Female Speaker: Welcome to the Academic Medicine Podcast Series. You'll meet medical students and residents, clinicians and educators, health care thought leaders and researchers. Some episodes will chronicle the stories of these individuals as they experience the science and the art of medicine. Other episodes will delve deeper into the issues shaping medical schools and teaching hospitals today. Listen as the conversation continues in this Academic Medicine Podcast.

Toni Gallo: Welcome to the Academic Medicine Podcast. I'm Toni Gallo, a staff editor with The Journal. Today, we'll be talking about the United States Medical Licensing Examination Step 1 and the current practice of using Step 1 scores to screen residency applicants – a practice that is receiving more and more attention, most of it negative. Joining me today to discuss this practice, its implications, and alternatives are Academic Medicine Editor-in-chief David Sklar, and four of our authors who have written on this topic: Charles Prober, Senior Associate Vice Provost for health education, Founding Executive Director of the Stanford Center for Health Education, and a professor of pediatrics, microbiology, and immunology at Stanford; Daniel London, an orthopedic surgery resident at the Icahn School of Medicine at Mount Sinai in New York City; Pamela Schaff, Associate Professor of clinical family medicine and pediatrics at the Keck School of Medicine of the University of Southern California, and Director of the Humanities, Ethics, Art, and Law program; and Ron Ben-Ari, an Associate Professor of clinical medicine and Associate Dean for curriculum and for CME also at the Keck School of Medicine. Thanks to everybody for joining us today.

David Sklar: All right, everyone. Well, thank you all for joining us. And this is David Sklar. And I'd like to kind of get us started by first having a very brief introduction from Charles, who wrote an article that we published in Academic Medicine and have him
focused on what he sees as some of the negative consequences of using Step 1 scores in the screening of residency applicants. And perhaps, you can also begin to move us in the direction of some possible solutions as you talk about the problem.

**Charles Prober:** Well, thank you, David. And thank you for being my colleagues in January of 2016 to publish the commentary in your journal, in *Academic Medicine*. I'd like to say at the outset that in the writing of that commentary, we came together with another Senior Associate Dean for medical education which I was at the time—that is Joe Kolars of the University of Michigan, and then engaged Don Melnick who was at the time the President and Chief Executive Officer of NBME—of course, the organization that sets the examination, and Lewis First, a fellow pediatrician but he also had just served as Chairman of the board at NBME. And there was a purpose for bringing together those individuals because they each have sort of different vested points of view, hopefully all with the same outcome which is creating students or educating students in a way which makes them incredible physicians. From my point of view and the reason I initiated that commentary and that collaboration of authors was I was concerned as a Senior Associate Dean that the degree of attention given to the USMLE Examination Step 1 especially afar in my mind outstripped its role and sort of the whole educational metrics of our students. I think anytime one tries to reduce a student or anybody else to a number based upon sort of a single domain—in this case, the number is the test score, and the single domain is knowledge. Whenever one tries to reduce that, it takes away the richness of the students that we really are trying to create. The other problems that the number has is it becomes an incredible focus amongst our medical students and we all recognize this. And at Stanford as I noted in the commentary, this ranked as the number one stressor of medical students in our school, tied more or less with life balance, which is incredible that a single test score would have that degree of impact. I think also an unintended consequence is that the more you focus on a number, the more it becomes the reality of—well, this must be what is important to become a doctor. And the knowledge is obviously very clearly important. We all recognize that attitudes, and behaviors, and skills are also important to developing physicians from medical school through residency into practice. Also from
my perspective, an unintended consequence of too much attention on a number, on the Step 1 examination is that persons responsible for curricular reform across 150 medical schools in the United States and Canada find themselves stymied often by the students who want to know why aren't you actually teaching us which on the test because obviously that must be the important stuff because it's on the test. And the idea of teaching to the test, having a test drive curriculum is just not a good idea in my mind. And then finally, the cost of this whole process and I'm not talking about the cost simply the student having to pay to take the examination, but as we also all recognize, our students basically block themselves off for somewhere between four and 10 weeks of intense study so that they can ace that score. And we estimated in the commentary that that probably represents about 2,000 person-hours a year focused on studying for a test. That's a very substantial opportunity cost. And the tools that the student are using to prepare for the tests are not our curricula, are not our syllabi, not textbooks but they are books of test prep material, which if you add them up in terms of what the student of the school has to pay for, comes up to a very large number which we estimated in several billions of dollars. So all of those raised concerns to me about too much focus on the examinations and the reliance on a number. And I know we're going to get into a discussion of why that focus has developed and it really relates to resident programs using that number as a screen for selecting students to be interviewed. And that is sort of the bottom line.

