

Panel Discussion Transcript

Malcom Cox:

Welcome, we are delighted to have you with us today. We have an important topic to discuss with you. As VA transforms its health system, it also needs to look at transforming its clinical education system. As most of you all know, the VA is one of the largest clinical education systems in the United States, and we contribute enormously to the health professions work force. So, in thinking about transformation of our clinical operations, that impacts the learning environment in our clinical sites, and so we really need to think about the two coming together; so redesigning both the clinical environment, delivery environment, and of course, the learning environment, as our trainees are interstitial everywhere in their clinical learning environment.

So, I have with me today two distinguished individuals, who I think many of you will know. To my immediate left, Dr. Robert Jesse, the Principal Deputy Under Secretary for Health. To his left, Dr. Stuart Gilman, who manages, amongst many things, the Centers of Excellence in Primary Care Education. So, our goal is to have a discussion that will be an informal discussion rather than a lecture about these topics. So, let me start off by throwing out a question to Dr. Jesse. Bob, from your perspective, what is the relevance of relationships from the nation's health professions schools and academic health centers to the Department of Veterans Affairs?

Robert Jesse:

First of all, I don't think the relevance has changed in the 70 years since these relationships were first established. The imperatives and the context may be a bit different, but fundamentally health care is a learning environment. Part of our mission and the mission of education is to promote the notion of centers of discovery and learning. That's how we build the brilliant minds that provide health care we need in the future. Having the opportunities for teaching, having opportunities for research are crucial to both engaging the trainees in our workforce, but also to engaging the growing faculty that both serve that education mission and the quality of care delivery to our Veterans. I think one of the missions that we can say is changing is that quality of care and understanding how health care systems work are very much becoming part in partial of the training programs, while today the VA has graduate programs that work in these areas. Imbedding those capabilities much earlier than the training programs at the level of medical students in terms of residency is key, and the expertise that the relationships with the academic affiliates brings to that capability is crucial.

Malcom Cox

So, would it be fair, from your perspective, to say that the quality of care begins in the systems of undergraduate and graduate education to set young clinicians on a lifetime pathway of safe and effective practice?

Robert Jesse:

Absolutely. These are core capabilities, core knowledge base to ensuring the safe and effective health care of the future.

Malcom Cox:

Do you think, Bob, there's a big difference nowadays, if you could expand a little bit, compared to the kinds of educational systems and opportunities we provide in say, five to ten years?

Robert Jesse:

I think that that's changing in several ways. First, I think the scope has already been changed dramatically; it's no longer about the absolute didactics of physiology and clinical medicine, per se. Historically, we've taught this based on the disease model, and how we build those training programs is to, yes, address diseases, but also to do that in the context of a very holistic approach to health care that acknowledges not just the needs of a health care training system but really fundamentally is about the needs of the patient. And I think this is going to be a dramatic change in how we educate health professionals. It's a well-known fact, but I'll say it for the sake of this audience, the VA is the major trainer of health care professionals in this country. Not just physicians and nurses, but there are over forty different, I think, medical specialties that get some, or all, of their training in the VA system. Some of those, the VA really is the predominant trainer. I guess a simple example would be in our fellowships for patient safety, which is an incredible program. So that scope is important, but getting the clinical skills, the base clinical skills, to physicians in a way that they're no longer just expected to memorize, but actually to develop critical thinking skills is, I think, a dramatic change in how we're going to have to approach the training of clinicians. Our time basis is changing, the demands are changing, the discoveries of health care are changing so dramatically, that the scope of knowledge and critical thinking skills, as I said, really become important in the future of health care education at all levels.

Malcom Cox:

So, I hear you talking about aligning learning or education more with patients' needs and expectations, and that seems to be a critical element. So I wondered if you could just talk a little bit more about VA's patient-driven and team-based model for clinical practice. How, in essence, do patient aligned care teams, or PACTs as we call them, as you well know, fit into this overall model?

