

Development of Domains of Competence and Core Entrance-to-Practice Competencies for Physical Therapy: A National Consensus Approach

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Introduction. This aimed to use a collaborative, national reactor panel process to develop a domains of competence (DOC) framework for the physical therapist profession, including DOC spanning the learner continuum and entrance-to-practice competencies for the profession.

Review of Literature. Competency-based education (CBE) is an educational philosophy and design approach aimed at learner development, patient safety, and standardized performance expectations. In the United States, there have been calls for standardized performance expectations in physical therapist education and practice.

Subjects. Two hundred individuals were invited to participate in the reactor panel (phases 2, 3, 5, 7); participation varied by phase. One hundred twenty-three

individuals participated in the open comment period (phase 8).

Methods. A mixed-methods survey design using a three-tiered, iterative data integration approach was used to construct the DOC Framework over 8 phases. Surveys sought feedback on 2 key aspects: 1) clarity and 2) defining the essence of the physical therapist profession. An a priori threshold of 80% or more of responses rated as a 4/5 or 5/5 on the Likert scale was set.

Results. The DOC Framework consists of 8 domains, 69 core entrance-to-practice competencies, and 4 supporting documents. The 8 DOC are Knowledge for practice, Patient and client care and services, Communication, Practice management, Education and learning, Reflective practice and improvement, Professionalism, and Systems-based practice in health care. The

average rating for clarity and essence was greater than 90% for domain descriptions and competencies.

Discussion & Conclusion. The DOC Framework provides a foundation for CBE in physical therapy and fosters shared standards of education and competence in practice. This is one step toward a broader project aimed at enhancing education and practice within physical therapy. Next steps will include the identification of Entrustable professional activities (EPAs) and the mapping of the competencies developed in this project to the EPAs. The DOC Framework is intended to be dynamic and adaptable, evolving as the profession progresses.

Key Words: Competency-based education, Domains, Competencies, Physical therapy education.

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IRB approval: Columbia, Expedited Review, IRB#: AAAR9404.

S. Chesbro: Employed by the American Physical Therapy Association (APTA) and all the authors declare no conflicts of interest.

Published Online First: June 3, 2025.

Received October 16, 2024, and accepted April 7, 2025.

Supplemental digital content is available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal's Web site (www.aptaeducation.org).

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DOI: 10.1097/JTE.0000000000000420

INTRODUCTION

Competency-based education (CBE) has increasingly become a focal point in the evolution of health professions education and training, aiming to align educational outcomes with the complex demands of contemporary practice and societal needs. Competency-based education revolves around a learner-centric approach to educational design, where learners are evaluated based on a consensus-driven, evidence-based set of performance outcomes over time.¹⁻³ Progress is contingent upon demonstrating competence. By cultivating proficient practitioners who are equipped as lifelong learners, CBE will positively influence our educational and health care systems. Competency-based education also serves as a systematic approach to mitigate unwarranted variation in education and clinical practice.³⁻⁶ Originally developed in medicine, CBE frameworks show potential for benefiting all health professions. However, expanding its application beyond medicine is necessary to evaluate its effectiveness in other fields.

Over the past decade, there has been an increased call within the physical therapy profession to standardize performance expectations across the learner continuum.⁵⁻⁹ Broad constituent surveys and strategy meetings were conducted, culminating in an outcomes strategy meeting in 2019 organized by the Educational Leadership Partnership, a collaborative by the American Physical Therapy Association, APTA Academy of Education (AoE), and the American Council of Academic Physical Therapy in 2016.⁴ Consensus was reached on the imperative to develop 2 frameworks for CBE in physical therapy: one to define the performance outcomes and the other to teach and assess those outcomes that meet the physical therapy needs of society. The key outcomes of the meeting were the creation of 3 working groups (Educational research in physical therapy; Domains of competence (DOC); Entrustable professional activities (EPAs)), and the formation of a reactor panel comprised 200 individuals representing constituent groups.

This manuscript presents the comprehensive process undertaken by the Educational Leadership Partnership's DOC Work Group in collaboration with a diverse array of nationwide constituents. Initiated by a rigorous iterative approach, this paper outlines 8 meticulous phases—from initial concept to final framework refinement—underscored by extensive nationwide constituent engagement and feedback. Through the integration of quantitative analysis and qualitative insights, this study not only delineates the evolution of

the DOC Framework but also highlights the critical role of consensus-building across the profession to develop a unified and validated set of DOC that spans the learner continuum and core entrance-to-practice competencies essential for the physical therapist profession.

REVIEW OF LITERATURE

Competency-based education is both an educational philosophy and an educational design approach¹⁰ that has been integrated into health professionals education for over a decade.² The rationale for adopting a CBE model varies across health professions but often emphasizes learner development, patient safety, public welfare, standardized performance expectations, and actionable evidence for student and program outcomes.³ Common CBE frameworks in health professionals education include milestones, domain-anchored competencies, and EPAs.¹¹ Although CBE has been applied globally, in the United States, it has been specifically implemented in undergraduate and graduate medical education,¹² pharmacy education,¹³ veterinary medicine education,¹⁴ and physical therapist professional and postprofessional education.¹⁵⁻¹⁷

In health professional education, CBE has typically focused on a specific stage in the learner continuum, such as professional or postprofessional stages, rather than addressing the entire educational continuum for that profession from preprofessional (undergraduate), to professional (entry-level), postprofessional (residency, fellowship, graduate), and continuing professional development (continuing education, mentorship). In physical therapist education, a CBE framework has been developed and applied at various stages of the learner continuum, including entry-level education in Canada¹⁸ and Singapore,¹⁹ continuing professional development in the Netherlands,²⁰ and residency education¹⁶ and continuing professional development in the United States.¹⁷

Many health professions continue to evolve their CBE frameworks to achieve key educational goals, despite several identified challenges.^{21,22} These challenges include faculty preparedness (both academic and clinical),²³ curriculum review processes,²⁴ time constraints for assessing and supporting learners,²⁵ and the complexities of data collection for broader analysis beyond individual learners.²⁶ A central tenet of CBE is that learner progression should be based on demonstrated competence rather than time spent in a learning environment.²⁷ Although this approach has gained support, structural aspects of the US higher education system make its implementation difficult.

