



CME Needs Assessment

Using Standardized Patients

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Headache is a common and challenging symptom presenting to family physicians in their daily practices. Although this symptom is regarded as relatively nonspecific, the range of conditions that can present with headache is so varied that excellent clinical skills, history taking and examination are imperative for accurate diagnosis and initiating appropriate therapy. Recognizing the clinical challenges associated with headache, our study at the University of Alberta set out to obtain objective evidence about family physicians' needs for a CME program on headache. We chose to use standardized patients in the study. Another goal in gathering this information was to enhance the physicians clinical practice skills. We hoped it also would serve as a

useful opportunity to increase our experience with this type of needs assessment.

Method

An advisory committee was established consisting of family physicians, neurologists and representatives of CME. A family physician and a neurologist developed six common clinical headache scenarios, based upon the importance of these conditions as perceived by the advisory committee. These clinical scenarios consisted of:

- Post motor vehicle accident headache (whiplash);
- "Worst headache ever" (subarachnoid hemorrhage);

CME Needs Assessment

- Tension headaches;
- Trigeminal neuralgia;
- Hemicranial migraine; and
- Rebound headache (medication withdrawal).

Twelve experienced actors, who were validated in the portrayal of standardized patients for the Licentiate of the Medical Council of Canada exam, were recruited for the evaluation phase. In some scenarios, the actors were trained not only to give an appropriate history, but also to portray physical signs when relevant. Specific marking proforma, based on specialists' opinions of best practice, were designed to evaluate physician responses according to a pre-determined protocol assigning points. There was no negative marking. Anonymity was determined by assigning each physician a code number known only by the participant and not by the assessors. Standardized patients were trained to evaluate the physicians' performance, using an 18-point, yes/no questionnaire (Table 1).

A maximum of 20 minutes consulting time was allowed for each physician/patient interaction. Physicians were briefed beforehand and asked to conduct the interview and examination as if they were in their own office. They were requested to pay particular attention when responding to the following five questions:

- What are the most important clinical characteristics of this patient's headaches?
- What are the important positive and negative diagnostic features in the history and examination?
- What is the most likely diagnosis and differential diagnosis?
- What investigations and/or treatment would you recommend?
- How would you counsel this patient?

Physicians attended on the standardized patients in random order over a period of two days. Physicians self-registered their response to each

clinical question for analysis by the program committee. The patients recorded the physicians' communication skills. Following the evaluation phase, a debriefing session was conducted with the physicians to allow for anonymous feedback regarding their performance. The debriefing also provided organizers with feedback and evaluation of the process.

Summary

CME Needs Assessment Using Standardized Patients

- **Objective:** To undertake a needs assessment of primary-care physicians for a CME program on headache.
- **Design:** Assessment of clinical needs using standardized patients representing six different common headache scenarios.
- **Setting:** Hospital clinic setting at University Hospital, Edmonton, Alberta, Canada.
- **Participants:** A convenience sample of 18 family physicians consulted on each of the six standardized patients, resulting in 102 patient-physician encounters available for analysis.
- **Outcome Measures:** Physicians were assessed on diagnosis, clinical management and communication skills, using a predetermined protocol assigning points.



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CME Needs Assessment

Results

Following the evaluation phase of the process, 102 physician/patient encounters were available for analysis (two physicians attended on only three of the six standardized patients). Mean physician scores, as assessed by the predetermined protocol assigning points, ranged from 44% to 76% (Figure 1). Ten of the 18 physicians attained a mean score of > 60% and four physicians scored below 50%. Of the 102 encounters, 23% resulted in an incorrect diagnosis (scenario A = 3, scenario B = 6, scenario C = 1, scenario D = 2, scenario E = 6, scenario F = 6). When the overall diagnosis and management of the clinical scenarios was evaluated, scores ranged from 35.6% to 68.8% with considerable ranges (Table 2). These results suggested that, in addition to a relatively high percentage of incorrect diagnoses, many aspects of management were also suboptimal. Physicians most accurately managed the patients with worst headache ever (subarachnoid hemorrhage) and tension headaches. Rebound headaches (medication withdrawal) were the least effectively managed by the participants.

