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Charting the route to high value care: the role of medical education

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The quest for value in healthcare has been one with a vague idea of the goal, but no clear idea of how to get there. The importance of providing value in medical care has been increasingly recognized, but until recently there has been no map or clear destination.

Mapping the road to value requires agreement on its meaning. Value can be defined simply as health outcomes achieved per dollar spent,[1] but the concept of providing high value clinical care (HVC) is more complex. The Institute of Medicine defines HVC as "the best care for the patient, with the optimal result for the circumstances, delivered at the right price"[2]. This definition encapsulates the essence of being a good doctor, emphasizing the fundamental importance of the patient perspective and the importance of cost, in the sense that the best care is delivered as economically as possible. It is clearly the desired destination, but the context of HVC must be understood to know how to get there.

The training environment is a critical feature of the topography of value. Chen et al[3] demonstrated the lasting influence of the training environment in their study of the association of physician training location with subsequent spending patterns. Physicians trained in lower spending regions spent 7% less than those trained in higher spending regions, with the difference lasting for 15 years after training but decreasing over time. These findings suggest both a durable effect of the training environment on subsequent physician practice and the influence over time of the post-training practice environment. Other studies have similarly demonstrated a correlation between training environment intensity and trainees' ability to "practice conservatively" or to appropriately avoid unnecessary care[4], implying that the effect of the training environment reaches beyond spending and into other facets of HVC.

Creating training environments that foster HVC requires formally teaching its components, measuring relevant outcomes, and addressing institutional culture[5]. However, despite the increasing emphasis on teaching value as part of medical education[6] and the development of curriculum in HVC[7], critical competencies for practicing HVC have not been well described. In 2011, Weinberger framed the provision of HVC as a seventh domain of trainee "competency"[8]. In keeping with its complexity, breadth, and centrality to being a good physician, HVC can be alternatively conceptualized as spanning all competency domains across the spectrum of contexts, from the macro (the health care system) to the micro (the individual patient); involving knowledge, skills, and attitudes; and informed by deep understanding of the benefits and harms of interventions. This framework emphasizes high

value as good doctoring rather than as a cost-containment mechanism, which may facilitate acceptance by physicians[9] and patients[10] who are suspicious of cost-containment strategies.

Deeper understanding of the components of HVC is critical but inadequate without also establishing the best educational approaches. The importance of diverse knowledge, skills, and attitudes suggests the need for a spectrum of strategies. In this issue of JAMA, Stammen and colleagues[11] review educational interventions to improve the practice of HVC. Their systematic search of the literature identified 79 studies across medical specialties and geographic areas. Major themes included the importance of knowledge acquisition related to cost, evidence, and patient preferences; reflective practices such as audit/feedback and interactive discussion; and a supportive environment. However, most noteworthy may be the review's exposure of the limited applicability and generalizability of the studies they found: many focused on a single clinical service, many were related to cost and not care appropriateness, many used sub-optimal study designs, and few evaluated outcomes reflecting trainees' ability to broadly deliver HVC. There is a long way to go in defining the best educational approaches to teaching HVC.

In a Viewpoint in this issue of JAMA, Gupta and Arora[12] advocate an approach that addresses some of the weaknesses of the literature. Acknowledging the importance of the practice environment and role-modeling, they propose aligning educational and institutional incentives by engaging trainees in quality improvement initiatives to address local system issues and by supporting knowledgeable and committed faculty role models and mentors. Their approach fosters real-world resident skills and expands the cadre of role-models for HVC, which are lacking in the current environment[13]. This approach will be an important component of future educational roadmaps.

What else must be done to better educate all physicians to practice HVC? First, though it may seem trivial, there should be a consistent term for the ultimate destination. Weinberger proposed a "high-value cost-conscious care" competency[8]; that term continues to be used by some authors and educators. Others have shortened the term, for reasons both fundamental and esthetic, to "high value care", or have espoused more specific terms such as "stewardship" or "cost-conscious care". Advantages of the term "high value care" are that it is concise, it avoids overemphasizing cost, and it avoids the redundancy of referring both to value (which requires acceptable cost) and cost-consciousness.

While uniformity of labeling may facilitate information sharing and is easy to accomplish, the larger challenge involves designing educational approaches that acknowledge the complexity of HVC and characterizing educational endpoints that reflect generalizable skills. HVC is not one skill: its mastery requires a variety of teaching approaches and outcome measures. Thus far, approaches have generally been narrow, have often focused on cost, and have involved free-standing curricula as opposed to integration. The framework described above, in conjunction with the findings in the review by Stammen and colleagues[11], can be used to ground broader approaches. The individual components can help educators define curricular needs, and their classification by domain of ACGME competency may facilitate their incorporation into preexisting curricula. Audit and feedback, recognized by Stammen and colleagues as an effective implementation strategy, will be an

important tool. In addition, role modeling is critical for trainee HVC practice[4]; to move forward will require training faculty to better teach and practice HVC.

Along with curricular innovations, meaningful assessment tools are needed. Robust outcomes must be defined: knowledge elements can be evaluated using traditional multiple-choice or other testing and attitude elements can be evaluated using survey instruments or performance review. Relevant skills are complex and can be evaluated using real-world demonstrations (e.g. those proposed by Gupta and Arora[12]), standardized patient evaluations, patient assessments, or novel approaches. Assessments should be performed on both trainees and faculty, serving to emphasize their importance and to ensure that faculty role-model appropriate behaviors. Milestones for trainee HVC practice- like stops along the route- must be developed. A group at UCSF has begun this work, framing levels of competency in value[14] by defining skills at the beginner, proficient, and expert levels. Their description is useful for the educational community but it focuses primarily on issues related to cost. Milestones are needed that reflect all components of HVC delivery, many of which would apply across specialties.

It has been nearly five years since Weinberger described the imperative for HVC education[8]. The education community must now develop novel curricula, meaningful assessment tools for curriculum evaluation, and measurable milestones that move beyond cost issues. These activities may provide the path to lead physicians toward the practice of high value care.

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