Challenging Medicine: A Medical Student's Chance to Change the Field of Nephrology

Zafreen Ahmed
Tulane University, New Orleans, Louisiana, USA

Abstract: Naomi Nkinsi attended a lecture at the University of Washington School of Medicine when she learned about estimated glomerular filtration rate, or eGFR. This equation is used to determine the kidney function of a patient and create a treatment plan accordingly. The professor mentioned that a coefficient in the eGFR equation was adjusted if a patient was Black. Nkinsi conducted research on the equation and concluded that the adjustment had no biological backing and was simply racially biased. As she brought this issue to light, her peers, professors, administrators, and outside healthcare professionals criticized her. As a Black, female, first-year medical student, Nkinsi was destined to have her concerns discounted. The history of medicine is full of instances where Black people—especially Black women—were discredited and abused for the sake of scientific advancement. In the hierarchical environment that encapsulates medical curriculum, what was a first-year student's word worth against decades of research done by the greatest medical minds? Nkinsi quickly had to decide whether to continue to push for reform or protect her status and career.

Introduction

In a lecture given at the University of Washington School of Medicine, a first-year medical student, Naomi Nkinsi, raised her hand to ask a question about eGFR, a measure of how well a person's kidneys function (Nkinsi 2023). When looking at the equation for calculating eGFR, Nkinsi had noticed something peculiar; the equation had different coefficients based on whether the patient was Black or not Black. This adjustment was made even if all other variables—like sex, age, and creatinine levels—were the same. It was only Black individuals that were given the adjustment; other races that were not white were simply given the same coefficient white patients were given (American Kidney Fund 2025). Nkinsi commented on this difference in class and voiced her concerns over its necessity. The professor was unable to respond to her query, and heated discourse erupted as word of Nkinsi's critique reached the rest of her school. This event ignited a spark that had been recently cultivated by other curious professional minds in the medical field—but it was a medical student that truly fueled the fire.

What happens when a medical student questions the curriculum of one of the most standardized institutions in America? How does a person of low status—a Black, female, first-year medical student—find the space to discuss the possibility of racism in a system that disadvantages her? And how does that individual find the footing to reach an audience that spans the entire field of medicine?

Understanding Naomi Nkinsi

> It was really, really emotionally straining to sit in class every day and hear about how people that look like me are viewed as inferior, hear about how our lab diagnostics are different, our health outcomes are different, and not be able to say something because it was also this sense that if I don't say anything, no one else is going to say anything, and then everyone's going to believe that these kind of myths about Black people are true. So that was one thing where the days I didn't say anything, I felt worse than when I did. (Nkinsi 2023, n.p.)

Naomi Nkinsi was born in Cameroon and immigrated to the United States with her parents as a child (Paul & Daisy Soros Fellowships for New Americans 2021). Before moving, Nkinsi's mother had contracted malaria while Nkinsi was still in the womb. Due to limited access to care in an area in which malaria was endemic, both Nkinsi and her mother were in grave danger. Nkinsi's parents and doctor were prepared to lose their unborn child (Nguyen 2021). Despite the lack of access, the healthcare workers were able to save both Nkinsi and her mother. The care INkinsi and her mother received inspired her to pursue a career in medicine. Her survival from this severe condition continuously reminded Nkinsi of the health inequalities individuals in other parts of the world may be experiencing. Nkinsi moved to the U.S. and soon learned that health inequality was still prevalent in a country she considered wealthier and medical care. Nkinsi knew she wanted to prioritize research and care that would benefit underserved populations, like her own community, in her journey through the field of medicine.

It was increasingly evident to Nkinsi that her African identity contrasted with her American one as she continued her studies. Her parents were originally from the Democratic Republic of Congo, and her cultural heritage followed her throughout her life (Nguyen 2021). Nkinsi's parents made sure to remind her and her siblings of their culture, which emphasized community instead of individual focus. She found herself comparing African culture to American culture and realized that African culture emphasized community significantly more than American culture. Therefore, Nkinsi wanted to incorporate community and one's origin into the care people receive.

