Fascinating Person:
Dr. James Madara, M.D.
Revolutionizing Medical Education

By Julie McGehee

The American Medical Association (AMA) is revolutionizing medical education for students and faculty. Dr. James Madara, M.D. serves as the executive vice president and chief executive officer of the AMA. Since becoming an integral member of the AMA in 2011, Dr. Madara has been the driving force of a long-term strategic plan focusing not only on healthcare, but the health of the nation. The plan consists of three equally important elements: accelerating change in medical education, achieving satisfaction in the delivery of clinical care, and improving health outcomes—shifting the focus from acute disease to chronic disease. Prior to joining the AMA, he was the longest-serving Pritzker dean (35 years) at the University of Chicago Pritzker School of Medicine. All of us at QLK are thrilled to feature Dr. James Madara as our “Fascinating Person.”

I had the pleasure of interviewing Dr. Madara regarding the AMA’s Accelerating Change in Medical Education initiative. Currently, there are 11 accredited medical schools in the United States that are implementing curriculum changes as part of the initiative. “It’s fortuitous or by chance that we are having this call today (June 30, 2015) because just this morning we released a request for applications so we could almost triple the number of schools, take up to 20 more schools in this consortium,” Dr. Madara informed.

One of the medical schools participating in the AMA’s initiative is the Brody School of Medicine at East Carolina University. I had the opportunity to speak with Dr. Elizabeth Baxley, M.D., the senior associate dean for academic affairs at the Brody School of Medicine. When I asked her how faculty and students are responding to the initiative, she proclaimed, “Very positively. If you had asked me at the start of this project, ‘In your wildest imagination, what might happen? And, how might people respond?’ It’s been exponentially more than I expected. It has been a very, very positive thing for our school, for our faculty, [and] for our students.”
The Brody School of Medicine kicked off its curriculum redesign in 2013 with a one million dollar grant through the Accelerating Change in Medical Education initiative. The new curriculum focuses on integrating the competencies and principles of patient safety, quality improvement, team-based care, and population health. Prior to the implementation, Dr. Baxley believes that the education provided to medical students lacked the knowledge and training of what is currently going on in medicine and healthcare. “We don’t do a great job teaching them about the healthcare system. We are not teaching them about the type of change that’s happening in medicine right now,” states Dr. Baxley.

Not only are the students receiving a new approach in medical education, the faculty are as much a student as they are a teacher. According to Dr. Baxley, the duality of the faculty’s role in the change of medical education has been a real challenge to changing medical school curriculum in this regard. “If you think about a faculty member today, they got to provide care to patients; they have to teach learners; they have to do it in a healthcare system that is constantly changing around them, and we are asking them to teach about things that they were never taught. Our focus over the first 15 months of this was to recruit and train a cohort of faculty in our Teachers of Quality Academy (TQA). This group of 29 faculty members is now forming a core team of curriculum designers. They have been translating what they learned into new curriculum, new ways of teaching. During the 15-month course of the TQA, we would pull them out from their daily routines roughly every six to eight weeks for two day learning sessions. It was hard for them to make the time and space to learn so many new things, but they were really committed. These 29 faculty members were also out simultaneously “learning while doing” by designing and leading specific clinical teams to improve the way we provide healthcare. It was pretty amazing.”

QLK would like to extend a huge thank you to both Dr. James Madara and Dr. Elizabeth Baxley for taking the time to speak with us and sharing their thoughts and experiences with the Accelerating Change in Medical Education initiative. Thank you both for being instrumental in the revolution of medical education!

**Dr. Madara on the Accelerating Change in Medical Education initiative: Q&A**

**Why medicine? What compelled you to pursue medicine as your career path?**

When I was young and in grade school, I had an accident on the basketball court that put me in a specialty hospital in Philadelphia for a couple of months. I really got to know medicine personally that way. Also, [I] had a physician in charge that was really remarkable, and I really admired that person.

