World Physiotherapy
Europe region

Guidelines –
Entry-Level Practice Education in Physiotherapy in the Europe Region

Education and Research Matters Working Group (E&RMWG)

APPROVED

23rd and 24th May 2024

Riga, Latvia

GUIDELINES - ENTRY-LEVEL PRACTICE EDUCATION IN PHYSIOTHERAPY IN THE EUROPE REGION

Europe Region

Education & Research Matters Working Group

CONTENTS

SUMMARY

This paper offers recommendations to guide the development of entry-level practice education in the higher education institutes of the member organisations of the Europe Region of World Physiotherapy. Current approaches to providing practice education in the Europe Region are described including common clinical education settings, the hours undertaken by students, the level of supervision given to students, the roles of clinical educators and assessment methods for clinical education. Recommendations aimed to improve the quality of practice education across the Europe Region are provided.

BACKGROUND

The Education & Research Matters Working Group of the Europe Region of World Physiotherapy, aware of the need to advance education in the profession, has developed and prepared documents on the competencies necessary in the entry level physiotherapy programmes to be autonomous professionals, aligned with the World Physiotherapy documents.

Following approval of the entry-level competencies at the 2018 General Meeting, a recommendation to look at aspects of entry-level practice education was approved. The survey of Member Organisations and Higher Education Institutes on clinical education in entry level physiotherapy programmes during the previous term was extended during the 2022-2024 term. The rationale to continue the data collection was to build on the low response rate (33% from the Higher Education Institutes, HEIs) of the previous term. The Working Group collaborated with ENPHE to increase the dissemination across the Europe Region. The final data was collected from 115 HEIs all across Europe [1].

A report was prepared based on the data from the 115 responses, and provides data on clinical education in Europe, aspects such as the type of clinical education, the placements or specialities where they are carried out, the number of hours and credits, the qualifications of clinical educators as well as the evaluation of clinical education[1].

Given the heterogeneity and the additional responses, this report was prepared to provide recommendations that would guide the development of entry-level clinical education in the HEIs of the MOs of the Europe Region of World Physiotherapy.

1. TERMINOLOGY

In the literature, as well as in different countries and educational systems (Europe and worldwide), there is diversity and lack of consensus for the terminology used for practice education (which may or may not include an internship) which can also be described as clinical education, clinical practice, practice based-learning or clinical education experiences [2,3].

In this document, practice education, including clinical education, includes educational experiences under the supervision of appropriately qualified physiotherapists in both clinical and non-clinical settings where physiotherapists practise away from the higher education institution[2]. The definition of clinical education reflects that used by World Physiotherapy (former WCPT) guidelines: Clinical Education is the delivery, assessment and evaluation of learning experiences in clinical settings[4]. Clinical education sites may include institutional, industrial, occupational, acute settings, primary health care, and community settings providing all aspects of the patient/client management model (examination, evaluation, diagnosis, prognosis/plan of care, and interventions including prevention, health promotion, and wellness programmes)[2]. An internship was also defined as 'A period of training spent in a healthcare facility, outpatient clinic, emergency centre, hospital, or private clinic, under the supervision of a qualified practitioner - before graduation'.