This concept is greatly emphasized in the field of public health, but the American medical system rarely moves past individualistic care (Fineberg 2011). Public health prioritizes the overall health of a population rather than the health of just one person. Community and people's locations, both socially and geographically, can greatly impact patterns and commonalities amongst a population's health. Notably, certain minority groups can be at different levels of risk for particular diseases. For example, people of African descent are more likely to have sickle cell anemia, a blood condition that can cause severe health problems (CDC 2024a). Furthermore, the association between a minority group and their risk of obtaining a specific disease can be related to their social and physical environment. Although these factors may affect the health of an individual, the social and physical environments of a patient are not of concern to most medical professionals. Physicians prioritize are taught to prioritize the patient as an individual without factoring public health issues that may affect the health of an individual.

Nkinsi attended the University of Washington School of Medicine as a first-year student in 2019 where she was one of only five Black students in her entire class (Nkinsi 2023). She soon realized that some of the content in her coursework was inexplicably discriminatory towards Black people. Nkinsi noticed that much of what she learned in her coursework emphasized a difference between the health of white people and the health of Black people, such as the risk and effects of specific diseases. She was raised to believe that providers of education, like teachers and

professors, were to be respected and listened to because they provide the opportunity of a lifetime (Nkinsi 2023). However, her experience in medical school provided her an opportunity to question her educators. She also learned to take the time to gain more background information on a topic, whether that be through outside resources or from the professor. She found that the actions and language of her professors reinforced racist notions. When shown photos of a Black family with a particular genetic syndrome, Nkinsi noticed that they were in their underwear and "looked like they were dirty," a stark contrast from the photos of the white families with the same genetic syndrome (Nkinsi 2023, n.p.).

This didn't seem right to Nkinsi. But as a Black female student, Nkinsi knew that she already stood out. It was clear that she needed to put in double the effort of her white classmates to combat the discrimination against her and to avoid drawing more negative attention to herself (Nkinsi 2023). Yet Nkinsi knew what she had to do.

> [S]itting there as one of the only Black people in my class, I was like, this is how the medical system views me. This is how my professors see me. I sit here every day and I'm seen as less than human. And that's when I started speaking out because I was like, there's no way I'm going to let this stand for all four years of medical school. (Nkinsi 2023, n.p.)

Nkinsi offered to help the professor who showed these photos find different ones that did not portray Black people in such a negative light (Nkinsi 2023). The professor then argued that the photos were not racist and mentioned that a lot of medicine comes from Nazi scientists, asking Nkinsi if she would speak out against that as well. The following day, the professor addressed the issue in front of the entire class, defending his actions and denying any racial bias.

Although her efforts to speak out about the portrayal of Black people in the curriculum did not go over smoothly, Nkinsi continued to voice her opinions in class. She "had already been outspoken. [Nkinsi] already had the reputation of the angry Black student" (Nkinsi 2023, n.p.). Other students commented on her lack of professionalism to each other, and this comment made its way to Nkinsi. She told herself, "So if I already have that reputation, then I should just keep speaking out because it's not going to get worse" (Nkinsi 2023, n.p.). However, she also understood that speaking out was a privilege she needed to earn by maintaining good academic standing. A battle raged within her: should she stay true to her morals or protect her social standing? Would questioning the integrity of a nationally standardized curriculum be worth risking her chance to become a medical professional?

The Racist Legacy of Medicine

> In the 21st century, racialization of medicine has a new facade. It includes use of race correction for many guidelines, including pulmonary function tests, cardiac risk scores, and other guideline-associated algorithms for measurement. eGFR is one of the more recent equations to use race and was used initially to simplify kidney function evaluation; however, use of the race variable in eGFR calculations has been associated with lack of eligibility for kidney transplants for Black patients. (Nkinsi and Young 2022, 557)

With a growing interest in both public health and medicine, Nkinsi soon became passionate about eliminating race-based healthcare, which is the practice of factoring the race of a patient in their treatment and care (Paul & Daisy Soros Fellowships for New Americans 2021). Eliminating race-based healthcare does not just mean blindly erasing all inferences to race; rather, this approach

can be utilized to understand the origin and reasoning behind the involvement of race in certain healthcare practices. For example, people with African descent are more likely to have sickle cell anemia not because of their race or skin color but because of the environment they and their ancestors grew up in. The sickle cell gene is a biological mechanism used to protect an individual against malaria, a disease that is endemic—or commonly found—in Sub-Saharan Africa (CDC 2024a). But when an individual has two copies of the gene, they develop sickle cell anemia and experience greater health risks (CDC 2024b). It is not the race that makes an African individual more predisposed to sickle cell anemia but their ancestral history of living in Sub-Saharan Africa.

