Clarifying Multifaceted CME

Introduction

Whereas art thrives in pursuit of the abstract and intangible, science strives to organize observations into color-coded, stackable boxes. And although there are opportunities for art in science and vice versa, it is generally clear when a situation calls for watercolors or a label-maker. Interestingly, continuing medical education (CME) has a history of resisting categorization as either art or science. On one hand, research into the effectiveness of CME has generated considerable evidence supporting relevance, interactivity, and multifacetedness as critical components.[1-3] On the other hand, these components have yet to be defined. What makes an activity interactive? How much interaction is required? Which interactive tactics are most effective? Despite nearly 20 years of evidence supporting the importance of such CME strategies, both their conceptual and operational definitions remain incomplete.[2-4] Accordingly, CME providers are tasked with educating clinicians about evidence-based practices using principles of adult learning that are administered less with scientific method and more with a certain je ne sais quoi.

To shift CME further toward science, researchers have recently begun to formalize the process of defining terminology, beginning with "performance measurement and feedback," "practice facilitation," "educational meetings," and "interprofessional education."[5-8] Unfortunately, the effective CME strategies previously mentioned were not included in this research.

This is the second in a series of white papers investigating these CME strategies to help establish a taxonomy upon which a more robust understanding of how CME works can be built. The initial white paper introduced a practical tactic for increasing the relevancy of CME activities.[9] This paper will explore multifacetedness using a Med-IQ CME initiative addressing motivational interviewing among patients with multiple sclerosis (MS).
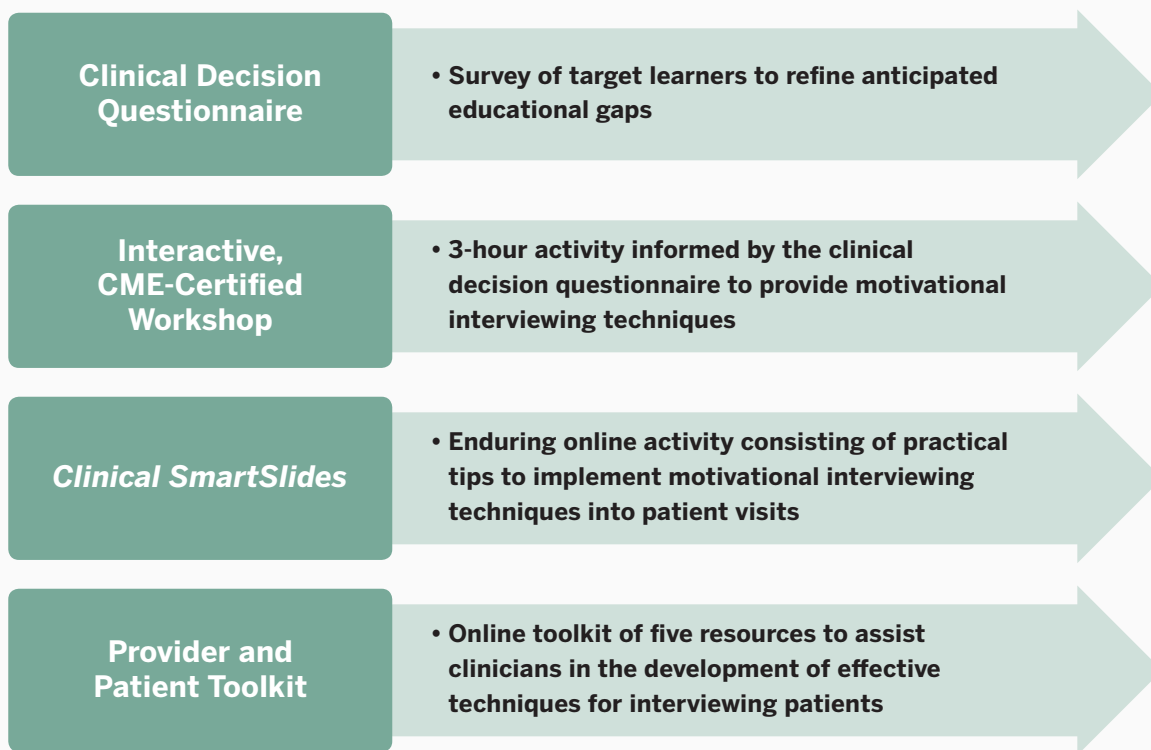
CME Initiative