**As a medical and healthcare leader, when did you first realize that there was need for a transformation in medical education?**
It’s fair to say that there’s been recognition of the need for a fairly drastic change in medical education for some time. Different organizations, including the AMA, have released whitepapers and books on this topic. They all seem to agree that nothing—the work—wasn’t getting done.

The reason this has been recognized for some time is that in the last half-century, we have gone from a disease burden that was largely acute to a disease burden that is largely chronic. And they (chronic diseases) require very different kinds of approaches, and yet, we have not made that educational shift to narrow the gap of what was needed and what we were producing.

**What is the American Medical Association’s (AMA) Accelerating Change in Medical Education initiative?**

We rethought our mission initiatives in 2011 and 2012. That narrowed our mission initiatives in three areas, and one of them was change in medical education. The curriculum that is in medical [school] is updated every year with new knowledge as you would expect, but the fundamental structure has been in place for almost a century. In fact, the last time that structure changed, the AMA was a force in leading up to what became known as the Flexner report. So we [had] done it a century ago, and it was well past time to do it again. So we kicked this off.

I hoped that we [would] get a handful of schools that were serious and wanting to participate in this with us. Over 80 percent out of 141 accredited schools at the time responded. It was really a rich signal that the community was widely recognizing the need for such changes. We responded to this by asking 33 of those schools for further details, and then we picked 11 schools and to each school provided a million dollars so they can do the work. [We] made this an 11 million dollar investment, and we kicked that off in 2013. These schools all have pieces of innovation that if developed you could start seeing the impact on training [in] the future. And then when you start to consider all of the schools together, all these pieces of innovation, you start to imagine what a medical school in the future might look like.

One of the very central elements that is important in this consortium is that it is not 11 projects that are disconnected one from the other, rather it is 11 projects and the schools come together on a regular basis to share, learn, and develop. We are participating with these schools on an ongoing basis.

One of the key questions I guess you would ask is, “What’s wrong with what we are currently doing and how would you fix that?” I mentioned that disease has become a chronic burden. In fact, the CDC estimates that about 80 percent of the three trillion dollars we spend annually is on chronic disease. The way we train students currently is more as individuals rather than as a part of a team. They come; they spend four years, [and] they graduate. But, we don’t actually measure competencies.
What are the core differences between the Accelerating Change in Medical Education initiative and Flexner’s two-by-two paradigm established in 1910?

The two-by-two paradigm takes the first two years as largely a study of the sciences that relate to medicine. I should say some of the sciences--there are some big holes that I’ll mention. The second two years are more of a clinical exposure. The first question you would ask while listening to that is ‘Why are they separated?’

The reason they are separated is largely because of the immiscibility of the two faculties. One has a basic science faculty, and one has a clinical faculty. Yet, with digital platforms, you can start easily intermixing the science and the clinical experience. Another form of technological advancement that’s happening in our consortium--we are also working with a couple outside companies to support this end--is to get digital platforms for more integrated learning.

Everyone in the two-by-two tends to experience the same educational profile, so there’s no individualized aspect to learning. Yet, people not only have different interests, but people learn in different ways. The two-by-two also is a hard number. Two plus two is four--just the four years. Yet, if you’re measuring competencies, you could imagine that some students might take considerably less [time] than that and perhaps others just a bit more. So, it’s reflective of this common share, rather than measured competencies.

The science that is taught in the traditional two-by-two misses some important things. It misses, for example, healthcare delivery science. It misses the aspect of population science that is very important. It misses the aspect of how one thinks about policy and that sort of science. It misses the aspect of statistics that are very important now with large data sets. And other pieces of science are probably arguably more emphasized. At most schools, there’s still an enormous amount of time spent in the detail of human anatomy. Yet, if you ask a neurosurgeon to recite the fine structure of the anatomy of the hand, the neurosurgeon can’t do it. If you ask the hand
surgeon to recite the fine structure of the brain, that person can’t do it either. We probably need a little less detail in some areas and exposure to other types of science that are very important, and all of that has to be integrated with the clinical exposure as well. Those are really fundamental differences in that two-by-two paradigm.

