Clinical practice guidelines and the translation of knowledge: the science of continuing medical education

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The article by Ricardo Pérez-Cuevas and colleagues[1] of the Mexican Institute of Social Security (page 1295) advances our understanding of the continuing education of physicians and thus its contribution to health care and health care outcomes. Despite some limitations, explored below, it does so in several important ways.

First, the article provides a more complex and dynamic definition of continuing medical education (CME) than the teacher-driven vision pictured by most physicians when they see this common abbreviation. That narrow picture has gradually given way to a broader definition. CME, it is now widely recognized, comprises a variety of tools well beyond the traditional didactic lecture delivered in a hotel conference room. This broader concept is explored in the article by Pérez-Cuevas and colleagues and in many others;[2] it includes, among other methods, interactive workshops, small group sessions, reminders and audit feedback, individualized tutorials and peer review. Further, the definition employed in the Pérez-Cuevas study includes an action orientation often lacking in traditional CME. For example, the authors use the term "intervention," with its attendant notion of altering health service delivery and outcomes.

Second, the article reflects remarkable integration, at several levels. The educational study was funded by the health care agency itself, which represents at least enlightened self-interest or, perhaps at most, an understanding of the role that well-constructed CME can play in health care delivery. The CME process described by Pérez-Cuevas and colleagues included both the development and the implementation of clinical practice guidelines, along with a recognition of the problems inherent in the adoption of such guidelines by physicians.[3] The educational intervention was integrated directly into the practice setting, both physically and temporally; it was not a stand-alone event held at a distant, nonpractice location. Finally, the complex educational intervention exemplified the best form of knowledge translation (the integration of knowledge into practice), moving the practitioner from awareness of new guidelines to agreement with the guidelines and finally to adoption and adherence, following well-defined[4] patterns of adoption and based on principles of adult learning applied to CME.[5]

Third, the authors have pushed the measurement of CME outcomes well along the evaluation continuum. The

continuing education literature is replete with useful but limited references to the indicator of CME effectiveness that is easiest to measure — the happiness index.[6] In contrast, using a model that spans a continuum of outcomes developed by Dixon,[7] Pérez-Cuevas and colleagues appear to be committed to studying physician performance measures and health care outcomes in patients with acute respiratory infections and diabetes mellitus.

Fourth, to their considerable credit, the authors have built on self-generated and (to a certain extent) others' research findings, constructing an understanding of what has worked in other instances, putting theories into place and testing them, and establishing and moving forward a research agenda matched to the clinical imperatives of the Mexican health care environment. For example, in the early 1990s, they and others began studying methods to change physician behaviour in the management of acute diarrhea and respiratory infection. They started at the local level, then moved to district-wide and state-wide interventions, basing their methods on the findings of interventions in similar content areas. In addition, they have studied the effect of hands-on training in workshops, adding and assessing the effects of peer groups and more individualized strategies over time.

This is the science of CME: creating research questions (Which educational interventions work in which situations? What factors promote the adoption of guidelines? What factors inhibit their adoption? What type of physician learning happens at what stages?), developing strategies to answer them, and using qualitative and quantitative methods to do so. This science thus builds a corpus of knowledge in this important yet neglected subject area, creating and adhering to a defined research agenda.

By following a similar path, the creators of clinical practice guidelines have advanced our understanding of the manner in which such guidelines are best developed.[8] Unfortunately, our understanding of guidelines implementation, clearly parallel to and part of the process of CME, is lacking. This paper advances that understanding.

Despite its achievements, the reported study has some weaknesses. It was of course a pilot study; a randomized controlled trial might elucidate more of the environmental forces at work in these physicians' lives (for example, what other interventions occurred concurrently?). Qualitative methods (such as focus groups and individualized physician interviews) to elicit physicians' perceptions of the intervention would have added to our understanding of physician learning and change. Because it was a pilot study, the authors can only allude to outcomes. Finally, perhaps most seriously, the authors seem unaware of a very large literature base in CME. Mostly fugitive and difficult to retrieve, much of it resides in the Research and Development Resource Base in Continuing Medical Education,[9] supported by the Alliance for Continuing Medical Education, the Society for Academic Continuing Medical Education and the Royal College of Physicians and Surgeons of Canada.

Finally, although many questions are left unanswered, this study is a step toward understanding (and an elegant example of) the translation of evidence-based knowledge into practice. This may be the most important message to take away from this article, given that Mexico is not the only country where a gap is evident between what we ought to be doing in practice and what we are doing. Lessons learned there — products of the science of CME — may also be applied here.

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