



Continuing education in pain management: using a competency framework to guide professional development

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1. Introduction

Much has been written about the importance of formally integrating pain management education into undergraduate and professional preparation programs to adequately prepare beginning practitioners for clinical practice.^{5–7,13,39,40,56} In recent years, a competency-based approach has been put forward as a mechanism for achieving this outcome.^{24,29} In the main, these developments have been primarily directed at prelicensure pain education,²⁴ and relatively little has been published on how competence in pain management over time is maintained and the role of continuing professional development (CPD) in a post-licensure.²⁹ Whether CPD is mandated or not, by a professional body or regulatory authority, participation in such activity is viewed as a necessary component of competent professional practice: from an individual perspective in terms of keeping up to date with knowledge advances and changes to clinical practice and an institutional perspective in terms of improved health outcomes for patients.^{27,42} In relation to managing something as common as back pain, for example, it has been found that practising physicians who simply reported an interest in the topic were significantly less knowledgeable about the best evidence-based approaches compared with those who had recently completed formal CPD on the topic.⁹ Furthermore, results from systematic reviews in recent times, examining the impact of formal CPD courses in both face-to-face and online formats,

Key Points

1. Participation in continuing professional development (in formal and informal contexts) is an important component of clinical practice
2. Engagement in pain education must extend beyond entry level to a profession to build and maintain professional expertise
3. Developing a lifelong learning stance and a reflective approach to clinical practice is critical
4. The pain competencies provide a useful framework for continuing professional development for pain educators and clinicians

reveal that while these education activities are effective in terms of imparting knowledge and developing skills, there is little evidence about whether or not they result in improved clinical performance and patient outcomes.^{3,17,46} This situation indicates that a more competency-based approach (competency-based medical education [CBME]) should be included within the rubric of CPD.

To situate the discussion, we draw on the work of Boud and Hager⁴ who highlight the limitations of common current conceptualisations of CPD, which seem more about input (eg, topics covered), than outcomes. They suggest that the metaphors of “acquisition,” “possession,” and “transfer,” which are commonly associated with CPD, are problematic for 2 reasons. First, these metaphors fail to capture the complexities of work practice and the specific learning needs of professionals. Second, they encourage a reductionist, overly simplistic and individualistic approach to CPD, which is often divorced from work practice (p. 20–21). Boud and Hager⁴ propose an alternative conceptualisation for thinking about professional development using the metaphors of “participation,” “construction,” and “becoming.” This perspective, they argue, is more productive, in that it recognises the intricate relationship between work practice and learning, and it positions CPD as an ongoing (lifelong) process: one that is situated in practice and is collaborative in nature. This alternative viewpoint need not apply only to learning that occurs as a result of engagement in work and work practices. It also has application for the design of learning

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activities in more structured formats, such as postgraduate coursework programs and short courses, particularly given its emphasis on the outcomes, rather than inputs, of CPD. It is a view echoed by others, albeit with a slightly different focus. Gonzi,²⁸ for example, uses the metaphor of “becoming” in his discussion about preparing health professionals for clinical practice, noting that this process of “becoming” extends beyond initial training. Similarly, Towle⁵⁴ advocates for a continuum of medical education, from undergraduate, postgraduate to continuing education, given that the progression of learning across the spectrum of professional practice is critical to meet the ever changing needs of contemporary health care provision.

Drawing on these views, in this article, we explore the complexities associated with the provision of effective CPD from a pain management perspective. First, we review the growing body of literature discussing the importance of outcome-based education and examine how this relates to the development of expertise. Then, we consider the implications of this theoretical framework for the provision of, and engagement in, CPD and how the core competencies for pain management²⁴ can be applied in this context. This point may be important with shift towards microcredentialing for CPD activities.^{38,43} We suggest that not only does a competency-based approach provide a useful way for pain educators to conceptualise the design and evaluation of CPD activities, but also it enables pain practitioners to assess the value and utility of CPD opportunities in terms of their own professional development needs. We submit that this is especially relevant for those pain practitioners who have not had the opportunity for formal pain management education in their primary degree or subsequently.

