

Transcript
Enhancing Health Professions Education through Technology
2015 Macy Conference Recommendations

Moderator:

Please stand by, we're about to begin. Good day and welcome to the Macy Conference on *Enhancing Health Professions Education through Technology* webinar. Today's webinar is being recorded. At this time, I would like to turn the program over to Dr. George Thibault. Please go ahead.

Dr. George Thibault:

Good afternoon or good morning depending on which time zone you're in. I'm George Thibault, the president of the Macy Foundation, and I welcome all of you to this webinar to report on our most recent Macy Conference, which was held between April 9th and April 12th in Arlington, Virginia, entitled *Enhancing Health Professions Education through Technology*.

Let me first give you a little overview of the format of a Macy Conference for those who are not familiar with it. This is an invitation-only conference in which thought leaders who are distinguished people in their field relevant to the topic of the conference, are invited to participate in the three-day event in which everybody participates for the whole time. For this conference, we have 38 leaders from health professions education, from higher education in general, from health care organizations, patient advocacy groups, and technology development that represented diverse institutions nationally and internationally and a full list is available on our website.

Prior to the conference, we commissioned three papers and I will give you a brief overview of those papers in a moment. Conferees read these papers and other suggested reading material and actually were invited to give comments on them prior to the conference, which helped us organize the discussion. At the conference, we underwent three days of structured discussion in both plenary sessions and breakout groups leading to a set of consensus recommendations. Those recommendations were later refined by the planning committee and they represent a consensus of all conferees but not necessarily unanimity on every point. All conferees participated in the process and reviewed the final product.

This conference occurs in a setting in which we're seeing important shifts in health professions education, and in clinical practice towards increased access and value, better care, and improved health outcomes. Education outside the health professions is undergoing dramatic changes away from traditional lecture and classroom approaches and technology is a significant factor in all of these changes and we felt that harnessing its power will enable advances in both education and health care delivery that will improve efficiency and effectiveness of teaching, learning, and patient care.

Prior Macy conferences over the last two years have recommended ways in which we should link interprofessional education and clinical care redesign to ensure a health profession's workforce that is prepared to fulfill its societal contract to meet the health needs of the public. And I'll refer you to the [Macy conference report of 2013](#). In 2014, we made recommendations to achieve this goal by active participation of patients, families, and communities to be able to bring about this linkage and I refer you to the [2014 conference report](#).

To continue to support progress towards this systems integration, this conference brought this to first group of thought leaders together to address the question of how can technology improve education, improve health care delivery, and improve the linkage of education and health care delivery in order to transform health care and lead to better outcomes overall.

The three commission papers to help set up this discussion, the first was written by Malcolm Brown of EDUCAUSE and it was entitled *Swirl: Trajectories for Digital Technology in Higher Education*. It

introduced this concept of swirl in which individual learners are able to disaggregate their learning and re-aggregate it in an individualized way with the ideal down the road being an individualized higher education. The second paper written by David Cook of the Mayo Clinic and Marc Triola of NYU School of Medicine reviewed the landscape of educational technologies in health professions education today. It particularly focused on web-based and computer technology which give flexibility, standardization, and analytical capability to the educational process when appropriately coupled with traditional methodologies.

Finally, a vision paper was written by Catherine Lucey and associates from the University of California, San Francisco Schools of Medicine and Nursing, which looked at the future of health professions education and envisions a world in which we are preparing people for a system which is more patient responsive, more equitable, more effective, more flexible, which is enhanced by technology and which embraces continuous and lifelong learning.

The discussion at the conference led to this vision statement at the conclusion of the conference. "In our vision for the future of health professions education, intelligent use of educational and information technology supports the linkage between education and delivery systems to create a continuously learning health system. In this system, teachers, learners, and clinical data inform continuous improvement processes, enable lifelong learning, and promote innovation to improve the health of the public."