Nevertheless, health professions are actively exploring CBE frameworks as a way to help ensure learner progression is based on their demonstrated knowledge, skills, and abilities.

In the United States, there have been numerous calls for the adoption of standardized performance expectations for physical therapy students and graduates.⁴ One response to that call was the development of the American Physical Therapy Association (APTA)'s Residency Competency Evaluation Instrument (RCEI),¹⁶ a standardized assessment tool designed to assess physical therapist resident performance. The RCEI is a framework of 7 DOC, 20 competencies, and a 6-point milestone scale for each competency. It focuses on general competencies, such as communication and professionalism, that apply to all physical therapist residents, regardless of their specialty. Launched in July 2021, the RCEI is available to residency programs accredited by the American Board of Physical Therapy Residency and Fellowship Education.

The application of CBE in health professions has been strongly informed by education research, guiding the development of the frameworks.²⁸ Data collection and analysis play a crucial role in shaping both formative and summative evaluations of CBE's effectiveness and utility. These insights also influence system structures and supports, such as environmental assessment, faculty development, and program evaluations, ensuring that necessary adjustments can be made to optimize the framework.

Essential to discussions of CBE is a review of key terms. A CBE framework is an organized and structured representation of interrelated and purposeful competencies.¹¹ A competency is a characteristic of an individual, an observable ability of a health professional that integrates knowledge, skills, values, and attitudes.¹ Milestones represent levels of performance that indicate progress toward mastering a specific competency, breaking down the overall development of that competency into measurable stages.¹¹ Domains of competence are the broad areas in which competencies are grouped based on a similar theme.¹¹ Collectively, DOC capture the essence of a profession. An entrustable professional activity (EPA) is an essential task or job duty performed by a qualified individual within a timeframe, is observable and measurable, and reflects 1 or more competencies.¹¹ Entrustment supervision scales assess the performance of an EPA by indicating increasing levels of autonomy and the type of supervision a learner needs for safe, high-quality activity performance. This study

aimed to develop consensus-based DOC that span the learner continuum and core entrance-to-practice competencies for the physical therapist profession within the United States.

SUBJECTS

Reactor Panel Recruitment

Two hundred individuals nominated by nationwide constituent groups and experts with experience in the development and implementation of CBE were invited to join the reactor panel. Careful attention was given to ensure broad representation across the profession, with a deliberate focus on including clinicians. Constituent groups that nominated individuals included regional physical therapy education consortia, the American Council of Academic Physical Therapy, the APTA AoE, the APTA, the Federation of State Boards of Physical Therapy, the American Board of Physical Therapy Residency and Fellowship Education, the American Board of Physical Therapy Specialists, the Physical Therapist Assistant Educators Special Interest Group of the AoE, and the Commission on Accreditation in Physical Therapy Education. Panel members completed 2 training modules on foundational CBE concepts and the reactor panel process. Participation varied across phases, and demographic data were collected twice during the project.

Open Comment Period Participants

Feedback on the draft DOC Framework was solicited from constituents in physical therapy practice and education. An open invitation to provide feedback on a draft of the DOC Framework was extended to all physical therapist practice and education constituents. The open comment period invitation was announced during the 2023 APTA Educational Leadership Conference and distributed to the 24 partner organizations of the APTA Collaborative for Physical Therapy Education to be shared with their members. Participant details (N, characteristics) for each phase are shown in Table 1.

METHODS

The Work Group

Formed in 2019 by the Educational Leadership Partnership, the DOC Work Group ("Work Group") comprised 7 physical therapists with diverse backgrounds in academia, research, and clinical practice. The Work Group was charged with developing *DOC and Entrance to Practice Competencies* for the profession of physical therapy.

Study Design

A mixed-methods, survey design including a priori quantitative thresholds and integration of qualitative feedback was used.

Consensus Building Process

For all phases of this project, the Work Group used an iterative, three-tiered approach for construction, data integration, and revisions of the components of the DOC Framework. The 3 tiers were:

1. Initial task completion: Two team members independently completed an assigned task.
2. Collaborative review: These members then shared their work and collaborated with the Work Group to achieve consensus on the assigned task.
3. Team consensus: The entire Work Group reviewed and reached consensus on each task, guided by the initial work and recommendations of the 2 members.

Components were evaluated individually within defined parameters and in the broader project context. In some cases, revisions in 1 area of the DOC Framework influenced other areas. Team members worked on various components throughout the project, ensuring a cohesive and comprehensive final product.

