Use of Uniform Outcomes Methodologies to Measure Clinical Impact of Large-Scale Continuing Medical Education Initiatives

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ABSTRACT

Background: The purpose of this discussion is to describe the benefits of a uniform approach to measuring clinical outcomes and to report on the outcomes results for a sample of live Continuing Medical Education (CME) sessions. Demonstrating measurable and meaningful outcomes in physician knowledge and practice is an extremely important opportunity for providers of CME. Since 2002, Pri-Med has been using a wide variety of uniform tools to measure outcomes, including session and speaker evaluation forms, question-and-answer cards, interactive audience response data, and control/participant long-term knowledge retention instruments. The data collected is then analyzed univariately and multivariately (eg, regression). However, the power of this outcomes measurement is the ability to benchmark and compare results against a normative database of previous activities. Outcomes are evaluated from an absolute and comparative basis by the Pri-Med Outcomes Advisory Board to provide historical trends and future directions for educational programs that address knowledge gaps among physicians.

Method: In 2005, the Pri-Med Outcomes Study evaluated the clinical outcomes for a sample of 893 live CME sessions, across 35,452 clinicians who completed the pre-education assessment and 19,511 clinicians who completed the post-education assessment. The sessions evaluated covered 48 disease states and were conducted in 49 cities in the United States. The objectives of the outcomes study were to gauge the effectiveness of each session’s ability to enhance attendees’ knowledge and understanding of the clinical area presented by measuring a change in 3 areas, referred to here as metrics: adherence to guideline; confidence in treatment; and knowledge gained. At the end of each session, evaluation data and qualitative feedback were collected via an on-site evaluation form distributed to participants. In addition, pre- and 6-week post-education measurement tools were administered via e-mail to pre-registered and on-site and verified session attendees. The pre-education assessment can be defined as the “control,” “baseline,” or those clinicians that had registered for the session but had not yet been exposed to the education. The post-education assessment can be defined as the “participant,” “test” group, or those who attended the session and had been exposed to the education. Pre- and post-education results were analyzed for each individual session using Pri-Med’s proprietary Educational Impact Index—a cumulative measure of the 3 leading outcomes metrics at a 95% significance level (P ≤ .05).

Results: Up to 6 weeks after each program, 99% of respondents reported having used the education obtained specifically to change or refine their approach to patient care. There was a significant increase in the Educational Impact Index (EII) calculated for all disease states measured. Specifically, the overall EII increased by 10%, from a score of 1.55 (pre-education) to 1.70 (post-education). Compared to the pre-education baseline results, post-education surveys scores indicated a 12% increase in adherence to guidelines, an 11% increase in confidence in treatment, and a 17% increase in knowledge (P ≤ .05).

Conclusions: Implementing a system-wide approach for measuring outcomes provides a foundation from which to assess persistent learning across distinct physician profiles and topic areas. This leads to more effective, targeted education, by identifying clinician knowledge gaps and enabling a roadmap for future educational programs. The Pri-Med Outcomes Study demonstrates the benefits of using uniform measurement tools across programs to document the clinical impact of each CME initiative. These uniform measurement tools can be applied for ongoing outcomes assessments as well as any custom outcomes studies conducted on behalf of CME supporters. In 2006, Pri-Med has applied the learning and experience from 4+ years of measuring live outcomes activities to develop measurement tools for both online and print as well as for multi-faceted, multi-format CME curricula.

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INTRODUCTION

Demonstrating measurable and meaningful outcomes in physician knowledge and practice is an extremely important opportunity for providers of Continuing Medical Education (CME), particularly as they relate to clinical behaviors and patient care. Increasing interest in measuring meaningful CME outcomes, as they impact or affect clinical practices, stems from a number of factors besides the obvious, including using outcomes results to refine existing educational programs. First, there is an expectation that CME providers can document the benefits and value of their programs by demonstrating a “return on educational investment” [1]. Second, CME providers strive to better understand how their educational content and specific learning objectives facilitate physician behavior modification, increasing the likelihood for improved patient care.