This vision statement led to six actionable recommendations and a number of sub-recommendations, and I'm now going to introduce the two co-chairs of the conference who will take you through those recommendations. Gail Stuart is the dean and tenured distinguished university professor in the College of Nursing and professor in the College of Medicine in the Department of Psychiatry and Behavioral Sciences at the Medical University of South Carolina. Marc Triola is associate dean for Educational Informatics and associate professor of medicine in NYU School of Medicine and the founding director of the NYU Langone Medical Center Institute for Innovations in Medical Education. Gail?

Dr. Gail Stuart:

Thank you, George. So, I'm going to talk with you about the first three recommendations and each recommendation has some additional specifics related to it to help give it more body. The first recommendation is really focused on how we can use technology in a couple of different ways. One is to assure that there is continuous learning from the classroom through the clinical practice setting. Sometimes we think about education as being limited to the classroom, and so we wanted to look at ways in which technology could really be a lifelong learning process.

The second element of this recommendation focuses on ways we could use technology to enhance our interprofessional learning opportunities. Those are always a challenge for us in the clinical and academic settings. And the third aspect of this recommendation talks about how we can emphasize lifelong learning in a different and meaningful way as everyone enacts roles as student, faculty member, and clinician in their professional career.

On the next slide, you can see some of the context for this recommendation. The first being the notion of anytime, anywhere learning, and that's really what technology allows us to capture and opens up new avenues of opportunity for us. The second aspect looks at an important one, and that is using technology to actually individualize learning. Something that takes us away from large classrooms on campus settings to really looking at how each individual learns and how technology can facilitate that as we monitor a student or a learner's progress towards mastery of the content or the skillset. And it also

asks us to look at how technology can open up new types of collaborations between and among teachers and learners.

The third aspect of this recommendation really talks about issues of efficiency and effectiveness and how technology can help us in those two important areas. So as we think about efficiency and effectiveness, I think we might think about access to educational opportunities and how can technology increase that access. From an efficiency standpoint, how can technology help us to reduce the costs? And we know about the growing costs of tuition and the cost of education. Can it help us to perhaps shorten programs or in other ways decrease costs? And also, how can it help us move on our path towards really measuring competencies? And so that is the third bullet or the third aspect of recommendation number one.

The fourth aspect brings us back to the idea of interprofessional learning opportunities and one of the constraints that I think we all experience are the limitations of having students co-located at the same time, at the same place. So it challenges us to think about how we can use technology in order to expand and create new learning opportunities.

Recommendation number two helps us to focus on the major player in this process, which is the faculty. And so the conference spent a good bit of time talking about how can we better prepare faculty to engage in these new opportunities. So this recommendation suggests that faculty, their skills and expertise should be enhanced and how they can use technology. And most importantly, how it can be used to improve the teaching learning process and the assessment of outcomes.

Under this recommendation, we have a number of more specific aspects and I'd like to talk a little bit about these. The first is the commitment of health care and delivery institutions and education institutions to train educators in learning theory and the best use of educational technologies. So because someone is a clinician, it doesn't automatically mean that they can be an educator or an effective educator. The second aspect of this recommendation talks about creating specific programs to help support our faculty, our teachers, in developing the skills they need with many of the nuts and bolts of the educational process. That means curriculum design, content organization, facilitators, mentors, and assessors.

The third aspect of the recommendation really changes our lens and refocuses us on educational administrators and what could they do to facilitate the ideas that we're talking about. And so we know that the best way to move a field forward is if in some way you can formalize these recommendations, and the best way to do that is to embed them within the academic culture. So here we said that healthcare administrators and institutions should look at their promotion and tenure criteria as specific ways of evaluating faculty and build into those criteria rewards for using these emerging educational technologies.

The next aspect of this recommendation talks about blending these technologies with in-person engagement. So we are not suggesting that technologies replace the personal interaction, but there are ways in which educational technologies can enhance the time that we do spend in one-to-one or one-to-small group personal interactions and this is an area for further exploration and development. The next aspect talks about blending technology tools in some of the mechanics of the educational process. So by that I mean planning, advising students, mentoring students, tracking student progress.

And most importantly, the reason we do all that is hopefully to identify students who may need additional support or guidance and helping faculty to intervene early with them. So the challenge is, can we use technology to accomplish some of those goals?