Surveys

Surveys were designed with consistent concepts across all phases. They focused on 2 key aspects: 1) clarity and 2) defining the "essence" of the physical therapy profession. Additional questions addressing title agreement, content depth, breadth, redundancy, and usefulness of supplemental documents were included for appropriate sections of the framework. Feedback was collected from the reactor panel using 2 question formats: 1) a five-point Likert scale with descriptive anchors and 2) open comment boxes for qualitative feedback. Survey questions, including the Likert scales, can be found in Supplemental Digital Content 1 (Supplemental file 1. Surveys were administered using RedCap 14.0.30, <http://links.lww.com/JOPTE/A357>).

Project Phases

The development of the DOC Framework proceeded through 8 phases as illustrated in Figure 1. Phase 1 and phase 4: conducted comprehensive literature reviews and evaluated existing CBE frameworks in health care disciplines (medicine,³⁰ dentistry,³¹ veterinary medicine,¹⁴ Competency profile for physiotherapists in Canada¹⁸). Phase 1 resulted in a draft of DOC spanning the

physical therapy learner continuum⁴ (novice to expert), while phase 4 produced a draft of core entrance-to-practice competencies associated with each domain. In phase 2 (DOC) and phase 5 (competencies), initial drafts of the respective components of the DOC framework were sent to the reactor panel for review and feedback. Revisions were made using the consensus-building process previously described and integrated quantitative and qualitative feedback received from the reactor panel. In phase 3 and phase 6, revised versions of the components of the DOC Framework were sent back to those reactor panel members who participated in phases 2 and 5 for further comment. In phase 7, a complete draft of the DOC and core entrance-to-practice competencies and associated documents were subjected to an open comment period for broader feedback. Feedback from the open comment period was used to further revise the DOC Framework following the consensus-building process previously described. In phase 8, the reactor panel provided feedback on a new domain and its associated competencies, developed based on feedback from the open comment period.

Benchmark

Before reviewing initial feedback from the reactor panel, the Work Group established a threshold for quantitative item review: Items were eligible to remain unchanged if 80% or more of responses rated them as a 4 or 5 on the Likert scale; items scoring lower were earmarked for revision or removal. For the remainder of this manuscript, this criterion will be referred to as the "threshold".

Data Analysis

Quantitative results underwent statistical analysis using SAS version 9.4 TS1M8 (9.4 M8). Descriptive statistics (means, frequencies) for quantitative questions were calculated. The threshold was applied to all quantitative survey questions to determine which required revisions or removal and which were eligible to remain unchanged. Qualitative comments were reviewed for recurring patterns and key ideas and then grouped into themes that captured the main concepts expressed by participants. Integration of quantitative analysis and qualitative data themes was used to make decisions about revisions to the DOC framework components across the 3 tiers of the consensus-building process previously described. All items, even those that met the quantitative threshold, were considered for revision based on the integration of

Table 1. Reactor Panel and Open Comment Participant Demographics

Characteristic n (%)	Phase 2: Domains (n = 130)	Phase 5: Competencies (n = 104)	Phase 7: Open Comment (n = 123)
Age			
20–29	10 (7.7)	5 (4.8)	16 (13.0)
30–39	30 (23.1)	13 (12.5)	34 (27.6)
40–49	41 (31.5)	37 (35.6)	44 (35.8)
50–59	36 (27.7)	33 (31.7)	28 (22.8)
60+	13 (10.0)	16 (15.4)	23 (18.7)
Gender			
Female/woman	97 (74.6)	76 (73.1)	70 (56.9)
Male/man	31 (23.9)	27 (26.0)	51 (41.5)
Other/declined to state	2 (1.5)	1 (1.0)	4 (3.3)
Ethnicity			
Not Hispanic or Latino	127 (97.7)	102 (98.1)	117 (95.1)
Hispanic or Latino	3 (2.3)	2 (1.9)	6 (4.9)
Race			
White	114 (87.7)	89 (85.6)	110 (89.4)
Black or African American	9 (6.9)	6 (5.8)	2 (1.6)
Other	7 (5.4)	9 (8.7)	11 (8.9)
Region ^a			
East North central	30 (23.1)	22 (21.2)	15 (12.2)
South Atlantic	26 (20.0)	23 (22.1)	30 (24.4)
Pacific	18 (13.9)	15 (14.4)	12 (9.8)
West North central	14 (10.8)	13 (12.5)	14 (11.4)
Middle Atlantic	16 (12.3)	10 (9.6)	21 (17.1)
New England	7 (5.4)	6 (5.8)	10 (8.1)
West south central	4 (3.1)	4 (3.8)	5 (4.1)
Mountain	5 (3.9)	4 (3.8)	7 (5.7)
East south central	8 (6.2)	5 (4.8)	8 (6.5)
International	2 (1.5)	2 (1.9)	1 (0.8)
Profession			
PT	118 (90.8)	92 (88.5)	121 (98.4)
PTA	6 (4.6)	6 (5.8)	2 (1.6)
Other	6 (4.6)	6 (5.8)	2 (1.6)
Highest degree			
Baccalaureate degree	5 (3.8)	1 (1.0)	2 (1.6)
Master's degree	24 (18.5)	21 (20.2)	7 (5.7)
DPT	36 (27.7)	25 (24.0)	44 (35.8)
tDPT	27 (20.8)	22 (21.2)	25 (20.3)
PhD	31 (23.8)	26 (25.0)	43 (35.0)
Other	9 (6.9)	7 (6.7)	5 (4.1)
Years of experience			
<1	9 (6.9)	6 (5.8)	0 (0.0)
16–20	21 (16.2)	16 (15.4)	18 (14.6)

