Observations and Performances “with distinction” by Physical Therapy Students in Clinical Education: Analysis of Checkboxes on the Physical Therapist Clinical Performance Instrument (PT-CPI) over a 4-Year Period

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ABSTRACT

Purpose: To describe how often the 24 performance criteria of the Physical Therapist Clinical Performance Instrument (PT-CPI) were not observed and how often they were rated exceptionally well for physical therapy (PT) students in relation to clinical placement descriptors. **Methods:** Indicators of “not observed,” performance “with distinction,” and “significant concerns” were tabulated from 1,460 clinical placements between 2008 and 2012. The rates for these indicators were evaluated with respect to catchment area, practice setting (hospital/institutional or community-based), practice area (musculoskeletal, cardiorespiratory, neurology, paediatrics, geriatrics, or variety), and level (junior to senior). **Results:** Of the 24 PT-CPI criteria, 15 had observation rates >95%. Of the other nine criteria, some showed significant differences in observation rates across level, practice setting, and practice area. Ratings of “with distinction” were awarded most often for criteria related to professionalism and communication and were awarded more often in community-based settings than in hospital/institutional settings. For some criteria, “with distinction” was awarded more often in paediatrics placements than in other areas. The “significant concerns” checkboxes were rarely used. **Conclusions:** The overall observation rates were very similar to those reported elsewhere. The findings related to performance “with distinction” and observation rates relative to setting and practice area are new contributions to physical therapy knowledge.

Key Words: clinical competence; educational measurement; students; therapy; education, professional.

RÉSUMÉ

Objectif : Décrire la fréquence à laquelle les 24 critères de rendement de l'Instrument d'évaluation du rendement clinique des physiothérapeutes (ERC-PT) n'ont pas été observés et la fréquence à laquelle ils ont obtenu une note exceptionnellement élevée pour les étudiants en physiothérapie en fonction des descripteurs des stages cliniques. **Méthodes :** Les indicateurs de « non-observation » et de rendement « avec distinction » et « avec préoccupations importantes » ont été mis en tableau pour 1 460 stages cliniques de 2008 à 2012. Les taux pour ces indicateurs ont été évalués en fonction de l'aire de recrutement, du contexte de pratique (à l'hôpital/en établissement ou dans la collectivité), du domaine de pratique (appareil locomoteur, appareil cardiorespiratoire, neurologie, pédiatrie, gériatrie, ou divers) et du niveau (débutant à expérimenté). **Résultats :** Parmi les 24 critères de l'ERC-PT, 15 ont obtenu des taux d'observation supérieurs à 95%. Pour ce qui est des 9 autres critères, certains affichaient des écarts considérables dans les taux d'observation pour le niveau, le contexte de pratique, et le domaine de pratique. La mention « avec distinction » a été accordée le plus souvent pour des critères liés au professionnalisme et à la communication, et plus souvent dans un contexte de pratique dans la collectivité qu'à l'hôpital/en établissement. Pour certains critères, la mention « avec distinction » a été accordée plus souvent dans les stages en pédiatrie que dans d'autres domaines. La case « avec préoccupations importantes » a été très rarement utilisée. **Conclusions :** Les taux globaux d'observation étaient très semblables à ceux déclarés ailleurs. Les constatations liées au rendement avec distinction et les taux d'observation liés au contexte et au domaine de pratique sont de nouvelles contributions au savoir.

In most Canadian physical therapy (PT) programmes, the principal tool for evaluating students' clinical performance is the Physical Therapist Clinical Performance Instrument (PT-CPI) developed by the American Physical Therapy Association.^{1,2} The physiotherapist supervising the student—the clinical instructor (CI)—rates the stu-

dent's performance on the PT-CPI's 24 criteria at two time points: mid-term and final. Each criterion consists of a key statement and sample behaviours; criteria are rated on a visual analogue scale (VAS; left = novice clinical performance, right = entry-level performance). Three checkboxes are also available for all criteria: “not observed,”

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“with distinction,” and “significant concerns.” The “with distinction” box is intended to be checked when the student’s performance has exceeded the expectations for entry-level performance, and the “significant concerns” box is checked when the student’s “performance on this criterion places student at risk of failing this clinical experience.”¹

Students in the Queen’s University Physical Therapy (QUPT) programme are expected to complete five 6-week clinical placements. The QUPT programme has used the PT-CPI (December 1997 version) since it became available. As part of a larger project, we compiled data from 1,460 PT-CPI reports from five consecutive cohorts of QUPT students, counting occurrences of “not observed,” “with distinction,” and “significant concerns.” The purpose of the present report is to describe how often competencies were not observed and how often they were rated exceptionally well among PT students in relation to descriptors of their placements, namely catchment area, practice setting, PT practice area, and level. We compare our data to another large Canadian data set on the PT-CPI.³

METHODS

The data and analysis reported here were part of a programme evaluation project approved by the Queen’s University General Research Ethics Board.