Race was only conceptualized in the United States as a way to stratify society (Mohittige et al. 2022). To legitimize the concept of race, historical figures like Carl Linnaeus and Johann Friedrich Blumenbach incorporated this topic into scientific thinking and discourse. Soon, race started to be misunderstood as a biological construct. The focus of eliminating race-based healthcare is to take out the social construct that is race in healthcare. Even when in instances it seems important, it is imperative to assess why race is considered when it affects a patient's access to care. In this pursuit, Nkinsi's experiences as a Black woman facing consistent racism in educational settings contributed to her drive to become a medical professional. For example, Nkinsi was told a joke about how Black people have more muscle mass when she ran track and field in high school, which never sat right with Nkinsi; she was aware that it was a racist misconception that was continuously contested by professionals in the medical field (Nkinsi 2023). Black people do not have an innate athletic advantage over all other races, and this expectation can be harmful to the experiences of Black individuals. As a Black individual that has directly faced this assumption, Nkinsi was motivated to help deconstruct racial misconceptions in any way she could.

There is a long-standing history of racial bias in the field of medicine. Because of the systematic oppression of Black people in the United States, many physicians have conducted research and collected data on Black people in a discriminatory fashion (Bhopal 1998). The infamous Tuskegee study bribed Black men into participating in a study where they were unknowingly being injected with syphilis and were left untreated even after treatment became available. This is only one example of a study that took advantage of Black people.

Additionally, structural racism in the United States affects not only health care patients but also health professionals and medical students. For example, the Flexner Report in 1910, which standardized the American medical education curriculum and set the golden standard for medical education institutions, resulted in the closing of multiple Black medical schools, based on racial prejudice (Duffy 2011). For the remaining Black medical schools, the Flexner Report rationalized that African Americans' health condition could contaminate white physicians and patients if not prioritized (Laws 2021). Abraham Flexner, the author of Flexner Report, claimed that because millions of Black people lived alongside tens of millions of white people, taking care of the health of a Black person is essential to keep the white population healthy. Otherwise, the white population will be in great danger of contracting the same diseases as Black people. It was therefore considered the responsibility of future Black physicians studying at the limited Black medical schools to keep Black patients healthy and hygienic and do their due diligence to protect the white population. The Flexner Report established restrictive criteria for admission, facilities, laboratories, and teaching in medical schools (Duffy 2011). Even the medical education of women and Black people were given designated sections in the report (Flexner 1910). The American Medical Association followed the standards put in place by the Flexner Report and closed five of

the seven medical schools serving Black students at the time. The standardization of medical education in the United States meant that the curriculum became universal across all medical institutions. However, without incorporating Black people into the decision-making about the curriculum, healthcare in the United States was not intended to consider Black individuals' experiences or perspectives.

14% of the United States population is Black, but only a small percentage of the medical student population is Black—as a result, Black individuals are severely underrepresented in medical school (United States Census Bureau 2019 ;Morris et al. 2021; Tamir 2021) In Nkinsi's case, she was evidently one of only five Black students in her class (Nkinsi 2023).Without representation of Black students in the medical field, the care necessary for Black patients can be critically insufficient (Laws 2021). Misconceptions of Black people are carried on without correction because there is no collective Black experience that was included to prove otherwise. Nkinsi claims that as a Black women pursuing a career in the medical field, she has a responsibility to look out for Black patients because throughout history, the lack of care for Black people's health is what caused them harm (Nkinsi 2023). If Nkinsi was right and the eGFR racial adjustment had no biological backing, then Black patients have been recieving insufficient kidney care for decades. She felt that if she did not at least bring up the possibility of a greatly oppressive medical practice, then she would be doing a disservice; ignoring this concern could cost more patients' lives if true. With the historical trend of ignoring Black patients' health, it was plausible that there may not have been another chance in the foreseeable future to bring this issue into the limelight.

