

# CLINICAL PLACEMENT STRATEGY: ANNEXE 1

## REVIEW OF THE LITERATURE

### 1. Introduction

**Clinical placements** provide a form of practice-based experiential learning and may comprise any arrangement in which a learner is present, for educational purposes, in an environment that provides healthcare, or related services, to patients or the public[1, 2]. For chiropractic students, clinical placements may include chiropractic or non-chiropractic clinical services, as well as placements in either external or in-house settings, with a variety of possible arrangements for supervision. In this review, we use **practice placements** where clinical placements for chiropractic students take place offsite, in practices away from the academic institution i.e. in the field/workplace.

There have been calls for transformation of undergraduate health professions education, that have implications for how clinical education is delivered[3-5]. Recommendations include a need to: implement early[5] and progressive competency-based[4] education, that aligns with active learning models[6]; integrate formal knowledge with clinical experience[5]; provide opportunities where learners can take on the multiple roles and commitments that are relevant to their profession[5]; and, provide opportunities for interprofessional education and collaborative practice[3]. Experiential learning[7] is the part of clinical education where learners gain experience that enables them to develop and apply learned knowledge and skills to the care of patients. Clinical placements are part of this. While the advantages of clinical placements are promoted, they must be integrated into health professions education to ensure capacity, cost-effectiveness and an effective learning environment.

An increasing body of literature addresses the use of various models of clinical placement education for health professions. The objectives of this narrative literature review are to identify and evaluate existing literature to:

1. Describe the possible clinical placement models for undergraduate health professions students.
2. Characterise the outcomes of clinical placement models and compare these, where possible.
3. Identify and describe any literature regarding the barriers and facilitators of clinical placement models.
4. Explore and map profession-specific documents related to clinical placement guidelines in healthcare across the UK

## 2. Results

### 2.1 Clinical placement models described in the peer-reviewed literature

10 clinical placement models were defined in the literature:

1. Block placement
2. Collaborative
3. Dedicated education unit
4. Student-led/student-infused/student run
5. Longitudinal integrated clerkship
6. Community practice project
7. Role-emerging
8. Hub and spoke
9. Interprofessional team-based practice placements
10. Innovative and/or combination

The characteristics of each model and outcomes reported for the model (aims 1 and 2) are described below.

#### 2.1.1 Block Placement models

##### *Description*

Block placements are a traditional model in nursing and medical education, whereby placements take place in blocks of time that correlate with curriculum progression and vary between clinical sites and locations[8]. Apprenticeship-style learning takes place, with students achieving specific objectives aligned to the placement site[9]. They enable large numbers of students to be accommodated[9].

##### *Outcomes*

Positive outcomes reported for block placement models include working/learning relationships, the placement environment influencing subsequent career choices (greater with longer block placements), consistency and experience of continuity of patient care, experiencing a diversity of placement environments, and opportunities for knowledge transfer[9].

Outcomes may, however, be influenced by the ratios between numbers of educators and students in the placement, and the learning strategy that individual students adopt. These factors appear to impact on students' perceptions of the placement and their outcomes[10]. A UK-based study reporting outcomes of 2 x 4-week block placements among physiotherapy students reported that placements that are shared by 2 students seem to support surface approaches to learning. More than 2 students being present increased their fear of failing the placement. Lone placements promoted deep learning, with students perceiving the greatest ability to monitor their own effectiveness in the placement. The highest placement grades were achieved by students who perceived themselves to be strategic learners with very low fear of failure[10].

A further disadvantage of the block placement model is that it lacks continuity, compared with a longer placement model[8]. A 3-stage transition has been characterised whereby medical students on longer placements i) shift from classroom to clinical learning; (ii) deal with disorientation and restore balance, and (iii) see themselves as a physician[11]. Students may need to undergo multiple periods of orientation, each time they commence a block placement in a new setting[8]. Among medical students, block placements are indicated to afford less opportunity to 'grow into a practitioner', compared with the longer, longitudinal internship placement model[12]

### **2.1.2 Collaborative model**

#### *Description*

Collaborative learning in practice (CLiP) is the most used placement model. It is designed to enhance student placement experience by allowing for peer-to-peer support by other students in different year groups (sometimes referred to as near-peer learning, where a more experienced student is paired with a less experienced one[13]). The CLiP model also requires that patient care whilst on placement is overseen by a practice supervisor/assessor, but is organised and delivered by the student[14]. This model includes clinical learning dyads, where 2 students work together, supervised by 1 educator, in a learning dynamic in which one student observes the other performing tasks, with their roles then being reversed such that both students experience the observer and the performer role[15,16]. CLiP has also been reported to be organised in a 1:1 or 1:3 educator: student ratio[9].

