

CE Corner

New Guideline for Nonpharmacological Treatment of Chronic Musculoskeletal Pain

BY STEPHANIE PAPPAS

CHRONIC PAIN IS widespread. More than 1 in 5 American adults experience pain on most days or every day (Yong, R., et al., *PAIN*, Vol. 163, No. 2, 2022). It is expensive, too: A National Academy of Medicine report estimated that chronic pain costs the U.S. economy between \$560 billion and \$630 billion annually (*Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*, National Academies Press, 2011).

A new APA clinical practice guideline for treating chronic musculoskeletal pain highlights the best current evidence for psychological and behavioral treatments for these pervasive conditions. But a lack of sufficient high-quality research on interventions also has psychologists and their colleagues from related disciplines calling for new, rigorous investigations into how to tackle chronic pain.

Chronic musculoskeletal pain is a broad umbrella, covering any pain related to the muscles, joints, and bones, whether linked to a known injury or not.

While some interventions, such as cognitive behavioral therapy and exercise, have strong evidence for improving some types of musculoskeletal pain, the panel that developed the new *APA Clinical Practice Guideline for Psychological and Other Nonpharmacological Treatment of Chronic Musculoskeletal Pain in Adults* could not recommend other widely used interventions due to insufficient evidence. These interventions may work well, said panel chair Ravi Prasad, PhD, a licensed clinical psychologist and director of behavioral health in the department of anesthesiology and pain medicine at the University of California,

Davis School of Medicine, but the research on which the guideline is based contained studies that were often limited by their sample size, lack of sufficient comparison groups, or lack of functional outcome measurements, such as pain's impact on daily life.

"We were, quite frankly, surprised not to see strong support for many of the therapies that we see our patients benefiting from, at least anecdotally," Prasad said. "It's not that there's a lack of research in these areas; rather, the quality of evidence rating for many of the studies was low."

For that reason, Prasad and members of the panel—a multidisciplinary group including specialists from psychology, medicine, social work, and nursing as well as individuals with lived experience—emphasized that clinicians and patients should share decision-making in pain treatment. Patients may benefit from multi-pronged approaches that simply have not been researched, said Penney Cowan, a panel member and patient advocate who has lived experience with chronic pain. "When you're living with pain, it's not one thing that's going to help you," she said. "It's [a] number of different treatments and therapies combined."

Often, patients are offered surgical solutions that are not necessarily proven to be any more effective than noninvasive treatments, said Daniel Bruns, PsyD, a pain psychologist in Greeley, Colorado, and a member of the guideline panel who has helped to develop medical treatment guidelines for pain for other organizations. The prescribing of opioid medications for chronic pain has also fueled the opioid epidemic, he added, making the development of

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Learning objectives

After reading this article, CE candidates will be able to:

- 1 Explain why psychological treatments are an important component of addressing chronic musculoskeletal pain.
- 2 List the treatments judged to have a strong evidence base for improving physical functioning and performance in patients with chronic musculoskeletal pain.
- 3 Discuss the reasons that the research base is limited and why the guideline may exclude effective treatment.

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alternative, evidence-based treatments even more essential.

Ultimately, the panel based the guideline on three systematic reviews that drew from up-to-date research. These included a review of studies on nonpharmaceutical interventions by the Agency for Healthcare Research and Quality (Skelly, A. C., et al., *Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review Update*, 2020), another on self-management interventions for widespread chronic pain (Geraghty, A. W. A., et al., *PLOS ONE*, Vol. 16, No. 7, 2021), and a third on psychological interventions for chronic pain, excluding headache (Williams, A. C., et al., *Cochrane Database of Systematic Reviews*, 2020).

The evidence for combating pain

Multiple organizations have put out guidelines regarding chronic pain, but the new APA guideline focuses specifically on chronic musculoskeletal pain, the most common chronic pain condition. That was in an attempt to provide clear guidance, homing in on a specific patient population.

“Evidence-based medicine is an increasingly specific process,” Bruns said. “As the science progresses, you try to become more and more focused on particular populations, particular conditions.”