Many medical students and professionals claimed that racial biases are taught through the medical school curriculum (Laws 2021; Nkinsi and Young 2022). Nkinsi was not the first in her field to do so, and she certainly won't be the last due to the systematic racial bias in medicine. The root of racial bias in American medicine can be traced back to slavery (Nieblas-Bedolla et al. 2020). Medical men and slave owners took advantage of Black female slaves to perform medical trials and learn more about the body while treating these women extremely violently (Owens 2017). History rarely recognized the abuse of Black individuals that occurred in the pursuit of medical advancement, hampering the process of reassessing the history and use of medical practices born out of discriminatory and unjust practices. Maybe it was up to medical students like Nkinsi to try to catch these forms of discrimination and allow history to reassess itself.

Although the Liaison Committee on Medical Education incorporated training in diversity, equity, and inclusion into medical education in 2000, and other organizations that standardize medical education have made efforts to reevaluate race-based administration and patient contact, the systematic consequences of discriminatory practices in medical education linger (Pleasant et al. 2024). Only 7.3% of American medical school enrollees in 2019 were Black. Nkinsi was one of them.

Nkinsi "was one-third of the Black female class population in the Seattle cohort" at the University of Washington School of Medicine (Nkinsi 2023). When the curriculum discussed the health of Black patients, Nkinsi was one of the only people in the classroom that could relate. When she had something to say, her identity was amplified due to the scarce population of Black individuals. Nkinsi "felt an additional sense of pressure that [she had] to be the voice for all the Black community in order to speak up for [them]" (Nkinsi 2023, n.p.). She realized that there had to be a Black medical professional to look out for Black people in the health care setting and felt that she could assume that role. However, establishing herself as a medical professional begins in

medical school, and Nkinsi "was very visible" due to her Black identity, which she felt could risk her chance to represent Black people in the medical field (Nkinsi 2023, n.p.).

Women in Medicine—and Lack Thereof

> [W]e're taught all of these exams and labs and all of these facts that some of [the information] we won't even ever use, but we are almost never taught about how these were actually developed and how medicine has not always been . . . has frequently, actually, been on the wrong side of history. And because of that, I think we're prone to repeating it. (Nkinsi 2023, n.p.)

The first woman to be admitted into a medical school in the United States was Elizabeth Blackwell in 1847, who was inspired by her dying friend to become a female doctor (Joseph et al. 2021; Michals 2015). She was rejected from every medical school she applied to but one: Geneva College in New York. Blackwell's acceptance letter was sent as a joke, the college not taking a woman's application for a medical school seriously (Michals 2015). After her admittance, she was isolated and excluded in lectures and labs, shunned by local townspeople for defying gender roles, and continuously underestimated throughout her pursuit of a medical career. But eventually, Blackwell became a physician and established various medical institutions.After Blackwell became the first female medical student in the United States, the number of women pursuing medical education gradually increased until over 50% of medical students in the United States were women, a recent new record (Joseph et al. 2021; Boyle 2024).Iin 2019, when Nkinsi first attended medical school, women accounted for 50.5% of medical students in the United States for the first time (Boyle 2019). Despite this increase in representation of women in medical education, ￼. The British Medical Association reported that 91% of female doctors experience sexism and 56% have sexual harassment (Ibrahim and Riley 2023; British Medical Association 2021).

Furthermore, the unique experience of being a Black woman in the field of medicine also causes a major difference in the treatment of medical students. Intersectionality, a term coined by Kimberlé Crenshaw, was created as a way to acknowledge the marginalization Black women face through the intersection of discrimination and sexism (Carbado et al. 2014). A person in this society that is not only a woman but Black—or not only Black, but a woman—tends to be more vulnerable to the institutionalized disparities that exist. An intersectional framework can be applied to all fields of society, including the field of medicine. A study done on a medical university concluded that Black women were less socially connected than their peers (Royal 2018). This meant they were less involved with their peers and interacted less with them. The author included the intersectional experiences Black women face that may result in their tendency to be less socially connected in this medical school. The Black women had considerably lower social connectedness compared to all other groups, including Black men. American history is replete with instances of physicians practicing medicine on Black women's bodies, dehumanizing them, and taking away their autonomy in the name of medicine (Owens 2017).

