CREATING DIVERSE, EQUITABLE AND INCLUSIVE CONTENT IN MEDICAL EDUCATION

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Amy Caruso Brown, MD, MSc, MSCS, HEC-C

Associate Professor of Bioethics and Humanities and of Pediatrics

SUNY Upstate Medical University

DISCLOSURES AND CONFLICTS OF INTEREST

No conflicts of interest to disclose.

Positionality: We all have specific areas of expertise, as wells as areas of privilege and blind spots.

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LEARNING OBJECTIVES

1. Describe the impact of bias in medical education content.

2. Identify challenges to identifying, addressing and preventing bias from reaching learners.

3. Apply a checklist approach to creating diverse, equitable and inclusive content in medical science education.

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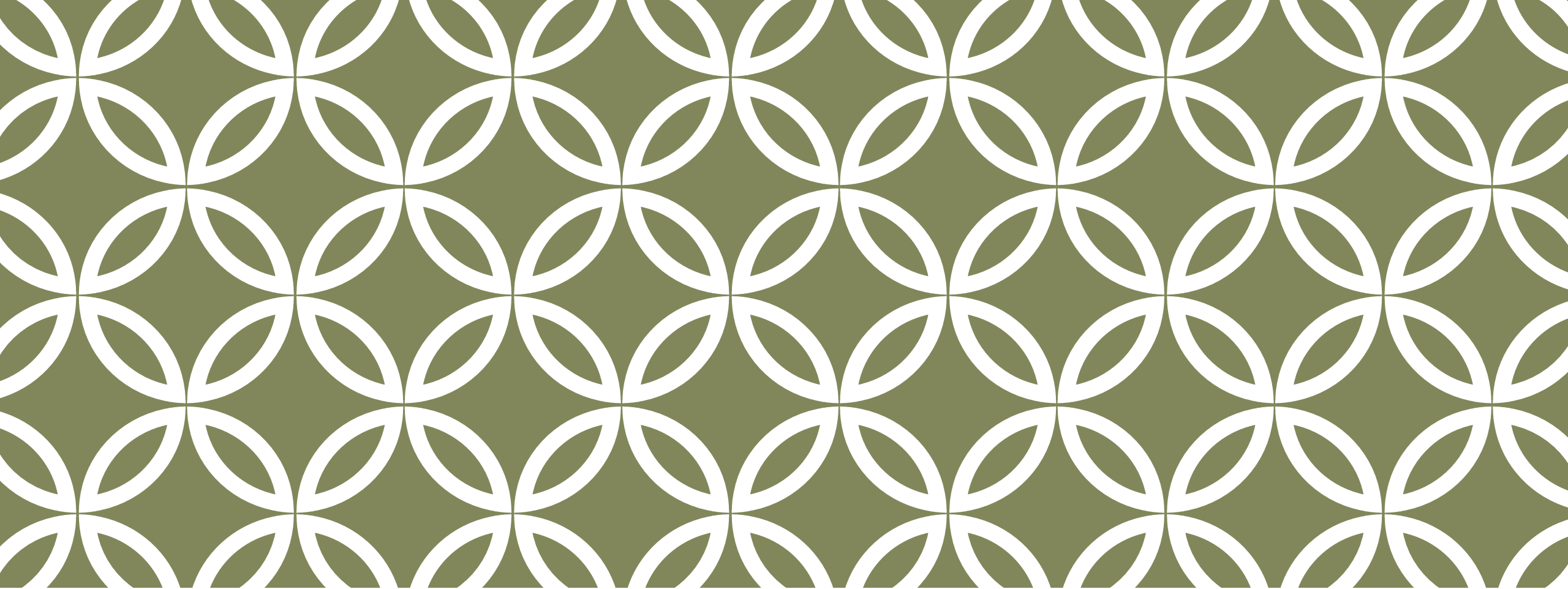
DEFINING THE PROBLEM

WHAT WE TALK ABOUT
WHEN WE TALK ABOUT BIAS

Attitude: Evaluative judgment of something – an object, person social group, concept, etc.

Prejudice: Preconceived opinion that is not based on reason or experience

Stereotype: Association of a member of a group with a consistent set of traits

Bias: Inclination or prejudice for or against someone or something

Implicit or unconscious bias: Relatively unconscious and relatively automatic features of prejudiced judgment and social behavior; contrasted with explicitly endorsed beliefs
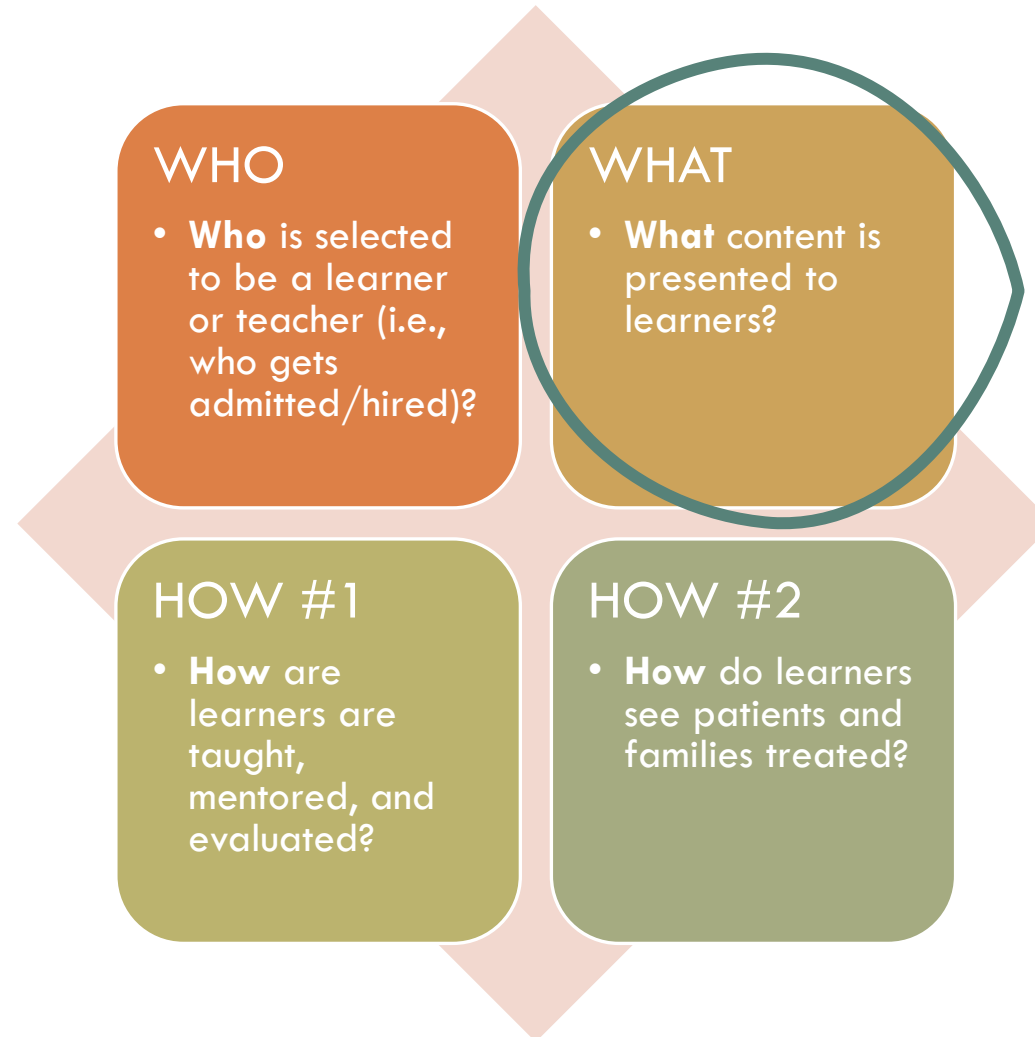
These can be positive, negative, or both;

