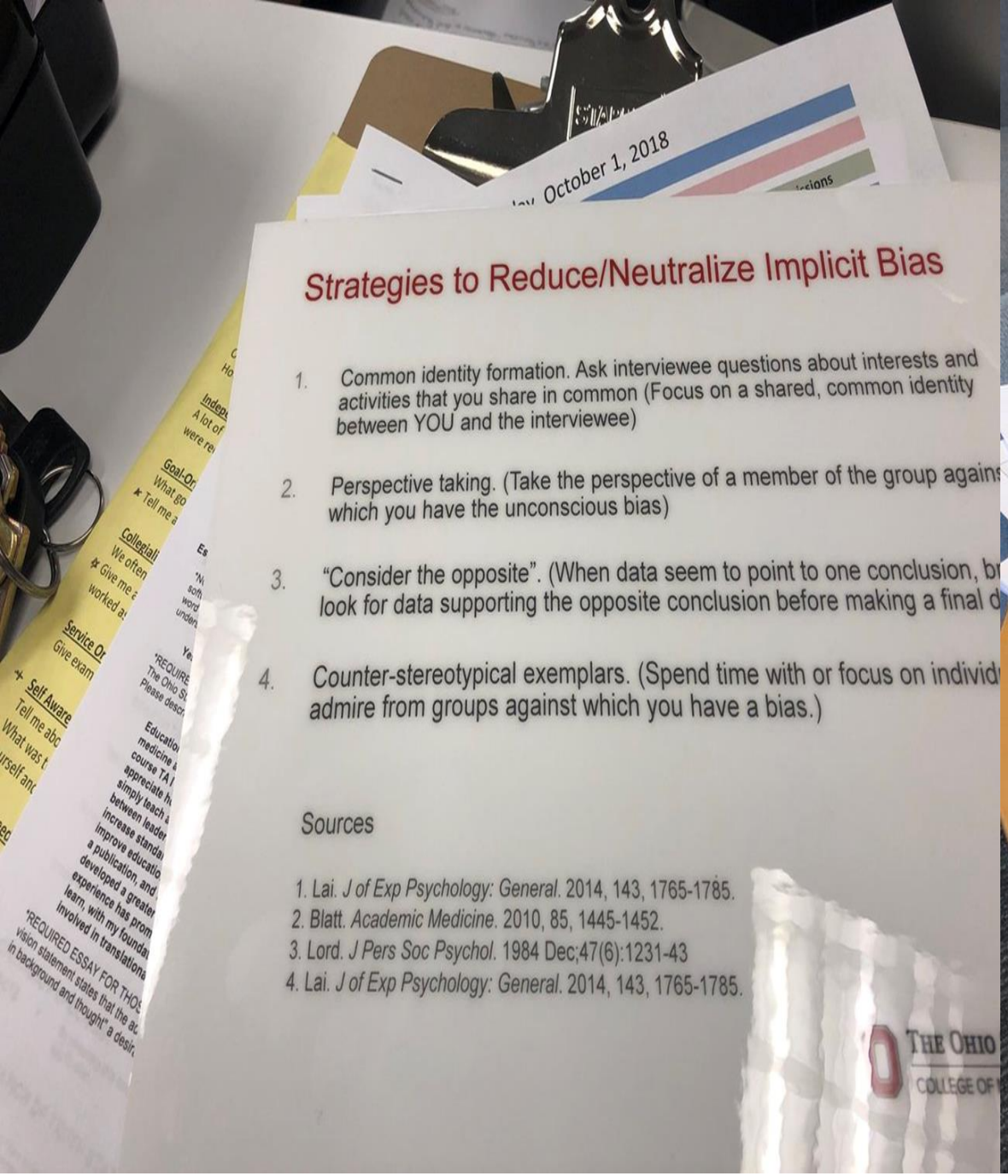
Approach
To measure implicit racial bias, all 140 members of the Ohio State University College of Medicine (OSUCOM) admissions committee took the black–white implicit association test (IAT) prior to the 2012–2013 cycle. Results were collated by gender and student versus faculty status. To record their impressions of the impact of the IAT on the admissions process, members took a survey at the end of the cycle, which 100 (71%) completed.

