

New models of learning in practice

Final report

March 2018

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Executive Summary

Background

Pre-registration clinical staff – nurses, allied health professionals and others – undertake much of their learning in practice, in placements of varying lengths, embedded in clinical teams. Traditional models of work-based practice learning have tended to involve a one-to-one student-educator relationship. New approaches are being called for by the nursing and midwifery regulator (NMC), but also driven by the contextual pressures of learning within the modern healthcare system. In order to inform understanding of models of placement learning, we conducted a systematic review with three main aims:

1. To identify and elaborate new ways in which practice-based learning has been implemented for different healthcare professions.
2. To consider organisational barriers and facilitators of these approaches.
3. To consider evidence for the effectiveness of these approaches, and if possible identify indicators of good practice.

Literature search

A systematic search of Medline and CINAHL databases was conducted, encompassing the majority of journals publishing in healthcare education. This was complemented by further Google Scholar searches. Search terms were developed to capture papers relating to three concepts: practice-based learning as an educational approach, the healthcare professions of interest, and undergraduate or pre-registration learners. Searches identified around domains identified 1227 unique references. After deduplication, title and abstract screening, a full paper review was conducted on 19 papers that met the eligibility criteria developed to best answer the research questions.

Findings from the literature review were supplemented by three stakeholder workshops and four case study interviews. These activities sought to gather intelligence on local placement delivery and experience of educational initiatives, and to contextualise literature findings within regional practice.

Findings

New approaches to delivery of placement learning typically rely on differing ways of providing supervision. Evidence supports involvement of non-registered staff, junior registered staff and fellow peers in supervision. Delivery may be successfully provided in non one-to-one models – by a team of supervisors, and to a large group of students. Placement learning can be enhanced by inclusion of innovative clinical settings. Barriers to new settings may be overcome through local organisational solutions, whether practical (such as review of placement timetabling) or educational (such as design of relevant educational resources to support learning in the particular setting).

There is limited evidence for impact, with pilot studies most often reporting satisfaction and perceptions of learning. Nonetheless, new placement approaches have been rated favourably, with some evidence for particular benefits of small groups, consistent supervision, peer-support and opportunity for independent practice.

Conclusion

Successful implementation of new ways of placement learning needs consideration of the local 'system' and what organisation and educational support is needed to ensure that the model is effective, practical and safe. Implementation must be underpinned by robust longitudinal evaluation, gathering perspectives of students, staff and patients.

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Introduction

This report sets out the key findings from a research project which aimed to consider evidence and potential for new models of learning in work-based placements – in particular, approaches to the workplace supervision of pre-registration students in nursing and midwifery and allied healthcare professions. It consisted of a systematic review of the literature and consultations with stakeholders from across the North East and North Cumbria.

Background

Pre-registration clinical staff – nurses and midwives, allied health professionals and others – undertake much of their learning in practice, in placements of varying lengths, embedded in clinical teams. Educationally, this is grounded in theories of situated learning (1) whereby learning takes place in the context in which it will be applied, thus reducing risks arising from failure of learning to transfer from educational context to the workplace. This form of apprenticeship learning is still fundamental in much of clinical education, despite the increased role of educational institutions in recent decades.

The organisation and management of placements vary between professional groups, between placement providers (most often NHS organisations) and between the educational institutions (usually higher education institutions [HEIs]) awarding the academic qualifications. All involve some means of ensuring that students are appropriately supervised and educated in workplace settings, to ensure they are safe in their clinical practice, and that their knowledge and skills are developing to meet curricular outcomes.

This involves a role for qualified, registered professionals who have educational oversight of students. However, the ways in which learners interact with these qualified staff, and the language used to describe those relationships, also varies between professional groups. Terms such as mentor, trainer, supervisor and educator are all used to refer to individuals with similar roles and responsibilities, although these terms can also indicate more substantive differences in the way in which this educational relationship is enacted.

In nursing, the dominant model has been one of mentoring. In this system a student has a dedicated, trained mentor who is responsible for support, supervision and assessment of the student's practice. Other nursing staff, both non-qualified and qualified, have no formal recognised educational role as such, though still play a part in facilitating and supervising placement learning, under direction of the mentor. However, the educational roles in nursing are to change with new Nursing and Midwifery Council (NMC) standards coming into force in 2018, following a period of consultation. This is a key driver for the review of approaches to placement learning in nursing, but

there are also other drivers for change that are pertinent across health professional groups. These are discussed in the next section.

Drivers for review of placement delivery

There have been a number of national documents that have articulated a need for review of work-based education and training.

Health Education England (HEE) is responsible for ensuring high quality placement learning, and recently set out the specification and standards expected of learning in the work-based environment in the HEE Quality Strategy and Framework (available at: <https://hee.nhs.uk/our-work/quality>). This strategy is underpinned by a commitment to continuous improvement in placement quality for multi-professional learner groups.

In nursing, a need to review the level of practice of pre-registration practitioners was noted in the 'Shape of Caring' report (2). This argued that bringing practice which is currently limited to post-registration staff into the scope of pre-registration learners will allow more service delivery by those pre-registration staff. This will thereby improve patient care, while easing some workforce pressures.

This was followed by the NMC's revised regulations/standards. The consultation draft (NMC 2017 <https://www.nmc.org.uk>) removes all mention of mentorship in pre-registration education, referring instead to practice supervision and practice assessment. The shift here is from strictly defined educational roles to a more flexible educational responsibility.

More widely, the changing relationship between HEIs and healthcare students has been highlighted with the removal of the student bursary and discontinuation of direct commissioning of student places through Health Education England. This has two implications. Firstly, there is no longer a cap on, or control over, the number of places offered by HEIs in a number of professions, which means that there may be more pressure on placement providers if student numbers increase. Models including a one-to-one student-supervisor relationship will stretch the qualified workforce, and alternative approaches could provide economies of scale. Secondly, students, like those across higher education, are now placed in the position of being consumers, and as evidence has suggested that staff engagement with the mentoring role, and quality of the student experience can be variable (3, 4), courses may benefit from demonstrating more clearly 'added value' in their student placements.