2. DESCRIPTION OF PRACTICE EDUCATION

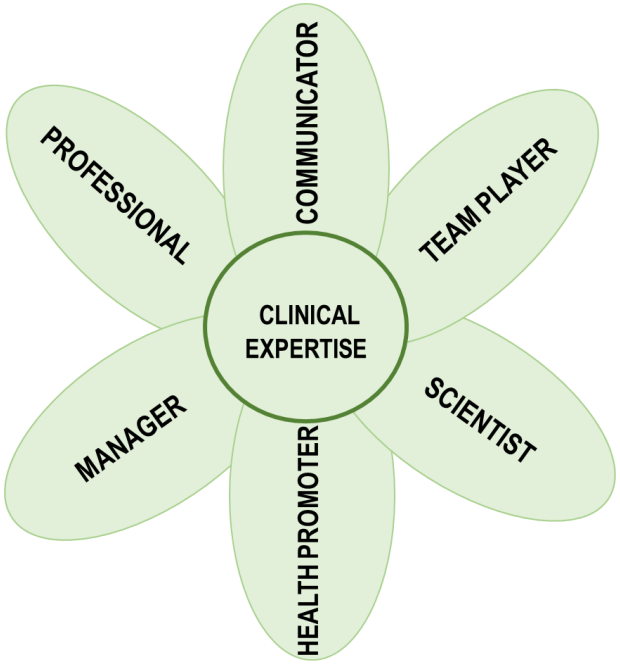
2.1 Content and Competencies

Practice education in a physiotherapy programme is a crucial component that introduces students to clinical environments and provides them with proper clinical experience in a variety of healthcare settings. Clinical education, as a form of experiential learning, involves learning clinical skills in the workplace. It is recognised as the best way for novices to begin to develop clinical reasoning expertise[5]. It relies on strong relationships with clinical providers in various healthcare settings[6]. Clinical education also affords the opportunity for a formal assessment of the student's practising competence and skills, as well as their readiness for the workplace[7].

From an educational perspective, changes in health care delivery systems are placing new requirements on the skills and competencies needed by graduates. These include requirements for interprofessional learning and collaborative practice in complex and culturally diverse contexts[8]. They also include the need for graduate competencies in evidence-based, clinically competent care; critical thinking, reflection, and problem-solving skills; preventive and population-based care and services; relationship-centred and culturally sensitive care; and lifelong learning[9]. For students, learning in clinical contexts requires them to assimilate the values, attitudes and skills that constitute professional practice; negotiate complex and ambiguous learning situations in hierarchical hospital settings/ health care settings and learn from a variety of clinical educators[10].

The CanMEDS model (Figure 1) emphasises that physiotherapists must possess several competencies to provide effective, safe, and patient-centred care[11]. It is employed worldwide as a guide for shaping physiotherapy curricula, assessments, and the training of physiotherapy professionals. The model recognises that the field of physiotherapy extends beyond pure clinical expertise, highlighting the broader array of roles and responsibilities that physiotherapists play within contemporary healthcare.

Figure 1:
CanMEDS model[11]



The CanMEDS 2005 physician competency framework.

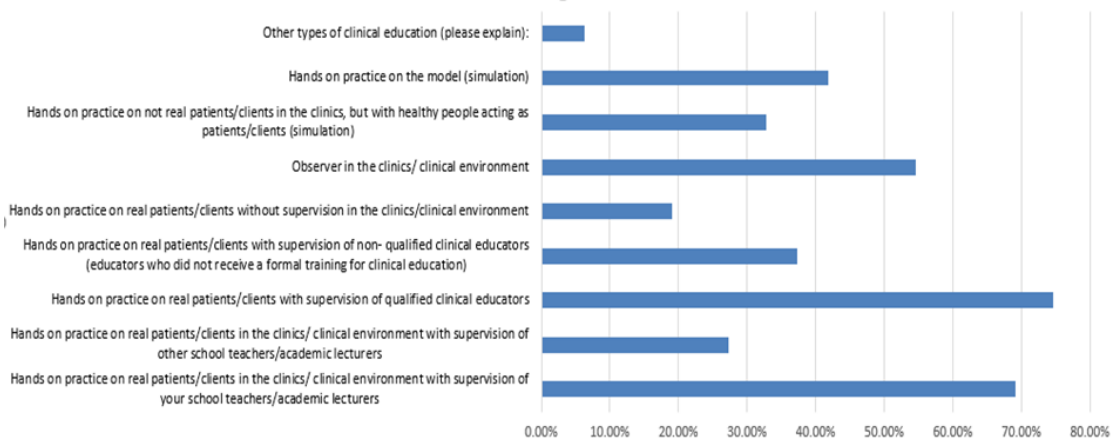
Under this perspective, practice education must enhance students' competencies to engage in interprofessional working discipline, collaborating with other healthcare professionals like physicians, nurses, occupational therapists, speech therapists, social workers, nutritionists or psychologists.

2.2 Models and Types of Practice Education

Clinical placements aim to integrate theoretical knowledge into practical skills while exposing students to diverse patient populations [5,12,13]. The literature contains descriptions of models for practice education and of more specific methods and tools to enhance implementation of an effective clinical education process. Clinical education in physiotherapy currently is characterised by 10 models which are collaborative, mastery pathway, problem solving, integrative, reflective, multiple mentoring, continuum, educator-manager/ self-directed learner, coaching and interdisciplinary. It is recommended to use a multimodal perspective for clinical education since there is still no 'gold standard' model of clinical education in physiotherapy [3, 13, 14].