David Sklar: Well, thank you. That is a terrific introduction and set up for the rest of our conversation. And I think maybe next, it would be nice to hear from our resident, who is on the call, who is an orthopedic resident and ortho actually I think is among the group that is using this test and using the highest or looking at the highest scores as far as screening because it's very selective and very popular which I'm sure is having an impact on all the folks who are interested in getting into that residency. So Dan, do you want to give us a little background from your perspective?

Daniel London: I'd love to and thank you for inviting me and my co-authors to participate in this call, in this podcast. I think Dr. Prober did a great job of setting the stage and there's a couple of points that I think really resonated with me and my
colleagues when we were examining this topic as well. We wrote a response letter to Dr. Prober’s commentary and a lot of that was actually based off of a presentation that we had given at the AAMC’s, our Learn Serve Lead meeting in 2014. And at that meeting, what we chose to discuss was putting some numbers behind some of these ideas and notions that had I think been in educators’ minds in terms of how students were focusing and fixating on Step 1, and how it was impacting their engagement and interaction with their actual curriculum at their school. And what we found with a survey of students from across the country was that 35% of students reported being less focused on their school’s curriculum because they were instead using those third-party resources that Dr. Prober mentioned. And 20% said that they were even doing worse in that curriculum because of all this attention and focus. So I think those are just important numbers to try to show the impact it’s having at least on the medical students. And I think as was mentioned, the residency selection process is perhaps the endpoint in all of this, that is causing this focus. And some of it is the perceptions of the problem and some of it is a problem in itself where you have very competitive residencies or messages going across about how residencies are becoming more competitive in terms of the match process. And so residency programs are left in a lurch when you have--I think my program has seven residency spots and I think this past year, they had somewhere around 400 or so applicants. And to try to screen through those and look through all those applicants and applications in a thorough manner is just not necessarily feasible for seven slots. And so to figure out, you’re going to invite for interviews and then ultimately select they are feeling overwhelmed and therefore going to some common denominator, they can look and compare across students and that ends up being Step 1.

David Sklar: And of course, we don't want to paint the program directors as sort of the villains in all of this because as you say, they have a very difficult problem with all the folks who are interested in joining their program and they have to find a way to do it fairly. On the other hand, as we've just heard, it really moves the needle much more toward this information that can be measured as opposed to other things that are a little bit more difficult to measure. And one thing we haven't mentioned so far is the impact
on our underrepresented applicants; many of whom have gotten into medical schools sometimes using holistic admission standards and perhaps, had a lower MCAT to begin with, and now facing this particular process, are at somewhat of a disadvantage. So in terms of trying to improve the diversity of our residency, it has impact there. So let me move us on then to hear from Pam and Ron and maybe see if we can get their perspectives. So Pam, do you want to jump in?