The guideline also focuses specifically on adults and on nonpharmaceutical treatments, which play a major role in the treatment of musculoskeletal pain. Psychological treatments are among the most promising for chronic pain: In earlier guideline development for the American College of Occupational and Environmental Medicine, Bruns and his colleagues found that of the 15% of treatments supported by evidence, many were psychological.

To create the guideline, the APA panel conducted a scoping review of the literature to identify which reviews to use. It focused on two major outcomes: physical functioning and performance, which includes activities of daily living, impairment, disability, pain-related interference, changes in strength or stamina, and range of motion, and mental health and emotional functioning, which includes anxiety, depression, anger, and pain coping (e.g., fear avoidance, pain catastrophizing, acceptance of pain). In addition, the panel looked at health-related quality of life, pain intensity, patient self-efficacy, patient global impression of change, employment status and disability benefits, and adverse events.

It was important to the panel to focus on studies that looked at functional outcomes, not just physical goals like range of motion, said Kathryn Mueller, MD, MPH, an occupational preventative medicine physician at the University of Colorado School of Medicine and member of the panel. “Historically, medical research has focused on physical outcomes only,” Mueller said. “So, if I can move my back, I’m cured. But maybe I’m not, because I’ve had to change my lifestyle so much that I can’t do the things I want to do.”

Studies that ask patients how they are functioning in different domains—family, work, and recreation, for example—are more informative because they get at meaningful improvements in a person’s life, Mueller added. Functional outcome tools “help the provider start to understand what the patient’s needs are and what is concerning to them,” she said.

Recommended treatments

The guideline panel then organized its recommendations into first and second

KEY POINTS

- 1 First-line recommendations for chronic musculoskeletal pain include cognitive behavioral therapy, multicomponent self-management interventions, and, for specific areas, exercise and psychological therapies.
- 2 Other treatments may be effective, but quality of evidence issues preclude making recommendations about those treatments.
- 3 It is important for care to be patient-centered and use a shared decision-making model between providers and individuals experiencing chronic pain.

line based on the strength of the evidence, the balance of benefits versus harms, patients’ values and preferences, and applicability. The guideline is not a practice standard and does not cover all possible effective treatments—only those researched with high-quality methodology with an eye toward functional outcomes.

For people with **chronic musculoskeletal pain**, the guideline recommends cognitive behavioral therapy (CBT) over treatment as usual or other active interventions. “We’ve known for a while that CBT is effective in treating chronic pain, so having it as a first-line recommendation really makes a lot of sense,” said panel member Cindy McGeary, PhD, ABPP, a licensed clinical psychologist and associate professor in the department of psychiatry at the University of Texas Health Science Center at San Antonio. “CBT includes a lot of different components, such as psychoeducation, relaxation training,

cognitive restructuring, and pain action plans, to name a few.”

The panel also found strong evidence to recommend multicomponent self-management interventions over no treatment or usual care. Multicomponent self-management can include a broad range of interventions, often including patient education, physical components such as stretching and movement, and psychological treatment focused on the patient’s feelings, cognitions, and behaviors in response to pain. Interventions might also encourage self-compassion and walk patients through stress-management tools such as relaxation exercises or meditation.

For **chronic low back pain**, the guideline panel recommends exercise for short-term pain management and psychological therapy for short-, intermediate-, and long-term pain management. Psychological therapy for low back pain can include CBT, progressive muscle relaxation, and operant therapy, which uses positive reinforcement to help patients meet targets for healthy behaviors such as exercise.

Finally, for patients with **osteoarthritis knee pain**, the panel found strong evidence for a professionally designed tailored exercise program, since avoiding exercise can worsen knee pain over time.

