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MEDICAL EDUCATION

Teaching High-Value Care

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Introduction

The United States spends more money on health care than any other country and yet lags in most performance assessment dimensions, according to a recent report by the Commonwealth Fund [1]. Donald M. Berwick and Andrew D. Hackbarth estimated that, in 2011, between \$158 and \$226 billion was spent on the provision of health care that was unneeded or unwanted [2]. In a nationally representative survey of US primary care physicians, 42 percent reported believing that their own practices' patients are getting excessive care [3].

Following Michael E. Porter and Thomas H. Lee, we define value as "health outcomes achieved that matter to patients relative to the cost of achieving those outcomes" [4]. It is important, however, to distinguish between value and cost. High-cost care, such as antiretroviral therapy for HIV infection, can still deliver good value if the net benefits justify the costs [5]. And some low-cost interventions may provide low value. Amir Qaseem and colleagues identify preoperative chest radiography in patients who are healthy and without symptoms as both low-cost and low-value [5].

There is growing enthusiasm for incorporating high-value care (HVC) curricula into the training of medical students, [resident physicians](#), and attending physicians. High-value care has been recognized as an important teaching topic by the Alliance for Academic Internal Medicine (AAIM), the American College of Physicians (ACP), and the American Board of Internal Medicine (ABIM) [6]. Furthermore, prominent centers such as the Institute for Strategy and Competitiveness at Harvard Business School and the Center for Healthcare Value at the University of California, San Francisco (UCSF) study value in health care. By 2017, the AAIM, the ABIM, the ABIM Foundation, and the ACP aim to establish the practice of high-value care as a key competency within medical education [7]. The Accreditation Council for Graduate Medical Education (ACGME) and the ABIM have also indicated that cost awareness is an important component of residency training [8]. Steven E. Weinberger has proposed separating cost awareness from the competency of "systems-based practice" and making it the basis of a seventh ACGME core competency that would also include resource stewardship [9].

Here, we explore initiatives that incorporate HVC principles into medical training.

Medical Students as Change Agents

UCSF recently awarded a proposal to better integrate value assessments into undergraduate medical education [10]. The proposal's goal is to give third-year medical students on internal medicine rotations an assigned role in promoting high-value care: that of HVC officers empowered to start discussions about HVC with other medical staff. The training emphasizes interventions based on the ABIM Foundation's "Choosing Wisely" campaign, and the curriculum will accord with the current goals of the UCSF Division of Hospital Medicine. The students will receive a 30-minute orientation lecture, short videos, and training at the beginning of the internal medicine clerkship [10].

Martin Muntz piloted a similar program at the Medical College of Wisconsin, for which he and his team were recognized in the Costs of Care and ABIM Foundation Teaching Value and Choosing Wisely Challenge [11]. In that program, students are educated on instances of overuse, such as unnecessary telemetry monitoring or avoidable blood transfusions, and then asked to serve as high-value care officers on internal medicine clerkships [12].

This program and others like it help make the students' role in promoting value more explicit. Buy-in from clerkship directors, residents, and attending physicians on rounds will be important in growing such initiatives. It would be unfortunate if time pressures, a focus on hierarchy, or resistance to change led to team members' being dismissive of the HVC officers' suggestions. In other words, the learning environment itself must be considered.

Taking Advantage of the Crowd

Crowdsourcing ideas may also be a way to effect change on this issue. Neel Shah and colleagues employed crowdsourcing methods to identify novel approaches to teaching value from across North America in the Teaching Value and Choosing Wisely Challenge [13]. They received 74 submissions from students, residents, faculty members, and nonclinical administrators. Of the submissions, 15 addressed undergraduate medical education, 39 addressed graduate medical education, and 20 addressed both [13].

The Do No Harm Project at the University of Colorado School of Medicine also takes advantage of others' experiences. Through this initiative, medical trainees are asked to submit clinical vignettes that highlight the avoidable harms that can result from medical overuse to facilitate a culture change in the practice of medicine [14]. Similarly, in 2014, *JAMA Internal Medicine* launched a section called Teachable Moments that features clinical vignettes describing examples of low-value care submitted by clinical trainees around the world [15]. This series is available to individuals at all stages of training, which allows for broad engagement.

Conclusion

Clinical trainees are the future of health care delivery, and failure to engage them in pursuing high-value care may perpetuate wasteful health care spending and avoidable patient harms. Further research is required to demonstrate the efficacy of educational interventions in improving quality and reducing costs and to identify the most promising approaches.

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