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Collaborative CME Using Web 2.0 Technologies

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Continuing medical education (CME) programs are poised to take advantage of the new technology, which allows for multidirectional exchanges, even when the participants are physically removed from one another. While, in the past, CME has often been presented as unidirectional (knowledge flowing from experts to participants), in reality, physicians commonly communicate with and learn from one another in a multidirectional fashion (see Figure 1).

Medical education can be a collaborative process from the learner's perspective, in which participants learn from both experts and one another. Indeed, every physician has *clinical pearls* that he/she imparts to others in casual conversation and during informal clinical consultations. A collaborative learning CME program could be one in which innovative technology would enable users to learn from one another in areas that are derived from their clinical practices. Such a program would most clearly have its theoretical grounding within situated learning theory. However, selected additional learning theories would be applicable, including Knowles' andragogy[1] and other cognitive theories, as well as theories about physician change. Such a collaborative program could also be combined with the American Medical Association Performance Improvement Model[2] to provide periodic objective assessment of performance in practice during the life of the educational program.

Why consider taking a collaborative educational approach to CME? Because collaborative learning:

- Fosters education that is engaging and is retained and applied to patient care
- Can promote application of best practices at the point of care
- Mimics common physician interactions and thus is particularly relevant to clinical practice
- Encourages active, rather than passive, learning
- Has a potential to create virtual communities of practice and to play an important role in the continuing professional development of participating physicians
- Supports practice-based learning and improvement that meets the educational needs of individual physicians.

The characteristics described in the last bullet point are particularly important in regard to recent changes in accreditation criteria from the Accreditation Council for Continuing Medical Education (ACCME).

New approaches to CME that involve collaborative education based on use of the next generation of

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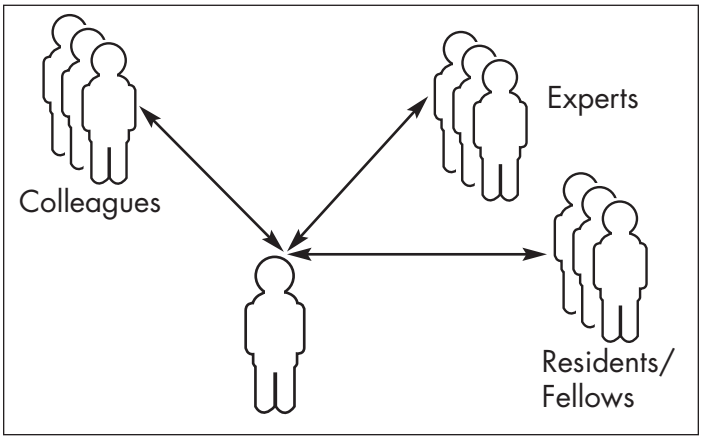
web-based technologies, dubbed *Web 2.0,* are emerging.[3–7] The original world wide web (*Web 1.0*) could be thought of as *the web as information repository*. Web 2.0 refers to the second generation of the web and can be thought of as the *collaborative web*—one that is user centric and user generated. Examples include:

- Blogs and social networking sites (eg, MySpace, LinkedIn, Facebook)
- . Sites that reorder news based on user votes (eg, Digg)
- User-generated multimedia content (eg, YouTube, Flickr, podcasting).

Over the years, several consumer technologies have migrated to the CME space, including audiotapes, CD-ROMs, and the Internet itself. Podcasting, a Web 2.0 technology, is already established as a CME delivery mechanism. An expanded use of Web 2.0 technologies is coming to CME, and it will be important to have a better understanding of how Web 2.0 and a collaborative education approach can facilitate physician learning.

One Web 2.0 technology that has particular application to CME is the *wiki*. A wiki, which was inspired by the Hawaiian term for fast (wiki wiki), refers to an online system in which all content may be developed and edited by registered users. Unlike a blog, which is only written by at most a small group of individuals, a wiki allows for thousands of people to be involved in developing its content. The most prominent wiki is Wikipedia (http://en.wikipedia.org), an online encyclopedia with nearly three million articles that are generated and maintained by a user community that is open to everyone. Because of constant review by many users, wikis tend to be self-policing, correcting inaccuracies often within minutes of erroneous content being posted. Because the informational resources of the many are far greater than those of the few, a collective knowledge base develops that can be very current and accurate. For example, wiki entries on Wikipedia tend to be frequently updated, reflecting events, such as the death of a world figure, that might have been accurately reported in the news only moments earlier.

