UNMC Chancellor Jeffrey P. Gold, MD: Hello. This is Dr. Jeff Gold, chancellor of the University of Nebraska Medical Center, and I want to welcome you to "Health Care Heart to Heart," providing insights into the medical and scientific issues of the day. As you may know, I'm a recovering cardiothoracic surgeon, a longtime medical educator, and a firm believer in the ability of science to change lives for the better.

My guest today is Dr. Michele Balas, and Dr. Balas is the associate dean for research at the University of Nebraska Medical Center College of Nursing. Dr. Balas is also the Dorothy Hodges Olsson Distinguished Professor of Nursing, and as many in our audience know, Dr. Balas was also recently named as UNMC'S 18th Scientist Laureate, which is the highest honor UNMC bestows on any of our researchers. Thank you so much for joining us today, and again, congratulations on this incredible award. Correct me if I'm wrong, but is this the first time that a faculty member in the College of Nursing became the scientist laureate here at UNMC?

Michele Balas, PhD: Well, thank you for having me here today. I appreciate the opportunity to spend time with you. That's actually one of the things that I'm most thrilled about. To my knowledge, it's the first time someone from the College of Nursing, but most importantly a nurse scientist, has received the award. So that is what I find most thrilling.

Dr. Gold: Well, congratulations. Before we talk about your research and a little bit about what was worthy of this incredible award, our audience is always interested in your background. So, was there a day, a time, an hour, that you sort of woke up at four o'clock in the morning and said, "I know I'm going to be a nurse?"

Dr. Balas: Absolutely not. So, I probably shouldn't be here today. I am a granddaughter of a coal miner, and we grew up in Northeast Pennsylvania, and struggled when we were younger. My mother had some mental health problems, and I was raised by her alone with three children, was not the best student ever in high school. I was lucky enough to go to be accepted to something called the Upward Bound Program, and it's for high-risk high school students, and it's a program that teaches you how to apply to college, actually helps you apply for college, and does the things that I think some more privileged children need to be successful in that environment. And if it wasn't for that program, I'd unlikely get into college. Started thinking I was going to go from a high school student who had straight Cs, never studied a day in her life, to thinking I'm going to be a doctor, a physician. So I took chemistry, and that kind of decided for me right then and there that I was probably not going to be a physician.

Dr. Gold: Regrettably, it does for many people

Dr. Balas: Chemistry, yeah, it's quite the challenge. So I majored in psychology, sociology, and then randomly found nursing. I have an aunt that's a nurse, and she was a pivotal person in my life, but never really considered it as a career until I was introduced to it in college. And it actually had everything that I was looking for. So it had the opportunity to have that physical presence with patients, to make a change in their health, to be with people at their time of need, and also have those other great things that I was so interested in, like psychology and sociology. So it was pretty serendipitous.

Dr. Gold: And then your career took a turn a bit, and you got interested in the scientific side and the research side of nursing. And let's talk a little bit about how that happened.

Dr. Balas: So I was a staff nurse at a level one trauma center for very many years, and I absolutely adore bedside nursing. So there's this belief that if you do clinical research, in particular, that for some reason you just can't practice at the bedside. But I loved bedside nursing, and I had the opportunity to care for such wonderful people, and we were great. This hospital was fantastic, way ahead of its time, great interprofessional care. We saved people that really should not have been saved. So really bad accidents and things like that. And then, unfortunately, we'd get them through that acute event. They'd live, only to succumb to something later, from something that happened in the hospital. And I was always most drawn to patients that were confused. So, when there was an older person in the ICU and they were delirious, they'd always say, 'Oh, give it to Balas, Balas likes the old people that are confused.' And I really did. I was drawn to them for some reason. And so, the decision to go back to get my PhD again was really driven by those clinical practices and the opportunity that I saw for improvements in everyday care.

Dr. Gold: And so translate that into your current research. I know that that passion of trying to make everyday care better, of having been at the bedside and seeing the best, and probably seeing some of the worst, of the outcomes that happen in a level one trauma center, can be very inspiring.

Dr. Balas: Well, it all comes back to Nebraska in the end. Here's this girl from Philly who comes in for her first faculty position here at Nebraska, and we got a Robert Wood Johnson Foundation grant, and we were the first hospital in the country to test this bundle. It's called the A-B-C-D-E-F bundle. And it's really focused on reducing sedation, getting people up and moving when they're in the hospital, getting them off the breathing machine, really choosing your medications really correctly. So we did this study, and Dr. Morris I think was the chief nursing officer at that time, and she's just like, "Michelle, if you're telling us that this is best for our patients, let's just do it." And the people here were amazing. We did it. We got 300 subjects in a critical care trial in a year and a half, did this study, looked at the care before and after we put this bundle into place.

And guess what? Cured everything. Mortality was lower. Patients were more likely to get out of the hospital, less likely to go to a nursing home. So, because of the great results from that, the A-B-C-D-F bundle actually became standard of care throughout the country. It is now in multiple clinical practice guidelines. And I always like to take credit, it was because of the work that we did here in Nebraska originally, and of course other people throughout the country. But now our team has the coolest study ever. And again, Nebraska Medicine's taken the lead in it. So we're going to be doing a three-center randomized control trial where we are going to test two different strategies to see if we can increase adoption of the A-B-C-D-E-F bundle. Now why does it matter? We know the bundle cures everything. Any outcome that you want to pick, we know that it is absolutely the right thing to do for patients.