Pamela Schaff: Sure. thank you. Thanks so much. I really appreciate this opportunity as well and I think I'm going to speak from one perspective and let my colleague Ron speak from the other. Until two years ago, I was Associate Dean for curriculum and so I dealt with many of these issues from the sort of administrative role and I'm going to let him speak to that since that's now his job. I want to speak to the effect on students this year and last year. I'm back in the classroom. I'm teaching first-year students. I have a cohort of 24 students in the first year who then I advise over the course of their time while they're at the medical school. So I've had two groups of students, year one each year and then following these students along. And the amount of stress and concern about their Step 1 exam from the earliest days of medical school is just shocking. I have not been that closely involved with first year medical student teaching when I was in my administrative role. And so I think that's something that Dr. Prober wrote about and talked about today. But I'm very concerned about the fact that late year one, early year two students are talking about what specialties they may not be even thinking about anymore because they haven't tested as well as they would have like on their full exams and they know that our school exams are very similar to Step exam. So they're just pretty much making career decisions before they're done with their first year of medical school because they're worried about their Step 1 score. And as they go along into year two, we see again a failure to necessarily pay attention to the core curriculum because more importantly as their step preparation and they have what I consider to be a little too much time to study for us and I'll let Ron talk about that. But that just also adds to the anticipatory webs of the end of their coursework so that they go into full study mode, and those several weeks are even more detrimental I think to their mental health, and then the anticipation that's come along before that. So I'll stop there.
**David Sklar:** Well, thank you and I think as we've increased awareness of the whole issue of stress, burnout, depression, and so on on our students and residents, here's clearly something that contributes to it. And there probably is unnecessary and I think most of us realize also that just because you've gotten really high scores doesn't mean that you're necessarily going to be the best doctor. We've all seen students and residents who really are terrific, who are more or less in the middle of the group and passed, but don't necessarily have the highest scores, they have so many other really important humanistic characteristics, and empathy, and some, compassion, listening well. And yet that doesn't seem to count as much as these scores. Ron, what would you like to add to our conversation?

**Ron Ben-Ari:** Thank you and thank you for including me on the call. Firstly, this is implicit in what has been said but also how stressful and inappropriate it is to use a single day's performance as the reflection of the of the individual. And that that certainly contributes tremendously to the stress component of the event. The other I just wanted to acknowledge how compelling I think it is that the disparity gap increases for our underrepresented minorities and how important a problem that is to solve. Pam sort of teed me up to talk a bit about administration which I appreciate. And one thing that Charles had said was that one of the downsides is that the Step content starts to define curriculum and certainly it does and we reflect on the content of the Step exam as we develop curriculum. But it also affects the administration of the curriculum so that we literally organize our time and get feedback from students so that we can ensure that they have this runway of time to study. And as Charles and his group demonstrated, that's a huge amount of opportunity cost and lost time for these individuals. So at our at the Keck School of Medicine, we've deliberately structured courses that were originally coordinated so that they facilitated preparation to take the Step exam. And because of student feedback, we condensed that course in time and enabled them to have six to--even as much as eight weeks depending on their individual experience of undifferentiated time and how important that became. We also have a lot of investment in administratively on counseling them not to use that time and appropriately some students study excessively and in fact if given time, they will start as early as the
beginning of year two as Pam alluded to. And so we have literally an investment of time of just counseling them not to use time inappropriately and the use of academic services to ensure that they’re successful on this exam in particular as opposed to sort of the totality with the only or the major emphasis being on the totality of their development as a professional during medical school.

David Sklar: Great. Well, look I think we all agree that we have a serious problem here. And unlike a lot of the problems in healthcare, this is one that really is in our hands to be able to solve. It’s not something that the government has imposed on us or some payers and for healthcare. This is something that really I think we have to take ownership for. So how can we solve this? Some people have brought up things like a pass/fail scoring system. What would that be helpful? I think our program directors don’t like that idea because it reduces the opportunity to be able to compare applicants. And others have talked about maybe a better medical student evaluation letter – the Dean's Letter that we send right now is not so helpful. And I think we understand why there’s some tension with that. But what can we do to find some alternatives because we do need to think about our colleagues in graduate medical education and the problem facing them? And the fact is we have increased the number of medical students coming out of medical school substantially somewhere around 30%. We have an increased GME to anywhere near that extent, so there’s a real problem there too. So Charles, you want to kind of get us started on the road to solutions?

