

Medical illustrations for all



Meet the medical student tackling representation, one illustration at a time.

by **Christy Kim and Vicky Uhland**

Many people living with multiple sclerosis have tales of delayed diagnoses or misdiagnoses. And that can be particularly true for people of color.

Although recent research has shown that Black and Latino people have a higher incidence of MS than previously thought, there's evidence that some medical professionals, family and friends still tend to think of MS as a disease that mainly affects white people. Consequently, they may not consider MS even when people of color present with common MS symptoms.

And that's not only the case with MS. Conditions like Lyme disease, Kawasaki disease (inflammation of blood vessels) and skin cancer present differently in darker skin tones, leading to missed diagnoses or late diagnoses.



Patricia Louie, PhD, co-authored a paper in 2018 that revealed that only 4.5% of images in medical textbooks depict dark skin.

“For example, Black Americans are three times more likely than white Americans to receive a late-stage diagnosis for skin cancer. This may be because doctors are not trained to recognize how skin cancer presents on darker skin tones,” says Patricia Louie, PhD, co-author of a 2018 paper that revealed that only 4.5% of images in medical textbooks depict dark skin.

Skin tone can even affect COVID-19 treatment.

“A study published in the New England Journal of Medicine (in 2020) found that pulse oximeters fail to detect oxygen levels three times more often in Black versus white patients,” Louie says. “The researchers suspect that this is due to the way light is absorbed by darker skin tones. The finding exemplifies the potential harm done by a medical tool that normalizes light skin tone as the default.”

Promoting diversity one image at a time

Chidiebere Ibe, an aspiring neurosurgeon with a background in graphic design, has noticed the disparities identified in Louie’s study.

“If you Google some diseases, you won’t see any Black illustrations online,” he says. He points to diseases such as sickle cell disorder, where three-quarters of cases occur in Africa, but few medical illustrations reflect that.

Ibe has made it his mission to change this.

He earned an undergraduate degree in chemistry from the University of Uyo in Nigeria, then became a self-taught medical illustrator after connecting with the Association of Future African Neurosurgeons during the COVID-19 lockdowns. He became the creative director of the association after its founder suggested he marry his passion for medicine and art. In 2020, he was named creative director of the Journal of Global Neurosurgery.

Over the last couple of years, Ibe has created images depicting anatomy and a range of conditions, such as the skin disorder vitiligo, cold sores, a chest infection and spinal injuries, in Black people. He also did [illustrations for the Spring issue](#) of **Momentum**.

Ibe gained worldwide attention in late 2021 when he shared an illustration he made of a Black

fetus. The image quickly went viral, amassing more than 100,000 likes on Instagram and coverage from major TV networks in the U.S. and U.K.

Through his art, Ibe hopes to normalize the use of Black illustrations and create a community of Black artists who are passionate about addressing bias and inequity in the healthcare system.

