

Dr. Nichols and her graduating class of 2016

Inequities in the Field of Pathology Among Black/African Americans in Massachusetts

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Goals

Shining a light on the disparities in Pathology that results from **underrepresentation** in the workplace, lack of adequate **education** and the **inconspicuousness** of the profession.



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Biases in Pathology

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Autopsies

Biopsies

Diagnoses



What is Pathology?

THE ROLE OF A PATHOLOGIST



The bridge between a patient and their care

Can give or withhold access to services



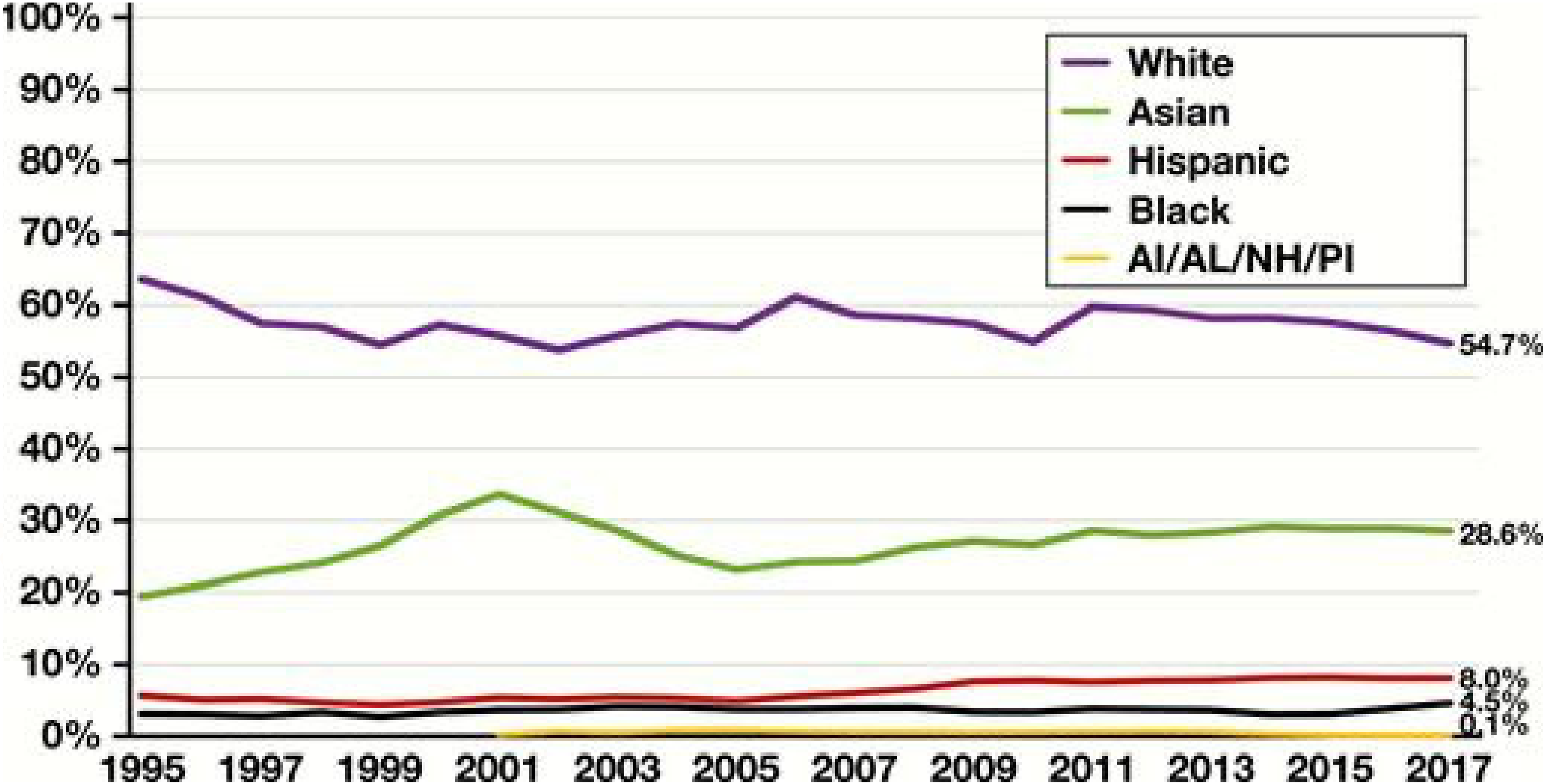
The Role of Diversity



“...when diversity and cultural competence is lacking, clinical competence is inevitably lacking”

– Dr. Nichols

Distribution of Pathology Residents by Race from 1995-2017



Source: Johns Hopkins University School of Medicine

Diversity Distribution of Race in MA as Compared to the U.S.

