

Domains-based Outcomes Assessment of Continuing Medical Education: The VA's Model

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ABSTRACT

Demonstrating outcomes of continuing medical education (CME) efforts has become increasingly important to CME providers, accrediting organizations, and licensing bodies. Many CME providers have difficulty defining the nature of the outcomes, much less documenting the outcomes for which they are responsible. The vague nature of the terms "outcome," "impact," or "result" in the complexity of health care and medical education environments is a particular obstacle to many education providers. To overcome these barriers, the VA's Employee Education System (EES), a large CME provider, created a model identifying five major domains of possible outcomes for CME interventions; these are the domains of

individual participants, employee teams, the larger organization, patients, and the community. These domains are useful in either assessing a single CME activity's outcomes or comprehensively assessing a CME provider's outcomes-assessment strategy. The use of such a domains-based outcomes-management strategy links organizational mission, needs assessment, specific activity assessment, and assessment of the overall education program. This approach may be useful to CME providers, accrediting and licensing bodies, or others interested in the relationship of CME outcomes to the activities of CME providers.

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Linking continuing medical education (CME) interventions with outcomes has become increasingly important in recent years to meet requirements of CME providers, accrediting organizations, regulatory and licensing bodies, and health care organizations.^{1,2} While

some CME providers have been able to demonstrate relationships between the CME organization's educational activities, the organization's mission, and outcomes of the educational activities, it has been difficult for most CME providers to systematically do so. The particular challenge is to find ways to assist CME providers in identifying outcomes that are appropriate to the mission of the CME organization and the desired goals of its educational activities.

In this article, we focus on a way of categorizing educational outcomes in a complex health care organization. The U.S. Department of Veterans Affairs (VA) Employee Education System (EES) provides continuing education to the approximately 200,000 employees of the Veterans Health Administration, the arm of the VA that gives health care to eligible veterans through its network of VA clinics and hospitals. The EES is accredited to provide certified education for physicians, nurses, dentists, psychologists, social workers, and other licensed health professionals.

In 1998, because of organizational requirements from the VA and an opportunity provided by the Accreditation Council for Continuing Medical Education (ACCME), a pilot project between the EES and the ACCME focusing on

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Origins of the Current Emphasis on Educational Outcomes

The current emphasis on educational outcomes is rooted in the multiple influences on education's modern development, not the least of which are industry and business. A first wave of educational reform in the early 1900s emerged from industry and was typified by the urging that education become "efficient," often measured in terms of dollars and cents.¹⁹ Educators quickly adopted industry's focus on efficiency, concurrent with their own emphasis on behaviorism, an approach to learning based on Skinner's belief that human behavior is a product of the stimulus-response interaction. For educators with a behaviorist perspective, emphasis was on the observable indications of students' learning in response to the stimuli from their teachers. A focus on quantifiable results at the learner level translated into the era of "assessments" in education. Educational institutions modeled themselves on the business community, complete with mission statements and strategic planning. Education was packaged as a "commodity," available for purchase.²⁰ Measurement of quality within education frequently follows the pathway of "total quality management" (TQM), an approach that, although invented by an American, started in Japan after World War II, and was later widely adopted by U.S. businesses as they struggled to compete in the global marketplace.²¹

The application of TQM to health care began in the late 1980s.²² Despite the emphasis of total quality on reduced cost and increased quality received by patients, Bierema²³ argues that "corporate dominance remains pervasive" in education, extending the influence of corporate profitability, quantifiable results, and the perception of education as a commodity.

Trends within education also affected the focus on outcomes. The evolution of instructional design and domains of learning, other byproducts of behaviorism, gave rise to the formal emphasis on learner outcomes. Instructional design was a process intended to create procedures and arrange resources used to promote learning.²⁴ Instructional design took form in models that were designed to identify the outcomes of the instruction, develop the instruction, and evaluate the effectiveness of the instruction. Heavy emphasis was placed on the objectives of the educational experience, at the learner level. Domains of learning at the cognitive level,²⁵ affective level,²⁶ and psychomotor level²⁷ underscored learner objectives, as these objectives embodied the changes in learner behavior that education sought to bring about. Outcomes associated with instructional systems models, with their emphasis on learner objectives

within domains of learning, were essentially, and solely, learner-focused,²⁸ and did not typically include an assessment of the learner's application of new knowledge or skills in the performance setting.