Coaching-based models

Alternative models of 'one-to-many' educational support have been proposed. One of these is the 'collaborative learning in practice' (CLiP) model, which has been proposed as a way of effectively improving how learning in practice is delivered.

CLiP was developed in the Netherlands, and has been brought to the UK in HEE East of England (2). It is defined by a more distributed approach to work-based learning, with educational roles shared between a number of qualified staff and with a group of learners, contrasting with the traditional one-one mentorship model. Key components of the CLiP model include that it is delivered in an environment specific to learning (a 'learning ward'), where a group of students provide total clinical care under guidance of a 'coach'. This dedicated 'coaching' role, where qualified staff do not have other clinical responsibilities during the shift, is a further key difference from the mentoring model. The CLiP model has been developed with nurses, and as such may not meet the learning requirements of other professional groups. Further, there has been no peer-reviewed evaluation of CLiP. Nonetheless, an awareness of the potential learning benefits of this model was the starting point for the current enquiry into the options and impact of different approaches to the support of work-based learning in practice.

Aims

The study had three main aims:

- The primary aim was to identify and elaborate new ways in which work-based learning has been implemented for different healthcare professions.
- Secondly, to consider organisational barriers to and facilitators of these approaches.
- Thirdly, to examine evidence for the effectiveness of these approaches, and if possible identify indicators of good practice.

Scope

The applied scope of the project was restricted to non-medical practitioners in regulated professions in the UK. These are, nurses and midwives (regulated by the Nursing and Midwifery Council), and patient-facing professions regulated by the Health and Care Professions Council. However, in considering the literature, we did not limit to these professions but also included healthcare professions which may not be currently regulated in the UK.

Methods

The aims of the project were primarily addressed by consideration of the literature, but complemented by stakeholder consultations in workshops and case studies.

Literature search

Index papers were identified through a scoping search of Google and Google Scholar, and consideration of grey literature. These were used to ensure the formal systematic search of databases was sensitive to these papers.

The search focused on Medline and CINAHL databases, which encompass the majority of relevant healthcare education journals. This search was complemented by further Google Scholar searches.

The search was based around three concepts: practice-based learning as an educational approach, the healthcare professions of interest, and undergraduate or pre-registration learners.

The first of these was necessarily broad, given the nature of this concept. Specificity would be provided in screening of titles and abstracts, rather than the initial search. The second concept was also broad in encompassing a large number of professions (see table 1). For the third concept, some keywords allowed specification of educational stage (eg 'Education, Nursing'), but not all, so simple keywords were also included to focus on pre-registration learners.

Table 1. Healthcare professions included in search terms

Group	Subgroup	MESH
Nursing	Adult Child Mental Health Learning Disabilities	Nurses/ Education, Nursing/
Midwives		Midwives/
AHPs	OT PT Dietetics Radiography x 2 Ortho/prosthodontists Art, music and drama(3) Chiropody/podiatry Speech and Language Therapists	
Paramedics		
HCS		
ODP		
Pharmacists		

Search terms and numbers of hits are summarised in table 2. Search terms varied with different syntax and indexing terms used by the different databases, but were designed to be as similar as possible.

Table 2. Search terms

Concepts	Medline syntax a	Medline hits	CINAHL syntax	CINAHL hits
Criteria of practice based learning	exp *Mentoring/ or 'practice based learn*' or 'clinical supervis*' or 'workplace supervis*'	2218	"mentoring" OR "training ward"	594
Healthcare professions	exp Nurses/ or exp Education, Nursing/ exp Allied Health Occupations/ or exp Allied Health Personnel/ or exp Physical Therapy Specialty/ or exp Occupational Therapy/ or physiotherap* or	242305	(MH "Schools, Nursing") OR (MH "Schools, Podiatry") OR (MH "Schools, Allied Health") OR (MH "Students, Nurse Midwifery") OR (MH "Students, Nursing, Male") OR (MH "Students, Nursing, Graduate") OR (MH "Students, Nursing, Doctoral") OR (MH "Students, Nursing, Associate") OR (MH "Students, Nursing, Baccalaureate") OR (MH "Students, Nursing, Diploma Programs") OR (MH "Students, Nursing, Masters") OR (MH "Psychotherapy+/ED") OR (MH "Nurses+/ED") OR (MH "Occupational Therapy+/ED") OR (MH "Physical Therapy+/ED") OR (MH "Allied Health Professions+/ED")	24,886
Learner	student* or pre-registration	167240		
1 and 2 and 3		174		366

^a In Medline the index term 'mentoring' encompasses a number of terms including 'coaching'.