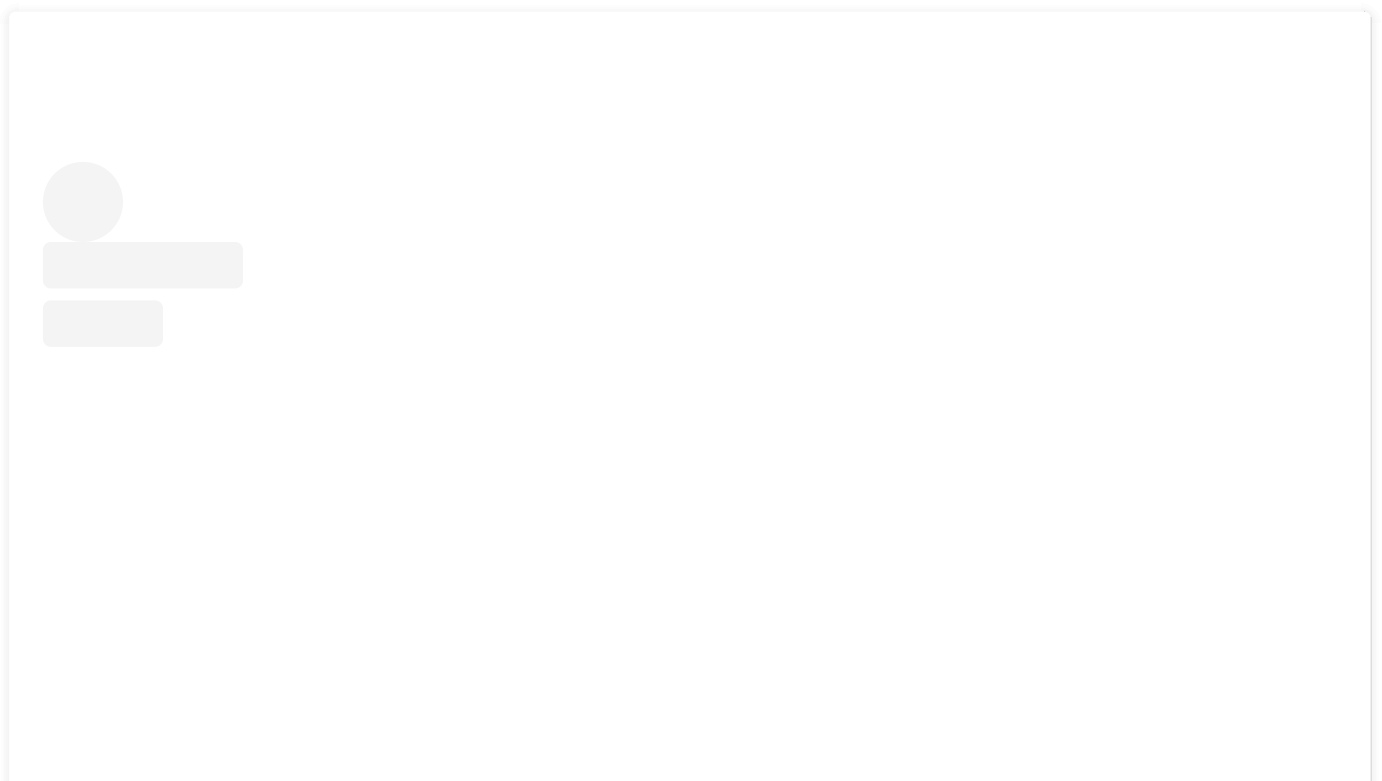
And, according to Louie's research, the time for that is now.

Textbook images that aren't textbook

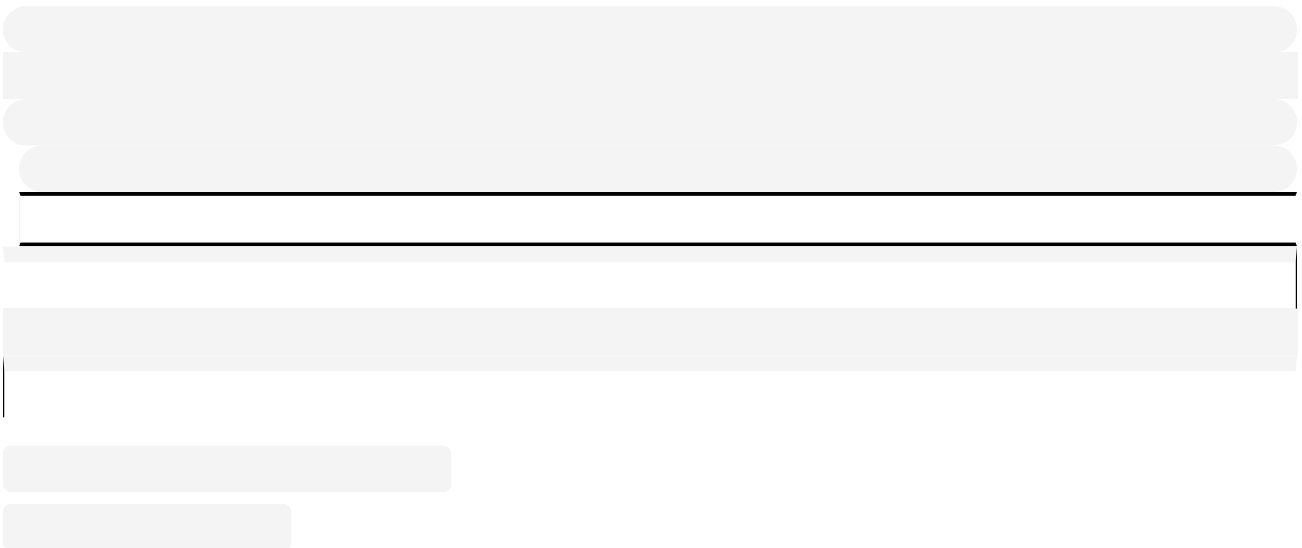
Louie, an assistant professor of sociology at the University of Washington, published the paper "Representations of race and skin tone in medical textbook imagery" with Rima Wilkes, PhD, of the University of British Columbia in Canada, in 2018 in the journal *Social Science & Medicine*.