U.S. Total <i>Pathology, 2022</i> Total Physicians: 21,215 Physicians by Race/Ethnicity			Massachusetts <i>Pathology, 2022</i> Total Physicians: 1,012 Physicians by Race/Ethnicity		
American Indian or Alaska Native	.	0.2%	American Indian or Alaska Native	.	***
Asian	●	20.5%	Asian	●	20.8%
Black or African American	●	3.1%	Black or African American	●	2.0%
Hispanic, Latino, or of Spanish Origin*	●	6.1%	Hispanic, Latino, or of Spanish Origin*	●	5.7%
Multiracial (non-Hispanic)	●	1.8%	Multiracial (non-Hispanic)	●	1.8%
Native Hawaiian or Other Pacific Islander	.	0.1%	Native Hawaiian or Other Pacific Islander	.	0.0%
Other	●	1.0%	Other	●	***
Unknown	●	8.9%	Unknown	●	6.2%
White	●	58.3%	White	●	62.5%

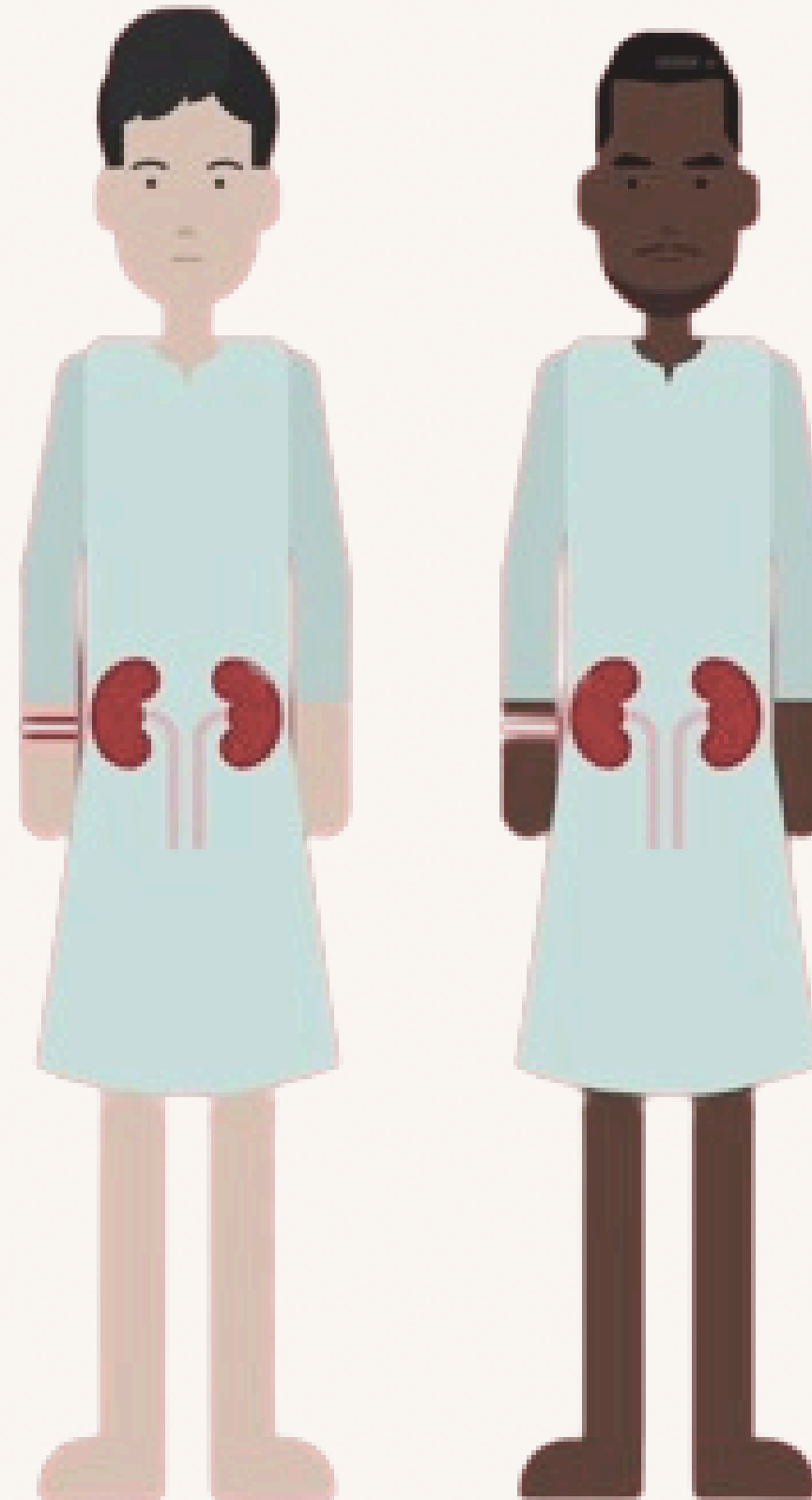
*Alone or in combination

Implementation of Racial Biases into the Field of Pathology In Massachusetts

Race-based diagnostic bias	Presentation of links between racial groups and particular diseases	Priming students to view sickle cell disease as affecting only Black people, rather than as common in populations at risk for malaria ^{17,18}