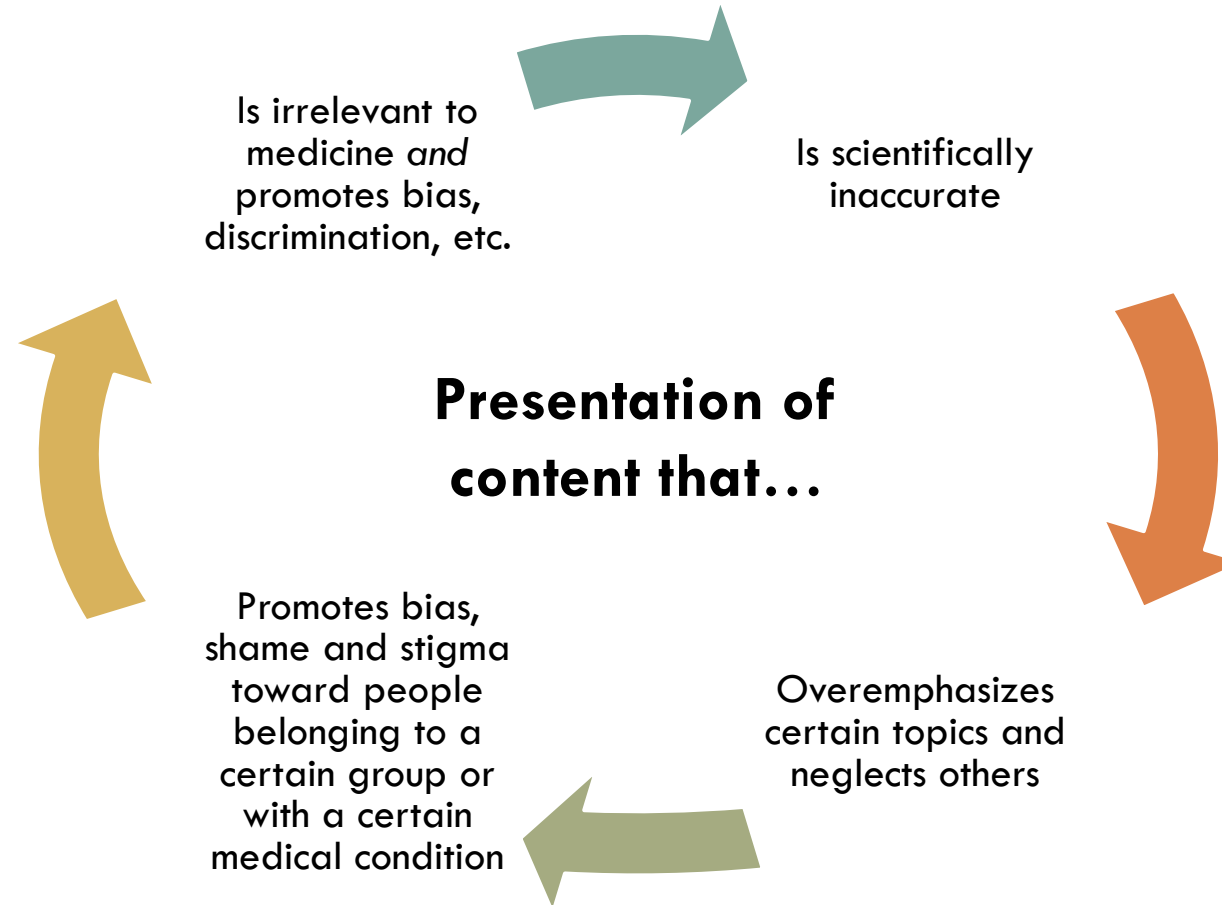*and on a spectrum from implicit to explicit.*

BIAS + HEALTH PROFESSIONS =

many problems under one heading!

TYPES OF BIAS IN MEDICAL SCIENCE EDUCATION

WHO
- **Who** is selected to be a learner or teacher (i.e., who gets admitted/hired)?

WHAT
- **What** content is presented to learners?

HOW #1
- **How** are learners are taught, mentored, and evaluated?

HOW #2
- **How** do learners see patients and families treated?

today's focus

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CATEGORIZING BIAS IN CONTENT

Presentation of content that…

Is scientifically inaccurate

Overemphasizes certain topics and neglects others

Promotes bias, shame and stigma toward people belonging to a certain group or with a certain medical condition

Is irrelevant to medicine *and* promotes bias, discrimination, etc.

SCIENTIFIC INACCURACY

Presentation of scientifically inaccurate content

▪ e.g., racial essentialism (promotion of race as a biological construct)

Presentation of content that overemphasizes certain topics and neglects others

Presentation of content in a way that stigmatizes, shames, or promotes bias toward people belonging to a certain group or with a certain medical condition

Presentation of content that promotes bias through humor or derogatory comments and is often unrelated to healthcare

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OVEREMPHASIS/UNDEREMPHASIS

Presentation of scientifically inaccurate content

Presentation of content that overemphasizes certain topics and neglects others

- e.g., equal time granted in pharmacology to treatment of erectile dysfunction as to contraception, disproportionate representation of white skin and white, able-bodied people in images

Presentation of content in a way that stigmatizes, shames, or promotes bias toward people belonging to a certain group or with a certain medical condition

Presentation of content that promotes bias through humor or derogatory comments and is often unrelated to healthcare

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STIGMA, SHAME, AND STEREOTYPE

Presentation of scientifically inaccurate content

Presentation of content that overemphasizes certain topics and neglects others

Presentation of content in a way that stigmatizes, shames, or promotes bias toward people belonging to a certain group or with a certain medical condition

- e.g., fat-shaming, equating poverty of with laziness, presuming all Latino/a/e/x patients are undocumented immigrants

Presentation of content that promotes bias through humor or derogatory comments and is often unrelated to healthcare

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HUMOR AND OTHER MICROAGGRESSIONS

Presentation of scientifically inaccurate content

Presentation of content that overemphasizes certain topics and neglects others

Presentation of content in a way that stigmatizes, shames, or promotes bias toward people belonging to a certain group or with a certain medical condition

