Advancing DEIAJ in Medical Didactics:
A Toolkit for Educators

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Note: As with medicine, language and values constantly grow and evolve; just as this framework is intended to help adapt and grow medical educational materials, this framework itself is subject to adaptation as well and should be expanded or edited as necessary. The intention of this framework is to introduce literature and critical thought in social responsibility and health justice in education and should not replace further education in these topics nor replace larger institutional efforts. Not every point below will be relevant in all cases but should be used as a check and introduction to various concepts in health justice.

DEIAJ Review Framework of Medical Education Materials

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OBJECTIVE

- Provide an intersectional framework to promote health justice in medical education materials

MISSION

- Reduce the perpetuation of harmful medical practices and the stigmatization of patients in medical education
- Improve the acknowledgment and representation of under-represented and marginalized minority groups in medical education

PROCESS

1. Review guidelines as needed depending on familiarity with topics and relevance to material to be reviewed.
2. Incorporate revisions outlined above into educational materials.
    a. The simplified checklist format of the guidelines may help with ease and organization of the revision process.
3. If educational material is structured as a clinical case, the clinical case guide may help direct the review process.

Visuals

Objective: Increase equity and respect in visual representations.	
Concerns	**Solutions**
1. Anatomy and physiology diagrams, sketches, and 3D rendered images under-represent patients of color.	a. Source visuals from textbooks that include representative samples of Fitzpatrick Skin Types 1-6.
2. Clinical presentations of disease and medical diagrams under-represent patients of color.[1,2]	a. Include patients of Fitzpatrick Skin Type 1-3 **and** Fitzpatrick Skin Type 4-6 in visuals of clinical presentations of disease for *each* disease discussed[3]. b. Present patients in visuals of clinical presentations of disease that represent epidemiologic rates of disease, especially new incidence rates.
3. Assigned male bodies are overrepresented in diagrams.	a. Include patients and diagrams of people assigned male and female whenever possible; when both are not possible, since "male" is considered default in our society, presentations should default to using schematics with assigned female bodies to work towards equity.
4. Sensitive clinical imagery, including visuals of sensitive areas or visuals of areas with identifiable features, over-represent patients of color.	a. Include patients of Fitzpatrick Skin Type 1-3 **and** Fitzpatrick Skin Type 4-6 in sensitive visuals, such as visuals of sensitive areas or visuals of areas with identifiable features, for *each* disease discussed. b. Obscure non-relevant identifiable features in **all** patient visuals.

[1] Nolen L. How Medical Education Is Missing the Bull's-eye. New England Journal of Medicine. 2020.
[2] Dennison R, Novak C, Rebman A, Venkatesan A, Aucott J. Lyme Disease with Erythema Migrans and Seventh Nerve Palsy in an African American Man. Cureus. 2019.
[3] Brown Skin Matters. Brown Skin Matters.

Language

Objective: Reduce outdated language		
Concerns	**Solutions**	**Examples**
5. Presentations include language that is no longer used in clinical materials or in other fields (e.g., sociology)[4].	a. Provide space for constructive feedback to promote continuous improvement by adding a disclaimer welcoming input and suggestions.	● E.g., "A reminder…. We aim to use respectful, inclusive, non-biased language at all times and welcome your feedback and questions." ● E.g., "My goal is to use respectful, inclusive, non-biased language at all times. I welcome feedback if you have questions or concerns."
	b. Update language, including: Disability: ○ "Mental retardation" is no longer listed in the DSM-V, ICD-11, or in disability activism, but is still regularly used in our presentations. Use "intellectual disability[5]" instead of "mental retardation" and "retardation". Sex/Gender: ○ Sex and gender are not binaries and are not interchangeable[6], and should not be represented as such in our presentations. ○ Include a disclaimer in presentations to remind students about the nuances of sex and gender, especially in fields where these concepts are frequently utilized, such as Genetics, Reproductive System, Obstetrics/Gynecology, and Anatomy. ○ Use the term "assigned female/male at birth" instead of "biologically female/male"[7]. ○ Do not refer to a sperm donor as the "dad" and egg donor as "mom", unless discussing a specific situation where the details are known, as it reinforces heterosexual normativity and conflates sex and gender. ○ Default to using "they/them/theirs" unless someone's pronouns are already known; this phrasing is more	