Charles Prober: Would I ever. I just wish I could. So you know the issue of pass/fail just--you mentioned that when David and just to reflect on that for a moment, I think there’s many reasons why that’s a good idea but the level of resistance will be enormous. And let me first say something about the reasons. I decided one day, it actually took more like two months, to look at the manuscripts that had tried to relate the score on Step 1 examination to outcome during residency as measured by something that residencies need to focus on, which will they pass the board examinations. And that purportedly is the reason why they look at a number because that may be predictive of passing the board examination. And probably of no surprise to this particular group on the phone, the degree of correlate-- the number that you need to get on Step 1 to
predict passing any board examination specialty and subspecialty is actually not such a high number. When I looked at six of the 23 studies today that I examined across several special days, six of them actually correlated that relationship between score on Step 1 versus passing the specialty examination. And more than 90 percent of candidates passed the examinations in pediatrics, obstetrics, orthopedics, anesthesia, internal medicine if they had scores in the range of 200 to 227 – more than 90 percent. And oftentimes, it was actually lower than that. So we have to recognize that using the score as a screen to getting future residents will pass the examination is not a strong reason. Didn’t know last time, very sensitive and you mentioned this David too, and it was also mentioned by Dan that when you have a bucket full of applications and you're trying to figure out how to read them all and you don't have time to read them all, you see by nature, a number. And so when I posed this question to a gathering of mostly Associate Deans and Curriculum Deans at the AAMC meeting a couple of years ago, I was on a panel with the other authors of our commentary and we created a word cloud. And we said, “What's the reason the program directors choose to use the three-digit number?” Again, I hasten to say two things one is there are no program directors. And two, I don't agree with this but the biggest word in the middle of the word prep cloud, the two biggest words were stupid and lazy. I don’t think our program directors are either stupid or lazy. In fact, we respect our program directors but they have a problem. So to your question David: well, how do we help them solve the problem? I think that we need to articulate a holistic evaluation of our residents – well, there’s fuzzy math right there a holistic review that we can somehow move into a numeric value. I don’t know exactly how to do that but I think that as medical schools rate our students, talk about our students, we need to describe and measure clinical reasoning skills and the patient care that they have exhibited during their clerkships. We have to comment frankly on their professionalism. We have to talk about how they serve as a team member. If programs are interested in research-oriented residents, that's easy to actually count. We can look at their number of publications of research experience. We can look at their community engagement. We can look at their leadership skills and perhaps most importantly, their unique personal attributes including diversity. And we'll build up a team of residents that we all see. So again, that's all sort of saying nice things and it gets kind of fuzzy in terms
of well how exactly you do that. And I think we need to have a national working group and John Prescott at AAMC has been willing to engage with this and say, “Let's figure out how we can translate some of these fuzzy words like leadership.” It's actually not a fuzzy word, it's just hard to know exactly how you measure it, into some sort of agreed-upon, measurable metric that could be part of a holistic number. And sure, you can throw the pass/fail of the Step 1 into that holistic number as well. You absolutely would want to. Mind you they won't graduate if they fail anyway, so it'll be a little bit moot. So I think we need to put as many heads together as possible to figure out what exactly we want to measure and then figure out how we can morph that measurement into something which feels more authentic, more honest, and in fact, yes, more numeric for those programs like Dan represented that have 400 applicants for seven slots.

David Sklar: Well, thanks. I think that's a very creative and obviously would be controversial suggestion because it would again it would mean valuing some things more than others and there would be winners and losers just as there are now. But I agree with you that if we don't give our program directors something to work with, something to replace the Step 1 scores, I think it's unlikely that they will be willing to let go of them. And so I think finding something else that we all can agree with that we think really does predict high performance in the future and also the attributes that we're looking for in our future workforce, I think that would probably be the key. But Dan, what do you think as an orthopedic resident--again, you're in a specialty where the cutoff scores to get an interview are quite high. How do you think your program directors in orthopedics would feel about abandoning that approach?

