Physiotherapists and Physiotherapy Student Placements across Regions in Ontario: A Descriptive Comparison

Kathleen E. Norman, BScPT, PhD;* Randy Booth, BScPT, M Manip Ther;*
 Brock Chisholm, BScPT;†‡ Cindy Ellerton, BScPT, MSc;§ Wilma Jelley, BScPT, MEd;¶
 Ann MacPhail, BScPT, MSc;** Paula E. Mooney, BScPT, MScPT;* Brenda Mori, BScPT, MSc;§
 Lisa Taipalus, BScPT;†† Bronwen K. Thomas, BScPT, MSc‡‡

ABSTRACT

Purpose: To describe the distribution and type of physiotherapy student placements in one year relative to the number of practising physiotherapists of Ontario. **Methods:** Site information about physiotherapy students' clinical placements in Ontario in 2010 was obtained from Academic Coordinators of Clinical Education. Worksite information about physiotherapists who reported providing direct patient care at a primary employment site in Ontario and at least 600 practice hours in their annual renewal was obtained from the College of Physiotherapists of Ontario. Each placement and each physiotherapist was attributed to one of Ontario's 14 local health integration networks (LHINs). For each LHIN, a ratio of student placements to practising physiotherapists was calculated, using summed counts. Counts of placement types by setting, patient mix, and practice area were also calculated for each LHIN. **Results:** The 5 LHINs in which the university programmes are located had high placement:physiotherapist ratios, from 0.92 to 0.38. The other 9 LHINs had lower ratios, the 3 lowest at approximately 0.15. There was a wide mix of clinical placement types across LHINs. **Conclusion:** Physiotherapists' participation in physiotherapy students' clinical education varied widely among Ontario regions. Future research could explore whether regional differences are persistent, why they occur, and whether they should be reduced.

Key Words: clinical competence; delivery of health care; education, professional; health manpower; physical therapy; students, health occupations.

RÉSUMÉ

Objectif : Mesurer la répartition et décrire le type de stages des étudiants en physiothérapie en une année, comparativement au nombre de physiothérapeutes en exercice en Ontario. **Méthode :** Les renseignements sur les lieux des stages des étudiants en physiothérapie en Ontario en 2010 ont été obtenus en faisant appel aux coordonnateurs de l'enseignement clinique des universités. Les renseignements sur les milieux de travail des physiothérapeutes qui ont dit offrir des soins directement aux patients dans un établissement de soins de santé primaires en Ontario et qui comptent au moins 600 heures de pratique lors de leur renouvellement annuel ont été obtenus auprès du College of Physiotherapists of Ontario. Chaque stage et chaque physiothérapeute ont été attribués à l'un des 14 Réseaux locaux d'intégration des soins de santé (RLISS) de l'Ontario. Pour chaque RLISS, un rapport entre le nombre de stages étudiants et le nombre de physiothérapeutes en exercice a été calculé à l'aide du total cumulé de chacun. Le nombre de stages d'un type précis par établissement, par type de patients et par domaine de pratique a aussi été calculé pour chaque RLISS. **Résultats :** Les cinq RLISS situés dans la même région où sont offerts les programmes universitaires affichaient un fort taux de stages: le rapport par physiothérapeute y variait de 0,92 à 0,38. Les neuf autres RLISS affichaient des rapports moins élevés, et les trois RLISS comportant le rapport le plus faible affichaient un coefficient de 0,15. On a dénombré un ensemble très varié de types de stages à travers les différents RLISS. **Conclusion :** En Ontario, la participation des physiothérapeutes à la formation clinique des étudiants en physiothérapie varie d'une région à l'autre. Des recherches futures pourraient se pencher sur les différences entre les régions et voir si ces différences sont persistantes, pourquoi elles surviennent et s'il serait important de les atténuer.