Presentation of content that promotes bias through humor or derogatory/disparaging comments and is often unrelated to healthcare

e.g., jokes and other comments that can received as microaggressions

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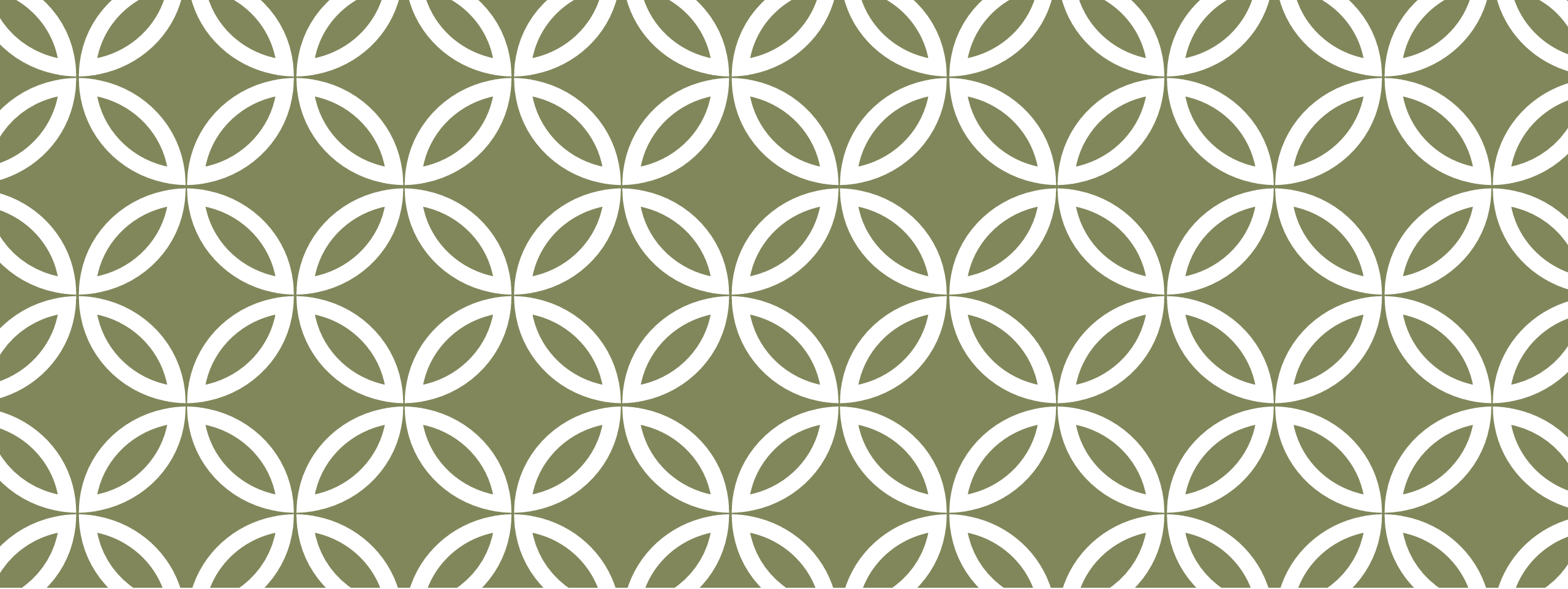
WHAT BIAS LOOKS LIKE

THROUGH THE EYES OF STUDENTS...

Rules for Step 1

JULY 21, 2015 / NATE

Crashing Resident Blog: https://crashingresident.com/2015/07/21/rules-for-step-1/

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3. **Be as judgmental as possible.**

- Male teenagers are on steroids.
- Weightlifters, football players, and angry people are on steroids.
- If they have acne, they are on steroids.
- Basketball, soccer, and lacrosse-playing teenagers are about to drop dead from hypertrophic cardiomyopathy.
- If the person is a "healthcare worker" of any kind, they are surreptitiously dosing themselves or their loved one with a mystery medication, most likely a diabetes medicine.
- A homeless person has either pancreatitis, alcohol withdrawal, or Wernicke's encephalopathy. It is always one of these three things.
- Tall people have Marfan Syndrome.
- IV drug users have one or more of the following:
  - HIV/AIDS
  - hepatitis B and/or C
  - bacterial endocarditis
- A teenager diagnosed with a sexually transmitted disease does not want to tell her parents.

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SYSTEMATIC ANALYSES

Ripp and Braun (2017) analyzed 2211 questions in a USMLE Step 1 test bank

- 20% mentioned race; 85% white non-Hispanic

- Race irrelevant to the question in 90% of cases

- In remaining 10% (relevant) → 50% of references were to non-white racial groups or hypothetical patients

They conclude: "Race/ethnicity should be used only when referring to social experiences of groups relevant to their health, not as a proxy for genetics, social class, or culture."

SYSTEMATIC ANALYSES

Race Matters? Examining and Rethinking Race Portrayal in Preclinical Medical Education

Jennifer Tsai, Laura Ucik, Nell Baldwin, Christopher Hasslinger, and Paul George, MD, MHPE
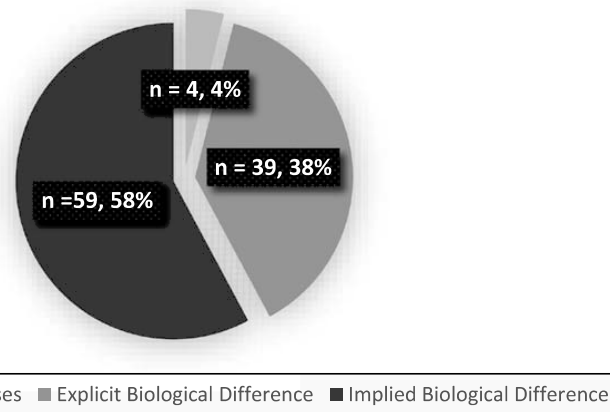

Figure 1 Explanation for race-based associations in preclinical lecture slides, Warren Alpert Medical School of Brown University, 2014–2015. The authors examined slides' operationalization of racial signifiers; this included approximately 350 mandatory preclinical lectures spanning two basic science "blocks" and six organ system "blocks." In total, mention of race was found in 102 slides.
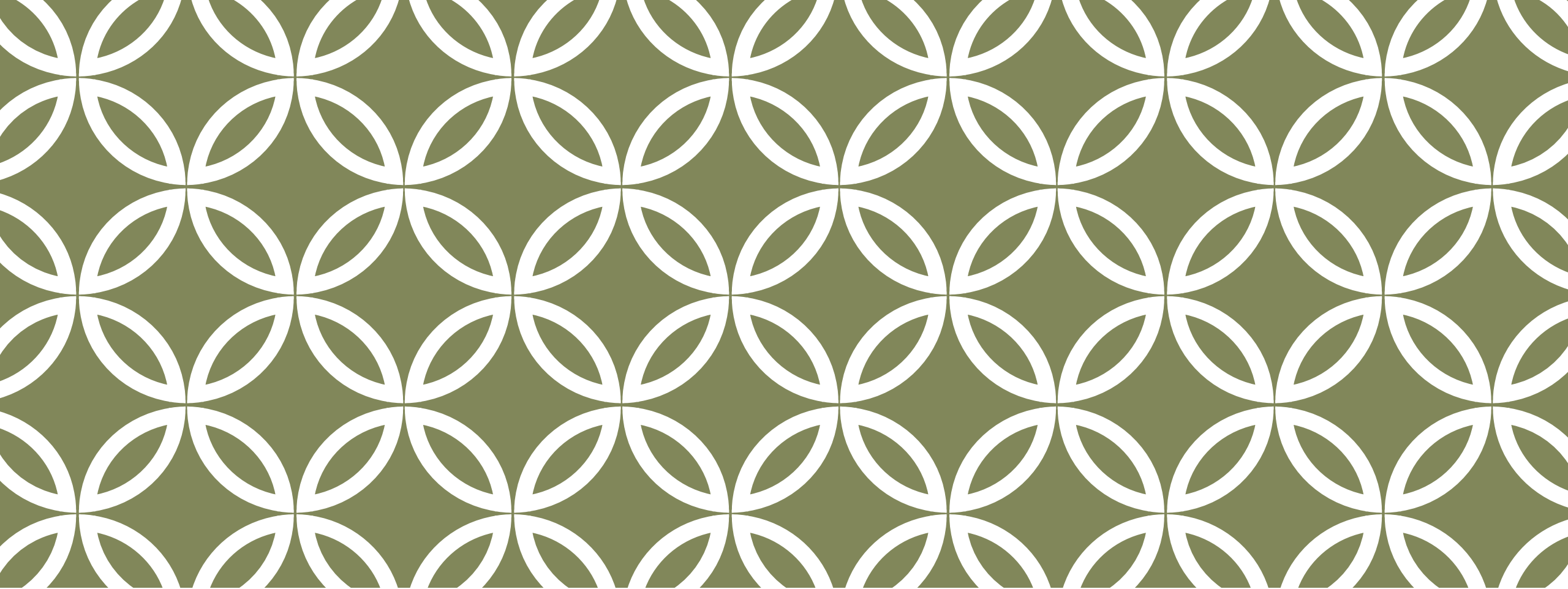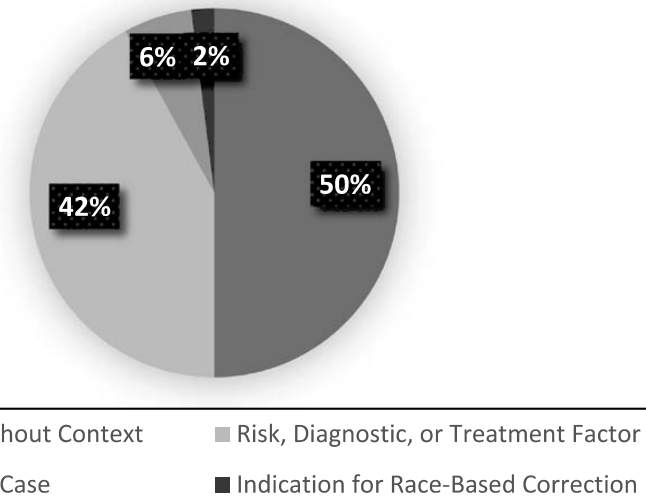