Table 1. Reactor Panel and Open Comment Participant Demographics *continued*

Characteristic n (%)	Phase 2: Domains (n = 130)	Phase 5: Competencies (n = 104)	Phase 7: Open Comment (n = 123)
21–25	16 (12.3)	20 (19.2)	21 (17.1)
26–30	17 (13.1)	12 (11.5)	11 (8.9)
>30	34 (26.2)	32 (30.8)	34 (27.6)
Missing ^b	33 (25.4)	24 (23.1)	39 (31.7)
Employment setting			
Academic institution	64 (49.2)	56 (53.8)	62 (50.4)
Outpatient	20 (15.4)	16 (15.4)	28 (22.8)
Hospital-based outpatient	20 (15.4)	16 (15.4)	18 (14.6)
Acute care	11 (8.5)	9 (8.7)	2 (1.6)
Skilled nursing facility	1 (0.8)	1 (1.0)	1 (0.8)
Research center	1 (0.8)	1 (1.0)	0 (0.0)
Industry	0 (0.0)	1 (1.0)	1 (0.8)
Other	13 (10.0)	4 (3.9)	8 (6.5)
Clinical specialty			
Orthopedics	43 (33.1)	35 (33.7)	76 (61.8)
Neurology	34 (26.2)	20 (19.2)	29 (23.6)
Cardiovascular and pulmonary	13 (10.0)	12 (11.5)	8 (6.5)
Pelvic health	4 (3.1)	4 (3.8)	5 (4.1)
Sports	18 (13.9)	14 (13.5)	22 (17.9)
Clinical electrophysiological	0 (0.0)	1 (1.0)	4 (3.3)
Geriatrics	29 (22.3)	20 (19.2)	25 (20.3)
Pediatrics	14 (10.8)	7 (6.7)	10 (8.1)
Other	20 (15.4)	8 (7.7)	12 (9.8)
Not applicable	30 (23.1)	31 (29.8)	17 (13.0)
Patient ages			
Pediatrics (0–18 years)	75 (57.7)	55 (52.9)	85 (69.1)
Adults (18–60 years)	145 (111.5)	114 (109.6)	172 (140.7)
Older adults (>60 years)	86 (66.2)	63 (60.6)	83 (67.5)
Not applicable	30 (23.1)	31 (29.8)	17 (13.0)
APTA member			
Yes	118 (90.8)	93 (89.4)	111 (90.2)

Abbreviation: APTA, American Physical Therapy Association.

^aRegions as per the Commission on Accreditation in Physical Therapy Education Programs Fact Sheet.²⁹

^bResponses missing due to error in data capture.

qualitative and quantitative data. This study received approval from the IRB at Columbia University.

RESULTS

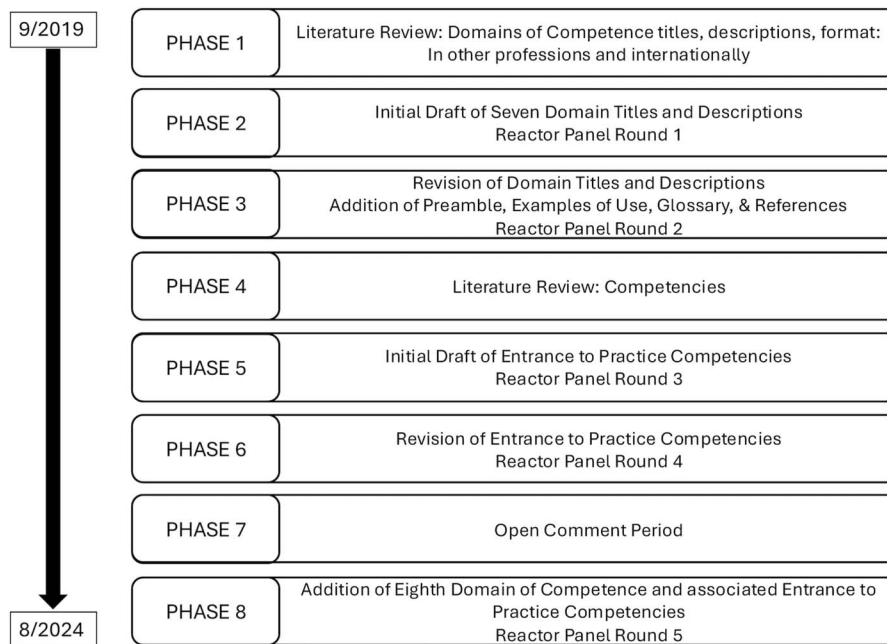
Quantitative results from phases 2 and 3 and domain title and description questions from phase 8 are summarized in Table 2. Quantitative results from phases 5 and 6 and competency questions from phase 8 are

summarized in Table 3. Phases 1 and 4 were developmental in nature and thus did not have results to report. The history of revisions to the DOC titles and descriptions, and the core entrance to practice competencies are displayed in Figure 2. The quantity of qualitative responses is reported in each phase below. The integration of qualitative and quantitative survey results guided the revisions for each phase.

Phase 2

Seven domains with titles and descriptions were presented to the reactor panel, receiving 1,248 qualitative comments from open-ended questions. Quantitative feedback showed that for individual domains, the threshold was met for clarity (82%) and essence (92%), and that 68% indicated no essential aspects of the profession were missing. The DOC Framework as a whole also met the threshold for

Figure 1. Phase of Development. Figure 1 illustrates the timeline and 8 phases of work that occurred in the development of the DOC Framework. A description of what occurred in each phase is included. DOC, domains of competence



essence (86%). Revisions were made to all domain descriptions based on subjective comments. The titles of 4 domains that did not meet the threshold were revised: (Patient and client care and services (76%), Education and learning (70%), Reflective practice and improvement (66%), and Systems-based practice in health care (70%). A preamble, examples of use, glossary, and references were added to the DOC Framework based on qualitative survey responses.

