Reviewer's report

Title: Science of Health Care Delivery Milestones for Undergraduate Medical Education

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Reviewer: Terry Wolpaw

Reviewer's report:
I want to acknowledge the thoughtful approach this paper takes to defining new areas of learning across the medical education continuum. This third science that focuses on healthcare systems and care delivery is an evolving part of the health education curriculum. This paper brings a level of clarity to the evolving curriculum design. I do think it would be helpful to settle on the vocabulary for referring to this third science. But perhaps it is too soon in its evolution to achieve that level of consensus.

I have some thoughts I would like to share. The first is considering how a science relates to a competency. Medical education includes learning in a number of sciences. We do not have a competency for each science nor would we want that. If the science of health care delivery, healthcare delivery science or health systems science is viewed as a science, then I do not see it as a competency (or subcompetencies). Instead I want to see it reflected across many competencies. I appreciate that the authors are trying to organize and define a learning area and provide a way to view the content and assessment. I do not think this should be framed as a competency with subcompetencies. It is a curriculum, a thread/longitudinal theme and one that incorporates many of the competencies that form an overarching framework for medical education. It is an area of learning that when translated into patient care becomes systems based practice. I find it unnecessarily complicated to frame it as a separate competency/subcompetencies.

Framing this content area as a thematic area for medical education with clear content delineation and outcomes is fine. Creating subcompetencies that have cross over with ACGME core competencies and AAMC EPAs is a stretch that I find doesn't work for me as an educationalist.
To me it is redundant. I would suggest that rather than framing a new competency/subcompetency set, the authors consider inserting the health systems subcompetencies within the current ACGME (or AAMC) competencies. For example, Table 1 would have the 6 ACGME competencies or the 8 AAMC competencies and the subcompetencies, if unique, would be inserted into those 6-8 competency categories as additional subcompetencies.

On a different note, I see that one of the authors' goals in creating a Science of Healthcare Delivery (SHCD) competency is to "facilitate students' transition from medical school to residency." I do not see anywhere in the manuscript an explanation of how this would happen. Is this because framing SHCD as a competency would provide a consistent framework across the education continuum? It would be very helpful to articulate the thinking behind facilitating learner transitions.

In summary, this manuscript attempts something very important - giving educators a conceptual framework for the teaching/learning/assessment of SHCD. I feel that it would be more parsimonious and useful to integrate the SHCD subcompetencies within the current ACGME/AAMC competencies, especially within systems based practice.

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