Data Compilation

PT-CPI reports from all placements of four student cohorts were examined, as well as PT-CPI reports from first-year placements of a fifth cohort. PT-CPI criteria were deemed unobserved if either the “not observed” box was checked or the CI omitted a rating and wrote “n/a” or the equivalent on the report. The observation rate (%) for each PT-CPI criterion was 100% minus the percentage not observed. Criteria were deemed to have a valid rating of “with distinction” if either (a) the rating on the criterion’s VAS line was at the farthest right anchor position or (b) the CI checked the “with distinction” box instead of making a VAS rating. Criteria were considered invalidly rated as “with distinction” when there was a corresponding VAS rating at an inappropriate anchor position. Criteria were deemed a source of “significant concerns” if the appropriate box was checked.

Each PT-CPI report was linked to an entry in the QUPT clinical education database, from which we obtained three placement descriptors: (1) catchment area in which the placement occurred, (2) type of practice setting, and (3) PT practice area. Placements were also coded by level, from most junior to most senior; course codes for clinical placements in the QUPT programme range from PT881 through PT885.

Data Analysis

We compiled the records in IBM SPSS Statistics, version 21, and visually examined the counts and frequencies of

all data. For statistical analysis, we collapsed some descriptors, principally to ensure a large enough count in each category for meaningful comparison. Catchment area was collapsed into three categories: (1) inside the QUPT catchment area, (2) outside the QUPT catchment area but within Canada, and (3) outside Canada (international). Data from international placements were excluded from statistical comparisons by catchment area. Practice setting was collapsed into two categories: (1) hospital/institutional (comprising acute care, rehabilitation, and long-term care, whether in-patient or out-patient, including children’s treatment centres) and (2) community-based (comprising private practice and home care). Placements whose setting was described as occupational health, research, or “other” were excluded from statistical comparisons by practice setting because of variations in data from those placements. Practice area was collapsed into six categories: (1) cardiorespiratory (CR), (2) musculoskeletal (MSK), (3) neurology, (4) paediatrics, (5) geriatrics, and (6) “variety”. Placements whose practice area was deemed research or “other” were excluded from statistical comparisons by practice area.

Note that a placement excluded from one analysis may have been retained for another analysis; for example, the report from an international paediatrics placement in a community setting would have been included in our analyses of practice area, setting, and level, despite being excluded from the catchment-area analysis.

We calculated frequencies and cross-tabulation distributions for rates of observation, “with distinction,” and “significant concerns.” We then examined differences in rates using Fisher’s exact test. This test is recommended for 2×2 contingency tables, especially when any of the cells has a very small value. For descriptors for which there was more than one category, Fisher’s exact test compared one category to all other categories combined. To reduce the chances of Type I error in the large number of pairwise comparisons, we chose a p -value of 0.01 as the threshold for statistical significance.

RESULTS

Of 1,463 PT-CPI records from placements between January 2008 and September 2012, we were able to analyze 1,460; the other three records were excluded because CIs had not completed the PT-CPI criteria pages. These 1,460 records were from 337 PT881 placements, 328 PT882 placements, 261 PT883 placements, 265 PT884 placements, and 269 PT885 placements. The numbers between placements are uneven partly because the data set included first-year placement data from five student cohorts and second-year placement data from only four cohorts and partly because some placements were more frequently repeated by students (e.g., a student who did not successfully complete PT881 on the first attempt would have been assigned an additional placement also coded as PT881).

The majority of PT-CPI records ($n = 1,129$, 77.3%) were from placements in the QUPT catchment area; the rest were from placements that took place elsewhere in Canada ($n = 299$, 20.6%) or abroad ($n = 32$, 2.2%). The majority of PT-CPI records were from placements in hospitals or other institutional settings ($n = 876$, 60.0%), and most of the remaining records were from placements in community-based settings ($n = 536$, 36.7%). Excluding occupational health, research, and "other" placements from statistical analysis of setting removed only a few records ($n = 48$, 3.3%). Approximately half of placements' practice area were classified as MSK ($n = 729$, 49.9%); the next largest group was "variety" ($n = 342$, 23.4%). There were similar numbers of placement practice areas that classified as CR ($n = 141$, 9.7%) and neurology ($n = 133$, 9.1%), and fewer that classified as paediatrics ($n = 78$, 5.3%) and geriatrics ($n = 29$, 2.0%). Excluding research and "other" placement records from statistical analysis of practice area removed few records ($n = 8$, 0.5%). Unsurprisingly, practice area for placements was not equivalent across settings: in hospital/institutional settings, 16% of placements were in CR, 29% in MSK, 14% in neurology, 8% in paediatrics, 3% in geriatrics, 29% in "variety," and 1% in "other"; in community-based settings, 87% of placements were in MSK, 12% in "variety," and 1% in all other areas combined.