Just to look back on a historical note, the AMA was founded in 1847, and [one of its] two major initial projects [was] trying to create some standards in medical education because it was basically a field of apothecaries in the mid 19th century in the United States and in other countries. The second thing was to develop a code of ethics, which exists today. That view from the beginning foundational aspects of the AMA developed into the beginning of our Committee on Medical Education. It was that committee that recognized that scholarship wasn’t embedded to the degree that it should be in medical education in this country at that time. They surveyed every medical school in the United States. At the end of this work, about 30 schools had already closed. Based on this committee’s work, the AMA’s Council on Medical Education approached the Carnegie Foundation to try to identify someone who [would] serve at arm’s length—a way to look and do this study themselves. The AMA and Carnegie Foundation identified Flexner who created this report in 1910.

**Why is it important for medical students to gain experience utilizing certified electronic health record (EHR) systems?**

The electronic health records are vexing right now because they are pretty good at claims data; they are pretty good at risk mitigation, but they are pretty terrible at the efficient entry and extraction of clinical data needed at the point of care. This is a tool not only for managing patients, but for managing populations. It’s a tool that when improved, you can start managing your own panel of patients. I’ll give you an example. Imagine a physician who has a typical panel of patients, that number around 2,000, and that physician recognizes that in the United States 8.5 million American adults are pre-diabetic, and almost 90 percent of them don’t know it. Yet, there are programs that can help them prevent the conversion to diabetes. So, one knows risk factors that are involved with pre-diabetes. One could electronically, in a simple way when the EHRs are improved, query the EHR and have the EHR deliver to you the group of patients within the 2,000 that needs to be screened. These are tools that are fundamentally important. They are not in a very good working state right now, but they’ll be improving. The students need to learn how to use these tools.

**How important is it for faculty members to learn alongside medical students?**

That’s a really good question because the faculty members themselves are also in a changing environment. The learning that has to go on is not only the intellectual learning of new data, which is maybe the simpler thing for physicians and faculty, but learning about how to identify and improve quality in a progressive way in your own practice, how to work in a team-based way, [and] how to function as a leader. All of these things that will be embedded in the programs of the medical schools in the future for our students are equally important for faculty and physicians.
How important is it for medical students to learn communication skills and to work as team players, rather than unquestionable leaders?

It’s really important that physicians learn how to integrate themselves in a team that has a lot of individuals with different foci of training. Typically, one would see physicians as leaders of that team. So you not only have to learn how to be a team player and learn who should do what in the most efficient way, but also how to lead.

I’ll give you an example. If you look at primary care practices, the non-physician component of the primary care practice is often something like one physician to one and a half other persons. Yet, if you look at practices that are highly efficient, many of those practices are one physician to five or six other types of individuals on the team. When you look at the sustainability of those two practices, if anything, the larger one is more sustainable. You need to recognize how to build that team, how to develop workflows, how to hand off efficiently.

Although we are focusing on medical education here, one of the other three areas of focus is exactly in that area. Another example is we made modules now for physicians to take to teach them how to organize pre-visit planning. What I mean by that is if you go to your physician and you see your physician, and the physician decides based on the conversation that there needs to be tests, then you go get the tests, and then there is another interaction with the physician. People show up to see the physician, and they leave the offices sometimes and think ‘well, I wished I would’ve asked this.’ So, what the pre-visit planning module will do--this is for physicians that are doing this kind of thing in medical school and currently teaching this as well--is that someone from the practice reaches out to the patient and finds out from the patient why the patient wants to see the physician [and] asks the patient what the patient’s agenda is for the visit. If the patient doesn’t have an articulated agenda, [they] help that patient develop what the patient’s agenda is and what the patient wants to get accomplished and get the tests that are needed. So when the patient and the physician are together, it can be a true collaborative exercise for that patient’s health and wellness without all the choppiness. There are many parts of delivery science that need to be embedded in our medical school education. And, as the previous question alluded to, existing physicians already practicing and medical school faculty need access to this too, and we are creating modules for them as well.