The complex and progressive nature of MS necessitates early and ongoing treatment with disease-modifying therapy (DMT). Neurologists face several challenges in the management of this disease, including an absence of definitive guidelines, a variable yet chronic disease, and poor patient adherence to therapy. They also lack effective strategies for motivating their patients with MS to adhere to treatment recommendations and take a leading role in their own healthcare. The purpose of this multifaceted educational initiative (titled Breaking Through the Barriers: Strategies for Improving Patient Education, Empowerment, and Self-Management) was to combine education on best practices in the management of patients with MS with motivational interviewing strategies to enhance patient-physician communication and improve patient adherence to treatment and medical recommendations.

As illustrated in Figure 1, this educational initiative comprised multiple components. It began with a survey of target learners (102 practicing neurologists),

which extended the initial needs assessment into the content-development phase to refine the anticipated practice gaps according to the target leaners' actual practice experience. After this formative assessment, a 3-hour interactive workshop was developed (held September 27, 2014, in New York City) to provide participants with: 1) techniques for conducting effective motivational interviews with MS patients, 2) tools for revealing patients' knowledge of their disease, goals, and treatment expectations, and 3) strategies for overcoming barriers to achieving those goals. Subsequently, slides and patient-physician interaction videos from the workshop were made available as an enduring activity (titled *Clinical SmartSlides*: A Self-Study Guide Toward Breaking Through Barriers in Multiple Sclerosis; launched December 23, 2014), which expanded the educational reach to neurologists who were unable to attend the initial live workshop. In parallel with the workshop and enduring activity, supportive resources (ie, toolkit) were made available, including:

- Disease-related education materials (for patients)

FIGURE 1. Components of Breaking Through the Barriers: Strategies for Improving Patient Education, Empowerment, and Self-Management

Clinical Decision Questionnaire	• Survey of target learners to refine anticipated educational gaps
Interactive, CME-Certified Workshop	• 3-hour activity informed by the clinical decision questionnaire to provide motivational interviewing techniques
Clinical SmartSlides	• Enduring online activity consisting of practical tips to implement motivational interviewing techniques into patient visits
Provider and Patient Toolkit	• Online toolkit of five resources to assist clinicians in the development of effective techniques for interviewing patients

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- Symptom management and assessment forms (for physicians)
- Chart-based questionnaires to evaluate adherence (for physicians)
- Patient and caregiver recommendations to improve treatment adherence (for both physicians and patients)
- Patient coaching tips and strategies (for physicians)

Multifaceted CME

As previously noted, multifacetedness has been associated with effectiveness in CME; however, a clear definition of this strategy is lacking. Systematic reviews have defined multifaceted CME in various ways, such as:

- Two or more interventions[10,11]
- Combination of several different interventions[1]
- Use of more than one technique[4]

With such diverse and liberal definitions, the opportunity to inflate the number of qualifying CME initiatives is obviously present. The potential for misclassification increases the heterogeneity of multifaceted initiatives and thereby limits the ability of meta-analysis and systematic review to clarify why or how these initiatives work. Moreover, the Accreditation Council for Continuing Medical Education (ACCME) has identified 12 distinct educational media (Table 1), and systematic reviews have described as many as 17 educational techniques across these media (Table 2). The above definitions provide no guidance regarding the

TABLE 1. ACCME Activity Designations[12]

