

## University of Michigan Medical School on transforming medical student education

Each month, the AMA highlights institutions that are part of the AMA Accelerating Change in Medical Education Consortium to showcase their work with the consortium and innovations in medical education.

### Featured institution and leadership



Rajesh S. Mangrulkar, MD

Rajesh S. Mangrulkar, MD Marguerite S. Roll Professor of Medical Education Associate dean for medical student education Executive director, Research. Innovation. Scholarship. Education. (RISE) Associate professor of Medicine and Learning Health Sciences Number of years in the consortium: 8 years

Of note, all 4 items below apply to our work in the ACE consortium since 2013. In addition to our original proposal (which transformed our whole medical education program), our renewal was focused on going deeper in three elements: (1) competency-based medical education, (2) health systems science, and (3) advising/coaching across the undergraduate to graduate medical education continuum. In addition, we have worked separately on a grant provided by the AMA on “Case Studies in Medical Education Transformation,” which addresses change management. As such, the University

of Michigan's strategy areas of focus include all 4 elements below (relevant areas added and/or highlighted):

1. Health Systems Science.
2. Competency-based medical education, coaching, Master Adaptive Learner.
3. Transition from UME to GME.
4. Learning environment (well-being, diversity and inclusion, educational technology, change management).

## **What are your Accelerating Change in Medical Education project and goals?**

Our project fully transformed our medical student education program through a deliberate change process built upon curricular components that support student-centered objectives. Our ultimate goal was to develop and implement a program that graduated medical students who can provide optimal care for patients and serve as leaders and change agents in improving the health care system. We expect graduates of our new program to improve the health of their patients and the community through service, leadership, education, and science. I was fortunate to describe our vision for our AMA project as a TED talk at a TEDMED event in Chicago.

To accomplish this primary goal, our project involved a phenomenal set of teams which included over 300 faculty and staff, and additionally nearly 150 medical students, all working on the development of a new educational program that addresses the needs of a changing healthcare system. Our project vision required a complete reformulation of the structure, format, and context of medical education for the UMMS student. The new program is competency-based, flexible and oriented to the learner, paying particular attention to the longitudinal spectrum of professional development. It contains 2 phases: a foundational 'Trunk' phase and an individualized 'Branches' phase. There are 5 additional longitudinal elements: Leadership training, inter-professional education, scholarly concentrations ('Paths of Excellence'), Coaching, and the M-Home (a longitudinal learning community which promotes connection, authenticity and support).

Simultaneously, we invested heavily in a project evaluation plan and a 'learning outcomes dashboard' that built upon robust educational assessment and evaluation initiatives to measure the impact of this new program on student, institutional, and health systems-oriented outcomes.

In parallel, we led a small team to work with the AMA to develop “Case Studies in Medical Education Transformation”, supported by a grant from the AMA, which describe the difficult stories of change at 6 of the consortium schools through structured cases with an accompanying facilitator’s guide. These cases help illustrate the foundational principles of change management and have been used at ACE Consortium meetings as part of workshops with participants on how schools are implementing their projects.

## **What are some recent accomplishments related to your Accelerating Change in Medical Education work that would be of interest to others in the medical community?**

Our work as part of the consortium resulted in a transformed educational program, the first graduates of which did not emerge until 2020. As such, some of our accomplishments are more process measures rather than outcomes. That said, we have 5 categories of accomplishments:

1. IMPACT in the post-clerkship phase. Students all now must graduate with an IMPACT capstone which demonstrates their attempts to improve health and science.
2. Competency-based medical education – Our 8 core competency domains for the new curriculum guide our students’ development through all elements of our Trunk and Branches phases.
3. Undergraduate to graduate medical education transition. We have now developed and launched a full suite of six residency preparation courses for all disciplines to ensure readiness for day one of residency for all students (a core goal of the Branches phase).
4. University of Michigan Center for Inter-professional Education. We have completed Year 7 of the provost and dean supported Center for IPE that brings together ten health professional schools across our three campuses to build and implement interprofessional educational experiences in the classroom, simulation, and clinical settings. As part of our AMA grant, we collaborated on the development of the proposal for the launch and funding for this new unit at the University of Michigan.
5. Innovation and Change Management. As part of our institution’s strategic plan, we launched R.I.S.E., an innovation initiative that strives to enable change in education that improves health. This is fully aligned with our work in the consortium on deliberate change management for innovation. Through R.I.S.E., we have invested in developing ideas, fellows, and competencies which highlight the capabilities needed for innovation and change management.

