Introduction

Diversification of the clinical workforce delivering primary care services is needed [1]. To address this, out-of-hours (OOHs) providers are increasingly utilising 'Non-Medical Clinicians' (N-MCs) from nursing and paramedic backgrounds for telephone triage and face-to-face assessment [2]. The substitution of GPs in OOHs primary care demonstrates a shift in the skill mix to N-MCs across Europe, North America, Australia, and the Far East [3]. In particular, paramedics are delivering more medicalised care in primary care settings, filling service gaps and providing complex and integrated health care from a unique point of first contact with benefits for care provision [4-7]. Patient outcomes from Nurse Practitioners, Paramedics and Physician's Associates compared with GPs has shown equivalentcare is provided [3,8]. However, there is a lack of competency framework to support N-MC development and the onus is on employers to ensure the workforce is 'fully competent' in the OOHs role [9].

This paper presents the development and evaluation of one clinical development programme in an OOHs organisation.

The Programme

Overseen by the Medical Director (MD), the programme provided mentor and training support from experienced Clinical Practice Supervisors (CPS) (GPs and Advanced Nurse Practitioners). The CPS supported the student progression through three phases, 1) observing, 2) observed practice and 3) independent practice. As part of a mentor sign-off procedure used at each stage, the CPS complete shifts with the students, with feedback provided and any issues being reported to the MD. The 450hrs programme included 12 week's full-time employment divided in to 30hrs clinical practice and 7.5hrs self-study per week. Experience of telephone triage and face-to-face patient assessment in OOHs centres and in patient's homes was provided.

An assessed portfolio of evidence was required as part of a university work-based learning module. Assessment included a competency framework (see Table 1), adapted from three sets of national and transferable competencies [10-12] covering OOHs clinical skills and age range, but excluding those beyond the scope of practices such as sectioning under the Mental Health Act. This standardised approach meant any OOHs organisation wishing to use the competence framework could easily adapt appropriate to the practice roles required.

Agreed by the organisation and credit awarding university governance structures, the framework was assessed using a RAG rating for each competence, using standard definitions for each statement. Students presented a range of evidence for each competence including personal reflections produced using a recognised reflective model of choice. The RAG rating was formally reviewed on two occasions and documented feedback was provided for each competence. All evidence was then reviewed by the MD who accessed information from electronic patient care records and staff to monitor student progress. The MD reviewed patient cases and triage calls made with the students. An additional reflective assignment was submitted to the university. The portfolio of evidence produced could be used to support transfer into other OOHs work places.

Insert Table 1 Competence Framework (127 competencies)

Design and methods

We used a mixed methods evaluation approach [13]. Data collection was completed following successful university ethical approval [HAS.16.11.042].

Two students recruited to the programme completed pre- and post-training questionnaires to rate their confidence of different clinical examinations and presentations on a five-point Likert scale. The results were analysed using Statistical Package for the Social Sciences (SPSS version 24). Descriptive statistics were used to compare the pre and post results.

Students completed a telephone based pre-interview exploring their expectations of the programme and a post- interview reviewed their experiences at three months. TheMD views on the programme were obtained through interview. All interviews were digitally recorded and transcribed verbatim. Transcripts were read, re-read, coded and analysed for emerging themes, following a recognised framework [14] by SC and PM. Inter-researcher reliability

was established through common analysis of two transcripts after which each researcher analysed data from different participants. The interpretations were shared with the interviewees to facilitate verification [15].

The CPS completed a post- programme questionnaire (n=11). Questions covered; programme knowledge; ability to mentor and supervise and the levels of support received. Descriptive analysis employed SPSS.

Graded feedback of electronic patient case records was provided by The Clinical Guardian© software system [16]. Data were analysed for 403 consultations and included feedback on five doctors, 10 N-MCs and the two students. Descriptive statistics (frequencies and percentages) were undertaken and t-tests compared consultation time and patient age between doctors and non-doctors.