Phase 3

Ninety-eight of the 132 Phase 1 participants completed the Phase 3 survey. The reactor panel reviewed 7 domains with titles and descriptions, a preamble, examples of use, a glossary, and references. Subjective comments were not requested for the domain descriptions and titles at this stage. Quantitative results showed that for the individual domains, the threshold was met for clarity (89%) and essence (90%). The threshold was also met for essence for the DOC Framework as a whole (89%). Domain descriptions for 3 domains were revised. Despite not meeting the threshold, the titles for Patient and client care and services (76%), Education and learning (77%), and System-based practice in health care (72%) were not revised. Qualitative comments regarding these titles did not indicate that they inaccurately described the domain, but rather highlighted differing perspectives on the terminology

used within the physical therapy profession. For example, some respondents felt the domain titled Patient and client care and services should be “patient care and services” (excluding the term client), others felt it should be “patient and client care” (excluding the term services). There were a variety of combinations suggested, with no 1 suggestion having strong support. Given that these titles still had majority agreement (>72%) decisions were made not to further revise the titles. Revisions were made to the preamble, examples of use, and glossary based on 184 subjective comments. Greater than 80% of participants found these additions to the DOC Framework helpful.

Phase 5

Eighty-four participants evaluated 76 competencies within 7 domains. In addition to the standard questions, participants were asked to evaluate if the competencies within a domain captured the depth and breadth of the domain, if there was unnecessary redundancy of competencies, and if any competencies did not fit in the domain. Feedback was requested at the levels of individual competencies, within a domain, and across the entire DOC Framework. The competencies within 6 domains met the threshold for clarity (90% or greater). One domain, Patient and client care and services, had 4 competencies that did not meet the threshold for clarity. The competencies in 6 domains met the threshold for

essence (93% or greater). The Patient and client care and services domain had 1 competency below the threshold for essence. Greater than 88% of participants felt the competencies capture the depth and breadth of the domains, perceived redundancy ranged from 12% (Education and Learning) to 42% (Patient and client care and services), and between 1% to 19% felt there were competencies that did not fit in the domains in which they were placed. There were 1,292 subjective comments from open-ended questions. Based on all feedback, 40 competencies were revised, 8 were removed, and 1 was added, resulting in 69 competencies across 7 domains.

Phase 6

Sixty-seven of the 84 Phase 5 participants completed the Phase 6 survey. The reactor panel reviewed the revised competencies. The competencies across all domains averaged greater than 92% for clarity and essence. However, the Patient and client care and services domain had 1 competency that fell below the threshold for clarity, and the domains of Patient and client care and services, Reflective practice and improvement, and Professionalism domains each had 1 competency below the threshold for essence. There were 257 subjective comments from open-ended questions across all domains. Eighteen competencies were revised, 5 were removed, and 1 was added, resulting in 65 competencies across 7 domains.

Phase 7

One hundred and twenty-three individuals participated in the open comment period. They were presented with the full DOC Framework comprising 7 domains, 65 competencies, a preamble, examples of use, a glossary, and references. Participants were asked to comment on the clarity and essence of the DOC Framework as a whole and were provided the opportunity to submit specific comments about all aspects of the DOC Framework. A total of 365 subjective comments from open-ended questions were received. Based on this feedback, a new domain of competence titled “Knowledge for practice” was incorporated, along with 4 new competencies under this domain. Further revisions were implemented in the preamble, domain descriptions, and competencies, without removing any competencies originally listed.

Phase 8

Sixty reactor panel participants completed the Phase 8 survey. During this phase, participants were tasked with reviewing and

Table 2. Domain Titles and Descriptions: Percent of Responses That Were 4/5 or 5/5

Phase 2 (Reactor Panel Round 1)			n = 98
Domain ^a	Clarity	Essence	Title
Patient/Client care & services	79%	97%	77%
Communication	93%	98%	96%
Practice management	88%	94%	89%
Education & learning	73%	92%	75%
Reflective practice & improvement	85%	95%	68%
Professionalism	94%	98%	99%
Systems-based practice in health care	85%	92%	71%
Overall framework	—	88%	—

PHASE 3 (Reactor Panel Round 2)			
Domain	Clarity (%)	Essence (%)	Title (%)
Patient/client care & services	91	91	78
Communication	95	95	96
Practice management	91	95	89
Education & learning	91	91	78
Reflective practice & improvement	82	83	81
Professionalism	91	99	99
Systems-based practice in health care	90	89	72
Overall framework	—	90%	—

Additional Components	Helpfulness (%)
Preamble	87
Examples	81
Glossary	85

PHASE 8 (Reactor Panel Round 5)			
Domain	Clarity (%)	Essence (%)	Title (%)
Knowledge for practice	88	93	71

^aFor clarity purposes, the names of domains are presented as they were finalized.

providing feedback on the newly introduced domain and its corresponding competencies, both independently and within the complete DOC Framework. The new domain met the threshold for clarity (88%) and essence (93%), and 71% agreed with the title. All 4 associated competencies met the threshold for clarity (84%) and essence (84%).