Although steps have been made in the diversification of medical education, there are lasting impacts from American history in the medical curriculum, and medical students, like Nkinsi, have had to navigate this flawed system. In her navigation, Nkinsi realized that she may have found a remnant of the system. But how would Nkinsi address an issue that concerns the very people this system oppresses, the same system that Nkinsi herself is vulnerable under?

Bottom of the Pyramid: The Medical Hierarchy

> The practice of medicine and medical education today are hierarchical by design; students learn from highly trained seniors as part of academic pedagogy. Rarely are students actively encouraged to question the material being taught in the learning environment. (Nkinsi and Young 2022, 557)

Medical students were constantly discouraged from questioning medical science throughout history (Vanstone and Grierson 2021). Social power, the structural and individual power an individual may have over others in a particular group, hangs over the heads of individuals involved in medical education. As Vanstone and Grierson summarize, researchers and individuals within the field of medicine have noticed that power shapes the questioning of medical science and research (2021). Medical students like Nkinsi are not high up in this hierarchy—in fact, they have a vulnerable status within medical education (Baird et al. 2016).

The tension the medical hierarchy creates dissuades medical students from asking questions (Vanstone and Grierson 2021). Given the power dynamics within medicine, it is assumed that the professors and physicians inherently know what is best, because they have earned their position of power (Baird et al. 2016).

It is common for a power-vulnerable person to tread lightly on the backbone that upholds this social hierarchy, fearing its collapse before they can climb up the ranks themselves (Vanstone and Grierson 2021). Nkinsi understood that there was a hidden curriculum to medical school, where there were certain, unsaid expectations for how medical students should interact with professors (2023). Although no one would say it out loud, there is a correct way to reinforce one's position in the medical hierarchy as a student. Not knowing how to perform in the hidden curriculum can cause a medical student to be wary of how to interact in the medical field. Medical students must navigate the hidden curriculum in tandem with the disempowerment from being in a low-status position (Vanstone and Grierson 2021).

Minorities, especially Black women, face the brunt of the effects of the medical hierarchy at all statuses, from medical student to department chair (Albert 2018). The American Association of Medical Colleges shows that only 9% of Black women faculty are full professors compared to 24% white women, 18% Black men, and 36% white men. This implies that the medical hierarchy extends to the social and racial level of individuals; not only is the power of individuals hierarchical from low to high positions but also horizontally distributed among peers (Vanstone and Grierson 2021). Similarly, a study on social connectedness showed that Black women medical students may be perceived as being less socially connected and, therefore, appear to have less social power both by their peers and by themselves (Royal 2018).

It is not often that a medical student challenges a medical practice. When Nkinsi started to question the eGFR equation, she had to also consider the repercussions of speaking out. In a collaboration with Dr. Bessie Young, a University of Washington physician who specializes in the kidneys, Nkinsi summarized the experiences of a medical student in the medical hierarchy.

> For students, the looming threat of professionalism violations and the inherently biased nature of clinical grades discourages students from pointing out fallacies in practice that can be seen more clearly from the viewpoint of someone relatively new to the field. As a Black medical student, this fear is further amplified by the notion that any misstep becomes the misstep of an entire community; a credit to those who view efforts to diversify medical

> schools as akin to lowering the standards for admission. (Nkinsi and Young 2022, 557-558)

Speaking Up: Critique from a Black Female Medical Student

One day in class, Nkinsi raised her hand to ask a question during a lecture on eGFR. In preparation for the class, Nkinsi had read the material and realized that the eGFR equation was different for a Black person compared to a white person. This didn't make sense to Nkinsi; she had always thought of the body as an "equalizer," an objective entity that could not biologically discern itself between people solely based on race (Nkinsi 2023, n.p.). Additionally, her experience in an anatomy lab showed that kidneys did not look different in a Black person compared to a white person. So, she asked herself, why was this equation different for Black people?