[4] Hall JM, Fields B. "It's Killing Us!" Narratives of Black Adults About Microaggression Experiences and Related Health Stress. Global Qualitative Nursing Research. 2015.
[5] Inclusive language for talking about people with intellectual disabilities. SpecialOlympics.org.
[6] Madsen TE, Bourjeily G, Hasnain M, et al. Sex- and Gender-Based Medicine: The Need for Precise Terminology. Gender and the Genome. 2017.
[7] Council and Resident Education in Obstetrics and Gynecology (CREOG), Michigan Medicine. Gender identity and care of transgender and gender non-conforming patients. 2018.

	inclusive than “he/she” when speaking generally and should be preferentially used. ○ Utilize 3rd person pronouns rather than gendered nouns when referring to general conditions. ■ e.g., use “people with ovarian cysts” instead of “women with ovarian cysts”; “pregnant people” instead of “pregnant women”. Race/ethnicity: ○ The term “Caucasian” should not be used due to Caucasian’s racist origins[8,9] as the “ideal” type of human; this term should be replaced with “European American” or, if usage is more about race rather than ancestry, “White”. ○ The nuance between terms such as “Black” and “African-American” should be recognized[10] and appropriately used; if the usage is about race the term “Black” should be used (and capitalized[11]). If usage is more about ancestry, the term “African-American” may be appropriate. ○ The concept of “cultural competence” should be challenged as it leads to stereotyping groups and savior complexes; the term “cultural humility[12]” should be used. If usage is more about education practices, “cross-cultural education”[13] is more appropriate. Nations: ○ The terms “Third World” and “First World” countries should not be used[14]; nations should be directly identified whenever possible to reduce placing nations within a hierarchy or, if speaking more generally, Majority World/Minority World[14] should be used. *Note:* Low Income Countries (LIC), Low-Middle Income Countries (LMIC), Upper-Middle Income Countries (UMIC), or High-Income Countries (HIC) are still used in public health contexts, but place nations into an economic/capitalist hierarchy and should be avoided if possible.

[8] Moses Y. Why Do We Keep Using the Word “Caucasian”?. SAPIENS. 2017.
[9] Dewan S. Has ‘Caucasian’ Lost Its Meaning?. The New York Times. 2013.
[10] Grady C. Why the term “BIPOC” is so complicated, explained by linguists. Vox. 2020.
[11] AP changes writing style to capitalize “‘b’” in Black. The Associated Press. 2020.
[12] Tervalon M, Murray-García J. Cultural Humility Versus Cultural Competence: A Critical Distinction In Defining Physician Training Outcomes. Journal of Healthcare for the Poor and Underserved. 1998.
[13] Gregg J, Saha S. Losing Culture on the Way to Competence: The Use and Misuse of Culture in Medical Education. Academic Medicine. 2006.
[14] Silver M. If You Shouldn’t Call It The Third World, What Should You Call It?. Goats and Soda. 2015.

Objective: Reduce language that "others" human beings		
Concerns	**Solutions**	**Examples**
6. Educational materials include language that distances oneself from people[15], especially from groups of people who have been marginalized or oppressed.	a. Use language that asserts the humanity of a people group and lessens the suggestion that those groups think and act homogeneously[15]	• E.g., Use the phrasing "Black people" instead of "the Blacks" or even "Blacks"; Use "Chinese people" instead of "the Chinese". • E.g., Use the phrasing "undocumented immigrant" instead of "illegal immigrants" or "aliens".
	b. Use the same language across groups of people to avoid assuming a group of people as the "standard" and alternative groups as "other".	• E.g., Use the phrasing "White Americans" and "Black Americans" instead of "people of Northern European descent" and "Black people" in the same context. • E.g., Never, or always, clarify the perceived race/sexuality/gender of a patient in clinical vignettes instead of only clarifying when non-white, non-heterosexual, or non-cisgender; if using qualifiers, note why qualifiers are being used (ex. SDOH, undue burden, etc.) to avoid stereotyping (*see Solution 7a)*.
Objective: Reduce stereotyping		
Concern	**Solution**	**Examples**
7. Educational materials include language that reduces people to their identity within a group.	a. Use language that asserts the complexity of values and experiences of people despite shared identities.	• E.g., Use "some patients may omit sharing their sexual practices due to social pressures, which can be augmented by intersectional oppressions" rather than "the Black patient had past sexual experiences with men that he hid from his wife". • E.g., Use "some Muslim women may be uncomfortable with a male provider depending on their religious practices" instead of "Muslim women will request a female provider".

[15] Abadi M. Why saying "the gays" or "the blacks" sounds off. Business Insider. 2016.