Until recently, the Accreditation Council for Continuing Medical Education (ACCME) requires CME providers to “measure the effectiveness of CME activity in meeting the identified educational need in terms of satisfaction, knowledge, or skills” [2]—levels 1 through 3 of the American Medical Association (AMA) CME outcomes model, which is based on the Kirkpatrick Outcomes model [3] (Table 1). The ACCME released in September 2006 updated accreditation criteria that now require providers to generate activities and/or educational interventions that underline professional practice gaps of their learners. These include change in competence, performance, or patient outcome. Historically, most CME providers have evaluated their programs using standard on-site tools that provide basic measurements of an activity in terms of the first 3 levels of outcomes defined by the AMA [4]. These insights helped CME providers to evaluate immediate learning from an individual activity but not necessarily to measure persistent or retained knowledge transfer, which may then establish a foundation for a practitioner to change behavior. Pri-Med, therefore, made uniform its outcomes methodology to evaluate its CME programs against the AMA outcomes levels 1 through 4, including the assessment of changes in enabling better practice choices (Table 1). This article reports on how Pri-Med conducted its outcome study and presents data collected around live educational activities for primary care physicians in 2005.

MATERIALS AND METHODS

In 2005, the Pri-Med Outcomes study evaluated the effectiveness of 893 live CME sessions, presented at the Pri-Med Updates programs for primary care clinicians. The Pri-Med Updates are 2-day meetings which focus on clinically relevant practice and patient-care issues. Each meeting covers 12 to 13 distinct clinical conditions through evidence-based lectures and interactive, case-based discussions presented by nationally recognized speakers. Through 2005, the sessions included in the study covered 48 disease states and were conducted in 49 cities across the United States.

The objectives of the Outcomes study were to gauge the effectiveness of each session’s ability to enhance attendees’ knowledge and understanding of the clinical area presented by measuring a change in 3 areas, referred to here as metrics: adherence to guideline (ability to incorporate a guideline, criterion or standard of care into clinical practice); confidence in treatment (confidence in treating the specific patient case scenario presented in the survey instrument); and knowledge gained (understanding of a critical element covered in the educational session). The Outcomes survey comprises 3 metrics: assertion relative to adherence to guidelines or standard of care; confidence in treatment in response to a case-based vignette; a knowledge response in terms of the critical care question.

At the end of each session, evaluation data, qualitative feedback, and interactive audience response data were collected from clinicians on site. In addition, pre-registered and verified session attendees were administered measurement tools before the session and 6 weeks post-education. The measurement tools were designed by clinical editors with specialized training in writing medical questions and reflected the critical elements of the corresponding session content.

Pre-education measurement surveys served as controls and were sent via e-mail to participants 2 weeks before each live event. Post-education surveys were sent

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**Table 1. American Medical Association Levels of an Outcomes-Based CME Evaluation Model**

<table>
<thead>
<tr>
<th>Level</th>
<th>Outcome</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Participation</td>
<td>The number of physicians and others who registered and attended.</td>
</tr>
<tr>
<td>2</td>
<td>Satisfaction</td>
<td>The degree to which the expectations of the participants about the setting and delivery of the CME activity were met.</td>
</tr>
<tr>
<td>3</td>
<td>Learning</td>
<td>Changes in the knowledge, skills, and/or attitudes of the participants; the development of competence.</td>
</tr>
<tr>
<td>4</td>
<td>Performance</td>
<td>Changes in practice performance as a result of the application of what was learned.</td>
</tr>
<tr>
<td>5</td>
<td>Patient health</td>
<td>Changes in the health status of patients due to changes in practice behavior.</td>
</tr>
<tr>
<td>6</td>
<td>Population health</td>
<td>Changes in the health status of a population of patients due to changes in practice behavior.</td>
</tr>
</tbody>
</table>

GOODRICH AND SELIGMAN

Adherence to Guideline
For each clinical criterion, please indicate how often you incorporate this criterion into your practice. [Apply JNC 7 guidelines to diagnose and manage elevated blood pressure.] (7 pt scale)