The next aspect for this recommendation is again, interprofessional work. And as we think about the tools that are available, each institution is very busy developing their own programs, modules, skillsets for implementation. But we're suggesting that it would be of great value to have an interprofessional repository of best practices that everyone around the country could tap into and consider in terms of their own institution. And so we would also want to see such a repository have mechanisms for the distribution of these best practices as well as for their ongoing development and refinement.

So as each program maybe takes a technology and attempts it, can they contribute to the repository and say, this was an enhancement of that technology and therefore this repository would be very robust, it would be available to all and it could move the field quickly forward instead of each institution having some kind of a parallel play process.

Moving on to the third recommendation, this recommendation talks about what George had mentioned, the transformation of health professions education to a system that is competency-driven, affordable, and accessible to each learner. So under this recommendation we have a couple of specifics. The first one is important areas I think about assessing students' readiness to learn, preparation for their learning process, as well as using technology in ways that we can document both the formative and summative assessments of their actual performance. And of course finally, tracking clinical outcomes. So technology gives us a great opportunity to look at the process of readiness, assessment, and outcomes in a way that can be data-driven and perhaps would create some new scenarios for us.

The second idea under this recommendation is using the potential of the data provided by technology and how then we could use that potential in ways that we are not currently doing. So from the data that we derive from various technologies that we can implement, how can we use it to measure and aggregate the performance not only of an individual learner but of a cohort or a class of learners? How can it better inform our curricular and curriculum decisions as well as look at institutional data over time and compare it to other institutions in order to benchmark and enter into a quality-improvement process?

The final element under this recommendation is using innovation and greater efficiency of the technology to enhance our accreditation standards, our licensure certification, and regulatory requirements. And so, we would like to see our accrediting and regulatory bodies see the value of technology and see how they can use technology in the work of accreditation, licensure, and regulation to streamline the process, make it more efficient and more responses. Marc, do you want to take recommendation four?

Dr. Marc Triola:

Sure, this is Marc Triola as was mentioned earlier, and I just want to make a note that if anyone is tweeting any of this, our hashtag for the conference and for this report is #MacyEdTech. It's at the bottom of each slide. I'm going to take you through recommendations four, five, and six.

Recommendation four is a really powerful one, that technology should be leveraged to bridge the gap between our educational and clinical missions, where teaching and learning are embedded within a health care system that itself is continuously improving. And this is an opportunity that is unique to health professions education among higher education, and one that is of growing critical importance as we see the accelerating changes in our healthcare delivery system on the clinical side. So we have several sub-bullets beneath this recommendation and I'll take you through them.

The first is that clinical and educational technologies and local clinical policies should be designed to permit our learners to use real clinical data, be it from the electronic medical record or other clinical systems, for their education, both to inform what they're learning about and learning from clinical data to enhance quality improvement programs that our students, our trainees might be participating in, and to help empower them to be contributing members of a team that improves the healthcare system itself. And having those policies in place and understanding the value of these learners, seeing, accessing, and potentially analyzing real clinical data is something that we think should be embraced universally and is very, very important.

The second is that educational technologies should be designed to include features that support and enhance educational research both within an individual school or program or course, but potentially across an entire health profession or across multiple systems. This is really important as we move towards robust and ubiquitous e-learning systems, collecting these data in a way, storing it in a way, and extracting it in a way that facilitates the role of educational research and makes that research as easy as possible both for the researcher and learner both to leverage the technology to appropriately protect the confidentiality and integrity of the data about our learners could really transform so much of the research that's happening across health professions education, much of which is a single site study and we can think about more population level, really powerful.

The third is that the technology developers, these are the vendors, the programmers, the open source folks, the instructional designers, should really consider how they can actively partner with educational and health services researchers to maximize the utility of the instruction and assessment technologies and the features within them and how those features can be built in such a way that the instructional design is using the best theory but really designed to improve both educational and clinical outcomes.

And we've seen, and we certainly know from the clinical informatics world and the design of electronic medical records that in health professions, a real close partnership between those who develop the technology and those who use the technology or analyze its impact can lead to a dramatic improvement in the effectiveness of that entire system.