The panel also offers **second-line recommendations** for interventions where the evidence was weaker or dependent on the patient’s situation and preferences. For low back pain, there was some evidence for spinal manipulation and mindfulness-based stress reduction over usual care, attention control (efforts to ignore the pain), and other interventions. The panel also suggests exercise over yoga for low back pain because yoga has a slightly higher risk of harm than exercise; however, if the patient prefers yoga, the panel notes that those risks are low. For shorter-term pain management of low back pain, in one study the panel found tentative

One of the first-line recommendations is multicomponent self-management, which includes physical components such as stretching and movement.

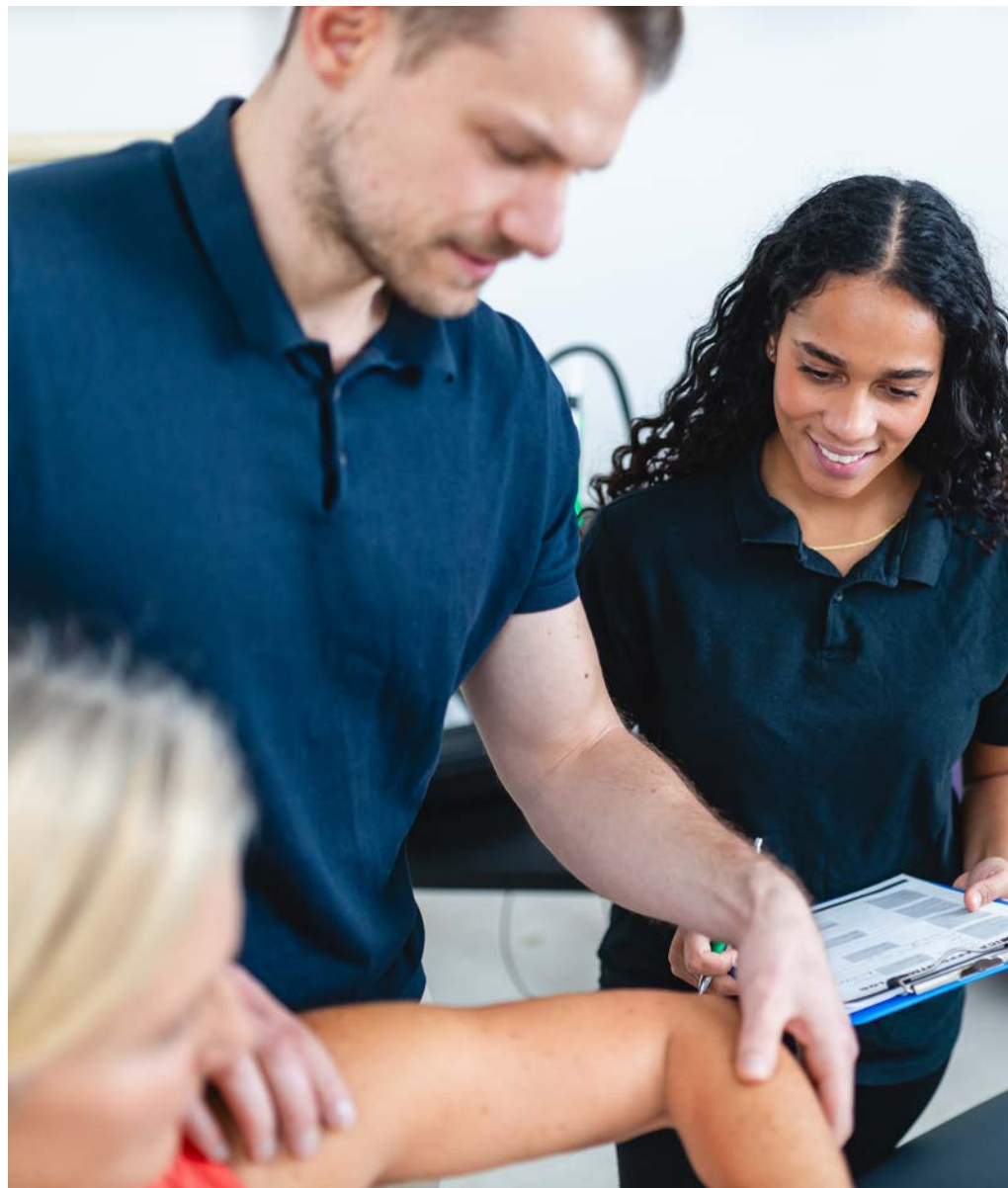


evidence for the efficacy of acupuncture. For short and intermediate relief from chronic low back pain, the panel also suggests multidisciplinary or interdisciplinary rehabilitation.