Confidence in Treatment (Patient Case)
Patient: 54 yo male with office job
Presenting Complaint: Had BP checked at local pharmacy and was told BP elevated. No complaints
Past Medical History: Overweight
Physical Exam: BP=156/84 mm Hg, repeated twice, HR=82; HT: 70” WT: 195 lbs BMI: 28; HEENT: No retinopathy; neck supple, no JVD or bruits; COR: RRR, no c/m/r; Lungs: CTA; Abd: Soft, NT, no HSM
Labs Obtained at This Visit: CBC WNL; FBG=92; TC=190 mg/dL; LDL-C=120 mg/dL; HDL-C=40 mg/dL; HbA1c=6.5
Current Medications: None

How confident would you feel treating this patient for this condition? (7 pt scale)

- Pre
- Post

Hypertension (Avg. # of Patients/Wk. = 14)
Adherence to Guideline: 77% to 91% (+18%* increase)
Confidence in Treatment: 77% to 81% (+5% increase)

Knowledge Gained
Although there is evidence that the lower the blood pressure, the better, according to JNC7 guidelines, goal blood pressure for patients without diabetes or chronic kidney disease is less than:

<table>
<thead>
<tr>
<th>Optimal response</th>
<th>Pre-Education (%)</th>
<th>Post-Education (%)</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>140/90 mm Hg</td>
<td>36</td>
<td>43</td>
<td>+19</td>
</tr>
<tr>
<td>160/90 mm Hg</td>
<td>61</td>
<td>56</td>
<td>-8</td>
</tr>
<tr>
<td>130/80 mm Hg</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>120/80 mm Hg</td>
<td>25</td>
<td>19</td>
<td>-24</td>
</tr>
<tr>
<td>Unsure</td>
<td>3</td>
<td>2</td>
<td>-33</td>
</tr>
</tbody>
</table>

Figure 1. Enhanced competency for clinicians attending a 2005 Pri-Med Updates educational session on hypertension. Asterisk (*) indicates a statistically significant change from pre-education to post-education, at ≥95% confidence level; P ≤ .05. Final results source: Pri-Med Updates 2005 (Orlando, Columbus, Portland, and Milwaukee); Pre N = 161, Post N = 84.

to participants via e-mail 4 to 6 weeks after each session. Pre- and post-education survey questions were virtually identical to allow for effective comparisons. Figures 1 and 2 show examples of the measurement instruments.

In 2005, control e-mail surveys were completed by 35,452 participants. Post-education e-mail surveys were completed by 19,511 attendees.

The percent change between the pre- and post-education metric was calculated using the formula: post test score – pre test score/pre test score. The results were later analyzed using Pri-Med’s proprietary Educational Impact Index. The Index is a cumulative measure of all 3 outcomes metrics (across disease states or for a specific disease state being evaluated): adherence to guidelines (top 2 box), confidence in treatment (top 2 box), and knowledge gained (correct response). The 3 responses were given equal weight in the index—1 point each. The total score is then divided by the number of respondents/participants in the analysis. Therefore the index range for any one cohort is 0 to 3 points. Statistical significance was set at the 95% confidence level (P ≤ .05).
The data were analyzed by a number of key variables: disease state, geography, practice behaviors (patients treated per week, hours practicing per week, number of years in practice), and practice demographics (degree, specialty, practice type, patient population).

Study results were reviewed by Pri-Med's Outcomes Advisory Board, which includes 10 clinical editors who hold varying degrees, including PharmD, PhD, and NPs; 4 research analysts; the vice president of compliance and accreditation; and a physician from the Harvard Medical School faculty who also serves on the Pri-Med Medical Advisory Board.

**RESULTS**

Table 2 indicates the respondent demographics for the Pri-Med Outcomes Study, including specialty, practice type, years in practice, hours per week, and region. Notably, specialists are known to attend a Pri-Med Updates program with educational content geared toward primary care practitioners because they often encounter the clinical topics covered in these sessions in their practices.

Results of the study demonstrated that up to 6 weeks after each program 99% of respondents report having used the education obtained specifically to change or refine their approach to patient care.
There was a statistically significant increase in the Educational Impact Index (EII) calculated for all disease states measured in 2005. Specifically, the overall EII increased by 10%, from 1.55 (pre-education) to 1.70 (post-education). Compared to the pre-education baseline results, post-education survey scores indicated a 12% increase in adherence to guidelines, an 11% increase in confidence in treatment, and a 17% increase in knowledge.

