

Foreword on Moving Forward

Language about **identity, diversity, equity, and inclusion** evolves relatively quickly. The language and terms used throughout this course reflect contemporary best practice and guidance. To ensure continuous alignment with current best practice, terminology will be reviewed and updated as guidelines evolve. For example, when color is used regarding race, capital letters are used (e.g., Black, White, Brown), as recommended by the National Association of Black Journalists.

Characters throughout this course will use varying pronouns, such as she/her, he/him, and they/them, to reflect the range of gender identities that exist within our communities.



Health Inequities in Joint Health Care

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Previous Activities to Check Out:



CME CAST
Equity and Health Care Disparities: The Role of Leaders in Addressing the Crisis

CMEO BriefCase
Addressing Racial Disparities in Orthopedic Care

CME CAST
Parameters of Pain Care: Mitigating Racial Disparities in Patients with Chronic Pain

CMEO BriefCase
Achieving Equity in the Management of Chronic Pain: Treating the Whole Patient



Learning Objective

Analyze the influence of unconscious bias, health disparities, and health inequities on joint health care.



Joint Health: Terms and Conditions

- Arthritis

- Osteoarthritis
- Rheumatoid
- Psoriatic
- Gout



- Autoimmune

- Lupus
- Fibromyalgia
- Sjögren syndrome
- Ankylosing spondylitis



- Connective tissue disorders

- Ehlers Danlos syndrome
- Marfan syndrome

- Osteoporosis

- Tick-borne illnesses/Lyme disease 

- Osteomyelitis

- Paget's disease of bone

- Rickets

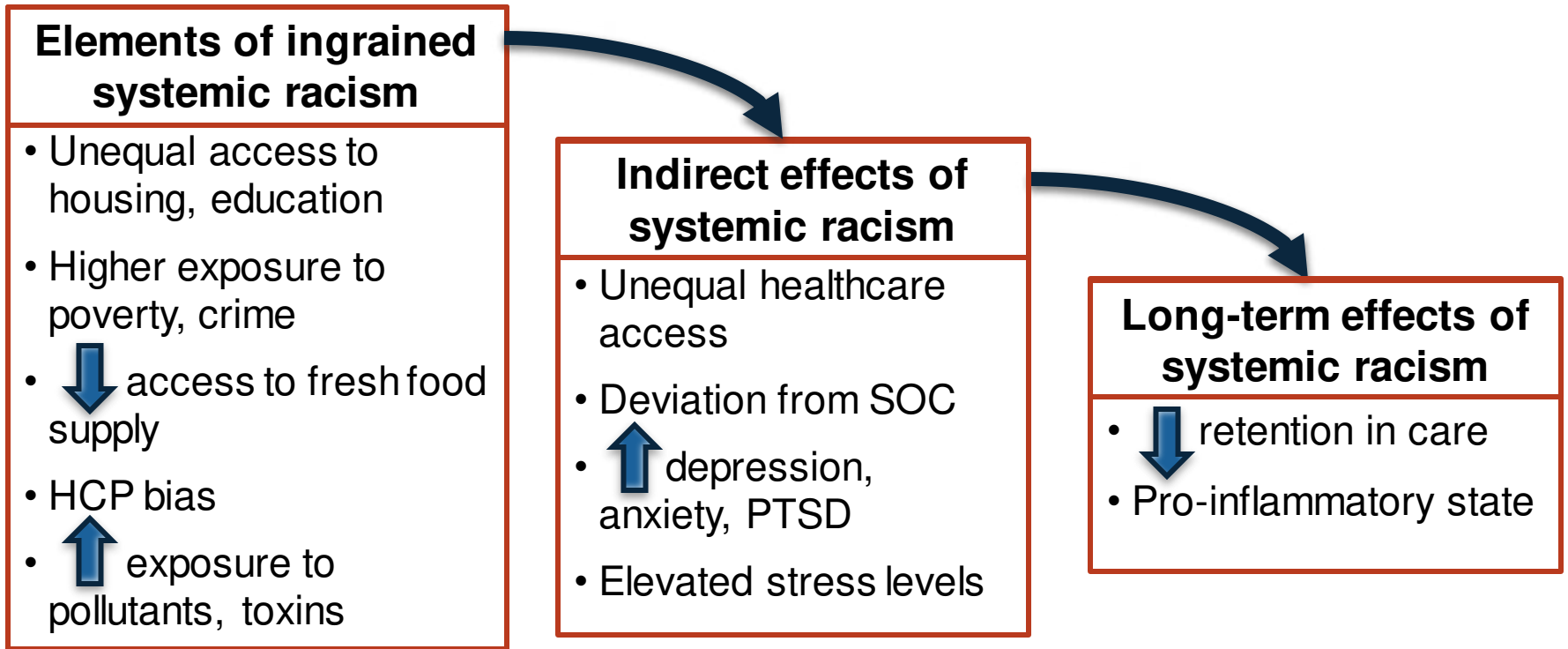
- Sickle cell disease

- Tendonitis

- Many more



Health Disparities: How We Got Here¹⁻⁵



HCP = healthcare provider; PTSD = post-traumatic stress disorder; SOC= standard of care