Observation Rates

Table 1 shows how often each PT-CPI criterion was completed. The table also shows percentage of completion for the criteria reported by Proctor and colleagues based on 1,039 PT-CPI reports from seven cohorts of students.³ For 15 of the 24 criteria, >95% of placement records included an observation; the observation rate on eight other criteria was $\geq 62.1\%$. The observation rate on criterion #17 (providing consultation) was the lowest at 28.4%. For all 24 criteria, our observation rates were similar to those found by Proctor and colleagues.³ We explored observation rates from the perspective of catchment area, placement level, setting, and area of practice for the nine criteria with rates <95%.

Criterion #5 (legal practice standards) showed no significant differences in observation rates across catchment areas, placement levels, settings, or areas of practice. Criterion #10 (screening patients for PT services) showed no significant differences in observation rates across catchment areas, settings, or practice areas, but we did observe a significant difference in placement level: the observation rate was lower in the most junior placement level (79.8%) than in the other four levels combined (87.1%).

For criterion #16 (activities addressing quality of service delivery), the observation rate was 82.1% with no significant differences across catchment area or level. The observation rate was significantly lower in community-based settings than in hospital/institutional settings (see

Figure 1A, left panel); it was significantly lower in placements classified as MSK and significantly higher in those classified as neurology (see Figure 1A, right panel).

As other studies have also found,^{3,4} criterion #17 (provides consultation) had by far the lowest observation rate. This criterion was significantly more likely to be rated in placements in the QUPT catchment area than elsewhere in Canada but the observation rate was not significantly different across levels. The observation rate for criterion #17 was significantly lower in community-based settings than in hospital or other institutional settings (Figure 1B, left panel); it was significantly higher in placements classified as paediatrics and significantly lower in those classified as CR (Figure 1B, right panel).

For criterion #18 (addressing patients' needs for services other than PT), the observation rate was lower for placements in the QUPT catchment area than for those elsewhere in Canada; it was also lower for PT881 placements (65.9%) and higher for PT883 placements (85.4%) than for the other three levels (80.3%). The observation rate was significantly lower in community-based settings than in hospital or other institutional settings (Figure 1C, left panel); it was also lower for placements in MSK than for those in any other area of practice and higher for practice areas classified as CR or paediatrics (Figure 1C, right panel). This finding can be explained by the fact that PT881 placements almost all took place in the MSK practice area, while none were considered CR or paediatrics; moreover, almost all PT881 placements took place within the QUPT catchment area, many of them in community-based practice settings. In contrast, PT883 included more paediatrics placements than any other level and was tied with PT884 for highest number of CR placements; PT883 also included the highest proportion of out-of-catchment placements, although these were still a minority.

For criterion #20 (understanding economic factors in the delivery of PT services), the observation rate was higher for placements in the QUPT catchment area than for those elsewhere in Canada but not significantly different across levels. The observation rate was higher for community-based placements than hospital/institutional placements (Figure 1D, left panel) and, relatedly, was comparatively low for placements in the CR and neurology practice areas (Figure 1D, right panel).

Observation rates for criteria #21, #22, and #24 showed no differences by catchment area (Table 1), level, or setting (Figure 2A-C, left panels), but differences occurred across areas of practice. For criterion #21 (using support personnel), the observation rate was significantly lower in MSK and paediatrics placements and significantly higher in neurology and "variety" placements (Figure 2A, right panel). For criterion #22 (responsibilities beyond work/job), the observation rate was significantly lower in neurology placements (Figure 2B, right panel) than in other areas of practice. For criterion #24 (addressing

Figure 1 Observation rates across settings and areas of practice for (A) criterion #16, (B) criterion #17, (C) criterion #18, and (D) criterion #20. Numbers in boxes show absolute numbers of PT-CPI reports. H/I = hospital/institutional; C-B = community-based; CR = cardiorespiratory; MSK = musculoskeletal; Neu = neurological; Paed = paediatrics; Ger = geriatrics; Var = variety.