Medium	Definition
Courses	Live CME activity in which the learner participates in person. A course is planned as an individual event. Examples: annual meeting, conference, seminar.
Regularly scheduled series	Course that is planned as a series with multiple, ongoing sessions (eg, offered weekly, monthly, quarterly) and is primarily planned by and presented to the accredited organization's professional staff. Examples: grand rounds, tumor boards, morbidity and mortality conferences.
Internet (enduring materials)	"On-demand activity," meaning that there is no specific time designated for participation. Rather, the participant determines when to complete the activity. Examples: online interactive educational module, recorded presentation, podcast, Webcast.
Enduring materials (other)	Activity that is printed or recorded and does not have a specific time or location designated for participation. Rather, the participant determines where and when to complete the activity. Sometimes providers will create an enduring material from a live CME activity.
Journal CME	Includes reading of an article (or adapted formats for special needs), a provider-stipulated/learner-directed phase (that may include reflection, discussion, or debate about the material contained in the article), and a requirement for the completion by the learner of a predetermined set of questions or tasks relating to the content of the material as part of the learning process.
Internet (live)	Online course available via the Internet at a certain time on a certain date that is available only in real-time, just as if it were a course held in an auditorium. Once the event has taken place, learners may no longer participate in that activity unless it is again presented on a specific date and at a specific time and is available only in real-time. Example: Webinar.
Committee learning	CME activity that involves a learner's participation in a committee process addressing a subject that would meet the ACCME definition of CME if it were taught or learned in another format.
Performance improvement	Based on a learner's participation in a project established and/or guided by a CME provider. A physician identifies an educational need through a measure of his/her performance in practice, engages in educational experiences to meet the need, integrates the education into patient care, and then reevaluates his/her performance.
Learning from teaching	Personal learning projects designed and implemented by the learner with facilitation from the accredited provider. The ACCME does not have special requirements for this activity type.
Test-item writing	Based on a learner's participation in the prepublication development and review of any type of test item. Examples: multiple-choice questions, standardized patient cases.
Manuscript review	Based on a learner's participation in a manuscript's prepublication review process.
Internet searching and learning	Based on a learner identifying a problem in practice and then researching the answer online using sources that are facilitated by an accredited provider. The ACCME includes Internet point-of-care learning, as defined by the American Medical Association, in the category Internet searching and learning.

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TABLE 2. Educational Techniques for CME[4]

Technique	Description
Academic detailing	Face-to-face encounter typically including practice feedback and discussion of barriers
Audience response systems	Feedback tools allowing faculty to pool learners and display aggregate responses
Case-based learning	Actual or hypothetical patient cases followed with discussion of diagnostic/therapeutic options
Clinical experience	Preceptorship or observership with an expert, as in attending a specialty clinic or an operating room
Demonstration	Observation of clinical practice or surgical procedure
Discussion group	Faculty-moderated discussion
Feedback	Provision of current performance against an evidence-based standard and/or colleagues' performance
Lecture	Faculty-led didactic education
Mentorship or preceptorship	Mentor-provided direct observation, performance review, advising, and coaching
Point of care	Information provided at the time of clinical need (eg, integrated into electronic health record)
Problem-/team-based learning	Clinical scenario presented to a team that collectively discusses and determines plan of action
Programmed learning	Content delivered to learner in sequential steps, which are tested before progression
Readings	Review of written educational material
Role play	Opportunity to practice clinical scenarios by assuming role of patients or clinicians
Simulation	Controlled presentation of realistic clinical scenarios
Standardized patient	Simulation using patient actors
Writing and authoring	Writing journal article and/or creating test items

combination of media or techniques when developing a multifaceted educational initiative. Whether a multifaceted activity represents a combination of educational media, techniques, or both is similarly unclear. Furthermore, the intention of multifaceted CME is vague. Should it target an individual learner in multiple, complementary activities (ie, sequential learning)? Or can an initiative with one component for clinicians and another for patients be considered multifaceted? Or should an initiative using a variety of media in an effort to reach target learners (eg, live conference repurposed into an online enduring activity) be considered multifaceted, even though the content remains the same and participating learners do not overlap across activities? Ultimately, CME providers are left with little guidance in regard to the construction of a multifaceted initiative and have complete freedom to claim application of this strategy.