Figure 1: The Multidirectional Flow of Physician Communication and Learning



A wiki provides transparency. Everything that is edited or created is tracked and is readily accessible via a *history tab*. This makes it easy to compare versions side by side and revert back to previous entries.

Because of a Web format called really simple syndication (RSS), people can subscribe to web-based content in order to be notified whenever new content is available. Most recent browsers support RSS, as do many applications (newsreaders) on Mac OS X, Windows and Linux. What this means for CME is that web-based content can be updated and physicians promptly notified that new information is available.

Besides wikis, a collaborative learning program can involve the use of an email listserv. Although it is not a Web 2.0 technology, strictly speaking, a listserv is a moderated email digest that recipients can read at their leisure, replying back with their own comments or questions. For example, a physician might post a clinical dilemma and ask the community for helpful suggestions. Such clinical listservs already exist, and many physicians are used to them. However, melding this approach to CME is a new concept and one that can help provide learner-driven, problem-centered content that is, perhaps, more likely to be retained and lead to changes in clinical behavior.

Because users would generate much of the content within a wiki in response to their needs, the question arises as to how such a program would comply with standard requirements for independent CME programs. In fact, although the assessment of educational needs and learning objectives may be developed initially for the group, the expectation is that they would evolve over time and become personalized for each learner over the course of the certification period. Participants would be encouraged to write content that would specifically fulfill the educational objectives, and faculty

could fill in the gaps, should any exist. Although a wiki typically involves content that is immediately posted on the web, this would not be acceptable for a CME program, even if errors were promptly detected and revised online. Instead, content intended for CME credit would first be reviewed by experts for content validation, accuracy and fair balance before being posted on the wiki. Indeed, this is no different from how most current listservs function. Listservs are generally moderated; no email postings can be included until the listserv moderator approves them. The same approach can be taken with a wiki, so that user-generated content is reviewed for accuracy and compliance with CME requirements before going live on the Internet. In this way, it can be ensured that content remains free of commercial bias and factual errors. The unique advantage of this educational approach is that it assumes constant refreshing and evolution of materials in response to the emerging needs and learning objectives of its learners/group members, as opposed to traditional non-malleable prescribed content. As such, the quality improvement model is one of this method's basic premises. Assessment in practice can readily be added to enable the provider to formally designate this type of education for a performance improvement type of CME activity.

As we consider future paradigms for CME, it is perhaps helpful to conceptualize the ideal CME program:

- Channels clinical pearls into a purposeful CME program
- Is evidence-based; puts anecdotal evidence into perspective
- Promotes measurable performance improvement
- Leverages current technology for anywhere, anytime learning
- Is longitudinal, to promote retention
- Includes a variety of educational formats, including didactic and case-based learning
- Is interactive and collaborative; facilitates dialogue among colleagues
- Takes into account physicians' recognized social networking practices and knowledge data management.

CME providers will continue to explore ways to promote individualized learning that enables physicians to put their acquired knowledge to use and enhance patient outcomes. A collaborative learning model that leverages Web 2.0 technologies has the potential for providing clinically meaningful education to physicians.

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Points for Practice

- CME may be developed using a collaborative learning model that fosters physician-to-physician interactions and joint teaching/learning.
- Web 2.0 approaches, such as wikis, can be used for collaborative learning CME programs in which participants essentially create their own CME learning experiences, and the role of the CME provider is that of facilitator.
- To ensure accuracy and fair balance, all content should be evaluated from a clinical and CME perspective before it is posted to registered physician participants.

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Implementing a Communications Plan for Stakeholders

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Everyone knows that communication is key to successful working relationships. Why then do these relationships falter? Most often, it occurs due to a failure in audience identification, content of communication, and/or method. There is a common assumption that if we meet and speak with someone there is sufficient communication. The reality is that it takes a structured communication plan to achieve optimal results. The current environment has led to the need for commercial supporters and providers to communicate the value of CME to stakeholders. In order to achieve this goal, commercial supporters and providers need the ability to communicate internally and externally. A comprehensive communication plan provides a method that can be applied to address the specific needs of your organization.