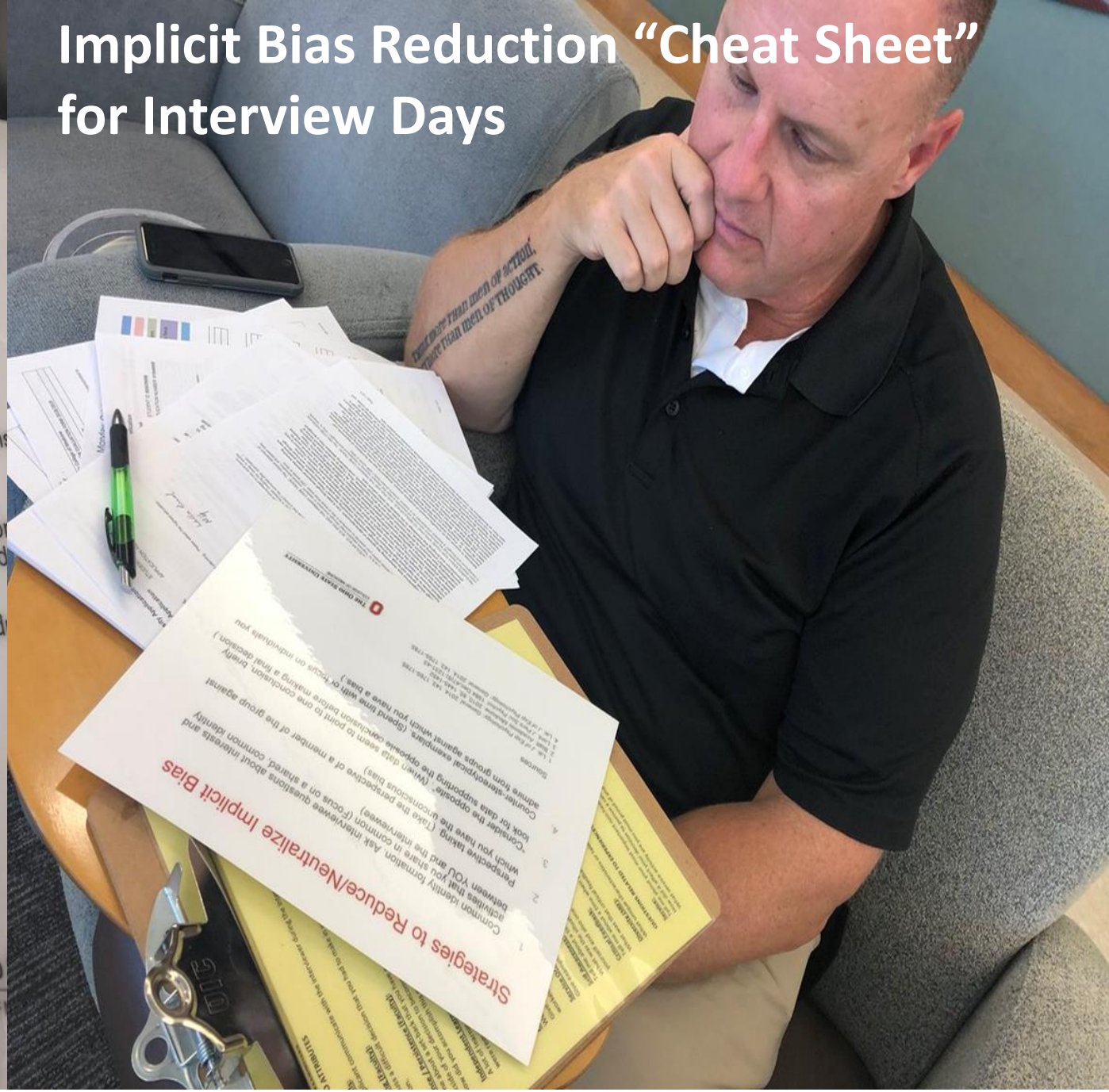
Outcomes
All groups (men, women, students, faculty) displayed significant levels of implicit white preference; men ($d = 0.697$) and faculty ($d = 0.820$) had the largest bias measures ($P < .001$). Most survey respondents (67%) thought the IAT might be helpful in reducing bias, 48% were conscious of their individual results when interviewing candidates in the next cycle, and 21% reported knowledge of their IAT results impacted their admissions decisions in the subsequent cycle. The class that matriculated following the IAT exercise was the most diverse in OSUCOM's history at that time.