Figure 2 Method of presentation of race in preclinical lecture slides, Warren Alpert Medical School of Brown University, 2014–2015. The authors examined slides' operationalization of racial signifiers; this included approximately 350 mandatory preclinical lectures spanning two basic science "blocks" and six organ system "blocks." In total, mention of race was found in 102 slides.
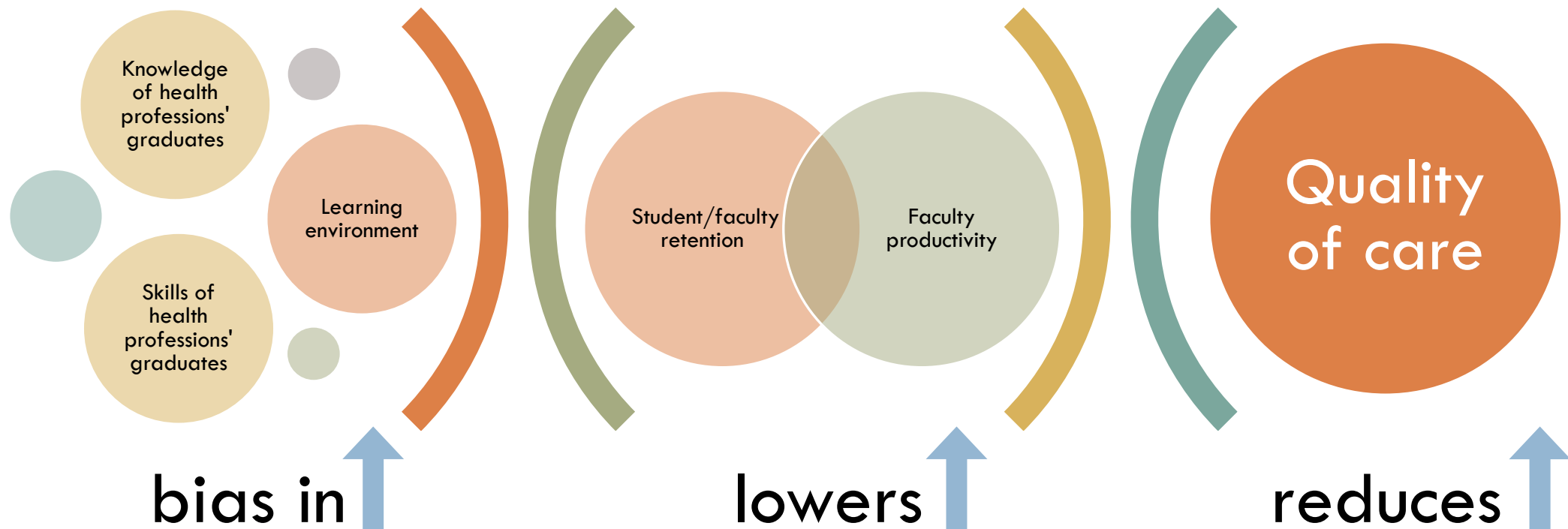
WHY IT MATTERS

BIAS IN CONTENT COSTS US

HOW SO?

Table 1. Percentage of white participants endorsing beliefs about biological differences between blacks and whites

Item	Study 1: Online sample (n = 92)	Study 2			
		First years (n = 63)	Second years (n = 72)	Third years (n = 59)	Residents (n = 28)
Blacks age more slowly than whites	23	21	28	12	14
Blacks' nerve endings are less sensitive than whites'	20	8	14	0	4
Black people's blood coagulates more quickly than whites'	39	29	17	3	4
Whites have larger brains than blacks	12	2	1	0	0
Whites are less susceptible to heart disease than blacks*	43	63	83	66	50
Blacks are less likely to contract spinal cord diseases*	42	46	67	56	57
Whites have a better sense of hearing compared with blacks	10	3	7	0	0
Blacks' skin is thicker than whites'	58	40	42	22	25
Blacks have denser, stronger bones than whites*	39	25	78	41	29
Blacks have a more sensitive sense of smell than whites	20	10	18	3	7
Whites have a more efficient respiratory system than blacks	16	8	3	2	4
Black couples are significantly more fertile than white couples	17	10	15	2	7
Whites are less likely to have a stroke than blacks*	29	49	63	44	46
Blacks are better at detecting movement than whites	18	14	15	5	11
Blacks have stronger immune systems than whites	14	21	15	3	4
False beliefs composite (11 items), mean (SD)	22.43 (22.93)	14.86 (19.48)	15.91 (19.34)	4.78 (9.89)	7.14 (14.50)
Range	0–100	0–81.82	0–90.91	0–54.55	0–63.64
Combined mean (SD) (medical sample only)			11.55 (17.38)		

For ease of presentation, we shortened the items; see *SI Text* for full items and additional information. For ease of interpretation and ease of presentation, we collapsed the scale and coded responses marked as possibly, probably, or definitely untrue as 0 and possibly, probably, or definitely true, as 1, resulting in percentages of individuals who endorsed each item. Bold entries represent the items included in the false beliefs about biological differences between blacks and whites composite.
*Items that are factual or true.

