The importance of health system science during the pandemic

Watch the AMA’s daily COVID-19 update, with insights from AMA leaders and experts about the pandemic.

Featured topic and speakers

AMA Chief Experience Officer Todd Unger talks to health experts about the importance of health system science during COVID-19, how it can provide the framework for medical education, enhance teaching on how the health care system works and give future physicians the tools to feel empowered.

Learn more at the AMA COVID-19 resource center.

Speakers

- Kimberly Lomis, MD, vice president, UME Innovations, AMA
- Jed Gonzalo, MD, associate dean, Health Systems Education, Penn State College of Medicine
- Luan Lawson, MD, associate dean, Curricular Innovation in Med Ed, Brody School of Medicine, ECU

Transcript

Unger: Hello, this is the American Medical Association's COVID-19 update. Today, we’re talking about the importance of health system science during COVID-19 I'm joined today by Dr. Kimberly Lomis, AMA's vice president of undergraduate medical innovations, education innovations in Nashville, Tennessee. Dr. Jed Gonzalo, associate dean health systems education and professor, Department of Medicine at Penn State College of Medicine in Hershey, Pennsylvania. And Dr. Luan Lawson,
associate dean for curricular innovation in medical education and associate professor, Department of Emergency Medicine at East Carolina University, Brody School of Medicine in Greenville, North Carolina. I'm Todd Unger, AMA's chief experience officer in Chicago. Dr. Gonzalo, can you begin by talking a little bit about what health system science is, and why the AMA is so invested in it, even before COVID-19?

Dr. Gonzalo: Thank you for that question. Health system sciences is a framework for medical education that allows us to comprehensively pull together a lot of disparate learning areas that have existed for the past century, into one unified whole. So we can systematically teach medical students and residents and acting physicians in current day, the skills they need to really care for patients in a holistic and synergistic manner.

Unger: Dr. Lomis?

Dr. Lomis: Yeah. So when the AMA launched the Accelerating Change in Medical Education Initiative, back in 2013, it was clear from membership that there was a disconnect between our educational experience and the actual practice. And of course, the evolving practice that they were faced with. And many physicians fell out of control. And so some of the main objectives of the initiative were to enhance the teaching around how the system works and how one as a physician can influence that system, hopefully providing our future doctors, the tools to feel empowered. To help structure their practice in a way that helps them maintain practice satisfaction, but also delivers better care to patients and to communities.

Unger: Dr. Lawson, why is health system science so critical right now?

Dr. Lawson: So, as Dr. Gonzalo has already pointed out, this comprehensive framework, the need has been highlighted in the midst of the COVID-19 pandemic. I think as part of this, we really began to see the places where health system science was needed and how we needed to use a comprehensive framework and approach for this. It's really highlighted challenges for us in terms of getting PPE to the providers who are providing health care to patients, as well as the significant impact of the social determinants of health for the patients and populations in which we serve.

Unger: Dr. Lomis. We have seen equity issues arise during the COVID pandemic. Any comment on that and how that fits into the health system science construct?

Dr. Lomis: Yeah, I think when Dr. Gonzalo and Dr. Lawson talk about this notion of a comprehensive framework, many people think of the system and think about things like quality improvement and patient safety. And those are very important, but our model goes beyond that to show that, first of all, we have to think in a systems manner. To think about structurally what's in place and incorporate more domains. One of which is population health and social determinants of health.
So we've been fortunate at the AMA with our Center for Health Equity, to collaborate and think about how do we better amplify this concern around the structural and social determinants of health and raise the structural competency of our constituents. And we see all of this is related, and indeed we can take it a step further to look at the education system and acknowledge the embedded racism within our own education processes. And so our consortium has been working to dismantle that within our educational programming, as well as within the healthcare system.

Unger: Dr. Gonzalo, anything to add?

Dr. Gonzalo: Traditionally, medical education has focused on the physician and the patient in this dyadic relationship, in biomedical diagnostics and therapeutics, for example. And that should go nowhere. That is so critically important for health care in a physician's role. Health system science says this interaction does not happen in a vacuum. The individual patient has social determinants of health, their community, their neighborhood, their ecosystem of their life that impacts their health outcomes.

The same with the physician. This physician is not only in this interaction, they are part of a team, an interprofessional team that's helping those patients achieve good outcomes. It's part of a larger system of care in a health care delivery system. And this whole milieu matters for patients, whether it be quality improvement, or high value care, or leadership and teaming and change management within a health care system. This third pillar really pulls it all together to really help us reach the outcomes that we want and desire for our patients.

Dr. Lawson: I do think too, over the past several decades, there's been an increasing discussion of the importance of teams, but I think COVID-19 has really brought to the forefront, the wide variation of our team members. And that we have to be much more cautious, and think and think thoughtfully about who are the members of our team. And it's much wider than our traditional thoughts, relative to physicians and nurses and pharmacists.