What are some of the successful changes you have seen at the 11 medical schools that have implemented the initiative?

There are quite a few--one being measured competencies, that you now can demonstrate with evidence that the student has mastered this competency. One of the things that has been known in educational settings for a long time is that it’s really important to try to teach someone with brevity. The standard is brevity, levity, and repetition. And then you ask someone, ‘What did I just say?’ And they say, ‘Brevity, levity, and repetition.’ You get the repetition in. It’s really important if a student is working in a particular area that they master...
that area before moving on. What educational theory has shown us is that when you are exposed to something, and you have not mastered it and you go on to another topic, you erode what you’ve learned in the original topic with time. But, if you mastered it before moving on, it stays with you. One change that’s very powerful is measured competencies.

Another change that is occurring through the consortium [is] team-based learning, so you learn to function as a team rather than an individual.

A third area that’s been very important is starting to understand population health and what it means, and being able to balance advocacy for patients with stewardship of resources. So what do I mean by that? If you ask most physicians today about population, they will think about the 2,000 patients that are on their panel, but very few physicians think in a broader population way. An example of that kind of thinking would be: I’m one of 850,000 practicing physicians in the United States. I have three trillion dollars to deploy, that we all have to deploy, and we have to deploy that for the maximum benefit of 320 million citizens of this country. That’s the population view. So having that embedded in our students, that they are responsible for stewarding this resource as well, is yet another powerful aspect.

I’ll mention a fourth one. There is almost what I would call a sub-consortium within our group of 11 schools. East Carolina, Brown, and UC Davis—those three schools are focusing on education toward healthcare delivery to underserved populations, a big important topic in our country as well.

**How is the Accelerating Change in Medical Education initiative shaping tomorrow’s leaders in medicine?**

One has to have more leadership training as part of medical education as well. One has to have it because you are going to be a part of a team; you have to know how to lead others. One has to have it because you are thinking about population-based health and that creates a need for a particular kind of leadership.

The other aspect is that I think that if you look at law school and business school, the other professional schools, one has a little bit more leadership training than what you have in medical schools currently. It’s not surprising, if you look at how products of those three professional schools diffuse in society. Certainly one could point out the MD who’s in a venture firm and the MD who is in a pharmaceutical firm, etc. But, if you look at how those degrees are diffused through our social structure, the law degree and the business degree are more at an equilibrium through our social structure in this country than our MDs. And yet, medicine takes up almost 20 percent of our gross domestic product (GDP). And it touches every aspect of the 15 trillion dollars of the total GDP. It touches employers. It touches different demographics. So having leadership that can not only lead in these medical settings and can not only lead in thinking about populations but also are prepared to diffuse more in society, is a very important goal.

**Do you believe the Accelerating Change in Medical Education initiative is revolutionizing medicine?**
That is our hope. Each of our three areas, this being one of them, are moonshots. Each of these areas we will be working on for the next decade. I have to say, though, that this one has a tangible trajectory where you feel that there can be real powerful change at a rate that may be a little faster than I would have imagined. I don’t know why that is. I think one of the reasons for it goes back to the fact that over 80 percent of our schools applied and people were ready for this. They knew that we needed this change. That attitude in the medical education community I think has contributed to the speed of the development of this effort.

Although these three areas, medical education being one of them, are in some ways distinctive pillars, as we are pushing them along they are all beginning to overlap. For example, in improving health outcomes, the focus is on prediabetes. We already talked about the importance of that in medical education as an example. We learned about the improvements that need to prepare the electronic health record, now that [it] is embedded in our medical school activity. We are also learning how to make practices more effective and efficient, so physicians could spend more time with their patients, and that is practice science. We are learning a lot about practice science and distributing that. One of the places we are distributing that to is the 11 school consortium. These three areas are beginning to overlap.

The Accelerating Change in Medical Education initiative has restructured and enhanced the way faculty and students teach, learn, and practice medicine. The initiative emphasizes the necessity to create a curriculum that focuses on the current changes in medicine and healthcare, measured competencies, and team-based learning.