2. Using a competency framework for continuing professional development: unpacking the complexities

Few would dispute the importance of building and maintaining competence across the spectrum of professional practice given the complex and demanding nature of health care provision in the 21st century.²⁶ The Lancet Commission²⁶ in 2010, for instance, reported that “glaring gaps and inequities in health persist both within and between countries, underscoring our collective failure to share the dramatic health advances equitably” (p. 1923). In the field of pain management, this point has direct relevance to the ongoing debate about the use of opioids within and between countries, especially in light of the maldistribution of alternative options and inequality of access. The Lancet Commission highlighted the need for instructional and institutional reforms. The main recommendations from an instructional standpoint were the adoption of outcome-based and competency-driven approaches to education, the promotion of interprofessional and transprofessional learning, and the exploitation of information technology for learning (p. 1924). In terms of pain management education, particularly in a prelicensure (undergraduate) context, some of this work has already commenced. Over the last decade, for instance, a number of authors have documented concerns about the limited and fragmented nature of pain education in prelicensure programs. They highlight the importance of including pain education in these programs given the high prevalence of pain in the clinical setting: a situation which demands graduates with competence in pain management.^{6,7,13,29,39,48,57} Examples of specific initiatives to address these concerns include the following: the introduction of an interfaculty pain curriculum across 6 Health Science Faculties/Departments³³; the integration of the IASP core curriculum on pain in a prelicensure degree

program³⁴; and the development of competencies for education on opioids and addiction² and pain management.^{24,53} The literature about the provision of CPD to develop and enhance pain management competence, particularly for those clinicians who have not benefited from these recent prelicensure initiatives, however, is more limited.

To situate the discussion that follows about the development of competence within a CPD context, it is useful to briefly review the rationale for the adoption of an outcome-driven education approach. First, there is a growing body of literature about the importance of outcome-driven education, the precursor to what is now termed competency-based medical education (CBME), given its focus on the product (ie, participant outcomes) rather than the curriculum process and/or program length (ie, course content, teaching methods, and timeframe).^{16,30,31,50} Although CBME is not without its critics, in part due to its behavioural origins, reductionist approach, and vocational rather than educational emphasis,^{8,32,47} in the last decade or so the trend in emphasis in the education of health professionals generally has favoured an outcome-based approach. This point is highlighted by the number of competency frameworks that have been articulated for beginning health practitioners and specialist training programs: notable examples include CanMEDS, Tomorrow’s Doctor, the Scottish Doctor,⁴¹ and the recent development of the core competencies in pain management.^{24,29}

Not surprisingly, with this shift towards an outcome-driven approach, a shared understanding of the terminology associated with CBME is critical.²⁰ In simple terms, competence can be defined as the ability to do something successfully. Yet, this definition fails to capture the complexities of what professional competence in a health context actually entails. Epstein and Hundert²¹ provide a useful definition, noting that it involves “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served” (p 226). Others argue that it also requires situational awareness, metacognition, attentive automaticity, and shared or distributed cognition in collaborative work,³⁶ and the ability to deal with ambiguity, uncertainty, and limited information.⁴⁵ Clearly, professional competence is a multifaceted and complex phenomenon, and having a shared language about CBME is paramount.

One of the challenges in defining professional competence, however, is determining the balance between broad vs detailed specifications of tasks and roles. To address this issue, ten Cate⁵⁰ put forward the idea of an “entrustable professional activity (EPA)”⁴⁹ as a framework for thinking about developing and assessing competence. He defined an EPA as

“A unit of professional practice, defined as a task or responsibility to be entrusted to a trainee once sufficient specific competence is reached to allow for unsupervised practice. Entrustable professional activities are independently executable within a timeframe, observable and measurable in their process and outcome, and suitable for entrustment decisions.”⁵⁰ (p 4/13).

Since the introduction of this term, ten Cate and others^{15,20,51,52} have continued to explore how EPAs, competencies, and developmental milestones (or levels of entrustment in terms of supervision) can be used to develop and assess professional practice. Collectively, this work provides a holistic and practical approach to the design, implementation, and assessment of CBME, and in that it recognizes that multiple

competencies (task-specific and more generic capabilities) are involved in the performance of a professional task, like teaching self-management techniques to chronic pain patients.