Daniel London: I mean I think everyone is well aware that it's a scary proposition to suggest to program directors, “Let's go pass/fail in this major screener that you've been using for years.” I can imagine the cold sweats that would be breaking out on our selection committees' forehead if they were to hear that news. I think Dr. Prober had on something the really key which is the communication between the undergraduate medical education world and the graduate medical education world. I'm not so sure how much that really happened in terms of having all the important players in the same room discussing this as opposed to discussing this and they're independent silos whether it's
at the academic, orthopedic, association meetings, and then at the American Association of Medical Colleges' Annual Meeting as opposed to that cross-pollination discussion. Right when I was ending my time as a medical student, I know the NBME was starting to sponsor a new conference to try to bring all those players together in the same room and had those discussions. And I think having that cross-talk amongst the groups I think is important. And I think it's also to have clear communication when discussing students as well. The former Dean of my medical school, his views on the Garrison Keillor reference of Lake Wobegon and that was where our medical school was, where everyone was above average and perfect, etc. If that's how medical schools are going to promote their students, how is the residency program supposed to interpret that performance evaluation letter unless there is some way to understand the subjectivity with a number that's active purpose of that? So another way to truly throw off the system because I kind of think of how everything has evolved, is it's somewhat of an ecosystem where everyone was responding to their own unique pressures in the environment that it exists, is to--because you can't change that need for a number, why not try to change the other end of things which is to change the match process? If the match process changes and therefore impacting how students are going to apply and it's somehow created a system where they're not having to apply to as many programs, thereby decreasing the number of applications programs receive, thereby giving program directors and selection committees more time to review a smaller number of applications, maybe the reliance on the number can lessen. And I think these creative suggestions that have been posed in letters to Academic Medicine with some ideas of how to possibly go about doing that.

David Sklar: Yes. And they're having some ideas about reducing the number of applications that a student could actually send out. That might help some. At least, it would narrow down the overall number that a program director would have to grapple with. And I don't know--what about the changes in the test? Would that make a difference right now? The kinds of questions in the test they have evolved and I think that the National Board is willing to alter the test. People often again pointed at them as another villain here that it's partly their fault. But I think they're actually quite amenable
to changing that test or some of the questions and what they’ll tell you is that they’re basically putting together a test that is psychometrically correct but that the specific content comes from our own community, own faculty. So what about that? Is that a possible option, Ron, Pam? Any thoughts about that?

**Ron Ben-Ari:** Well, I would think that that could helpful in that it could cover more domains in a statistically sound way. I still think it’s a bit problematic again that there’s a singular or in this case, ultimately three about these—in terms of application, one or two singular events that wind up defining the students so profoundly. And I guess if the data bear out that you know it’s an accurate predictor, that would be reasonable. I mean it’s probable that we would need to do multiple things simultaneously. I think it’s compelling to try and alter the match system although I think we also have to contend with the issue of choice and people wanting to seek whatever location and programs that they want to do. Another strategy although this certainly couldn't be a global one is residency tracks. So tracking right into residency so that schools now that are introducing opportunities for students to join the—with the with the guarantee of a residency that takes a lot of pressure off of these individual elements. But certainly--

**David Sklar:** Are you doing that at your medical school yet?

**Ron Ben-Ari:** Not currently. We're in the midst of a major curriculum renewal and in that process, I'm sure we will talk about whether or not this will be right for us. But at first glance, I certainly see challenges in guaranteeing those spots having the institutions agree to the extent that that’s achievable. But I certainly know of other institutions that are aiming to do that if not already doing it.

**David Sklar:** Well, and that all gets to the whole issue of time variable training that I think is part of this discussion. Pediatrics, family medicine have been a few specialties that have served kind of looked at this and I think are trying to see kind of how well that might work. And Pam, any thoughts?