Full Domains of Competence Framework

Following the 8 phases of development, the full DOC Framework comprises 8 domains encompassing 69 competencies, along with a preamble, examples of use, references, and

a glossary. Figure 3 illustrates the finalized 8 DOC. The complete DOC Framework, including the DOC, core entrance-to-practice competencies, and accompanying elements can be found in Supplemental Digital Content 1 (Supplement File 2, <http://links.lww.com/JOPTE/A358>).

DISCUSSION AND CONCLUSION

We developed a DOC framework that spans the physical therapist learner continuum and that can provide a cohesive educational structure across the profession. The DOC Framework represents a critical advancement

in addressing unwarranted education and practice variation by establishing core expectations that are applicable and achievable across entry-level programs. The development process was iterative and consensus-building, continuously engaging nationwide representatives from key constituent groups and inviting input from the broader professional community. The DOC Framework received strong support for its clarity and ability to encapsulate the essence of the physical therapy profession, as evidenced by feedback from the reactor panel and participants in the open comment period.

Table 3. Competencies: Average Percent of Responses That Were 4/5 or 5/5 for all Competencies Within a Domain

Domain ^a	Clarity (%)	Essence (%)	Depth (%) ^b	Redundancy (%) ^c	Fit (%) ^d
Phase 5 (reactor panel round 3)					n = 84
Patient/Client care & services	91	95	89	42	15
Communication	91	97	88	30	8
Practice management	95	95	95	27	19
Education & learning	97	97	94	12	1
Reflective practice & improvement	90	94	92	19	1
Professionalism	96	96	94	20	5
Systems-based practice in health care	95%	97%	98%	13%	10%
PHASE 6 (reactor panel round 4)					n = 67
Patient/Client care & services	96	97	—	—	—
Communication	92	94	—	—	—
Practice management	96	94	—	—	—
Education & learning	97	92	—	—	—
Reflective practice & improvement	95	99	—	—	—
Professionalism	98	94	—	—	—
Systems-based practice in health care	95	92	—	—	—
PHASE 8 (reactor panel round 5)					n = 60
Knowledge for practice	84	84	82	15	7

^aFor clarity purposes, the names of domains are presented as they were finalized.

^bReactor panel members were asked to rate how well the competencies within a domain captured the depth and breadth of the domain.

^cReactor panels were asked if competencies within the domain were unnecessarily redundant, percent reported represent those who answered “yes.”

^dReactor panels were asked if competencies within the domain did not fit, percent reported represent those who answered “yes.”

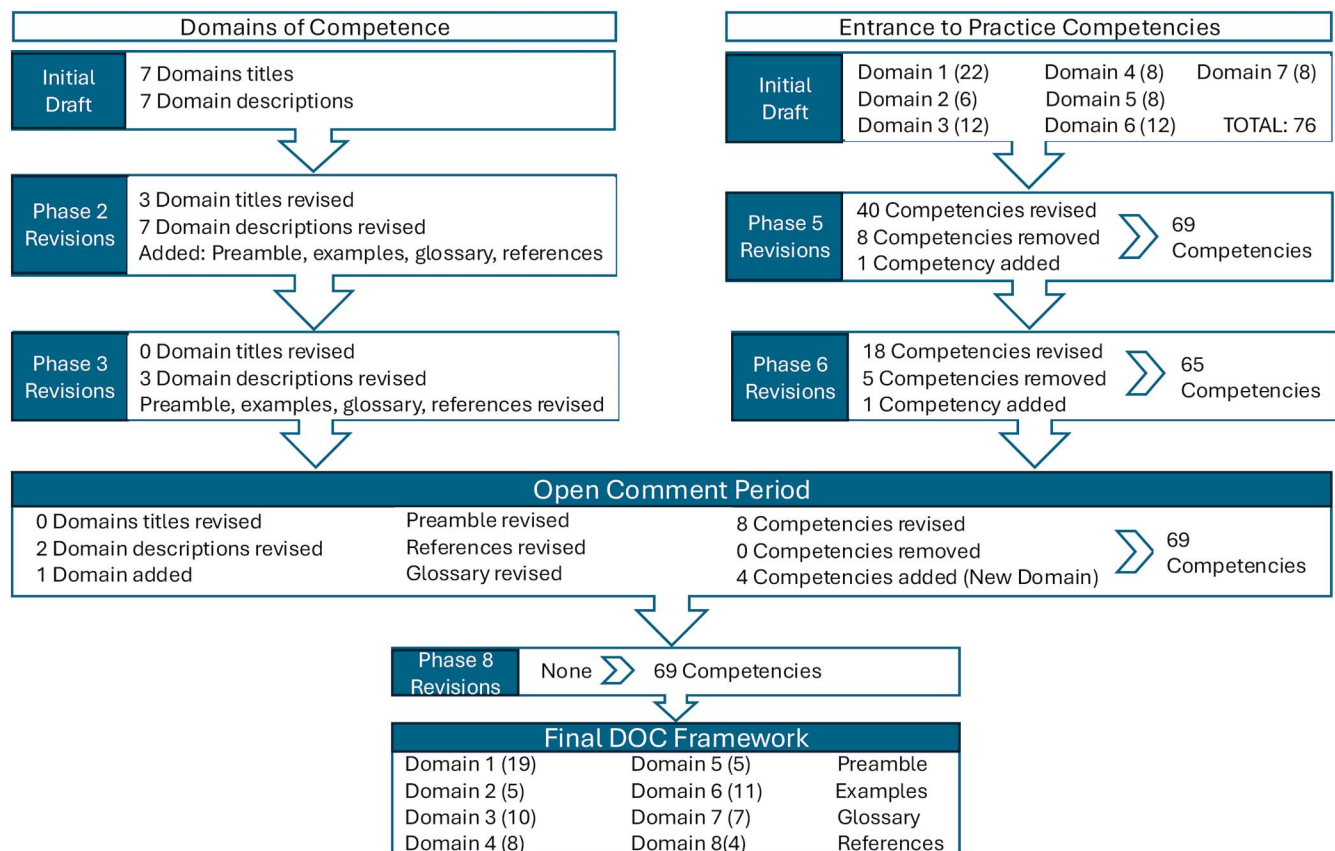
The strength of this work lies in its mixed methods approach, which established a priori quantitative thresholds and integrated qualitative feedback. We implemented strategies to minimize bias from the Work Group, including setting an a priori threshold of 80% of ratings at 4 or 5 on the Likert scale, and ensuring rotation of team members across components of the DOC framework throughout all 8 phases. Qualitative comments provided rich information to enhance all decisions about items, including those that met the quantitative threshold. Notably, several items that met the threshold for clarity and essence were still revised based on integrating quantitative and qualitative feedback. The diverse composition of the nationwide reactor panel enriched the feedback that was received, further strengthening the DOC Framework. These strengths contributed to quantitative results far exceeding the a priori threshold and establishing consensus on the final product of the Work Group.