From a CPD perspective, we suggest that drawing on the concept of EPAs, as a component of CBME, provides a productive way forward for pain educators and practitioners alike. This point is reinforced by Carriccio et al.¹⁴ who applied the Dreyfus and Dreyfus^{18,19} 5 stage model of skill acquisition (novice, advanced beginner, competent, proficient, and expert) to medical education. Using these stages as the milestones for assessment, they equate being “competent” as a threshold stage of entrustment where unsupervised practice is acceptable, thus leaving plenty of space for conceptualising further CPD towards proficiency and expertise. In this way, being “competent” is not the end per se, but just a stage in development toward expertise. It also implies the concept of competence is not static as skills drift or become obsolete, necessitating further training for both maintenance of basic competence and the development of higher levels of proficiency.

Keeping this threshold stage of competence in mind, the work of Ericsson et al.^{22,23,55} about the development of medical expertise adds another facet to the argument for a competency-based approach to CPD. This work, together with the concepts associated with lifelong learning^{11,12} and self-regulation,⁵⁸ provides an important underpinning theoretical framework for thinking about CPD. For instance, Ericsson illustrates that the development towards and maintenance of medical expertise is not just related to the amount of experience an individual possesses and it also requires engagement in, what he terms, “deliberate practice.” He describes such practice as a focused effort to improve performance, involving the identification of goals, motivation, monitoring and evaluating clinical practice, seeking feedback, and problem solving.

If we return to Boud and Hager’s⁴ metaphors of professional development as “participation,” “construction,” and “becoming,” then in the context of pain management, the promotion of deliberate practice, lifelong learning, and self-regulation are key considerations in the design and delivery of pain education, including formal CPD activities. A number of authors support this position and highlight the need for reflective practice capabilities as a key outcome of competency-based continuing education. For example, Campbell et al.¹⁰ comment on the context-specific, dynamic, and changing nature of professional competence and recommend the following lifelong learning competencies for CPD: knowing one’s practice; scanning the environment; managing learning in practice; raising and answering questions; and assessing and enhancing practice (p 658). In a similar vein, others highlight the need for a more direct partnership between the principles of quality improvement and CBME in the design, implementation, and assessment of CPD activities.^{37,44} Clearly, these considerations, which foreground the dynamic and context-specific nature of professional practice and the necessity for continuous learning throughout an individual’s career trajectory, should inform developments in the provision of formal CPD courses.

3. Examples of the application of competency-based medical education in a pain management continuing professional development context

Although we acknowledge there is a broad spectrum of activities equated with CPD, in this article, we explore the role of formal structured courses, such as postgraduate coursework degree programs and short courses, rather than work-based learning

initiatives or informal learning activities. With this emphasis in mind, it is useful to note the results of a recent Cochrane systematic review,²⁵ analysing the impact of continuing education meetings and workshops on professional practice and patient outcomes, which concluded that a mix of interactive and didactic education was the most effective format for CPD.

Drawing on 2 examples of CPD activities, that use a mix of didactic and interactive learning strategies, we illustrate how a CBME approach can be applied in a pain management context. The first example discusses how the core competencies in pain management²⁴ might be used as a framework for practitioners to guide decisions about participation in, and document outcomes from, CPD activity. It also illustrates how educators can use these competencies to guide curriculum development and assessment activities. The second example illustrates how a competency-based approach might be used for the participant self-assessment of the outcomes from engagement in CPD activities, using the EPA framework discussed earlier.

First, however, it is important to recognise that, in most countries, participation in continuing education is a requirement for the maintenance of professional registration. Although requirements vary from country to country and profession to profession (eg, number of hours required and type of activities counted), CPD is viewed as a critical component of professional practice. In Australia, registration standards outline engagement in CPD quite broadly, encompassing formal courses, work-based learning, and informal activities (eg, reading journal articles, attending professional conferences, participating in short courses/workshops, grand rounds, and case discussions). It is the individual practitioner’s responsibility to identify their specific learning needs/interests and determine which CPD activities to be undertaken. Participation in CPD, however, is not the only requirement with many (registration) standards also stipulating a reflective component to demonstrate learning and application to practice. Keeping a formal record of outcomes of CPD participation, in a portfolio or log-book, for example, is a critical consideration: not only so that individuals can highlight how engagement in CPD has contributed to the maintenance of their professional competence but also because registration bodies may conduct audits to determine compliance.