Robert Jesse:

So the term in the VA we use is PACT, or patient aligned care teams, as you said, and the similar model that you'll hear people using is the medical home model. But fundamentally, it comes down to this notion of patient-centered care, or, I think more appropriately, patient-driven care. One of the keys to that is actually empowering the patients; they own their health care. It's not something that they come and buy from us. We are trusted advisors, we are purveyors of skills, but fundamentally, the health care will get back into the hands of those who own their own health. It's also moving away from the notion of "find it faster and fix it better", which, of course, we will continue, we do well today, and will continue to do well. But moving toward a much more proactive and preventive strategy, and one that's personalized both to the patient's needs as well as their physiologic needs, as we get a better understanding of that through genomics and through diagnostic testing. This is going to be key in how we understand and integrate that. There's going to be another example, I think that's important for us, is mental health. Historically, the mental health care system has been disassociated from the physical health care system, and certainly in the VA and our population mental health needs have really come to

the forefront. Our real goal is to integrate that capability into the primary care, into the PACT team holistic model, rather than one that's separating. So, the fundamental key things are one, empowering patients to own their health, building the holistic model of health and well-being and integration of both mental and physical health into the broader capability of a health care delivery system is key.

Malcom Cox:

As you know, Bob, the Office of Academic Affiliations is sort of education and learning, or is the academic education in the VA. It has been part of this PACT development in multiple ways since its beginning, and I wonder to what extent you had issues or questions that you might want to direct to me, as the Chief Academic Affiliations Officer.

Robert Jesse:

You sort of asked the first question, but I'll reiterate it if you like- So, granted that we're having this change in what our education imperatives, granted that we're having a change of how we're going to structure that education model, I guess the straight and simple question is how do you the VA's Office of Academic Affiliations being both the driver of that in the sense of the policy side, but also the effector of that and managing those relationships to this move this forward?

Malcom Cox:

Well, there a couple of issues, as you well know, around us. One is, as you mentioned before, education and research. Those two missions are not only statutory missions for the VA, but wise statutory missions in my opinion. That was said a long time ago by Congress because without those elements it is impossible to think of a future workforce that will align itself with the needs and expectations of patients, as you already articulated. So, I think the academic mission, which is not only driven by my office but it's driven by a variety of different clinical offices in VA, is a very important one for the future of VA. As I think you mentioned a little earlier, Bob, the education and research missions, and the work around them, allows us to recruit and retain outstanding practitioners who actually love to incorporate teaching into the work. In fact, if you don't incorporate learning in your work, your work can't be as effective as it should be. So, I think the education and research missions are integral to fulfilling VA's primary mission of providing clinical services to Veterans, which is really at core is what we're here all about obviously.

But I think it's more than just the traditional reasons that we need an academic component to our mission. As far as my office's involvement in this, we recognized very early on, for example, that the tail doesn't wag the dog, the dog wags the tail. The dog is clinical education, and education is the tail. If we were to develop new and innovative ways of educating health professionals, we would have to relate in a very intimate fashion with the clinical redesign that's going on around PACT and the other elements of clinical redesign that we've talked about. Mental health would be another example of that, and you've already mentioned it. So, the alignment of the academic missions, both the education mission and the research mission, to this redesign of the clinical microenvironment, and even the clinical macro environment that we're dealing with in VA, occurred to me a number of years ago to be a very important future-oriented way of thinking about the role of my office in the future in developing the kind of workforce that VA needs, and the nation, as a whole, needs.

Robert Jesse:

So, in that description you actually describe, I think, what's going to be one of the biggest challenges, so this is my next question. And that is, you described three of VA's four missions, clinical care, teaching, education, and the fourth being services to the country in times of emergency, which is actually highly dependent on the first three for our capabilities to do that. But the tendency, in whatever approach, whatever viewpoint one has of the VA, is to silo them and pull out one as being more important than the other. I think the important question is, and I'd like your comments, how do we avoid that? How do we avoid the siloing of these missions and really get to that point that you described of the integration of all three of as inseparable in the process of developing the nation's next generation of clinical leaders, researchers, and teachers?

Malcom Cox:

Well, if I had the answer to that, I'd be famous, and I don't. But it's an absolutely critical question. I think it is the question that VA is struggling with at the moment, and in fact, the nation's medical schools, nursing schools, in their academic teaching environment, everyone, hospitals, are struggling with exactly the same question- how do you remove the silos between those three traditional missions? How do you bring, the question is really, how do you bring people together around a table, like this, to have a discussion, to leave some of their biases at the door, and begin to look in a future-oriented way towards what's really important, which is the patient? And we give a lot of lip-service, we in VA, and we nationally in the health professions give a lot of lip-service to that patient-centeredness, or patient-driven, approach. But our systems are archaic and aren't aligned in that sort of way. I think there are a couple of points I would make that I think are important. First, it's clear, I think, that those missions are inseparable. The more, the better the learning environment, the better the caring environment, and the better care you deliver, the more effective is the learning environment. So, they're really inseparable, in my view, and I think increasingly in the view of VA leadership and national leadership around this issue.