1. Hasan B, et al. *Clin Rheumatol*. 2022;31:1–13. 2. CME Outfitters, LLC. 2021. Equity and Health Care Disparities: The Role of Leaders in Addressing the Crisis. 3. CME Outfitters, LLC. 2021. Addressing Racial Disparities in Orthopedic Care. 4. CME Outfitters, LLC. 2021. Achieving Equity in the Management of Chronic Pain: Treating the Whole Patient. 5. CME Outfitters, LLC. 2021. Parameters of Pain Care: Mitigating Racial Disparities in Patients with Chronic Pain.

Joint Health and Disparities: What Else Do We Know?

- Underserved patients may appear with later stage disease due to their SDoH¹⁻³
- Few studies explore disparities in culturally competent care⁴
- Infrequent reporting and analysis of race, ethnicity, and SES within top orthopedic journals⁵
- HCPs need to assess their own biases^{6,7}



Project Implicit

SDoH = social determinants of health; SES = socioeconomic status

1. Barton JL, et al. *Arthritis Care Res* (Hoboken). 2011;63(9):1238–1246. 2. Riad M, et al. *J Clin Rheumatol*. 2020;26(7):279-284. 3. Nierengarten MB. The Rheumatologist Website. 2018. <https://www.the-rheumatologist.org/article/racial-disparities-in-rheumatology-what-are-we-doing-about-it/>. Accessed August 20, 2022. 4. Amen TB, et al. *J Gen Intern Med*. 2022;37:682-685. 5. Crnkovic C, et al. *J Bone Joint Surg Am*. 2022;104(14):1244-1249. 6. American Academy of Family Physicians (AAFP). AAFP Website. 2022. <https://www.aafp.org/family-physician/patient-care/the-everyone-project/toolkit/implicit-bias.html>. Accessed August 19, 2022. 7. Project Implicit. Project Implicit Website. 2011. <https://implicit.harvard.edu/implicit/takeatest.html>. Accessed August 19, 2022.

Racial and Ethnic Variations in Joint Health

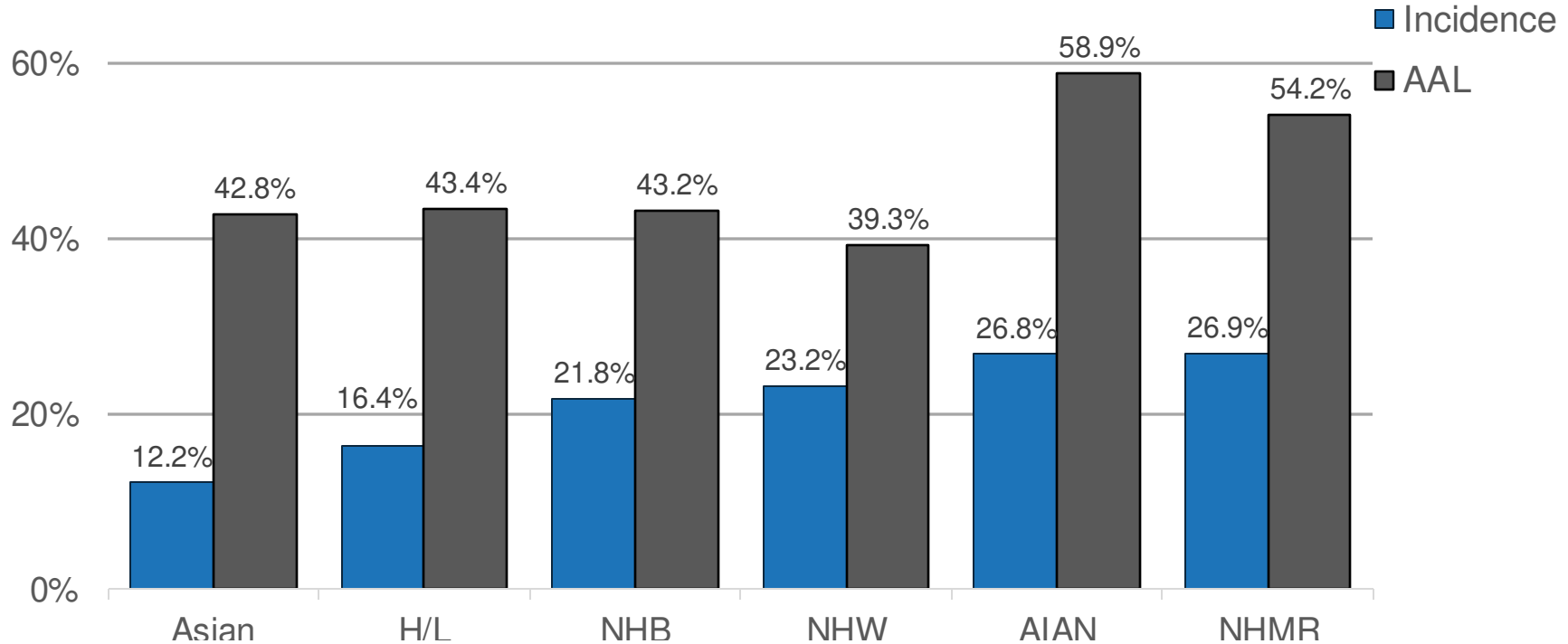
- Racial and ethnic predispositions
 - Black adults 60% more likely to receive DM diagnosis and 2.3x more likely to be hospitalized for lower limb amputations vs. NHW adults¹
 - SCD occurs in 1/365 births of Black infants vs. 1/16,300 Hispanic American births²
- African Americans and Hispanic/Latino Americans report severe joint pain twice as much as NHW people with OA³
- Black and Hispanic patients less likely to receive opioid prescriptions, impacting pain management⁴