Objective: Incorporate patient-centered language		
Concern	**Solution**	**Examples**
8. Educational materials include language that reduces patients to their disease processes, risk factors for disease, or identities.	a. Person-first language[16] that places the person before the relevant disease state, risk factor, or other qualifier should be used as a default (*Note:* some groups and people prefer identity-first language[17], but this should not be assumed/used by those outside the group unless explicitly clarified).	• E.g., Use "patient with Diabetes" rather than "Diabetic", "patient with Sickle Cell Disease" rather than "Sicklers", or "patient with SUD" rather than "addicts". • E.g., Use "People Who Inject Drugs (PWID)" rather than "Intravenous Drug Users (IDU)" or "Heroin Users"; "People Living with HIV (PLWHIV)" rather than "HIV Patients". • E.g., Use "men who have sex with men (MSM)" rather than "homosexual men" or "homosexuals".
9. Educational materials include out-dated paternalistic language[18] that can place blame on patients.	a. Use "adherence" rather than "compliance" [19].	• E.g., Use "non-adherence with prescription due to high cost" rather than "non-compliant patients do not take prescription as advised".
	b. Use "concern" rather than "complaint"[20].	• E.g., Use "patient comes in with a concern of stomach pain" rather than "patient comes in with complaint of stomach pain".

[16] Crocker AF, Smith SN. Person-first language: are we practicing what we preach? J Multidiscip Healthc. 2019.
[17] Brown LXR. Identity-First Language. Autistic Self Advocacy Network (ASAN). 2011.
[18] Camp G. Key Ethics Term – Adherence vs Compliance. Ecology of Health and Medicine. 2017.
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[20] Sykes DB, Nichols DN. There Is No Denying It, Our Medical Language Needs an Update. J Grad Med Educ. 2015.

Historical Context

Objective: Acknowledge the contributions of minority and marginalized populations in medical history and current medical practice		
Concern	**Solution**	**Examples**
10. Educational materials fail to acknowledge the historical underpinnings of marginalized and minority groups behind major scientific movements and/or discoveries.	a. Educational materials should include a statement of acknowledgment outlining the history behind major medical movements/ discoveries.	• Henrietta Lacks and the history of non-consensual use of HeLa cells in scientific research[21]. • Anarcha, Lucy, Betsey, and the unnamed women in the history of gynecology[22]. • Sterilization of Black, Latinx, and Indigenous people and the history of birth control[23]. • Institutionalization of Black people and the history of harmfully misdiagnosing "mania" or other psychiatric disorders[24]. • The Tuskegee experiments and the history of understanding the pathophysiological course of syphilis[25]. • The Holmesburg Prison experiments and the history of dermatology[26]. • The HIV/AIDS crisis and the history of pandemics[27].
11. Materials honor racist, anti-Semitic, or otherwise supremacist scientists by including their names in disease processes.	a. Include a statement acknowledging the supremacist actions of scientists and/or present the newly recognized or scientific terminology that does not glorify such individuals.	• Churg-Strauss Syndrome → Eosinophilic Granulomatosis with Polyangiitis. • Wegener Syndrome → Granulomatosis with Polyangiitis. • Reiter's Syndrome → Reactive Arthritis.

[21] Brown DL. Can the 'immortal cells' of Henrietta Lacks sue for their own rights?. Washington Post. 2018.
[22] Judd B, Vedatam S. Remembering Anarcha, Lucy, and Betsey: The Mothers of Modern Gynecology. NPR. 2017.
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[24] Bell CC, Mehta H. The Misdiagnosis of Black Patients with Manic Depressive Illness. J Natl Med Assoc. 1980.
[25] Newkirk II VR. A Generation of Bad Blood. The Atlantic. 2016.
[26] Hornblum AM. Acres of Skin: Human Experiments at Holmesburg Prison. London, UNITED KINGDOM: Taylor & Francis Group; 1998.
[27] Anderson BJ. HIV Stigma and Discrimination Persist, Even in Health Care. AMA Journal of Ethics. 2009.