Further research taught her that the race-based adjustment to eGFR equation was based on the idea of Black people having more muscle mass—a stereotype that was common but blatantly racist to Nkinsi (Nkinsi 2023). In class, Nkinsi asked the professor why there was a race-based adjustment to the eGFR. When the professor was unable to answer the question, Nkinsi pushed forward and asked more questions, which she recalls in a later interview:

> If I am a Black person and I get a kidney transplant from a white person, which eGFR equation would you use? Is that kidney now Black because it was inside me or is it white because it came from a white person? How Black does someone have to be to get the Black coefficient? For people that are mixed race? Who gets to decide whether the person is Black? Is it the physician deciding? Is it the patient self-reporting? (Nkinsi 2023, n.p.)

Nkinsi's classmates and professor claimed to take issue with her determination to have this discussion during class (Nkinsi 2023). The professor and Nkinsi's peers complained that she was being disruptive, and the lecture abruptly ended. When the deans of the school learned about the events of the lecture, they decided to hold another lecture that would facilitate a discussion on racism in medicine. This was during the rise of the Black Lives Matter movement, when discussions on systematic racism were more heightened than ever. The possibility of a long-standing medical tool being inherently racist became a point of concern for those that were sympathetic towards the movement. And yet, what if this hypothesis was wrong? What if Nkinsi was wrong? What would happen to Nkinsi's status as a medical student and future physician if she continued to shed light on eGFR and found out that the race-adjustment was sound?

Defining eGFR: The History and Formulation of a Race-Based Medical Tool

Estimated glomerular filtration rate, or eGFR, is a method used to determine the state of health of a patient's kidneys (American Kidney Fund 2025). Specifically, eGFR is a numerical value derived from an equation with different variables of kidney function. In her medical school classroom, Naomi Nkinsi criticized the widely used 2009 Chronic Kidney Disease Epidemiology Collaboration equation (2009 CKD-EPI) (Delanaye et al. 2023). The main determination of kidney function in this equation is levels of creatinine, a compound filtered out of the blood by the kidney (Mayo Clinic 2025). Creatinine-based equations like the 2009 CKD-EPI eGFR equation that determine an individual's level of kidney function have been used since 1957 (Delanaye et al. 2023). The eGFR equation uses variables for sex (male or female), serum creatinine, and age (National Institutes of Health 2024). Serum creatinine refers to the amount of creatinine found in the blood, which is indicative of how much creatinine was filtered out by the kidney (American

Kidney Fund 2024). Combined with sex, race was factored into the equation by changing the equation's coefficient; the framework of the equation was effectively altered for a patient that was Black. Medical professionals defended the use of this coefficient in the eGFR equation based on the assumption that Black individuals have more muscle mass, meaning that, supposedly, they would naturally have higher levels of creatinine in the blood than white individuals (American Kidney Fund 2025). The adjustment was only made for Black patients; the eGFR calculated for non-Black people of color used the same coefficient as white patients.

For additional treatment, patients must receive an assessment of kidney health by further diagnostic methods, like a serum creatinine test. The numeric result of a serum creatinine test must fall within a certain range depending on sex to be considered healthy. With the race coefficient of the 2009 CKD-EPI eGFR, Black individuals can have a high eGFR value but still be considered healthy, while a white person with the same eGFR, age, and sex would be given treatment for their "abnormally high" eGFR value (Hilborne and Kaufman 2021, n.p.). In other words, a high eGFR value for a white person is "unhealthy" but "normal" for a Black person. Essentially, a Black patient would not recieve care for their dysfunctional kidneys even if their serum creatine levels are high, because they would be considered normal with the race coefficient in eGFR. If this is true, then many Black patients in need of new kidneys may not have been eligible for a preemptive kidney transplant (Nkinsi and Young 2022). Preemptive kidney transplants are not given to patients that do not meet the eGFR cutoff criteria. It could be possible that this racial coefficient was causing delayed access to kidney transplant and care to Black patients (Zelnick, Leca, and Young 2021).