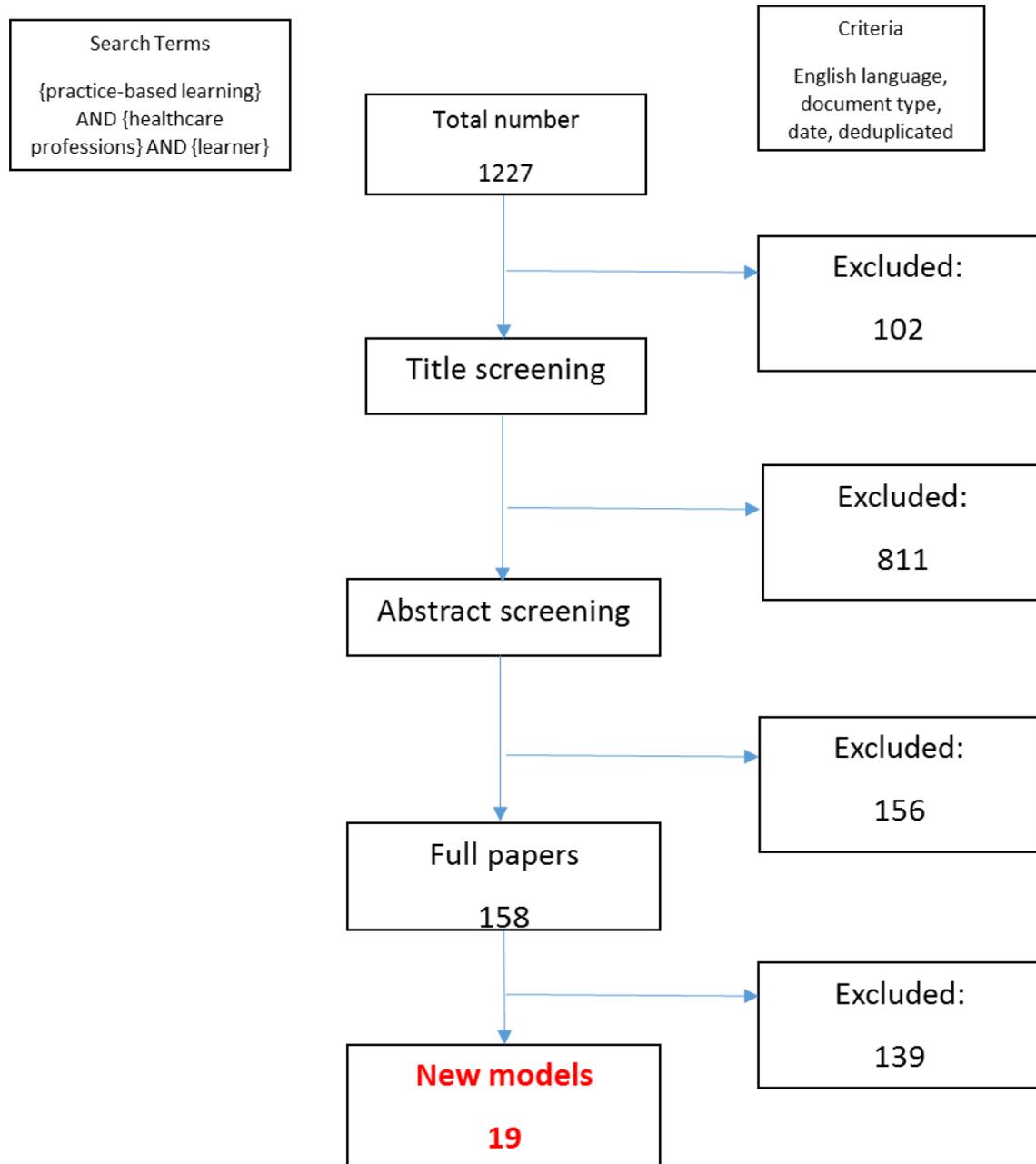
Title and abstract filtering

The results of these searches were imported into Endnote, and de-duplicated before more detailed review and consideration against exclusion and inclusion criteria, as shown in table 3. As the aims were exploratory, these criteria were flexible and revisited iteratively during detailed review. This aside, the PRISMA protocol was followed (3). Figure 1 illustrates the final selection process in the standard PRISMA flowchart.

Table 3. Inclusion and Exclusion criteria for title and abstract screening

Selection criteria	Inclusion	Exclusion
population	Staff educators and undergraduate / pre-registration students from nursing and allied health professions Based in the clinical setting	Non-health disciplines Academic staff / students in the university setting
Intervention	Models where there is more than one practice-based supervisor per student OR More than one student per supervisor at a given time in the workplace OR Models where students are supervised/co-supervised by a supervisor from a different profession. This will include those from non-qualified/non-registered professions OR Models where students are supervised/co-supervised by a supervisor who is non-qualified/non-registered member of same profession or are registered professionals who have not undertaken educational training (eg staff nurses)	New placement area unless model of supervision differs from traditional 1-1.
Outcome	At least 1 reported outcome measure	No outcomes reported
design	Qualitative or quantitative studies, including systematic reviews	
other	Published in English language	Commentaries Editorials; theses

Figure 1. PRISMA flowchart for final paper review



Project Advisory Group - stakeholder workshops

The views and experiences of stakeholders were sought at three workshop events held during the study period. These events were attended by a range of educational leads (attendee numbers, 14-26) who represented differing professions and organisations across HEE North East, including North Cumbria.

The function of the PAG, frequency and format of the workshops were agreed with colleagues at HEE local office. Specific functions agreed were:

1. Critically review the approach to the systematic literature review.
2. Facilitate identification of and access to potential 'case studies' of new models in placement learning
3. Provide commentary on interpretation of findings and their practical application for placement learning in HEE North East and North Cumbria

The objectives of each workshop are outlined below. Further details from workshops are included in the results section, but observations from the initial meeting are included here, as these shaped the approach to the subsequent literature review.

The first workshop, held September 2017, had 3 main objectives: to refine operational definitions and properties of 'coaching'; to identify interventions in local organisations that may represent novel work-based learning, and to identify any evaluation activities around these interventions

The emphasis on 'coaching' in the initial framing of the project was challenged, with stakeholders expressing caution about its use in relation to placement delivery. While 'coaching', the support of learning through direct interpersonal support, was seen as commonplace in a number of educational activities across the region, it was felt to represent a specific approach that new models need not include. Rather the intended review needed to describe changes in systems that determine implementation, rather than specific educational processes. These messages informed refinement of inclusion/exclusion criteria to move away from consideration of explicit coaching-based to a broader range of models.

The second workshop, held November 2017, considered requirements for new models – staff training, additional placement settings and their potential 'value', while the third workshop, held January 2018, considered facilitators of new models in the literature and how innovation has been achieved in local 'case studies'.

Case studies

Stakeholder workshops identified innovative work taking place around placement-based learning. More detailed information on these initiatives was gathered through face-face interview with stakeholders from organisations across the region. Contributors are tabulated below.

