[Nakae] Good morning, everyone. It's great to be with you this afternoon, morning, wherever you are.

I'm happy to talk a little bit about structural bias in admissions.

So I think, to friends, to…what we really want to do is understand that there's a relationship between systemic or built-in structural bias and interpersonal individual bias. Structural bias doesn't just exist, it is created by humans and built into systems long term. So, what we really need to do is understand that at some point someone made a systemic design choice to build something into a structure. So, dismantling it is about that same process of examining what individual or interpersonal biases went into this, and then how can we move forward and actually change it?

So, when we talk about what are the biases, interpersonal versus structural? For interpersonal biases: Those come from attitudes around racism, elitism - We have a lot of elitism in medicine, unfortunately - Sexism, homophobia, etc.

We have anchor bias which sort of gives us a lot of tethering to numbers. We have over-confidence that we never get it wrong, that we don't make mistakes, that we can be perfect.

We have time crunch, which is, we don't spend enough time on something, and just our interpersonal lives are so busy that we may not be able to dedicate the attention required to mitigate some of these things.

And then we have the use of coded language, tradition, name bias, where certain names are not familiar. We might judge by photos, we might use coded language like "not a good fit" or "doesn't seem motivated" or "really sit well with me" without really explaining what it is that we mean by those things.

And how this translates into structural bias is, those types of decisions that we at one point made, or someone prior to our posts made around GPA calculation. The AMCAS application itself contains rules that are structurally created around what is a fair GPA? The choice to not allow applicants to improve their GPA by repeating courses is a structural bias choice. We have decided that that is not fair. And so how we sort and create these cutoffs, the ways that we prioritize applications within our own admissions schemas at the local level, those are structural biases. Prioritization for students who apply early also has structural bias built in, and maybe has some reasons, but definitely does not have, you know, it's not consequence free in terms of a decision.

How we use the MCAT, what our policy is about whether or not it's necessary. We saw some of these structural biases challenged during COVID around some schools deciding maybe to remove that structural bias and to say what's left in the application when we don't consider that, and can we still make good admissions decisions without it.

The required pre-med courses were put in as a structural bias that not only created, with the Flexner report in 1910, the classes really have not changed since then. So, with all of the innovation and all of the growth in higher ed, we have not really looked back and questioned those pre-med courses and the structural bias that that put in place. Prior to 1910, students could go to medical school, with their different training and apprentice models. And we have pre-med courses now, which means that we can only grab our applicant pool from individuals who are undergraduate completers, right? So that is a structural design element of who we believe can qualify for this kind of training that we've built in, whether it's good or bad. It's it is for judgment. But it is a structure that we put in place that determines inclusion and exclusion.

We already heard about some of the changes related to FAP. One of the structural biases that we recognized was age, and so removing some of those caps for individuals who are older, who are most likely emancipated from their families of origin, created some more open opportunity for that. And then other elements that we recognize around deadlines or letter letters of recommendation or resident status.

So, for our structural bias here's some more examples of how this shows up:
So institutional patterns and practices that confer advantage to some and disadvantaged others. So, census data choices. Not everyone has their race or ethnicity or country of origin, or their family dynamic that is represented within the US Census, right? They choose the next best, closest thing. And those barriers and structural decisions obscure the realities of some Americans.

Another way to think about this is systemic design that results in unequal or disparate outcomes that we don't desire or intend. When we first created much more open doors for undocumented students, the AMCAS application did not include DACA. The ERAS application did not include DACA, right? So, this these were just decisions that as something else changed, the system didn't adapt. And so we had an unintended consequence that we didn't actually design.

Another way to think about this is bias that's institutionalized through tools and systems that become universal and are often unquestioned by those of power and authority, whether or not they actually are accurate. Right? So credits scores, and you know, lending practices and clinical values are really good example of that. We don't see a strong correlation between credit scores, or what we determine as credit worthiness, and actual wealth-building behaviors, right people with a lot of money very often file bankruptcy and have a high association with bankruptcy, and people with not a lot of money, who likely don't have good credit, are not the ones responsible for the large bankruptcy write-offs, right? But we this is institutionalized. It's, it's built into everything that we do. We don't have other ways of thinking about credit worthiness, and so we use these credit bureaus instead.

And then the other way is that's just much more simple is any decisions that are made that impact our outcomes before human eyes or human brains get involved So these are our score cutoffs when we say as a school they have to have an undergraduate GPA of X. That's a structural decision that means that all the applications who don't meet that, no one is going to look at them or make a decision. Another one might be BMI exclusions for certain studies. We're making a decision about someone's health or their

fitness for a study in some way based on BMI instead actually recognizing whether or not other indicators of health are present.