CLiP may help to increase capacity and reduce costs in clinical supervision[9], whereby fewer clinical facilitators/supervisors are required where there are at least 2 students per educator. Furthermore, the near-peer model may alleviate clinical educators' teaching burden[13].

#### *Outcomes*

Positive outcomes reported for CLiP include stakeholder perceptions[17]; team/peer/educator relationships; shared experiences, student-perceived peer support and peer learning; developing a feeling of being prepared for practice[9, 13, 17].

Some evaluations of student perceptions of peer learning have, however, reported that difficulties may arise with regards to peer compatibility and shared support time with supervisors. It is also reported that students may feel under-prepared to provide constructive feedback to their peers during placements[18]. Another potential barrier to the CLiP model is that it may not work as well in clinical education where there is a need for students to have their own clinical case load[19]. There is also a lack of quantitative evidence of student employability, work-readiness, cost evaluation and the patient perspective[17]

### **2.1.3 Dedicated education unit**

#### *Description*

In medical or AHP education, the dedicated education unit (DEU) is a model that reflects specific units or wards within hospitals that are dedicated for the clinical placement of students[9]. This is also the model that has traditionally provided the basis for clinical placement of chiropractic students in the UK, whereby students complete extended internships of over 12 months in an onsite clinic at their academic institution.

A scoping review by Marcellus et al (2023) identified that this model is well-established in the literature (particularly nursing) and that its characteristics included effective academic-practice partnership; adaptability to diverse contexts; a culture of educational excellence; responsive and supportive unit leadership; clarity of roles and responsibilities. Processes supported by the model included building student and faculty capacity; facilitating student learning; communicating regularly at systems and unit levels; evaluating and sustaining the model[20].

#### *Outcomes*

Positive outcomes reported for the dedicated education model include educator/student relationships, opportunities for knowledge transfer; student satisfaction/perceptions[9]. In nursing, learning performance, but not learning culture, was greater in the dedicated education unit model, compared with workplace placements and more traditional placements[21].

There are however gaps in the literature evaluating the dedicated education unit[21], with fewer outcomes captured compared with other models[9]. There is also limited economic analyses and understanding of long-term sustainability[21]

### **2.1.4 Student-led/student-infused/student run**

#### *Description*

In the student-led model, students take the lead in service provision and care delivery within a setting, under the guidance of clinical facilitators[9]. This may be in the form of a clinic or a group, or as a health intervention, for example, physiotherapy rehabilitation[22] or an interprofessional influenza vaccination clinic[23]. Student led models may take place in different settings including university, community and health settings, and may provide interprofessional opportunities. They play an increasing role in providing some of the necessary clinical placements and/or practice learning experiences essential for the development of professional skills[22]. A more recent distinction has been proposed between different types of health initiative run by students[24]. Some community health initiatives may be initiated and run by students outside of formal academic structures. These are termed 'student-run', where participation is voluntarily and not-for-credit, academically. In contrast, 2 types of model are defined where projects or programs are initiated by academic institutions and mainly operated by students. In 'student-led' health initiatives,

participation is not a curriculum requirement for credit, and students may, or may not receive credit. In 'student-infused' health initiatives, development and implementation of the project or programme is part of the formal curriculum, is designed to promote acquisition of entry-to-practice competencies and students do receive credit (either as a required, or optional education strategy)[24].

### *Outcomes*

A recent systematic review of *learning outcomes* from participating in student-run health clinics identified extensive literature across a range of healthcare professions (including osteopathy and physiotherapy) and reported benefits to the development of clinical skills, interprofessional skills, empathy and compassion for underserved patients, and leadership experience[25]. Positive impacts are also reported for peer support, promoting a professional image for the profession, student satisfaction, perceived learning and self-efficacy[9]. There was little apparent impact of participation on students' future career directions[25].

A further opportunity provided by the student-led model is the potential for interprofessional education where students from 2 or more professions share a placement. A recent rapid review identified benefits for allied health professions students along five themes: understanding of own role and scope of practice; understanding of the role and scope of practice of other professions; individual benefits to the students; impact on patient-centred care; and understanding of how to work in an interprofessional team[26]. These benefits indicate that student-led clinics are a suitable setting for the delivery of interprofessional education to allied health students.