So, we have to start thinking and leading, very important that we're leading, in a different way than we've done in the past. But there are a couple of other issues. Most of the audience, I would suspect, recognize the interrelationships between academic pursuits and patient care in the inpatient environment, but that hasn't been so much the case in the outpatient environment, which has been neglected to a large degree, certainly nationally, less so by VA, and certainly less so now by the VA after the PACT development. But one of the reasons, I think, VA focused on the ambulatory environment is not only because, hey, that's where the patients are predominantly and will be even more so in the future, but also because it needed the most redesign around this issue. Where do we bring, how do we bring the academic approach to the caring that goes on in a clinic in an ambulatory environment? So, it's not at all clear in the primary care arena, as it's a little clearer in the inpatient arena of the inseparableness of these different missions. And I'll make just one other point around this. We sit in here, are all three physicians around this table, and I think we have a certain understanding of these issues; but because of historical reasons and professional development reasons, that's not necessarily true, in VA at least, for some of the other professions. I would point to nursing, just as an example, and

that is, that there's a much greater separation between education in the nursing schools and practice and service delivery in the hospitals. And our VA tradition, in nursing, has been that that separateness is there and it's actually a national separation, and so, in other professions there's even more need. There's plenty of need in the medical profession to do this, but there's even more need in some of the other professions for people to lead in the direction of pitching a big tent, rather than exclusive silo-based education and practice.

Robert Jesse:

This sounds like a great segway to put Stuart on the hot seat, but before we do that, I want to summarize what you said without reiterating it. And that is, my comments to the audience, is that this is not change for change-sake. This is, if we truly are committed to the notion of PACT, if we truly are committed to moving towards a model of patient-driven care, if we truly are committed to changing health care from being about encounters in an office to being about sustained and productive relationships over time, we have to change this education model. And the 'siloing' of these responsibilities cannot exist; they have to be integrated into that model.

Malcom Cox:

Well, I think that's absolutely right. I think you hit the nail on the head, Bob. So, let's ask Stuart, if I could, can you offer some examples of how practice and education do interact or can better interact?

Stuart Gilman:

Sure. And in fact, I think they interact a lot, and we haven't paid enough attention to it. If we remember that health professions education, really for all professions and especially in the last stages of preparation, is an apprenticeship model. The trainees, learners, are in our clinical environments doing while learning under supervision, and that necessarily requires that clinical environment, the patients, the clinical staff, the institutions and systems in which we all work, to be together. And I think, what I've been learning from the work at our five Centers of Excellence sites in the last few years is how important it is to expand our concept of what the curriculum is and what we, as educators, are doing to define and manage this curriculum. And so, we're really getting beyond thinking of curriculum just a lecture schedule or a set of formal instructions. The curriculum involves instruction that's everything that the trainees encounter, including the patients, and the clinical staff, and the interactions, and the curriculum has to have objectives that get to developing our trainees to have competencies in the pillars of PACT, right, the issues like being capable of engaging in shared decision making in the course of practice, demonstrating and leading interprofessional collaborative practice, and incorporating performance improvement in their routine clinical activities individually and with their teams. So, these things have to happen in the context of their clinical environment.

So, I've really come to believe that what some of us had come to know as the hidden curriculum, not what we say but what we do, has never really been hidden, or if it's hidden, it was in plain sight. The trainees are explicitly aware of what their faculty really do, how they see their role models and the other staff around them interacting with patients and with each other, and that those are issues that we need to be more deliberate about ensuring the trainees have, you know, that they see the desirable behaviors around them. So, a corollary to this then is we come to recognize that the best primary care

education programs only happen in the best clinical delivery settings. To provide great primary care, you've got to have locations that are already providing great PACT.

Robert Jesse:

So, very early on in that very eloquent discussion of this, you used the term apprenticeship model. I think that's actually a very important notion because fundamentally, health care delivery and health care education has really been built on the model of the guild. And we still, to this day, get accused of that, but that, notionally, is not at all compatible with PACT or with the medical home model or the team-based care model. And if we are going to practice as a team, then how do we begin, how do we inoculate those capabilities, again, very early into the medical education system, not as something we have to teach people years after they've begun to establish their own practice pattern? So, you, I think, used the term interprofessional education, so could you just expand on that a bit more?