Determinants of Health/Identity-based Health

Objective: Reduce teaching of race-based practices		
Concern	**Solution**	**Examples**
12. Educational materials include outdated race-based medical practices[28,29] that include inaccurate and racist methods in the determinations of best practices for patient treatments and lead to disparate health outcomes.	a. Include the flawed assumptions behind the following race-based practices (see examples).	Cardiovascular disease/surgery: ● American Heart Association's Get with the Guidelines - Heart Failure[27] ● Society of Thoracic Surgeons Short Term Risk Calculator[27] ● BiDil treatment for heart failure[29] Hypertension: ● Salt sensitivity hypothesis[29] Lung Function: ● Pulmonary function tests (spirometry)[29] Kidney function/GFR[30]: ● MDRD and CKD-EPI equations for estimated glomerular filtration rate (eGFR)[29] ● Kidney Donor Risk Index (KDRI)[27] Obstetrics: ● Vaginal Birth After Cesarean (VBAR) Risk[27] Urology: ● STONE Score[27] ● Urinary Tract Infection (UTI) calculator[27] Endocrinology: ● Osteoporosis Risk SCORE[27] ● Fracture Risk Assessment Tool (FRAX)[27] Oncology: ● Rectal Cancer Survival Calculator[27] ● National Cancer Institute Breast Cancer Risk[27] ● Breast Cancer Surveillance Consortium Risk calculator[27]

[28] Vyas DA, Eisenstein LG, Jones DS. Hidden in Plain Sight — Reconsidering the Use of Race Correction in Clinical Algorithms. New England Journal of Medicine. 2020.
[29] Chadha N, Lim B, Kane M, Rowland B. Toward the Abolition of Biological Race in Medicine: Transforming Clinical Education, Research, and Practice. Institute for Healing and Justice in Medicine. 2020.
[30] Hong, S. 'An entire system is changing': UW Medicine stops using race-based equation to calculate kidney function. 2020.

Objective: Include appropriate risk factors for disease		
Concern	**Solution**	**Examples**
13. Educational materials attribute inaccurate risk factors for disease.	a. "Race" should not be equated with "racism"[31] when identifying increased incidence of disease in certain populations.	• E.g., Ancestry is a risk factor in the case of a historical genetic mutation increasing the rate of cystic fibrosis in patients of Northern European descent vs. structural racism, not ancestry, is a risk factor leading to an increased incidence of hypertension in Black patients.[32]
	b. Include social context[33] when stating race as a risk factor for disease when racism, rather than ancestry, is the associated risk factor.	• E.g., Low birth weight is a risk factor for lower respiratory disease, which disproportionately impacts BIPOC families due to systemic injustices.[34]
14. Educational materials fail to include relevant, multifactorial, and interdisciplinary risk factors for diseases, especially in diseases with highest health inequities.	a. Include social determinants of health that contribute to epidemiologic rates and burden of disease, especially in diseases with greatest health inequities.	• E.g., Environmental racism and asthma • E.g., Socioeconomic/insurance status and disparate health outcomes • E.g., Systemic racism and heart disease[32]

[31] Tsai J, Ucik L, Baldwin N, Hasslinger C, George P. Race Matters? Examining and Rethinking Race Portrayal in Preclinical Medical Education. Academic Medicine. 2016.
[32] The link between structural racism, high blood pressure and Black people's health. American Heart Association. 2021.
[33] Tsai J, Crawford-Roberts A. A Call for Critical Race Theory in Medical Education. Academic Medicine. 2017.
[34] Martinez A, De La Rosa R, Mujahid M, Thakur N. Structural racism and its pathways to asthma and atopic dermatitis. Journal of Allergy and Clinical Immunology. 2021.

Objective: Contextualize incidence/prevalence of disease to true burden of disease		
Concern	**Solution**	**Examples**
15. Educational materials fail to orient content to a larger context of experience, underrepresenting more common diseases that disproportionately affect marginalized groups (ex. uncontrolled asthma) and overrepresenting fewer common diseases that primarily impact majority groups (e.g., CF).	a. Include epidemiologic information and burden of disease (e.g., incidence/prevalence of disease, DALY/YLD of disease) to give context to healthcare burden.	
Objective: Contextualize variability of disease presentation to true burden of disease		
Concern	**Solution**	**Examples**
16. Educational materials fail to include disease presentations more commonly seen in under-represented populations	a. Include the most common symptoms of greater than one population when educating about disease presentation.	• Acute cardiac events frequently present with shortness of breath or nausea in patients assigned female at birth rather than the more commonly discussed presentation of chest pressure, which is more typically seen in patients assigned male at birth.[35]

[35] Joseph N, Ramamoorthy L, Satheesh S. Atypical manifestations of women presenting with myocardial infarction at Tertiary Health Care Center: An analytical study. J Mid-life Health. 2021.