The disparity between the business-focused outcomes assessment and the learner-focused outcomes assessment was addressed by Kirkpatrick in 1994. This now-popular evaluation approach extends beyond the individual learner, but is consistent with an objectives orientation. Kirkpatrick proposed four levels: (1) satisfaction, (2) learning, (3) application, and (4) business results, or impact. Recently, this model has been augmented by Phillips to include a fifth level, return on investment (ROI),³⁰ in which a cost-benefit ratio to the education efforts is calculated and converted to a financial metric. The appeal of this approach is, in some part, a reflection of the current emphasis on performance-based results at the organizational level; however, it recognizes the value of evaluation data collected at lower levels. In fact, even when conducting an evaluation at Kirkpatrick and Phillips levels 4 or 5, it is necessary to collect data at levels 1-3 in order to build a chain of evidence to support the findings.²⁹

However, the assessment of outcomes has not kept pace with current thinking about education within a social and organizational context, with its emphasis on constructivism. Constructivists view learning as an active process, one in which the learner brings previous knowledge and experience to the situation to actually create new knowledge. As distinct from behaviorism, which views the learner as a passive recipient of bits and pieces of knowledge and skills, constructivists see learners as actively involved in knowledge construction. The most commonly used evaluation strategies currently used by CME providers, including knowledge post-testing, have their roots in the tenets of behaviorism.

The issue of outcomes assessment is further complicated by many terms that are similar in the dictionary, but are often used as distinct concepts. "Outcome," "Impact," "Results," all can be used with different meanings. In order to overcome the generality of such terms, and to assist in providing more focus to the many possibilities, an approach that is more descriptive is needed. For the purposes of this article, "educational outcome" is defined as a measurable change that can be attributed to an educational intervention. This broad conception of outcomes is intended to be inclusive of various meanings of these terms. Identifying the types of changes that can be measured has been one of the principal challenges in linking educational interventions to outcomes.

outcomes in continuing medical education was initiated. The EES's CME program in fiscal year 2000 consisted of over 500 certified activities with over 35,000 participants, more than 8,000 of whom were physicians. Early in the project it became clear that there was a need to better understand how to define and measure health care education outcomes, both in the context of a specific educational activity as well as for EES's overall educational program. (For background on outcomes issues, see the sidebar entitled "Origins of the Current Emphasis on Educational Outcomes.")

THE VA OUTCOMES-ASSESSMENT MODEL

Along with the need for better understanding of aspects of outcomes mentioned above, there was also the need for a method or model to identify types of educational outcomes that are possible to measure. Requirements for the model were (1) relative simplicity, so that most EES staff could use it; (2) inclusion of both behaviorist and constructivist perspectives of the value of outcomes; and (3) flexibility for a wide variety of educational activities and target audiences. To develop a model with these requirements, the EES adopted a process consisting of a review of the literature, informal review and feedback from experts within and outside of the EES, and feedback from colleagues at presentations at professional conferences. Concepts were merged from education theory, health services theory, and quality

management theory. Specifically, concepts of outcome levels from Kirkpatrick,³ those of structure, process, and outcome from Donabedian,⁴ and Berwick's emphasis on community results⁵ were integrated to establish a hierarchy of educational outcomes. Because of the close relationship between needs assessment and outcomes assessment, the model that the EES developed can be used for either needs assessment or outcomes assessment purposes. In fact, to be successful with an educational intervention, the needs assessment also draws upon the domain of interest to assure appropriate identification and measurement of the outcome. In this article, however, we focus on the uses for outcomes measurement and program assessment.

Figure 1 demonstrates the model the EES developed for categorizing educational outcomes, named the VA Domains-based Outcomes Assessment Model. The general structure considers the major domains of individual learner, group or team, organization, patient, and community. These five major outcome domains, including the subcategories contained within them, are reviewed in more detail below. The subcategories provided are for illustration and do not represent all possibilities of subcategories.

Individual Learner Domain

The individual learner is the base of this outcomes model. It makes sense that much vital information about education interventions is derived from the participants in those activities. *Learner satisfaction* is the most common parameter the CME field currently formally assesses (perhaps except for attendance head counts or gross revenue). Learner satisfaction is typically assessed with Likert-like survey items at the conclusion of a CME activity.

Learner knowledge is the next obvious stage of assessment. This is commonly measured with pre- and/or post-tests.