A recent scoping review of physiotherapy rehabilitation student-led clinics[22] reported that where these are more established in curricula, there is often a leadership element to learning, including organizational aspects of service delivery and/or peer-assisted learning. There may also be some form of board-level role with an overarching responsibility for the running of the group or clinic.[22]

There are however varied outcomes reported around the sustainability of student-led clinics or groups, in relation to staff resource and time, as well as cost-benefit analyses. The purpose and type of model adopted may influence the overall sustainability of the model[22]

## **2.1.5 Longitudinal integrated clerkship**

### *Description*

In undergraduate medical education, the longitudinal integrated clerkship (LIC) training model consists of an attachment over several months in a hospital, primary care or community setting, integrated across core clinical disciplines. The student is assigned to one set of faculty members and one group of patients, learning to independently provide comprehensive care for patients over time and across various

disciplines and settings[27]. This workplace learning is thought to be essential in the training of independently functioning medical professionals[27].

### *Outcomes*

Many positive outcomes of the LIC are reported, including relationships within a team and with the educator, influencing subsequent career outlook, consistency of the environment and of continuing patient care, experiencing diversity of environments, opportunities for knowledge transfer and opportunities to receive feedback[9]. A recent systematic review concluded that, compared with block placements, students on LICs reported that they spent more time on and were more actively involved in direct patient care within authentic roles, assuming the role of a physician and experiencing ownership of patients. An increased feeling of preparedness for independent practice related not only to clinical skills but also to factors like dealing with ethical dilemmas, influence of social context on patient care, patient diversity, health system, and personal and professional development[27]

## **2.1.6 Community practice project**

### *Description*

Practice project based models encompass community based placements where students collaborate with the community in analysing, planning, implementing and evaluating participatory community practice projects[9]

### *Outcomes*

There is limited literature available regarding community practice projects[28] There are however reports from the occupational therapy literature of community benefit, promoting the image of the relevant profession, opportunities for knowledge transfer and student satisfaction and positive experience[28].

## **2.1.7 Role-emerging**

### *Description*

Role emerging placements take place in non-conventional settings, where the specific type of health professional is not normally employed. Supervision is carried out by onsite employees and also remotely by the relevant health professional from the university[9]

### *Outcomes*

There is limited literature available regarding the outcomes of role-emerging placements, however there are reports of positive outcomes for community benefit, promoting the image of the relevant profession, opportunities for knowledge transfer and opportunities for students to receive feedback. [29]

In the physiotherapy literature, positive experiences are reported for role-emerging placements in a community-based HIV organization[30], in an emergency department[31], and in placements in research settings[32]. A further benefit may be that, by their nature, role-emerging placements are likely to be interprofessional, fostering understanding of and collaboration between different professions.

There is, however, a possibility that graduates may find difficulty sustaining the professional identity that they had developed for themselves as undergraduates, once working in a different setting[29].

### **2.1.8 Hub and spoke**

#### *Description*

In hub and spoke, students are allocated to a speciality 'hub' for practice, where they have a main mentor. They are then further allocated to short 'spoke' placements associated with that speciality, to add breadth and to enhance understanding of the journey of the patient through the healthcare setting[9, 33]. Allocation to 'spokes' may be determined based upon student learning needs and may involve a greater requirement for self-directed learning. Mentors in 'spoke' placements feedback to the main 'hub' mentor[33]

#### *Outcomes*

A recent systematic scoping review found that the few studies that have evaluated hub and spoke models (in nursing) consistently report positive perceptions by students of learning that is person-centred (around the patient) and the development of a sense of belonging within the placement[33]. Other advantages include fewer movements between placement areas, compared with more traditional block models, with placements driven by student learning objectives, rather than organisational arrangements[33]. It was also reported that capacity for placements, one of the key driving factors for implementation of this model, was increased[33]. A further positive benefit of developing enhanced interdisciplinary collaboration was also reported[33].

Disadvantages, or barriers to hub and spoke placements included implementation difficulties, such as the level of spoke mentoring and learning opportunities and some students finding the self-directed elements challenging[33].

### **2.1.9 Interprofessional team-based practice placements**

#### *Description*

Several of the placement models already described offer opportunities for students of one healthcare discipline to collaborate with and gain understanding of other disciplines, through their clinical placement. In the specific context of clinicians working as teams, interprofessional collaborative team-based approaches to care in health service delivery has been identified as important to health care reform[34]. Many academic institutions have integrated interprofessional education into

curricula. However, while it is recognized that experiential learning can play a significant role supporting interprofessional practice education, there has been little use of educational frameworks to inform experiential teaching and learning strategies for the purpose of consolidating interprofessional learning and preparing students for interprofessional practice [34].

### *Outcomes*

Positive outcomes are reported for team-based interprofessional practice placements whereby they: enhance students' understanding of the complexity of clients' problems and what matters to the client; support students to value the expertise of interprofessional team members; enhance students' learning[35]. Challenges identified include balancing teacher support with student autonomy[35].