The fourth is that health professions programs should investigate the novel use of these technologies and of distance education tools to help foster the development of competence in interprofessional and teamwork skills. This is something that is a real opportunity for educational technology. Bringing together learners from different programs such as medical and nursing students can be greatly accelerated and made much more robust through the use of technology.

As Gail mentioned, it doesn't replace in-person learning, it doesn't replace teams practicing together, but it can make the opportunities for those interactions much, much stronger and in a certain way it mirrors the clinical world where a lot of interprofessional teamwork is now being mediated by electronic communication systems such as the electronic medical record.

So the next slide is continuing the recommendations around this key point. And that is that simulation technology should be designed to enable learners to practice both as individuals and as members of interprofessional teams developing expertise in progressively challenging situations that are free from concerns about patient safety. This is something that's certainly been embraced, and we've seen a tremendous growth in over the past decade or more, but the use of simulation technologies, both physical simulators such as mannequins and partial task trainers, and cognitive simulators such as virtual patients, are becoming increasingly standard of practice throughout health professions education. And it's a wonderful way especially around physical simulators to potentiate and foster interprofessional teamwork and development of those competencies.

The next point is that this simulation-based preparation should be designed to enable self-assessment and enable teamwork and self-regulated learning, which will prepare future clinicians to sustain their lifelong professional development. So this is really about a common theme throughout all of this, that the locus of control and the onus is also on the learner in these environments, where they have the power to consume and regulate how they interact with the educational system and they have the power to use data about their progression to understand how they are moving forward into the future as they become a master clinician. And they're going to need to continuously practice those skills in practice as they need to keep up with changes in health care delivery and science.

And the last bullet point under recommendation four is that the leaders of the health care delivery systems, both on the clinical delivery side and on the education side, should convene to discuss how learners can and do contribute value to the health care delivery system. This is a really critical discussion as the health care delivery system evolves ever more rapidly. What is the value that the learner contributes to the clinical outcomes of that system, to the culture of that system, to the quality improvement of that system? And then how can educational and clinical technologies be used to potentiate that impact to an even greater extent and allow our learners to contribute even more to health care value and quality? A really critical facet as we go forward.

So the next recommendation is recommendation five, that leaders of health professions education programs should employ technology to analyze community and population data and use those data to continuously inform the design of curricular content and learning experiences to reflect the contemporary health and health care needs of society. We've mentioned this theme a few times prior. This is another unique opportunity of health professions education, one in which we can use the clinical data of the patients and communities that our schools and programs care for to inform what our curricula consists of and to understand what the new demands will be on our graduating health professions in the future.

So some sub-bullets under this particular point, just a few. The first is that educational technology should be used to collect data that supports the educational programs' focus on community needs and priorities. And what this means is that we really understand what it is in our curriculum that meets the needs of the community that our assistants care for, the clinical experiences that our learners are having, and the progression that they're having through those clinical experiences, be they simulated or actual. And also how the content and evolution of our curriculum, our educational modalities, and our assessment strategies match up to that evolution of our patient's needs and our community needs, especially the new demands that our health care delivery systems, the place that we're graduating our professionals into, will be faced in the near future.

The second is that health professions education faculty should leverage health informatics tools to support quality improvement activities. And this is something that is also happening much more ubiquitously. In the world of physician residency training and the next accreditation system, the programs are really being strongly encouraged to have every resident involved in a quality improvement project. And so to our many medical and nursing schools, taking up that challenge and involving learners in very sophisticated quality improvement projects, technology can help empower the role that those learners have in understanding what the clinical data shows, drawing conclusions, and actually helping come up with solutions that can improve the health care delivery system.

So onto the final recommendation, recommendation six, and that is something that Dr. Thibault referred to earlier, that educational technologies should be used to facilitate the sharing of content and the integration of data across systems and programs promoting the scalability and adoption of efficient and

effective educational strategies. This is one area where informatics and technology can greatly transform and accelerate the changes that we're trying to make here, and it's something that we're just beginning to see the very tip of the iceberg of in terms of the full potential.

