

COVID-19 shows why health systems science matters so much

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Marc Zarefsky

Contributing News Writer

Health systems science (HSS) is a framework for medical education that comprehensively pulls together different learning areas into a single, unified whole. The goal is to be able to teach medical students and acting physicians how to care for patients “in a holistic and synergetic” way.

That explanation came from Jed Gonzalo, MD, associate dean of health systems education and a professor in the Department of Medicine at Penn State College of Medicine. The need for HSS has been present for decades, yet it has often been hard for students to conceptualize the importance of this cross-discipline intersection, he said.

That’s not the case anymore.

“The COVID-19 pandemic has really given health systems science a face,” Dr. Gonzalo said. “In comes the pandemic and the need to address all these factors in a very short time frame. It requires systems thinking to be able to see all these parts that need to come together.”

Dr. Gonzalo recently spoke about the importance of health systems science during the COVID-19 pandemic during a recent episode of the “AMA COVID-19 Update.” He was joined by Kimberly Lomis, MD, AMA's vice president of undergraduate medical education innovations, and Luan Lawson, MD, associate dean for curricular innovation in medical education and associate professor, Department of Emergency Medicine at East Carolina University, Brody School of Medicine.

Integrated approach to patient care

Early on, the pandemic revealed the need for a more integrated approach to patient care, from how challenging it was for physicians and other health care professionals to obtain appropriate personal protective equipment to the disproportionate impact of COVID-19 on people of color. That need has continued to be exposed as the pandemic wears on.

“We really began to see the places where health systems science was needed, and how we needed to use a comprehensive framework and approach for this,” said Dr. Lawson. “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.”

A key component of HSS is the understanding that there is more than just the patient and their ailment that needs to be considered when providing care. The entire system plays a role in their health status.

“Traditionally, medical education has focused on the physician and the patient in this dyadic relationship,” Dr. Gonzalo said. “Health systems 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.”

Patients are not the only ones with influential systems around them. Physicians are members of an interprofessional team and the dynamics of that team matter, as do the individuals who make up the team.

“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,” Dr. Lawson said. “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.”

Medical students and residents have leveraged their training in health systems science to contribute to the response to COVID-19. To recognize their work, the AMA is currently sponsoring an Impact Challenge to capture and amplify their stories; the deadline for submission is Sept. 21.

Providing resources for change

The AMA Accelerating Change in Medical Education Consortium has been actively involved in creating and distributing a variety of resources related to HSS education. The consortium played an active role in the development of two editions of the *Health Systems Science* textbook, the second of which was published in May. A new chapter highlights how HSS can be leveraged during a pandemic.

The Consortium has also invested significantly in online platforms, Dr. Lomis said. That includes a series of educational modules about HSS available through AMA Ed Hub™.