Kelly M. Hoffman[a],[1], Sophie Trawalter[a], Jordan R. Axt[a], and M. Norman Oliver[b,c]

[a]Department of Psychology, University of Virginia, Charlottesville, VA 22904, [b]Department of Family Medicine, University of Virginia, Charlottesville, VA 22908, and [c]Department of Public Health Sciences, University of Virginia, Charlottesville, VA 22908
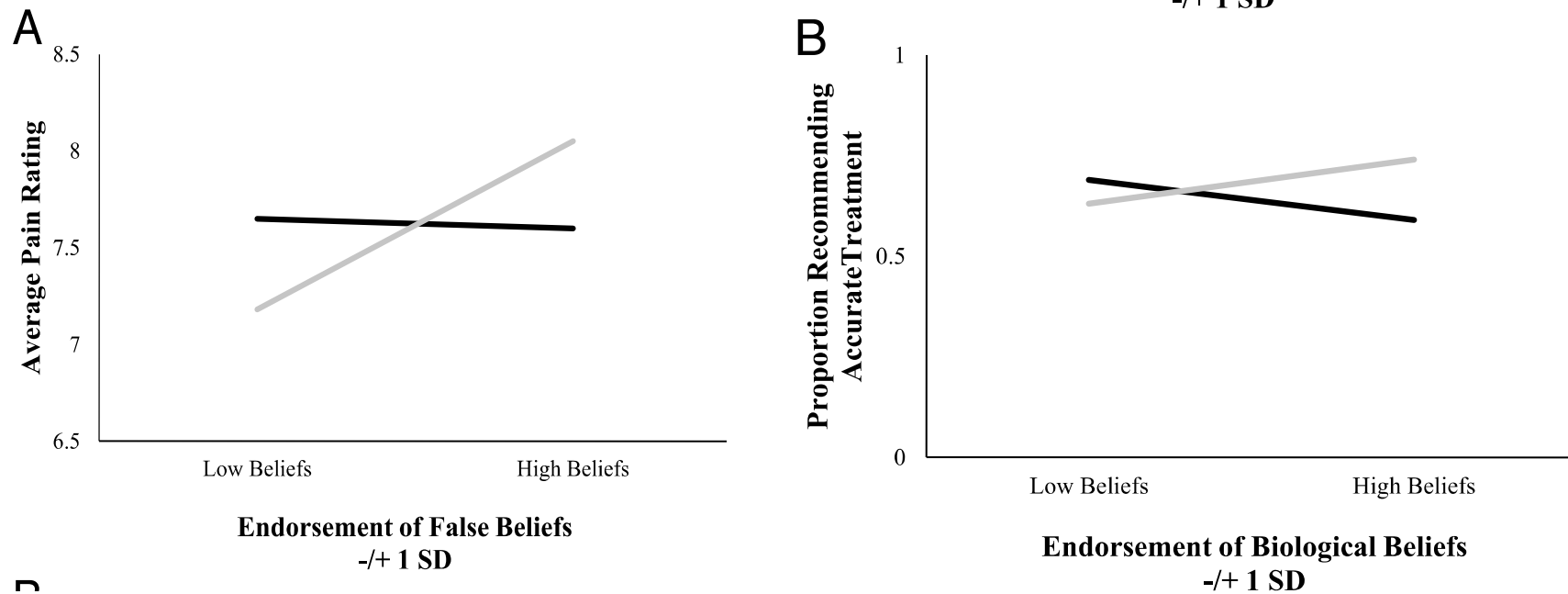
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Fig. 2. Medical sample estimated mean pain ratings and treatment recommendation accuracy as a function of false belief endorsement (plotted 1 SD below and above the mean). (*A*) Average pain ratings (pain rating scale: 0 = no pain; 1; 2 = mild pain; 3; 4 = moderate pain; 5; 6 = severe pain; 7; 8 = very severe pain; 9; 10 = worst possible pain). (*B*) Proportion of participants recommending accurate treatment for black and white target patients (treatment recommendation accuracy scale: 1 = accurate, 0 = inaccurate).

Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites

Kelly M. Hoffman[a],[1], Sophie Trawalter[a], Jordan R. Axt[a], and M. Norman Oliver[b,c]

[a]Department of Psychology, University of Virginia, Charlottesville, VA 22904; [b]Department of Family Medicine, University of Virginia, Charlottesville, VA 22908; and [c]Department of Public Health Sciences, University of Virginia, Charlottesville, VA 22908

MITIGATING BIAS IS DIFFICULT

Positionality: Our position and circumstances in the world influence what we perceive, or don't perceive.

Discomfort: We are often uncomfortable talking openly about race, sex, etc.—but trying to be "colorblind" or otherwise neutral fails because people automatically observe differences.

Lack of real-world data: Most interventions don't make it out of the psych lab → one that has is Patricia Devine's work on "habit-breaking" at the University of Wisconsin (eg, the BRIM Initiative).

Above all: Effective strategies require a lot of effort.

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MITIGATING BIAS IS DIFFICULT

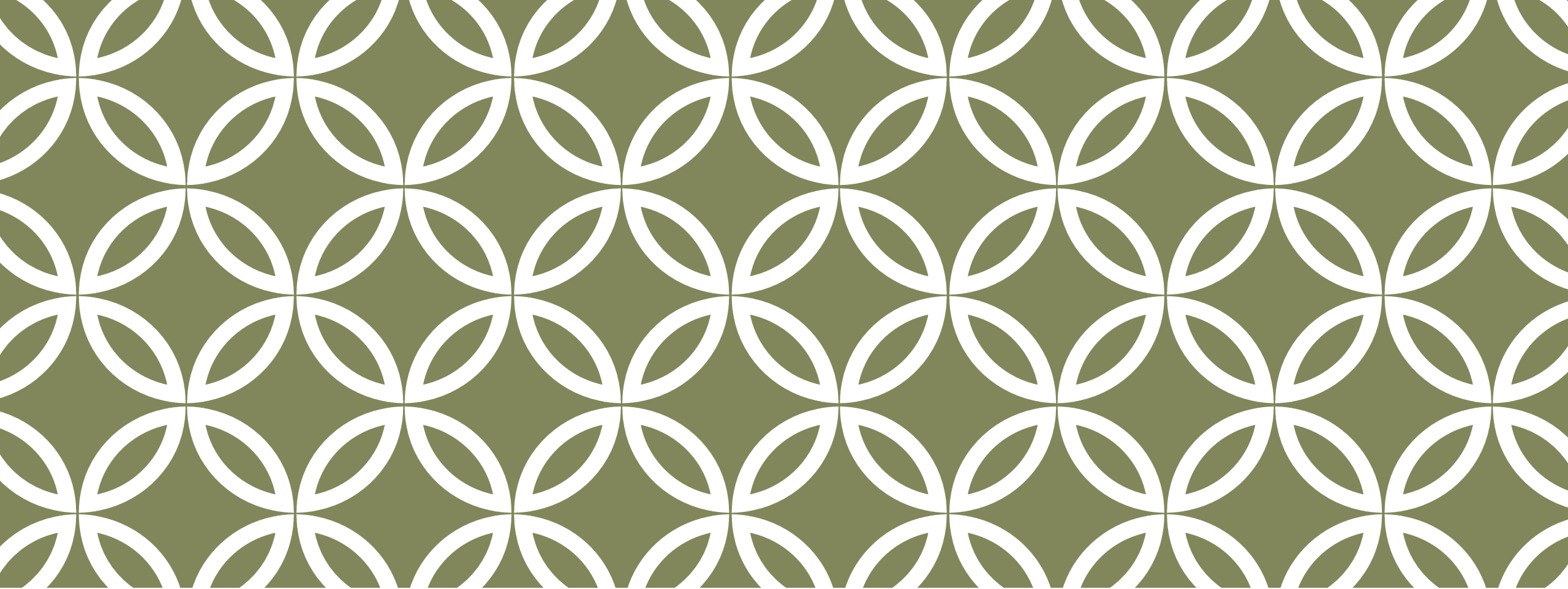Faculty members who devise curricular content in medical education may:

- Be unfamiliar with concepts such as structural competency or systemic racism
- Be unaware of how these concepts intersect with their areas of expertise
- Have few opportunities to practice discussing racism and other forms of oppression in the classroom

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MITIGATING BIAS IS DIFFICULT

Assessment relies heavily on multiple-choice questions, which encourage rapid judgments, relying on a few cues

Concerns are often identified only retroactively

- Burden falls to students to identify and report problematic content
- Fragmentation/silo-ing of curricular content may mean that <u>only learners</u> see the entire picture

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A CHECKLIST APPROACH

https://tinyurl.com/UpstateBiasChecklist

WHAT IS THE BIAS CHECKLIST?