For chronic neck pain, the panel suggests acupuncture, noting that while it was found to improve outcomes over sham treatments, placebo, or usual care in the short and intermediate term, the strength of the evidence was low. Finally, the panel concludes that providers could suggest exercise for patients with osteoarthritis hip pain, though, again, the quality of evidence is low and the benefits small.

The panelists encourage treatment providers to share in decision-making as well as to screen for patients' psychiatric, psychological, and behavioral histories. Also important, they emphasize, is considering how easy or difficult it is for patients to access treatment, which might be impacted by things such as where they are located—in urban or rural areas—or their gender identity, sexual orientation, socioeconomic status, racial or ethnic identities, and disability status. Providers may also need to modify treatments based on some of these factors.

The guideline also notes that the optimal type of care for chronic musculoskeletal pain is interdisciplinary, wherein an array of health care providers communicate with each other and focus on a shared treatment goal. But the guideline also acknowledges that most pain care is delivered by a multidisciplinary team, a group of providers who treat the same patient from their specific areas of expertise but not necessarily in a coordinated fashion. Systems that allow for sharing treatment notes across specialties and otherwise ease communication can help combat this barrier to ideal care.



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A call for more and better research

One of the panel's most surprising findings was how many commonly prescribed chronic musculoskeletal pain treatments failed to meet the APA guidelines' standards for recommendation, Prasad said. One oft-used therapy is acceptance and commitment

therapy (ACT), which encourages patients to accept their thoughts and emotions about pain and work toward not letting those reactions stop them from making the changes that may help them cope. While a few large studies have found that ACT may hold promise for treating chronic pain, the overall evidence is not strong enough



massage, Qi Gong, Tai Chi, acupuncture, and pain coping skills training for osteoarthritis knee pain. (See the guideline for the full list.)

The panel urges providers to consider factors like comorbidities and available resources when suggesting these therapies to patients.

But the lack of evidence for possibly beneficial treatments led the guideline panel to include a call for new studies on all chronic musculoskeletal pain treatments. Prasad said the panel felt the need to point to what is missing: robust comparisons and studies focused on functional pain outcomes that strike a balance between internal and external validity.

Studies in the area generally lack standardization, panel members added. There is no one definition of “usual care,” for example, making it hard to determine what type of treatments an intervention is being compared to. There is also a big disconnect between real-world care for chronic pain, which is typically based on a combination of treatments, and clinical studies, which tend to pull out a single treatment and compare it to one or two comparison treatments, said Cowan, who advocates for more patient input into clinical trials. Moreover, studies of a specific intervention do not always use the same comparative treatments, making it difficult to evaluate effectiveness across studies. Hence, future research needs to take these factors into account and investigate interventions more comprehensively, Cowan said.

“Let’s look at all of it together,” she said, “so we finally have the evidence to say, ‘It’s this combination of treatments and therapies that are going to give the best possibility of a person living with pain to actually become a person again and get out of that patient role.’” ■

to make a recommendation, the panel determined (Luciano, J. V., et al., *PAIN*, Vol. 155, No. 4, 2014; McCracken, L. M., et al., *The Journal of Pain*, Vol. 14, No. 11, 2013). This does not mean that ACT does not work, the panel emphasized, but that more formal research is needed before the therapy can be recommended.