There is diversity in the type of clinical education and the teaching and learning methods in practice education among the HEI's in Europe. According to the survey results, most of the HEI's in the member countries mentioned the education type which is mainly based on hands-on practice with the real patients under the supervision of qualified educators or school teachers/ academic lecturers, while many HEI's also use other clinical education types such as observation in the clinics, hands-on practice with a model or with actors, telerehabilitation etc. (Figure 2).

Figure 2:
The types of clinical education in Europe[1]



Clinical Education in the Europe Region - A Survey of Member Organisations and Higher Education Institutes. 2022.

Although the specific requirements for practice education model and type can vary according to the countries and HEI's programmes in Europe, there are some general principles to consider. For instance, clinical education should provide students with supervision and mentorship mainly from experienced physiotherapists, allowing for the integration of theoretical knowledge with practical skills. There are also models of clinical education emerging which provide greater responsibility to students and greater collaboration between professions e.g. student-led services and interprofessional learning[15, 16].

2.3 Practice Education Settings and Specialities

It is important for physiotherapy programmes to align their practice education components with accreditation standards and workplace guidelines to ensure that new graduates are well-prepared for professional practice. Additionally, programmes should adapt to evolving healthcare needs and incorporate emerging areas of physiotherapy practice into their clinical education offerings[3].

2.3.1 Practice Education Settings

The settings for practice education can vary across physiotherapy education programmes. A universal requirement, based on an accreditation criterion, is that physiotherapy education programmes demonstrate that graduates are prepared to

manage patients and clients in various practice settings and across the lifespan and continuum of care. It is recommended that the student experience settings representative of those in which physiotherapy is commonly practised[17].

In the Europe Region, results from this survey showed that the most common location for HEI's to provide clinical placements was in hospitals and rehabilitation/physiotherapy units (90%, n=98), while MO's thought that university hospitals were the best placement locations for clinical education. Other common clinical placement locations reported by HEI's were privately owned physiotherapy practices/clinics (75%, n=82), university hospitals (69%, n=75) and nursing/residential homes (53%, n=58). Community based practice and university labs were reported by 45% (n=49) and 42% (n=45) respectively[1]. Placements for practice education may be in different clinical/ health care/ community based settings and hospitals such as outpatient clinics, rehabilitation centres or primary health care settings, and community-based services. Sport clubs, regular or special education schools, virtual online environments, gyms, occupational/ industrial settings, charity organisations etc. could also be settings for physiotherapy practice education.

2.3.2 Practice Education Specialities

There are various areas of physiotherapy practice that are important for the clinical education of students. These areas are mostly based on the physiotherapy specialities below. According to the survey findings, most HEIs offered these areas as compulsory for clinical education:

- Musculoskeletal/ Orthopaedic Physiotherapy
- Neurological Physiotherapy
- Paediatric Physiotherapy
- Geriatric Physiotherapy
- Cardiorespiratory/ Cardiopulmonary Physiotherapy

There are many other areas for undertaking practice education (as compulsory or optional/elective areas) such as sports, women's health, intensive/ acute care, diabetes,oncology, mental health, obesity, disability, palliative care, health promotion, and vestibular etc. In order to prepare students for contemporary practice and challenges facing the profession, as well as completing clinical education in compulsory areas mentioned above, students may benefit from completing practice education in a variety of the areas listed above.

2.4 Commencement of Practice Education

Optimal time to start practice physiotherapy education in an undergraduate programme can depend on several factors, including the programme's structure, educational philosophy, and the needs of the students. The different opinions on time to commence practice education are outlined below:

Early exposure to practice education: Some argue that early exposure to practice education, even from the first year of an undergraduate programme, can increase awareness of practice and provide a practical understanding of the field. It may even enhance the students with hands-on experience in the later stage of practice education. This exposure may increase students' awareness, motivation, and engagement and enable the application of some level of theoretical knowledge into practice, but it does not provide ideal practical competencies and understanding of the mechanism underlying the treatment.

Foundational knowledge first: There is also an argument for establishing a strong foundation of theoretical knowledge before introducing clinical experiences. Starting practice education later in the programme might allow students to grasp essential concepts and principles before applying them in a clinical setting.

Balancing theory and practice: Striking a balance between theoretical learning and practical application is crucial. Programmes that integrate clinical components progressively throughout the undergraduate years aim to ensure that students are well-prepared for hands-on work while also building a solid theoretical foundation.