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DEIAJ Review Framework of Medical Educational Materials: Checklist

Guideline		Applied	N/A
Visuals			
1a	Include representative samples of Fitzpatrick Skin Types 1-6 in diagrammatic visuals (anatomy diagrams, sketches, 3-D rendered images).	☐	☐
2a	Each disease has patients of Fitzpatrick skin type 1-3 **and** 4-6 represented in visuals.	☐	☐
2b	Patient visuals of clinical presentations of disease reflect epidemiologic rates of disease, especially new incidence rates.	☐	☐
3a	Include patients and diagrams of people assigned male **and** female; when both are not possible default to using schematics with assigned female bodies.	☐	☐
4a	Include patients of Fitzpatrick Skin Type 1-3 **and** Fitzpatrick Skin Type 4-6 in sensitive visuals, such as visuals of sensitive areas or visuals of areas with identifiable features, for each disease discussed.	☐	☐
4b	Obscure non-relevant identifiable features in **all** patient visuals.	☐	☐
Language			
5a	Add a disclaimer welcoming input and suggestions.	☐	☐
5b	Use the term **"intellectual disability"** instead of "mental retardation" and "retardation".	☐	☐
	Do not use sex and gender interchangeably.	☐	☐
	Include disclaimer in presentations about the nuances of sex and gender especially in genetics, repro & anatomy *(see expanded framework for disclaimer example).*	☐	☐
	Use the term **"assigned female/male at birth"** instead of "biologically female/male".	☐	☐

	Default to using **"they/them/theirs"** unless pronouns are already known.	☐	☐
	Do not refer to a sperm donor as the "dad" and egg donor as "mom" unless discussing a specific situation with known details.	☐	☐
	Use **3rd person pronouns** when referring to general conditions e.g., "people with ovarian cysts" instead of "women with ovarian cysts".	☐	☐
	Use "**White**" for race and "**European American**" for ancestry instead of "Caucasian".	☐	☐
	Use "**Black**" for race (capitalized) and "**African American**" for ancestry; recognize nuances of terms.	☐	☐
	Use "**cultural humility**" or "**cross-cultural education**" instead of "cultural competence".	☐	☐
	Nations should be directly identified whenever possible; do not use terms "Third World" or "First World" countries.	☐	☐
6a	Use language that asserts the humanity of a people group e.g., "**Black people**" instead of "the Blacks" or "Blacks"; "**Chinese people**" instead of "the Chinese"; "**undocumented immigrant**" instead of "illegal immigrants" or "aliens".	☐	☐
6b	Use **consistent language** across groups of people (i.e., **"White Americans" and "Black Americans"** instead of "people of Northern European descent" and "Black people" in the same context).	☐	☐
7a	Use language that asserts the complexity of values and experiences of people despite shared identities *(see expanded framework for example).*	☐	☐
8a	Use **person-first language** that places the person before the relevant disease state, risk factor, or other qualifier i.e., "**patient with sickle cell anemia**" instead of "sicklers".	☐	☐
9a	Use "**adherence**" instead of "compliance".	☐	☐
9b	Use patient "**concern**" instead of "complaint".	☐	☐
Historical Context			
10a	Include **statement of acknowledgment of history behind major medical movements/discoveries** when relevant (i.e., Tuskegee Syphilis Study, *see expanded framework for more examples*).	☐	☐
11b	Include a statement acknowledging the supremacist actions of scientists and **present the newly recognized or more scientific terminology** (i.e., Reiter's syndrome → reactive arthritis, *see expanded framework for more examples*).	☐	☐

Determinants of Health/Race-Based Health			
12a	Include **flawed assumptions** behind race-based medical practices (i.e., GFR, *see expanded framework for more examples*).	☐	☐
13a	" **Race**" should not be equated with "**racism**" when identifying increased incidence of disease	☐	☐
13b	Include **social context** when stating race as a risk factor for disease when racism, rather than ancestry, is the risk factor.	☐	☐
14a	Include **social determinants of health** that contribute to epidemiologic rates and burden of disease, especially in diseases with greatest health inequities.	☐	☐
15a	Include **epidemiologic information and burden of disease** (e.g., incidence/prevalence of disease, DALY/YLD of disease) to give context to the healthcare burden.	☐	☐
16a	Include **symptoms and presentation of disease as seen in more than one population** to expand on the range of disease presentations, especially in under-represented populations.	☐	☐

Constructing Inclusive and Respectful Clinical Cases Guide

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- The Curriculum for Health Disparities and the Underserved (CHDU) at the University of Michigan Medical School initially constructed this clinical case guide in partnership with Black Medical Association (BMA) and other DEI-centered and identity groups to assist faculty in creating inclusive and respectful clinical cases for presentation in lectures, small groups, question banks, or elsewhere.