Other treatments with insufficient evidence include self-management or behavioral therapy for chronic musculoskeletal pain, low-level laser therapy,

FURTHER READING

APA clinical practice guideline for psychological and nonpharmalogical treatment of chronic musculoskeletal pain in adults
APA, 2024

Recommendations from the 2019 symposium on including functional status measurement in standard patient care
Mueller, K. L., et al.
Journal of Occupational and Environmental Medicine, 2020

Mechanisms of injustice: What we (do not) know about racialized disparities in pain
Mathur, V. A., et al.
PAIN, 2022

Does integrative medicine reduce prescribed opioid use for chronic pain? A systematic literature review
Hassan, S., et al.
Pain Medicine, 2020

Resilience and return-to-work pain interventions: Systematic review
Wainwright, E., et al.
Occupational Medicine, 2019



Enhancing Learning through Commitment to Change

Greg J. Neimeyer, Ph.D.

The rapid proliferation of new knowledge in psychology has placed renewed demands on professional practitioners to keep pace with ongoing advances. Overall, knowledge may remain current in professional psychology for as little as about 6-7 years, with more rapidly diminishing durability in key areas of practice, such as psychopharmacology, child health, forensics, substance use, or neuropsychology, among others (Neimeyer, Taylor & Rozensky, 2014). This means that, in the absence of a commitment to ongoing professional development, many practitioners may begin to experience knowledge obsolescence even while they are still in the early stages of their career (Neimeyer, Taylor & Rozensky, 2012).

BEST PRACTICES

In response, the field of professional psychology, together with other allied health professions, have redoubled their efforts to formulate sets of “best practices” that can enhance learning and the translation of that learning into practice (Institute on Medicine, 2010; Taylor and Neimeyer, 2017). The collective objective of these best practices is to enhance the comprehension, retention, and application of new knowledge in support of ongoing professional competence. Some of these practices focus on the value of adapting the learning strategies to individuals’ unique learning styles, presenting information multiple times utilizing different media, and providing opportunities for individuals’ input, application and behavioral rehearsal of the material, in addition to receiving peer, or instructor, review and feedback (Neimeyer & Taylor, 2014; Taylor and Neimeyer, 2017).

In addition to identifying current best practices, the allied health fields have long dedicated themselves to the development and evaluation of novel mechanisms for enhancing new learning, as well, drawing from a wide range of literatures with common objectives. Research within the science-of-learning, adult education, and performance enhancement literatures have been particularly productive in identifying and assessing novel methods of learning and facilitating the translation of that learning into

practice. *Benchmarking* and *self-assessment* are two examples of educational practices that have arisen as mechanisms designed to facilitate quality assurance and ongoing professional development (Neimeyer and Taylor, 2014).

Benchmarking and Self-Assessment. *Benchmarking* refers to the express comparison of one’s own work with the work of other professionals in the field. Benchmarking can be understood as the systematic process of evaluating work based on best practices and using evidence-based practice (EBP) to improve performance. In a typical benchmarking procedure, a psychologist might be given videotapes of peers who are conducting a procedure, such as a substance use screening. The videos are pre-determined to depict varying levels of quality. They might range from depicting relatively poor, informal questioning through more thorough, systematic, structured interviews. The psychologist is then asked to evaluate his or her screenings in relation to those he or she has seen, and given information about key components that are present, and absent, in each of the video “benchmarks.” Benchmarking provides an anchor against which psychologists can compare themselves, increasing the accuracy of their self-assessment and incorporating elements of the “higher” benchmarks into their own practice.

Research has demonstrated the effectiveness of benchmarking in relation to improving the accuracy of self-assessment, which is a critical pre-condition for evaluating current clinical skills and needs. Lane and Gottlieb (2004), for example, found that when medical residents viewed videotapes of their performance, their self-assessment accuracy increased significantly. And their accuracy increased still more when they watched the videos with a faculty member. Similarly, Martin et al., (1998) found that comparing one's own performance to the performance of others increased the accuracy of self-assessment. In their study, these researchers invited family practice residents to conduct mock interviews with a mother suspected of physically abusing her child. The residents were then asked to rate their performance. Next, residents watched their videotaped interview, in addition to watching four benchmark interviews depicting varying levels of competence. After watching the benchmark interviews, the relationship between the residents' self-ratings and the independent ratings of the supervisor was significantly stronger.

