As the U.S. health care system shifts from payment based on volume to payment based on value, physicians need to learn value-based care at every level of their training, but gaps in the knowledge base exist across the continuum of medical education. A new textbook is the first to provide the instructional basis for incorporating value-based care and other health systems science topics into the curricula for those training to become physicians and other health care professionals. It starts by defining that most elusive term: value.

Medical students at the Mayo Clinic School of Medicine in Rochester, Minn., are among the first in the country to be studying high-value care, one of several elements of a new four-year longitudinal course aimed at complementing basic and clinical scientific knowledge with an understanding of how patients access and receive health care.

“We recognized that there was a huge gap in the curriculum,” said Neera Agrwal, MD, consultant, Hospital Internal Medicine, and assistant professor of internal medicine at Mayo’s new Scottsdale, Ariz., campus. “None of us ever got that kind of education. Those of us who were interested in it cobbled it together on our own personal time, from talking to people who are interested in it. But what we wanted to do was to provide our trainees, our students, our residents with a formal curriculum so they wouldn’t have to go out there and look for it in a piecemeal fashion.”

The course is the product of a partnership with Arizona State University’s new School for the Science of Health Care Delivery. Students graduate with a joint certificate from Mayo and Arizona State in the Science of Health Care Delivery. With additional credits, they can earn a master’s degree.

This addition to the curriculum grew out of the recognition among Mayo’s administrators that medical education needed to keep pace with changes in the practice environment.

“We’ve been teaching the same health care for decades, and clearly we have gaps in what we’re teaching,” Dr. Agrwal said. “Our health care environment is very different from what it was in 1950. Patients and physicians have different pressures than they did in 1950, 1960, 1970 and 1980, yet we
have never changed medical education."

High-value care is one of six domains in the curriculum—along with patient-centered care, population-centered care, health policy, economics and technology, leadership and team-based care—and it was among the most difficult to define.

“There has been some confusion about what value means in general and in health care in particular,” said Natalie Landman, PhD, executive director of the Healthcare Delivery and Policy Program at Arizona State. “We really needed to put a stake in the ground on what we think value is, how it is viewed by different stakeholders in the system, and then to give a perspective on where we are now and how we can move forward.”

Need for an authoritative reference

Drs. Agrwal and Landman are co-authors—along with Donna Williams, MD, and Timothy Dempsey, MD, MPH, from the University of California, Davis, School of Medicine—of “Value in Health Care,” a chapter in the forthcoming Health Systems Science, the first textbook to explore the "third pillar" of medical education.

Theirs is one of 15 chapters that together provide an integrated vision of health systems science, which includes safety, quality, teamwork, leadership, policy and informatics.

“One of the things we really struggled with when putting the curriculum together was finding a textbook that had all the content faculty felt was necessary to give not only a good understanding of the health care system overall, but also an overview of the science of health care delivery,” Dr. Landman said. “We even had a committee set up specifically to figure out if there was a text out there that could serve as a thread across the curriculum. We kept coming up short. So this textbook is going to be very useful. A lot of the information that we’ve been looking for is now in one place.”

Value equals quality divided by total cost

In defining value in health care, the authors of that chapter draw on the Institute of Medicine’s six goals for the health system—that health care should be safe, timely, effective, efficient, equitable and patient-centered—and the Institute for Healthcare Improvement’s “triple aim,” which seeks better care, improved patient satisfaction and lower costs.

“In the simplest terms,” they write, “value can be defined as quality relative to costs.”
Quality, they note, has at least three key elements: outcomes, safety and service.

“Each of these elements is a multidimensional term that can include a variety of specific metrics that reflect stakeholder perspectives and the population of patients being addressed,” they add.

- Outcomes may include patient mortality, complications, functional status and workplace productivity or consistent school attendance
- Safety may include metrics such as infection rates, accidental falls and medication errors
- Service can include patient satisfaction, wait times to be seen by a health professional, access to a given treatment or procedure and access to affordable insurance

The chapter also reviews essential elements of a high-value health care system, summarizes the current state of value in U.S. health care, discusses barriers to high-value care and presents strategies physicians can use to promote high-value care. The chapter will supplement activities already taking place at Mayo to teach high-value care.

One such activity, the “checkbook exercise,” asks students to scrutinize tests and treatments ordered for real-life patients.

“We ask them to evaluate how well that money was spent,” Dr. Agrwal said. “Did that patient get the best care they could have gotten for the money? It’s somewhat artificial, but it helps them understand that money is a very real part of providing care to a patient.”

Building the medical school of the future

*Health Systems Science*, parts of which are already in use in medical schools across the country, was coauthored by experts from the AMA and faculty from 11 of the 32 member schools in the AMA’s Accelerating Change in Medical Education Consortium. Its content is intended to be relevant to all learners within the health professions.

The book retails for $59.99 and can be preordered from the AMA Store and the publisher, Elsevier, as well as from Amazon and other online booksellers. AMA members may order it from the AMA Store for $54.99. Individual chapters will also be available from Elsevier for $5.99 each.

It will begin shipping Dec. 16 and will be incorporated immediately into learning at Mayo, UC Davis and Arizona State. Mayo will also use the book at its Scottsdale campus when that site opens, in 2017.

“I often remind folks that we’re building this health care system for ourselves, because we’re all going
to be patients sooner or later,” Dr. Landman said. “If you were building it for yourself or your family, what would you want? I would imagine you would want high-value care, care that produces good outcomes, care that is safe and that doesn’t bankrupt you in the process.”

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