Next Steps
Future directions include preceding and following the IAT with more robust reflection and education on unconscious bias. The authors join others in calling for an examination of bias at all levels of academic medicine.

Academic Medicine. March 2017

Implicit Bias Reduction "Cheat Sheet" for Interview Days





Step 6: Engage the “Gatekeepers”

Annual Implicit Bias Training of Faculty Screeners and Admissions Committee

Step 7: Make Diversity Enhancement (Ability to Enhance Diversity or Cultural Competence) A Top Priority when Making Rank List

ACGME Requirement for Diversity/Inclusion in Training Programs

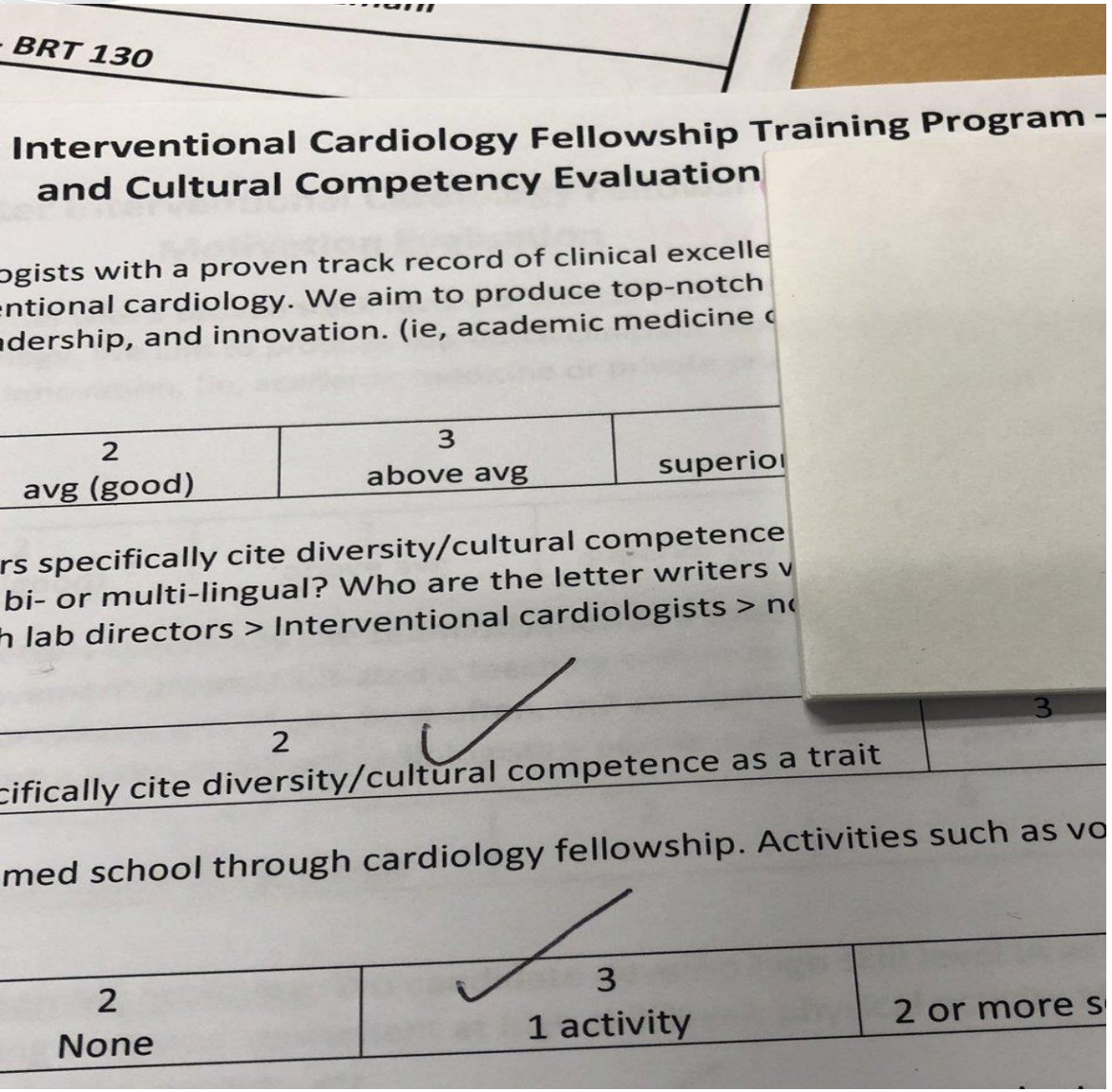
"Coming Soon … To a Program Near You"