Learner skill is the next stage of individual learning and can be measured by demonstration and/or observation.²

The next stage, *learner performance*, suggests learner actions *in the workplace*. Measurement of this parameter can be a major leap in complexity from that of the earlier parameters. While data sources may include the learners, they should also include data collected in the work environment rather than the classroom setting. It is typically more difficult to collect data in work environments than in classrooms or labs. Measuring learner outcomes from these different perspectives is concordant with the American Medical Association's² requirements for provision of CME in procedures training, although this approach may also be applicable to assessment of practitioners' competencies as adopted by the American Board of Medical Specialties for the purposes of recertification.⁶ Assessment strategies could use self-report of workplace behavior, on-the-job observation, a testing strat-

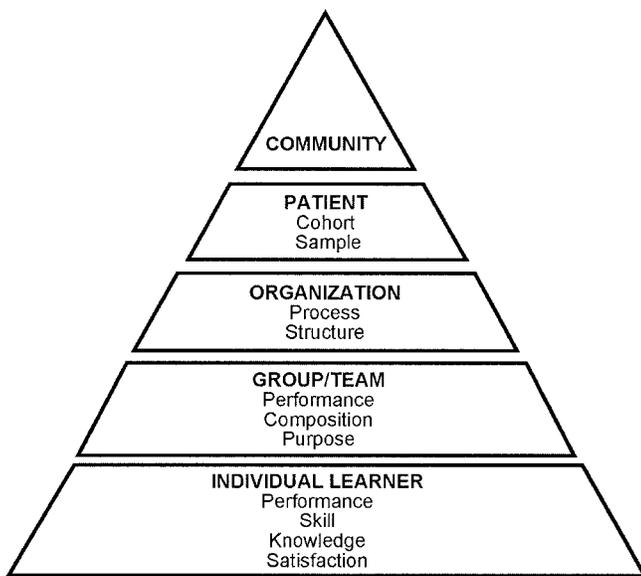


Figure 1. The model developed by the VA for categorizing educational outcomes of continuing medical education. The subcategories under the five major outcome domains are for illustration—there are other possible subcategories that are not shown.

egy that is demonstrated to correlate with clinical behavior such as responses to written vignettes,⁷ or other strategies.

Group/Team Domain

The model advances in a hierarchy from individual to group/team learning and performance. All prior levels were interested in individual participants only, but group/team learning and performance is important in this model, since interdependent professionals, sometimes referred to as teams, provide the bulk of modern health care.⁸ Even a solo physician's office requires synchrony between front and back office staff, the physician, the outside lab, radiology, managed care organizations, etc. Improving team members' individual competencies may still not lead to improved performance of the team in cases when key team functions such as information exchange or responsibility identification are not optimized. Therefore, issues such as clarity of team purpose, team composition towards that purpose, communication strategies used by the team, competence of the team, or, finally, team performance are other possible outcomes that could be assessed. Performance improvement is possible by improving team function without necessarily changing the individual members' levels of knowledge or skill. This can be accomplished, for example, by improvements in standard operating procedures or communication strategies.

Organization Domain

The organization in which the physicians, staff, and patients interact may be another domain of interest in assessing the impact of CME efforts. As originally described by Donabedian,⁴ organizations can be characterized by their structures, processes, and outcomes. However, organizational structure and process can be assessed as results of education activities. For example, educational efforts to assist in establishing ambulatory surgery centers can be assessed by whether or not such centers are established.

Data collected for clinical or other purposes are commonly assessed in health care organizations. This offers the opportunity to educators to identify measures already in place in an organization that might be applicable to the educational issue at hand. Adherence to clinical guidelines usually represents an organizational process. Organizational process measures such as vaccination rates, patient waiting times, time to next available appointment, time to delivery of clot-busting medication in MI or stroke, percentage of post-MI patients on beta blocker, and change in length of stay are a few examples of measures reflecting processes that may be important outcomes from a CME activity and may already be collected by others in the organization. Return-on-investment (ROI) assessments⁹ for education are best catego-

rized as a type of organizational process measure, as they estimate something valued by the organization, even though ROI calculations may use patient-level data.

Patient Domain

The patient domain refers to the effect of the educational intervention on patient care and/or patient health status. Measurement occurs through either patient sample studies or assessment of patient data collected for other purposes. Patient experiences are categorized as either patient sample studies or patient cohort studies. The sample studies are typically ones that review the outcomes of a fixed number of patients involved in a particular experiment or case series. For example, an educational activity that includes assessment of a series of patients treated by participants would be an example of a patient-sample outcome evaluation. This permits assessment of the direct impact on patients from an individual participant's activities. Patient-sample outcome evaluations are useful in documenting the integrity of an activity's instructional design to achieving the desired results in patient care. Such an evaluation strategy can use relatively simple tools, such as having former participants periodically submit results of limited audits of medical records.*

Patient-cohort studies will typically use analyses of data collected by an organization for other purposes, including secondary data sets such as electronic medical records, uniform hospital discharge data, or Medicare files. Such data are more likely to offer insights into organizational performance than would the results of individual participants' performances. Such outcomes studies might be used by an integrated health system in assessing the impact of clinical practice guideline implementation among its patients, or by a state medical society interested in monitoring the impact of a major CME effort dealing with a public health initiative.