In the Europe Region, Higher Education Institutes (HEI's) reported 90% of clinical education started in the first two years of entry level programmes. The most common time to start clinical education was at the end of the second semester of the first year (31% n=34) followed by at the end of the second semester of second year (26% n=28)[1].

Ultimately, there is no one-size-fits-all answer, and the best time to start practice education may vary based on the specific goals and design of each programme.

2.5 Hours/ECTS

There must be a sufficient amount of practice education integrated into the curriculum to ensure that students' clinical skills develop progressively throughout the programme, fostering their independence and autonomy as lifelong learners and promoting their professional development as ethical practitioners.

According to the survey on clinical education from Member Organisations and Higher Education Institutes[1], HEIs most commonly (34%) reported between 20-30% of ECTS are given/attributed to clinical education in their programme (39% of HEIs have more than 30% of ECTS). Regarding the hours, about 72% of HEIs reported a minimum of 1000 hours of clinical education (28% of HEIs considered 1000-1199 hours of clinical education necessary for an entry-level, and 23% have more than 1600 hours in the entry-level programme). The ECTS or hours of clinical education depend also on the length of the whole programme (i.e. 3, 4 or 5 years).

In the same survey, the vast majority of MO's (86%) considered that more than 1000 hours are necessary for adequate clinical education for an entry level programme (most commonly (43% of MOs) considered 1000-1199 hours). World Physiotherapy recommends not less than one third of a curriculum for practice education[2].

3. EDUCATORS

3.1 Definition of Clinical Educator/Practice Education Supervisors

Practice education supervisors are physiotherapists practising in clinical placement sites, who supervise, train and evaluate the clinical skills of the student physiotherapist while on placement and report to the higher education institution[4]. Across Europe, practice education supervisors are also called clinical educators or supervisors, site teachers, preceptors or mentors.

3.2 Role, Qualification and Characteristics of Practice Education Supervisors

Practice education supervisors play an important role in physiotherapy education. They provide administrative support for practice education and ensure the health and safety of the student and the client/ patient. They orientate the student to the practice education site and the programme, understand the specific learning outcomes, plan student learning experiences, and assure that the student's level of supervision and responsibility are appropriate for their educational level and competence. They also provide feedback to the student throughout the placement. They evaluate student performance based on direct observations and feedback from team members and clients according to the performance assessment requirements established by the physiotherapist entry-level education programme. As supervisors, they themselves demonstrate continuing professional development as an inherent part of their role and extend their knowledge and skill in providing student practice education experiences[2].

No standardised framework exists in the literature to outline qualification and competence expectations for clinical educators[18]. Recker-Hughes et al. (2014) point out that clinical educators must be licensed physiotherapists, demonstrate competence as clinicians, practice in a legal and ethical manner, demonstrate a desire to educate students and display evidence of teaching skills[18]. Clinical educators also need to be both skilled practitioners as well as effective teachers, being aware of the physiotherapy curriculum[10]. As skilled practitioners they are role models of sound professional practice.

As clinical educators, they must learn to balance the needs of their patients with the needs of their students[19]. World Physiotherapy states that practice education supervisors "Ideally, they have a minimum of one year's relevant clinical experience, competence in their area of practice, and they can demonstrate effective clinical planning, teaching, and performance assessment techniques"[2]. However, it is preferable if practice educators have extensive clinical experience in their area of practice.

In the Europe Region, the data from the survey showed that most of the HEIs of MOs thought that Clinical Educators for the students should be:

- Academic level teachers/ lecturers in the school/ university (76%).
- Academic level teachers/ lecturers in the university hospital (76%).

- Qualified clinical educators (who have undertaken a formal course of clinical education) in the school/ university or university hospital were also commonly recommended as the clinical educators for students[1].

Member Organisations in Europe also mention in similar percentages, that academic staff or qualified clinical educators in university or hospital are the most effective/suitable educators for clinical education. There are clear descriptions of the characteristics of effective clinical educators, including communication, professional, teaching and evaluation skills[18].

Clinical educator training needs to ensure that clinical educators can:

- describe the role and identify the attributes of an effective clinical educator;
- apply learning theories appropriate for adult and professional learners;
- plan, implement, and facilitate learning in a clinical setting;
- apply sound principles and judgement in the assessment of clinical performance; evaluate the learning experience;
- reflect on the experience and
- formulate action plans to improve future practice[20].