- No conflicts of interest to report.

PROCESS

- This resource is structured as guiding principles, which constitute in-depth explanations of various concerns regarding health justice that often arise in the creation of clinical cases, followed by a summary of key points, and finally an appendix, which includes specific examples of language-based revisions.
- This resource is best used prior to the development of a medical case that will be used for learning or teaching purposes. It is suggested that case-writers first read through the Inclusive Clinical Cases Guide (ICCG) to familiarize themselves with the guiding principles and how to incorporate them in written cases. Cases can then be written using the guiding principles set forth in each sub-heading (i.e., Patient-Centered Language, Images, etc.) to prevent the perpetuation of harmful stereotypes, use of racist language, and erasure of historically marginalized groups.
- If cases have been previously written, the ICCG can be used as a starting point to revise clinical cases to help enhance their inclusivity. It is also suggested that editors first read through the ICCG to familiarize themselves with the guiding principles. After reading through the guide, the case should be examined carefully and updated according to the recommendations set forth in each sub-heading (i.e., Patient-Centered Language, Images, etc.)

Patient-Centered Language

- Person-first vs Identity-first. It may seem tricky to keep up with which communities prefer person-first and which communities prefer identity-first language. There is no universal rule, but it is important to use the language preferred by the given community. This requires seeking out the perspective of the community and listening. If still unsure what language to use, default to person-first language but have the humility to change slides, materials, and language upon learning a different method is preferred.[1]
    - Person-first language puts the person or patient first, before their identities, diagnoses, or other qualifiers. For example, rather than describing someone as a "Diabetic", person-first language centers the person as "A person with diabetes". By utilizing person-first language, we avoid reducing a person or patient to labels or lived experiences.[2]
    - Identity-first language puts the identity, diagnosis, or qualifier before the patient. This language style is used by various groups as a means of reclaiming the identity. For example, broadly speaking, the Deaf community has reclaimed "Deaf" seeing deafness as a medical condition rather than a disability. Similarly, the autistic community has reclaimed the term "autistic".[3]
- "Black" and "African American" are often used interchangeably. "African American" became more widely embraced in the 1980s because it mirrored labels to other groups (i.e., "Italian American", "Irish American") who had been freed of widespread discrimination.[4] Today, many people and research studies continue to opt for "African American" as an all-encompassing term in an attempt to be more politically correct. However, "African American" is nation specific. The term recognizes that for many generations, many Black people in the US were descendants of enslaved Africans. However, Black people live all over the world and may not necessarily immigrate from Africa. Therefore, it is important to be specific with language.[5] If referring to Black people, Black is an acceptable word to use.

Images

- Deeply pigmented skin. Images must be used that present pathologies on a variety of Fitzgerald skin tones I-VI[6], including more deeply pigmented skin or darker skin tones. "X is harder to see in black/dark skin" is not an appropriate excuse for lack of inclusion of diverse images.
- Diverse set of images. Presenting a diverse set of images helps train medical students identify pathologies on skin tones that are not white, especially as many pathologies are misdiagnosed/underdiagnosed in people with dark skin.[7]

- Ex: Black people present with more late-stage Lyme disease than white people, which is reflective of the underdiagnosis of the classic rash of stage I Lyme disease, erythema migrans.

Genetics vs. Social Determinants

- Biologic structures vs social structures. When considering why race appears to play a role in disease prevalence, outcomes, or treatment, it is crucial to evaluate whether race is involved as a genetic risk factor or the social structures that cause racial disparities are risk factors.[8]
- Race and ancestry. Race is frequently used as a proxy measure for ancestry, and by extension, disease susceptibility. However, the use of race for ancestry is based in pseudoscience and is antithetical to evidence-based medicine. There is incredible heterogeneity in ancestry within specific races.
    - Ex: Sickle cell traits are more prevalent in people of North and West African descent likely because of the protective effect of this trait in areas where malaria is endemic. This means the prevalence of sickle cell trait is based on *geographic distribution* rather than *race*. Sickle cell disease looks racialized in the US because many, but not all, Black people in the US are of West African ancestry due to our history of slavery.[9]
- Racism is a social determinant. Racism pushes people of color to the margins of society, subjecting them to social and economic inequities and discrimination. The daily experience of such discrimination has psychologic and physiologic effects by raising chronic stress levels.[10] From epigenetics, high levels of stress and low levels of resources can lead to DNA methylation patterns that last for generations and pose risk factors for disease if equity interventions are not enacted.[10] In understanding patients' context, we must be conscious of the racism they face and how it contributes to the development of disease. To quote Francis Collins, "'race' and 'ethnicity' are poorly defined terms that serve as flawed surrogates for multiple environmental and genetic factors in disease causation, including ancestral geographic origins, socioeconomic status, education and access to health care."[11]