Pathologizing race	The tendency to link minorities with increased disease burden	In a slide showing the incidence of 13 types of brain tumors in Black patients and White patients, using the title “Incidence rates are higher among Blacks than among Whites,” even though 10 of the tumors occurred more frequently in White patients
Race-based clinical guidelines	Teaching of guidelines that endorse the use of racial categories in the diagnosis and treatment of diseases	Teaching students to use different first-line antihypertensive drugs in Black patients than in White patients, without any exposure to literature that questions these practices and misleading

Racial Biases Among Medical Students

- Larger Brain
- Better Hearing
- More efficient respiratory system



- Less sensitive nerve endings
- Thicker Skin
- Better at detecting movement



Flawed Autopsies and Wrongful Convictions



Source: New York Times

“ I’m a Black mother. He just knew, off rip — ‘she killed her baby’. ”

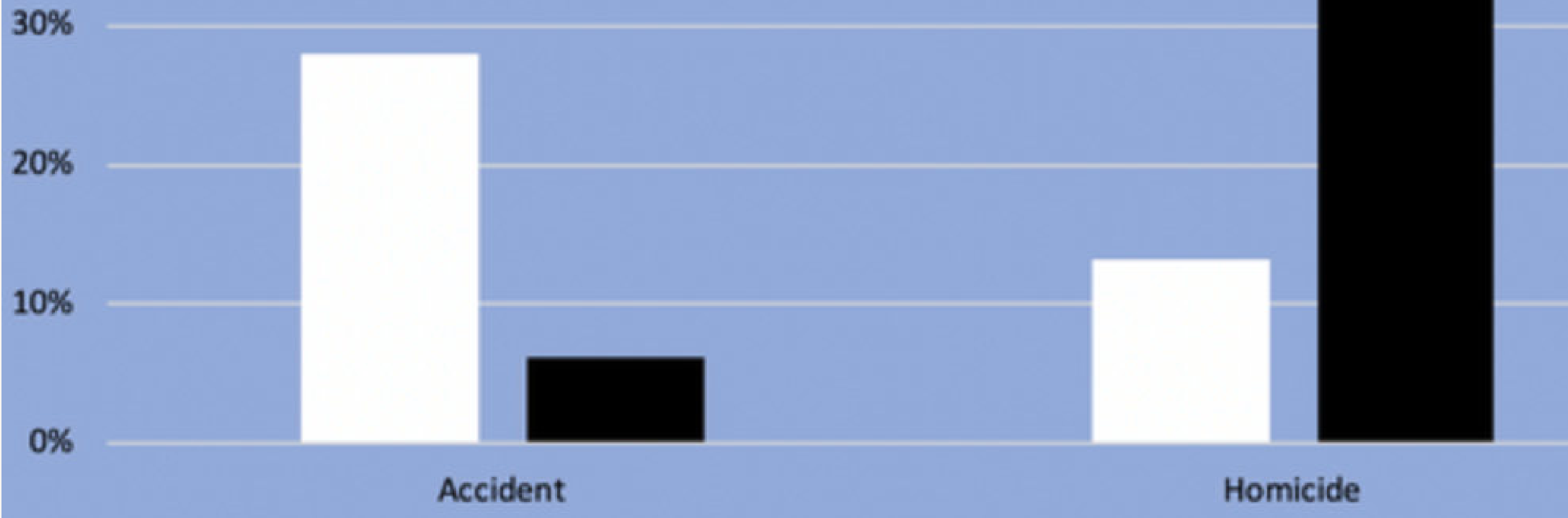
“ They make him out to be a monster, and he’s not. ”



Source: MCIR

Homocide vs Accident

Determined manner of Death that is Unnatural for Adults





“With the sort of work that I have done, I might have gone farther and reached a higher plane had it not been for the colour of my skin.”