Another key aspect of our work was extensive literature reviews related to CBE, a review of current CBE frameworks in other professions, and engagement with recognized

experts in CBE. Similarities exist across the existing frameworks^{14,18,30,31} and ours in terms of domain names and descriptions. Key concepts that are present across all frameworks, including ours are professionalism, communication, patient care, professional knowledge, and clinical decision-making. While the format and content of competencies varied greatly, the structure of our competencies most closely aligns with those of medicine.³⁰ Similar to the Competency Profile for Physiotherapists in Canada¹⁸ we included within this DOC Framework, a preamble and glossary to facilitate understanding and application. Unique to this DOC Framework is the inclusion of examples of use that will help those across the physical therapy profession envision possible applications of this DOC Framework. Ultimately, our work is tailored to the profession of physical therapy and has culminated in a DOC Framework that consists of 8 DOC that span the learner continuum, 69 core entrance-to-practice competencies, a preamble to provide a rationale and development history, examples of use to help users visualize applications, references, and a glossary to establish clear terminology.

It is also important to note that at the time our work began, a multi-year effort to implement DOC and associated competencies for physical therapist residents was underway. Recognizing that the ongoing work related to competencies for physical therapist residents was specific to a phase of the learner continuum, while ours aimed to span the entire learner continuum, a decision was made to proceed forward. Upon the publication of these residency domains and competencies, we reviewed our work for alignment opportunities but acknowledged that the differing purposes of each framework prevented identical outcomes. Domain titles and descriptions were closely aligned with both frameworks, including concepts such as knowledge for practice, patient management, communication, professionalism, education, and learning and systems-based practice. Competencies differed in structure, and the residency framework included milestones. The residency framework was reviewed in 2024, integrating analysis of 3 years of data and considering the DOC framework described in this paper to determine opportunities for alignment between the 2 frameworks. The APTA group that conducted the review reports that the domains are now aligned and the competencies

Figure 2. Revision Process. Figure 2 portrays the history of revisions that occurred in each phase, including the original number drafted as well as the number of revisions, removals, and additions. Domains are referred to by number with Patient and Client Care and Services being Domain 1, Communication being Domain 2, Practice Management being Domain 3, Education and Learning being Domain 4, Reflective Practice and Improvement being Domain 5, Professionalism being Domain 6, Systems Base Practice in Health Care being Domain 7, and Knowledge for Practice being Domain 8. The final number of competencies in each domain is indicated in parenthesis in the Final DOC Framework box. DOC, domains of competence



have been revised to reflect and exceed the entrance-to-practice competencies established in our framework.³² These outcomes suggest enhanced synergy between the 2 frameworks, creating a development process across the learner continuum. Unifying these 2 works is a critical step in moving the profession toward a comprehensive CBE framework.

Limitations

Developing competency frameworks presents several challenges, especially since the use of CBE has been limited and varied across physical therapy programs in the United States over the last decade. Although we integrated training modules on CBE into the reactor panel process, it remains unclear to what extent the reactor panel members fully grasped the principles of CBE. The varying levels of understanding among reactor panel members may have influenced their ratings and qualitative comments. The development of this DOC Framework also faced interruptions due to the COVID-19 pandemic, which delayed progress and