Tool that **any faculty member can use** when developing or reviewing **any type of content** for medical students

- Self-explanatory
- Suitable for self-assessment
- Non-punitive

Use and share the checklist: https://tinyurl.com/UpstateBiasChecklist

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WHY A CHECKLIST?

Checklists have been successfully used in healthcare to improve quality and patient safety by preventing errors from reaching and harming patients

Bias and microaggressions are a **problem of safety**: the safety of our current students and their future patients

Our goal: catch the **bias** before it **harms** the student

Use and share the checklist: https://tinyurl.com/UpstateBiasChecklist

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HOW DOES IT WORK?

Does your content discuss X?

If **yes** → more specific questions about common ways in which bias related to X manifests in health professions education content

If **no** → **should** your content discuss X?

Could any aspect of your content promote stereotype, bias, shame or stigma? (+ examples)

Depending on your responses → you may get a box that suggests you consider changing your content, along with additional resources

Did you or are you thinking about making a change based on the above?

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CHECKLIST DOMAINS

Subject domains

Race and/or ethnicity

Immigration status

Gender

Sexual orientation

Age

Disability

Mental illness

Substance use

Weight

Religion

Poverty

Incarceration

Profession

Content domains

Visual images

Clinical vignettes

Everything else

Coming soon: reading lists and syllabi

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WHAT IS 'STEREOTYPE, BIAS, SHAME OR STIGMA'?

Indicator	Example that may promote stereotypes, bias, shame or stigma
Race	Showing two photos side-by-side during an obesity lecture: one depicting a family comprised of thin white individuals sitting down
Ethnicity	Presenting all Latina/o patients are undocumented immigrants / migrant workers
Gender	Pediatric vignettes in which patients are invariably accompanied by a mother (never a father, two fathers, two mothers, grandparents, etc.) or only involve nuclear families with heterosexual, married parents and biological offspring
Sexual orientation	Teaching students to label sexual identities and behaviors as "high-risk"
Disability	Emphasizing poor quality of life when most people with disabilities regard their quality of life as comparable to those without disabilities

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HOW DOESN'T IT WORK?

Neither requires nor replaces other approaches to faculty development and continuing education

- Prevent the harm of biased content reaching students (even if it fails to educate faculty)
- Avoid burdening students, especially students of color and those from other underrepresented groups, with responsibility for calling attention to biases

https://tinyurl.com/UpstateBiasChecklist

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"CONSIDER CHANGING THIS CONTENT." NOW WHAT?

Ask yourself:

1. Why might this part of the content be at risk for bias?

2. How might it impact learners?

3. What is the goal or learning objective for this part of the content?
   Why was it included in the first place?

4. Should it be changed?

5. How should it be changed?

https://tinyurl.com/UpstateBiasChecklist

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4 WAYS TO CHANGE CONTENT

Remove

Remove the content.
e.g., an image that promotes stereotypes of certain patients

Replace

Replace the content.
e.g., replacing some slides of white skin with more representative slides of many skin colors, replacing outdated or offensive terminology with more appropriate language
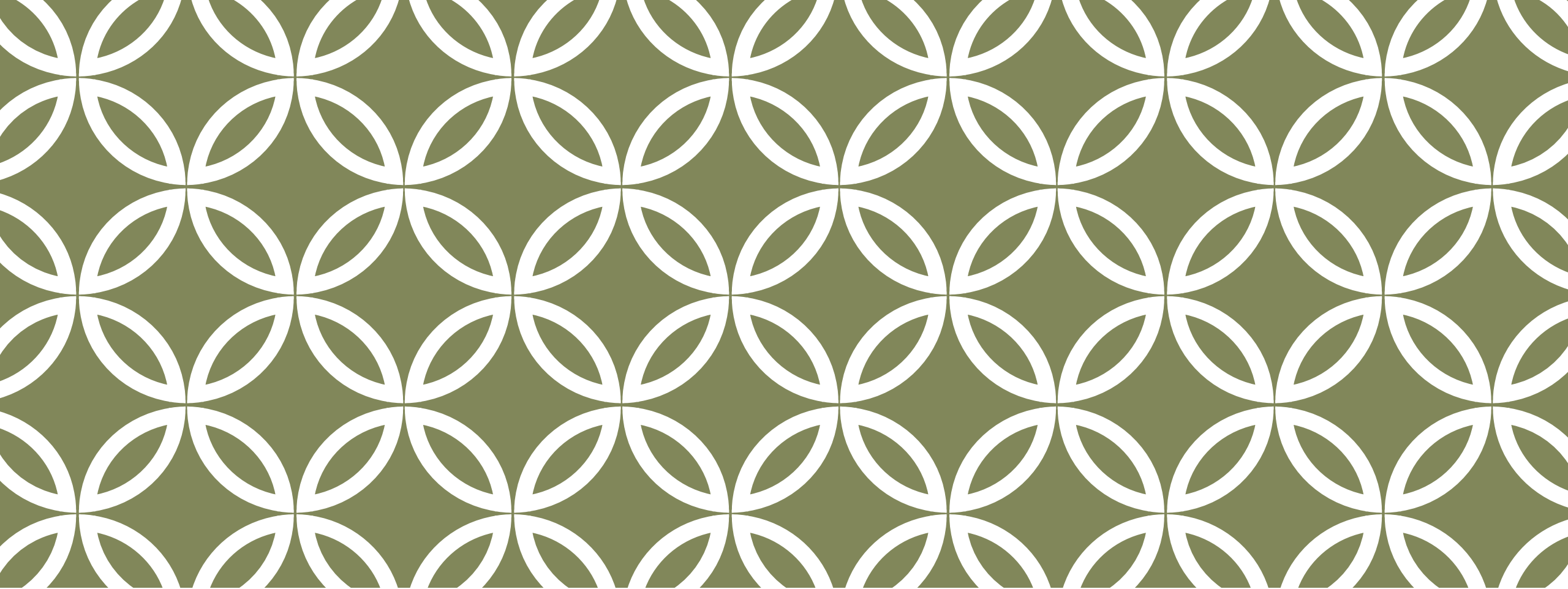
Add

Add additional material to the content.
e.g., including women and people of color in a lecture on the history of medicine, discussing why a race-based disease association might exist

Apologize

Apologize for or attach a disclosure to the content.
e.g., acknowledging that race-based GFR corrections are not based in science but may appear on standardized tests—please note that this is a last resort if none of the other approaches can be applied

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CASE STUDIES AND APPLICATIONS

CASE 1

Audience: First-year medical students

Course/unit: Health systems science

Lecture topic: Epidemiology

Situation: Lecturer uses two photos to illustrate a discussion of the epidemiological trends in obesity over the past 20 years

CASE 1

remove vs. replace

Why was it flagged?