3.3 Education and Development of the Practice Education Supervisor

The data from the survey showed that 74% of HEIs think that clinical educators need to be qualified for clinical education, but literature says most clinical educators have limited or no *formal preparation to be a clinical educator*.

This fact raises the need for participation in teaching development programmes, mandatory instruction or formal courses of clinical education and assessment, pedagogical teaching, courses of clinical supervision and implementation of evidence-based practice[1].

3.4 Challenges for the Practice Education Supervisor

Regardless of the factors and characteristics of effective clinical educators listed above, the selection of clinical educators is challenging and rarely based on clearly defined criteria.

Firstly, the selection of clinical educators is often based on availability or seniority rather than demonstrated skills. Secondly, clinical educators may have little or no preparation for clinical education and evaluation/assessment of students and Thirdly, clinical educators may be challenged by some of their role expectations, particularly that of evaluator/assessor[20].

Another challenge is where a new graduate becomes a clinical educator and suddenly, and without skills and experience, has the responsibility for managing a group of undergraduate students within the clinical education programme[10].

4. ASSESSMENT & EVALUATION OF PRACTICE EDUCATION

4.1 Assessment of Student's Clinical Performance

Working as a physiotherapist involves practising different skills in the areas of professional, methodological, social and personal competence. For this reason, the curricula for practice education needs to include a variety of assessment methods such as formal observation of the students' performance on patients and feedback provision, case study presentation and practical examination undertaken by the clinical educator.

The data from the survey showed that the most common assessment method was formal observation of the students' performance and providing feedback on their clinical skills and competence (73%, n=79). A case study presentation and a practical examination by the clinical educator were also very common methods of assessing students (63%, n=68 and 62%, n=67 respectively). Theoretical examinations and assignments were less commonly used[1].

4.2 Tools for Practice Education Evaluation

It appears there are probably almost as many assessment tools as there are HEIs and that each university has its own tool for evaluating the performance of students on work placements. In order to educate and evaluate students according to the requirements in a competence-oriented manner, it is a sign of quality if HEIs and consequently their practice cooperation partners also use a competence framework for performance evaluation and a related competence-based assessment tool. Sometimes these are also regional or national competence frameworks or seldom used assessment tools.

In some places, performance evaluation is carried out by the clinical educator, sometimes by the clinical educator and the HEI lecturer and rarely only by the HEI staff. This may be completed using tools such as the Common Clinical Assessment Form (CAF), Ireland[21], University Birmingham tool (UoB), UK[22], the American Physical Therapy Association's clinical performance instrument[23].

4.3 Quality Assurance of Practice Education

4.3.1 Stakeholder Satisfaction

Looking at the quality of practice education is important to improve, not only the learning process, but also the way of developing this process, considering all participants. For this reason, it is necessary to know and assess the satisfaction of all involved.

Standardised evaluation tools and questionnaires are important in order to collect relative data from all involved in practice education processes namely students, educators, stakeholders/professional organisations and patients in a systematic and continuous way. Practice education is a dynamic procedure and must be adapted and

updated with the future scientific developments in the physiotherapy field and also to the needs of the patients and community as a whole. Continuous internal and external evaluation for the whole procedure is essential for the quality assurance of practice education.

4.4 Quality of Practice Education

One of the most important factors for optimising clinical education includes the quality of the supervision relationship. This may strongly affect the effectiveness of supervision. Results from the survey showed that 19% of MOs have a clinical education to student ratio of 1:1 but a high percentage (>45%) among HEIs have a ratio of 1:6. Effective supervision and teaching in clinical education (especially in hands-on education on real patients) requires a low clinical educator to student ratio and HEIs must take measures to achieve this. High clinical educator to student ratios may jeopardise the quality of the education delivered.

Despite variations in the social, economic, and political contexts of physiotherapy clinical practice across European countries, certain prerequisites should be met for **an optimal clinical learning environment** such as adequate resources and facilities, compliance with healthcare regulations and standards, appropriate supervision and support, implementation of a secure digital infrastructure and adequate space.

4.5 Professional Organisations Involvement in Practice Education

According to the Europe Region report on Clinical Education in the Europe Region (2022), MOs should facilitate practice education and co-operate with HEIs and health care stakeholders to secure clinical education and overcome barriers such as a lack of sufficient clinical environments. By actively involving professional organisations in practice education, educational institutions can ensure that their programmes are relevant, and aligned with actual needs.