So, a few bullet points under this one on the next slide. The first is that leaders of health professions education programs should work collaboratively across our missions within our academic medical centers and schools and in partnership with technology developers and vendors who are creating these e-learning solutions and clinical technologies to implement standards for sharing data among the electronic health record, the learning management system, and the longitudinal learning portfolio.

This is no small task, this is a very significant task, but it's a really tremendously powerful and critically necessary task. And what this is really saying is that we want to make it as easy as possible and we want the vendors and software developers to make it as easy as possible for learners themselves, for the programs that are teaching them, and for the health care delivery systems that they're working in, to understand what patients and clinical experiences our learners are seeing, how they're progressing in terms of clinical expertise and mastery clinical decision-making, what the health care delivery environment they're practicing in is and how all of those data can be used to continuously improve the entire vertical of health professions education from the level of the student to the course that they're learning in, to the program that they're learning in, to the school, to the health care delivery system, to the health care system as a whole.

And only by sharing these data, appropriately protecting patient identities, appropriately protecting the learner's performance data, but only by sharing those data will we really see the reality of what this could potentially yield.

The next is that our electronic learning and computer-based assessment systems should be designed to empower learners to get their data and access their data about their performance anytime and anywhere. This is recognizing that recurring theme that the learners are empowered in this situation. They need appropriate support and scaffolding for that empowerment, but they're empowered to get their data out of these systems, to bring it across the boundaries of their individual programs, be that going from an undergraduate program to graduate, or from a graduate training program into clinical practice, but allowing them and making it as easy as possible for them to continuously build upon their portfolio performance to see how they're doing over time, to understand their trajectory, and allow them to help the profession's education system refine and improve them as quickly as possible.

On the next slide, the final two bullets under recommendation six, the third is that health professions education program should adopt educational technologies that will facilitate the easy repurposing, re-sequencing, and reuse of content to adapt it to different contexts, to different types of learners, and in different circumstances. And this was mentioned earlier, this concept of disaggregation. That concept really comes from both a desire by different types of learners who have different goals and different strengths and weaknesses to not have this lockstep curriculum but have something that's tailored to them and to their particular needs, but also this recognition that health professions education is not one size fits all. It's not one size fits all across educational programs, but also throughout time as the health care delivery system changes and the needs of our individual programs change.

And the final bullet point is that accreditation and regulatory bodies should leverage these technologies to simplify and streamline compliance with the educational standards and professional requirements. We're seeing the beginnings of this, but a lot of opportunity here to leverage all of this rich data that we're collecting to make the processes of compliance and accreditation much, much more straightforward, much, much more evidence-based and data-driven rather than anecdote-driven, and

much less burdensome on the programs themselves. And I think that that's a nice secondary benefit from a lot of these educational systems and data that will further drive their use and adoption.

The next slide is a meta view that was contributed by Stacy Williams and really was a very fascinating idea that comes out of this and I will end my portion by just taking you through this. So this is a fascinating visualization of how all of this could come together, both the different components of these systems to come together to form a continuously learning health system. And so if you look in this diagram, the different colored triangles on the top left represent the sort of triumvirate of improved care and improved value for an individual patient, improved value and improved affordability of the care that we're delivering on the top left, the IHI triple aim, if you will.

On the top right, it's the analogous triple aim for education in the health professions, improving the learning experience for the individual learner, improving the affordability and access to education, and improving the quality of the education that's being delivered to learners by continuous quality improvement. And so if we put all of these things together and we come up with that star that's at the very top of the first part of this diagram, what do we need to add into that? What are the critical components, especially that are technology-driven to make this a full picture?

And there we see some ideas like online learning, simulation, tools for electronic assessment, learning analytics, virtual patient simulations, and other types of learning communities, and information systems themselves, be they clinical or otherwise. And when you combine all of these different elements, we get the beautiful almost flower at the bottom. That is the continuously learning health system that both potentiates and enhances the clinical delivery side, the value, quality, and patient experience, the educational delivery side, the value, quality, and learner experience, and come together to form a system that is both synergistic and greater than the sum of the parts, the continuously learning health system. And so I'll stop there with my part and turn it back to Dr. Thibault.