Table 1 Observation Rates for PT-CPI Criteria

Criteria			Current study					
			Reported by Proctor et al. (2010) ³ % completion	All types and locations combined				Comparisons within our data % in and out of QUPT catchment area
				Both M and F		Only one of M or F		
#	Descriptor							
1	Practices in a safe manner that minimizes risk to patients, self, and others	97.8	99.7	+	0.3	=	100.0	n/a
2	Presents self in a professional manner	98.0	99.8	+	0.2	=	100.0	n/a
3	Demonstrates professional behaviour during interactions with others	97.9	99.8	+	0.2	=	100.0	n/a
4	Adheres to ethical practice standards	96.0	93.7	+	4.1	=	97.8	n/a
5	Adheres to legal practice standards	90.2	82.4	+	6.2	=	88.6	89.5% in catchment, 84.9% out of catchment in Canada, ns [87.5% international]
6	Communicates in ways that are congruent with situational needs	97.5	99.7	+	0.2	=	99.9	n/a
7	Produces documentation to support delivery of physical therapy services	97.9	99.2	+	0.5	=	99.7	n/a
8	Adapts delivery of physical therapy care to reflect respect for and sensitivity to individual differences	97.2	97.5	+	1.3	=	98.8	n/a
9	Applies the principles of logic and the scientific method to the practice of physical therapy	97.2	98.6	+	1.2	=	99.7	n/a
10	Screens patients using procedures to determine the effectiveness of and need for physical therapy service	88.7	78.5	+	6.9	=	85.4	84.9% in catchment, 86.0% out of catchment in Canada, ns [96.9% international]
11	Performs a physical therapy patient examination	97.6	98.9	+	0.8	=	99.7	n/a
12	Evaluates clinical findings to determine physical therapy diagnoses and outcomes	96.9	97.7	+	1.6	=	99.4	n/a
13	Designs a physical therapy plan of care that integrates goals, treatments, outcomes, and discharge plans	97.4	97.5	+	2.0	=	99.5	n/a
14	Performs physical therapy interventions in a competent manner	97.6	99.0	+	0.7	=	99.7	n/a
15	Educates others (patients, family, caregivers, staff, students, other health care providers) using relevant and effective teaching methods	95.3	91.6	+	6.2	=	97.9	n/a
16	Participates in activities addressing quality of service delivery	83.6	75.3	+	6.8	=	82.1	82.9% in catchment, 79.6% out of catchment in Canada, ns [78.1% international]
17	Provides consultation to individuals, businesses, schools, government agencies, or other organizations	32.6	19.7	+	8.8	=	28.4	29.9% in catchment, 19.7% out of catchment in Canada, $p < 0.001$ [56.3% international]
18	Addresses patient needs for services other than physical therapy as needed	80.9	63.3	+	14.6	=	77.9	76.0% in catchment, 84.3% out of catchment in Canada, $p = 0.002$ [77.9% international]
19	Manages resources (e.g., time, space, equipment) to achieve goals of the practice setting	97.6	98.7	+	0.9	=	99.6	n/a
20	Incorporates an understanding of economic factors in the delivery of physical therapy services	64.0	51.2	+	11.0	=	62.1	63.5% in catchment, 56.2% out of catchment in Canada, $p = 0.023$ [68.8% international]
21	Uses support personnel according to legal standards and ethical guidelines	74.5	66.4	+	10.9	=	77.3	76.8% in catchment, 78.9% out of catchment, ns

Table 1 (Continued)

Criteria			Reported by Proctor et al. (2010) ³ % completion	Current study				
				All types and locations combined				Comparisons within our data % in and out of QUPT catchment area
#	Descriptor		Both M and F		Only one of M or F		% with ≥1 rating*	
22	Demonstrates that a physical therapist has professional/social responsibilities beyond those defined by work expectations and job description	90.4	88.2	+	5.1	=	93.4	93.3% in catchment, 93.7% out of catchment, ns
23	Implements a self-directed plan for professional development and lifelong learning	97.3	96.7	+	1.8	=	98.5	n/a
24	Addresses primary and secondary prevention, wellness, and health-promotion needs of individuals, groups, and communities	74.6	56.0	+	12.5	=	68.4	68.5% in catchment, 68.3% out of catchment, ns

*Some sums may not add up due to rounding.

PT-CPI = Physical Therapist – Clinical Performance Instrument; M = mid-term evaluation; F = final evaluation; QUPT = Queen's University Physical Therapy; n/a = not applicable because observation rate so high; ns = not significant.

prevention, wellness, and health promotion), the observation rate was significantly lower in paediatrics and geriatrics placements than in all other areas of practice (Figure 2C, right panel).

Rates of “with distinction”

Table 2 shows how often each criterion was given an indicator of “with distinction.” We found invalid indicators of “with distinction” on all criteria, but these were more rare than those deemed valid. Criterion #2 received the greatest number of valid “with distinction” indicators (almost 21% of reports), followed by criterion #3 (>17%); four other criteria also had “with distinction” on >6% of reports (#1, #6, #8, and #14). For these six criteria, we further analyzed the influence of level, catchment area, setting, and practice area.