Five universities in Ontario have entry-to-profession programmes in physical therapy / physiotherapy (PT). In these programmes, as in all accredited PT university

programmes in Canada, approximately one-third of the curriculum consists of clinical education. Clinical education placements are at least 2 weeks and typically 5–6

From the: *Physical Therapy Program, School of Rehabilitation Therapy, Queen's University, Kingston; †Northern Ontario School of Medicine—West Campus, Thunder Bay; ‡Lake of the Woods District Hospital, Kenora; §Department of Physical Therapy, University of Toronto; ¶Physiotherapy Program, School of Rehabilitation Sciences, University of Ottawa; **School of Physical Therapy, Faculty of Health Sciences, Western University, London; ††Northern Ontario School of Medicine—East Campus, Sudbury; ‡‡Physiotherapy Program, School of Rehabilitation Science, McMaster University, Hamilton, Ont.

Correspondence to: Kathleen E. Norman, School of Rehabilitation Therapy, Queen's University, Kingston, ON K7L 3N6; kathleen.norman@queensu.ca.

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weeks in duration. In the most common model, a PT student is supervised full-time by one clinical preceptor. However, some clinical preceptors supervise more than one PT student at a time^{1,2}; in other situations, a PT student may be supervised by more than one preceptor during a placement. For example, physiotherapists working part-time may share supervision of a student throughout a placement, or a PT student may have a second preceptor if the initial preceptor will be away for part of the student's placement.

Ontario PT education programmes continually strive for an appropriately diverse set of high-quality clinical placement opportunities for PT students. Appropriate diversity is important to ensure that programme graduates are prepared for the roles that physiotherapists undertake in a variety of settings and practice areas. The importance of appropriate diversity is reinforced by the Clinical Education Guidelines for Canadian University Programs,³ the accreditation standards for Canadian PT education programmes,⁴ and the fact that graduates are required to succeed at the Canadian Physiotherapy Competency Examination (PCE)⁵ to become registered physiotherapists.

As members of Ontario university PT programmes, we have anecdotally observed that recruiting an adequate number of sufficiently diverse clinical placement offers that meet programme needs has become increasingly difficult. However, we had no comprehensive quantitative data on which to base evidence-informed decisions about the distribution of PT student placements in Ontario. We therefore set out to begin gathering such data. The purpose of this article is to describe a recent year's worth of PT student placements in Ontario by region relative to the number of practising physiotherapists in these Ontario regions, using a snapshot of the 2010 calendar year. These 2010 PT student placements are also classified by setting, patient mix, and practice area. We discuss potential reasons for regional variations, as well as potential implications for future planning of PT entry-level education.

METHODS

Counting and locating Ontario physiotherapists

We submitted a data request to the College of Physiotherapists of Ontario to obtain information from the database of registered physiotherapists as of December 31, 2010. The data request was restricted to physiotherapists who held certificates authorizing independent practice, had a primary employment site on record, and had reported at least 600 practice hours (across all employment sites) in their last annual renewal (March 2010). The restriction to independent practice certificates excluded records of physiotherapists with provisional practice certificates, who are typically new graduates or new to practice in Canada and have not yet satisfactorily completed the second part of the Canadian PCE; the restrictions on

our data request were designed to minimize the inclusion of physiotherapists not in a position to act as preceptors in 2010. The data we obtained also included registrants' answers to questions about the focus of their practice (musculoskeletal, neurological, etc.), patient age, and employment sector (public, private).

We used primary employment site address and postal code to allocate each physiotherapist to an Ontario Local Health Integration Network (LHIN), using the publicly available search function that finds the applicable LHIN for any Ontario location based on postal code. Every physiotherapist was allocated to a LHIN, regardless of whether his or her employment site was likely to fall within its direct oversight (see Figure 1 for map and list of Ontario LHINs). The summed counts of physiotherapists by LHIN were compared to the most recently available data from the Canadian Institute for Health Information (CIHI).⁶

Counting and locating PT student placements in Ontario

Academic Coordinators of Clinical Education (ACCEs) for PT student placements throughout Ontario (all authors except KN) submitted data to one author (KN) for compilation. These data described PT student placements we had coordinated in 2010, counting only placements that occurred and not placement offers that we had not matched to students. Although Ontario university programmes allow students to travel to other regions of Canada or abroad for placements, those data are not reported here. However, because our purpose was to examine Ontario's capacity to support PT clinical education, we did include placements we coordinated in Ontario for students from PT programmes elsewhere.