Dr. George Thibault:

So thank you, Marc and Gail. As you see, the conferees really went very deeply into this subject and gave us a really rich set of recommendations which are challenging, but all of which we believe are doable. To just summarize and give people a take home message, the six recommendations I'd summarize as follows; they are ways in which technology can help us achieve this continuous learning system. And in the first case, it's about learner empowerment in order to be able to individualize lifelong and interprofessional learning.

And the second recommendation, it is about faculty development. And the third, it's about achieving a competency-driven education system to improve efficiency. In the fourth, it's about linking education and clinical care. In the fifth, it's about integrating personal and community health data to inform education. And finally, it's about technology enabling, sharing and scalability that will reduce barriers and, we believe, costs of education. All of these together then leading to the continuous learning health system. So I want to open it up now. We've got time left for questions, clarifications, comments from the audience.

Moderator:

If you would like to ask a question, please signal by pressing star one on your telephone keypad. If you're using a speakerphone, please make sure your mute function's turned off to allow your signal to reach our equipment. A voice prompt on your phone line will indicate when your line is open. Please state your name prior to asking your question. Once again, that's star one if you'd like to ask a question.

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And we'll pause for just a moment to allow everyone an opportunity to signal. Once again, that is star one if you'd like to ask a question. We do have our first question, and if you could check your mute function, please.

Speaker 1:

Can you hear me okay?

Moderator:

Yes, we can.

Dr. George Thibault:

Yes, I can hear you.

Speaker 1:

Great. So my question is for some of the universities, like you said, UCSF and Stanford were in the group helping us to come up with these recommendations. Really, what do the faculty think of using the swirl of content or the kind of individual nuggets of content out there? What are some of the challenges in doing that? I'd just like to get their input on that.

Dr. George Thibault:

Marc, do you want to take that question?

Dr. Marc Triola:

Sure. So clearly, this represents a real change potentially for health professions education. I should note that for the most part, our learners have already made this change. They're already disaggregating content, they are already going out and finding resources. It's happening around us and for the most part they're doing it without us. But what would it take, I think is your real question, what would it take for us to embrace something like that within a nursing college or a medical school? Because potentially it's a tremendously increased level of complexity and a level of almost individual mentorship that the faculty would have to do.

And I think going back to one of our early recommendations, it's really around faculty development and faculty support. We need to help faculty first of all understand what all these things mean, what all of the potential opportunities are, what this vocabulary is, what are the behaviors our learners are actually engaging in now, and the best way to do these things, the recognition that we need to provide real scaffolding for our learners as they go through all of this.

And I would say that the second part is that I think there is a great opportunity for educational technology developers to come up with educational decision support tools for faculty to help them guide learners through an ecosystem of resources or dynamic learning pathways that is vastly larger than the standard repertoire of courses and electives and clinical experiences that an individual school might have. But we've got a long way to go, and my own bias is that the focus, at least early on, needs to really include faculty very strongly because our students are moving forward so quickly.

Dr. George Thibault:

Gail, do you want to add anything to that?

Dr. Gail Stuart:

Yes, I would. Thank you. I think it gets back to learning theories and in working with faculty, they really have to get a sense of how do adult learners learn and some of the strategies that we've used do not really fit well. And I think that reflects Marc's points that the students are already there, but we're talking about changing a flow of content from point A to point B, to problem-based learning, to using these technologies that we can bring content to life in a new way, but also encourage the responsibility of the learner to seek out and to use the information rather than providing it to them in a one-way street.

Dr. George Thibault:

And I would add the observation that the transition that we're helping faculty go through, and I see it happening around the country, that the faculty traditional role was transmission of information. And that is not going to be the principal role of faculty in the future. They're going to be involved in much more exciting roles, I believe, that are more interpretive, more cognitive, more analytical. But that transition from being transmitter of information to being able to understand what the level of comprehension is, how it's being used, how it's being communicated, how it's being incorporated into practice is a very different role and a much more exciting one in many ways. Open it up for a second question.