AIAN = American Indian/Alaska Native; DM = diabetes mellitus; NHW = non-Hispanic White; OA = osteoarthritis; SCD = sickle cell disease

1. U.S. Department of Health and Human Services (HHS). HHS Website. 2021. <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=18>. Accessed August 20, 2022. 2. Centers for Disease Control & Prevention (CDC). CDC Website. 2022. <https://www.cdc.gov/ncbddd/sicklecell/data.html>. Accessed August 19, 2022. 3. Movement is Life. Movement is Life Journey Website. 2022. <http://movementislifejourney.com/jointpain.php>. Accessed August 19, 2022. 4. Cho G, et al. *Am J Prev Med*. 2022;62(3):422-426.

Prevalence of Clinical Diagnosis and AALs Experienced by Patients with Arthritis

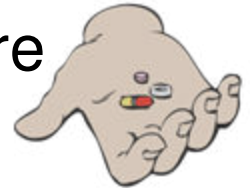


AALs = arthritis-attributable activity limitations; AIAN = American Indian/Alaska Native; H/L = Hispanic/Latino; NHB = non-Hispanic Black; NHMR = non-Hispanic multi race; NHW = non-Hispanic White

Centers for Disease Control & Prevention (CDC). CDC Website. 2022. https://www.cdc.gov/arthritis/data_statistics/disparities.htm. Accessed August 18, 2022.

The Cost of Joint Health and Relationship to Income

- Poverty rates in the U.S.¹
 - Native American (25.4%), Black (20.8%), Hispanic (17.6%), and White (10.1%) peoples
 - In 2018, poverty rate for people living w/ a disability was 25.7%
- Prevalence of arthritis ↓ as income ↑²
 - 30-point difference in presence of arthritis for those considered poor/near poor (59%) vs high income (28.7%)³
- Low SES associated with less THA and TKA⁴
- White race, low-education area, and low income were all factors associated with prolonged opioid use⁵



THA = total hip arthroplasty; TKA = total knee arthroplasty

1. Poverty USA. Poverty USA Website. 2022. <https://www.povertyusa.org/facts>. Accessed August 21, 2022. 2. Ready J. Yale School of Medicine Website. 2022. <https://medicine.yale.edu/news-article/physicians-need-to-move-beyond-checklists-to-address-disparities-in-arthroplasty-care/>. Accessed August 21, 2022. 3. Theis KA, et al. *MMWR Morb Mortal Wkly Rep*. 2021;70:1401–1407. 4. Reyes AM, et al. *Rheum Dis Clin North Am*. 2021;47(1):21-40. 5. Kuo YF, et al. *Am J Med*. 2016;129(2):221.e21-30.