## **2.1.10 Innovative and combination models**

### *Description, examples and outcomes*

Some literature describes 'innovative models' that have various features that are seen as differing from conventional models[9]. More recent innovative models described include the replacement of a 1 week traditional placement in GP practice, for medical students, with a structured 1 week GP educator facilitated learning unit in the academic setting[36]. The study found comparable student perceptions of clinical learning and experience, and a marked financial benefit of bringing in GP educators, patients and patient actors, rather than placing students out in practice. Some indicators of advantages and disadvantages, as perceived by students, were identified[36]. Other models have made innovative use of combining simulated learning with placements. A recent scoping review identified models where simulation was used in allied health profession undergraduate training either immediately before, or during clinical placement, as part of the experiential learning. Simulation activities were shown to support students' learning, particularly the development of confidence to perform activities specific to communication and interpersonal skills, although there was limited evidence of how this was transferred to the clinical environment. Placement outcomes indicated no difference in the ability to meet competencies between groups who participated in simulation-based learning and those who did not[37].

Another recent study[38] reported a novel approach for dietician students, whereby 3 different part-time placements, usually undertaken as blocks, were blended concurrently into a single extended rural placement. This model was reported to improve students' work-readiness and wellbeing, as well as having positive impact on rural communities. This was enabled by regulatory changes that permitted greater flexibility in placement models.

Other models are reported that combine established placement models, with the aim of enhancing specific outcomes[9]. This leads to a great variation in the placement models, but positive outcomes are reported for these[9]



## 2.2 Summary of the outcomes reported in evaluations of clinical placement models

A sizeable amount of literature exists that describes, characterises and evaluates clinical placement models. Overall, some positive outcomes are reported for all the models. Mostly, these were in terms of: the learning environment (e.g. continuation of patient care, diversity of environments, placement capacity); relationships between learners and educators; influences outside of the placement (e.g. community benefit, professional image promotion); learning facilitation (e.g. knowledge transfer opportunities, students receiving feedback); inputs to implementation (e.g. resource planning, need for orientation to the placement); knowledge scores; student perceptions (e.g. self-perceived learning, satisfaction, experiences and self-efficacy)[9].

## 2.3 Limitations of studies evaluating the outcomes of clinical placement models

There is a lack of prospective studies that control for confounders, therefore the role of the type of model implemented in the outcomes reported, is hard to establish. There is also a lack of comparative studies and there is variability between studies in model implementation and in the outcomes investigated. This limits the ability to make comparisons between the different models and professions or settings.

Many studies are of qualitative or mixed methods design and focus on outcomes such as student experiences or perceptions. Very few studies evaluated the outcomes of learning (a few evaluated knowledge scores[9]). Considering the widely used original 4 stage Kirkpatrick model for the evaluation of education programmes, these address only the first 2 levels i.e. reaction to the learning and whether knowledge has been acquired[39]. There have been no evaluations of the impact of learning on subsequent behaviour, such as how well students implement what they have learned. No studies evaluated the longitudinal development of competencies by students through participation in the experiential learning model. Key areas of understanding that are lacking include how variability in the characteristics of individual students may influence their competency development via different models, as well as identification of where, within curricula, may be the most effective place to implement each model.

In terms of evaluating a clinical placement model as a discrete education intervention, or in evaluating its role within the outcomes of a health professions education programme overall, there is a need to apply a rigorous framework for the measurement of educational outcomes. It is argued that evaluation of education programmes should extend beyond outcomes of the education, to also consider how and why these outcomes are occurring[40], and this depth of understanding has not been addressed by any evaluations of clinical placement models to date.

## 2.4 Facilitators and barriers to implementation of clinical placement models

In terms of facilitating the implementation of clinical placement to enhance student learning, Nyoni et al (2021) make the following recommendations:

- Positive relationships need to be established and developed between students, peers and facilitators;
- Students must be supported by experienced professionals;
- Students need to be facilitated to meet competence through individual feedback;
- Clinical placements need specific orientation and resources; and
- Positive learning experiences and perceptions from students need to be developed

These aspects of the clinical learning environment are issues for providers to consider in the design and execution of their clinical placement model.

In medical education, the challenges of implementing a wide network of distributed health professions education sites (where workplace-based learning takes place in healthcare settings other than the central academic placement site[41]) has recently been addressed by the formulation of a framework to guide policy and practice[42]. This details 41 enabling factors that should be considered for successful selection of sites, leadership and governance, curriculum delivery, stakeholder and community inputs, and the training environment (including the site, educators and supervision arrangements). Many of these factors are included within the GCC's Supplementary advice to the Education Standards, Clinical placements ([GCC Clinical Placement Guide 2023 FINAL.pdf \(gcc-uk.org\)](#)). The framework does not, however, address the issue of recruiting suitable placement providers or attracting clinical educators into workplace-based teaching roles.