Table 4. Local Case Studies

Place / lead name	Profession	Model	
Teesside University Gordon Mitchell Anne Binks	nursing	'Triad Learning Team' – mentor, associate mentor, student – pilot roll out ongoing in cardiology, haematology	Videoconference
Gateshead Health NHS Foundation Trust Dawn Duncan	physiotherapy	Review of delivery across Trust complete. All areas have student placements throughout the academic year Student works with non-qualified staff member; educator supports task allocation, problem-solving and leads assessment.	Interview
Northumbria Healthcare NHS Foundation Trust Marie McKeown	nursing	CLiP model proposed for pilot roll out. 5 areas: community district nursing, community learning disability, maternity/birthing centre, 2 x acute wards	Interview
Newcastle upon Tyne Hospitals NHS Foundation Trust Lisa Robinson	trauma rehabilitation – multi-disciplinary	New placement setting: opportunity for multi-professional placement supervision/learning.	Interview

Results

The presentation of results here combines key findings from the literature with observations and commentary from stakeholder workshops. Relevant examples from case studies are highlighted in boxes.

New models – definition

One-to-one apprenticeship models are generally regarded as the ‘traditional’ model of clinical education in nursing and allied health professions (4). Indeed, Saarikoski *et al* in a survey of students in eight nursing schools in Europe, including the UK, found that the majority of respondents (53%) described successful mentor-student relationships, with 38% reporting a group or team supervision model (5).

However, what defines a ‘new’ model is not so clear in the literature. In their systematic review of collaborative models in allied health professions, Briffa and Porter outlined a set of factors that have challenged sustainability of a one-to-one model of clinical education in Australia, and internationally, over the last decade (4). Their list broadly resonates with the factors discussed at the initial stakeholder workshop (PAG #1). Those factors centred on diminishing provider capacity, with changes in undergraduate curricula and course structure, and in the political landscape of health professional education adding further pressure on placement providers.

In short, ‘new’ models may be best seen as those which adapt to a complex and changing workplace, and have a focus on providing placement access to more students, while ensuring patient safety and high quality training. However, the factors which enable and deter change differ between settings and placements, and hence there is no single specification of such a model. Rather this must be determined by local needs.

Our subsequent analysis hence focuses on key constructs of the organisational system, and how these may determine successful implementation.

Supervisor capacity

The first and core component of a successful system is the availability and quality of workplace supervisors.

The PAG workshop identified that this is being challenged by (early) retirements within the clinical workforce reducing the numbers of available supervisors with sufficient clinical experience. Further, educational capacity of remaining senior supervisors was also being challenged by changing clinical expectations and roles, with these staff now taking on additional skills and responsibilities.

The most immediate source of new supervisors is the pool of all registered staff in the workplace, many of whom will have extensive clinical experience, but may not have formal educational training. This is reflected in the draft NMC standards which broaden the scope of educational responsibility in the workplace through introduction of 'practice supervisors' – nursing staff who individually or in groups contribute to student learning in placements.

Team supervision approaches

Supervision shared among a team of staff potentially affords greater capacity for students. Several studies identified in the literature review offered evidence for successful implementation of a group or team approach.

Bos *et al* demonstrated value of group supervision for increasing capacity in a new model in Sweden. In this country nursing students all have a placement in primary care and are supervised by a district nurse (DN) (6). In this new approach, one DN was given a lead organisational role, while two or more DNs shared supervision responsibility. The placement content was also reviewed - to ensure continuity of patient contact and include seminars that aimed to help integrate theory with practice. Pre-post survey evaluation data were collected over one year and identified that more supervisors felt that this model was conducive to supervising a greater number of students. Also, more now had awareness of the associated organisational processes, including access to a lead educator and availability of information materials. However, notably more DNs felt less well supported by nursing colleagues during the intervention period – perhaps suggesting that welcome distribution of formal supervisory responsibilities may have been at the expense of informal colleague support.

Callaghan discussed a team approach to student supervision in mental health nursing in the UK. This was a novel approach to placement learning, where students were attached to clients, rather than a location, and the client case and setting were mapped to the student's current learning needs and place in the undergraduate programme (7). Supervision was provided by each client's named nurse, and by a named clinical supervisor, which meant that the student had involvement with a number of differing clinical teams over time. Evaluation data were limited (8) but suggested educational advantages of patient-focused learning and experience of case load management and long-term client follow up. A challenge for implementation was that the approach required students to have a higher level of knowledge, autonomy and confidence, and hence may not be suitable for all stages of learners.

A group approach to supervision has also been demonstrated to be feasible, and to have educational value, in the acute setting. Halse *et al* described group supervision of a large number students on an acute geriatric ward (9). In this model, 12-15 students were divided among four clinical teams,

where each member of the team contributed to placement supervision, though one jointly shared overall responsibility with a member of university faculty. In addition, for two weeks at the end of the placement students had direct responsibility for half of the patients on the ward. Survey data from two rotations reported that 85% of staff rated the experience as good/very good, with half indicating that they would choose to work on ward with so many students again. Staff also felt that cooperation in supervision was satisfactory and, notably, that the model had had a positive impact on the professional and psychosocial environment of the ward.

Team supervision

South Tees/Teesside University nursing 'triad' case study: feasibility of group supervision model established in two volunteer clinical areas – cardiology and haematology. Team may include non-qualified nursing staff. Initial feedback is that involvement of non-registered staff benefits both staff and students, with students accessing a greater clinical experience.

Benefits: good organisation; more learning opportunities through 'formalising' time spent with another member of healthcare team; greater availability of educational support for students.

Inclusion of non-registered staff in supervisory teams

Key members of the ward team are non-qualified or non-registered staff, largely healthcare assistants supporting nursing or other roles. These health and care workers have a wealth of clinical experience and offer potential additional benefits for placement supervision, yet their role in student learning is not typically formalised, or recognised. Two studies in the data set considered models where non-registered staff contributed to a mentoring team.

