Advancing health systems science at Mayo Clinic Alix School of Medicine

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
Andrea Leep, MD, MHPE

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Number of years in the consortium: 8 years

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

Our original Mayo Clinic Alix School of Medicine project involved developing an ambitious, four-year, longitudinal curriculum in health systems science (HSS), and leading multi-institutional studies examining how regional practice patterns relate to medical student experiences and behaviors related to high-value care. Our Science of Health Care Delivery curriculum launched in 2015 (on our Minnesota campus) and 2017 (on our Arizona campus). Several classes of our graduates have now entered residency with foundational HSS skills. Ongoing work involves a) integrating preclerkship content into a longitudinal FRAMES (Foundations of Reasoning and Application in Medicine and Science) curriculum that shifts HSS education from classroom to clinical settings and b) partnering with students to design and implement a new Street Medicine selective.

Our original project also focused on learner well-being. We have continued this emphasis and expanded our focus to include not only undergraduate medical education, but also graduate medical education, biomedical sciences education, and allied health sciences education. Currently, we are using a systems approach to assessing and continuously improving learning and work environments across our health system. Examples include a) developing learning environment dashboards for education and practice leaders, b) creating and conducting a system-wide learning climate survey to enable longitudinal tracking and benchmarking, c) and identifying potentially modifiable factors associated with social support, burnout, and equity/inclusion among health professions learners.

What are some recent accomplishments that would be of interest to others in the medical community?


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Among our various efforts, three recent accomplishments may be of interest to the broader medical education community.

First, our system-wide learning climate survey would be suitable for use in other settings and has provided valuable insights into learner experience across our multiple health professions schools. The results illustrate the benefits of an organizational approach to assessing work and learning environments (vs. siloed approached within individual schools). This effort included an explicit emphasis on diversity, equity, and inclusion throughout the entire survey process, and we are grateful to our learners and colleagues across the Consortium who shared their expertise and experience with us. We would be happy to ‘pay it forward’ by sharing our approach with other schools.

Second, we completed an extensive inventory of structural and programmatic features of 58 Mayo Clinic GME programs to determine which, if any, factors are related to social support and isolation among residents. Examples of the data we compiled include program size, site, type, number of program leaders (program directors and associate program directors), presence of a well-being committee with resident representation, duty hours, call burden, elective time, required away rotations, approved leaves, and vacation days used prior to the survey. The results provide insights into potentially modifiable factors associated with social support among residents, and our findings will be published in an upcoming issue of Academic Medicine.

Third, we are also in the process of synthesizing results of interviews with 48 second- and fourth-year students from the Schools of Medicine at Mayo Clinic, Penn State, UCSF and Vanderbilt. This qualitative study aimed to explore how students at schools with HSS curricula envision their future professional identity in relation to the health system (e.g., the system-related roles they envision for themselves) and to identify past experiences/future-oriented considerations that promote or undermine their identification with system-related roles. We are excited to share these findings with the broader medical education community.

How has your work prepared you to respond to disruptions related to COVID-19?

Systems thinking, attention to learner well-being and innovation have been hallmarks for the Accelerating Change in Medical Education Consortium since its inception, and these emphases were critical to navigating disruptions related to COVID-19. Our school, like many others, also benefitted from the network of relationships the Accelerating Change in Medical Education Consortium has fostered and the convening function the AMA continues to serve through its webinars and other resources. These relationships enabled us to share ideas and challenges with leaders and innovators...
across the country who share our commitment to learners, faculty and patients. They also enabled mutual support and opportunities to reflect on lessons learned and ways we can work to build more resilient educational and health systems in the future.

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

In the next 5 years, lessons from the pandemic will challenge us to think more holistically about supporting people as whole persons, not just as individuals occupying a particular role (e.g., as learners, faculty, or patients). I also hope to see an increased focus on fostering habits, practices, and mindsets that support productive engagement across difference in order to find common ground when we can and disagree well when we can’t.

The next 5 years will also include continued efforts to refine hybrid and virtual approaches to learning and prepare learners for digitalized approaches to health care delivery. Well-being and diversity/equity/inclusion efforts will increasingly include a system-level focus, and there will be ongoing efforts to individualize learning experiences, enable equitable access to medical education, promote growth-oriented assessment practices, and support transitions across the medical education continuum.

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

Among our teams, practices that have most benefited engagement and well-being include timely and consistent communication that flows equitably to different stakeholder groups, deliberate investments in relationships and social connections, and authentic, personalized expressions of gratitude. It’s also been critically important to remember the many stressors learners, faculty, staff, and leaders are facing both inside and outside of work and school. This requires approaching challenges and delays from a place of genuine concern, sensitivity, and support.