**Pamela Schaff:** Yes. This is so interesting. One of the things I’ve been thinking about as you are talking about these competing sort of needs and the idea that they're often
aren't the right people in the room, well, my first thought is a kind of global who's-in-charge-here. Why is it that we don't just simply say – and I know this is you know not what we're going to do – but why doesn't some decision get made, let's say that the Step 1 will be pass/fail, and just in the way that we've seen how test drive curriculum that would necessarily drive program directors, I would hope all of us – and that's my more broad points in a moment – will drive all of us to come up with these ways of thinking together. And that's why I'm thrilled to hear that Dr. Prescott is going to think with the National Working Group on this. But it seems to me that if we have the ability to look at all of these things with the right people in the room including students and trainees that changes to the match process changes to the exam pass or fail, perhaps when the exam changes assessments in year three. That's the conversation that continues to emerge. How are we doing that well? Are our faculty really adept at evaluating students in their clinical rotations in a way that provides meaningful data to the students' MSPE for residency selection process as well. I think that honestly there needs to be some radical shake-up and I feel as if someone or a group, hopefully a group that represents all stakeholders can say, “Let's get bold. Let's try something different.” And of course, we are--

**David Sklar:** Well, so let me ask you. I think it's a great suggestion. Do you think if they came to you and say, “All right. You don't like what's currently occurring was the Step 1. What we want you to do every medical school will rank their students from top to bottom and we'll use that instead. Do you think you'd be willing to do that?”

**Pamela Schaff:** So why did they get to tell us what to do?

**David Sklar:** Well, that's yes, because they need some mechanism, some way to be able to sort the applicants and to do it fairly. So let's say that they--and maybe that isn't the best way. But I'm just trying to show something out a possible replacement and that may not be the best one. But the problem is if we say that we're going to take away the step one board scores and instead, now throw it out to them to use holistic processes, that just may be too difficult, too time-consuming. Program directors are generally, clinically very active. They only have so much time, so what would they do?
Pamela Schaff: I think they need to make some extra time to sit and talk with all of the various stakeholders, just as we all would do. Everybody needs to take that time because this is I think a process that demands multiple constituents working both together and sort of back in their own to figure out what holistic assessment looks like, what would be most helpful. But I think what was said before is the idea that I think was Dan’s. But do you want me or just don't talk to each other enough.

David Sklar: Well, right. And it's a difficult conversation when they do.

Daniel London: May I say something about the relative ranking of students for which I have a very strong feeling, which is negative. And the reason I’m feeling not because the students themselves have the negative feeling about it which they do, but rather love is in the mind of the beholder or beauty is in the mind of the beholder. So the fact that Stanford may rank each students on 100 which we won't, but if we did, what's the likelihood that the many, many residents creating programs to which those students are applying would come up with the same answer, with the same information. Right because programs who are seeking to match pediatrician may have different criteria and programs matching orthopedic surgery or dermatology or family medicine. Some programs want to have research-intense students. Some programs one have students who have demonstrated tremendous leadership. So it would be presumptuous I think for a school to believe it could rank its students 1 to 100, and satisfy the eyes of the beholders of those students. So I just think it is, for many reasons, to be a bad practice. But for a main one is, I think our residency program then directors need to decide what they want as attributes for our students, and ask for that information to be provided in as legitimate authentic way as the schools can provide after living with these students for four to 10 years.

David Sklar: And you know some specialties actually have a process whereby they ask for letters of recommendation related to at least what they believe is important and they often will ask the specialist that the student rotates with during you know a clerkship to fill out one of those kinds of letters. Maybe an option, it doesn't necessarily rank people
on a continuum per se but it does provide you know some way to compare students. Is that what you had in mind? Something like that?