Professional organisations can play a vital role in enhancing practice education in various ways, by facilitating mentorship programmes where experienced practitioners provide guidance and support to students and junior physiotherapists, setting a quality assurance mechanism to ensure that practice education programmes meet the necessary standards, advocating for policies and funding that support practice education and hosting conferences, seminars, and networking events.

5. CHALLENGES AND BARRIERS TO DELIVERING PRACTICE EDUCATION

Practice education delivery in physiotherapy programmes can face various challenges and barriers that may impact the quality and effectiveness of the learning experience for students.

The main challenges include:

Adaptation to evolving healthcare practices: the field of healthcare is dynamic, with evolving practices and technologies. Physiotherapy programmes may face challenges in ensuring that clinical education stays current and aligned with emerging trends and advances in the field.

Maintaining the clinical educator to student ratio: With increasing demand on clinicians it may be difficult to secure clinical educators and it may be necessary for educators to supervise high numbers of students.

Assessment challenges: Ensuring consistency in assessment practices and providing constructive feedback requires coordination between academic institutions and clinical sites.

Logistical issues: For example, coordinating schedules between academic institutions and clinical sites, arranging transportation for students, and managing administrative tasks, can also pose barriers to the smooth delivery of practice education.

Barriers can include the following:

Availability of clinical placements - limited availability of suitable clinical placement sites can be a significant barrier. Securing a variety of placements in diverse healthcare settings can also be a challenge.

Capacity and workload of clinical supervisors - the availability and workload of qualified clinical supervisors can impact on the ability to provide adequate supervision and mentorship to students. If there are not enough experienced physiotherapists willing and able to serve as supervisors, it can limit the number of students who can participate in clinical placements.

Time constraints within the academic calendar and the clinical settings can be a barrier. Balancing the need for sufficient clinical hours with other academic requirements can also be challenge.

Variability in clinical experience - inconsistencies in the quality and variety of clinical experience may occur, impacting on students' exposure to different patient populations, conditions, and healthcare settings. Ensuring a standardised and well-rounded clinical experience for all students can also be a challenge.

Financial constraints - financial limitations can affect the ability to provide resources for clinical education, such as clinical education staff, simulation equipment, technology, and training materials. It may also impact the capacity of students to afford transportation or accommodation during clinical placements.

According to the survey the most common barrier reported was a lack of adequate clinical settings or clinics for placement (48%, n=52). This was followed by difficulty in accepting admission from clinics (42%, n=45), the large number of students to be placed (37%, n=40) and the lack of clinical instructors (36%, n=39).

Addressing these barriers requires collaboration between academic institutions, clinical sites, and regulatory bodies. Strategies may include fostering partnerships with a diverse range of healthcare settings, providing ongoing professional development for clinical supervisors, and regularly reviewing and updating clinical education curricula to align with societal needs.

6. RECOMMENDATIONS FOR PRACTICE EDUCATION

Recommendations for practice education in physiotherapy in the Europe Region of World Physiotherapy are:

- At least a minimum of 1000 hours should be allocated to practice education of entry level physiotherapy programmes.
- A clinical educator to student ratio should be no more than 1:3 for adequate clinical education. This may be adapted based on the need of the clinical learning environment.
- Clinical educators should be competent physiotherapists qualified for clinical education (i.e. undertake a formal course of clinical education, pedagogical teaching, implementation of best scientific evidence etc.) including teaching and supervision skills.
- Practice education placements should include diverse settings that introduce students to new areas of professional development e.g. leadership, digital and innovative technology.
- Curricula for clinical education should include a variety of assessment methods such as formal observation of student performance on patients/clients and feedback provision, case study presentation and practical examination undertaken by the educator.
- Physiotherapy students should be encouraged to engage in interdisciplinary placements to facilitate interdisciplinary communication.
- MOs should facilitate clinical education and co-operate with HEIs and health care stakeholders to secure clinical practice education and overcome barriers such as a lack of sufficient clinical settings.
- Strong partnerships/relationships should be fostered between HEIs and practice educator sites in order to develop high quality placements.
- A competence framework should be developed for practice education.