Self-assessment can take many different forms. All forms share in common express efforts to reflect upon, and evaluate, one's own current skills and/or future professional needs and interests. The Quality Assurance Program in Ontario, Canada, is one example of a well-articulated program of self-assessment (Morris, 2011). The Quality Assurance Program requires that each psychologist undertakes a self-review every other year, though the completion of a stipulated Self-Assessment Guide and a Continuing Professional Development Plan. Through a series of questions, psychologists critically evaluate their strengths, growth areas, and gaps in their learning. After conducting the self-assessment, they develop their own personal plan to remediate areas of identified weakness and to enhance their overall professional competence, sharing their plans with a colleague who reviews it and provides

input. The Continuing Professional Development Plan is designed to 1) promote continuing competence and quality improvement, 2) remedy gaps in knowledge and skills identified in the self-assessments, 3) address changes in practice environments and workplace needs, and 4) incorporate evolving standards of practice and advances in technology. These Continuing Professional Development Plans are subject to peer review by members of the College of Psychology of Ontario according to stipulated regulatory requirements.

Both benchmarking and self-assessment reflect the considerable effort that can accompany efforts designed to promote professional growth and development. Facilitating new learning, and the translation of that knowledge or skill into practice can be an effortful process, requiring reflection, formulation and deliberate application. Transitioning new learning to practice often requires an individual to reflect on how new knowledge or skills may apply to their own experience and to formulate ways in which the new material can be modified, adapted, or utilized within their own professional contexts or workplace environments. If the value of this effort is justified by the anticipated improvement or outcomes that may follow from it, then individuals are more prone to commit themselves to changes in what they do, or how they go about doing it.

Although some mechanisms for triggering change are designed to be intensive and may require considerable time, others are designed as brief reflective exercises that can occur immediately after, or even during, a learning event. A longstanding literature on the concept of a Commitment to Change illustrates the value of utilizing this simple technique in the service of generating greater learning and the translation of that learning into actual practice (Mazmanian & Mazmanian, 1999).

COMMITMENTS TO CHANGE (CTCS)

CTCs have been the subject of attention for the last few decades, but only recently have they been imported into the fields of allied health, or more recently still within psychology. CTCs are generally generated following an educational event such as attending a lecture, participating in a workshop, or reading an article (Wakefield, 2004). To complete a CTC, participants are asked to identify a set of possible changes they would like to make in their own practice based on the educational event. They are asked to formulate these changes in specific, behavioral form, which requires them to reflect on the relevance and applicability of the new information, and to adapt its application to their own interests and experience. They are then asked to indicate a level of commitment to each of the changes they have formulated, utilizing a rating scale that reflects their commitment to change, from low (1) to high (5). In the Commitment to Change procedure, participants are often reminded of their commitments 1-2 months

later, and asked to indicate if they actually enacted, or attempted to enact, each of their stipulated CTCs and to describe their experience or outcomes.

The effectiveness of the CTC procedure seems to be related to its three steps. The timing of the administration, immediately after the learning event, provides the participant an opportunity to reflect on the most salient elements of the material and to formulate it in terms that are most relevant to their own experience, interests, or needs. Rating the level of commitment provides a concrete mechanism for reflecting on the importance or value of the change, and anchors the individual in a level of expectation about completing it. And the subsequent follow-up provides a sense of accountability and the opportunity to reflect on the translation of the material into practice, or the barriers that may have impeded or prevented that translation.