But there has been tremendous discussion around COVID-19 in terms of environmental services and nutrition and how all of these components are integrated as essential members of the team. And we have to be cautious and make sure that all of our team members have a place at the table as we're planning in the future. And don't leave any of those critical team members out.

Unger: Dr. Lawson, I'm curious, obviously we're learning a lot through the pandemic about COVID-19. How is this impacting your thoughts about the curriculum that would be associated with health system science?

Dr. Lawson: I think that it's actually in many ways, been a great opportunity for us. Health system science is sometimes challenging to teach, because it's challenging for students to understand why it's so important at that point in time in their medical school career, especially when they have competing
demands such as microbiology, or biochemistry. And that has traditionally been a problem for us. But in many ways, this has actually highlighted for students why the content is so essentially important as part of the curriculum and why they need this to be successful as they grow and develop as physicians.

**Unger:** Dr. Lomis any thoughts for you? Go ahead.

**Dr. Lomis:** I would say, our students and our residents are always amazing us. They're tremendous leaders. And what's been really fascinating to see during the pandemic is in particular, those who have been trained to think in health system science through these curricula, really jumped in, in a very systematic way and found ways that they could contribute. So even students who were pulled from the clinical realm and weren't able to directly care for patients, found other activities that they could do to support the execution of care in a different way.

And so we actually have running right now, a impact challenge. So it's for students and residents who did something, have done something, or are still doing something during the COVID pandemic, that is based on foundational principles of health system science. They can submit their project and we promote that. There's some prizes involved. So you can see that on our website, but we just really value to see the energy that those who do grasp this concept can bring to something so critical at a time like this.

**Unger:** Dr. Gonzalo, what guidance do you have for UME and GME institutions who are looking to incorporate health system science into their teaching?

**Dr. Gonzalo:** Implementing health systems science isn't an easy task, but step one might be starting the dialogue. If your medical school, or your graduate medical education program does not have a significant presence of health system science, culture changes once the vocabulary changes. So once we start talking about it strategically and systematically, integrating pieces of it, it all does not need to happen within a month. But the more that we do, the progression will advance in a more rapid manner.

It is not an easy thing to do. There are challenges to doing this, to gaining traction, the AMA consortium of medical schools, and now residency programs really are coming together to tackle some of those challenges, to get the outcomes that we want in the end. And it's a good thing to have the consortium together, to learn best practices, to learn the challenges that we are seeing, so we can navigate them in our local environments.

**Dr. Lawson:** I think being able to share with our learners what has gone within our COVID-19 planning and what has been a challenge for us. And to be able to share those authentic experiences will really go a long way in helping us understand how to fully integrate this within medical education.
Dr. Gonzalo: The COVID-19 pandemic has really given health systems science a face. These systems issues and the need for health systems science-based learning has been present for decades, whether it be through patient safety issues, or social determinants of health, or this evolving world of population health. Sometimes it's a reason why there might not be traction. It's hard to visualize.

In comes the pandemic and the need to address all these factors immediately in a very short time frame. And as Dr. Lomis says, it requires systems thinking to be able to see all these parts that need to come together to reach those outcomes. And locally, what we have seen is teaching health system science through the lens of the COVID-19 pandemic has been a huge plus. We can wrap our head around this challenge.

I think one of the challenges we have going ahead is how do we then translate a lot of that learning to these issues that have impacted our patients in healthcare systems for decades. Again, through social determines of health, the cost of care, how do we translate that for meaningful, long-term change?

Unger: Dr. Lomis, any final guidance for UME and GME institutions, or health systems and physician practice, how do they implement aspects of health system science into their practices?

Dr. Lomis: Well, we're fortunate that we've already invested heavily in this area. And so now, as everyone is getting a crash course in health system science, I'm really scrambling to think about how do we do a better job of educating. We have some resources in place that can help people. The leaders of this group in the ACE Consortium, contributed to the first textbook in health system science, and actually the second edition, which is significantly updated, was just released in May. Actually in an odd way, there was a chapter within that that talked about how health systems science would play out in a pandemic. Of course, that was written last year before any of this happened, but it was used to illustrate why these concepts are so important and how all the different domains come into play. So the textbook is out there.

We also have invested significantly in online platforms. We have GCEP for the education of residents and we have the EdHub. This group has helped to create a series of health systems science online modules that are open access. We've seen a tremendous uptake of those modules in the last month, with 17,000 modules completed just since January of this year.

So clearly people are availing themselves of that resource. And actually we have a new feature where schools can assign and track curricula in those areas. So we're fortunate that this group had the foresight to start to build materials that now when everyone needs them, they're out there and in place. So we're happy to help propagate this more broadly across other schools and residency programs.

Unger: Well, that's fantastic. I want to thank you all for being here, Dr. Lomis, Dr. Gonzalo, and Dr. Lawson, we really appreciate your perspectives and the work that you're doing. That's it for today's