–Dr. Solomon Fuller

Achievement Gap

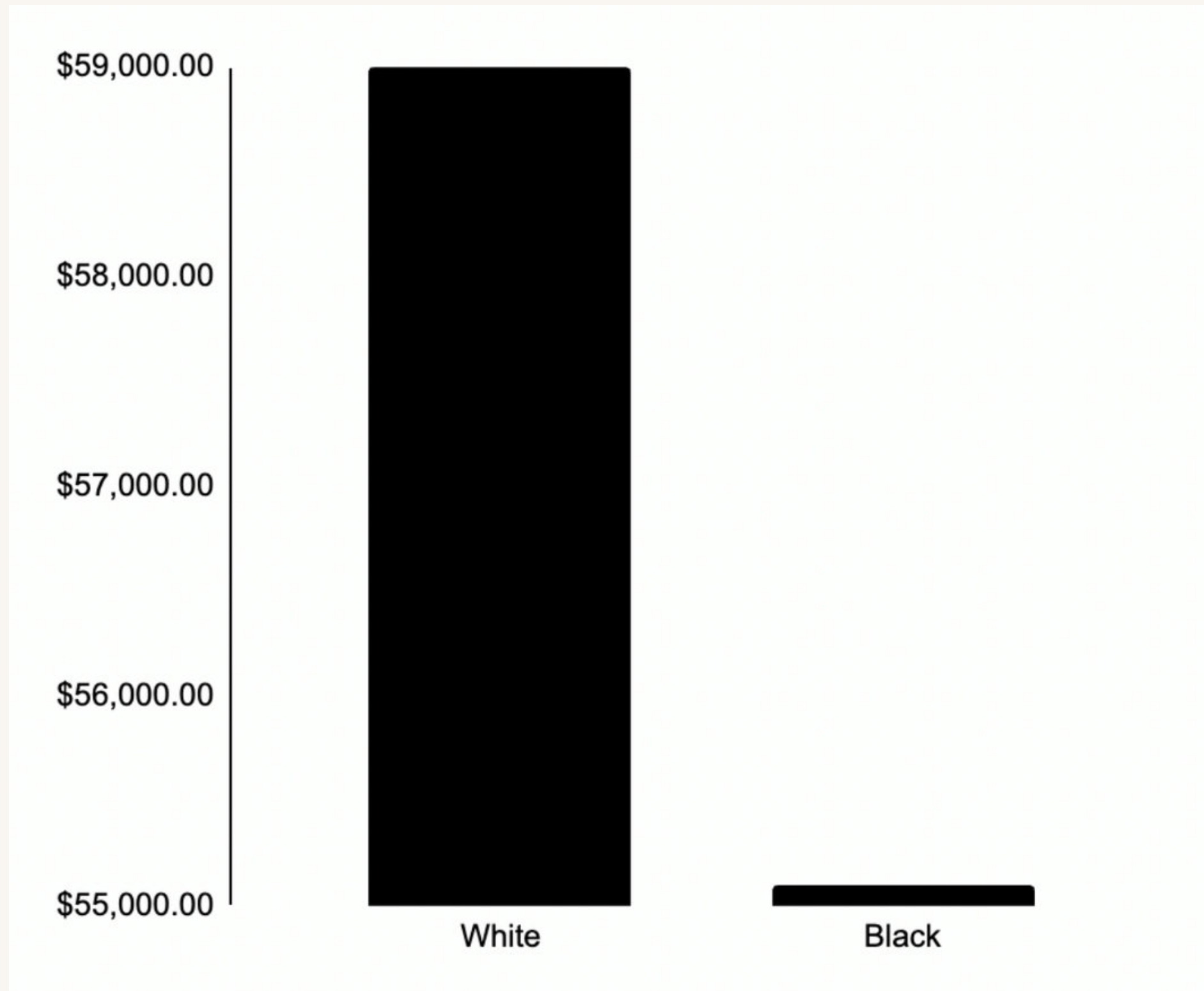
27%

of black
pathologists are
tenured

51%

of white
pathologists are
tenured

Compensation Gap





“... There are days when the isolation has broken me down. When the microaggressions and words of bias have made me cry. Days when I felt like I chose the wrong profession.”