It is worth noting the obvious: health care is provided one patient at a time. Thus, while individual patient experiences are important outcomes to consider in evaluating education efforts, so are the accumulated experiences of all patients. This point is emphasized because a health system should not consider its patient panel to be similar to a stock portfolio—looking at aggregate outcome data can be misleading. One important difference is that a financial planner picks a portfolio with an expectation that some stocks will be failures and others will be highly successful, with a net result of success somewhere between the two extremes. Conversely,

*Collecting, storing, and transmitting patient data must conform to privacy requirements, preferably with deidentified data, so that nobody but the practicing physician knows the identity of the patient. Studies of educational outcomes using patient data may be considered human research and should conform to local institutional review board requirements.

physicians and health care systems have the imperative to attempt maximal benefit to each patient.¹⁰

Community Domain

The last domain to be considered is the *community* domain. For this discussion, “patients” are considered to be persons who receive medical care. “Community” is defined as the broader population, with the inference that benefits from interventions with patients or from public education activities can leverage to benefit even those who have not presented for medical care. Epidemiologic data sources such as incidence and prevalence statistics, police reports, and health department reports can all provide outcomes data assessing community health status and behavior. Looking to such outcomes is consistent with the goals of many quality improvement efforts, which attempt to improve not only the health status of individuals or cohorts of patients but also that of large groups of people or entire communities. This domain will typically require assessment of large secondary data sets created through some sort of community-based sampling frame. Education related to public health initiatives, such as smoking cessation, drug use, firearms safety, seat belt use, etc., can have assessment of community health as one—perhaps the most important—outcome measure.¹¹

APPLICATION OF THE MODEL FOR A SINGLE ACTIVITY

To illustrate how these domains apply to any particular activity, we discuss the EES’s laparoscopic cholecystectomy training. This intervention took place in a number of sessions between 1993 and 1998 with the goal of establishing effective laparoscopic cholecystectomy programs at VA facilities nationwide. One particular goal was to ensure that “learning curve” issues¹² (where practitioners perform poorly, resulting in bad outcomes, on their first cases until they have adequate experience) were addressed prior to independent practice. The educational intervention had a complex design: participating VA facilities sent to the training lab a “team” of two surgeons (to help ensure local back-up and support) and an operating room nurse. Teams participated in a lab session that consisted of lectures followed by hands-on practice using anesthetized pigs. Breakout sessions were provided for the nurse participants to ensure that they were provided with appropriate information about nursing issues related to use of equipment and preoperative, perioperative, and postoperative care of such patients. Upon completion of the lab phase, participating surgeons were required to perform three cases at their home institution observed by an EES-approved highly experienced proctor who had temporary surgical privileges at that institution.

There were several outcomes domains evaluated for this

activity: From the individual learner domain, satisfaction was measured with a standard “bubble sheet” happiness survey, knowledge was assessed with post-testing upon completion of the lecture phase, and skill was assessed by expert observation in the laboratory and during the proctoring phase. The group/team performance domain was assessed in both the laboratory phase and the proctoring phase. Organization domain features were not assessed because there were organizational prerequisites for attending: Participating facilities were required to commit to obtaining needed equipment to perform laparoscopic procedures. Since having needed equipment, which is the organization structure element of assessment in the *organization* domain, was a requirement to participate, it was not assessed as an outcome. Patient domain was assessed by both sample and cohort evaluations. The small-sample assessment was used in reviewing the outcomes of the proctored cases of the participants. The patient-cohort assessment was done via comprehensive review of the VA’s national clinical database, analyzing outcomes for all cholecystectomies done system-wide. This permitted a comparison of overall VA open and laparoscopic cholecystectomy procedures with published descriptions of those from other systems, and demonstrated that while the VA did rapidly adopt laparoscopic cholecystectomy nationwide, the VA achieved the goal of systematic avoidance of learning-curve morbidity and mortality.^{13,14} No community domain was assessed as part of this activity’s evaluation strategy.