Moderator:

Our next question comes from Pat Vermeersch with Kent State University.

Pat Vermeersch:

Hi, this is Pat Vermeersch from Kent State University. I'm involved with a group from Public Health College of Pharmacy, our advanced practice nurses and the School of Podiatry to develop some interprofessional lifestyle courses. And part of the struggle for us has been how to overcome the different scheduling and registration components. Do you have any suggestions on how to overcome those? The School of Pharmacy is in a freestanding university separate from our current university, so we're crossing a lot of political and economic boundaries, but we're committed to doing this and I just wondered if you had any insights on how to overcome some of the odd barriers that we seem to be running into.

Dr. George Thibault:

Gail, do you want to take that on?

Dr. Gail Stuart:

Sure. I think your experience is common to all of us who are in the academic world, and it's almost impossible to get these groups together at the same time in the same place. And so that's where technology can really open some new doors for us. A combination of synchronous online activities, but mostly asynchronous activities that allow people to be in different places at different times, the use of virtual worlds where students can go in and work together as teams, even if it's not in face-to-face.

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This is the threshold of what I think are some of the most exciting opportunities that technology will provide to us. And I think we're just really on the first step of opening these up, but I don't think we're going to make much progress with getting these students together in the same time, same place. So, the mission for us is how else can we provide learning opportunities that are not campus-bound or time-bound?

Pat Vermeersch:

Have the leaders that have participated in the Macy effort produced yet any of those types of simulation products that would be available?

Dr. Gail Stuart:

So let me just continue. In fact, here at the medical university, we are right now, next week, piloting a virtual interprofessional game, so to speak, that allows, it's based upon quality and safety, and it's bringing together students from medicine, pharmacy, and nurse practitioners, to work together. And Macy has funded us to do this and we're piloting it next month.

Dr. George Thibault:

We've also funded the consortium of schools based at the University of Kentucky, but involving a half a dozen schools in the Southeastern United States to develop online modules for interprofessional education and you can access that on our website. So our experience across country is that these barriers can be overcome. They're sometimes overcome on a single campus by leadership that does align the schedule so that you can in some instances have some parts of the courses face-to-face and together.

But as Gail said, technology we think will be a powerful enabler, particularly when you're dealing with schools with multiple jurisdictions in multiple locations co-located on the same campus. So it will be a blended response. What's the right response in one geographic area or one collection of schools may not be exactly the same for the other, but those tools are beginning to be developed, some with Macy's support, but I wouldn't want to claim that it's restricted to those that have been doing it under our auspices. So we have time for another question or two.

Moderator:

Our next question is from Gary Loving with the University of Oklahoma College of Nursing.

Gary Loving:

Yes, thank you. I find this concept of a continuous learning system fascinating, that includes integration of EMR and LMS in order to use the data contained in such an integrated system to improve both education systems and practice. I wonder if there are any prototypes of such an integration now. And the reason I ask is I'm thinking about experiences that I've had regarding educational technology and a whole host of lawyers, IT security administrators, etc., whose primary philosophy and focus when it comes to some of those innovations is risk aversion. And with the sector of HIPAA fines, etc., etc., I'm just wondering what are the system barriers that we're going to need to overcome, and how might some of those strategies be employed to overcome those systems barriers in order to develop those kinds of continuous learning systems that integrate patient care data and educational data?

Dr. George Thibault:

Marc, do you want to take that on?

Dr. Marc Triola:

Sure. And this is something that I feel pretty passionate about. So the first point I'll make when dealing with risk is the fact that when you look at time and motion studies, we know that junior trainees, and most of these studies have been done on the physician side, spend about half of their clinical time doing information management, and only about 15% of their time actually in front of a patient. This is inpatient-focused. So if we're talking about risk, if this is the single largest activity that our graduating learners are going to be participating in, and our local policies don't permit them to have the fullest experience and exposure to those things, that itself presents a huge risk to our healthcare system.