Stuart Gilman:

Sure. Well, there's a lot of moving parts, and horizontal and vertical types of issues going on because we've got different levels of education. And I think that interprofessional collaboration is an essential component of PACT practice, of patient-centered practice, and we've already talked about how important that excellence in the clinical delivery system must be for there to be an educational engagement that's also going to be robust. So the interprofessional element here, I think, is that we've come to recognize in the complexity of having the academic PACT, a PACT setting in which there is formal teaching going on to trainees, that there's another team that's happening in a kind of parallel to the clinical team, and this is the education team, or academic team, which consists of many of the same people because you'll still have your front line clinical faculty, preceptors, clinical staff. But you've also got other people who are profoundly important to the structure and process of the educational program, such as associate program directors, program directors, leaders from our academic affiliate institutions, and this can be very complicated when if you've got different trainee programs in a single PACT, each of those programs might have academic affiliate institutions that are entirely different, unrelated institutions across professions. There's a lot of integration that has to be done that's partly interprofessional in the sense of what we do as clinicians, but also interprofessional as educators and inter-institutional.

Now, our CoE sites have gotten some experience under their belts of the complexity of recognizing these things, and then learning to manage them and integrate them. And so, it's become clear that there needs to be an educational leadership team that's interprofessional. So, just as in clinical PACT practice, there's the interprofessional collaboration of the clinicians, there is so for the educators. And in a way, the shared decision making as an analogy in the education team because there has to be some shared decision making across these educators of different professions as they define together how they should teach the roles of each of the different professions involved in the primary care practice. And we should, I think, have nurses having a strong voice in how nurses are described in this experience and what their professional scopes of practice are, what their professional philosophies are, and not have physician faculty say, defining to physician residents what the role of a nurse should be. So, we need nurses, and psychologists, pharmacists, social workers, and other primary care professions collaboratively to be engaged in creating kind of a core curriculum, a core set of values, that will be in

this educational team and activity that interfaces and overlays the clinical activity that goes on. Now, I think that many people believe that interprofessional education is only something to attend to when you have trainees of multiple professions together, and while I see that as an ideal place for an academic PACT to be, I do think we've seen a strong argument in favor of interprofessional educational leadership crafting curricula, even if there's a single trainee profession, which in our setting most commonly would be physician residents and internal medicine. But, I certainly think that there should be clear faculty identified who are nurses, pharmacists, psychologists, in the internal medicine residency program, assuring that proper learning objectives are identified, that the physician residents are interacting optimally and getting the best understanding of these other professions' roles, and to provide different perspectives on assessment for the resident's performance. Now, that all is still focusing only at a very late stage of learning, right, at the graduate level or late undergraduate level. My hope is that these faculty teams that we develop then, at this point, that are started around patients and around care can then be used to strengthen curriculum, what would say, upstream. That then the medical schools, nursing schools, have faculty who have better skills to collaborate together to define this common set of understandings of how professions can interact as they redesign the earlier curriculum.

Robert Jesse:

Before you jump back in, I know you've got a burning question. (Malcom Cox: You know me, I always jump back in.) I want to put a plug in here because we're not going to have time to talk about it today, and it's probably a topic for another whole discussion. And that is the role of simulation in developing these new models and I don't just mean, you know, teaching CPR on mannequins. This ranges from not just even actor patients and now actor patient's families, to learn how to handle those conversations. And by the way, it's a great way to teach acting students to the complete other side of very immersive simulation worlds. And I think building the skill base in our trainee population across that board will occur in a way that when they do begin to interact with patients and their families in these models, they're much better prepared than we were when we began our training. I remember we came out of the "see one, do one, teach one" model, so I think there's the leveraging not just this new approach to patients and team-based care, but leveraging the capabilities we have in our education  is going to be crucial. So, I'm sorry to interrupt.

Malcom Cox:

No, I think it's an important point, Bob, because Stuart was saying the multiplicity of different channels of the learning and practice that is needed. Even in uni-professional learning environments, you need an interprofessional sort of approach. What you're bringing to the floor is another complexity, and that is the multitude of methodologies across the continuum of learning, in whatever profession you talk about, that need to be thought about in an integrated fashion as well. And simulation is certainly immersing as one of the important ones in that regard, but there are others.

So, Stuart, just getting back to you, what I was going to jump in about is that, it seems to me, what you were talking about at core is the issue of how we arrange our learning so that all the graduates of that learning, although it's learning experiences, can work effectively in an interprofessional practice culture because that's the end product, so to speak. That's where the health system is going, it's

team-based, interprofessional, and without the ability to socialize professionally around some of these issues, you're not going to have either the most effective patient care or the most effective clinical learning environment, and I think you described the importance of that.