APPLICATION OF THE MODEL FOR THE OVERALL PROGRAM

The domains-based model presented here can be used to describe and plan the outcomes evaluation structure for a single activity, but it can also be used to describe the outcomes assessment strategies used by the education organization. The EES reviewed a sample of recent outcomes evaluations and categorized them using the VA’s CME Outcomes Model—these categorizations are shown in Table 1.

Table 1 permits a rapid graphic assessment of the nature of EES outcomes assessment activities, with an “X” representing the presence of evaluation of that domain level. This display permits a view of outcome-domain assessments for each specific activity as well as a summary of the variety of outcomes assessments conducted by EES as an education organization. Also of value is the graphic nature of the table itself—the focus of higher-level outcomes assessments for the organization can be graphically summarized.

DISCUSSION

The VA outcomes model has provided the EES with several benefits that may be of interest to other CME providers,

Table 1

CME Activities Categorized by Evaluation Outcomes Domains, VA Employee Education System, 1999–2001*

Activity	Individual Learner Satisfaction	Individual Learner Knowledge	Individual Learner Skill	Individual Learner Performance	Group Performance	Organization Process	Organization Structure	Patient Sample	Patient Cohort	Community
Major depressive disorder clinical practice guidelines	X								X	
Primary care implementation from "VA Care" consultation teams						X	X			
VISN8 customer satisfaction	X								X	
East Kansas customer service training	X	X		X						
Critical Leadership Institute	X						X			
Evaluation of TEMPO	X			X		X	X		X	
Compensation and pension examiner system	X	X				X	X		X	
Primedia										
Performance consulting	X	X				X	X		X	
Pressure ulcer	X	X				X	X	X	X	
Laparoscopic cholecystectomy	X	X	X		X			X	X	

*The activities listed are a sample of EES activity evaluations; others were not included because of this article's space limitations.

accrediting bodies, and others interested in results of continuing education activities. The first is that a tool is available to itemize the possible domains of outcomes that can be assessed from a typical CME activity. These domains correspond to the domains in which educational interventions can be made to affect health outcomes (individuals, groups/teams, organizations, patients, and communities). This permits clearer educational planning at the activity level, permits explicit linkage of needs with the desired results, and enables better outcomes assessment planning.

This model has also assisted the EES in assessing the entire EES CME program. A display such as Table 1 permits the organization to determine whether the intended purposes of activities are achieved. Because each activity has a different purpose, it is important that the evaluation strategy for a particular activity be relevant to that specific activity, not some abstract concept of "outcome evaluation" that the organization might otherwise feel it needs to achieve. This approach also permits a manageable method to summarize and display the variety of outcomes evaluated by an organization.

The domains proposed for assessing outcomes are also useful for other purposes. Needs assessment is one obvious area. Although there may be categories for needs assessment information that are not based on objective data, such as management directives or expert opinions, objective needs assessment data must logically be derived from learners as either individuals, teams, organizations, patients, or communities. Linking needs assessment data to outcome data is a logical connection, as the outcomes may contribute to future needs assessments.

Planning processes for activities can also include these domains to help identify the domains for which the specific interventions are targeted and the domains that are anticipated to demonstrate benefit. This can be useful in planning a multifocal CME "campaign" where different types of activities with a common purpose—but using different target audiences, instructional designs, or media types—are deployed over a specific time period.¹⁵

It is worth noting that an assumption of this model is that any one activity can be simultaneously assessed from different dimensions. This is particularly important because the attribution of benefit from an educational intervention is often difficult to confirm. Because few educational interventions are conducted in the context of a true randomized trial, the vast majority of outcomes assessments can only correlate the intervention with the desired result. The use of this model permits the demonstration of multiple correlations for different aspects of an activity, drawing upon independent data sources. This can assist in providing face validity to cause-effect inferences that might be asserted by a CME provider.

The cost and effort of assessing educational outcomes are often cited as barriers to completing such assessments. While this discussion does not focus on cost of assessment but rather on assessment structure, there are issues worth noting. Most activities initiated by the EES were initiated by “internal customers” within the VA, meaning that the data leading to the identification of the educational need were generated by those responsible for the clinical activity itself. Indeed, none of the activities cited in Table 1 was initiated by commercial support from industry; they all emerged as a result of the VA’s routine quality improvement activities, which incorporated elements of CME in their improvement strategies. The important observation is that the design, expense, and effort of initial data collection were not the responsibility of EES but of the VA client with line authority for the clinical care itself. This relationship between the CME provider and the client organization’s quality improvement activities is not a new idea,¹⁶ yet can effectively employ the described outcomes domains to ensure that baseline data are gathered in a satisfactory fashion prior to educational interventions. This represents a use of the outcome domains in developing needs assessment data. In such a relationship, the ongoing data collection for the clinical data remains the responsibility of the client and can often be accomplished using the ongoing quality improvement mechanisms and assessment that are already budgeted and in place. Such a situation is particularly common for CME interventions targeting an integrated health system, where the target audience is easily defined and access to data reflecting that target audience clinical activity is also readily available.