Unsurprisingly, rates of “with distinction” rose monotonically through the first four placement levels and remained high for the fifth. Rates for criteria #1, #2, #3, and #8 were 2–4 times as high on senior placements than on junior placements; rates for criteria #6 and #14 were 4–14 times as high.

The rate of “with distinction” was always higher for placements outside the QUPT catchment area than for those within it (see Figures 3 and 4, left) and was always higher in community-based placements than in hospital/institutional settings (see Figures 3 and 4, middle). These findings were also true of the 18 criteria not illustrated.

The relationship of practice area to rate of “with distinction” varied across criteria (see Figures 3 and 4, right), but reports from paediatrics placements were especially likely to have a “with distinction” rating, especially for criteria #6, #8, and #14 (Figure 4, right).

Rates of “significant concerns”

The CIs used the “significant concerns” boxes extremely rarely. For 12 of the 24 criteria, these boxes were

never checked; for the other 12 criteria, the rate of “significant concerns” was 0.1%–0.4% at mid-term (12 criteria) and 0.1% at final evaluation (5 criteria).

DISCUSSION

PT education programmes seek to provide students with comprehensive learning experiences complemented by thorough, fair evaluations. Although developed for an American practice context, the PT-CPI's strengths—rigorous development,² being purpose-built for use in PT student education, and continuing analysis of psychometric properties⁴—have made it a good choice for use in Canadian PT programmes; as a result, it has become familiar to physiotherapists throughout Canada. With Canadian PT programmes now anticipating a transition to the use of a Canadian tool,⁵ we considered it worthwhile to examine what PT-CPI reports reveal about Canadian PT students' placement experiences and how physiotherapists rate PT students' competence.

It is striking how similar our observation rates were to those reported by Proctor and colleagues.³ The same 15 criteria had observation rates ≥95% in both studies; observation rates for the other nine criteria were also similar. Observation rates for placements in the QUPT catchment area were largely similar to those elsewhere in Canada. While there were a few differences between the studies, having a large data set of PT-CPI reports arguably makes this study “overpowered” to find statistical differences. Moreover, placements outside the QUPT catchment area were not evenly matched to those within it with regard to level, setting, and practice area, and those factors were associated with differences in observation rates. Consequently, considering our data set as a whole, we think that our findings are reasonably representative of PT student clinical education throughout Canada.

Figure 2 Observation rates across settings and areas of practice for (A) criterion #21, (B) criterion #22, and (C) criterion #24. Numbers in boxes show absolute numbers of PT-CPI reports. H/I = hospital/institutional; C-B = community-based; CR = cardiorespiratory; MSK = musculoskeletal; Neu = neurological; Paed = paediatrics; Ger = geriatrics; Var = variety.