Impact of Manual Labor on Joint Health

- Labor-intensive jobs are disproportionately held by racial and ethnic underserved populations^{1,2}
- SLE incidence and environmental triggers³
 - Higher incidence of SLE in underserved populations vs White counterparts
 - Racial and ethnic underserved populations more likely to be employed in outdoor, industrial, and gendered workplaces (i.e., nail and hair salons)
- In patients living with RA:
 - Risk of work disability and unemployment high⁴
 - Within the first 2-3 years of disease, 20-30% rate of disability⁴
 - Risk of ACPA-positive RA increased by 30% among day-oriented shift workers and workers with both daytime and nighttime shifts⁵

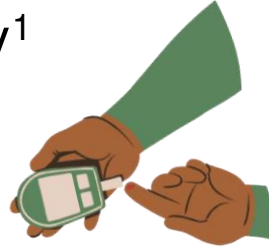


ACPA = anti-citrullinated protein autoantibodies; RA= rheumatoid arthritis; SLE = systemic lupus erythematosus

1. Burgard SA, et al. *Am Behav Sci*. 2013;57(8):10.1177/0002764213487347. 2. Skovlund SV, et al. *BMC Public Health*. 2020;20:1741. 3. Hasan B, et al. *Clin Rheumatol*. 2022;1-13. 4. Berner C, et al. *Int J Rheumatol*. 2018;2018:3756207. 5. Hedström AK, et al. *RMD Open*. 2017;3:e000475.

Diabetes, Obesity, and Joint Pain

- Rates of adult-diagnosed DM by ethnicity¹
 - American Indian and Alaska Native: 14.5%
 - Non-Hispanic Black: 12.1%
 - Hispanic: 11.8%
 - Non-Hispanic Asian: 9.5%
 - Non-Hispanic White: 7.4%
- Higher obesity rates and poorer diet quality are seen in²:
 - Black and Hispanic people
 - Low-income populations
- Obesity worsens joint pain, utilize team approach to address obesity
- Black and Hispanic patients have less access to exercise and physical therapy² and social environments have fewer parks, sidewalks for exercise³



1. American Diabetes Association (ADA). ADA Website. 2022. <https://diabetes.org/about-us/statistics/about-diabetes>. Accessed 08/22/22 2. Reyes AM, et al. *Rheum Dis Clin North Am.* 2021;47(1):21-40. 3. Harvard Chan School. Harvard School of Public Health Website. 2020. <https://www.hsph.harvard.edu/obesity-prevention-source/obesity-causes/physical-activity-environment/>. Accessed August 21, 2022.

Telehealth, Age, and Disparities in Joint Care

- Telehealth and Digital Divide

- Black pts are 35% less likely to use telemedicine vs White pts¹
- Hispanic pts are 51% less likely vs White pts¹
- Barriers in telemedicine widen gaps in joint health care²
- Older patients of color less likely to use telehealth services³



- Underserved populations are more likely to have OA and less likely to have surgical care⁴

- Black and Hispanic postmenopausal women less likely to undergo TKA⁵



Disparities in Surgical Interventions

- Persistent disparities for hip fracture surgery in Black patients¹
- Joint replacement
 - In TJA, Black patients more likely to have complications and less likely to be discharged home²
 - In OP-THA³
 - In 2011, 0.2% difference between Black vs. White patients undergoing OP-THA
 - In 2019, increased to 4.3% difference between Black vs. White patients



OP = outpatient; SCD = sickle cell disease; TJA = total joint arthroplasty; THA = total hip arthroplasty

1. Amen TB, et al. *J Am Acad Orthop Surg.* 2022;30(2):e182-e190. 2. Amen TB, et al. *J Bone Joint Surg.* 2020;102(9):811. 3. Amen TB, et al. *J Arthroplasty.* 2022;S0883-5403(22)00521-6.

Disparities in Joint Replacement

- Black patients > 30% less likely to undergo THA or TKA than White patients¹
 - Black women wait 2 years longer than white women²
- Black patients are 2.5-5x more likely than White patients to be discharged to inpatient rehabilitation facility or skilled nursing facility³
- Black patients are at higher risk of revision TKA than White patients⁴

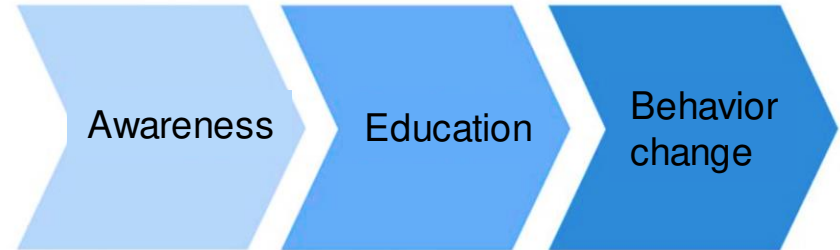
Comparison of Population-Adjusted Incidence Rates of Surgical Procedures per 100 000 Persons in the US⁵