Several studies do report upon motivators, barriers and facilitators that are pertinent to the feasibility of developing and implementing new clinical placement models. This requires willingness of clinics/sites to host placements, willingness and ability of clinicians to be educators and willingness of patients to participate in the education of healthcare professionals.

### 2.4.1 Hosting placements - motivators, barriers and facilitators

#### *Motivation for providing practice placements*

A few studies identify factors that are seen as benefits of being a practice placement provider. In private physiotherapy practice, hosting placements was seen as: an investment in future physiotherapists[43] that makes a contribution to students and to the profession[44] and helps with the recruitment of graduates[43]; adding value to client care[44]; being of value to staff[44] and assisting private practitioners in developing clinical and educator knowledge[43]; being of value to future planning for the practice[44].

## *Barriers to hosting practice*

### Cost to the practice

The cost to private physiotherapy practice (both in terms of time and finances) is cited as a concern[43]. There is very little evaluation of actual financial costs or benefits. However, a recent economic evaluation in private physiotherapy practice in Australia found no difference in either the amount of service provision or income, when students were hosted and not hosted. In fact, there were some indicators that income to the practice was increased after the first week of a placement commencing[45]. Thus financial concerns may be a perceived, rather than an actual barrier.

### Stressful to resource placements

Placement providers in private physiotherapy practice have also reported stress associated with resourcing placements [44], including the ability to secure a sufficient caseload for students[43]. There have been no quantitative investigations of this.

### Risks to patients, their outcomes and satisfaction

Some factors around risk to patients, patient satisfaction and patient outcomes are cited as barriers to hosting placements in private physiotherapy practice. While supervision during care is perceived to lower risk to patients, there is a perception of potential risk to business reputation when hosting a poorly performing student[43].

In student-led clinics, the majority of patients reported satisfaction with care in a multi-professional primary healthcare clinic [46] and in a physiotherapy post-hip replacement exercise class service[47]. However, satisfaction may be associated with various factors including the style of supervision, student-supervisor relationship, quality of physiotherapy care, student qualities and cost, and location of the service[48]. Some factors have been identified that can lead to patient dissatisfaction, including : (1) inadequate communication, (2) insufficient supervision, (3) loss of autonomy, (4) time commitment, and (5) continuity of care[49].

A further potential barrier is concern that patient outcomes may be impacted by the participation of students in their care, in private practice. However, in Australian physiotherapy practices, no significant associations were found between patient-reported Global Rating of Change and: (1) student involvement in patient care; (2) number of consultations involving students; (3) proportion of physiotherapy time involving students; or (4) frequency of student involvement in treatment delivery[50].

## *Facilitators to hosting placements*

Factors that are perceived as potential facilitators for private physiotherapy practices to host placements include receiving additional financial support for placement provision and personalised support from universities[43]

## 2.4.2 Becoming an educator – motivators, barriers, facilitators

### *Motivation to educate*

The need to promote participation of clinicians in medical education resulted in the development and early validation of the Motivation for Medical Education Questionnaire (MoME-Q), designed to evaluate GPs' level of motivation for teaching[51]. Among GPs who were not already educators, levels of motivation to (potentially) teach were high, particularly for shorter 1- or 2-week placements. The MoME-Q development identified 2 key factors associated with motivation as '*commitment*' and '*personal benefit*'.

A recent qualitative study investigated the beliefs, attitudes, and behaviours of professionals concerning workplace-based learning in distributed healthcare settings[41]. 5 themes were identified that are proposed to be relevant to the development of workplace-based learning in these settings:

- Identification with and attitude towards medical education
- Sense of ownership
- Perceived time and space
- Mutual preconceptions and relations
- Curriculum for a changing profession

Other motivators for doctors to participate as educators in practice include opportunities for the mutual exchange of knowledge, desire to share knowledge and to promote future doctors[52]; readiness for teaching[53]; role models from early training[53] and internal awards (these sustained teaching efforts)[53].

### *Barriers to educating*

Barriers include being given insufficient time, space, resources for students and administrative help to meet the requirements of an institution[41], as well as concerns about not being able to treat the same number of patients and a possible disruption of practice operations[52]. A perceived hierarchical relationship within clinical education was also cited as a barrier that discouraged involvement [41]. limited faculty development, incomplete knowledge of expectations, disengagement from the medical school and lack of current mentors were also barriers[53]

### *Facilitators to educating*

Facilitators to becoming an educator included being given opportunities to keep up to date with the latest knowledge, further training and contacts with colleagues[52]. The importance of the curriculum and its learning outcomes being seen as aligned with the nature of practice was also reported as a facilitator to involvement of clinicians in clinical education[41].