Data for each PT student placement included the site address and three descriptors of the placement. We used the site address to assign the placement to an Ontario LHIN, using the publicly available search function as described above. Because the boundaries of universities' PT clinical education catchment areas do not align along LHIN boundaries, each university places students in more than one LHIN. Prior to submitting placement lists for compilation, ACCEs classified each placement according to *setting* (acute care, rehabilitation, community, etc.), *patient status* (in-patient, outpatient, private practice, etc.), and *area of practice* (musculoskeletal, cardiorespiratory, etc.). These descriptors, based on historical practice in one university programme, were agreed on by all programmes for the purposes of this study. For a placement in which the preceptor's caseload was varied, the ACCE could classify it as "mix" for patient status (e.g., a caseload with both in-patients and outpatients) and "variety" for area of practice (e.g., a caseload of patients who may have either or both musculoskeletal and neurological impairments). In each of the three descriptor categories, the ACCE selected only one descriptor for each preceptor involved in the student's place-

Figure 1 Local Health Integration Networks (LHINs) in Ontario.
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ment: for example, patient status could not be classified as both “private practice” and “outpatient.” Where a student had more than one clinical preceptor and the descriptors were different for the different preceptors, all necessary descriptors were used, but we treated the placement as two part-time placements (e.g., weighted 0.8 and 0.2 if the student had one preceptor 4 days/week and a different preceptor on the remaining day), thus ensuring that each student’s placement contributed only one placement unit to the data set.

Ethical considerations and level of analysis

According to the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans (2010), research is exempt from review by a research ethics board (REB) if it relies exclusively on secondary use of anonymous information, does not generate identifiable information, and/or relies on information legally accessible to the public.⁷ The information about PT student

placements was part of our regular work in coordinating PT clinical education; anonymized and aggregated at the LHIN level, it did not generate identifiable information about persons or clinical sites. Moreover, Ontario law dictates what information about registered physiotherapists must be publicly available and what must be protected; the College of Physiotherapists of Ontario provided information for this study in keeping with Ontario law and with the understanding that it would be aggregated by LHIN. Because of the nature of the study, therefore, no REB review was required. However, our data analysis was constrained by ethical principles to remain at the LHIN level rather than exploring at a more granular level.

The counts and ratios of physiotherapists per 100,000 population and PT student placements per physiotherapist were compared descriptively across LHINs. We also calculated rank correlation coefficients (Spearman’s rho)

Table 1 Physiotherapists and Populations

LHIN no.	LHIN name	From CIHI 2010 report			Current analysis		
		2010 population estimate	PT count	PTs per 100K	PT count	% counted	PTs per 100K
1	Erie St Clair	643,467	165	25.6	161	98	25.0
2	South West	952,181	437	45.9	386	88	40.5
3	Waterloo Wellington	747,359	279	37.3	259	93	34.7
4	Hamilton Niagara Haldimand Brant	1,403,678	536	38.2	499	93	35.5
5	Central West	841,767	182	21.6	166	91	19.7
6	Mississauga Halton	1,156,965	376	32.5	349	93	30.2
7	Toronto Central	1,184,571	958	80.9	762	80	64.3
8	Central	1,733,338	606	35.0	522	86	30.1
9	Central East	1,552,885	427	27.5	373	87	24.0
10	South East	488,754	214	43.8	187	87	38.3
11	Champlain	1,245,072	698	56.1	616	88	49.5
12	North Simcoe Muskoka	455,383	171	37.6	155	91	34.0
13	North East	565,117	192	34.0	186	97	32.9
14	North West	240,130	117	48.7	113	97	47.1
	All of Ontario	13,210,667	5,597*	42.4	4,734	85	35.8

*Includes 239 additional physiotherapists who could not be attributed to an LHIN.

CIHI = Canadian Institute for Health Information; LHIN = Local Health Integration Network; PT = physiotherapist.

to explore associations among selected counts and ratios. Specifically, we examined the association between each LHIN's count of PT student placements and its count of physiotherapists, its population, and its ratio of physiotherapists per 100,000 population. We also examined the association between the ratio of physiotherapists per 100,000 population in each LHIN and its ratio of PT students placements per physiotherapist. The level of significance was set at $p < 0.05$.