3.1. Example 1: using the core competencies as a continuing professional development framework

We believe the core competencies for pain management, although developed for prelicensure curricula, provide an ideal framework for thinking about, and evaluating CPD activity in pain management for graduates who are licensed. This belief originated from a review of these competencies in relation to an online postgraduate coursework degree program, the Master of Medicine/Science in Medicine (Pain Management), offered through the University of Sydney and conducted by the authors. Although the course was developed and continues to be informed by the IASP interprofessional pain curriculum,³⁵ the addition of the core competencies in pain management adds a further dimension for consideration in terms of course outcomes. To this end, we mapped the 4 domains of competence—the multidimensional nature of pain, pain assessment and measurement, the management of pain, and clinical conditions—against our core curriculum, which comprised following units of study (subjects): introduction to pain management; pain mechanisms and contributors; principles of pain management and treatment; pain conditions; and issues, controversies in pain management (capstone unit). Documenting

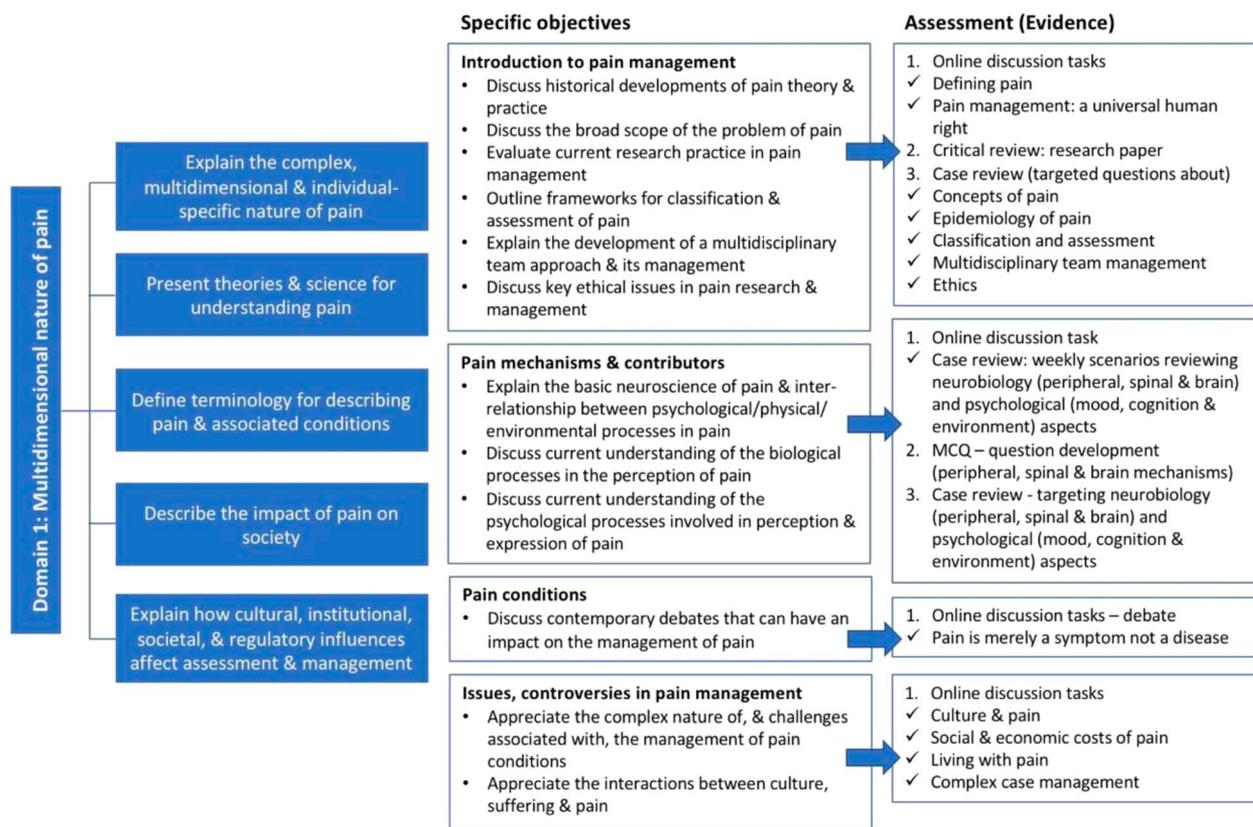


Figure 1. Mapping competence development for Domain 1.

the objectives, content, and assessment items of each of these units, we identified how each domain was covered and assessed across the program (Fig. 1). This exercise validated the focus and coverage of our program and the methods of our assessment regime, while identifying a few areas (in terms of content and objectives) that could be refined. It also helped us to identify how the knowledge artifacts (written assignments) were aligned with each domain of competence, and how the structured reflections for each discussion task could be used to demonstrate outcomes (knowledge, skills, and attitudes) and their application to clinical practice. Based on this experience, we argue that the pain competencies provide educators with a practical framework for guiding curriculum development and/or review as well as a process for determining the assessment of competence.