Any communication plan must begin with a common language. This language should be devoid of jargon, acronyms and other *inside information* that may not be understood by all stakeholders. Six basic elements to consider in any communication plan are:

- Purpose: Why are you communicating with the receiver? What is the goal?
- Content: What is the message to be conveyed to the receiver?
- Source: Where is the content in the communication coming from?
- Form: What should the communication look like?
- Channel: What method will be used to convey the message?
- Destination/Receiver: Who is the person or group to receive the communication?

For commercial supporters, external stakeholders include multiple audiences (eg, providers, educational partners, regulatory agencies). Their internal stakeholders also include multiple audiences (eg, senior management, therapeutic areas, medical affairs, legal, compliance). At the 2008 Alliance Annual Conference participants in one session indicated the biggest barrier to implementing a communication plan is the under-recognition of the value of CME (see Table 1).

Commercial Supporters: Communicating With External Stakeholders

The needs of the external stakeholders can be categorized by the following:

- Understanding the grant submission and approval processes
- Ability to demonstrate differentiation among peers
- Educational effectiveness
- Facility in demonstrating evidence of a quality provider/partner.

There are several barriers in meeting these needs. Communication is governed in part by compliance and other regulatory sensitivities. Time and distance often preclude the *capability* presentation. Commercial supporters vary by organization, as do provider organizations.

To meet these challenges, the commercial supporter should educate providers about their grant submission and

Table 1: What is Your Biggest Barrier to Implementing a Communication Plan?

Participant Responses	Number of Responses	Percent of Responses
Turnover	0	0
Lack of participation	1	9
Constantly changing internal policies	3	27
Under-recognition of the value of CME	4	36
Lack of funds/resources	3	27

RFP process (if applicable), various aspects of industry-independent education, and individual best practices. They should also be available as a compliant resource. Channels for external communication include, but are not limited to, use of a monthly Web-ex, speaking at various industry forums, and having a booth at the Alliance annual conference. The expected outcomes of communication with external stakeholders are mutual understanding, partnering (to the extent permitted), and support of the provision of quality, innovative, effective education.

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Commercial Supporters: Communicating With Internal Stakeholders

Even when commercial supporters understand external stakeholder needs, they may be prevented from addressing these needs by internal obstacles. An example of such a challenge is a commercial supporter that would like to send providers brochures detailing the grant process. This seemingly easy activity can be thwarted by the fact that there are decreased funds and the company may feel that sending materials to providers that directs them to the website to submit grants, only to be turned down, might not be a good message. Sometimes commercial supporters need to change their internal operations in order to work effectively with external groups.

How *do* commercial supporters communicate with internal stakeholders? First, the appropriate internal stakeholders of interest must be determined. Stakeholders can vary in organizations based on structure and process. Most commercial supporter stakeholders include members of medical, legal, senior management, sales and marketing. In essence, stakeholders include those the CME team interacts with, that are part of the process, or that the CME team believes should be aware of the value CME and the CME team provide.

In addition to an assessment of stakeholders, an assessment of the CME department needs should be included. These needs might capture additional items for messaging not obtained from stakeholders. Also, the status of existing communications with stakeholders should be assessed. Is there an existing plan or process, and is it formal or informal? (See Table 2 for session participants' responses.)

Once stakeholders have been determined, the next step is to identify and assess their specific needs. Needs assessment can be accomplished through surveys, interviews and feedback received throughout the year. Conducting a needs assessment is a great opportunity to communicate with stakeholders as well as inform them of the communication plan. The mere fact that the CME team is interested in meeting their needs is a great start to opening or increasing dialogue internally. It is important to continuously assess the needs of stakeholders as personnel, processes, or circumstances may change—leading to new needs. Monthly meetings, whether formal or informal, are great opportunities to conduct continuous assessment. Also, as part of the original survey or interview assessment, it is valuable to ask stakeholders how they would like to be updated (eg, live, email, phone) and how often (eg, daily, weekly monthly, quarterly).

As with any initiative, needs and the correlating outcomes measurement must be determined from the start. Before planning how stakeholder needs will be addressed the desired outcomes should be determined. Outcomes should be measurable and attainable, and may indicate the means by which the information will be collected.

An example of a measurable objective is: *Increase stakeholder understanding of the value of CME as measured by survey assessing comparison of rating*

Table 2: Do You Have a Formal Communication Plan for Stakeholders?