RESULTS

Physiotherapists practising in Ontario in 2010

The College indicated that there were 7,125 physiotherapists holding a certificate authorizing practice in 2010. Information about primary employment site was provided for 5,280 physiotherapists who met our study criteria (registered for independent practice, with a primary employment site on record, and reporting at least 600 practice hours in the last renewal). Of these 5,280 records, 39 were excluded because the primary employment site was outside Ontario or because too little information was provided for accurate assignment to an Ontario LHIN. An additional 507 were eliminated from further analysis because either or both of the following was true: (1) the respondent had not answered "yes" to providing patient care at that site, or (2) the respondent indicated a "non-clinical focus" for that site. The detailed analysis was based on the remaining 4,734 records, equivalent to 66% of the registrant base of the College of Physiotherapists of Ontario. Within these data records,

we noted that the questions about practice focus, patient age, and employment sector were optional to answer in the 2010 registration renewal. Only 32–34% of the physiotherapists answered each of these questions, and therefore we did not consider these data further.

Table 1 shows CIHI data on physiotherapists in addition to the counts from the present analysis. Although there is some variation between the CIHI data and our analysis in the number of physiotherapists attributed to each LHIN, there is reasonable consistency in the rank-ordering of LHINs with respect to physiotherapist counts and physiotherapists per 100,000 population. The five university programmes are located in LHINs with high numbers of PTs per 100,000 population: the University of Toronto is in LHIN #7, which has the highest density at 64.3 per 100,000; the University of Ottawa in LHIN #11, ranked second at 49.5 per 100,000; Western University in LHIN #2, ranked fourth at 40.5 per 100,000; Queen's University in LHIN #10, ranked fifth at 38.3 per 100,000; and McMaster University in LHIN #4, ranked sixth at 35.5 per 100,000.

PT student placements in Ontario in 2010

A total of 1,624 PT student placements were coordinated by Ontario university programmes in 2010, 1,599 of which took place in Ontario. The remaining 25 took place in the Gatineau region of Québec, coordinated by the University of Ottawa as part of their catchment area. As Table 2 shows, the PT programmes at Western, McMaster, Toronto, Queen's, and Ottawa coordinate most of the placements of their own students within

Table 2 Physiotherapy Student Clinical Placements* in Ontario in 2010 by University

Placing university	Total placements coordinated	Student's home university					
		Western	McMaster	Toronto	Queen's	Ottawa	Non-Ontario universities
Western	250	221	6	1	13	0	9
McMaster	240	0	227	2	4	0	7
Toronto	550	7	18	482	22	1	20
Queen's	263	3	0	2	255	0	3
Ottawa	221	1	3	4	13	189	11
NOSM-west	41	1	34	3	1	0	2
NOSM-east	34	3	3	3	23	2	0

*University programmes have different enrolments and different numbers of placements per student. All placements lasting ≥ 2 weeks were included in the counts. Counts of PT student placements outside Ontario by Ontario university students are not included in this report.

Western = Western University; McMaster = McMaster University; Toronto = University of Toronto; Queen's = Queen's University; Ottawa = University of Ottawa; NOSM = Northern Ontario School of Medicine.

their own catchment areas. However, all five universities communicate to facilitate opportunities for students to travel to other catchment areas for placements. Two ACCEs affiliated with Northern Ontario School of Medicine (NOSM) coordinate PT student placements in northern Ontario for all programmes. The predominance of McMaster students among those placed by NOSM-west reflects McMaster's Northern Studies Stream (NSS). The NSS is based in LHIN #14, which is ranked third in physiotherapists by population at 47.1 per 100,000 (see Table 1).

PT student placements in proportion to capacity

Figure 2 shows the ratio of PT student placements to number of physiotherapists in each LHIN. The diagonal line represents the provincial average ratio of 0.338 (i.e., 1,599/4,734). The area of each circle is proportional to the placement:physiotherapist ratio (i.e., the LHIN's count on the vertical axis divided by its count on the horizontal axis). If all LHINs had the same proportional participation rate, all circles would be the same size and centred on the diagonal line. Five LHINs have large circles substantially above the line, indicating participation rates above the provincial average. These top five LHINs for PT student placements are those in which the university programmes are located: Queen's in South East (LHIN #10), Western in South West (LHIN #2), McMaster in Hamilton Niagara Haldimand Brant (LHIN #4), Ottawa in Champlain (LHIN #11), and Toronto in Toronto Central (LHIN #7). Notably, North West (LHIN #14), in which McMaster's NSS is based, has the next highest ratio after the top five.