Padfield and Knowles (10) introduced a two month co-mentoring pilot in mental health nursing in the UK. The pilot constituted 10 teams, across acute and community settings, where a non-registered practitioner was selected, and trained, to act as a 'mentor associate' in a learning support role alongside a nurse mentor. Feedback from both mentors and associates highlighted a need for preparation of the whole care team: non-registered staff felt that nurse mentors ranged from 'cynical' to 'enthusiastic' about their associate mentor, where negative attitudes seemed to reflect a lack of understanding about the associate mentor's role. They expressed concern that nurse mentors might feel undermined in their role, and that the initiative could be seen as a 'money-saving' initiative that was a direct threat to nurses' professional status.

In the Padfield study, students were unanimously positive about learning from non-registered staff. This contrasts with the findings of Annear *et al* who identified that students working with Health Care Assistants in a residential aged care facility in Australia had initial negative attitudes towards working with care workers, feeling that participation in care duties, and hygiene in particular, undermined their nurse education and detracted from other learning opportunities (11). Not surprisingly, care worker mentors felt disrespected and undervalued by these attitudes, while nurse mentors felt frustrated by the students' lack of engagement. However, in an action research approach, care workers designed a manual - the 'Carer Assessment and Reporting Guide' - which provided learning prompts to students and linked activities to core nursing competences. The resource helped students recognise the relevance of activities to their course outcomes, while through the process of designing and drafting the materials, care workers themselves developed a better appreciation of their own skills and worth, and mutual respect improved between them and registered nursing staff.

This tension was identified in the second PAG discussion as a risk for expanding the educational role of non-qualified staff. Students may not feel they are getting valuable or expert education, while qualified staff may feel their expertise is undermined. Further, non-qualified staff may feel exploited for no additional gain in status or grading. However, these risks were not seen as major, and had not been found in the small-scale South Tees/Teesside University pilot.

Non-registered staff as supervisors

Gateshead physiotherapy case study: student partnered with non-qualified staff member.

Educator – sets task. Student-non-qualified staff team assess and treat. Educator - reviews progress and addresses problems, if needed.

Benefits: Students support quality service delivery, while safety of care is ensured. Educators' time for service commitments increased, as non-qualified staff support training.

Supervision of groups of students

The approaches outlined so far aim to improve supervision capacity by increasing the ratio of supervisors to students, thus spreading the supervisory load among more staff. The converse

approach has been taken elsewhere, by increasing the number of students for whom an individual member of staff has responsibility, in the context of a new educational role.

A number of studies described such approaches. In these models a dedicated staff member, whose time was funded either by university (12-15) or hospital (16), had responsibility for the learning support of large student groups, who might be based in several ward areas. In some of these models, the facilitator also had responsibility for student assessment and support of qualified nursing staff. However, the facilitator generally had no clinical duties, apart from one study (14), where the Supervisor of Clinical Education (SCE) was able to teach or demonstrate procedures that junior registered nurses were not sufficiently experienced to supervise.

A note of caution, however, was suggested about this approach that related to difficulties when the clinical and educational roles of supervising staff were separated. On the one hand, staff who had a dedicated educational role could be seen as lacking clinical credibility by colleagues (15), while students, when practising without an educator, described negative situations that related to insufficient monitoring and guidance from their clinical staff 'buddy'. A more successful model was reported by Andrews (1). In this arrangement senior nursing staff provided educational support to two students as a 'Clinical Guide'. The 'distance' of the guide from the ward area was seen as a strength in that students could be provoked to challenge specific 'ward ways' of working. However, this evaluation lacked data on the views of placement supervising staff.

Peer supervision

Peer supervision, where some educational role is borne by other students, offers an alternative approach to students working and learning in groups. In many studies peer-learning complemented traditional one-to-one models, often as a way of more senior students developing leadership competences (example, Aviram (17)), but there were also some examples of peer-led supervisory approaches.

Lloyd and Bristol developed a collaborative model in a rural community clinic in California (18). In this small pilot project newly qualified nurses were paired with 2 undergraduate nursing students and were required to devise, develop and evaluate a patient-centred health promotion programme. Clinic staff were available for problem-solving, while university staff monitored progress. These student teams worked together to assess and identify clients most at risk of disease progression and formulate a plan for effective teaching. Evaluation was limited, but the collaborative process was rated favourably.

A similar peer-mentoring model, also hosted in a community unit in the USA, used graduate nursing students to mentor 2 levels of undergraduate students – one novice, one more senior. Teams

worked together during the 16-week placement and sought either to address the unit's organisational policies and procedures, or assess the health care needs of local at-risk families and develop health promotion strategies (19). Students, faculty and unit staff evaluated the project positively, but highlighted that the unstructured setting could be frustrating and successful adaptation needed careful student selection – those with positive attitudes, flexibility and motivation to create and complete an innovative project.

Successful implementation of peer learning has also been reported in the acute hospital setting. In this model first year nursing students (n=70) in Sweden were allocated to either continuing one-to-one supervision with their preceptor, or to peer learning in the final two weeks of a four week placement (20). Students paired with a peer had responsibility for planning and delivering patient care, with nurse supervisor on hand only to support problem-solving. Questionnaire data suggested a particular benefit of peer-learning on perceptions of self-efficacy (question: 'prepared to cope with work as a nurse'), where ratings improved across the placement and were significantly greater than those of the traditionally supervised group.

And, again, among allied health professional groups, collaborative peer-learning approaches were reported favourably - with benefits for confidence and enhanced participation. However, disadvantages were noted in that students had less opportunity for individual supervision and feedback, with ensuing negative impact on the supervisor-student relationship (4).

In summary: there is consistent evidence to support involvement of non-registered staff, newly qualified registered staff and fellow peers in new models of supervision.

Supervisor training

The studies outlined suggest feasibility and acceptability of differing types of supervisory models. In these what appears to be common to success is a positive relationship between student and supervisor, and this requires motivated staff, along with support and guidance on their role and responsibilities.

In the literature, support for new supervisors has been provided through regular visits from university faculty (19, 20), or by actual presence of a faculty member in the clinical area (9), which had added benefits of freeing up staff time for other clinical activities, and relieving stress (14). This

level of support is unlikely to be possible in the UK system, though, Practice Placement Facilitators in nursing play a key role as support link between university and placement provider.