Table 2 Rates of “with distinction” for PT-CPI Criteria

Criteria		Invalid observations at either M or F	Valid observations of “with distinction”						Adjusted for observation rate		
#	Descriptor		Either M or F	Both M and F		Total*		Observation rate (from Table 1)		Adjusted total	
1	Practices in a safe manner that minimizes risk to patients, self, and others	3.4%	4.0%	+	2.3%	=	6.2%	×	100.0	=	6.2%
2	Presents self in a professional manner	5.3%	12.6%	+	8.3%	=	20.9%	×	100.0	=	20.9%
3	Demonstrates professional behaviour during interactions with others	4.5%	11.8%	+	5.3%	=	17.1%	×	100.0	=	17.1%
4	Adheres to ethical practice standards	1.4%	2.3%	+	1.9%	=	4.2%	×	97.8	=	4.3%
5	Adheres to legal practice standards	0.9%	1.4%	+	1.3%	=	2.7%	×	88.6	=	3.1%
6	Communicates in ways that are congruent with situational needs	3.0%	5.8%	+	1.5%	=	7.3%	×	99.9	=	7.3%
7	Produces documentation to support delivery of physical therapy services	3.1%	4.4%	+	1.4%	=	5.8%	×	99.7	=	5.8%
8	Adapts delivery of physical therapy care to reflect respect for and sensitivity to individual differences	2.0%	4.3%	+	2.0%	=	6.3%	×	98.8	=	6.4%
9	Applies the principles of logic and the scientific method to the practice of physical therapy	1.6%	3.2%	+	0.5%	=	3.7%	×	99.7	=	3.7%
10	Screens patients using procedures to determine the effectiveness of and need for physical therapy service	1.0%	1.4%	+	0.1%	=	1.6%	×	85.4	=	1.8%
11	Performs a physical therapy patient examination	1.6%	2.7%	+	0.5%	=	3.2%	×	99.7	=	3.2%
12	Evaluates clinical findings to determine physical therapy diagnoses and outcomes	1.2%	1.9%	+	0.2%	=	2.1%	×	99.4	=	2.1%
13	Designs a physical therapy plan of care that integrates goals, treatments, outcomes, and discharge plans	1.3%	1.9%	+	0.4%	=	2.3%	×	99.5	=	2.3%
14	Performs physical therapy interventions in a competent manner	2.7%	4.9%	+	1.6%	=	6.4%	×	99.7	=	6.5%
15	Educates others (patients, family, caregivers, staff, students, other health care providers) using relevant and effective teaching methods	2.4%	4.2%	+	0.8%	=	5.0%	×	97.9	=	5.1%
16	Participates in activities addressing quality of service delivery	1.0%	1.2%	+	0.4%	=	1.6%	×	82.1	=	1.9%
17	Provides consultation to individuals, businesses, schools, government agencies, or other organizations	0.1%	0.3%	+	0.1%	=	0.3%	×	28.4	=	1.2%
18	Addresses patient needs for services other than physical therapy as needed	0.4%	1.0%	+	0.1%	=	1.1%	×	77.9	=	1.4%
19	Manages resources (e.g., time, space, equipment) to achieve goals of the practice setting	2.3%	4.1%	+	1.4%	=	5.5%	×	99.6	=	5.6%
20	Incorporates an understanding of economic factors in the delivery of physical therapy services	0.6%	0.4%	+	0.2%	=	0.6%	×	62.1	=	1.0%
21	Uses support personnel according to legal standards and ethical guidelines	0.7%	1.2%	+	0.6%	=	1.8%	×	77.3	=	2.3%
22	Demonstrates that a physical therapist has professional/social responsibilities beyond those defined by work expectations and job description	1.6%	3.2%	+	2.0%	=	5.2%	×	93.4	=	5.6%
23	Implements a self-directed plan for professional development and lifelong learning	2.5%	2.6%	+	2.3%	=	4.9%	×	98.5	=	5.0%
24	Addresses primary and secondary prevention, wellness, and health-promotion needs of individuals, groups, and communities	0.8%	0.6%	+	0.3%	=	1.0%	×	68.4	=	1.4%

*Some sums may not add up due to rounding.

PT-CPI = Physical Therapist Clinical Performance Instrument; M = mid-term evaluation; F = final evaluation.

Figure 3 Rates of valid indicators of “with distinction” for (A) criterion #1, (B) criterion #2, (C) criterion #3. Left: rates for placements outside and inside the QUPT catchment area; middle: rates for placements in hospital/institutional settings and community-based settings; right: rates for placements in different areas of practice. OOC = outside of QUPT catchment area; QUPT = Queen’s University Physical Therapy; H/I = hospital/institutional; C-B = community-based; CR = cardiorespiratory; MSK = musculoskeletal; Neu = neurological; Paed = paediatrics; Ger = geriatrics; Var = variety.

Figure 4 Rates of valid indicators of “with distinction” for (A) criterion #6, (B) criterion #8, (C) criterion #14. Left: rates for placements outside and inside the QUPT catchment area; middle: rates for placements in hospital/institutional settings and community-based settings; right: rates for placements in different areas of practice. OOC = out of QUPT catchment area; QUPT = Queen’s University Physical Therapy; H/I = hospital/institutional; C-B = community-based; CR = cardiorespiratory; MSK = musculoskeletal; Neu = neurological; Paed = paediatrics; Ger = geriatrics; Var = variety.

Observation rates in relation to level and possible redundancy

Low observation for criterion #5 (legal practice standards) is likely due to CIs’ perception of it as somewhat redundant with criterion #4 (ethical practice standards). Recent revisions to the PT-CPI have eliminated these two items and added a composite item.⁶ The Canadian tool currently under development is based on the Essential Competency Profile (ECP) for Physiotherapists in Canada,⁷ which combines legal and ethical requirements into one competency.

Similarly, criterion #10 (screening patients for PT services) and criterion #18 (addressing patients’ needs for services other than PT) may be redundant, as both incorporate the idea of determining a patient’s need for health services. In the revised PT-CPI, these items have been eliminated and a composite item created.⁶ However, observation rates for criteria #10 and #18 differed across levels, which suggests that CIs may provide more opportunities for senior students to demonstrate competence in these areas.

The observation rate for criterion #17 (providing consultation) is much lower than the rate for any other criterion. This finding is not unique to Canadian contexts: in English and colleagues’⁸ survey of American PT academic coordinators of clinical education (ACCEs), respondents commented that “not all criteria are entry level,” citing the example of criterion #17. Adams and colleagues⁴ reported a completion rate of 37.6% for criterion #17 in an American master’s in PT program. The revised PT-CPI has combined this criterion with criterion #15 (educates others) to create a composite criterion⁶; in the ECP, the competencies addressed by criterion #17 are embedded principally in the Collaborator role.