The Price of Advocacy

Nkinsi had already made her mark. The faculty and students at the medical school were aware of the first-year student who interrupted class and accused a long-standing medical practice of being racist (Nkinsi 2023). Students were getting frustrated; what made a first-year medical student think she had the authority or knowledge to criticize an algorithm that physicians had been using for decades? To some students, it seemed like Nkinsi was just making noise. To some professors and physicians at the medical school, it was offensive to them that this student not even one year into medical school was criticizing a practice they have been doing for years. But Nkinsi also had a few allies—students that were concerned about a medical practice potentially discriminating against certain patients, faculty that applauded Nkinsi for speaking out, and others that wanted to support her endeavor.

If Nkinsi continued to advocate for more research and reform, her medical career may be on the line. To accuse the medical system of being racist and openly challenge eGFR would be remembered by not just the university but also places interested in hiring Nkinsi as a physician. Medical education is a competition in the United States. If Nkinsi kept pushing but the system didn't budge, she was losing. Asking questions is part of the scientific process. But Nkinsi was asking a question no one wanted to ask because it was challenging medicine and questioning the integrity of the system.

If Nkinsi was right and the eGFR equation was unjustly discriminating against patients that were Black, major change in the field of nephrology—the specialty of kidney medicine—would have to occur. The algorithm would have to be recalibrated without the coefficient. Medical institutions would have to implement new guidelines for serum creatine assessment. Medical school curriculum would have to be adjusted to include what this would mean—history rewritten.

So, did Nkinsi want a chance to make history by continuing to advocate for people who looked like her, people who were constantly treated unfairly in this system? Or would she just be risking everything she had worked towards in becoming a doctor? What was Nkinsi's advocacy worth?

Conclusion

> What I think I learned from this is that it's always, always, always good to question what you're being taught. It's always good to dig and learn more information and to also recognize that as a student you also have a lot to offer to your professors. The pedagogy of medical school where it's kind of they say jump and we're supposed to say how high, I think is so backwards. Medical students come from a variety of different backgrounds. I came from a pretty strong research background. I have a lived experience background. We have a lot to offer to our professors, but they have to be willing to listen and actually learn. (Nkinsi 2023, n.p.)

There are many instances of people questioning the racial coefficient of the eGFR equation before Nkinsi had. One was in 2016 when a first-year medical student, Cameron Nutt, asked his professor Dr. Melanie Hoeing the reasoning for the race-based coefficient adjustment in determining kidney function (Willyard 2024). The conversation did not go further when Hoeing agreed that it didn't really make sense to make this adjustment. The nephrologist—a physician that specializes in kidneys—Dr. Vanessa Grubbs was another critique of the eGFR equation who spent years discussing issues of race-based healthcare (Nkinsi 2023).

Why was this issue rapidly gaining so much attention only when Nkinsi brought it up? Nkinsi claims it was for a few reasons, two of them being the timing of her actions (Nkinsi 2023). First, Nkinsi brought up this question during the COVID-19 pandemic. During the pandemic, a lot of health care issues were brought to the forefront. Inequalities of access to care based on race grew apparent as more people needed more medical attention (Mheidly et al. 2022). With ongoing discussions of Black people having unequal access to health care, more people were ready to listen to Nkinsi's concerns (Nkinsi 2023). Second, this event followed the killings of Black people and the public discourse on racism against Black people (Nguyen et al. 2021; Nkinsi 2023). People were currently discussing issues of racism, and many of those people were a part of Nkinsi's generation (Nkinsi 2023).

People have historically perceived the medical and science field as factual, empirical, and evidential. However, it is unclear how factual a piece of information is if it is based on inherently biased scientific work. Race-based medicine has been prevalent since the beginning of slavery in America. Moreover, being a Black, female medical student affects the reception of criticism in the medical field. Claiming that a longstanding practice is wrong is a bold move in a hierarchal environment like the field of medicine. And in most of the hierarchies in America, Black women are at the very bottom. However, Naomi Nkinsi's identity was also what made her catch these discrepancies in the world around her. Nkinsi has already initiated conversation on this controversial medical practice. The issue was gaining momentum, and an opportunity for discussion in the broader field of medicine arose. As she considered the risks of continuing to speak out against the well established institution that is medical science, Nkinsi had to decide what was more important—her integrity or status.