Padfield and Knowles proposed a practical solution for training (10). In their pilot of co-mentoring in mental health nursing, non-registered staff were nominated by their clinical team and had to complete a 3.5-hour educational training model and submit an application to their manager to confirm they understood the role. Those associate mentors completing the pilot were provided with a certificate of practitioner development. Associate mentors gave feedback that they felt able to enable experiential learning, whilst providing a nurturing role to students, through the learning they had gained in the module. Notably, they described varying degrees of staff mentor support that they felt reflected their understanding of the project, which is a reminder that training for the whole team should accompany introduction of new models, and not just staff members who are educationally inexperienced.

PAG members noted that training, but also underlying top-down organisational support will be necessary for successful implementation of new models of placements. This will involve clear specification of roles, and making clear what those roles are to those in existing and new educational roles, as well as students.

Supervisor training

South Tees/Teesside University 'Triad' model: Training workshop held locally before pilot roll-out. At workshop agreement reached on proposal, standards and expectations among stakeholders.

Northumbria CLiP model: Introductory presentations to nurse managers and senior nurses – to ensure practical support and widespread 'buy in' from Trust staff. Workshops held locally before pilot roll-out to identify and agree roles of practice supervisor and practice assessor.

The role of the clinical setting

After supervisory capacity and roles, the second main factor determining placement capacity, safety and quality is the placement setting, and how students are deployed in different clinical areas.

Innovative settings

A wide range of acute and community placements are used by nursing and allied health professions (21, 22). There have, however, also been a number of innovative areas of placement learning (though still employing traditional one-to-one model of supervision). These have included non-health settings, example, industry, for occupational therapy and physiotherapy students (22); private practice, example, private rehabilitation service for rehabilitation science students (23) and typical health settings where students traditionally have not been placed, example, first-year nursing students on critical care (24) or paramedic students in general practice (25).

PAG workshops indicated that innovative settings for some professional groups could include care homes and other private independent and voluntary organisations, where some groups (for example podiatrists, occupational therapists) may provide a service, but which may not employ qualified staff.

Clinical care in community areas may be less structured than acute settings, which can be unfamiliar and unsettling to students. Both Lloyd (18) and Sims-Giddens (19) described new placement opportunities in community clinics in deprived areas in the USA. The population served in Missouri (Sims-Giddens) were both low-income and low literacy, where families frequently had been mandated by the court to attend a parenting class at the facility in order to retain, or regain, custody of their children. The students' experience was frustrating because of lack of organisation, policies or procedures in the agency. Yet, students adapted to the environment and created their own structure through a detailed step-by-step plan of their placement objectives. The evaluation highlights potential learning benefits of creative, and ostensibly challenging, new placements, and prompts consideration of how training in the UK could extend further into under-served local communities. Recommendations for further implementation included careful student briefing, a need for an extended orientation to the environment and local population, and availability of opportunities to discuss issues.

Educational resources

In the Sims-Giddens study students produced resources that aimed to help guide and support future students in placements at the agency. These resources included a manual on the unit's philosophy, policies, procedures, rules and referral routes, and an orientation video. This gives an example of how resources might help future students adapt practically to a new, and unfamiliar, environment. Similarly, the 'Carer Assessment and Reporting Guide' (11) exemplifies a resource with educational value as it helped students understand the relevance of hygiene-related activities for learning objectives. In each case resources were developed to address a specific practice need. Similarly, Swain *et al* outlined how a particular concern about students abilities in drug calculation in child

health placements, including critical and high dependency care, informed development of drug packages and workbooks to help students acquire knowledge and skills, and support mentor assessment (26).

In workshops and case studies, stakeholders discussed how staff in certain settings had reluctance to offer placements because the area was perceived as 'too complex' – either in relation to patient care needs, or the nature of the work of supervising staff. In that discussion educational resources were offered as a potential solution – activities to involve students at an appropriate level, and/or create time for staff to attend to clinical duties that were unsuitable for students. The literature provides support for this as good practice.

Innovative settings – the problems:

Newcastle upon Tyne major trauma rehabilitation unit.

Multiple learning opportunities – as a multi-disciplinary service, with inpatient and outpatient workload and active research programme. Seven-day clinical service.

Challenge – complex caseload. Specialised role of staff. ***What can students do?***

Challenge – multiple settings, each with different functions. ***What can students learn?***

Timetabling

The data set also suggested ways of increasing student deployment in traditional (acute) settings. In Halse's Norwegian study there were 12-15 students allocated to an acute geriatric ward for 12 weeks. Other studies similarly reported models with multiple students in nursing (13, 27) and other health professions (4).

Briffa acknowledged that ensuring a sufficient number and range of patients for all students could be problematic. Also, she noted the difficulties of supporting students if they were unevenly matched. Nursing may be able to address the practical challenge of adequate clinical exposure by timetabling students across the 24-hour day, and 7-day working week. In Norway the students worked the same shifts as their team members – whether day, evening or night shift.

This was noted as a potential solution to capacity by PAG members. Currently, placements tend to be during daytime hours, meaning placing students 'out of hours' may allow them to be spread through the working day. However, there may be student resistance to this. Our stakeholders questioned whether nursing students were prepared, or able, to work anti-social hours when they now had to pay for fees (though notably, in midwifery, this was an established expectation of training).

Whilst not a discussion point in Halse's evaluation, some support for 'real-life' timetabling was suggested in qualitative data from a clinical partnership model in Australia, where students worked in a one-to-one (traditional) capacity with their preceptor, on the same rota, including weekends. Advantages of that model were that students had organisational familiarity, felt part of a social group and had a sense of continuity that helped engage learning, maximise opportunities and develop relationships with staff. The effect was to increase students' perceptions of their readiness for transition (28).