### 2.4.3 Patients participating in education

There is little literature evaluating the level of acceptance by patients for students' participation in their healthcare. One hospital-based study did find that patients showed a positive attitude towards students' participation in their care. However, the acceptance rate was higher in cases where there was minimal or no student-patient physical contact, such as reading patient's medical records (88.8%) and attending outpatient clinics (83.3%). The refusal rate increased dramatically (from 11% to 43.3%) when permission was sought from patients to perform physical examination and diagnostic procedures[54].

Further research is needed to understand different settings or procedures and to identify factors that are barriers or may facilitate acceptance by patients.

## 2.5 Exploration of clinical placement professional guidelines in healthcare in the UK

As described clinical placements are an integral component of healthcare education, providing students with essential practical experience to complement their academic learning [56]. The development and implementation of clinical placement guidelines appear critical to ensuring that these experiences are structured, safe, and effective for both students and patients. In the UK, a variety of guidelines exist across different healthcare professions, each tailored to the specific needs, competencies, and expectations of the healthcare sector. While peer-reviewed literature plays a significant role in informing these guidelines as described in detail above, grey literature and profession-specific documents are equally valuable in capturing policies, recommendations, and best practices that may not be widely published in academic journals.

This section of the review aims to scope, explore and map the grey literature and profession-specific documents related to clinical placement guidelines in healthcare across the UK. By examining health profession's websites, professional body guidelines, and institutional policies, this review seeks to provide a comprehensive overview of the existing frameworks that govern clinical placements. This will help identify gaps in the literature, inconsistencies or consistencies between professions, and opportunities for enhancing the alignment of clinical education standards across healthcare disciplines. The findings from this review will be instrumental in informing future recommendations and a strategy for chiropractic in the UK to improve the clinical placement experience for students and healthcare providers alike.

Guidelines mentioned here refer to clinical healthcare placements that are educational experiences where students apply theory to real practice situations mostly under the supervision of qualified professionals [55].

Table 1 presents the data from guidance in an easy to visualise matrix. The full information that informs Table 1 is provided in ‘Supplementary information 1’ (below). The documents that informed this table are listed in ‘Digital resource links’ in the bibliography.

Table 1: summary and comparison of UK clinical placement professional guidelines across healthcare disciplines

Profession	Placement Model	Key additions	Placement learning hours if stated.
<b>Medicine</b>	Longitudinal / block	GMC requirement that students experience a variety of placements which can look like a combination of a block, hub and spoke model.	-
<b>Nursing / Midwifery</b>	Longitudinal / block	Degree apprenticeships possible.	2300hrs minimum of which 600hrs max clinical simulation.
<b>Dental</b>	Clinical simulation / Shadowing / Student outpatient facilities (DEU).	Simulation is popular. Some outpatient HE clinics exist.	No formal requirement from GDC.
<b>Pharmacy</b>	Integrated training / Shadowing	Courses <b>must</b> enable learning in a practice setting	Foundation training required for full registration.
<b>Physiotherapy</b>	Longitudinal / Block Simulation / Shadowing	Models vary. CSP have common placement assessment form (CPAF) which supports placement assessment	1000hrs minimum.
<b>Paramedic</b>	Longitudinal / block		Roughly 2300hrs
<b>Other AHP</b>			

### 3. Conclusions

10 clinical placement models that are defined in the peer reviewed literature were identified and described. Studies evaluating the outcomes of clinical placement models were evaluated, indicating many apparent positive outcomes, across all of the models. However, there are limitations in the literature currently available to enable full evaluation and comparisons to be made.

Literature was identified and described regarding barriers, facilitators and motivators of clinical placement models, in relation to implementing placement models, becoming placement hosts, becoming placement educators and for the participation of patients in clinical education. A limited amount of evidence suggests that some barriers cited may be perceived, rather than actual.

6 health professions educational approaches to clinical placement were explored and key findings summarised. These professions were chosen as they have similarities to chiropractic education and the models employed will likely provide valuable insight to the chiropractic profession as it develops its approach to clinical education further.

These findings should inform subsequent development of clinical placement strategies and implementation of clinical placement models.

## 4. Supplementary information 1

### Clinical placement professional guidelines in healthcare in the UK

Detailed points extracted from reviewed clinical placement professional guidelines are detailed below. Sources are listed in 'digital resource links' in the bibliography.

#### **Medicine.**

Placements widely used throughout pre-registration healthcare. These are mainly longitudinal / block placements in a hospital, or community healthcare environment.