The MS activity described in Figure 1 comprised four components. Using this activity as an example,

what follows is a classification guide for multifaceted CME. It is beyond the scope of this paper to arbitrate whether an initiative is multifaceted; however, a structure for categorizing activities within this designation is proposed. The intention is to reduce heterogeneity when pooling results across CME effectiveness studies via meta-analysis or systematic review. Ideally, this classification guide will enable researchers to better evaluate the constituent pieces of multifaceted CME and engender more robust conceptual and operational definitions of this strategy.

Classification

To determine whether a CME initiative can be classified as multifaceted, the following information is required:

- Components that compose the initiative
- Media employed within each component

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- Educational techniques used within each medium
- Specified target audience of each component
- Whether each component is a sequential or adjunctive intervention

Figure 1 presents the components of an example CME activity. Table 1 is a reference for educational media, and Table 2 describes educational techniques. It is possible to have an educational medium or technique that is not reflected within these tables; however, the majority of CME initiatives will be addressed. The full classification of the MS activity described in Figure 1 is illustrated in Table 3.

Using the above classification table, it becomes clear that the four components of this initiative reflect only three interventions. The clinical decision questionnaire is an extension of the needs assessment. Although such formative assessments may increase the effectiveness of CME, they are not, in themselves, designed to affect learning, performance, or patient health.[1] Moreover, of the three interventions identified, only two media are employed (ie, course and Internet [enduring material]). Accordingly, within the first two columns, this multifaceted initiative has shrunk from comprising four components to employing two distinct interventional media. It is also important to note overlap in the educational techniques employed across these media. Only four distinct techniques were used (ie, lecture, case-based discussion, discussion group, readings). The fourth column clarifies that although this initiative targeted clinicians and patients, the majority of

educational focus was on neurologists, with only the most passive educational technique (ie, readings) employed for patients. Finally, the fifth column reports that although each component may indeed be complementary, the initiative was not designed to sequentially graduate participants through each component. Although sequential learning requires a multifaceted approach, the reverse is not true— and sequential learning has independently been associated with CME effectiveness.[1]

Conclusion

Relevance, interactivity, and multifacetedness are three characteristics associated with CME effectiveness, but the definition of these strategies and the effectiveness of associated tactics remain unclear.[1-4] The purpose of this paper was to introduce a classification scheme for multifaceted CME initiatives, with the intention to reduce heterogeneity when pooling results across CME effectiveness studies via meta-analysis or systematic review. Ideally, this classification guide will enable researchers to better evaluate the constituent pieces of multifaceted CME and engender more robust conceptual and operational definitions of this strategy.

As detailed in the classification of the multifaceted CME initiative, Breaking Through the Barriers: Strategies for Improving Patient Education, Empowerment, and Self-Management, the opportunity to overstate the complexity of an initiative is large. Using currently available definitions, this initiative may be considered as having four interventional components—and no clarity regarding the techniques employed within

TABLE 3. Educational Media and Techniques Employed in Breaking Through the Barriers: Strategies for Improving Patient Education, Empowerment, and Self-Management

Component	Media	Technique(s)	Target Audience	Sequential or Adjunctive
Clinical decision questionnaire	Does not match any media or techniques because this is a formative assessment, not an educational intervention			N/A
Interactive, CME-certified workshop	Courses	Lecture, case-based learning, discussion group	Neurologists	Adjunctive
Clinical SmartSlides	Internet (enduring materials	Lecture, case-based learning, readings		
Provider and patient toolkit		Readings	Neurologists and patients with MS	

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would be required.[1,4,10,11] Based on the proposed classification scheme, however, this initiative is more accurately reflected as employing two distinct educational media and four educational techniques that were administered nonsequentially to a predominantly clinician audience. Ideally, increasing the precision of description will empower future meta-analysis and systematic review to speak more to the factors driving the success of multifaceted CME rather than simply note its general association with effectiveness.

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