Counseling and communication skills of the participating physicians, as assessed by the standardized patients, were separately determined according to an 18-point yes/no format. Performance was deemed to be inadequate with a score of < 13:18 (70%) by consensus of the committee. These results were then compared with the clinical evaluation

Table 1

Patient Survey: Yes/No Answers

Physician ID #: _____ Patient ID #: _____

1. Did your doctor:
 - Explain your illness or injury to you thoroughly?
 - Adequately explain your treatment choices?
 - Explain your problem and how to avoid it in the future?
 - Explain when to return?
 - Explain how and when to take your medicine?
 - Tell you of any side effects of the medicine?
 - Spend enough time with you?
 - Show interest in your problems?
 - Ask details about your background?
 - Listen to you carefully?
 - Answer your questions well?
 - Examine you appropriately for your problems?
 - Treat you with respect?
 - Treat you in a caring manner?
 - Help you with your fears and worries?
 - Talk to you about your treatment plans?
2. Would you go back to this doctor?
3. Would you send a friend or family member to this doctor?

scores. Ten of the physicians performed adequately in each scenario (mean score > 70% at each scenario). Five physicians performed inadequately in one of the six scenarios, but still managed a mean score of > 80%. Three physicians, however, demonstrated a consistent deficiency in the area of counseling and communication skills, performing inadequately in > 2 scenarios. When the physician case management scores were compared to the communication and counseling scores, no consistent rela-

CME Needs Assessment

Table 2

Mean Scores (Ranges) by Clinical Scenario

• Post MVA accident headache Whiplash	54.4% (0 to 84)
• “Worst headache ever” Subarachnoid hemorrhage	68.8% (31 to 83)
• Tension headaches	67.6% (8 to 97)
• Trigeminal neuralgia	57.2% (0 to 90)
• Hemicranial migraine	62.3% (19 to 100)
• Rebound headache (medication related)	35.6% (0 to 75)

MVA = motor vehicle accident

relationship existed between them (Figure 2). Therefore, on many occasions, the physicians' counseling and communication skills were considered to be adequate by the standardized patient, despite poor medical management of the scenario and *vice versa*.

Each physician was presented with his/her performance results anonymously. The physicians were invited to comment on the value of the educational exercise and perceived benefit/accuracy of the individual results. Although, a specific analysis was not possible, the feedback received indicated that the results generally reflected the physicians' own perceived needs.

Discussion

We were encouraged by responses from CME participants to recent changes in the move away from traditional to more behavioral CME interventions. These, however, require more attention in determining specific consumer needs and the development of appropriate objectives and subsequent problem-based formats. Consequently, we elected to undertake this needs assessment using standardized

patients in an office setting to best imitate routine day-to-day practice. This type of needs assessment is generally beyond the resources of many of those who develop CME programs, but is considered to be more objective than questionnaires and case-recall scenarios. Our previous experience with this type of format in rheumatology and osteoporosis has proven it to be a valuable mechanism by which information can be obtained to develop objectives and structure an appropriate CME intervention with correct format and content.^{1,2} Furthermore, there is increasing medical education literature to support this type of evaluation.³⁻⁸

In this needs assessment, we were able to identify some important specific and general needs for our future program development. The specific needs of individuals were obtained by evaluating individual competencies with standardized patients. Participants obtained feedback as to their results and their own deficiencies through the anonymous evaluation phase following the needs assessment program. More general needs were obtained by pooling the individual data, and this demonstrated some specific areas in the assessment of headache that needed to be addressed. In particular, although the “worst headache ever” and “tension headache” scenarios were well dealt with overall (despite some physicians missing the diagnosis), the other scenarios identified group deficiencies, particularly in the management of the patient with rebound headaches. The information obtained, therefore, will be useful in developing problem-based/case-based small group learning activities for future CME events. Individual and group needs as they relate to communication and counseling skills were also identified. Most physician participants communicated adequately, although there was a consistent problem

CME Needs Assessment

in three of the participants, who, as a result of this program, were alerted to the need to address this issue. The study showed a poor correlation between the physicians' clinical skills and management of the headache scenarios, and their communication and counseling skills, suggesting that these may be independent variables in the overall management of cases with headache in their practice.⁹⁻¹⁰

Although we are encouraged by the results of this project in assisting us to develop future CME programs, it is recognized

that there are some limitations to this approach. In particular, the method used in this study assessed competence (test situation), rather than performance (daily practice) and has its own limitations, which could only be addressed through a more rigorous evaluation. Such evaluation was beyond the scope of this study, due to time and financial constraints. This

form of needs assessment is time and resource expensive and is, therefore, beyond the realms of routine CME program development. Nonetheless, we believe the process and information gathered from this project may be of value to others planning CME programs on a variety of clinical issues, but who do not have the opportunity to undertake such