So, let's talk about how we might do an equity impact assessment on something like undergraduate GPA cutoffs, which is one of our main structural biases that exist in in admissions. So, we wanna ask ourselves, what competencies or evidence-based predictors does this correspond to? So, we might say, Okay, we need an academic record. We need the GPA to think about, you know the course history, and to be able to sort of anticipate what academic performance or capacity for that performance is going to be in the first year of medical school. How reliable is this evidence? Well, we know that it can be variable, due to grade inflation, varying institutional rigor, right, not all A's, not all B's are created equal. There are different grade scales. Some people are doing things on quarter systems or trimester systems or semesters, which we can create equivalencies based on value, but not necessarily the same experience. How quickly you move through a class is not necessarily captured in changing them to AMCAS semester hours.

What school specific data or applications do we have? Can we look at people who have come from these institutions before, or who've taken these classes before, and try and understand a little bit more about our matriculants' GPA versus applicant GPA that maybe decrease some of that subjectivity.

And who benefits from this GPA calculation, right? Students who have the financial means to repeat a course or invest in academic tutoring to improve their grades. Students who never have to repeat, because they got off to a good start in the first place, who likely are not first-generation students? So there could be some beneficiaries to this way that we've calculated GPA.

Then we'll ask, "Well, who's hurt by this?" Well students that don't have a financial means to repeat a course or to take additional courses. Students who knew all along how much this this mattered or counted. Students who had the heads up about the way that their GPA would be calculated if, in fact, in the future, they wanted to apply to medicine, which many of our students don't come to this decision because of deficits in what they have access to even knowing about careers in their families of origin. So, this is a great data point. It is universal, but it certainly has equity impacts across our system.

So how can we improve the mission-congruence of this element? Well, we could look, for example, at the most recent GPA or we could look to say we want to capture people with upward trends. Let's just take the last X number of hours, 30 h, 45 h of BCPM credits. Let's make our own and ensure that that we're looking at the most recent coursework for all applicants, at least in terms of eligibility.

What is not visible with this tool that might be relevant? So, what is not visible with GPA is the context that led to the portfolio. We can't see illness, we can't see how many hours people have worked, and we see those things on the application. But we only see them when human eyes look at them in context. So, if our structural tools for screening out these students before human eyes, then we may not be considering some of the other contextual factors that are leaving students outside of the gates.

And how can we approach this more equitably? Finding what to examine grades in context, and looking for evidence of excellence or growth? And how do we actually create tools that help us see those things? Not just in the ones that are pre-packaged but the ones that are specific to our institutions and our missions.

So, let's talk a little bit about structural bias mitigation in screening and interviewing as well.

So, in screening as I mentioned, we can separate eligibility screening from academic preparedness assessment. So, we might say, Okay, this is the absolute minimum GPA that we think is reasonable for qualifying to even be considered for qualifying for our program, and we need to let people know what that is and calculate it in a way that's structurally equitable. But then we can assess a person's academic preparedness using a very different lens. If we do all of that in one step we miss talent, because again, we are screening a lot of people out and not screening people in.

So, the goal would be to have our structures keep as many folks in the process aligned with our mission as possible, and let humans make some of those distinctions later.

Are our systemic decisions mission aligned, and we can look at our rejections to understand that. We did a little bit of an analysis on the Fee Assistance Program before we made it automatic at one of my schools. And we found that only 13% of students with FAP even returned our supplementals. Right. So, we looked at who are we systematically excluding. The structural bias was, we made, we put the onus on students to request it rather than saying, we're just gonna automatically grant you the fee waiver. And once we changed that structurally we got an 80 something percent completion rate for students with the FAP for our supplemental. So, we were actively screening out in how we were doing something. structurally a lot of first gen and low-income students or students who had the FAP to the extent that those overlap. So, we need to make sure that we work backwards and look at who's being left out in our process.

Some of you might find that you are sorting specifically for only US citizens and permanent residents, which means that you might be screening out refugees or asylees or other folks that still do qualify for federal loans with their immigration status that are not those 2 things.

So just take a look at the world of possibilities, of what are the possible answers to each of these questions? And how am I making those screening decisions?

And another big one that structurally hinders us at times is MCAT holds for test takers later in the cycle.