→ Contrast between family sizes, skin color and food choice implies that Black families are more likely to make poor decisions; suggests linear relationship between diet and weight; doesn't explore role of poverty in nutrition and obesity

What are we doing about it?

→ Deleting the images, **but**

→ In a lecture dedicated to nutrition or obesity, we might have chosen to replace the images with alternatives that challenges stereotypes and explore more narratives, such as photos of food options in a neighborhood convenience store and an overweight person exercising.

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CASE 2

Audience: Second-year medical students

Course/unit: Genetics/metabolism

Lecture topic: Gene therapy

Situation: Lecturer uses blog posts and photos from 2 families of children enrolled on gene therapy trials to provide context and center patients in what is otherwise a basic sciences-oriented lecture

CASE 2

add/contextualize

Why was it flagged?

→ One family is white and the other is of South Asian ancestry; lecturer concerned that this might inadvertently suggest that there are no racial or ethnic disparities in clinical trial enrollment

What are we doing about it?

→ Adding content to briefly introduce students to these disparities (1-2 slides or 30-60 seconds of material)

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CASE 3

Audience: Third-year medical students

Course/unit: Core clerkships

Lecture topic: Step 2 CK review

Situation: Lecturer shares the following review question drawn from a publicly available online question bank

CASE 3

A 42-year-old African American female presents to your clinic complaining of excessive thirst and urination. She reports that these symptoms began one week ago, and they have been affecting her ability to work as a schoolteacher. Labs are drawn and are listed below. [labs provided]

Desmopressin is administered, and the patient's urine osmolality increases to 490 mOsm/kg. The patient's antidiuretic hormone is measured and is within normal limits. Which of the following may be associated with this patient's condition?

(1) Coarse tremor

(2) Auditory hallucinations

(3) Amenorrhea

(4) Peripheral neuropathy

(5) Dactylitis

CASE 3

apologize/acknowledge

Why was it flagged?

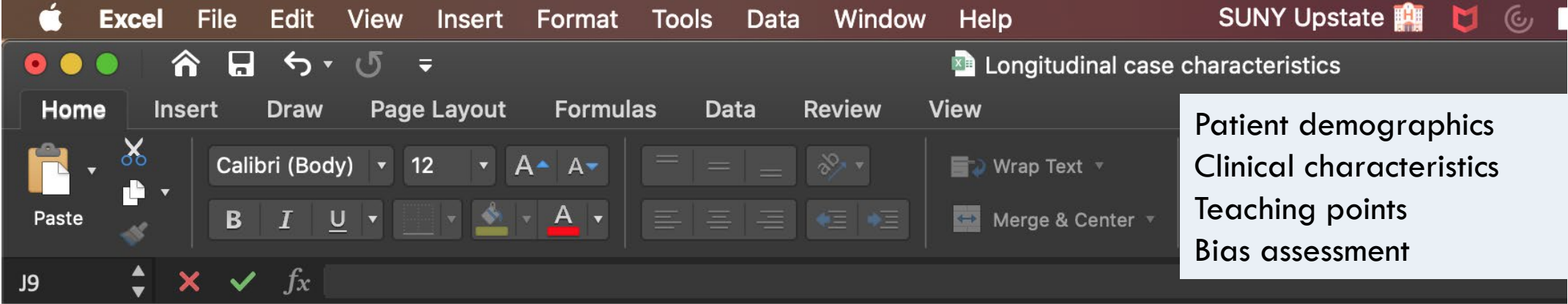→ Use of the patient's race as a proxy for her diagnosis

What are we doing about it?

→In a fast-paced board review/test prep session, the best approach may be to simply acknowledge that test questions often contain these types of biases

→In a dedicated lecture on hematology, nephrology or a related basic science, it's worth exploring the pathophysiology and evolutionary origins of sickle cell disease, putting in the context of malaria

→Either way, students should leave reminded that not every patient with sickle cell trait or disease is Black and not every Black patient with hyposthenuria has SCT/D

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RACIAL ESSENTIALISM

1. Race is a **social** construction, not a **biological** one.
   Racial schemas have varied over time and between cultures/societies.

2. More genetic variation exists **within** than **between** populations. (Lewontin 1972)
   "Race is not a reliable proxy for genetic difference." (Vyas, Eisenstein & Jones 2020)

3. Race is a **short cut** for clinicians and not a good one:
   "Belief in innate racial predisposition to a disease may short-circuit examination of non-genetic factors behind a racially classified individual's condition, or in the population at large, health disparities between commonly understood racial groups." (Chowkwanyun 2013)

WHAT ABOUT CASES?

Patient demographics
Clinical characteristics
Teaching points
Bias assessment

USING RACE AS A DESCRIPTOR IN CASE STUDIES

Pros

- ✓ People notice race in real life

- ✓ Patients' racial and ethnic identities and experiences matter

- ✓ If race is NOT mentioned in a vignette, they will often make assumptions about it

- ✓ It's a great opportunity to integrate discussion of racism and other forms of oppression into a class that might otherwise have little health equity content

cons
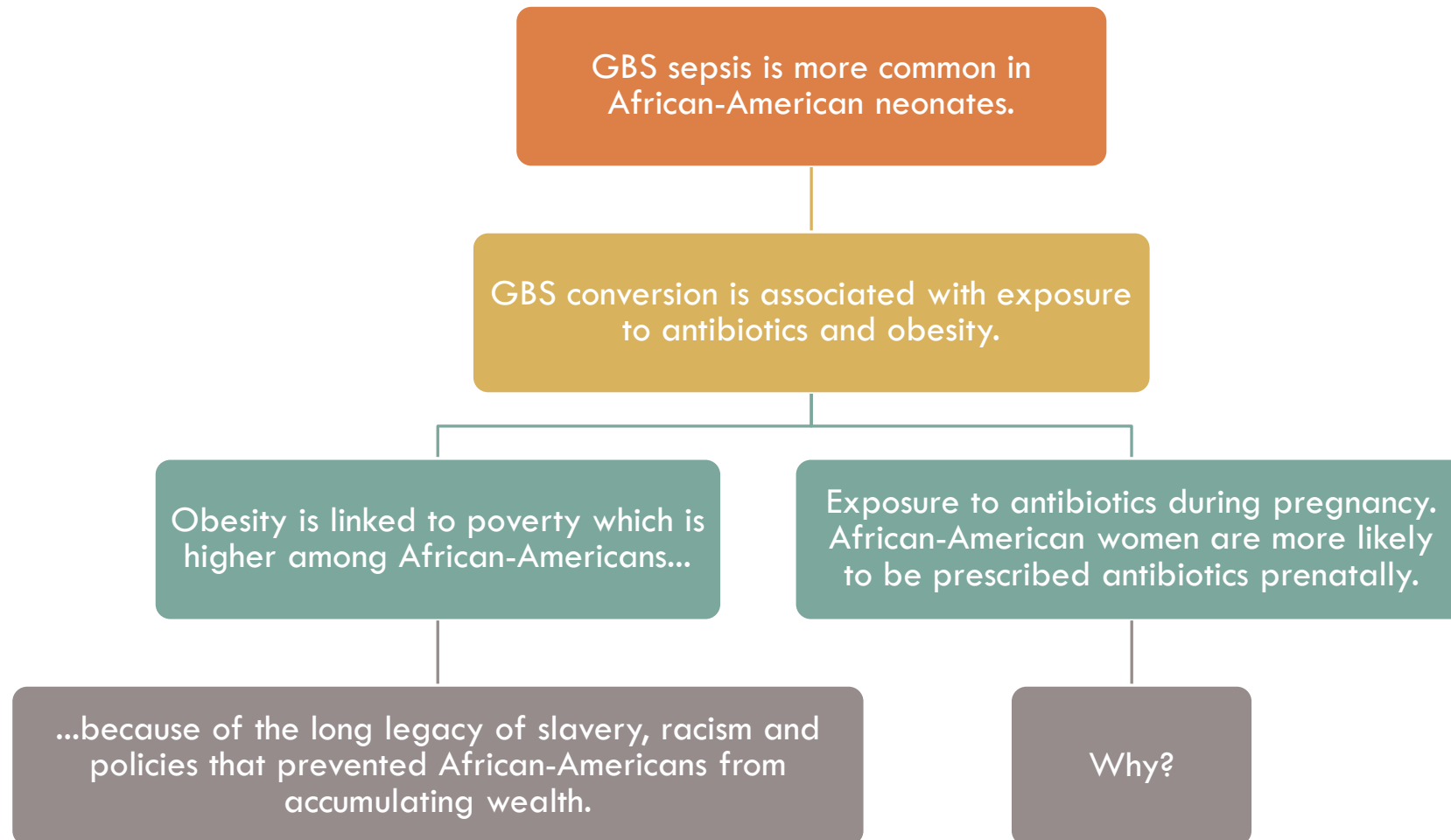
- ✗ It's easy to fall back on race as a proxy for genetics