So, I turn back to you a little bit, Bob, and if interprofessional education and practice and team-based care is so important, which I certainly think it is, what is your vision, and what is VA's vision around interprofessional education? And how does this support what we're really here to do, and that is to deliver good care to Veterans?

Robert Jesse:

So, team-based care, collaborative care, however you want to describe it, is not an individual capability anymore. So, the ability to deliver, that's probably not the right word. The ability to ensure good health and well-being requires collaboration that's across multiple dimensions, but certainly all aspects of the healthcare delivery system need to be fully engaged in that collaboration. I will say one thing that the absolute beauty and elegance of the VA health care delivery system is that we don't just deliver health care. It's a broad base of social services that we know are important to engender good health and well-being. And as we talk about the PACT, the teams, and the very basic model of health care delivery, we're also expanding them out into the social services world, which becomes really important as we try and move more and more of the care out of the clinic, out of the hospital, and back into the space where people live and work and love and sleep. And understanding what that requires cannot be done by one person, and it cannot be done in the absence of strong communication.

You know, the buzz words in health care are the triple aim, which is improve patient satisfaction, deliver good population health, and do it at less cost. I think that our approach to this has been that if everybody operates at the top of their personal capabilities and their professional capabilities, that we can deliver much better care at a much less expensive price. In part because we are connected with the patients and they are connected with us, and much of the cost in health care, the avoidable costs in health care, are driven by things that don't happen when they should happen, I'll just put it as simply as that. The more people who have eyes on the ball, the more people who are engaged, the more that communication streams are open, and I mean that in both synchronous and asynchronous modes, that that's the way we're going to achieve that triple aim. Again, the beauty of the VA system is we can look cross that system, and that's where we deliver population health. And our responsibility, yours and mine and anybody who is in any kind of administrative or supervisory role, has this other patient, which is the part of the health care system that they are responsible for. And fundamentally, we cannot have healthy patients without a healthy health care system, and building that capability, that's when we say population health, I think, the health of the health care system is very important. So, that education, that interprofessional education, that team-based care delivery models as an absolute, fundamental construct of the new world of health care is crucial. So, we are taking a leading role in that area. I think that we understand that in ways that many people don't because really we have been doing it that way in a less formalized structure for a long time. And getting that right now as part of the very basic education system is, again, VA taking the lead in medical education, and I'm so appreciative of the work that you guys do in driving that forward.

Malcom Cox:

You know, you've raised an issue, Bob, that I think is a critical one. We need to move beyond a reliance simply on team based care and interprofessional education as a component of that to almost crossed-sector care, and VA has taken the lead in that, because simply of the fact it has a mandate to do that. And it's been interested for some time in looking beyond health care to the wellness of the Veteran in a more global sense. But there's a lot of interest nationally now in this concept of linking the different sectors who are involved in wellness. It may be the policy sector, it may be the engineering sector, it may be and it certainly is the health sector. But there are many other sectors, social service sectors, so to speak, that are as important, if not more important in the long run, in promoting the kind of wellness that I think you're talking about and VA is committed to doing.

Robert Jesse:

If I could just expand a little bit briefly because when we talk about personalized health, that name has been, in a sense, co-opted by genomics folks, personalized medicine. But in fact, the social determinants of health are every bit, and perhaps even more, important than genomic determinants of health. So, the ability to integrate, as you said, the social aspects into the health care delivery model are foundational to promoting good health and well-being in those patients.

Malcom Cox:

So, I was going to sort of end up a little bit by saying how do we partner, by sort of questioning how do we partner with our main partners, that is our academic affiliates, in this effort? There's a great deal my office and other offices are doing to further enhance this long term relationship we have with forty different academic health professions out there. Because without them we can't do this, and they, without us since we're such a great clinical learning site, can't do it. So it's a little bit "damned if we do, damned if we don't". We have to get along and work collectively on this issue. And there's a lot that the audience may not be aware of, I wanted just to mention briefly, that the office is doing to engage our academic affiliates. I could talk for a long time about that, as you know I could talk for a long time about most subjects, but I won't because we're drawing this to a close. But I think it's important just to get a little bit on the table about that.