We also know, based on some of our prior RO1 findings, that even the most highly motivated sites in the country, it's not being practiced, it's not being delivered into everyday care. And we know the challenges behind that. There's some really pragmatic challenges to giving people this care that we know is the best. So this UH3 that we have, we'll have three centers, and we're going to test two different strategies to see which one's better to get it into care. One is going to be this really cool dashboard that we're making. So it's all EHR-based. We're going to be pulling data, real time, from the EHR, I think this is one of the first too, and having a dashboard in the units that are randomized to that arm. And the dashboard will display in real time whether or not the patients got the bundle and whether they're eligible to receive the bundle. So anybody walking through will know, "Oh hey, yeah, I forgot to get my patient out of bed today."

Dr. Gold: And just to be really clear, when we talk about the bundle, we're talking about the standard of care that would be used to optimize the outcome of that critical care event, right?

Dr. Balas: Yes. And describing that for the IRB will be a great challenge, but it is absolutely standard of care, guideline-recommended care, and it'll always be up to the clinician to deliver the bundle or not. We're just trying to help them find ways. So, the one arm will get the dashboard, which I think is going to be really cool in and of itself. But I always tell people I could die now, because my dream research…

Dr. Gold: Please don't.

Dr. Balas: I don't intend to, but the other arm will be receiving a registered nurse. So, the study is going to pay for another nurse to be on that intensive care unit during the times that the bundles deliver. And that nurse is just there to help people. And because it's a pragmatic trial, we could kind of get away with that. Of course, we'll be measuring things like "Did they take another nurse away from the unit because we gave it," but she's really there to help the entire team deliver the bundle to the patient. So, if the nurse shuts off sedation on a patient, and they get jiggy and try to get out of bed and everything like that, the other nurse could go in and sit with that patient. If somebody's ready to get up and walking, and we can't find a physical therapist, or if the nursing assistant isn't around, that nurse could help. So we're going to compare, see which strategy. We do have echo post, we don't know which one's going to work better. I do have my hypotheses, but again, I think it's really important to recognize that this we will be changing practice again hopefully.

Dr. Gold: And that's ultimately the goal of all of our research, is to improve practice. So let me ask you a related question, and maybe this hasn't been studied, but has the use of this type of bundle changed, let's call it the clinical wellbeing of the workforce and the critical care units? As many of our audience may know, not just as a result of the pandemic but probably exacerbated by the pandemic, the overall clinical wellbeing of the health professions workforce top to bottom, in and out, has been radically impacted. As you may or may not know, I've been very involved with the National Academy of Medicine and the Clinician Wellbeing Action Collaborative, and I'm certainly well aware of the data. So is there any inference that the use of this type of bundle of care might also not only be beneficial for patients, but actually could be beneficial for the staff delivering that care?

Dr. Balas: Thank you so much for asking that question. I always forget about that third aim. So we're working with colleagues from College of Public Health here and we do have another aim, and that aim is going to be looking at the effect the bundle has on work intensity. We want to know, do these two interventions help reduce some of the things that the providers are doing on an everyday basis? We'll also be asking the providers, again, the entire interprofessional team, "What changed once those interventions came there? Did you like it? Did you not like it?" Because even if it's effective, if people hate it and don't want it there -- again, I suspect that's not going to happen -- but why would you do that? So getting that key stakeholder input is so important. But we're also going to be approaching the NINR for an administrative supplement, because they have an important call out right now that's really focused on looking at organizational interventions to reduce nursing burnout. I mean turnover right now?

Dr. Gold: Huge.

Dr. Balas: Beyond huge. Turnover, moral distress burnout. So that's going to be the first thing. As soon as we know we're going to get the UH3 funding -- because we do have to meet deadlines, a timeline before then -- but as soon as we know that we're eligible, and we met our goals, and we're going to get this really big grant, first thing we're doing is an administrative supplement to put in there really great measures of burnout, distress and the things that matter for the psychological health of the providers, because they're equally important.

Dr. Gold: And we know that the psychological health of the providers, indeed just the burnout scales, directly correlate with quality of care. They correlate with length of stay, they correlate directly with the financial status of the institution. And so all of this helps not only the patient recover, but it maintains the wellness hopefully, of the staff and makes our institutions more successful.

Dr. Balas: But how cool is this? That data is correlational. And again, sometimes it's really silly the things that we have to prove, right? Like that the number of nurses matter. But until you have that randomized control trial, you're going to have those haters out there that don't believe the evidence. This grant will give us the opportunity to have a really lot higher level of evidence supporting that some of these organizational interventions do benefit, because you always have that argument, “Well, how do you know it worked?” We'll have that data. And another supplement coming down the way is, you know what the next question is -- costs? Is it cost effective? Well, I'm going to guess it really is. But we need, and if you know anybody who does this type of work, we need a really great cost-effectiveness analysis aim added to the grant, because it's going to be the first thing that people in the C-suite ask, right? Alright, it worked. Patients got better. We did this. What did it mean for our bottom line?

Dr. Gold: I mean, anything that directly correlates with length of stay, anything that correlates with different types of placement strategies, anything that correlates with reducing turnover of the staff, directly impacts the bottom line in a favorable way.

So we could talk about this forever, forever, but there is no question that you are so worthy of being the Scientist Laureate this year. And I just want to congratulate you again for all that you've done, and I hope to have you back at some time in the future to talk about the outcomes of this trial.

Dr. Balas: Be great. Look forward to it.

Dr. Gold: Thank you for tuning into this episode of “Hearth Care Heart to Heart with Dr. Jeff Gold.” And until next time, stay healthy.