Using Demographics

- Building a differential. Demographics and epidemiology can be important when considering a differential diagnosis. However, given that race is a social construct as discussed, this demographic is not necessarily the most important predictor when considering screenings, diagnoses, or treatments.[12] Moreover, visual assessment of race is often inaccurate and leads to false assumptions about patients' susceptibility to diseases or conditions.[9] Considering that in the US, the "one drop" rule confers the identity of "African American", race is very unspecific and does not acknowledge heterogeneity of groups.[12]
    - Consider whether *racism* or *race* are contributing to a patient's disease risk and subsequently your differential. If the answer is *racism* (which is more often the case), challenge students to ask and evaluate what social determinants of health

because of racism are relevant to the differential diagnosis or decision to offer a screening test.
    - Ex: Black children are four times more likely to be admitted to the hospital for asthma exacerbations and have a ten times higher death rate than non-Hispanic white peers.[13] Black children who experience frequent discrimination are more likely to experience treatment-resistant asthma with higher levels of TNF-alpha and higher bronchodilator response, so *racism* contributes to asthma disparities, rather than race.[14] Additionally, children in low socioeconomic status (SES) households are more likely to be exposed to secondhand smoke and develop lower respiratory tract infections.[13] Given that people of color are more likely to be low SES because of racist policies that have built and maintained the racial wealth gap such as historical redlining, low SES as a result of *racism* also contributes to asthma disparities.[15]
- Demographics. If planning to list demographics such as race for one case, list them for all cases. Do not point out that one patient is Black while not pointing out that other patients are white. This perpetuates assumptions that the default race is white.[16]
- Pronouns. Include pronouns for all patients & preferred name where appropriate.
- Prevalence, incidence, and demographics. Ensure that demographics reflect the population when constructing the prevalence/incidence of disease as well as proportion of groups in a population.
- Stereotypical diseases. Avoid giving minority patients diseases that are stereotypically associated with their race/ethnicity, sexual orientation, gender identity, etc.[8,17] Presenting students with stereotypical associations can build pattern recognition behaviors that are racist.[16] This can lead to heavy reliance on classic presentations based on stereotypes and cause missed or delayed diagnoses in clinical practice.[8]
    - Ex: “A Black child has leukemia”, rather than sickle cell disease
    - Ex: “A trans woman has meningitis”, rather than HIV/AIDS

Addressing Disparities While Avoiding Stereotypes

- Classic presentations and stereotypes. Part of being anti-racist requires addressing healthcare disparities. However, it is imperative to avoid perpetuating stereotypes of groups in the name of teaching students “typical” or “classic” presentations of conditions disproportionately impacting these particular groups.
    - Ex: Acknowledging Black men who have sex with men (MSM) are disproportionately more likely to be infected HIV[18,19] while not falling into the stereotype that *all* Black men are infected with HIV or that Black MSM are on the downlow.[20]
- Link literature and evidence to health disparities, including the factors causing such disparities, and discuss these factors. Ensure that small group leaders feel prepared to discuss health disparities linked to the given disease processes presented by actively researching existing disparities and their causes.
- Medical harms of stereotypes. Lean into discussion about the medical harms that can arise if stereotypes are used to develop differentials, make diagnoses, or choose treatments.