The significant increase in the EII was substantial across all major specialties for the disease states evaluated. Higher increases can be seen, however, for specialists who are less apt to treat some of the primary care conditions presented; these specialists have lower baseline (pre-education) scores and therefore greater opportunity to show movement in the EII. Specifically, the EII increased 34% among oncology specialists, 22% among pediatric specialists, 16% among cardiology specialists, 15% among geriatric specialists, 14% among obstetric/gynecologic specialists, 11% among ambulatory care specialists, 11% among family practice PCPs, 11% among general practitioners, and 7% among internal medicine PCPs.

When calculated by region, the EII increased across all disease states, among clinicians from all regions of the United States. Specifically, EII increased 9% among clinicians practicing in the South, 8% among clinicians from the Midwest, 12% among clinicians from the West, 7% among clinicians in the East, 12% among clinicians from the Mid-Atlantic states, and 13% among those in the Southwest. Baseline EII was lowest (1.47) among the clinicians practicing in the Mid-Atlantic states, but this score increased significantly to 1.64 after the education across all disease states.

When calculated by majority patient population seen, EII increased significantly among all clinician groups (11% for general/all patient types; 9% for children aged <25 years; and 9% for patients aged 65 years or older), with the greatest increase (22%) among physicians who treat “adults only” in their practice.

There was an overall trend in pre- and post-education scores based on the number of hours per week clinicians worked. Specifically, less active clinicians had lower pre- and post-education EII scores overall compared to their more active, full-time practicing counterparts: 1.45 for pre-education EII and 1.60 for post-education EII (a 10% increase) for those practicing fewer than 30 hours per week; 1.53 pre-education EII and 1.71 post-education EII (a 12% increase) for clinicians logging 31 to 40 hours per week; and 1.61 pre-education EII and 1.78 post-education EII (a 10% increase) for clinicians who put in more than 40 hours per week.

Table 3 shows significant increases for all 3 metrics across a sample of conditions measured: allergy, endocannabinoid system, gastroesophageal reflux disease/peptic ulcer, mania/generalized anxiety disorder, migraine, sleep disorders, and stress urinary incontinence.
Specific results for one hypertension session presented at Pri-Med in 4 cities in 2005 show that even for a frequently treated condition, physicians have an opportunity to further enhance their learning. Hypertension ranked as one of the most common conditions seen by PCPs, an average of 14 patients per week. As Figure 1 shows, the physicians may think that they’re knowledgeable in this area, purporting high confidence scores for treating the patient presenting (77% baseline in the pre-educational assessment), but the activity was able to promote a greater acceptance of the JNC-7 guidelines (18% increase) and enhanced knowledge (19% increase) of the blood pressure for patients without diabetes or chronic kidney disease. The clinical effectiveness of the session