I.C. The program, in partnership with its Sponsoring Institution, must engage in practices that focus on mission-driven, ongoing, **systematic recruitment and retention of a diverse and inclusive workforce of residents, fellows** …

The program's annual evaluation must include an assessment of the program's efforts to recruit and retain a diverse workforce, as noted in V.C.1.c).(5).(c).

ACGME Common Program Requirements 2019 Update
(https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRResidency2019.pdf)

Make "Ability to Enhance Diversity/Cultural Competency of Program" ***A Top Priority*** When Ranking GME Candidates



BRT 130

Interventional Cardiology Fellowship Training Program –
and Cultural Competency Evaluation

ogists with a proven track record of clinical excelle
ntional cardiology. We aim to produce top-notch
adership, and innovation. (ie, academic medicine c

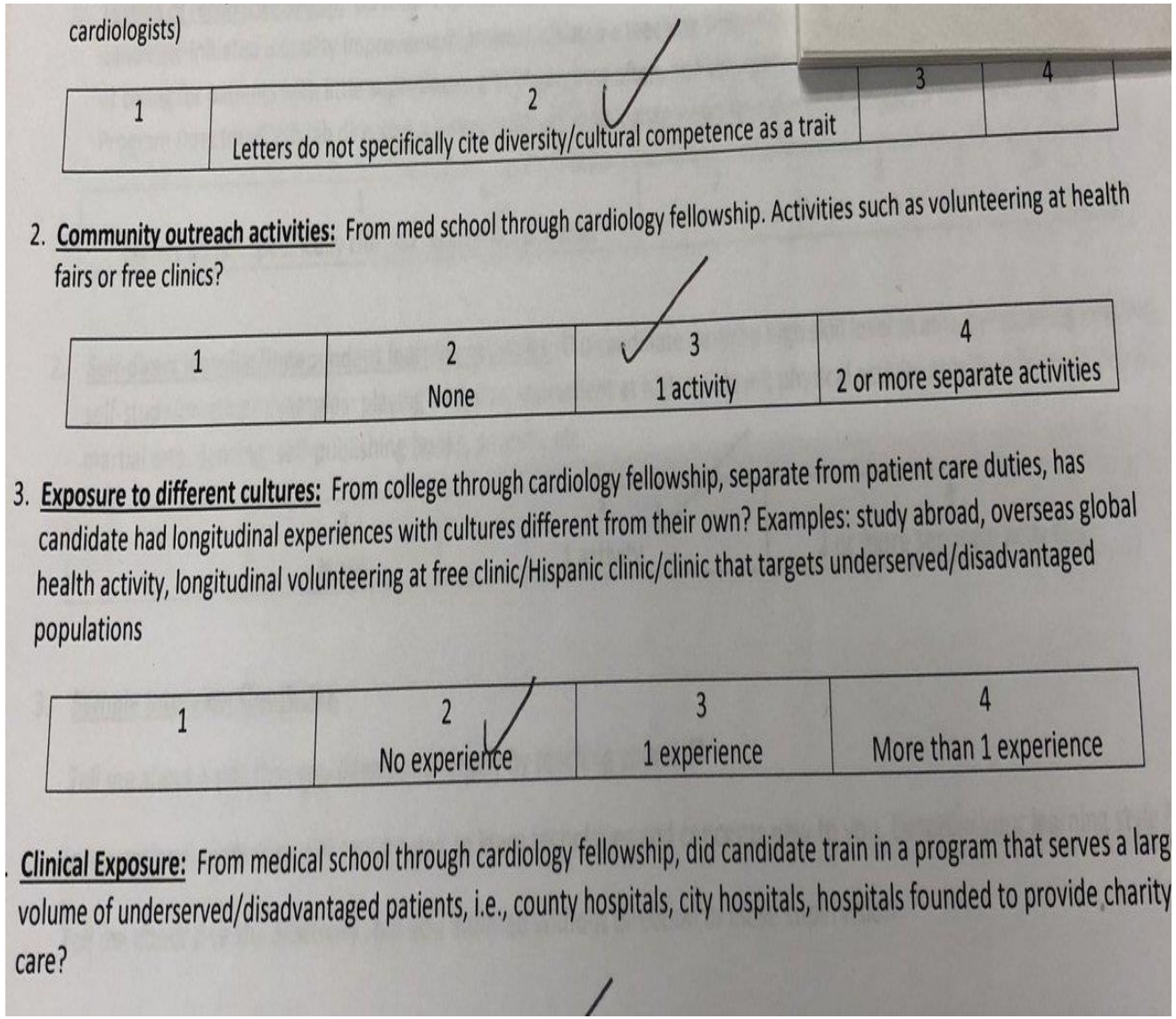
2	3	superio
avg (good)	above avg	

rs specifically cite diversity/cultural competence
bi- or multi-lingual? Who are the letter writers v
h lab directors > Interventional cardiologists > n

2	3
cifically cite diversity/cultural competence as a trait	

med school through cardiology fellowship. Activities such as vo

2	3	2 or more s
None	1 activity	



cardiologists)

1	2	3	4
	Letters do not specifically cite diversity/cultural competence as a trait		

2. **Community outreach activities:** From med school through cardiology fellowship. Activities such as volunteering at health fairs or free clinics?

1	2	3	4
	None	1 activity	2 or more separate activities

3. **Exposure to different cultures:** From college through cardiology fellowship, separate from patient care duties, has candidate had longitudinal experiences with cultures different from their own? Examples: study abroad, overseas global health activity, longitudinal volunteering at free clinic/Hispanic clinic/clinic that targets underserved/disadvantaged populations

1	2	3	4
	No experience	1 experience	More than 1 experience

Clinical Exposure: From medical school through cardiology fellowship, did candidate train in a program that serves a larg volume of underserved/disadvantaged patients, i.e., county hospitals, city hospitals, hospitals founded to provide charity care?

Step 8: “Just Do It” (And Write About It!)

