

ORIGINAL RESEARCH ARTICLE

# Variability and inconsistency in clinical education setting terminology: a call to action

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## Abstract

**Purpose:** Significant variation exists in clinical education placement setting terminology amongst clinical education stakeholders. The lack of agreed-upon terminology impacts clear communication between academic institutions and clinical sites while also impacting researchers' abilities to successfully conduct large-scale national studies. This study explored the variability of physical therapist (PT) student clinical education placement setting nomenclature across the United States.

**Methods:** De-identified full-time PT student clinical education placements between January 2014 and September 2023 were extracted from Exxat<sup>®</sup> Version 3. Using the American Physical Therapy Association membership profile data as guidance, researchers created broad categories that represented the clinical education placement settings. Eight unique settings along with one category for 'mixed setting' and one for 'unclassified' were identified: acute care, day rehabilitation, home care, inpatient rehabilitation, long-term acute care hospital, outpatient, school and sub-acute rehabilitation (sub-acute rehabilitation, long-term care and skilled nursing facilities). Extracted data were sorted into those categories.

**Results:** The dataset was composed of 132,320 clinical education placements from 178 PT education programs. There were 1,388 different labels in the dataset used to describe the settings for those clinical education placements.

**Conclusions:** Task forces have worked diligently to establish standardization in terminology in physical therapy clinical education. Due to the current variability in labelling clinical placement settings, the authors present a call to action for the development of agreed-upon placement setting terminology. A common naming system is proposed which may facilitate clear communication between all parties while also supporting research efforts in clinical education.

Keywords: *clinical education; terminology; practice setting*

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To access the supplementary material, please visit the article landing page

Extensive variation exists in clinical education placement setting terminology amongst clinical education stakeholders (Directors of Clinical Education, Site Coordinators of Clinical Education, Clinical Instructors, and physical therapist [PT] students). This issue has yet to be presented or described in the literature. Lack of agreed-upon terminology impacts clear communication between academic institutions and clinical sites while creating confusion amongst PT students when selecting their clinical experiences. In addition, the lack of standardized

terminology impacts researchers' abilities to successfully conduct national studies using large datasets.<sup>1</sup>

Lack of standardization of terminology exists in several fields and impacts communication, patient care and research efforts.<sup>2-4</sup> Methods to streamline data in medical fields strive to develop practical data management systems to assist in decision making.<sup>5</sup> In the physical therapy profession, several task forces<sup>6,7</sup> have worked to create standardized language in order to streamline communication and processes.

This includes the work completed by the American Council of Academic Physical Therapy (ACAPT) Common Terminology Panel<sup>2</sup> to create the Physical Therapy Clinical Education Glossary<sup>8</sup> and the Clinical Education Placement Task Force.<sup>7</sup>

In 2021, the Educational Leadership Partnership proposed recommendations to support working towards excellence in physical therapy education, several of which were specific to best practice in clinical education.<sup>7</sup> One recommendation included the use of a data management system where big data/data analytics can be employed.<sup>9</sup> Data management can suffer from many challenges including errors in data entry, unnecessary granularity and lack of consistency.<sup>2,5</sup> Solutions include optimizing the data entry processes to minimize error and variability<sup>2</sup> and creating frameworks for the integration of terminology that have the ability to grow as needed.<sup>4</sup>

The language used in physical therapy clinical education should be relevant and accessible for academic programs, clinical sites, students and researchers. Standardizing how we share and discuss information about clinical education settings has yet to be completed. The purpose and primary aim of this study was to explore the variability of PT student clinical education placement setting nomenclature across the United States (US). A secondary aim was to stimulate a call to action to address this current challenge.

## Methods

This descriptive study examined the terminology used to describe the clinical setting for full-time PT student clinical education placements. The researchers partnered with Exxat<sup>®</sup>, a clinical education data management software program, to extract de-identified data from participating PT education programs across the US. All 230 PT education programs in the US that used the Exxat<sup>®</sup> Version 3 database to manage their clinical education experiences as of September 2023 were eligible to participate.

All directors of clinical education from eligible programs were contacted by Exxat regarding plans to extract de-identified data about clinical placements. Programs were asked to notify Exxat if they wanted to opt out of their program's data being included in the extraction. Data between January 2014 and September 2023 were extracted and then sorted by placement setting. At the time of data extraction, PT education programs were transitioning from Exxat, Version 3 to Version 4 (Prism). Because the data extracted from Prism was incomplete, only data from Version 3 data was used. This reduced the total number of PT education programs in the study to 178. This study was approved by the IRB at both New York Institute of Technology and Hunter College.