The low observation rate for criterion #20 (understanding economic factors) may also not be unique to Canadian contexts. The revised PT-CPI’s 18 items do not include this criterion; it has been combined with criterion #19 (manages resources) to create a composite criterion that addresses resources more generally.⁶

Observation rates in relation to setting and practice area

Criterion #16 (activities addressing quality of service delivery) was observed less often in community-based settings than in hospital/institutional settings; this finding may be a result of this criterion’s tasks of “follow[ing] clinical pathways or protocols” and “participat[ing] in utilization review,” which may be more common in hospitals or other institutions than in community-based settings. Relatedly, the comparatively low observation rate of criterion #16 in the MSK practice area may be because almost two-thirds of MSK placements took place in community-based settings, and the low observation rate for criterion #18 in both community-based settings and MSK practice may be due to the same overlap for a large proportion of the data set. In community-based settings, there may be fewer situations in which patients

have “needs for services other than [PT]” substantial enough for students to gain competence.

The finding that criterion #20, “understanding ... economic factors in the delivery of [PT] services” was observed more often in community-based settings is unsurprising: transactions related to funding for PT services are more overt in private practice than elsewhere, and students practising in community-based settings likely had more opportunities to demonstrate competence. The low rates of this criterion in CR and neurology placements are likely due to the fact that such placements in our data set almost all took place in hospitals.

The differing observation rates across practice areas for criterion #21 (using support personnel) are difficult to interpret. We obtained some anecdotal insight from CIs’ written explanations on some reports: some CIs wrote that no PT support personnel were employed at the site of some placements, while in other placements, students were expected to do tasks that CIs might themselves have assigned to support personnel because the CI wished to consolidate the student’s competence. The low observation rate for criterion #21 in paediatrics placements contrasts with the comparatively high rate for criterion #17 in these placements. It appears that students in paediatrics placements rarely interacted with support personnel but often interacted with “businesses, schools, government agencies”—probably principally schools.

For criterion #24 (addressing prevention, wellness, and health promotion), the difference in observation rates across practice areas is also difficult to interpret. The areas in which the most complex health conditions are typically seen—neurology, paediatrics, and geriatrics—were those in which students were least likely to be observed showing these behaviours. It may be that CIs addressed prevention, wellness, or health promotion with these patients while encouraging students to focus on competence in other criteria; alternatively, it may be that this criterion is disadvantaged by being the final item on a long tool.

Judging that a student has performed “with distinction”

The “with distinction” box is intended to be used when a student’s performance exceeds entry level.² The large number of invalid indicators of “with distinction,” however, suggests that many CIs are using it to indicate something else—likely that the student has exceeded the CI’s expectations for a PT student at his/her current level. As future evaluation tools move to electronic platforms, where invalid use of the “with distinction” indicator can be prevented, CIs may need to be given a clear means of indicating when a student has exceeded expectations, even if not yet at entry level.

Valid “with distinction” ratings occurred more commonly in placements outside the QUPT catchment area. While it is possible that CIs outside the QUPT catchment area are more generous than those within it, two other

factors—one based on the data, one based on anecdotal experience—imply another reason. First, in our data set, junior (PT881) placements were the most likely to take place within the QUPT catchment area. Second, our experience indicates that when a student repeats a placement (e.g., due to weak performance), it is nearly always in the QUPT catchment area. Both situations are less likely to be associated with performance “with distinction,” and the QUPT catchment area data set contained proportionately more of both types. Thus, it is likely that CIs in the QUPT catchment area use “with distinction” similarly to CIs elsewhere in Canada.

A substantial proportion of QUPT students were perceived to exceed entry-level standards in “present[ing] themselves in a professional manner” and “demonstrating professional behavior during interactions with others” (criteria #2 and #3). It is not clear why these occurred more often in community-based settings than in hospital/institutional settings, especially given that proportions were similar across practice areas.

With respect to criteria relating to communication and adapting to special needs (#6 and #8), students were more likely to be perceived as exceeding entry level in paediatrics placements than in other practice areas. It may be that students encounter challenging situational needs more frequently in paediatrics placements than elsewhere. However, the finding that “with distinction” ratings were higher for criterion #14 (perform[ing] physical therapy interventions) in paediatrics placements was surprising. This finding contrasts with our anecdotal impression that new graduates are unlikely to be employed in paediatric practice areas because such positions require post-graduation experience. Our best guess is that paediatrics placements are rare and that the students who gain access to them may represent a subset with a strong desire for paediatrics experience and strong motivation to perform well in this area.