    - Ex: “Medical student interviews RR, a Black female with obesity. In his oral presentation, he suggests helping RR get food stamps so that she can afford healthier food. The physician challenges the student to talk more with RR about her barriers to weight loss, and he learns that instead of access to healthy food (as he had assumed), RR’s biggest barrier to weight loss is her long work hours as a bank executive sitting at a desk.”[8]
- Blanket statements. Do not use blanket statements for cultures.
    - Ex: “One part of the Jehovah’s Witnesses faith is to not receive blood transfusions, so it is important to engage your patient in dialogue about whether they observe this part of the faith and offer treatment alternatives”, NOT “Jehovah’s Witnesses refuse blood transfusions, so care is complicated, and interactions are frustrating.”[8]

Engaging Students

- Do not ask any student to speak on behalf of an identity they hold (i.e., race, ethnicity, gender identity, gender expression, sexual orientation, etc.).
- Do not single out any student of a particular group.
- Acknowledge that terms are constantly changing, and it is best practice to use the terms that the marginalized group signals are appropriate for use.
- Do not ask students to offer information about diseases/sicknesses that they have had.
- Do not use negative politically charged phrases in interactions with students.
    - Ex: “Build the wall”
    - Ex: “Extreme vetting”

KEY TAKEAWAYS

- Creating clinical cases that use inclusive language, avoid stereotypes, acknowledge disparities and social determinants of health, and represent a diversity of patient backgrounds not only supports students' education to become more competent physicians but also improves our learning environment so that students feel respected, safe, and valued.
- When referring to an individual or group, use the language identified by that individual or group to express their identity.
- Ensure students can identify a particular disease process on any skin tone by using a diverse set of images.
- Demographics must be representative, appropriate, and necessary to be included in the case.
- Avoid perpetuating stereotypes when highlighting the "classic presentation".
- Lean into discussion about the medical harms caused by health disparities and stereotypes. Be open to learning from students and encourage this discussion.
- Be cognizant of and respect students' lived experiences when engaging them in discussion.

APPENDIX

This appendix includes specific examples of language-centered revisions. Although, it is important to note that this appendix is meant to be useful in the creation or revision of medical cases, it is not exhaustive. Care should be taken to incorporate inclusive and respectful language that might not be represented within this appendix.

Terms to Avoid	**Terms to Use**
Alcoholic	Person with Alcoholism[21]
Addict / Junkie	Person experiencing drug/alcohol problem[21]
Biologically/Genetically Male/Female	Assigned Male/Female at Birth (AMAB or AFAB)
black	Black (*note:* change is in capitalization)[22]
Blacks or The Blacks	Black people
Caucasian	White[22]
Complaint	Concern[23]
Compliance/Compliant	Adherence/Adherent[23]
Cultural competence	Cultural Humility[24] *or* Cross-cultural education[25] (*note*: depends on user's meaning)
deaf	Deaf (*note:* change is in capitalization and should be used when referring to a particular group of Deaf people)[26]
Diabetic	Patient with Diabetes[2,21]
Epileptic	Patient with epilepsy[27]
Gender Identity Disorder	Gender Dysphoria[28]
Hermaphrodite	Intersex[28]
HIV patient	Person Living with HIV (PLWHIV)[2,21]
Homeless Person	Person Experiencing Homelessness[2,21]
Homosexual Men / Homosexuals	Men who have Sex with Men (MSM)[28]
"Identifies as…" transgender/a woman/a man/nonbinary	"Is…"

Illegal Farm Worker	Migrant Workers/Undocumented Worker
Illegal Immigrant / Illegals / Aliens	Undocumented Immigrant
IV Drug User (IVDU) / Heroin User	Person Who Injects Drugs (PWID)[2,21]
Lady	Woman
[Language]-speaker	Person who speaks [Language]
Mentally ill	People with mental illnesses[21]
Obese, fat	Weight, Unhealthy weight (*note:* literature review suggests preferred terms is highly variable by demographics)[29]
Prostitute	Sex Worker
Retard / Retarded / Retardation	Person with an Intellectual/Developmental/Cognitive Disability[21]; neurodivergence[30]
Schizophrenic	Patient with Schizophrenia[21]
Sex Change / Pre-Operative / Post-Operative	Transition[28], Gender-affirming Care, Gender Affirmation
Sexual Preference	Sexual Orientation[28]
Sickler	Patient with Sickle Cell Disease[2]
Slaves	Enslaved Persons
Third World / First World Developing / Developed Countries	When possible, refer to the exact country; otherwise, can use Global North / Global South; Low-Middle-Income Countries (LMICs) / High-Income Countries (HIC)[31]
Transgendered / Transgenders / A transgender; Intersexed	Transgender, Intersex[28]
Transvestite	Cross-dresser (*note:* should not be used unless patient self-identifies with this term)[28]
Wheelchair-bound, confined to a wheelchair	Wheelchair user, uses a wheelchair
Unsafe or Risky Sex or Sexual Behavior	Unprotected Sex, Condomless Sex[32]

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