THE BACKGROUND ON CTCs

CTCs have been the subject of attention in relation to the organizational change literature for several decades, as a tool for facilitating critical shifts in organizational structure, processes or style. Within the allied health literatures, medicine was among the first to explore the utility of CTCs as a mechanism for facilitating the translation of new knowledge into actual clinical practice. Within this literature, the actual performance of CTCs varies widely, from 47-87% (Wakefield, 2004), based on a number of identified factors. These factors include the extent to which individuals feel as if the CTCs are relatively easy to do, and the extent to which they feel as though they have personal control over completing them (Fidler et al., 1999, Lockyer et al., 2001). The greater the environmental or institutional constraints, the less likely individuals are to be able to follow through on their commitments and accomplish the behavioral changes they have formulated (Parochka and Paprockas, 2001). A number of studies have demonstrated that the CTC procedure can trigger actual changes in practice-related behavior, including the specific prescriptions that physicians write following educational programs (Wakefield et al., 2003), and the specific interventions utilized by occupational therapists over the course of their work with their clients (Lowe, Rappolt, Jaglal, & Macdonald, 2007).

The precise mechanisms involved in triggering this translation into practice are not fully known, but recent work has begun to address them. Herbert, Lowe and Rappolt (cited in Lowe, Hebert & Rappolt, 2009), for example, wondered whether reflection alone at the end of a new learning experience was sufficient to promote practice change, or whether the express formulation of a commitment of change was an essential element. Reflection has long been a key component of ongoing professional development programs, as reflected in the Mann et al., (2009) systematic review of reflection within continuing medication education courses. In their study, Hebert et al. (2009) asked half of their participants to complete CTCs while the other half

were prompted to reflect on the workshop using the Critical Incident Questionnaire (CIQ). Two months following the workshop, there was a modest difference favoring the CTC group over the reflection-only group. The percentage of those who demonstrated significant change was significant in both groups, but it favored those who had formulated specific commitments to change. Overall, 67% of the individuals who used CTCs made changes in practice, compared to 50% of those in the CIQ group who reported doing likewise.

A recent study of the relationship between reflection and behavior change in continuing medical education provides further evidence in this regard (Ratelle, et al., 2017). In a cohort study of attendees at a national hospital continuing medical education course, 223 participants provided reflection scores for each presentation they attended, and formulated commitment-to-change statements at the conclusion of each course. Reflection scores consisted of ratings, on a 5-point scale, about the extent to which the presentation had prompted reflection, re-consideration, deliberation or critical re-evaluation of their practices. A 3-month post-course survey was conducted to determine whether planned CTCs were successfully implemented, and whether they were related to higher levels of reflection.

Overall, participants indicated that 65.5% of the CTC statements were implemented. Reflection scores correlated significantly with the number of planned CTC statements ($r=.65$, $p<.01$), suggesting the potential role of the CTC procedure in enhancing reflection and, potentially, translation into actual practice. In addition, higher reflection scores were related to the greater availability of opportunities for audience response and the use of clinical case illustrations. The researchers concluded that, “we found that reflection strongly correlates with CTC” and that “continuing education “curricula that stimulate reflections may actually promote positive patient care behaviors” (Ratelle et al., 2017, p. 166).

SUMMARY

Educators or learners who are interested in enhancing learning, and the translation of that learning into practice, may increase the retention and translation of material by incorporating CTCs into their programs. Although the overall effectiveness of CTCs as a tool to enhance the integration of new learning into practice is still under study, the current evidence is promising. The incorporation of simple reflective questions into a learning experience may itself be useful, as when the psychologist asks, “How can I use this new knowledge?”, “How does this apply to my practice and to what I do?”, or “What might I do differently based on what I have learned today?” Although simple reflection itself appears to facilitate both learning and the translation of that learning into practice, the express formulation of potential changes and a commitment to those changes may add further value (Lowe et al., 2009). Overall,

the formulation of CTCs represents a relatively simple mechanism for promoting reflection, anchoring expectations regarding adoption, and leveraging new learning into novel practice behaviors. Simple extensions to the CTC procedure that may provide additional benefit include conducting surveys of post-course behaviors to assess compliance with the CTCs, encouraging reports to colleagues or other peers regarding CTCs in order to build in additional elements of accountability, or establishing timelines for the completion of CTCs. With continued utilization and examination, Commitment-to-Change procedures may join the ranks of other processes, procedures and techniques that jointly constitute what has increasingly come to be recognized as the set of “Best Practices” in the field of ongoing professional education and continuing professional competence.

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