Epilogue

In the second lecture organized by the university, Nkinsi decided to voice her concerns, now in front of the deans and other professors as well as a nephrologist, Dr. Bessie Young (Nkinsi 2023). Dr. Young was originally brought in to refute Nkinsi's claim, but she soon realized that Nkinsi's concerns were valid. "On the basis of my interaction with the student class, I felt we were not adequately capturing other potential causes of kidney disease, such as social determinants of health," she explained in a paper commenting on the event (Nkinsi and Young 2022, 558). Dr. Young agreed that the race coefficient in eGFR was a problem that needed to be further analyzed. Soon after, more medical professionals started to share her concerns.

Nkinsi's voice brought the issue of race-based algorithms in medicine into the limelight. The issue of the race coefficient in eGFR was one that was discussed by many medical professionals prior to the University of Washington event (Nkinsi 2023). However, with health care issues surfacing during the COVID-19 pandemic and activism among Nkinsi's generation following the systemic deaths of Black individuals and the ensuing Black Lives Matter movement, Nkinsi was able to engage the medical field in the conversation on eGFR and forefront its racial issues (Nkinsi 2023).

Through perpetual conversations and correspondence with the university and national kidney research organizations, Nkinsi and supporting peers induced the University of Washington to request eGFR reporting without the race adjustment (Nkinsi & Young 2022). Nkinsi's actions also influenced the National Kidney Foundation and American Society of Nephrology to create the Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Diseases (Hilborne and Kaufman 2021). Nkinsi had initiated a cascade of tremendous progress. A year and a half after Nkinsi spoke out in class, the National Kidney Foundation (NKF) and American Society of Nephrology (ASN) published a final recommendation to remove race from the eGFR equation (Naomi and Young 2022; Delgado et al. 2021). The recommendation is to implement a creatine equation without a race variable (Delgado et al. 2021). They also recommend using another filtration marker, cystatin C, to confirm findings from a serum creatine test. Lastly, the publication encourages funding for further research on race in eGFR. From September 2020 to June 2021, NKF-ASN Task Force Medicine removed announced that they would be removing the racial coefficient from eGFR (Nkinsi and Young 2022).

Most medical institutions and laboratories have implemented the change to an eGFR equation without the racial coefficient (American Kidney Fund 2025). The American Kidney Fund encourages patients to ask their doctors about whether they are using the race coefficient if the patient is given an eGFR test and how it impacts their individual health. Nkinsi mentioned that following the recommendations from the National Kidney Foundation and the American Society of nephrology, the Organ Procurement and Transplantation Network—the governing body of organ donations in the United States—required all kidney programs to assess their waitlists for Black patients who were disadvantaged by the race-based algorithm (Nkinsi 2023; Organ Procurement & Transplantation Network 2023). More Black patients qualified for kidney transplants (Nkinsi 2023).

Numerous medical professionals and studies corroborated Nkinsi's claims about the eGFR racial coefficient before, during, and after the event at University of Washington School of Medicine. Nkinsi mentioned in an interview that a nephrologist, Dr. Vanessa Grubbs, has talked about the problems of the racial coefficient in eGFR in the past (Nkinsi 2023). In January of 2021, Braun et al. argued that the integration of race in kidney function contributes to the hierarchy in medicine. The timing coincides with the events of eGFR reevaluation, but Braun explained that

she was first intrigued by the racial coefficient in 2017 when her kidney function lab results directed the provider to multiply a value by 1.21 if the patient was African American. And now, since the recommendation to exclude the race coefficient, a multitude of papers and studies have discussed the alteration and the effects of the new eGFR equation, referred to as the 2021 CKD-EPI eGFR equation (Nkinsi 2023).

> [This is] like my crowning achievement. I think this really came full circle for me in my last year of school where my mom was diagnosed with fibromuscular dysplasia, which it's a disorder of the blood vessels and one of the blood vessels that it impacts is the renal arteries. And in order to track people's disease progress, you have to track their eGFR. So being able to go to clinic visits with my mom and see that her eGFR is not race calculated, I know that her disease is being tracked accurately, that . . . I just had tears in my eyes. I remember she had told her doctor, "My daughter made that change. She's the one that changed the eGFR." (Nkinsi 2023, n.p.)

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