While the pyramid illustrating the outcomes domains (see Figure 1) is generally arranged as a hierarchy, with the type of information that is easiest to collect (individual learner participant factors) at the base ranging to the type most difficult to collect (community factors) at the top, there is a notable exception to that pattern: in integrated health systems such as the VA, the outcomes data from patient-cohort studies are often readily available. Data such as the equivalent of those in uniform hospital discharge data sets or data extracted from electronic medical records or financial databases can often be easily obtained.

The challenge in using such data is not defining or collecting it, but in analyzing it in such a way as to effectively attribute changes in performance to the particular educational intervention in a way that also takes into account the myriad other forces for change that may have also influenced the outcome. Impact studies done by the EES routinely include procedures to isolate the impact of the training from other factors.

Last, it should be observed that another sort of synergy can be achieved to reduce the cost and better distribute the responsibility for expertise in outcomes assessment—CME

providers should consider any academic affiliations that might be available to them as additional resources in doing outcomes evaluations. Schools interested in a variety of topics such as education, public health, informatics, communication, industrial/organizational psychology, and related disciplines are often eager for association with educational projects incorporating outcomes assessment, as they often need situations for their students and faculty to have experience designing and analyzing educational interventions. Assessment of the outcome domains of most interest for a given CME intervention can help focus the particular topic to help identify the particular academic field that is best represented by the intervention.

This model may also be applicable to new challenges such as the Accreditation Council for Graduate Medical Education’s (ACGME’s) identified domains of physician competency, including patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.¹⁷ These domains represent composite assessments, with each ACGME competency domain drawing upon data sources from the outcome domain identified in this model. For example, data assessing a practitioner’s patient care skills could be obtained from individual-skill performance, group performance, and small-sample patient assessments.

Another potential benefit of the use of such domains is linkage of educational mission with activity outcomes assessment efforts. The array provided in Table 1 offers a tool to compare the domains of responsibility identified in EES’s CME mission statement with the domains actually assessed by the overall program. Such an approach permits CME providers, no matter what their educational missions, to rapidly focus on the domains of outcomes that are appropriate for their organizations and to demonstrate examples where those domains are addressed.

All domains in this model may not be applicable to all CME providers. CME providers within health care systems, such as the EES, may have easier access to patient-cohort data than, say, a CME provider within a membership organization. Using this approach, any CME provider can assess the extent to which its outcomes match its educational mission.

The integrity of an organization’s outcomes efforts can then be assessed in a two-stage process, first by determining whether the domains of interest stated in the mission are appropriate, then by determining whether the assessments of those domains are congruent with the mission. Organizations can then be compared, not simply by the comprehensiveness of their outcomes-assessment efforts but by the extent to which they demonstrate concordance of the domains identified in their missions to the domains in which their outcome assessments are made.

CONCLUSION

Given the complexity of the universe of possible outcomes for CME interventions, it has been difficult for CME providers to easily plan, manage, and describe their outcomes-assessment processes. The VA Domains-based Outcomes Assessment Model was developed to meet the requirements of a large integrated health system's need to assess outcomes from educational activities. The flexibility of this approach may permit integration of educational and improvement theories into a construct that can be applied to any organization's outcomes-assessment efforts.

Although this model was presented as a mechanism for planning and assessing activities, and for assessing the outcomes strategy for the organization, the EES is in the process of using these domains to plan future outcomes-assessment strategy for the organization. Specific activity evaluations—as well as the overall evaluation strategy for the enterprise—will be planned using this structure. It is anticipated that this kind of evaluation will facilitate communications with accrediting bodies during periodic reviews as well as provide both metrics and results to be used in the EES's ongoing quality improvement efforts structured to conform to the Malcolm Baldrige criteria for performance excellence.¹⁸ The VA model provides a tool for organizational assessment that visualizes the congruence of the organization's mission, its educational activities, and its educational outcomes. This model may be of use to other CME providers and to those responsible for reviewing CME providers or their activities for accreditation or other purposes.

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