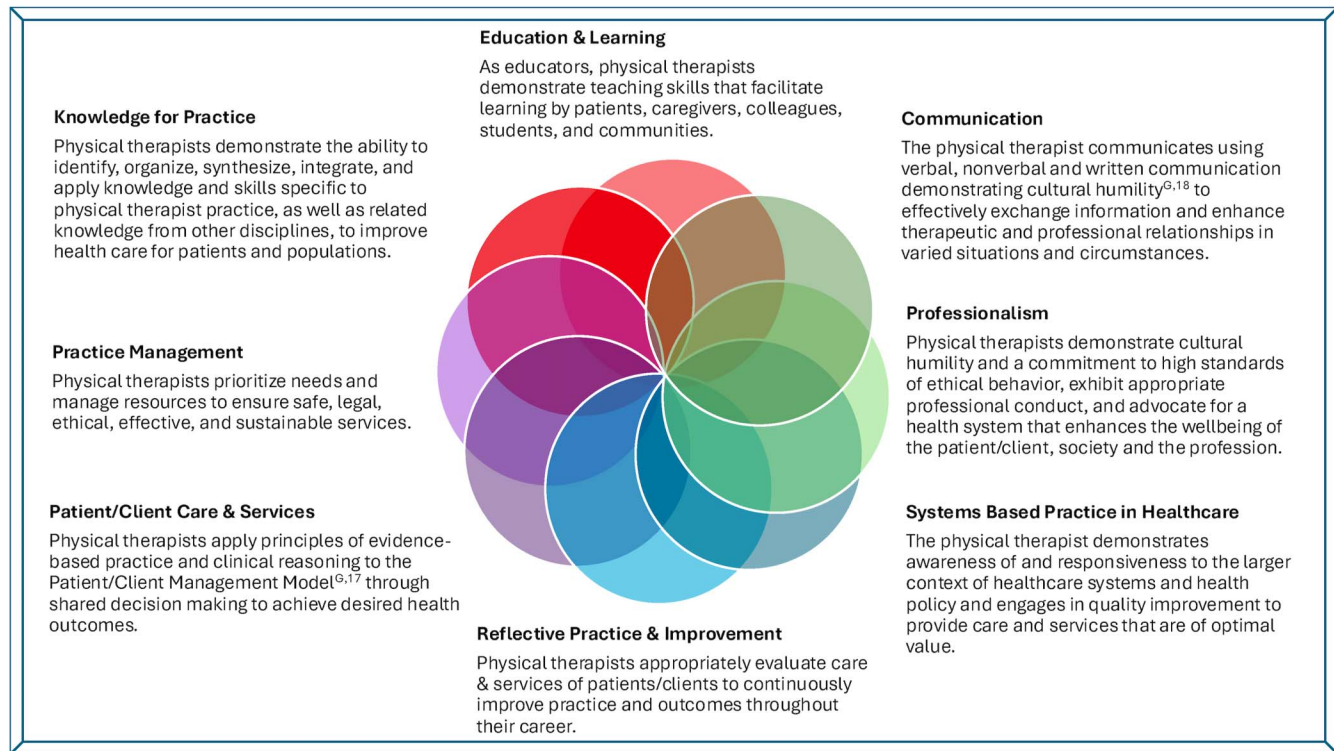
limited engagement from the reactor panel. Finally, the uncoordinated and overlapping development of the DOC framework and the physical therapist resident framework limited initial cohesion between the frameworks. However, as noted above, all opportunities to enhance synergy between the frameworks have been maximized. In addition, the ongoing review and revision of both frameworks offer continued opportunities to seek alignment and move toward a unified framework.

Future Directions

Developing this DOC Framework that spans the learner continuum is a crucial step toward adopting CBE in physical therapy, but it is only the beginning. We anticipate that the DOC Framework will continue to evolve. Once the Work Group completed the development of the DOC Framework, our efforts were passed onto the working group that was charged by the ELP with developing EPAs for the physical therapist. Entrustable professional activities are “tasks that can be entrusted to learners to perform unsupervised when they have been deemed

competent.”^{33,34} The EPA working group will map the core entrance-to-practice competencies and align the domains with the EPAs they develop. During that process, it is expected that the competencies will be further refined, potentially edited, combined, or removed. This next step of the process affords another opportunity to consider optimizing alignment between the DOC framework that is intended to span the learner continuum and the domains and competencies of physical therapist residents and other practicing clinicians. In addition, as physical therapist programs start to implement and apply the DOC Framework, valuable insights will emerge, further enhancing and customizing the DOC Framework to meet our professions’ needs. To successfully implement the DOC Framework, substantial changes will be required at the program and institutional levels and at clinical affiliation sites. At the program level, key adjustments should be considered in curriculum design (including integration within lock-step programs), curricular review processes, teaching strategies, assessment methods, and program outcomes. At the

Figure 3. DOC and Descriptions. Figure 3 displays the descriptions of the final 8 domains for the physical therapist profession that are intended to span the learner continuum. DOC, domains of competence



institutional level, revisions to policies and procedures related to enrollment management, student progression, time to degree completion, course completion, and course retakes should be considered. These institutional changes will necessitate the active engagement, support, and collaboration of multiple departments within the institution. At clinical affiliation sites, clinical partners will require education on CBE principles and support in implementing strategies addressing operational aspects of CBE, such as the use of entrustment scales and documentation expectations. A critical next step in this work is developing resources and tools to support academic and clinical faculty and institutions interested in adopting this framework. We expect that many of these tools will be developed by the faculty and physical therapist programs that are early adopters of this DOC framework and through collaborative educational research efforts. While the focus of the work thus far has been on the development of CBE frameworks for physical therapist education and practice, another crucial step toward adopting CBE in physical therapy is developing complementary CBE frameworks for physical therapist assistant education and practice.

CONCLUSION

This DOC Framework has the potential to significantly enhance both physical therapy

education and practice outcomes by establishing core competency expectations for entry-level practice and offering a common domain framework that spans the learner continuum and aims to meet the evolving needs of society. The 8 domains and 69 core entrance-to-practice competencies within this framework lay the groundwork for an evolving CBE approach in physical therapy education. It is expected that this DOC Framework will continue to be refined as work on the EPAs progresses and with the valuable feedback that will be received as physical therapist educational programs that implement the DOC Framework. The DOC Framework is intended to be dynamic and adaptable, advancing as the profession does. Creating resources and educating faculty and institutions on the principles of CBE will be crucial for the successful implementation of this DOC Framework.

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