Strategies for Achieving Diversity through Medical School Admissions

Quinn Capers, IV, MD
Leon McDougle, MD
Daniel M. Clinchot, MD

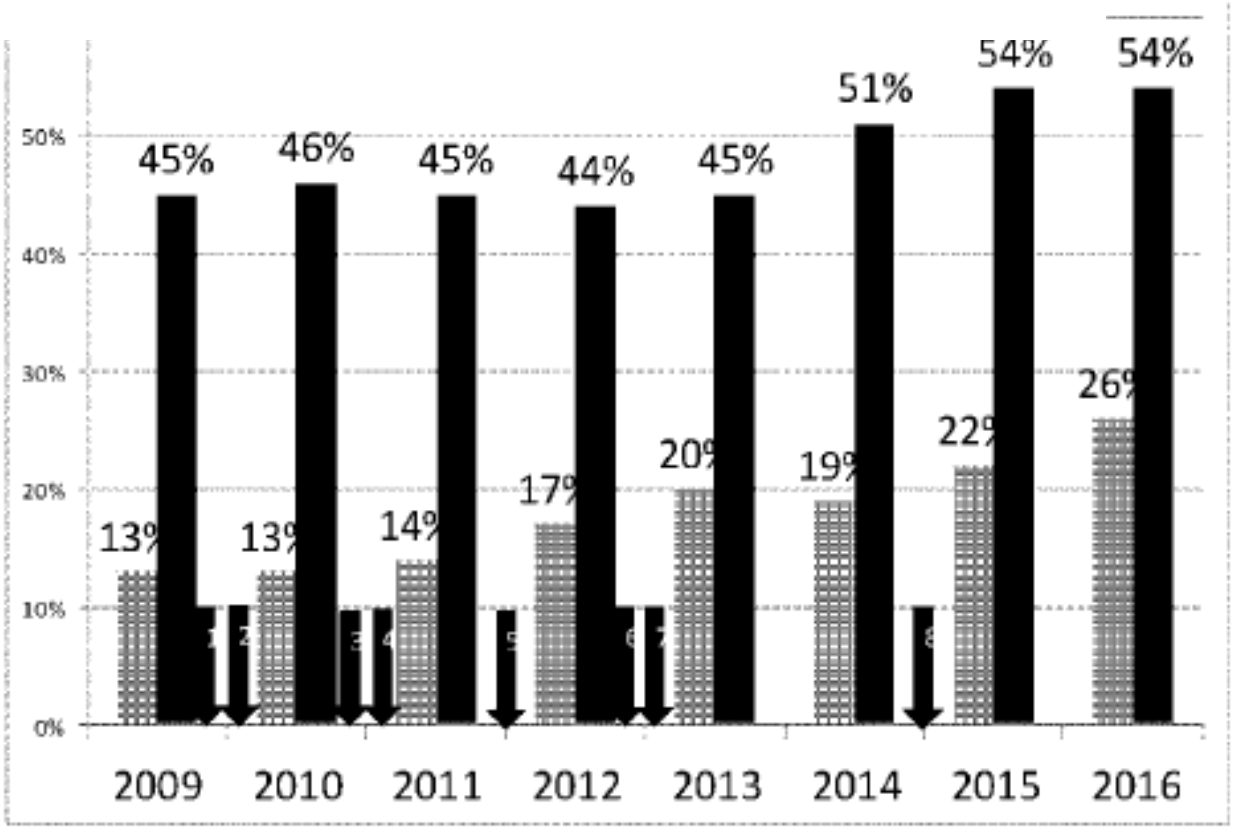


Figure 1. Trends in % women and URM in entering classes by year.

J of Healthcare for the Poor and Underserved. 2018

Successful Efforts to Increase Diversity in a Cardiology Fellowship Training Program

Alex J. Auseon, DO
Albert J. Kolibash Jr, MD
Quinn Capers IV, MD

Abstract

Background A large volume of literature has documented racial disparities in the delivery of cardiovascular care in the United States and that decreased access to procedures and undertreatment lead to worse outcomes. A lack of diversity among physicians is considered to be a major contributor. The fellowship training program in cardiovascular medicine at The Ohio State University Medical Center had never trained a fellow from a minority group underrepresented in medicine (URM) before 2007.

Intervention In 2005, the fellowship made it a priority to recruit and match URM candidates in an effort to address the community's lack of diversity and disparities in cardiovascular care.

Methods Program leaders revised the recruitment process, making diversity a high priority. Faculty met with members of diverse residency programs during visits to other institutions, the focus of interview day was changed to highlight mentorship, additional targeted postinterview communications reached out to highly competitive applicants, and a regular mentoring program was constructed to allow meaningful interaction with URM faculty and fellows.

Results Since these changes were implemented, the program has successfully matched a URM fellow for 5 consecutive years. Such candidates currently make up 4 of 16 total trainees (25%) in the fellowship in cardiovascular medicine.

Conclusions The cardiovascular medicine fellowship training program at The Ohio State University was able to revise recruitment to attract competitive URM applicants as part of a concerted effort. Other educational programs facing similar challenges may be able to learn from the university's experiences.

J of Grad Med Education: 2013

Summary

- Lack of Diversity in Medicine can be Harmful to Our Patients
- Enhanced Diversity in Medicine can Improve Pt Communication and Compliance (And Trust), And Save Lives
- Efforts to Enhance Diversity Must Be Intentional and Persistent
- The Time Has Come to Consider Diversity in Medicine a Mark of Excellence for Which Stakeholders Will be Held Accountable

Diversity in Medicine Saves Lives

The Lack of Diversity in Medicine Costs Lives …

Thank You!

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