<table>
<thead>
<tr>
<th>Disease State</th>
<th>Base Sample Size</th>
<th>Adherence to Guideline, %</th>
<th>Confidence in Treatment, %</th>
<th>Knowledge Gained, %</th>
<th>Patients Seen per Week with Condition, avg no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergy</td>
<td></td>
<td></td>
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<tr>
<td>Pre-education</td>
<td>1500</td>
<td>57</td>
<td>82</td>
<td>68</td>
<td>10</td>
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<tr>
<td>Post-education</td>
<td>785</td>
<td>73</td>
<td>85</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>% Change</td>
<td></td>
<td>28*</td>
<td>4</td>
<td>13*</td>
<td></td>
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<tr>
<td>Endocannabinoid system</td>
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<td>1022</td>
<td>38</td>
<td>68</td>
<td>39</td>
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<tr>
<td>Post-education</td>
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<td>56</td>
<td>73</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>% Change</td>
<td></td>
<td>47*</td>
<td>7*</td>
<td>51*</td>
<td></td>
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<tr>
<td>Gastro. reflux disease/peptic ulcer</td>
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<tr>
<td>Pre-education</td>
<td>2096</td>
<td>69</td>
<td>66</td>
<td>40</td>
<td>10</td>
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<td>1145</td>
<td>78</td>
<td>77</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>% Change</td>
<td></td>
<td>13*</td>
<td>17*</td>
<td>38*</td>
<td></td>
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<tr>
<td>Mania/generalized anxiety disorder</td>
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<td>Pre-education</td>
<td>1310</td>
<td>36</td>
<td>35</td>
<td>49</td>
<td>3</td>
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<tr>
<td>Post-education</td>
<td>712</td>
<td>52</td>
<td>46</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>% Change</td>
<td></td>
<td>44*</td>
<td>31*</td>
<td>22*</td>
<td></td>
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<tr>
<td>Migraine</td>
<td></td>
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<tr>
<td>Pre-education</td>
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<td>64</td>
<td>55</td>
<td>30</td>
<td>5</td>
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<tr>
<td>Post-education</td>
<td>554</td>
<td>69</td>
<td>67</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>% Change</td>
<td></td>
<td>8</td>
<td>22*</td>
<td>43*</td>
<td></td>
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<tr>
<td>Sleep disorders</td>
<td></td>
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<td></td>
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<tr>
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<td>1663</td>
<td>47</td>
<td>49</td>
<td>38</td>
<td>5</td>
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<tr>
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<td>965</td>
<td>56</td>
<td>56</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>% Change</td>
<td></td>
<td>19*</td>
<td>14*</td>
<td>32*</td>
<td></td>
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<tr>
<td>Stress urinary incontinence</td>
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<tr>
<td>Pre-education</td>
<td>1,406</td>
<td>53</td>
<td>54</td>
<td>59</td>
<td>5</td>
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<tr>
<td>Post-education</td>
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<td>60</td>
<td>65</td>
<td>67</td>
<td></td>
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<tr>
<td>% Change</td>
<td></td>
<td>13*</td>
<td>20*</td>
<td>14*</td>
<td></td>
</tr>
<tr>
<td>Overall average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-education/control</td>
<td>35,452</td>
<td>66</td>
<td>63</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Post-education/test</td>
<td>19,511</td>
<td>74</td>
<td>70</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>% Change</td>
<td></td>
<td>12*</td>
<td>11*</td>
<td>17*</td>
<td></td>
</tr>
</tbody>
</table>

*Indicates a statistically significant change from pre-education to post-education at ≥95% confidence level; P ≤ .05.
was then underscored by the qualitative comments provided by attendees. Up to 6 weeks after the Pri-Med programs at which the hypertension session took place, 92% of clinicians agreed that the CME experience was a very valuable use of their time, and 98% reported using the education obtained to change or refine their patient care approach.

The results from 3 Pri-Med sessions covering a much less commonly seen condition—gastrointestinal (GI) toxicity (average of 6 patients per week)—show that only 58% of PCPs appropriately assessed whether there was a GI safety advantage with Cox-2 selective nonsteroidal antiinflammatory drugs (NSAIDs) in the presence of aspirin prior to attending Pri-Med. After the sessions, as Figure 2 illustrates, reported adherence to this standard of care increased significantly—to 74% (a 28% increase). Similarly, although only 58% of attendees reported confidence in treating the specific patient presenting for GI toxicity prior to the educational activity, 63% reported confidence afterward (a 9% increase). Figure 2 also illustrates that responses to a knowledge question demonstrate the pronounced clinical impact of the GI toxicity sessions. After the sessions, correct responses to the knowledge question increased by a highly significant 42%. The clinical effectiveness of the session was further underscored by the attendees’ qualitative comments. Up to 6 weeks after the Pri-Med programs at which the GI toxicity session took place, 88% of clinicians agreed that the CME experience was a very valuable use of their time, and 97% reported using the education obtained to change or refine their patient care approach.

**DISCUSSION**

The Pri-Med Outcomes Study demonstrates the benefits of using uniform measurement tools to document the clinical impact of each CME initiative—across programs, across therapeutic areas, across regions, across multiple learning formats—which allows for an extensive normative base. Since 2002, Pri-Med’s clinical editors and research analysts have been using outcomes data to identify clinician knowledge gaps and then refine existing CME programs for more effective, targeted education. As Figure 3 illustrates, the number of CME activities evaluated increased more than 16-fold between 2002 and 2006. Pri-Med’s large-scale, uniform approach to outcomes measurement provides a robust longitudinal database, with significant respondent sample allowing for a low margin of error, from which the company’s team of clinical editors and analysts can draw from and assess learning trends across distinct physician profiles and topic areas.