Table 3 shows numbers of physiotherapists and PT student placements in each LHIN and the ratio of the latter to the former. The ratio of 0.92 for South East (LHIN #10) means that in 2010, there was an average of >18 PT student placements for every 20 physiotherapists counted as being engaged in patient care in this LHIN.

The ratios of approximately 0.15 in Central West (LHIN #5), North Simcoe Muskoka (LHIN #12), and Central (LHIN #8) indicate an average of approximately 3 PT student placements for every 20 physiotherapists counted as being engaged in patient care in each of these LHINs in 2010.

Correlation analysis

The number of PT student placements in the LHIN was positively associated with the number of physiotherapists in that LHIN: Spearman's rho for the data shown in Figure 2 (exclusive of circle sizes) was 0.87 ($p = 0.01$). In addition, the ratio of physiotherapists per 100,000 population (the right-most column of Table 1) was positively associated with the ratio of placements per physiotherapist (the right-most column of Table 3; $\rho = 0.75$, $p = 0.03$). The first finding is not surprising, as it simply reflects the fact that placement opportunities are generally proportional to supervisory capacity. The second finding was unexpected, however: regions with relatively more physiotherapists per 100,000 seem to be in a better position to have not just higher numbers but a higher proportion of physiotherapists participating in PT student clinical education. There were no significant correlations between the number of PT student placements in a LHIN and either the total population or the ratio of physiotherapists per 100,000 population in that LHIN.

PT student placements by type within LHINs

Figure 3 shows the numbers of PT student placements according to setting (Figure 3a), patient mix (Figure 3b), and practice area (Figure 3c), arranged in order of total number of placements per LHIN.

DISCUSSION

Unsurprisingly, participation in PT students' clinical education was highest in the LHINs where university programmes are located (in descending order, LHINs

Figure 2 Participation of LHINs in physiotherapy students' clinical education.

Each LHIN's number of PT student placements in 2010 (vertical position), number of physiotherapists (horizontal position), and placement:physiotherapist ratio (proportional size of circle) is illustrated. The diagonal line represents a ratio of 0.338, the ratio for Ontario as a whole. For LHIN names and locations see Figure 1.

10, 7, 2, 4, 11) or have a specific connection (LHIN #14). These six LHINs also showed the six highest ratios of physiotherapists per 100,000 population, even though our method of counting physiotherapists was designed to exclude those exclusively or principally involved in university education or administration. The six LHINs with the highest participation rates also contain 22 of the 24 designated academic teaching hospitals within Ontario, whose mission includes training future health care providers in every discipline.⁸ We presume that the high participation rate in these regions indicates that university programmes facilitate strong relationships with physiotherapists and their employers closest to the universities and that many students prefer placements close to their home university, since such placements generally require simpler accommodation and travel arrangements. While all Ontario LHINs had physiotherapists who participated in PT students' clinical education,

there were striking regional disparities in the extent of this participation, as Figure 2 shows.

Comparing the ratios depicted in Figure 2 with a map of Ontario⁹ showing cities and towns reveals that PT students acquire their clinical education in a wide mix of small community and large urban settings. For example, the highest ratio of participation in PT students' clinical education was seen in the South East LHIN (#10), whose largest city is Kingston (pop. approx. 117,000), and many placement sites in this LHIN are in smaller cities and towns. We also found a high participation ratio in other LHINs where a substantial proportion of placement sites are in small cities and towns (e.g., South West, Hamilton Niagara Haldimand Brant, Champlain). Among largely or entirely urban LHINs, there was a wide range of participation ratios: the Toronto Central LHIN (#7) had the second-highest participation ratio, whereas those of the Mississauga Halton (#6) and Central (#8) LHINs were among the lowest.