So, depending on how we treat those, we may be actively screening against students who are taking MCAT later in the cycle, which means they may have less advising, they might not know, they might be repeaters, they might be working. There could be any number of reasons why students are choosing to take a later MCAT, and we have to decide if we think that it's related to their preparedness for medicine and our mission to screen them out in the process, or to deal with their applications differently.

So, in interviewing I think it's really important to examine scores for concordance and group patterns. We really want to make sure that we spot check what's happening in our interview process either by having outside observers, you know, observe interviews by looking at interview reports and looking for patterns of bias. This is sort of like, you know, when you buy a shirt and there's like a funny little sticker on the inside, and it says inspected, and it has a number that is for quality control of the output. So, if we are not routinely examining, or at least spot checking, our interview reports, making sure that things are not ending up in them that we're not asking for or that we're not saying, seeing a big pattern of all interviewers of XYZ identities rating students of XYZ identities differently or lower or higher. We want to make sure that we're looking at the consistency of those.

We want to utilize broad inputs for decision making. So, I call this, we sort of we have a lot of inputs built into our system sometimes that are very "gladiator style." The student is all good, or all bad, right, it's thumbs up or thumbs down, and there's really no in between. That doesn't give us a lot of opportunities to mitigate bias when it shows up. It makes it hard for us because we feel that we're breaking our own rules.

So, instead we have to use some spectrum tools and rubrics that describe rather then decide. So, we describe through the process all the way, until we get to the final, which is, when we have all of those descriptions to make sense of, opportunities to mitigate bias and make sense of where they came from balancing, them. Maybe we have an SJT score. We have an interview score. We have in MMI scores. We have, you know, the overall review scores. We have these different ways. that we've looked at this applicant through different lenses, according to our mission, and then we decided the final phase. So, we don't want to have people making premature decisions along the way, and have our tools saying things like, you know, reject this person when it's interview phase. The interview again should describe and provide comments around how the person did in those tasks that we've asked them to complete in route to assessing their place in our program.

So, we don't want unstructured interviews or unstructured reporting. This is one way to really welcome in structural bias that can come in because the structure itself invites interpersonal bias without any guardrails. So, we want to tell our interviewers, What are the domains we're assessing, what are the questions that we think you could be asking that assess these domains, and then how do we want these things reported, right? So not just, you know, scale of one to 5, yes, I like this applicant, they're great or not. But maybe we want, Can you tell us about their interpersonal skills and their affect and how they showed up? Can you tell us about their problem solving when you ask about this problem-solving scenario? So, we want to structure what we're doing to focus attention in the correct areas. Otherwise, we are just welcoming people to use their interpersonal bias for all of that. And especially in unstructured reporting, some applicants will get, you know, 2 or 3 lines: Great applicant, no issues. And then some people will get an entire page, right? And I've, you know, I've seen it all. I've seen them on the back of napkins. I've seen people reading them off their phones in committee meetings, and never submitting them in writing. So, we really need to make sure that we have, that we use, structure appropriately to mitigate that inner personal bias and to focus on systemic equity as well.

We want to curate questions and focus carefully on flexibility to ensure that we don't activate belongingness threat in interviews. Very often questions around resilience or grit are asking people, are activating students around talking about trauma or talking about things that have been difficult in ways that don't recognize the hardship, struggle, or the lack of choice. So, making sure that we're thoughtful about how we ask those questions, and especially if we're asking questions around equity and inclusion, or diversity that we don't just say, like, tell us what kind of diversity you bring, but that we ask it in a behavioral way, right? Let us know how you've grown in relating to people who are different from you or these other types of ways that we're getting at the construct that we're looking at, not just the identity part, like on the surface, this is what we want you to tell us.

And then, finally, providing opportunities for applicants to give feedback on interview in larger sample sizes. So, most of us do some sort of routine interview kind of "Evaluate us at the end of the interview day." Most of us work in pretty small groups, so students don't necessarily feel anonymous, particularly if they're listing something around, you know, I had this with this interview or this person did this we probably can figure out who they are and applicants sort of know that, so we want to increase the anonymity and safety for applicants to tell us if there's something that we are doing that's impacting their view of us or our selection processes that give them a little bit more safety. So maybe having just a couple of checkpoints. Still doing it the day of, but then saying, Hey, we want to give you another opportunity to let us know, we're sending this out to all 250 students that have interviewed so far, please you know, please give us some feedback on…We're asking specific questions about equity, belonging, you know, the time the kinds of things you're curious about having communicated to applicants during their experience with you.

Just some quick references around a few, a couple of articles around structural racism and academic redlining, in particular, that I would call your attention. Thank you