## **How has your work as a member of the Accelerating Change in Medical Education Consortium prepared you to respond to disruptions related to COVID-19?**

From the beginning of our consortium work, we built our educational program around the principles of medical student empowerment, engagement, and collaboration.

This philosophical approach allowed us to rapidly pivot in response to the disruptions caused by the pandemic in many different ways. For example, we reinforced to our institution the central role of medical students as essential members of the health care team, even during the pandemic, and let this principle-based approach drive the movement to bring all of our clinical students back 10 weeks after the "Pause" (and we were among the first in the country to do so).

Additionally, as part of our curricular transformation, we invested in students as collaborators throughout, helping us design and implement the new curriculum, with deliberate leadership training along the way. As such, we believed working side-by-side with them during the pandemic was a natural extension of our approach. Two examples of our responses during the pandemic reinforce this principle, both a result of student leadership and faculty mentoring:

1. Within 3 weeks of the "pause.", our students rapidly created and implemented an online pandemic course for their colleagues that will now be a regular part of our educational program.
2. Simultaneously, our students stood up M-Response Corps out of our M-Home to organize the numerous service and volunteer activities that they could lead and/or participate in during the pandemic. These included in-person and remote activities, some patient-facing, with both clinical and non-clinical components.

## **What do you think will change about medical education in the next five years?**

I think there will be significant structural and programmatic changes to medical education programs in the next five years, some resulting from decisions that will come from large organizational bodies that provide some degree of oversight of the medical student education experience.

I think many of the changes will center on the looming, difficult issues in medical education, namely (1) the erosion of well-being in our profession, the (2) the endemic racist practices and policies in both our health care and medical education systems that widen both types of disparities: health care and

educational. This may manifest in a number of different new approaches in the coming years.

I will focus on 5 areas, many of which will be driven by a more vocal learner and patient advocacy movement:

1. A saner approach to the UME to GME continuum. We need trust between all parties in order for there to be improvement in this broken system (and this trust will take time), but I predict the student and resident voices will only grow louder over the next 1-2 years as we emerge from the pandemic in the demand for change.
2. An enhanced focus on accountable medical education. This includes rigorous measurement of how education improves health. Fundamentally, with the looming economic crisis, policy makers will demand a more specific “value proposition” for education that justifies both CMS funding and tuition costs. The question we must answer is “how do we know that our graduates can lead the changes in our society to improve health?”
3. A deeper set of efforts to expand “in person learning”, but not in the classroom. As step 1 moves P/F, and with the ability to learn much of the foundational sciences in an online environment, schools will be pushed to make their preclinical phases even shorter than they are currently, supported by effective and efficient digital learning methods (not just taped lectures), reserving anything in person for active learning. The preclinical phase, in this model, does not need to be 22 or 18 or even 15 months. There will be a shift towards 12 months of a preclinical phase, which expands the number of schools with 3-year medical education programs, or a more expanded “post-clerkship” phase which can blend into internship. One could possibly even envision “foundational science” education as a pre-requisite for medical school, with Step 1 being an “gateway exam” for admission.
4. Similarly, there will be a drive towards much earlier meaningful clinical learning experiences and training in diverse teams. We will finally center on the clinical learning environment as a place to continue to learn EACH of the three pillars of science (foundational, clinical, and health systems), all of which students would be learning from their direct care of patients in inter-professional teams, with didactics and discussions seamlessly integrated into this environment. **“How do we deliberately foster the learning from all 3 pillars of science in the clinical setting?”** will be the greatest challenge for curricular leaders.
5. Finally, as we focus on better learning in the clinical setting, there will be a greater push for well-being, anti-racism, and health equity in this environment as well, for the betterment of patients, practitioners, and students

## Can you share some strategies to maintain team engagement and well-being in this challenging time?

Our focus on change management throughout our project allowed us to extract and implement principles that also relate to crisis management, which has been central to our efforts during this challenging time. Specific strategies include convening our leadership team and meeting regularly, and finding some time (when the weather was nice) to have some outdoor (masks-on) social events as a team. The need to connect in person is truly important, even if we cannot do it that frequently.

We also took deliberate steps to ensure people were taking time off. Additionally, we are in the middle of developing a “communication cascade” so that no one person feels on point for this important task, but everyone feels comfortable stepping away when needed and others can step in per protocol to provide coverage.

Finally, we continued our “coaching” program for our leaders in our office through the pandemic, even though it pivoted to an online model.