And it's also a missed opportunity in terms of their ability to be efficient and valuable members of the team and the learning curve involved in that. But I think that the core of your point is really about one of our sub-recommendations, which is demonstrating the value of our learners to the health care delivery system, not the obligation that the health care delivery system has to providing a space and some buffer for them to learn in, but the fact that our medical and nursing students or our nursing and physician residents can actually contribute to improving quality, value, efficiency, and patient experience.

And when we can understand the best ways for them to do that and show evidence that they can do that, then it's really going to be in the best interest of the health care delivery system to help foster and mature that as it moves forward. And that I think is going to be a real key thing that is evolving as we move forward. If they see that value, I am hoping that a lot of these things will fall by the wayside. Can we ignore patient confidentiality and HIPAA for the sake of education? Absolutely not. Can we ignore FERPA for the sake of clinical work? No, not that either. But there are ways to really be very forward-thinking and open about this stuff where there are appropriate safeguards and appropriate access.

Dr. George Thibault:

And you've done that at NYU to some extent already, right, Marc?

Dr. Marc Triola:

Yeah, we've worked very hard on that because we're convinced that our learners, be they nursing students or medical students or residents, really play a big part in the clinical outcomes that we're seeing on mostly the inpatient, but increasingly the outpatient setting, having them be as sophisticated and as mature as possible when it comes to information management, clinical work, and having their curriculum be as informed by our clinical data as possible. We think that's in our best interest and we think it's going to mean a better health care system for our patients.

Dr. George Thibault:

So we have time for, I think, at least one more question.

Moderator:

It's star one if you have a question. We do not have any questions in the queue at this time.

Dr. George Thibault:

Okay.

Moderator:

Okay, we do have a question. It's from Erica Frank from NextGenU, University of British Columbia.

Erica Frank:

Hi, two things. First, just to address the prior question about available lifestyle medicine curricula, Macy Foundation did give to us in this case, meaning Harvard Institute of Lifestyle Medicine, University of South Carolina, Greenville and NextGenU, a grant a couple years ago to begin planning for globally available asynchronous lifestyle medicine curricula. And we're starting to produce those now and would be really pleased to share those with you if that's of interest. And you could reach me at efrank, E-F-R-A-N-K @nextgenu.org, and I'm sure the Macy folks can give you that information as well.

The question I have, and I hope that's helpful for you, the question I have is about what the next steps are going to be for dissemination of this and implementation? I wonder if that might be a George question.

Dr. George Thibault:

Well, Erica, thank you. And Erica participated with us in a very important way in putting these recommendations together and we're going to look for all the participants to carry this message, obviously back to their institutions and their organizations. And Erica is doing that already, she is a recipient of another grant from the Macy Foundation to survey and catalog the online learning modules that exist in medical education, that is physician education, with the idea of creating this potential resource available worldwide.

So there will be many small things and many big things. We will continue to send out information. The full [monograph](#) from the conference will be ready in a couple of months, which will include the papers and the highlights of the discussion that we hope will keep stimulating an ongoing discussion. We'll be looking for opportunities to give small and large grants to further this enhancing of education and linkage through technology. And we'll be looking for the leadership of not only those who participated in the conference, but those who are thinking in a very creative way.

And this is a time of great change in both the education world and the delivery world where I think there's more openness to these kind of changes than there has been at any time in my career. We want to seize this moment getting as many people on board as possible. So it's the beginning of a movement, a movement that's already started. It's not the beginning, it's the acceleration and catalyzing of a movement that's already out there. And Erica, you played an important role in laying the groundwork for what can come. So I think that's a wonderful way to conclude. We're at the bewitching hour, and I want to thank everybody for their participation. I urge you to go online and [read this](#) in more detail and continue to send us your thoughts about it.

And we hope everybody who's participated in this will be stimulated in some way to engage others in their institutions in this conversation and find ways that they can begin to implement some elements of these recommendations because the pieces are out there already, and it is just a matter of harnessing them and redirecting them. There will still need to be some new creation done for new and better connections and new and better technology that will continue to improve. But right now, many of these

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elements are there potentially if harnessed, and we want to encourage people to start doing it. So thank you all and we will sign off now.

Moderator:

Once again, that does conclude today's call. We appreciate your participation.