Other practicalities

Physical space may be a limiting factor in some health professions. Briffa *et al* identified lack of clinical accommodation as a barrier to collaborative models of practice in a systematic review involving physiotherapy, speech and language, occupational therapy, social work and dietetics. It is likely that local resources will vary substantially, and that local solutions are needed that take account of existing patient referral and treatment systems. However, reform in NHS delivery, including seven-day delivery, may open opportunities to review student placements.

Some service areas may also find more resistance or reluctance on the part of patients/clients and staff acting as their advocates. Mental health, learning disability and other areas involving domiciliary care may provide particular challenges where large numbers of students – in one visit or across a period of time – may not be felt to be appropriate.

Greater student numbers necessarily mean greater assessment load. An assessment barrier was raised by Briffa, but the literature otherwise did not offer evidence for this being a significant factor to consider in implementation. On the other hand, stakeholders raised concerns about assessment 'burden' at workshops. Solutions proposed included review of assessment documentation, so that it was simplified, standardised and ideally multi-professional. Some members felt online documents would ease burden, providing IT systems and access were addressed at the same time. Most thought that review of educational provision, so that the responsibility of student assessment was distributed across all placement areas, would further ease individual load.

Effective Timetabling

Gateshead physiotherapy case study: review of educational provision

Wholesale review of training across the Trust was conducted. Timetabling now ensures that *all* service areas are allocated a student *throughout* the academic year.

New placement areas being considered: specialised areas (example, women's health), community services, hospital initiatives (example, 'Hospital to Home').

Student capacity now increased by 45%.

In summary: evidence from the literature and stakeholder initiatives suggests that work-based placement learning can be enhanced by inclusion of innovative clinical settings. Barriers to new settings are not inherent, but require local organisational solutions, whether practical or educational.

Effectiveness

Evaluation of new models of placement delivery has been limited, and effect has tended to be measured at the lowest levels of Kirkpatrick's model, namely – reaction (level 1) and learning (level 2).

Learning effects

Learning benefits have been broad, and have included perceptions and experience of effective team-working (10, 19), as well as flattening of professional hierarchies (11). Working with an underserved community also encouraged a sense of team responsibility, citizenship and pride in achievement (19).

Peer-learning most consistently has afforded positive learning experiences. Benefits have included mutual support for practical skills, sharing of knowledge and comfort from being able ask 'silly questions' of another student, rather than a staff member (4, 9, 13). This led to greater confidence (4) and perception of preparedness to 'work as a nurse' (20).

Claeys *et al* reported how learning compared between a traditional placement and 2 new learning models (27). In this Belgian unit the traditional placement was one where groups of students are jointly supervised by a number of mentors. The 2 new models, ‘workplace learning’ and ‘dedicated educational centre’ (the latter being reminiscent of the ‘learning ward’ in the CLiP model), differed in a number of ways – number of students, duration of placement, responsibilities of students and relationship with the placement mentors. In all models the university practice tutor was on site with staff and students at least once per week (table 4).

Table 5. Organisational comparison – traditional versus new models (Claeys et al, 2015)

Characteristics	Traditional clinical placement	A dedicated education centre	Workplace learning
Number of weeks	4	8	2-5
Number of students and level of nursing education	1-9 different level of nursing education	3-4 only undergraduate nursing education level	10-16 only undergraduate nursing education level
Mentors	2-4 mentors are jointly responsible	One mentor for one student	2-4 mentors are supervising
Practice tutor university college	1,5 hour/week/student	Minimum ½ day/week	2 hours /day during patient handover and review sessions
Head Nurse	Facilitator of the learning culture	Student has one week clinical placement with the head nurse	One student takes the role of head nurse

The authors considered 3 main measures of effect: ‘*learning performance*’ (pre-post change in self-report competences - assessment, planning and interventions) using a validated questionnaire (‘Nursing Competence Questionnaire’) and post placement perceptions of *learning culture* (using the Clinical Learning Environment, Supervision and Nurse Teacher scale) and *learning opportunities*, including opportunities for autonomy in certain procedures (admission and discharge of patients; performing the doctor’s rounds; contacting a GP; contacting other agencies, such as social services).

In this study the traditional model had significantly higher rated *learning culture* than new models. Positive factors were student satisfaction, duration of placement and having at least 2 meetings with mentor and university practice tutor. Negative factors were number of students, and number of mentors. The learning culture was also determined by certain learning opportunities - including encountering stressful situations, having autonomy of practice and opportunities to reflect-on-practice.

Caution in student numbers was also suggested by Kell *et al*, who considered how the characteristics of placements in years 2 and 3 of undergraduate physiotherapy training related to self-reported learning style, and placement assessment outcome (29). In this model students could be placed

alone, as 2 students or as a group of more than 2 students, while numbers of supervisors and assessors also varied.

Students on lone placements reported the greatest 'deep learning' (intrinsic motivation), but deep learning was associated with the greatest gap between anticipated and lower actual placement assessment outcome. On the other hand, students sharing a placement in pairs or groups had higher scores in the 'surface learning' subset, 'fear of failure' and had the lowest actual grades.

In Claeys' nursing study, the new models, and especially, the Dedicated Educational Centre, had greater positive learning performance than the traditional placements. These placements were associated with responsibility for a greater number of patients, more frequent stressful situations and greater autonomy of certain activities.

These findings suggest that good practice approaches to placement learning are those offering consistency in supervision, smaller groups of students and longer attachments. The strengths of a one-to-one model are noted, but rather than discouraging new ways of approaching capacity issues in the modern workplace, the findings offer a timely reminder to educators that placements should create an environment where activities and support mechanisms are in place so that students perceive that their individual learning development is important. Further, findings support a need for placements to give students opportunities to provide independent clinical care (albeit under supervision) to optimise clinical competence and willingness to take on responsibility (7, 9, 12, 20).

Gaps in the literature

The literature is lacking in a number of areas.

