

Tessnim Ahmad: Welcome to The Spark: Medical Education for Curious Minds. We present the people and stories behind medical advances at UCSF, from medical students, to physicians and faculty in the School of Medicine. Through The Spark, we share the innovations that are helping bring more equitable and better care to our communities. I'm Tessnim Ahmad, a student in the School of Medicine.

Tessnim Ahmad: Burnout is part of the American vernacular. It refers to the emotional exhaustion brought on by chronic work-related stress, and can manifest a cynicism, and feeling like your work lacks meaningful contribution. The term burnout was coined in the 1970s by Herbert Freudenberger, a psychologist. He volunteered in a free clinic for patients with drug addiction. He used burnout to describe the exhaustion suffered by workers in helping professions such as medicine, which carry rigorous demands and high ideals.

Tessnim Ahmad: While the term has been applied to other professions, burnout is particularly high in healthcare. A report released last month from the National Academy of Medicine describes rampant burnout, with up to half of doctors feeling burned out. There are many causes, such as demanding work schedules and little autonomy, system changes have also created burdensome administrative tasks and new care models, leaving some to feel the emphasis is on documentation, billing, and performance metrics, instead of patient care.

Tessnim Ahmad: Like clinicians, trainees also suffer burnout, an estimated 60%. The path to medical school, and then residency and fellowship is long and challenging, and it's becoming more competitive. Average MCAT scores and GPAs at most medical schools are rising. Medical advances also mean there's much more to learn now to be a competent physician than there ever was in the past, and there's the so-called hidden curriculum, an implicit socialization process that teach us things like stoicism in sad situations, and the need to toughen up and work through illness and injury. Erosion of empathy during medical school is a well-documented phenomenon. Superimpose an increasingly complex healthcare system, and burnout seems inevitable.

Tessnim Ahmad: Burnout and mental illness go hand in hand, and the lines between the two are often blurred. Physicians and trainees have higher rates of depression, compared to their counterparts in the general population. Doctors have the highest rate of suicide among any profession. Several physician suicides have made national headlines, and the problem was featured in a documentary called, "Do No Harm." However, research on the topics of burnout and suicide, especially among trainees, is extremely limited, in part because victims' families, schools, and hospitals may not share these events.

Tessnim Ahmad: Nikhil Rajapuram is a fourth year medical student at UCSF, who became interested in studying student well-being and burnout, after his own challenging experiences in medical school. He studied bioengineering at UPenn, and has taken the approach of listening to others before innovating for them, from the engineering to the burnout world, and his research is making a big impact. Nikhil

has taken a gap year to work in The Better Lab with Dr. Amanda Sammann and Dr. Simone Langness of the Department of Surgery. Nikhil plans to apply into pediatrics.

Tessnim Ahmad: Dr. Lee Jones is a professor of clinical psychiatry, and associate dean for students. Dean Jones oversees the medical student experience, and has worked with students for more than 15 years to support their personal and professional development. He's served as a mentor and resource for students as they navigate the many challenges of medical school. Dean Jones and Nikhil were gracious in offering their time to discuss trainee burnout. You may hear the terms Bridges F1 and F2. Bridges is the new curriculum for the School of Medicine, launched in 2016, which emphasizes clinical engagement from day one of medical school. F1 stands for Foundations One, and comprises the first 18 months of preclinical training. In F2, students embark on clinical clerkships. Nikhil, can you tell us about yourself and some of the reasons that led you to become involved in this effort?

Nikhil: Yeah. So as you know, I'm Nikhil. I'm currently on a gap year between my third and fourth year here at UCSF School of Medicine, and perfectly honestly, I didn't come into well-being and burnout from an academic perspective. I was never particularly drawn towards psychiatry, I was not passionate about treating mental illness. I think for me, I really came to this as a patient, as someone who was going through medical school, and doing really well until I encountered physical and mental illness myself. During the end of my first year, I really struggled with that, and I couldn't really climb out of that, and actually I'm very, very grateful to be here with, with Dean Jones, who's the person who drove out of his cabin in Thanksgiving to get service to call me, and I'll never forget that conversation where he convinced me to take a leave of absence, and basically saved me.