ACKNOWLEDGEMENTS

Members of the Education & Research Matters Working Group of the Europe Region of World Physiotherapy - 2022-2024:

Raf Meesen	(Belgium)	
Lyubomira Naidenova	(Bulgaria)	
Snježana Schuster	(Croatia)	
Nikolaos Strimpakos	(Greece)	(Lead)
Gráinne Sheill	(Ireland)	
Daniela Stanca	(Romania)	
Barbara Laube	(Switzerland)	
Filiz Can	(Turkey)	
Carmen Suárez	(Chair)	

REFERENCES

1. Education & Research Matters Working Group, W.P.E.R., Clinical Education in the Europe region - A Survey of Member Organisations and Higher Education Institutes. 2022.
2. World Physiotherapy. Physiotherapist education framework. London, U.W.P., 2021.
3. Jette, D.U., et al., How do we improve quality in clinical education? Examination of structures, processes, and outcomes. Journal of Physical Therapy Education, 2014. 28: p. 6-12.
4. UK., W.C.f.P.T., Guideline: Clinical education component of physical therapist professional entry level education. . 2011.
5. Higgs, J., Managing clinical education: The programme. Physiotherapy, 1993. 79(4): p. 239-246.
6. Dean, C.M., et al., A profile of physiotherapy clinical education. Australian Health Review, 2009. 33(1): p. 38-46.
7. Dalton, M., M. Davidson, and J. Keating, The Assessment of Physiotherapy Practice (APP) is a valid measure of professional competence of physiotherapy students: a cross-sectional study with Rasch analysis. Journal of Physiotherapy, 2011. 57(4): p. 239-246.
8. Humphris, D. and S. Hean, Educating the future workforce: building the evidence about interprofessional learning. Journal of Health Services Research & Policy, 2004. 9(1_suppl): p. 24-27.
9. Commission, P.H.P., Twenty-one competencies for the twenty-first century. Recreating health professional practice for a new century: The fourth report of the Pew Health Professions Commission, 1998: p. 29-43.
10. Delany, C. and P. Bragge, A study of physiotherapy students' and clinical educators' perceptions of learning and teaching. Medical Teacher, 2009. 31(9): p. e402-e411.
11. JR, F., The CanMEDS 2005 physician competency framework. http://rcpsc. medical. org/canmeds/CanMEDS2005/CanMEDS2005_e. pdf, 2005.
12. Higgs, J., Managing clinical education: The educator-manager and the self-directed learner. Physiotherapy, 1992. 78(11): p. 822-828.
13. Lekkas, P., et al., No model of clinical education for physiotherapy students is superior to another: a systematic review. Australian journal of Physiotherapy, 2007. 53(1): p. 19-28.
14. Strohschein, J., P. Hagler, and L. May, Assessing the need for change in clinical education practices. Physical therapy, 2002. 82(2): p. 160-172.
15. Ahern, C. and M. O'Donnell, Are physiotherapy student-led services a suitable model of clinical education?–perceptions & experiences of physiotherapists, students & patients, a qualitative meta-synthesis. Physiotherapy Theory and Practice, 2023. 39(5): p. 963-978.
16. Reeves, S., et al., It teaches you what to expect in future…': interprofessional learning on a training ward for medical, nursing, occupational therapy and physiotherapy students. Medical education, 2002. 36(4): p. 337-344.
17. Education., C.o.A.i.P.T., Evaluative Criteria for Accreditation of Education Programs for the Preparation of Physical Therapists;. 2022.
18. Recker-Hughes, C., et al., Essential characteristics of quality clinical education experiences: standards to facilitate student learning. Journal of Physical Therapy Education, 2014. 28: p. 48-55.
19. Higgs, J. and L. Mcallister, Being a clinical educator. Advances in health sciences education, 2007. 12: p. 187-200.

20. Rodger, S., et al., Clinical education and practice placements in the allied health professions: an international perspective. Journal of Allied Health, 2008. 37(1): p. 53-62.
21. Coote, S., et al., The development and evaluation of a common assessmentform for physiotherapy practice education in Ireland. Physiotherapy Ireland, 2007, 28(2): p. 6–10.
22. Cross, V., et al., Exploring the Gap Between Evidence and Judgement: Using video vignettes for practice-based assessment of physiotherapy undergraduates. Assessment & Evaluation in Higher Education, 2001. 26(3): p. 189-212,
23. Instruments, T.F.f.t.D.o.S.C.P., et al., The development and testing of APTA clinical performance instruments. Physical Therapy, 2002. 82(4): p. 329-353.