Table 3 Physiotherapists and Physiotherapy Student Placements in 2010

LHIN no.	LHIN name	PT count	PT student placements in 2010	Ratio of placements to PTs
1	Erie St Clair	161	30	0.186
2	South West	386	177	0.459
3	Waterloo Wellington	259	68	0.263
4	Hamilton Niagara Haldimand Brant	499	196	0.393
5	Central West	166	25	0.151
6	Mississauga Halton	349	62	0.178
7	Toronto Central	762	366	0.480
8	Central	522	76	0.146
9	Central East	373	94	0.252
10	South East	187	172	0.920
11	Champlain	616	235	0.381
12	North Simcoe Muskoka	155	23	0.148
13	North East	186	34	0.183
14	North West	113	41	0.363
	All of Ontario	4,734	1,599	0.338

LHIN = Local Health Integration Network; PT = physiotherapist.

We are unable to identify any factors related to how LHINs were created, or any differences in their mandates, that would fully explain the regional differences in participation in PT student clinical education. We chose LHINs as the level of analysis for this study because they are large enough to permit aggregation of data with no violation of privacy. Because Ontario's LHINs were created to plan and integrate regions' health care services, and their geographical borders were defined based on patterns of health care use, they could be expected to be approximately similar in terms of proportions of practice settings and patterns for physiotherapists. Nevertheless, the LHINs' mandate does not currently extend to any planning with regard to education of health professionals.

In the absence of any LHIN-level explanation, we propose that the regional differences we observed represent the accumulation of multiple differences across sites. For a PT student placement to occur at a site, generally three steps must take place: first, the site or individual physiotherapist is asked by a university programme to offer a placement opportunity; second, the site or individual agrees and offers a placement opportunity to the programme; and, third, the programme matches a student to that placement opportunity. In regions with high rates of participation in PT students' clinical education, one or more of these three steps must be occurring more often per year and/or at more sites than in other regions.

The retrospective design of our observational study did not permit us to distinguish among differing rates of success of these three steps across regions, but simply analyzed the PT student placements that took place over a 1-year period against the background of those Ontario physiotherapists presumed to be engaged in

patient care during that year. Future research, prospectively designed, could explore differences in the prevalence of each step.

Other published studies contribute to our understanding of how often the second step identified above—agreement by a site or individual physiotherapist to offer a placement opportunity—actually happens. In a recent Canadian qualitative study,¹⁰ physiotherapists reported barriers they perceived to taking on the role of preceptor, including a sense of added responsibility and a lack of time to manage the tasks associated with having a student. Respondents also reported stress associated with not knowing a student's abilities in advance or possibly feeling threatened by having a student. An additional theme in that study was institutional culture, modelled as tipping the balance for prospective preceptors either toward the stress associated with barriers or toward the benefits associated with teaching students. A report of a qualitative study in the United Kingdom more explicitly emphasized the role of institutional culture: managers reported that they were required to prioritize their employer's need to deliver cost-effective care over their professional obligation to educate the next generation of health professionals.¹¹ In both studies, the most commonly cited barrier to acting as a preceptor is lack of time. The idea that supervising students creates time demands and stress is also noted in a synthesis review on PT clinical education¹² and by quantitative research in other health professions.¹³ Although there is evidence that having a student may increase a physiotherapist's productivity in patient care,^{1,14,15,16} the evidence in those studies was gathered during earlier eras in health service delivery that may have been very different from current

Figure 3 Student clinical placements by type across LHINs, (a) by setting, (b) by patient mix, and (c) by practice area.

reality. The themes emerging from the literature—that many physiotherapists do not feel they have time to supervise students, and that their continued willingness depends on their institutional culture—both fit with our anecdotal experience of the challenges of recruiting and facilitating PT student placements for our programmes.