First of all, what the audience may not know, for example, and I know you're aware of this, Bob, and you're aware of it, Stu, is the enormous amount of interactive work and relationship building that the Office of Academic Affiliations does. We have either official VA reps or unofficial VA reps on a huge number of professional societies, too long to mention here, and it becomes an alphabet soup, but I won't. Suffice it to say that every professional organization and every accredited licensing body in the United States is influenced by one or another, not necessarily people from my office, but by important leadership individuals in VA. So, VA is already tightly connected to the academic accrediting and licensing body. They need to maintain that, obviously, and I see no reason why we can't. It's interesting, for example, that many of those organizations are represented on the National Academic Affiliations Council, our federally chartered advisory committee, and that's why they're represented, not all of them can be represented at any given time. But we have a number of very distinguished, eminent individuals who lead these national organizations, who meet with us, and provide recommendations and advice to you, to the Under Secretary, and to the Secretary around this collection of academic and service issues

that we're dealing with the whole time.

More importantly, perhaps, is VA's leadership role in setting forward a whole series of demonstration projects, one of which we've talked about today, The Centers of Excellence in Primary Education. But there are many others, the VA Nursing Academy, our mental health enhancement initiatives, and many others, as I said. But VA has been generous in its support, and it's not just the dollar resource that it's been generous about. You in the audience, the leadership of VA in the field, not just in Washington, have been generous in providing your time for these activities. So, I think it's important to recognize that. Indeed, in somewhat of a reversal of the longstanding situation where VA was perhaps, in a sense after World War II, more dependent on the academic community than it is now. And the reverse is that, in a strange sort of way, the opportunities to do these experiments, as I say, around learning and around delivering care in a patient-centered or a patient-driven way. The ability to do that, the VA has taken that on as a serious project, and the academic community is appreciative of those demonstration projects. And much more attention is now being paid to VA because of those, of the support of those demonstration projects. So there's a lot, I think, that VA can continue to do in the future around the central issue of how do you break down silos? How do you build teams, effective teams around both delivery of care or practice and educational learning?

Robert Jesse:

So, I think coming back to the question you asked me in the beginning, how is different today? We are all challenged. The Affordable Care Act, changing in health care financing, Medicaid expansion are all going to be challenges to the broader health care systems in this country. The academic centers are under some financial strains, and at the same time know they need to reform and conform their delivery systems to the kinds of models that we're talking about. Not because it's cheaper but because that needs to happen to meet that triple aim that we talked about. And I think the partnerships with the VA are crucial to both, as you say, develop the knowledge base that everybody isn't doing their own experiments, that we can do the demonstration projects with multiple academic centers that really help us learn. Because you know, frankly, what happens in very rural and small centers can be very different than inter-city center; they each have different challenges, but they're challenged nonetheless. And the VA's role in that will be as important today as it was seventy years ago, and likewise the academic centers' role and participation in VA care will be as important today as it was seventy years ago.

Malcom Cox:

So, I think what we've tried to do today, in brief summary, is to explain a little bit, at least our views, of the relationship between education and practice, the importance of interprofessional, collaborative care, the importance of always thinking about learning redesign while you're thinking about practice redesign, the inseparableness of those two components, and the importance that you all have as VA leadership in the field around making sure that not only the practice goals of the transformation VA are going through or achieved, but the learning goals of that transformation are equally achieved. And you have, or will have, a series of resources, much broader than we've been able to talk about today, a blueprint essentially for creating, at least in the ambulatory environment to start with, a blueprint of this academic PACT, this ability to deal with both learning and practice issues at the same time. And we stand as your Washington based leadership ready to help the field in whatever ways

we can to move these transformations, actually this single transformation, forward. So, I wanted to thank Dr. Jesse for his time and his thoughts (Dr. Jesse: Always a pleasure), and Dr. Gilman (Dr. Gilman: Thank you), who runs the education part of this project with a whole bunch of practice colleagues as well who are not around the table today (Dr. Gilman: A large number of really wonderful people) (Dr. Jesse: Would you thank them all one by one?). So, there really is a team at work here, and that's not always apparent to the field because we sometimes come off as a little bit disjointed and working in silos ourselves, and sometimes we do, let's face it, because there's a lot to get done. But in reality, there is a team that's thinking about this symmetrical transformation to move forward. So, I wanted to thank you, the audience, for your time today. I hope these brief overview remarks will provide an opportunity or a framework for you to think more about the importance of the academic PACTs that we're going to be rolling out in a more extensive way in the years to come. So, thank you very much.