- ✗ Case writers have a hard time bringing themselves to write about seemingly "rare' combinations (e.g., a white-identified patient with sickle cell disease), which promotes bias in medical decision-making

- ✗ Faculty teaching clinical reasoning may not be trained to facilitate a sensitive discussion of racism as a risk factor

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FOR EXAMPLE: GBS SEPSIS

You are planning a case study involving GBS sepsis for preclinical medical students in a case-based learning course. You want them to learn basic bacteriology and some pharmacology. You know that GBS sepsis is more common in African-American neonates. Do you include that piece of epidemiology in your case study?

MAYBE…MAYBE NOT…

GBS sepsis is more common in African-American neonates.

GBS conversion is associated with exposure to antibiotics and obesity.

Obesity is linked to poverty which is higher among African-Americans…

Exposure to antibiotics during pregnancy. African-American women are more likely to be prescribed antibiotics prenatally.

…because of the long legacy of slavery, racism and policies that prevented African-Americans from accumulating wealth.
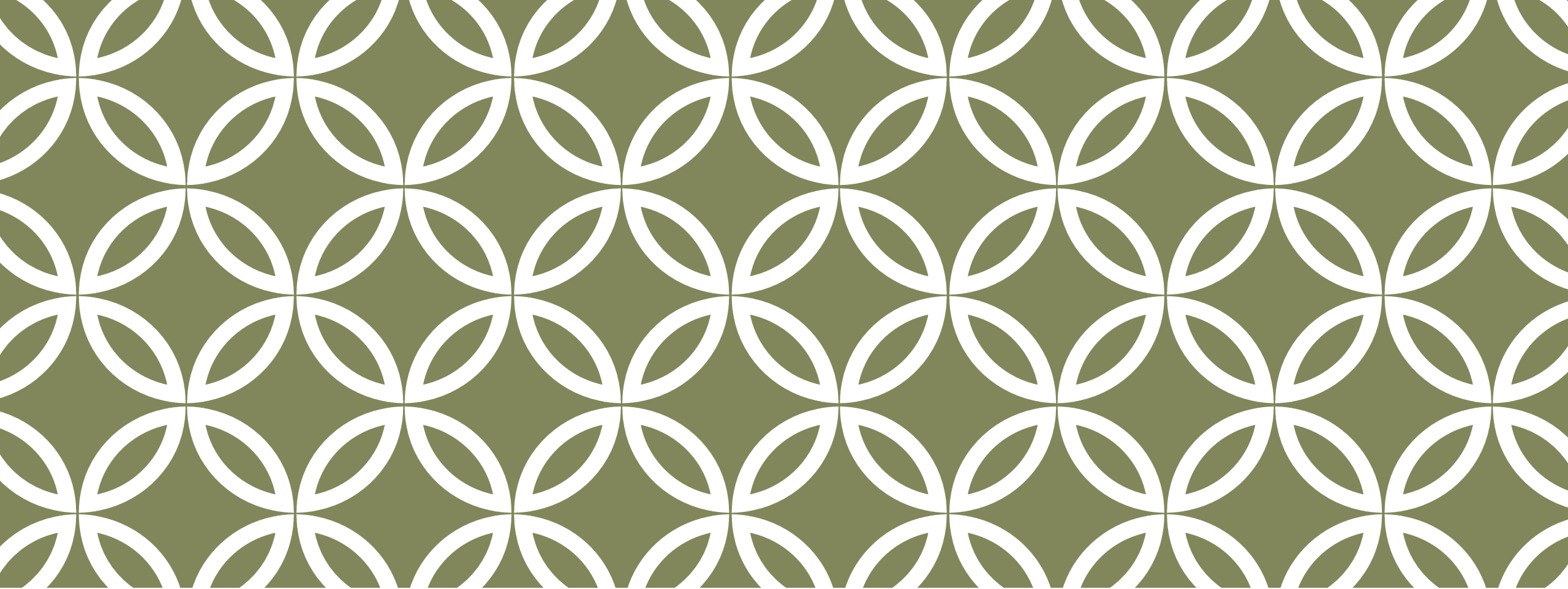
Why?

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PRINCIPLES FOR CASE DEVELOPMENT

1. Offer faculty and students a session unpacking race as a social construct **before** they start learning from case studies or real patients.

2. Use tables to track representation over entire courses and curricula. Regularly reassess for over- or under-representation.

3. Practice counter-stereotypic imaging: Make sure your cases represent patients of color who are educated, employed, middle-class, do not have substance use disorders, have never been incarcerated, etc. **and** represent white patients who have faced those challenges.

PRINCIPLES FOR CASE DEVELOPMENT

4. Incorporate discussion of structural and social determinants of health into cases, including a discussion of a patient's relative vulnerability or privilege based upon their racial classification.

5. When race and stereotype may align within the case, faculty should talk explicitly about that and promote stereotype replacement, individuating and perspective taking.

6. Consider introducing the patient's race in a paragraph with additional information about their family, social and cultural background, rather than in the first sentence.

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QUESTIONS AND DISCUSSION

Please feel free to email me at
brownamy@upstate.edu

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Senior Associate Dean for Faculty Affairs

SUNY Upstate Medical University

Daryll Dykes, MD, JD, PhD

Chief Diversity Officer

SUNY Upstate Medical University

Leann Lesperance, MD

Associate Dean for Undergraduate Medical Education

SUNY Upstate Medical University

Lawrence Chin, MD

Dean of the College of Medicine

SUNY Upstate Medical University

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WEBINAR SYNOPSIS

Bias, shame, stereotype and stigma are pervasive in healthcare, with detrimental effects on the learning environment, student and faculty retention, and the health of our patients and communities.

How can educators learn to create diverse, equitable, inclusive content?

In this webinar, Dr. Caruso Brown will provide a concrete framework for educators, exploring examples of how to effectively address racism and other forms of bias and structural oppression in medical science education.

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