Research also supports the idea that physiotherapists perceive benefits inherent in participating in PT student clinical education. Notably, both of the qualitative studies mentioned above quoted clinical educators who mentioned how students “[put/keep] you on your toes” and stimulate reflection, as well as noting the ethical responsibility to provide educational opportunities for PT students.^{10,11} We suggest that much of the population under study would be strongly motivated to participate in students’ clinical education. Based on membership numbers for the Ontario Physiotherapy Association branch of the Canadian Physiotherapy Association (CPA), it is likely that more than half and perhaps as many as three-quarters of the physiotherapists counted in our study are CPA members. CPA’s Code of Ethics and Rules of Conduct explicitly states that “physiotherapists shall be willing and diligent preceptors in the education of physiotherapy students.”¹⁷ Quantitative research on dietetic student education has noted strong agreement by professionals that taking students on placement encourages reflective practice and further learning, adds to job satisfaction, and is an important part of the core business of the sites that take students.¹³ The latter idea—that clinical education is part of one’s core business—does not necessarily contradict the notion, described previously as a barrier to taking students, that employers may not see the provision of clinical education as cost-effective. As lucidly illustrated by Davies and colleagues,¹⁰ workplace culture has much to do with which way the balance tips between barriers to and benefits of precepting students. In our study, the six regions with the highest rates of participation in PT student education are home to all of Ontario’s university PT programmes and 22 of its 24 teaching hospitals, and we suggest that these factors contribute to tipping the workplace culture in many locations in those regions toward the benefits of supervising students.

We were not surprised to find that the number of physiotherapists in a region is positively associated with the number of PT student placements, but we were intrigued to discover that the ratio of physiotherapists per 100,000 population showed almost as strong a positive association with the ratio of PT student placements per physiotherapist. Regions with high physiotherapist: population ratios can be thought of as having more sites and settings whose workplace culture tips toward the benefits of rather than the barriers to supervising students. However, the present data do not permit an elucidation of the reasons for this finding.

LIMITATIONS

Although our method of retaining and counting physiotherapists in each LHIN was intended to produce a fair estimate of preceptor capacity, we cannot entirely rule out the possibility that this method was biased. By limiting our data set to physiotherapists who confirmed providing direct patient care at their primary employment site and reported a minimum number of practice hours, we sought to include only those likely to be in a position to participate directly in clinical education. We acknowledge, however, that the threshold of 600 practice hours reported in the last registration renewal was arbitrary. It was intended to increase the likelihood that the physiotherapists included in our LHIN counts were those doing enough clinical work in a year to participate at least part-time as preceptors for students. The error inherent in this assumption could go in either of two directions. On the one hand, physiotherapists not practising (e.g., on leave) in 2009 but in full-time practice in 2010 would have been excluded from the counts, even though they were possibly able to be preceptors in 2010. On the other hand, those who reported ≥ 600 practice hours at 2010 renewal but reduced their practice in 2010 so much as to be unable to be considered as preceptors would have been included in the counts. Without access to real-time data on physiotherapists’ practice intensity, we cannot judge which is the more likely direction of error. Nevertheless, we have no reason to think that the potential error is any different among LHINs; thus, although the potential error may reduce our confidence in the *absolute* values of participation ratios in each LHIN, we consider that our comparison of the *relative* values of the ratios across LHINs is valid.

In the absence of comprehensive data on physiotherapists’ settings and practice areas, we are unable to explain why there were substantial differences across LHINs in the mix of placement types. To address this, we would have needed a comprehensive, reliable profile of physiotherapists’ settings and practice areas across the regions. Since we gathered our data for the present study, it has become mandatory for physiotherapists to answer questions about practice setting and types of patient care in the annual renewal of registration in Ontario; future research may therefore be able to explore this issue.

CONCLUSION

Our findings imply that there are many regions of Ontario in which practising physiotherapists’ rate of participation in PT students’ clinical education is substantially higher than in other regions. In those regions with high participation, there are proportionally more physiotherapists who are presumably experiencing a net benefit by acting as preceptors. If physiotherapists or employers in the other regions wish to increase participation, achieving a higher rate will likely depend on

elucidating and then addressing the reasons why participation rates in those regions are not currently high.

KEY MESSAGES

What is already known on this topic

Clinical education constitutes approximately one-third of entry-to-profession Canadian physiotherapy curricula. University programmes for physiotherapy education are continually striving to recruit and support high-quality, diverse clinical education opportunities for physiotherapy students. There are many potential barriers to and benefits of physiotherapists' taking on the role of clinical preceptor for physiotherapy students.

What this study adds

To our knowledge, this is the first description of regional differences within a province with respect to physiotherapists' participation in students' clinical education. There are striking differences among regions, which are partly but not fully explained by the locations of the university programmes themselves.

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