Currently, we are refining this curriculum map for integration within our masters program, through an e-portfolio (PebblePad) platform. This e-portfolio will provide students with a visual representation of the focus and outcomes of each unit, thus illustrating how competence in pain management is being developed and assessed across the program. It will also provide students with a structured process for collecting evidence of professional development, through the accumulation of knowledge artefacts (written assignments), and the opportunity to embrace a reflective stance to their practice. Ultimately, the e-portfolio will form a tangible product of the degree. Importantly, it will also enhance student capacity to adopt a more “deliberate” approach to their clinical practice through self-assessment and reflection on the outcomes of their study and provide them with a vehicle to address the regulatory requirements for documenting engagement in, and outcomes of, CPD.

3.2. Example 2: using a competency approach for continuing professional development self-assessment

The second example illustrates how we have applied a competency-based approach to an online continuing education course, “Putting cognitive behavioural skills into practice.” The course, which comprised a series of 7 interactive webinar sessions of 90-minute duration, is aimed at developing skills in assisting patients to self-manage their chronic pain condition. Enrolments are limited to ten participants to enable plenty of opportunity for discussion and interaction.

In keeping with CBME principles, the course was developed with the end point in mind. A number of specific competencies associated with the delivery of cognitive behavioural therapy (CBT) were identified, and each session was designed to introduce specific competencies: developing a case formulation, explaining chronic pain, setting goals, pacing activities and weekly planning, applied relaxation, thought management, problem solving, and developing a maintenance plan. Homework (in between sessions) is focused on the practice of these skills in the participant’s own workplace setting. On completion of this homework, participants are expected to present a brief written reflection, at the next session, on the outcomes of this practice to the group. The series culminates with the submission of a written case assessment and the provision of a brief case summary to the group. This provides evidence of how participants have applied and integrated CBT skills with one of their patients and what they have learnt in the process.

Since the inception of this course in 2012, participants have completed a commencement questionnaire, designed to assess

(A)

		Level 1. Novice	Level 2. Advanced Beginner	Level 3. Competent	Level 4. Proficient	Level 5. Expert
EPA: Implement CBT with a chronic pain patient	Conduct a comprehensive biopsychosocial case assessment					
	Explain the difference between acute vs chronic pain to a patient					
	Explain a case formulation to a patient					
	Help a patient identify meaningful SMART goals					
	Teach a patient to pace activities					
	Teach a patient to use relaxation techniques					
	Teach a patient how to identify & respond to unhelpful thoughts					
	Teach a patient how to employ problem solving strategies					
	Help a patient to develop a flare up plan					
	Use Socratic questioning with patients during assessment interview					
	Apply active listening techniques with patients					
	Use motivational interviewing techniques with patients					

(B) Key: Criteria for each level

Novice	Advanced Beginner	Competent	Proficient	Expert
<ul style="list-style-type: none"> Limited knowledge about how this skill is used to help patients to self-manage chronic pain No experience of using this skill with patients Lacks confidence in the application of this skill with patients Need structured guidance (visual and verbal cues) and practice (+ feedback) in this skill, with supervision 	<ul style="list-style-type: none"> Some knowledge about how this skill is used to help patients to self-manage chronic pain Limited experience in using this skill with patients Has some confidence inability to apply this skill with patients Needs more guidance (visual and verbal cues) and practice (+ feedback) in this skill, with supervision 	<ul style="list-style-type: none"> Knowledgeable about how this skill is used to help patients self-manage chronic pain Some experience in using this skill with patients Is confident in ability to apply this skill with patients No specific guidance required, but supervision recommended 	<ul style="list-style-type: none"> Considerable knowledge about how this skill is used to help patients self-manage chronic pain Considerable experience in using this skill with patients Confident in the application of this skill with patients Able to employ skill independently, without supervision 	<ul style="list-style-type: none"> Extensive knowledge about how this skill is used to help patients self-manage chronic pain Extensive experience in using this skill with patients Demonstrated confidence in applying this skill with patients Able to employ skill independently and also able to teach skill and provide supervision to others