Many medical courses are developed closely with local trusts to ensure that the placement capacity is in place, and matches the demand for the course such is the importance and integral nature of clinical placement education in medical education.

Student Assistantships are also used in later years. Not governed by time or length, but more focused on what the student learns during this assistantship (GMC).

Medical education in the UK also has a provisional registration system (Foundation Programme F1) – this is not considered part of undergraduate medical education but is worthy of note as it is still considered part of a developing doctor's medical education. Supervision is still in place at this stage and decisions are often made collaboratively with more senior doctors. In some cases F1 doctors will work in teams of other F1 doctors which does in part represent a CLiP model in action.

Themes:

Integrated learning (Clinical placements are integrated with academic learning).

Diverse Clinical Setting. This is a GMC requirement and also part of the link to the required curriculum.

Supervision models vary. This is very dependant on the clinical setting and level of the student.

#### **Nursing / Midwifery.**

Placements are a widely used pedagogical tool throughout pre-registration NMC regulated training.

Pre-registration nursing programmes may offer different routes to registration, however, all programmes leading to registration must include routes within the programme specific to the relevant fields of nursing practice for which they have approval. There are four recognised fields of nursing according to the NMC: adult, children, learning disabilities and mental health.

Longitudinal / block placements are again the most common practice in nursing clinical education.



Apprenticeships. Degree apprenticeships are increasing in the nursing sector as these allow students to work and learn.

Supervision models vary as they do with medicine.

There are certain hours that are still required and written into guidance for nursing education. 2300hrs minimum of which 600hrs max clinical simulation.

Clinical simulation is an increasingly popular method of delivering clinical experience. As it has risen in popularity, some regulators have determined a limit to clinical simulation to ensure students are still interacting with real-world clinical environments.

### **Dental.**

No formal GDC expectation exists for practice-learning other than it must occur and be linked to standards of proficiency. This provides much more freedom for education institutions.

McGleenon & Morison (2021) state that in the UK and Ireland clinical experience can be sought by HEI's in multidisciplinary environments. Also, increased student numbers and a fall in teaching staff have led to a reported reduction of clinical experience opportunities [57]. This is a very real issue, and many educational programmes are limited by healthcare placement opportunities. Increased demand for clinical education has led to innovation in this space in an attempt to increase placement capacity.

Some HEI's have outpatient facilities for later year students to practice under a direct supervision model.

Concepts of placement consistent with other health and care professions.

### **Pharmacy.**

Formal GPhC requirements for practice-learning exist but again these are linked to outcomes with no formal expectation set by the regulator.

Foundation year training – After obtaining an MPharm degree (unless they have completed an MPharm degree *with* integrated training) individuals go on to complete a foundation training year which must include a minimum of 90 hours supervised practice specifically related to prescribing.

Supervision models vary but are noted as essential.

### **Physiotherapy.**

Models vary significantly across different settings. All HCPC approved courses must include practice placement.

Placement models can vary significantly and often include a combination of models. Students could experience 1:1 placement shadowing, 2:1 shadowing, PEEP (Peer Enhanced E-Learning Placements), clinical simulation placements, virtual placements or digital online placements.

The main HCPC and CSP focus is on learning outcomes. The CSP have developed Common Placement Assessment Forms (CPAF's) which aims to help consistency of placement experience across various settings. These have been designed specifically for each level of undergraduate education and have been included as a digital reference for noting.

### **Paramedic.**

Curriculum guidance from the College of Paramedics (2019) states an expectation of roughly 50:50 theory to practise ratio. They do not stipulate a time or duration, but this would roughly equate to around 2300 hrs in an undergraduate degree in the UK, similar to nursing and midwifery.

Various locations available for placement. Traditional ambulance placement is still common, but paramedic students can also find themselves in primary care environments or in a community healthcare setting.

Block placements, loaded more towards the last two years of the course.

### **HCPC Standards of education and Training.**

#### **Institution level standards.**

Practice-based learning.

5.3 The education provider must maintain a thorough and effective system for approving and ensuring the quality of practice-based learning.

5.4 Practice-based learning must take place in an environment that is safe and supportive for learners and service users.

5.7 Practice educators must undertake regular training which is appropriate to their role, learners' needs and the delivery of the learning outcomes of the programme.

5.8 Learners and practice educators must have the information they need in a timely manner in order to be prepared for practice-based learning.

#### **Programme level standards.**

Practice-based learning.