Nikhil: And so that was a huge turning point, and I came back from that leave of absence feeling better and stronger, but unfortunately, really after that and getting really burnt out while trying to prove myself in the third year, and I think I just got to a point where I was so struggling with trying to juggle all the balls that I finally said, "I think I'm going to quit. This isn't the road for me," but I think it got to such a deep point, as I was trying to navigate all the possible resources and take care of myself, and realizing how hard it was, that I noticed that, you know what? If I can try to change the system so that even one less student is burnt out or struggling, then I will have done something good, and that's what really motivated me to take a year to focus on burnout and medical student well-being.

Tessnim Ahmad: Dean Jones, you interface directly with the student population, especially students, who like Nikhil, may be facing a high level of stress and burnout. Can you describe from your experience the types of challenges students face?

Dr. Jones: Sure. So one of the things I think I should start with is, it that we're blessed here at UCSF by having a very diverse student population, which hits what is stressing people out, as well as what are the approaches. So it basically begins with even trying to get into medical school, it's such a competitive process. It's been compared to playing solo tennis, as opposed to a team sport. So a sense of belonging, a sense of connection may or may not be there, just trying to get in, and then when one gets here, there's a whole transition.

Dr. Jones: Having a diverse class here at UCSF, we have people who come straight from college, and then we have people that have been at other specialties or other careers, or completely different fields, people with families, people with varying levels of ability, people with different backgrounds. And while that's wonderful and contributes to the diversity here, it can be a point of stress for people as they make that transition. Community is very important, and it's one of the things that that helps mitigate stressors and give you coping skills, and people to share your feelings with, so I think the transition at medical school is another one.

Dr. Jones: Then because there's so much to learn in medical school, the cognitive overload is quite high, coupled with the fact that we are learning about some really tragic and sad things in people's lives. Most people don't go to see doctors or seek healthcare, because things are going great, it typically is around some quite tragic things. So we take people that are very sensitive and very caring, they go into medicine, which puts them at an increased risk, because they're connected to people around them, we put them in a situation where they are overloaded with the amount of information. The time is frequently not there to process it, and then we give them very stressful situations of working with people that they care about, that don't always have great outcomes.

Dr. Jones: So I think having people that are sensitive, and there's great data to show that people coming into medical school have a higher quality of life when they get here than pure match people, but by the end of second year, their quality of life is down. Clearly, there's something in the system that's happening, and that's by second year, and then you add third year, where you've got the cognitive load of learning, you've got the sleep deprivation, you've got all of that going on.

Tessnim Ahmad: Dean Jones, you're a practicing physician, so you've been through medical school yourself. You also have many years of experience working with students. Have you noted any changes in the pattern or frequency of burnout among students over time?

Dr. Jones: No, I think there's clearly, I think back to when I went to medical school in the 80s, things were not nearly as competitive. Step one, I don't remember studying for it, I couldn't tell you my score if my life depended on it, and that's clearly not the case now. I mean, the fact that we have so many things that are... one eight hour day can determine your specialty after all the work to get here, that's stressful. I remember being a second year medical student, and we were having

an infectious disease and autoimmune, it was our course, it was canceled for a week. They all went off to a conference in Italy and came back, and that's when TNB cells... that's how old I am, TNB cells and interleukins, and that was a brand new thing. That just kept happening, and happening, and happening, and there's just so much more knowledge out there now that students have to incorporate into how they approach patients, and it's all important for becoming a great doctor, but we keep adding more and more, and the time hasn't changed.

Tessnim Ahmad: Nikhil, can you tell us about your research?

Nikhil: Yeah, so the research project, which I consider to be kind of one arm of the larger advocacy movement of ending medical student burnout, is, so the research itself is using a methodology that's a little less known, I think for people within the medical field. It's actually very well known outside, it's called human-centered design, which is really a fancy word for going through a set of steps, in which we move away from the things that we consider to be very common and necessary medical research, which is hypothesis testing, reproducibility, and reducing bias. So those are things that are very valuable and very important, but really, they were made to test and implement cancer immunotherapies. They were meant to study models of chronic disease within populations, and that is valuable, but they weren't really created for innovation and for systems change.

Nikhil: And human-centered design decided to take a step back and say, before we even know a hypothesis, before we start making assumptions about people, let's listen to them. So it's mixed methods. So first part, which is really the part that I'm focusing on most now, is actually a survey, which is aimed at just collecting some basic data about how burnt out are people, and linking that to some demographics, and also some behaviors that they're doing to cope, and that is new. That is not something that exists within the literature, and definitely doesn't exist multi-institution. And right now, we have 2100 responses from over 60 schools, which I'm very proud of. Our goal is to hit 8,000, which is 10% of all medical students in the US, but really the point is, I don't believe any survey changed the world, but what's cool is once we have that survey data, at the end of my survey, there is an option to opt in and basically say, "Hey, I'm willing to be interviewed," and that is the meat of the actual research, is talking to people, listening to them.