Firstly, consideration of patient safety issues. While educational benefits of independent practice are reported consistently, there is limited information on how students might be best supervised safely in this approach. For example, in Halse's study on an acute geriatric ward, groups of students were responsible for half the patients on the ward during the last 2 weeks of their placement and were supervised by a single registered nurse during this time. Guidance on effective clinical supervision is needed: Aviram *et al* acknowledged their anxiety as educators when they had responsibility for students on a professional retraining course (akin to the Return to Practice programmes), but were only providing supervision 'remotely' to peer-novice student pairs (17). Sims-Giddens also raised a note of caution around introduction of student teams into a setting where nursing staff were not on site (19). In this community setting they highlighted that staff, students and faculty needed to be clear on what students can and cannot do. Our workshop participants also noted overall governance of placements, implicitly encompassing safety, was an issue and an aspect of the leadership needed for the introduction of new models.

Secondly, consideration of the patient perspective is lacking. None of the studies had considered the patient experience of new models of learning. The 'client attachment' programme, where students were allocated to a client on the basis of the clinical problem, rather than practice setting, offered a unique means of capturing the client experience in mental health nursing. However, only two clients were interviewed and qualitative analysis was not conducted, though both regarded the pilot favourably (30).

In the workshops, stakeholders raised concern that the patient's sensitivities or trust in nursing staff could be compromised by presence of (multiple) students, with potential effect on comfort, experience and clinical care. This concern should be addressed in prospective data collection.

Thirdly, implications for individual and organisational practice. New approaches to placement learning may offer some educational benefit, but the long-term effects are not described. Studies support a value of autonomy, and associated stress, on learning, both in negative (12) and positive situations (27). However, the impact of stress on well-being or resilience is not reported and would be a worthy outcome in a longitudinal evaluation.

Some effects may only be identifiable at a larger programmatic scale, and while pilots may identify some aspects of good practice, and potential risks, principles of change management and ongoing evaluation should be considered. Workshop participants indicated that local pilots are led and joined by committed and engaged individuals, and that barriers to implementation by those who are less convinced of benefits, and the absence of detrimental effects, are, as yet, unknown. It seems that this limitation may be true of much of the literature.

Similarly, new models of placement learning seek to ensure students have a high-quality learning experience and become high quality clinicians of the future. The impact of educational changes on graduates' experience of transition to practice, performance in the workplace and career pathways are all essential areas for further research in longitudinal evaluation programmes.

Future steps – how can new models of placement learning be best implemented?

Providers currently deliver high quality placement education. However, evidence suggests that the full educational potential of clinical settings and staff may be under-recognised. In developing a strategy for implementation of new models of placement learning, providers need to consider four broad elements: aspects of the local organisation; educational training; nature and availability of resources and the expectations of students, staff and patients.

Providers and professions will naturally differ in their specification of these elements (table 6). Stakeholders were of the view, and were supported by findings of the literature review, that there

are no inherent system barriers to change, but nonetheless successful implementation will benefit from local 'champions', who understand local structures and processes and hence carry organisational credibility, as well as educational expertise and vision.

Some aspects of implementation might be supported most efficiently, and cost-effectively at a regional level. Knowledge and skills in educational methods were a concern for many, and demonstrated in the literature to be a marker of good practice. However, these principles are common to all professions and could offer opportunities for regional staff from differing clinical areas and settings to share, and learn from their experiences of workplace supervision.

Stakeholders also raised concern about potential assessment burden. There is need to streamline processes and avoid repetition, which might be achievable through dialogue with HEIs and review of online needs and capabilities.

There was a surprising dearth of robust evaluation data in the literature, with, most frequently, low quality evidence from pilot studies. The case for new models of placement learning now needs to be made through a carefully planned and conducted programme of evaluation, which also ensures longitudinal data collection to capture evidence for practice and organisational change. There are a number of 'myths to be busted', including our assumption about students as 'paying customers'. What are their expectations (and are these so different from students in recent times) and how might these be addressed? And finally, in achieving placement reform, we must not lose sight of patient care. Our review revealed very limited information on how educational initiatives might impact on patients. Hence, future steps must take account of how clinical outcomes and the patient experience are affected as new models of placement learning are rolled out.

Table 6. Factors determining implementation of new models of placement learning

Element	Goals	Barriers	Facilitators
Organisation	Positive culture	Specialist or too complex areas Service demands Clinical vs Educational roles	Engagement of local staff – registered/non-registered Innovative settings Effective student timetabling (24x7?) Creativity in T/L approaches Local ‘champion’
	Alignment	Multiple courses; HEIs	Map to HEI curricula
	Governance		Agree roles and responsibilities of students and staff
Training	Curricular Resources	Curriculum knowledge Theoretical knowledge	Educational expertise-in-practice Course materials HEI training support
	Faculty development	Lack of educational training	Selection; training opportunities; certification
Resources	IT support	Differing systems Paper-based approaches	Accessibility of IT resources Availability of interactive educational materials Student development of educational or clinical resources
	Cost effective	Economic constraints Re-banding for educational role	Supervisory teams Peer learning
Expectations	Interprofessional collaboration	Traditional uniprofessional processes	Peer learning Local ‘champion’
	Positive student experience	Patterns of working Supernumerary status Expectation ‘one-to-one’	Supervisory teams Agree roles and responsibilities of students and staff independent practice Induction
	Positive patient experience Effective clinical outcomes	?	Accessibility to health promotion and clinical care in under-served populations.

Conclusion

There are new ways of providing workplace learning in placements, which requires consideration of the local ‘system’ and what organisation and educational support are needed to ensure that the model is effective, practical and safe.

In order to ensure new models are sustainable and valuable, implementation must be underpinned by robust longitudinal evaluation of the effects on learning and practice, gathering perspectives of students, staff and patients.

Acknowledgements

We are enormously grateful for the practical and academic support provided by Ms Haley Whelpton, Clinical Quality Support Manager, throughout the project and to Ms Sinead Walker (administrator) for her efficient and patient coordination of the workshops. And, in particular, the project report was shaped by the views of all those stakeholders attending the project advisory group workshops. We are sincerely thankful for the time, expertise and enthusiastic participation of all members of the group. These discussions have helped ground the report in our region's training strengths, and needs.

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