Several classification systems were explored to guide the classification process including the American Physical Therapy Association (APTA) 2021–2022 membership demographics,<sup>10</sup> the Bureau of Labor Statistics<sup>11</sup> and the APTA Physical Therapist Student Evaluation of the Clinical Experience form.<sup>12</sup> The APTA membership **profile** utilizes 11 physical therapy practice setting categories, the US Bureau of Labor Statistics uses five broad categories and the Physical Therapist Student Evaluation of the Clinical Experience form uses 10 categories (Table 1). Using these existing systems we explored commonalities and differences. In our collective experience of over 30 years as directors of clinical education, the investigators created clinical education placement setting categories that represent the location where physical therapy care is provided, regardless of to whom the care is provided. For example, many academic programs use the term 'pediatrics' when referring to a clinical education experience where students will be working with children. However, the term 'pediatrics' does not describe the treatment setting where care is provided (i.e. school, hospital, home), nor is it consistent with the categories used by APTA reports and forms. Our final categories differ from the

*Table 1.* Contemporary practice setting classification systems

APTA Membership Profile	US Bureau of Labor Statistics	APTA Physical Therapist Student Evaluation of the Clinical Experience
Academic	Home healthcare services	Acute Care/Inpatient Hospital Facility
Acute Care	Hospitals: state, local, private	Ambulatory Care/Outpatient
Health/Wellness	Nursing and residential care facilities	ECF/Nursing Home/SNF
Home Care	Offices	Federal/State/County Health
Hospital based outpatient	Self-employed	Industrial/Occupational Health Facility
Industry		Private Practice
Inpatient Rehab		Rehabilitation/Sub-acute Rehabilitation
Private outpatient		School/Preschool Program
School System		Wellness/Prevention/Fitness Program
SNF/LTC		Other
Other		

APTA membership profile in various ways. For example, patient care is not provided in the ‘academic’ setting and therefore, it was not included as a setting. In addition, the membership profile included four categories that were consolidated into the outpatient umbrella since that is where the care is provided; these included ‘health/wellness’, ‘industry’, ‘hospital-based outpatient’ and ‘private outpatient’. In the APTA Physical Therapist Student Evaluation of the Clinical Experience, we found that the label ‘federal/state/county health’, was not descriptive of setting and we were able to similarly consolidate multiple labels that refer to the outpatient setting (ambulatory care/outpatient, private practice, wellness/prevention/fitness program).

For the purposes of this study, eight unique clinical education placement setting categories were identified: acute care, day rehabilitation, home care, inpatient rehabilitation, long-term acute care hospital (LTACH), outpatient, school and sub-acute rehabilitation (sub-acute rehabilitation, long-term care, and skilled nursing facilities). In addition, one category for ‘mixed setting’ (the student participated in a clinical experience in more than one setting), and one category for ‘unclassified’ (setting was unable to be determined) were created. The authors reviewed all extracted clinical education placement setting labels to determine the proper category based on the available information. Discrepancies and questions about specific clinical placement labels were highlighted and discussed for best placement into a category.

**Results**

The dataset contained 132,320 clinical education placements from 178 PT education programs. There were 1,388 different clinical education placement settings labels in the dataset to describe the ‘placement setting’ for the clinical education experiences. There were 195 different labels categorized as acute care, 4 as day rehabilitation, 34 as home health, 136 as inpatient rehabilitation, 18 as LTACH, 597 as outpatient, 42 as school, 113 as sub-acute rehabilitation, 97 as mixed clinical settings and 152 settings were labelled as unclassified due to lack of information. Table 2 presents an abbreviated version with examples of this categorization process. For example, labels such as Dance Medicine, Aquatic Therapy, Concussion and Industrial were categorized as outpatient since that is the environment in which care is provided (see Supplementary Material for the full data set). Please note that all misspellings, abbreviations, use of punctuation and other errors in the Supplementary Material were intentionally maintained to accurately present the data as extracted from Exxat.

**Discussion**

The analysis of this large dataset from 178 PT education programs across the US uncovered and identified a clear

Table 2. Abbreviated categorization examples

Acute Care (195)	Day Rehab (4)	Home Health (34)	Inpatient Rehab (136)	LTACH (18)	Outpatient (597)	School (42)	Sub-acute rehab (113)	Mixed (97)	Unclassified (152)
Acute – Hospital	Day Rehab	Home Visits	Acute Inpatient Rehab	Inpatient – LTACH	50% General Orthopedics	Neuro Pediatrics School-Based	Chronic – IP Rehab	AC/OP	Clin Ed I
Inpatient – Acute	Day Rehab – Neuro	IP- Home Health	Acute/IP Rehab	IP – LTACH	Adult Sports	OP – Pediatrics School-Based	ECF/NH/SNF	Combo – Acute/OP	Elective
Critical care, ICU, acute, inpatient – adult	Day Rehabilitation	OP – Home Health	Inpatient – Rehab	Long Term Acute* Care	Aquatic Therapy	Pediatric – School Based	Inpatient – Subacute Rehab	IP/OP Mix	General
IP Acute Cardiopulmonary	OP – Day Rehab Program	Post-acute – Home Health	IP – Neuro Rehab	LTACH	Dance Medicine	School	Inpatient Geri	Multi-setting	Inpatient
Urban Inpatient Acute		Rural Other: Home Health	Rehab/IRF	Post-Acute – LTCH	General OP Manual Therapy	Rehab – School Based	IP – SNF Skilled Nursing Facility	Neuro IP/OP	PT
					OP – Mixed Caseload	School System		Split	

Headings presented as Setting (number of unique labels for that setting in the dataset).