Nikhil: I fundamentally believe that there is a dearth of qualitative information about medical students' experience with burnout and well-being, and to borrow from the disability justice movement, "Nothing about us without us," I fundamentally feel that we need to listen to medical students, if we are to build it for them, and that is the crux of human-centered design. It's listening to people before we build for them. We wouldn't design public health strategies for people who suffer from diabetes, unless we talked to them and learned about food deserts, and learning about structural and systemic barriers to taking care of yourself.

And I think that's why right now, there exists a lot of individual interventions, such as yoga and wellness, that aren't really matched or attuned to what students are experiencing, or what are their larger issues. They're really attuned to what is the easiest to implement.

Nikhil: And so, so that's the idea behind kind of the first step of the project, is creating this needs assessment, or framework of what are the factors affecting medical student well-being, and doing that with this quantitative survey and these qualitative interviews, with a focus on people that are disproportionately affected. So traditionally within medical research, we focused on treating the mean. And the mean, for the average medical student in the US, is a straight white male medical student. Now, we know that people that are disproportionately affected by things like burnout are often women, are people who identify as having a disability or chronic illness, people [who] identify as LGBT, and of course, people who are underrepresented minorities.

Nikhil: Now, those are people that wouldn't necessarily come up in a traditional medical research where we focused on the mean, but our research really focuses on a universal design and accessibility, so really sampling those people. And once we create this framework, we don't stop there. We actually then move on to brainstorm, we do workshops with people, including students, and deans, and administrators, to try to develop solutions, and that's really what we're going for, is creating a solution, and hypothesis testing that solution. So once we have a solution proving that it works and it's reproducible, and it's unbiased, and that's where our traditional medical research model comes back in, and there, the goal is to finish a finished product, to be something that can be implemented at a medical school that will decrease burnout.

Tessnim Ahmad: So we talk about burnout as if it sort of brands itself as such. In reality, it's not clear-cut, and students may not know if what they're experiencing is normal stress, versus symptoms that warrant treatment. There's also extensive overlap between burnout and depression. In one study, I think 90% of those who felt burned out actually met criteria for major depression. What's your experience with this overlap, and can you share advice for students on when to seek help?

Dr. Jones: I think that's a really good question, and there's multiple models for what burnout is, and in some models it's the spectrum that then leads into anxiety and depression, for others, it's more of a Venn diagram, where there's overlapping, and how does one know when you get up one day and feel like, "I don't want to do this anymore?", is that burnout, or is it that you didn't sleep enough and you feel differently the next day? One of the best explanations I've heard about burnout, I mean we all think about big, bad things that happen. I think another way to think about burnout, is it's the little gnats and flies that are nibbling at you all the time that you maybe don't even realize are, and so I think thinking about the manifestations of it, first of all, they can be very individualized, but some of the hallmarks that I see with students, is people lose sight of why they wanted to do this to begin with.

Dr. Jones: And the nature of the work that students do here, and here at UCSF, we really try to do clinical work up front with CMC, and the coaches, and student-run clinics and others, it's easy to see yourself isolated in a room studying things, and forget about the human connection, which is a very important thing. So one of the curricular things we've done, is to try to get people involved early and maintain that connection. I think the several other areas of manifestations, they overlap with classic symptoms of depression or anxiety. Those are particularly of concern if someone has a preexisting history, but the other thing to remember, again as a psychiatrist, is our students are in the age group where you see first manifestations of both medical and mental health diagnoses.

Dr. Jones: So focusing in on that, I think the thing that I think of most, is how persistent is what's going on. Certainly, all of us have good and bad days, and frequently we can identify what it is. If that starts merging into more of a not the day to day weather, but more the climate, so that it's cloudy more times than not, I start getting concerned about that. I do think though that this is not something that one has to wait to see if there's a pattern before seeking advice or help, because even if it isn't a pattern yet, it could become a pattern, and there's nothing wrong for even if you're not burnt out, learning how to inoculate yourself against it in the future.