Variable	2012			2017			Change in difference
	White	Black	Difference	White	Black	Difference	
Men							
THA	98.4	52.9	45.5	131.7	74.6	57.1	11.6
TKA	184.8	79.8	105.1	220.5	95.6	124.9	19.9
Women							
THA	118.2	60.0	58.2	160.6	81.6	79.0	20.8
TKA	277.9	185.7	92.2	322.7	218.5	104.2	12.0

1. Katz JN. *J Bone Joint Surg Am.* 2020;102:e137(1-2). 2. Ready J. Yale School of Medicine Website. 2022. <https://medicine.yale.edu/new-s-article/physicians-need-to-move-beyond-checklists-to-address-disparities-in-arthroplasty-care/>. Accessed August 19, 2022. 3. Singh JA, et al. *JAMA Netw Open.* 2019;2(10):e1914259. 4. Bass AR, et al. *JAMA Netw Open.* 2021;4(7):e2117581. 5. Thirukumaran CP, et al. *JAMA Netw Open.* 2021;4(5):e2111858. 5. Best MJ, et al. *JAMA Surg.* 2021;156(3):274-281.

Approaches to Minimizing Disparities

- Assess SDOH in treatment planning process
 - Integrate medical and social care needs
 - Screening is crucial
 - **NowPow**¹
 - Resource to identify resources
 - Input SDOH from EMR to find local resources for the patient
 - Fewer throw rugs (e.g., lose weight before we can operate)
- Pre-operative patient optimization
 - Consider factors such as obesity, DM, smoking, home environment, and social support
 - Impact of high risk of rehabilitation and risk stratification – will a surgeon operate?
- Ask patients if they foresee any barriers to accessing treatment, follow-up appointments, and medication adherence
 - Recognize potential cultural or language barriers
 - Integrate telehealth as appropriate, make sure patient/family are comfortable with technology
 - Educate patient/family about treatment options to encourage SDM



Approaches to Minimizing Disparities (cont.)

- Provide educational resources and integrate other members of care team in educating patients—additional information can be found in this prior CMEO activity
 - MyArthritisRx¹
 - Movement is Life²

MOVEMENT IS ...

- **Raising awareness** of the epidemic of limited mobility and developing functional solutions to reduce disparities.
- **Strategizing** with HCPs, community leaders, and other stakeholders to combat the disparate rate of disabling joint pain among women, AAs, and Hispanics.
- **Implementing** community-based initiatives to combat the alarming rates of arthritis and co-morbid conditions that lead to immobility.
- **Advocating** to decrease musculoskeletal health disparities that contribute to joint pain and immobility
- **Educating** patients on the importance of daily physical activity to decrease poor joint health and improve overall health



1. MyArthritisRx. MyArthritisRx Website. 2022. <https://www.myarthritisrx.com/>. Accessed August 20, 2022. 2. Movement Is Life. Choose Movement for Life Website. 2022. <https://www.choosemovementforlife.com/>. Accessed August 20, 2022.

Approaches to Minimizing Disparities: Shared Decision Making

- Represent underserved patients in educational tools
 - Underrepresented patients sharing their experience vs. just the surgeon provides access to a community of relatable patients
- In hip and knee OA:
 - Let's discuss all the treatment options available to you



Link to patient video can be found on the CMEO Patient Hub @
<https://www.cmeoutfitters.com/diversity-and-inclusion-hub/>

SMART Goals

Specific, Measurable, Attainable, Relevant, Timely

- Identify health disparities that may impact the joint health of each patient, including unconscious bias, prior healthcare experiences, SDoH, age of onset of joint pain, occupation, health literacy.
- Develop individualized treatment plans that consider health disparities, comorbid disease, age, and social support needs.
- Educate patients to minimize inequities in joint health care.
 - Patient education materials need to reflect diversity and consider health literacy.
- Integrate all members of the care team to develop holistic action plans for all patients.



Visit the
Diversity and Inclusion Hub

Free resources and education for
health care professionals and patients

<https://www.cmeoutfitters.com/diversity-and-inclusion-hub/>

Check out the entire series for additional activities, resources, and more.

Cardiology

Maternal Health

Pain Management

Gastroenterology

Mental Health

Vaccination

Joint Health

Obesity

Vision Care

www.CMEOutfitters.com/diversity-and-inclusion-hub/

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