Figure 1

Mean Score for Six Patients Per Physician

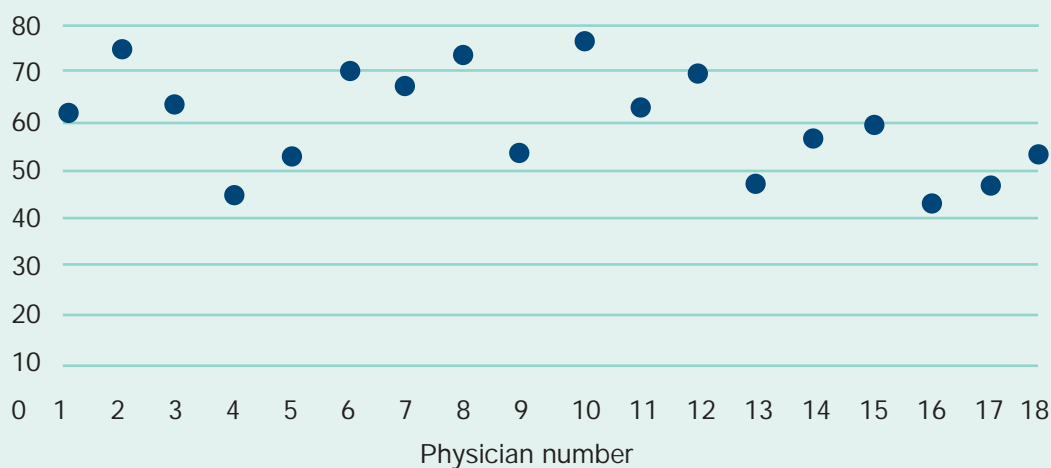
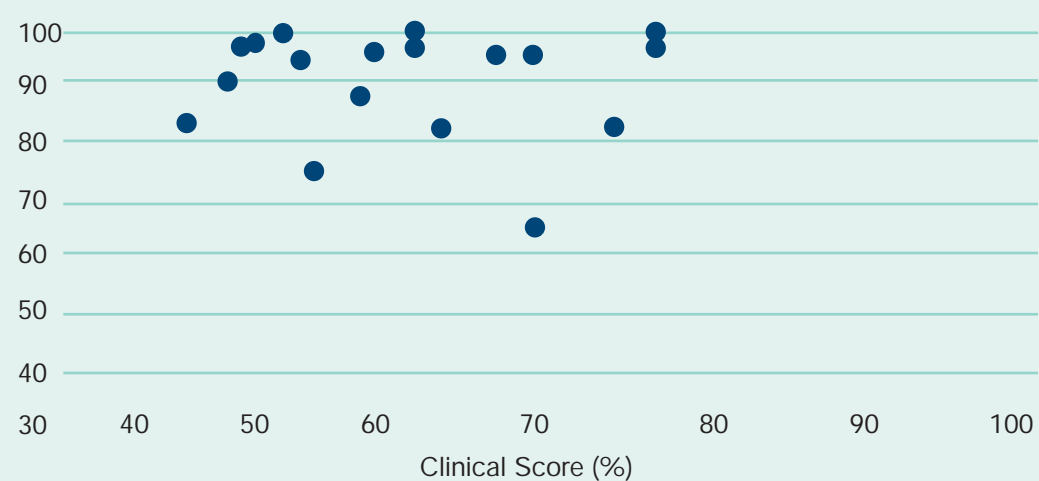


Figure 2

Communication Scores



in-depth needs assessment. The sample size of our participating physicians was small and of convenience. It could, therefore, be argued that the results obtained cannot be generalized for wider use. We feel, however, that the common and relatively simple nature of the scenarios developed, and the fact that our physicians represented a motivated group by virtue of their willingness to participate, indicates our results may be generalized to reflect other groups of family physicians. This exercise was valuable because the program allowed physicians to receive anonymous feedback about their personal performance, which constitutes a form of CME in itself.

In summary, this project has identified individual and group needs in the management of patients presenting with headache, which will allow for the development of specific CME interventions to help physicians in their personal professional development. The use of standardized patients, despite some limitations, represents an effective way of obtaining objective need assessment in this and other areas of clinical medicine. [CME](#)

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