Nikhil: It's a great question, and I think I can speak as a peer, and maybe less of an expert at the moment, but so first I want to clarify, and I'm glad this was brought up, but I really want to clarify the difference between burnout and mental illness, and I think those things are different, I think they're conflated. I think people use the term "depressed" or "emotionally unstable" kind of casually, but as someone who's encountered both and as someone who's worked doing the research in this area, I wanted to clarify those things. I think when it comes to mental illness, we have a set of diagnoses. We have the DSM-5 right? We are trained in psychiatry, and we understand how people treat mental illness, whether it's a major depressive disorder, generalized anxiety disorder, and the various diagnostic criteria that exist for those things, and what they put us at risk for in terms of other health issues, ultimately one of the scariest, being suicide.

Nikhil: Now, burnout is different. Burnout is not fatigue only, it is not being just overworked only, and it's not just sleep deprivation, right? Burnout is actually defined as three things. It is depersonalization, emotional exhaustion, and lack of feeling of contribution. And depending on which metric you use, scoring high in any of these categories can land you as being classified as burnt out, which means that you can be sleeping great and not be fatigued at all, but working in a position which you feel like you have no contribution to what you're doing, and feel burnt out by that.

Nikhil: And I don't think that's too loose of a definition, and I think as I have presented it to students, I have something called the Medical Student Well-Being Index, that's actually, it was put forward by Lotty Derby, one of the leaders in this field,

that is a seven item questionnaire, and kind of covers the range of some of these issues of burnout, as well as emotional distress, and if you are greater than four yes on those questions, which are questions like, "Over the last month have you been bothered by emotional problems?" or "Have you fallen asleep while inactive?"

Nikhil: And we've seen kind of where that burnout lands for people, and I think it's really important to differentiate those two, because there's different ways in which we tackle those, right? Mental illness, we tackle them as we would tackle a patient's mental illness, right? With cognitive behavioral therapy, with potentially, medication psychopharmacology, whereas burnout, we treat differently and some component of those are overlapping, and that's really important. And so for me, to get to your question, the most important thing I tell people, is if you are struggling in any way, ask for help. Ask for help, because it is so hard for other people to help take care of you if they're not aware.

Nikhil: And I think I have seen Dean Jones first as someone seeking help and reaching out, and Dean Jones was there for me and he helped me tremendously, and I'm so grateful for that, but I've also seen situations in which people didn't go to him for help, and I've talked to them and tried to push them, and they didn't, and by the time they got to him, things were so rough, and it was so hard, and I can see how that weighs on him and the other people who dedicate their work to this. It weighs on me as well, because it is so hard for us to always kind of guess who's going to be struggling today, because we know people are struggling.

Nikhil: So really, what I would tell people is if you're struggling, seek help. Reach out to someone you feel comfortable with. It might be Dean Jones, it might be your good friend, and hopefully, you can get to a place where you seek help professionally, whether that's through mental health and counseling services, which for me, has been tremendously helpful. UCSF has a clinical psychologist, a clinical psychiatrist for medical students that are very easy to schedule with. That's wonderful, many schools don't. That is a systematic barrier, but for those that do, reach out, get help, and remember that it's no one else's job to take care of you but yourself. And I don't say that to put that on you, but I like to do that in an empowering way, and once I learned that no one's going to give me permission to take care of myself, it is my job to stay forward and say, "Hey, I need a day off."

Nikhil: I know that there is this hidden curriculum, I know that there's these other forces, but if I let those things come as a higher priority than my well-being, then I might end up unfortunately, like the scores of students that harm themselves or harm others, or turn towards substances like alcohol, other drugs, or narcotics in order to stay above, and that to me, is just an absolute failure on our part. But I really do believe that if we can kind of modify this system, and empower students who are trying to do that, get to what they need, we can start moving these numbers of 50 to 60% burnout, or 25% of depression, or 10% suicidal ideation down to an absolute zero.

Tessnim Ahmad: In the next segment, we'll continue discussing burnout, including a discussion of UCSF's decision to change their clerkship grading system to pass fail.

Tessnim Ahmad: We'd like to remind students of available resources. The confidential Med Peer Program can be reached anytime, by emailing medpeer@ucsf.edu. Students can also reach out to the Student Experience Team, Student Health and Counseling, any of the School of Medicine deans, and the 24 hour urgent line, which are all available in the weekly student newsletter.

Tessnim Ahmad: Nikhil's survey already has 2000 responses. The goal is to reach 8,000 medical students. We've included the link to the survey in the description for this segment. Please participate if you haven't already, and consider sharing with your medical student networks. If you have comments or questions for Nikhil, you can reach him by email, which is also in the description for this segment. Thanks for listening.