Participant Responses	Number of Responses	Percent of Responses
Yes	5	33
No	10	67

Conducting a needs assessment is a great opportunity to communicate with stakeholders as well as inform them of the communication plan.

of perceived value of CME on a 1–6 Likert scale at beginning and end of year. Measures of success need to be clear from the start. Remember, don't set sights unreasonably high. It is perfectly acceptable for the first year of the communication plan to focus on awareness, rather than behavior and attitude change, if the needs indicate that there is a lack of awareness.

Once the stakeholders, needs, and preferred update format and frequency are identified, the plan can be created. The plan should include messages, audiences, interventions and metrics. Again, continuous assessment may lead to changes in the original plan's messages and related sequelae. Changes should be expected. Therefore, flexibility should be a key aspect of the plan and the attributes of those creating and implementing the interventions.

After implementing the plan, it is essential that the results are assessed and addressed. The success of the tactics can be determined by means of feedback received by surveys or interviews (as established during the creation of the plan) and can include queries regarding how stakeholders feel about the value of CME and the communications from the department. It is crucial that stakeholders receive follow-up regarding the results of the communication plan efforts and actions to address lingering or new needs. This evidence of remaining and new needs determined from the outcomes assessment is the core of the needs that determine the focus of the subsequent year's communication plan.

It is crucial that stakeholders receive follow-up regarding the results of the communication plan efforts and actions to address lingering or new needs.

Last, but certainly not least, promote communication success! No one will know that the communication plan has been a success unless it is advertised. Providing a summary of the objectives, metrics and outcomes to all internal stakeholders will increase their view that their internal CME team is fully competent in operations, a listening and action-oriented advocate for their needs, competent to manage CME funds, and able to communicate effectively.

Points for Practice

- Developing a structured communication plan is the first step in building a successful working relationship.
- The communication plan should include messages, audiences, interventions and metrics.
- The success of the communication plan can be determined by assessing feedback from the stakeholders.

Reality CME

Your Guide to Which Way is Up!

Question

The course director for one of our annual CME conferences just informed our CME office that a medical device company will be providing in-kind support for one of the conference skills workshops. The commercial interest will loan the medical equipment and will send technicians to assist the workshop faculty. Is this okay?

Answer

A commercial interest, such as a medical device company, can certainly loan medical equipment to support a CME course. As you have indicated, relative to the equipment loan, this is *in-kind* support. In-kind support must still fully comply with the ACCME Standards for Commercial Support. In preparing the written agreement, clearly delineate the specifics of the in-kind support (eg, number and type of equipment, dates) and include the estimated fair market value (dollar amount) of the equipment loan. Another consideration for the agreement is the inclusion of a *hold harmless* clause relative to the equipment loan and use (eg, provider not responsible for loss, injury . . .). Check with your legal department for guidance on this issue.

The red flag in your question is the in-kind provision of the technicians. Employees of commercial interests generally have conflicts of interest (ie, they have sales and marketing responsibilities) that may or may not be able to be resolved. I offer that anyone staffing a work station is in a position to control (or at least influence) the content of CME. I also offer that technicians employed, either full time or on an ad hoc basis, by a commercial interest might have a hard time being objective about the commercial interest's products. My suggestions:

- If workshop faculty anticipate needing assistance from technicians during the workshop, then fulfillment of this teaching needs to be considered the sole responsibility of the CME provider.
- Treat *workshop faculty assistants* just like any other CME faculty.
  - — Require their disclosures.
  - — Identify and resolve their conflicts of interest (eg, instruct the technicians in writing that they cannot offer advice or opinion about the equipment, and then assign conference planners to monitor the interactions between the technicians and the learners).
  - — Guide them with your standard faculty instructions.

Bottom line: Draw a clear line between education and promotion, and be certain that your CME course directors understand how definitively this line must be drawn.

By Debra L. Gist, MPH, FACME, Assistant Editor

Calendar of Events

October 2-3, 2008
The National Institute for Quality Improvement and Education (NIQIE)
Transforming Continuing Medical Education to Continuous Performance Improvement
Renaissance M Street, Washington DC
ndavis@niqie.org or www.niqie.org

October 21–23, 2008
National Task Force on CME Provider/Industry Collaboration
19th Annual Conference
Baltimore Marriott Waterfront
Baltimore, MD
www.ama-assn.org/go/cmetaskforce

January 28–31, 2009
Alliance for Continuing Medical Education
34th Annual Conference
Elevating the Profession and Practice of Continuing Medical Education: Professional Challenges in the 21st Century
San Francisco Marriott®, San Francisco, CA
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