Figure 2. (A) Self-assessment chart: Competencies for implementing CBT with chronic pain patients. (B) Self-assessment criteria. CBT, cognitive behavioural therapy; EPA, entrustable professional activity.

their knowledge of CBT principles, and an evaluation of their perceived level of experience, confidence, and ability to use the skills covered before and after course completion. Overwhelmingly, the results have indicated that participants understand the principles of CBT but often lack experience and confidence in using some (or all) of these skills in clinical practice. This mirrors similar findings with physiotherapists in a systematic review of 6 studies¹ and may reflect the problem of knowledge alone vs knowledge plus competence in application of the knowledge. This year we are trialling the incorporation a competency framework for participant self-assessment of their skill development as a result of the course. Using the concept of an EPA, which we have classified as the ability to “implement CBT with a chronic pain patient,” we highlight the range of specific competencies for developing expertise in this professional capacity (**Fig. 2A, B**). We have also identified generic competencies in communication (Socratic questioning, active listening, and motivational interviewing). Participant self-assessment, at commencement and completion of the course, will use the novice to expert milestones to assess skills development.

We anticipate that the integration of a self-assessment task using this competency framework will be a valuable addition for participants, in that it will help them to reflect on their learning and document the outcomes, as a result of their participation. It will also provide them with a framework for further ongoing assessment about the development of their expertise in using these skills over time.

4. Discussion

In this article, we have examined the role of competency-based education in a CPD context. We considered the rationale for adopting an outcome-based approach to education and provided 2 examples of its application. We also explained why the competency-based agenda is important for pain educators and practitioners alike, and we demonstrated how competencies, including the recently developed pain competencies, can be used to guide professional development.

The examples we provided, although involving different approaches to formal CPD and still in the early stages of implementation, illustrate how CBME might be used in a CPD context. Other forms of CPD not discussed in this article, such as work-based learning and more informal activities (eg, case discussions and reviewing the literature), also provide worthwhile and valid activities for professionals to engage in to develop and/or enhance their professional competence. However, we argue that whatever type of CPD an individual undertakes, consideration of the outcomes from their participation should be of paramount concern: what has been learnt and how this will improve their clinical practice and patient outcomes.

In relation to pain management, the work of IASP in the development of profession-specific and interdisciplinary curriculum guidelines, combined with the establishment of the pain competencies, has provided a firm foundation for course design. In the context of CPD, particularly from the perspective of the provision of, and engagement in, formal learning opportunities, making the course outcomes visible is both valuable and necessary. This approach not only provides practitioners with a means of assessing the utility of CPD activities for their own specific needs/interests, but it also provides a framework for reflecting on, and documenting, what was learnt and its relevance to clinical practice. The latter point is particularly pertinent in terms of professional registration requirements and microcredentialling.

Furthermore, if regular engagement in CPD is seen as critical for maintaining competence, given the dynamic and complex nature of 21st century health care, then pain educators must integrate strategies for developing lifelong learning and self-regulation within CPD activities. Similarly, practitioners should seek out CPD that provides them with these opportunities, so they embrace a more deliberate approach to their professional practice and in the process to develop their expertise in pain management. Finally, if we return to the metaphors of professional development as “participation,” “construction,” and “becoming” then CPD is a central consideration in maintaining and enhancing professional competence. Perhaps, in this global year for Excellence in Pain Education, it is timely for IASP, like other professional bodies, to consider providing members with a competency-based e-portfolio framework for documenting and reflecting on CPD activity as a material contribution to members interested in developing a lifelong learning stance.

5. Conclusions

Although the application of a CBME approach to continuing education is not without challenge, it is nevertheless an important consideration for pain practitioners and educators alike. The formal articulation of the pain competencies offers practitioners a blueprint or structure for assessing the utility of CPD offerings in relation to their professional development needs/interests. It also provides them with an avenue for documenting how engagement in CPD has developed and/or enhanced their professional practice. Similarly using the pain competencies and/or EPAs, which demands clear statements about the outcomes of CPD participation, provides pain educators with clear guidelines for thinking about course development and assessment. One enduring contribution that IASP could make in this regard is providing members with a competency-based e-portfolio framework for documenting and reflecting on CPD activity.

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