\*Spelling errors represent accurate data.

problem in how we refer to clinical education placement settings that impacts the clinical education community and its stakeholders. Enormous variety exists in how academic programs and their clinical affiliates label and describe their setting for clinical education experiences. Some of the variation stems from a discrepancy in the use of the actual setting where care is provided versus the patient population served (e.g. school vs. pediatrics). Other variations, while seemingly insignificant (e.g. outpatient, outpt, OP), include labels that refer to the same setting, but contain variations that would impact efficiency and accuracy in data analysis. Similar problems were observed in frequent spelling mistakes (cardopulm, Rehabilitation), spelling variations (orthopaedics vs. orthopaedics) and other minor differences in data entry (e.g. use of a dash, or an extra space before or after a dash). In addition, many terms were unable to be classified, providing little to no information on where that student was placed for the clinical experience, ranging from a broad description (PT, general) to terms that could represent more than one possible setting (inpatient, hospital system), or patient populations that could receive care in a variety of settings (geriatrics, neurology).

Reduction in the murkiness of the thousands of different labels used to categorize clinical settings would assist communication among students, clinical partners and researchers. A standardized process would reduce data entry errors, like misspellings, spacing variations and excessive use of abbreviations.<sup>4</sup> The creation of a unified system with consistent terminology for the clinical education community should be explored for all involved parties and would serve

multiple benefits. In particular, students often enter PT education programs with minimal knowledge regarding the variety of settings and how they are named, categorized and discussed among professionals. Academic programs and clinical sites need to have a clear way to communicate offerings with enough detail to satisfy their need to be specific while also being consistent across the country. While there is a need for granularity when providing students with detailed information about their future clinical experiences, the authors are proposing a standardized solution to achieve this goal.

Based on our findings, we recommend the development of a hierarchical model using standardized terminology to consistently capture the ‘setting’ first – the physical location where care is delivered, followed by ‘lifespan’ – the age range of the patients/clients receiving care, then ‘area of clinical practice’ and lastly, ‘additional placement details’ that may be needed to fully describe the experience. We explored various terms including body system, movement system and clinical specialization. While agreed upon terminology for ‘areas of clinical practice’ is not clear, there were some commonalities based on the extracted data. These commonalities included terms such as sports, orthopedics, pelvic health, neurological and cardiopulmonary. These terms align with the APTA Academies, Special Interest Groups and some areas of APTA Specialist Certification. Figure 1 displays a schematic of the proposed hierarchical system, and examples of its use are presented in Figure. 2.

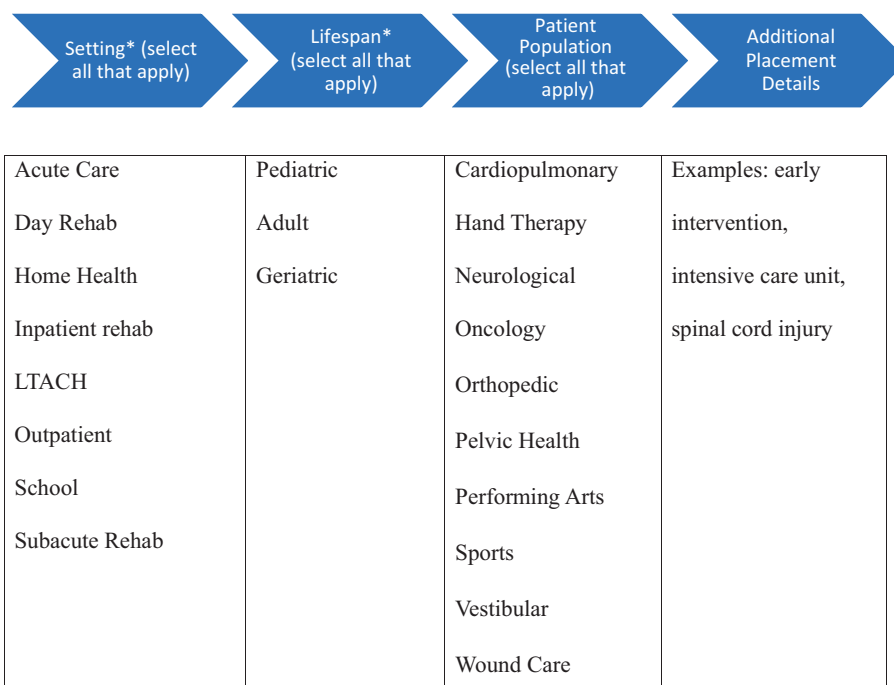


Fig. 1. Proposed model for standardized clinical education setting terminology.