**Daniel London:** It actually is what I have in mind and I think that I'll be parochial here because I'm a pediatrician, so I'll use pediatrics as an example. And I'll use the Stanford Pediatric Program as an example. What they have done which I think is useful, is they rank all of the students – all Stanford students and students from across the country who do rotations in the Pediatric Department – they rank those students not one to 100 but they rank them in buckets of good to extremely good or whatever. And it's therefore it's based upon how those students perform from across the country compared to each other on the clinical rotation of pediatrics under direct observation for periods of at least four weeks. And so it actually puts the students not in competition with each other at the individual school but more appropriately competition is not the right word, but in comparison with each other from across the different schools with a pediatric focus on them. So they don't know if they can set bones or not but they know how they work with children.

**Ron Ben-Ari:** I was just wondering if then a student must have rotated through Stanford to be eligible to match at Stanford and if that becomes its own major obstacle for many including perhaps underrepresented folks and so forth.

**Daniel London:** So there is no question that students and I think this is true across the country, typically have an advantage if they had a clinical audition in any training program. Unless they're a really bizarre student and then it's not an advantage obviously. So there is a bias I think across the country towards ranking students higher if there's been a positive in-person experience with the students. The issue of diversity inclusion is so important, in a way we're trying to deal with that and I think it's been effective again with like pediatric focus on. We actually have a program that funds students from underrepresented groups to come to Stanford to do clinical rotations. So we paid their travel. We paid their room and board. We are actively recruiting them to do these auditions so they can see if they like us and if we can like them. So they get to do at least two of those things together.
Ron Ben-Ari: That's great.

David Sklar: Well, I think having specific information about how someone performed is important but yes, one of our challenges at least for the observation piece is that in a lot of our specialties, the faculty are only spending a few days because they're sometimes being an attending for three days and then, another one comes in. There's not the kind of longitudinal experience where they really get to know the student the way that it once was. When I was a medical student, I had the same attending for a month and that attending got to know me. But that's sort of not the current situation. So we how do we deal with that fragmentation of the faculty and the residency is a more continuous but certainly faculty are often rotating pretty quickly.

Charles Prober: So David I hate to occupy any more time than you've already occupied but then nonetheless, I'm going to do it. I think you've identified a hugely important point of the relative inability of faculty to richly know their students. And the reason you have said. However, when a student is on a rotation, whatever it is wherever it is, they are surrounded by an entire village of people including nurses, social workers, patients themselves, and patient families, and perhaps, most importantly are residents who are in the trenches with them. So I think an important part of an evaluation of a student on a clinical rotation is getting information from all of those particular stakeholders and painting a more complete picture of the student than a faculty could do even if they were there the entire month. So I think we need … that system.

David Sklar: And I think if we're going to do that which is great, we need to make sure we don't just fall back on the same kind of testing like shelf exams, which are also another kind of multiple-choice questions sort of just like taking the boards again, because we're right back where we before in terms of the advantage goes to those who are really good test takers. Well, I think our time is kind of running out here so I want to make sure that I give everybody a chance for some final words here as we close. Toni, first anything more that you'd like to say?

Toni Gallo: I'd just want to thank everybody again for participating and I wonder if in your closing remarks, you each want to talk about like what's the first next step that we
can take or should take as part of this everybody discussed a lot of really good solutions, but they're kind of big ideas. So what's the concrete step that we can take now to move in this direction?

David Sklar: Great. Okay, so why don't we just one minute each here? Pam, do you want do you want to give us your one minute?

Pamela Schaff: Oh, gosh. Okay. I think that the most sort of hopeful thing that I heard is that the idea of having I think it was Dr. Prober who started by talking about the need to articulate a holistic assessment and be able to translate that somehow into a manageable saying. I hate that it might be a number, that feels difficult. But it's something that looks authentic, and a National Working Group to talk about that. I feel as if and maybe this is just my radical idealist self showing, but I feel as if there might be a way for any one of a number of the stakeholders in this to put pressure on this system to make progress. Now we've been talking about this for a long time and maybe it gets to a point where it's just a crisis like many other things have gotten critical mass and there's an eruption, but if we can avoid that solid sort of devastation that goes along with that, if enough of the stakeholders can be bold and say, "We're going to try something different." And whatever even if it's all different to put pressure on the system so that in the same way that assessment drives learning, I think we could change--we could drive this a little bit differently, we could put pressure to drive the process in the direction of all the stakeholders working together to figure out where we go next.

