Introduction to the JGME Literature Review Series

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Graduate medical education (GME) is a rich and diverse field; our scholarly questions reflect that diversity. Imagine a program director during COVID-19 restrictions who wants to learn more about virtual residency selection practices. Imagine an administrator who feels apprehensive about an upcoming accreditation visit and needs to learn more about best practices. Imagine a surgery resident who is concerned about issues of equity in the operating room and wants to create a more inclusive learning environment.

In each of these cases an initial step is to turn to the literature, to learn what has been done and the current thinking on a topic. In other words, it is best to explore the literature when embarking on a new GME project. If you are lucky, you may find a literature review on your topic.

What Is a Literature Review?

A literature review, sometimes referred to as a knowledge synthesis, is an approach to amalgamating results from individual sources such as peer-reviewed original research and grey literature (e.g., conference proceedings) to generate a comprehensive description, integration, or conclusion about a specific topic. There are different kinds of literature reviews, each of which has a different purpose underpinning the synthesis, a different procedure for carrying out the synthesis, and a different expected product of the synthesis. Each kind of literature review offers a snapshot of the evidence on a topic from a different perspective. Sometimes that snapshot offers readers the best practices for carrying out a process or procedure. Sometimes it offers a historical timeline of how thinking about a phenomenon has changed over time. It may offer a map of everything that is known about a topic and highlight the literature gaps and opportunities for further research.1

Literature reviews are increasingly popular in medical education. Maggio and colleagues2 found that over the past 20 years there has been a 2620% increase in published knowledge syntheses in 14 core medical education journals. The same team identified 21 different types of knowledge syntheses and noted that this diversity of approaches is a recent phenomenon, since 1999.

Despite the increasing popularity of medical education review articles, they are often narrowly conceptualized and applied, with less value for readers. We believe these problems are tied, in part, to a lack of clarity regarding the different types of and methods for literature reviews.

The JGME Literature Review Series

In this series, we will provide an overview of 8 influential approaches to knowledge synthesis: Systematic Reviews, Realist Reviews, Narrative Reviews, Scoping Reviews, State-of-the-Art, Critical Reviews, Meta-ethnographic Reviews, and Integrative Reviews (Box 1). This is by no means an exhaustive list of the important types of medical education literature reviews. We selected these 8 types because they have a well-established history in the field, or they are emerging as promising approaches.

For each literature review, we will provide 2 articles: (1) an overview of the review type with background information on philosophical foundations, purposes, and expected products for readers and researchers (Box 2), and (2) a short article with steps that outline the “nuts and bolts” of this type of review.

These pairs of articles are not intended to serve as stand-alone resources, nor as definitive guides for each review type. They are intended to serve as “primers,” to provide a general overview and a list of helpful resources that GME educators can rely on for guidance when reading a review article or starting a knowledge synthesis project.

To demonstrate the practical applications of each review type, each article will address a common case, The Case of Dr. Smith (Box 3). Dr. Smith is a program director who is tasked to develop an interprofessional education experience for the residency program. As a first step, Dr. Smith does a literature search and finds a wide variety of contributions. Each article will describe how Dr. Smith might approach synthesizing the diversity of literature and discuss the nuances of the search and management strategies for the 8 different review types.

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Philosophies of Science Underpinning GME Literature Reviews

Maggio and colleagues observed that, until recently, many of the reviews published in medical education were systematic reviews. This is not surprising: science has focused on the pursuit of “truth.” While systematic reviews and their pursuit of concrete answers have a critical place in medical education, this type of knowledge synthesis is just one of many valuable options. The literature informing GME is diverse. It includes interventional studies’ characteristic of the positivist systematic review paradigm, but also includes interpretivist-oriented work, where the goal is to understand how participants actively construct their experiences. Given the diversity of GME, we argue that it is important to harness the full breadth of knowledge syntheses.

Literature reviews are the products of specific ways of thinking about the processes of science and of building knowledge. As scholars engage in identifying, categorizing, and analyzing literature, they are aligning their work with a paradigm. Kuhn defines a paradigm as “the common beliefs and agreements shared between scientists about how problems should be understood and addressed.” A paradigm is a way of thinking about how to build knowledge, how rigor is achieved and maintained in that way of thinking, and what products are worthy of being generated to disseminate knowledge. Medical education is an inclusive field of inquiry—one that makes room for many different paradigms, which will be considered in each article in this series (see the TABLE).

Each paradigm has an associated set of concepts, practices, and language that signal a particular approach to seeing the world and engaging in knowledge creation. Understanding the following 3 important concepts associated with each paradigm can help GME scholars understand how each type of literature review is a product of a specific paradigm.

What Counts as Truth? (Ontology)

Ontology is concerned with the nature of reality itself, the nature of being. With respect to literature reviews, ontological questions ask: What does this review assume to be “true?” Does this review assume that reality is fixed and unchanging, and therefore measures of that reality are applicable to most, if not all, instances of the phenomenon under study?

What Counts as Knowledge? (Epistemology)

Epistemology is concerned with the nature of knowledge. With respect to literature reviews, epistemological questions include: How was knowledge acquired? What does a literature review help us to know?

How Is Knowledge Generated? (Methodology)

Methodology is concerned with the ways in which we develop knowledge. With respect to literature reviews, methodological questions deal with which...
After running a quick Google search using the term “interprofessional education,” Dr. Smith finds more than 11 million hits—clearly, too much information to process. Turning to PubMed and using a general subject search with the same term “interprofessional education,” Dr. Smith now identifies 24,000 matches: still, far too many to review. Feeling overwhelmed by the amount of information, Dr. Smith begins to randomly sample the papers and notes the huge diversity of types and approaches. Some are documenting results from randomized trials. Some are reflecting on qualitative investigations. Others are taking a critical perspective on issues of concern. Dr. Smith needs to find a way to focus the literature review to make sense of the vast amount of interprofessional education information available.

Dr. Smith, a program director, has been tasked to develop an interprofessional education experience for the residency. Dr. Smith decides that conducting a literature review would be a savvy way to examine the existing evidence and generate a publication useful to others.

It is important to remember there isn’t a “better” or “worse” type of literature review. Instead, different types of literature reviews grow out of different paradigms and aim to generate syntheses that meet different kinds of goals. It also means, for readers, that different measures of rigor are needed to inform your assessment of the quality of each type of literature review. Different does not connote a better or worse kind of review. Different is simply that—different.

Conclusions

Knowledge syntheses (reviews) offer powerful educational perspectives for readers and researchers. Just as every photo can reveal a unique perspective on the photographed subject, each literature review type offers a unique synthesis of the available literature addressing a phenomenon. If you are interested in learning more—to better understand what to expect from a literature review or to prepare to conduct your own review—read this series, written by experts in the field.

References

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