Students were almost twice as likely to be rated as “perform[ing] physical therapy interventions” (criterion #14) above entry level in community-based settings than in hospital/institutional settings. Most paediatrics placements were considered “hospital/institutional” in our data set and thus are not responsible for this high rate of “with distinction.” Most community-based placements occurred in private practices; students were evidently well prepared to perform interventions in this practice setting.

Reluctance to use the “significant concerns” box

The extreme rarity with which any “significant concerns” box was checked is not surprising, principally because of the experience of one author (RB) in guiding CIs who find it difficult to evaluate a struggling student. On the PT-CPI form, the notation beside the “significant concerns” boxes indicates that CIs should contact the PT programme’s ACCE if checking this box at mid-term

or final. Our experience has been that most CIs are more likely to phone the ACCE than to check a “significant concerns” box; CIs may be reluctant to rate a student’s performance low enough to indicate “significant concerns.” This finding is consistent with the “failure to fail” that has been reported about clinical supervisors of medical students and residents.⁹ In addition, many CIs have told us that they are reluctant to check the “significant concerns” box when they know that a student will have subsequent placements in which to increase competence before graduation.

Strengths and limitations of the study

Our study’s strengths lie principally in the large data set. To our knowledge, it is the largest ever study reported for observation rates, performance “with distinction”, and “significant concerns” on the PT-CPI criteria. The only study reporting a larger data set was the original PT-CPI development and testing study.² Moreover, our study includes all completed PT-CPI reports from a PT programme over multiple years, and we have shown evidence that the profile of PT-CPI reports from our programme’s catchment area was similar to another from placements elsewhere in Canada.

The study’s limitations lie principally in our purely observational research design. There was an uneven balance of placement catchment areas, settings, and practice areas because these occur naturally in the programme. In addition, our analysis did not account for the CIs who filled out the reports: many CIs contributed only one PT-CPI report to the data set, whereas others contributed many.

Implications for PT practice in Canada and future assessment of PT students’ clinical performance

For PT-CPI criteria with different observation rates across setting and practice areas, physiotherapists may consider those activities in relation to their own practice. If they perform those activities often, do they consider them appropriate for students to undertake, and if so, with how much competence? For example, criterion #20 relates to demonstrating an “understanding of economic factors in the delivery of [PT] services.” Hospital-based physiotherapists may do this less explicitly than community-based physiotherapists, and they appear to encourage it less often in PT students. Yet even in community settings, where economic factors are more overt, PT students may not be expected to demonstrate even novice performance and may not be rated when they do. In light of increasing accountability for outcomes in health care, PT students’ competence in this domain should be encouraged and assessed, regardless of setting and area of practice. However, we acknowledge that low observation rates may also be because CIs find the PT-CPI longer than optimal^{10,11} and may therefore omit ratings on any criteria they deem non-essential in assessing students.

The pattern of “with distinction” ratings and the low frequency of “significant concerns” are both reassuring and perplexing. It is reassuring that QUPT students often perform extremely well on clinical placements and that supervising physiotherapists are enthusiastic about their abilities. It is perplexing, however, that the rating of “with distinction” is often awarded inappropriately. This may occur because the VAS on the PT-CPI is set up to “fail” students until they are performing at entry level. The revised PT-CPI uses a new scale,⁶ and the Canadian tool currently under development incorporates a similar one⁵ that may prove to work better. These scales have explicit intermediate anchors between the extremes of novice/beginner and entry level, making it clearer how to rate students who exceed expectations with respect to their level.

CONCLUSIONS

During clinical placements within the QUPT programme, most students were evaluated on the majority of criteria on the PT-CPI. A substantial proportion of QUPT students exceeded physiotherapists’ expectations for conducting themselves professionally, especially in community-based settings. Some criteria were more rarely evaluated than others, apparently because not all behaviours are expected of students at all levels and in all settings and practice areas. Anticipated changes to the evaluation tools for PT student clinical education are expected to address some of the concerns raised by the 24-item PT-CPI.

KEY MESSAGES

What is already known on this topic

The PT-CPI, developed by the American Physical Therapy Association, is used throughout Canada to assess PT students’ performance in clinical education. Observation rates for the PT-CPI’s 24 criteria are very high for 15 items and lower to varying extents for the other nine items, as reported both in American studies and in one large Canadian study.

What this study adds

The observation rates for the PT-CPI criteria show varying patterns by student level, clinical setting, and practice area; these rates may be representative of how

physiotherapists practice in certain areas and what they expect of students. This study represents, to our knowledge, the first systematic exploration of ratings of “with distinction” and shows a high level of performance by many students with regard to professionalism.

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