Because Pri-Med’s outcomes reporting system includes both objective data culled from knowledge measurement and subjective data regarding overall satisfaction and appropriateness of program content, Pri-Med is in a unique position to enhance and enrich their programs using a large collective body of feedback. In 2006, for example, Pri-Med implemented several enhancements, based on the 2005 study findings, to the Outcomes protocol including appending data from each session/speaker evaluation and adding new metrics to the 6-week post-education survey instruments: an additional Knowledge Gained
2005 Metrics

Adherence to Guideline
For each clinical criterion, please indicate how often you incorporate this criterion into your practice. [Treat patients at higher risk for CHD to an LDL-C target of <70 mg/dL] (7 pt scale)

Confidence in Treatment (Patient Case)
Patient: 55 yo African American male
Presenting Complaint: Annual physical
Past Medical History: Type 2 diabetes x 5 yrs; HTN
Physical Exam: 70”, BMI 27
Labs Obtained at This Visit: TC 176; LDL-C 132; HDL-C
Current Medications: HCTZ, metformin, TZD

How confident would you feel treating this patient for this condition? (7 pt scale)

Knowledge I
According to the NCEP Interim Report, <70 is ____________ LDL-C goal for patients at very high risk for CHD. [a) too high an, b) a required, c) an optional (OPTIMAL), d) too low an, e) Unsure]

2006 Metrics

Adherence to Standard of Care
In your practice, how often do you [use the NCEP ATP III criteria for the metabolic syndrome to determine the cardiovascular health of your patients]? (7 pt scale)

Confidence in Treatment (Patient Case)
Patient: 55 yo African American male
Presenting Complaint: Annual physical
Past Medical History: Type 2 diabetes x 5 yrs; HTN
Physical Exam: 70”, BMI 27
Labs Obtained at This Visit: TC 176; LDL-C 132; HDL-C
Current Medications: HCTZ, metformin, TZD

How confident would you feel treating this patient for this condition? (7 pt scale)

Knowledge I
According to the NCEP Interim Report, <70 is ____________ LDL-C goal for patients at very high risk for CHD. [a) too high an, b) a required, c) an optional (OPTIMAL), d) too low an, e) Unsure]

Knowledge II
What is this patient’s LDL-C goal? [a) 160-190 mg/dL, b) 130-160 mg/dL, c) 100-130 mg/dL, d) <70-100 mg/dL (OPTIMAL), e) Unsure]

Impact on Patient Care
I. Have you been able to use the information acquired at the Pri-Med Updates program to update or refine your patient care approach when treating patients for...[Dyslipidemia]
II. How specifically have you been able to use the information from the Pri-Med Updates session on [Dyslipidemia] in your practice? Please be as specific as possible. NOTE: OPEN-ENDED RESPONSE.

Barriers to Change
If a response is 4 or lower to adherence to clinical standard metric ask the following: For what reason(s) are you not regularly incorporating this standard of care for [Dyslipidemia] into your practice? Please be as specific as possible. Note: Open ended response.

Figure 4. Comparison of 2005 and 2006 metrics used in Pri-Med’s Outcomes Measurement Protocols.
question, an “Impact on Patient Care” question, and a question designed to capture specific “Barriers to Change” in clinical practice (Figure 4).

Yet another benefit to having an extensive normative database of historical results is that it allows for consistent benchmarking and comparisons to an established standard of excellence, enabling a comprehensive assessment from which a commercial supporter can successfully measure their return on educational investment. This analysis provides critical information for the commercial supporter who aims to enhance the delivery of patient care through disease-specific awareness and education for physician populations that have demonstrated a further need for learning.

Pri-Med’s expansion and refinement of its uniform outcomes measurement is ongoing. In 2006, Pri-Med Outcomes will evaluate the clinical impact of an interactive case-based study online as well as a print-based enduring material, presented as adjuncts to a live CME session and intended to further reinforce attendee learning.

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