David Sklar: Great. Ron?

Ron Ben-Ari: I wholeheartedly agree with the need for there to be a national convening around a solution. I just want to acknowledge similar to what Charles was saying, there are so many data points that could be gathered and if a student is not known to an individual for a long time in this era of big data, one of the methods towards a solution would be coming up with a way to capture data like there's faculty development, and resident development, all sorts of things that have to accompany in. But maybe even a system where we capture data centrally or nationally or however, and can collect all
these data points and can form them into a much larger, meaningful picture of an individual.

**David Sklar:** Great. Dan?

**Daniel London:** So I think from my perspective, the communication is key and having that conversation across all stakeholders is important, but I think to really identify those stakeholders, it has to go beyond just choosing the dean of X medical school and the DIO from a hospital system to represent the residency program. It needs to be the people that should have their boots in the ground. I think Dr. Schaff’s comment about her not quite understanding this level of stress on students as an administrator, changed dramatically when she got back into the classroom and dealing with first and second year students interacting with them. So having maybe residents, having current medical students, having clinical faculty that may be a step below the residency program director in terms of the hierarchy in the system on the selection committees, having those actual people who are dealing with the applications, dealing with the student preparation to get ready for residency, having conversations where they may have a better understanding of what’s happening in the nitty-gritty of the situation, I think would help move things forward.

**David Sklar:** Great. And Charles, we’ll let you have the last word.

**Charles Prober:** Well, thank you David. And in fact, the thank you is the first of my last words for you and Tony creating this forum bringing us together and getting the conversation out there because I think the beginning of any solution is to grapple with the issues, and talk about it, and grind what the possible outcomes might be. And in this forum, I hope that some of that will be accomplished. But more importantly and David you have been an advocate for speaking out about these issues for a number of years. And again, I applaud you and your role in really bringing this out. I think we do need pulpits in order to--and I'm not going to call you a bully pulpit because you're not a bully. But you need pulpit, really engaging the conversation and I think like the others have said that perhaps the next step towards a solution is convening, bringing people together. Again, John Prescott has been willing to do that although we haven't gotten
very far with that. So I think we need to stir the waters as you are doing with this and maybe reaching out more to John and his colleagues at AAMC. And then the final thing I'll say and part of the solution could also span just within all of the deans across the country. And so even if the Step examinations remained at three or number digit, it was not pass/fail. Schools do not have the obligation or the requirement to report the Step examinations. And if every school in the country decided we're not actually going to put that in the resident letter, the students don't have to report it either. Now if that made every program director in the country angry, so that's perhaps not such a good solution but you know that is something that could be done in the short term. I don't think that's a recommendation but it's a thought to ponder. I'll end with saying thank you for the opportunity and for your support David and your journal.

David Sklar: Well, thank you. And first I want to thank all of you for participating and I completely agree with what Charles had said. This is something that we need to continue to talk about because I think the problem is really only going to get more challenging for our students, and it is going to add to their stress. And it's affecting our ability to do what we know we need to do in terms of changing curriculum to prepare our students for the changes that are coming along in the healthcare delivery system. So there's a lot of good reasons why we need to make changes in this in the selection process. And I guess I'm hopeful that that our colleagues in graduate medical education also see the issues here as being problematic and that together, we can find a solution. This will be one of the first steps. And I think once we finish our conversation, I hope we'll get this right off to John Prescott and others who can convene the people that need to be together in a room, and then, we'll see where it goes. Thanks. Thanks again for participating.

Participants: Thank you.

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