"This paper grew out of an interest in understanding the role that the representation of race and skin tone in the medical curriculum may play in explaining race-based treatment disparities in the U.S. healthcare system," Louie says. "In this paper, we argue that representation of certain racial and skin tone groups and the absence of others sends a normative message about the kinds of patients that practitioners are likely to encounter."

The authors analyzed over 4,000 images from four widely used medical textbooks and found that 63% of the images were of white people, 20% were of Black people, and 17% were of other people of color. That approximates the racial distribution of the U.S. population. However, Louie and Wilkes found that the textbooks were wildly inaccurate in terms of skin tone.



[View this post on Instagram](#)



A post shared by Chidiebere Ibe (@ebereillustrate)

Nearly 75% of the images were of light skin tones; 21% were of medium skin tones; and only 4.5% were of dark skin.

“This is problematic because the majority of medical imagery consists of decontextualized images of body parts where skin tone is the only phenotypical marker of race,” Louie says. “If doctors associate light skin tones with white patients, this may also influence how doctors think about who is a ‘typical patient.’ ”

Louie said since her and Wilkes’ study was published, they’ve seen much more discussion about the underrepresentation of different skin tones—not only in medical textbooks, but in the medical field in general.

“We hope that our work has resulted in medical schools integrating more diverse skin tone imagery into their curriculum,” she says. “It is pertinent that medical schools incorporate diverse imagery in medical curriculum in order to ensure that future doctors are prepared to provide all patients with a high quality of care.”

Ibe’s future in medicine

Ibe’s goal is to be a pediatric neurosurgeon, and he’s applying to medical schools in Africa and Europe. His passion for medicine has deep, personal roots.

“Medicine was my first career goal as a young child. But the desire became very concrete in 2011 when I lost my mom to cancer. I watched her die, and I was unable to help her,” he says. “I thought, ‘I wish I was a doctor so I could help her and address cancer.’ ”

Ibe’s work as an illustrator has only strengthened his resolve to become a doctor.

“It has shaped my perspective towards value for life and value for different people,” he says. “You must love the people; you must love the job. That’s most important. I hope that in medical school, I’m able to transfer that to my colleagues.”

One way Ibe plans to do that is by facilitating training sessions with medical students and young African artists. He also intends to write a clinical handbook for medical students that’s designed to “build a repository for people of color.”

In the meantime, Ibe will continue to advocate for minority populations by shining a light on equity and representation. He’s also broadened his focus to women and children — two key populations that are also subject to medical bias.

“It’s important to know that the concept of diversity is not that people themselves are diverse, but that systems ought to be diverse,” he says.

“Everybody has a key role in addressing bias. For those who are not the minority, you could stand in the dark, right? Or you could act as a platform for people’s voices who have gone through [bias]. We have a role in advocating and giving the minority the platform to lend their experiences and their stories to address the bias in the system.”

Christy Kim is a senior specialist, content development and acquisition, with the National MS Society, and Vicky Uhland is a writer and editor in Lafayette, Colorado.