5.1 Practice-based learning must be integral to the programme.

**5.2 The structure, duration and range of practice-based learning must support the achievement of learning outcomes and the standards of proficiency.**

5.5 There must be adequate number of appropriately qualified and experienced staff involved in practice-based learning.

5.6 Practice educators must have relevant knowledge, skills and experience to support safe and effective learning and, unless other arrangements are appropriate, must be on the relevant part of the Register.

### **NHS England.**

NHS England have acknowledged the current challenges for placement provision, especially since the covid-19 pandemic. They have taken a position to support current placement expectations of AHP regulators and professional bodies.

That benchmark is c. 1000 hrs.

### **Post Covid-19.**

Clinical placements have undergone some significant changes following the covid-19 pandemic. Clinical placement became challenging in certain settings and capacity became an issue as discussed.

One solution to this was the development of the CliP model (described in more detail above) and the TECS Placement Model.

### **The CliP Model.**

Collaborative Learning in Practice.

A newer model of practice-based learning that allows a collaborative learning practice environment enabling students to work more independently and to support each other in practice.

Supports the transition to an independent professional due to the lesser reliance on mentorship and the supervisory relationship [58].

### **TECS Placement Model.**

Technology Enabled Care Service (TECS).

Since the COVID-19 pandemic, many NHS organisations have been using technology to provide patients with services and care as a result of the decrease in ability to see all patients face-to-face. The Technology Enabled Care Service (TECS) model is a form of remote service delivery, supporting services who use technology in various forms to deliver care. The model provides placement students with a remote based setting, aiming to give them exposure to new digital skills and giving them more opportunities to observe in clinical areas.

Reported benefits of the model.

- Any area of care using remote services can give a student a placement, giving more students opportunities to work with your organisation, helping with future recruitment aspects.
- TECS allows for more students to be able to watch and participate in the same service delivery, tackling placement capacity challenges.
- It is likely that remote services will be a future way of working, so giving students additional digital skills can be useful for the future workforce; helping build confidence in using technology to provide care.
- Placement students can gain more knowledge in specialised, clinical fields where they may not have been able to observe physically in the past.

Considerations.

- Supervision models.
- Parity of experience across groups of healthcare students.

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## Digital Resource Links

### Medicine

<https://www.gmc-uk.org/-/media/gmc-site/education/downloads/guidance/guidance-on-undergraduate-clinical-placements.pdf>

[https://www.gmc-uk.org/-/media/documents/promoting-excellence-standards-for-medical-education-and-training-2109\\_pdf-61939165.pdf](https://www.gmc-uk.org/-/media/documents/promoting-excellence-standards-for-medical-education-and-training-2109_pdf-61939165.pdf)

#### Nursing

<https://www.nhsemployers.org/articles/clinical-placement-supervision-models>

<https://www.nmc.org.uk/globalassets/sitedocuments/standards/2023-pre-reg-standards/new-vi/standards-for-pre-registration-nursing-programmes.pdf>

#### Dental

[https://www.gdc-uk.org/docs/default-source/quality-assurance/standards-for-education-\(revised-2015\).pdf?sfvrsn=1f1a3f8a\\_2](https://www.gdc-uk.org/docs/default-source/quality-assurance/standards-for-education-(revised-2015).pdf?sfvrsn=1f1a3f8a_2)

#### Pharmacy

<https://www.pharmacyregulation.org/sites/default/files/document/standards-for-the-education-and-training-of-pharmacist-independent-prescribers-october-2022.pdf>

#### Physiotherapy

<https://www.hcpc-uk.org/standards/standards-relevant-to-education-and-training/set/>

<https://www.csp.org.uk/professional-clinical/practice-based-learning/cpaf>

##### CPAF Level 4.

[https://www.csp.org.uk/system/files/documents/2022-01/L4\\_SCQF%20L8\\_v2%20with%20Appendices\\_0.pdf](https://www.csp.org.uk/system/files/documents/2022-01/L4_SCQF%20L8_v2%20with%20Appendices_0.pdf)

##### CPAF Level 5.

[https://www.csp.org.uk/system/files/documents/2022-01/L5\\_SCQF%20L9\\_v2%20with%20Appendices.pdf](https://www.csp.org.uk/system/files/documents/2022-01/L5_SCQF%20L9_v2%20with%20Appendices.pdf)

##### CPAF Level 6.

[https://www.csp.org.uk/system/files/documents/2022-01/L6\\_SCQF%20L10\\_v3%20with%20Appendices.pdf](https://www.csp.org.uk/system/files/documents/2022-01/L6_SCQF%20L10_v3%20with%20Appendices.pdf)

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#### NHS England.

<https://www.hee.nhs.uk/our-work/allied-health-professions/increase-capacity/ahp-practice-based-learning/current-placement-expectations-ahp-regulators-professional-bodies>