-Dr. Nichols

Marilouise Elizabeth Nichols, MD




Bias

Unconscious

2/3 of pathologists say that unconscious bias is the most significant problem in their field

Misconceptions of the field

Med school students are being driven away from the field because of the following thoughts:



"They are not real physicians"



"They're not as important"



"They don't care for patients"

How can we address this
problem?



🌟 Potential Solutions 🌟

Mass Brigham's Approach

Artificial intelligence

Diagnostic Implementation

- Cell analysis models shows stark differences in evaluating POC
- Models perform more accurately in white people because of lack of diversity in research

Source: Mass General Brigham

Johns Hopkins' Approach

Pipeline Program

High School to Residency

- Exposure of university/medicine to black high school students
- Increase from one to 18 black pathology residents in six years

Source: Johns Hopkins Medicine

Thank You!

Do you have any questions?



Citations

Amutah, B.A., C. (2021, January 6). Misrepresenting race — the role of medical schools in ... The New England Journal of Medicine .

Clinical pathologist salary (June 2024). Zippia. (2024, April 25).

Dewan, S. (2022, June 20). Failed autopsies, false arrests: A risk of bias in Death Examinations. The New York Times.

Dror, I., Melinek, J., Arden, J. L., Kukucka, J., Hawkins, S., Carter, J., & Atherton, D. S. (2021). Cognitive bias in forensic pathology decisions. Journal of Forensic Sciences, 66(5). <https://doi.org/10.1111/1556-4029.14697>

Fischer, G., Anderson, L., Ranson, M., Sellen, D., & McArthur, E. (2021, December). Public perceptions on pathology: A fundamental change is required. Journal of clinical pathology. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8606462/>

Fletcher, A. (2024, February 21). Celebrating Dr. Solomon Fuller's seminal work identifying alzheimer's pathology. Synapticure. <https://www.synapticure.com/blog/celebrating-doctor-solomon-fuller-seminal-work-identifying-alzheimers-pathology#:~:text=Following%20graduation%20from%20medical%20school,a%20hospital%20pathologist%20in%201899.>

Hoffman, K. M., Trawalter, S., Axt, J. R., & Oliver, M. N. (2016, April 19). Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. Proceedings of the National Academy of Sciences of the United States of America.

Jubbal, K. (2022, June 4). So you want to be a pathologist. Med School Insiders. <https://medschoolinsiders.com/medical-student/so-you-want-to-be-a-pathologist/>

Citations

Melinek , Judy, Jonathan L., Dror, I., Kukucka , J., & Hawkins, S. (2021, February 20). Cognitive bias in forensic pathology decisions – dror – 2021 – journal of forensic sciences – wiley online library. Cognitive bias in forensic pathology decisions. <https://onlinelibrary.wiley.com/doi/full/10.1111/1556-4029.14697>

Mitchell, K. (2021, November 17). He's served 20 years in two notorious Mississippi prisons. did this murder suspect receive a fair trial? Mississippi Center for Investigative Reporting. <https://www.mississippicir.org/news/hes-served-20-years-in-two-notorious-mississippi-prisons-did-this-murder-suspectreceive-a-fair-trial>

OUP accepted manuscript. (2020). American Journal of Clinical Pathology. <https://doi.org/10.1093/ajcp/aqaa139>

Table 13. Practice Specialty, Males by Race/Ethnicity, 2018. (n.d.). AAMC. <https://www.aamc.org/data-reports/workforce/data/table-13-practice-specialty-males-race/ethnicity-2018>

Tanvir, I., Hassan, A., Alahmadi, S., Waseem, H., Anwer, J., Shafie, A., Sheikh, M. A., Elbasateeny, S. S., & Khosa, F. (2023). Ethnic and Gender Diversity in Pathology: A Dream Deferred. Cureus. <https://doi.org/10.7759/cureus.38528>

U.S. Physician Workforce Data Dashboard. (n.d.). AAMC. <https://www.aamc.org/data-reports/report/us-physician-workforce-data-dashboard>

Vaidya, A., Chen, R., Williamson, D., Song, A., Jaume, G., Lu, M., Lipkova, J., Shaban, M., & Chen, T. C. (2024, April 18). Researchers Reduce Bias in Pathology AI Algorithms Using Foundation Models. Mass General Brigham. <https://www.massgeneralbrigham.org/en/about/newsroom/press-releases/researchers-reduce-bias-in-pathology-ai-algorithms-using-foundation-models>