\*Indicates required items.

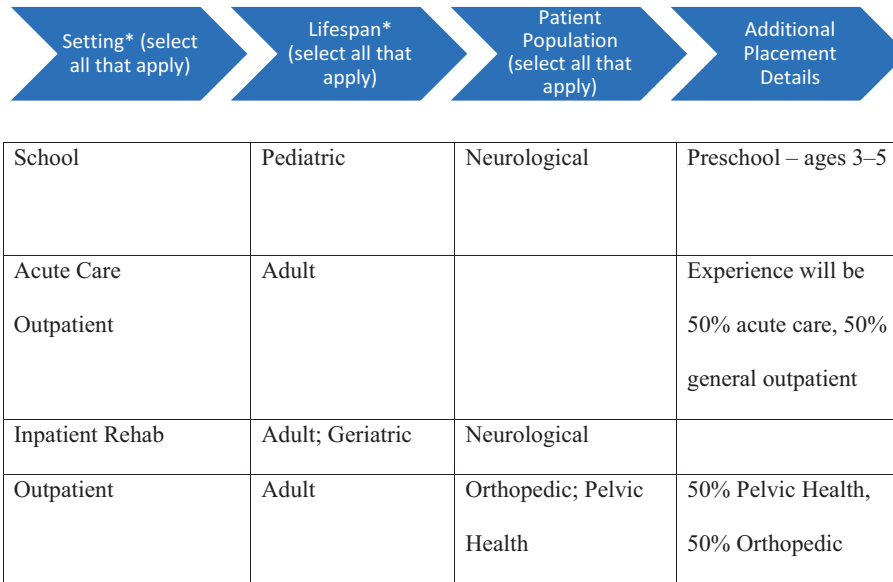


Fig. 2. Examples of use of proposed model for standardized clinical education setting terminology.

\*Indicates required items.

A more specific and unified system would also assist PT education programs in reporting data during the accreditation process, track trends over time within their own academic program and compare data across all PT education programs. Standard 6 of the 2024 Commission of Accreditation in Physical Therapy Education Standards and Required Elements stipulates that academic programs report and describe a comprehensive curriculum plan.<sup>13</sup> More specifically, standard 6H requires that:

The clinical education component of the curriculum includes clinical education experiences for each student that encompass health and wellness, prevention, management of patients/clients with diseases and conditions representative of those commonly seen in practice across the lifespan and the continuum of care; in practice settings representative of those where physical therapy is practiced.

Using standardized nomenclature such as the one presented in this paper would allow programs to report aggregate data describing clinical education placements in a consistent manner. This system would also facilitate clinical education research using large data sets and allow greater collaboration for multi-institution investigations. These efforts would address the recommendation for developing systems that would allow for big data analytics as we strive toward excellence in PT education.<sup>9</sup> In addition, it would aid students in clinical site selection by providing more detail about each placement.

While not all PT education programs in US were included, the results of this study represent 64% (178) of the 277 accredited PT education programs.<sup>14</sup> At the time

of data extraction, 230 of 277 PT education programs (83%) were using Exxat, therefore the potential impact of creating agreed-upon nomenclature could have a sweeping impact in PT education.

Limitations of this exploration include placements being categorized incorrectly by the authors. This may have occurred if the data provided was vague or ambiguous, and many labels were categorized as ‘unclassified’ due to this limitation. In addition, the dataset only included programs that use Exxat for their clinical placement management, and therefore may not represent all setting terminology used in PT education programs in the US.

**Conclusion**

Great variation in clinical placement setting terminology and labelling was identified across PT education programs in the US. A call to action for the development of agreed-upon placement setting terminology was made due to the variability in labelling clinical placement settings in physical therapy clinical education. One potential model for classification of clinical education settings was presented. The authors recommend that ACAPT or the APTA Academy of Education Clinical Education Special Interest Group be tasked with developing a solution using a consensus process that would include panel members from academic and clinical entities, focus group discussions and an open comment period to develop a new categorization of clinical education settings. Academic programs can then work with data management teams to make the appropriate changes to their systems. A standardized labelling system created using a collaborative effort of all stakeholders would facilitate clear communication between all parties.



In addition, in order to make decisions and take action in physical therapy education that supports research in clinical education, data analytics need to be employed to track trends in education, and this can only be achieved using common systems that share common terminology.<sup>1</sup>

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### Conflict of interest and funding

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### Ethical statement

Exempt: ESB-1915-NYIT, Exempt: 2023-0463-Hunter.

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