Results and analysis

Pre course candidate interviews

Theme 1: Programme expectations

Both students, experienced paramedics, saw the programme as a means to "broaden their horizons" and develop OOHs skills. Both felt their ability to respond to a wide range of conditions might be compromised by gaps in their knowledge, and having access to GPs to verify decisions was reassuring. Pharmacological knowledge, telephone triage and multidisciplinary team working were identified areas for development.

Post course candidate interviews

Theme 1: Challenges of the Programme

The programme met student expectations and prepared them for a role, although it had been a steep learning curve with "*sensory overload*". Both developed confidence and skills to refer patients to secondary care. Neither could prescribe and this was seen as a hindrance.

Theme 2: Educational requirements

It was difficult to accommodate academic studies around the night shifts and unsocial hours. Completing the competencies in the portfolio in the timeframe was challenging and they suggested protected time was needed. One student suggested it would have been useful to spend time on placement with a range of specialists outside the service such as psychiatry. Working with experienced clinicians was helpful.

> *the more experienced clinicians were far more comfortable with, and almost letting us get on with it …..* Student 2

Theme 3: Support received

Monthly meetings with the MD to review cases was helpful, as was the support of the CPS. Both felt all mentors worked to high standards, with impressive levels of knowledge. All staff had different ways of working which was confusing. Having one key mentor to evaluate their progress was recommended.

> *It would have been helpful to have had, say two weeks with one mentor at the beginning or two weeks in the middle and two weeks at the end so they can see your progress.* Student 1

Medical Director [MD] interview

The level of support required was found to be very time consuming.

> *It was coming towards the end of 12 weeks and both of them weren't ready to go independent*.

Given this experience the MD had decided that the programme could be extended from 12 weeks to 16 weeks.

The MD suggested changes to the recruitment process to acknowledge that paramedics skill set was in assessment rather than diagnosis and management plans.

> *And one of the….over-arching lessons for me has been that the, the transitions is a bigger jump than I anticipated*.

It was felt providing training on a sliding scale would be useful for different health care practitioners. A nurse experienced in independent practice in another environment may only need 8 weeks training to achieve the competencies, however paramedics may need 16 weeks to achieve the competencies. The MD felt the programme had achieved its objectives.

Clinical Guardian© Feedback

Clinical Guardian© [9] [Table 2] graded feedback showed the consultations completed by Doctors and the students were scored as pass. Seven consultations undertaken by the N-MCs employed in the OOHs service who had not been through the programme did not achieve a pass consistently , a small percentage scored pass and reflect and concern.

Table 2 Clinical Guardian© Data

	Doctors		**Non-Medical Clinicians**		**Students**	
	Number	%	Number	%	Number	%
Pass	103	100%	293	97.7%	60	100%
Pass and reflect			6	2%		
Concern			1	0.3%		

Student Questionnaires

Student confidence remained unchanged or increased post programme. When unchanged the pre-programme level of confidence was high. Student understanding of the pathophysiology and management for a range of health related conditions, presentations and problems was explored in section 2. Student 2 reported an increase in confidence on every occasion. Student 1 reported an increase in confidence in 40 out of 74 occasions.

Clinical Practice Supervisor Questionnaires

The CPS were happy to undertake a supervisory role.Some felt that to be more effective they needed additional programme information. Only four (36.4%) out of the 11 felt there was adequate time built in to be able to supervise effectively. One noted that they '*hadn't realised how much time new recruits would take to assess*'.

Discussion

This evaluation offers learning for OOHsorganisations seeking to develop and implement in-house training to support the development of paramedics in delivering primary care services when a future shortage of GPs will increase pressures on healthcare systems [1, 2, 8].

The innovative approach taken supported students transitioning into a key primary care role from a paramedic background. Having a mentor in place and access to experienced clinicians,washighlighted as important to role development [17].. Competency based training was vital to confidence development and provides a framework for potential use in other OOHs organisations..

An individualised course design that addresses individual learning needs and time frame for completion is recommended [18] [18] and has the potential to enable more effective resource use within the training organisation. Protected time to complete academic and competency based elements of the programme would further support successful completion. .

Students recommended concentrated time is spent with one allocated mentor and that GP support is increased. However, staff supporting the programme found their roles challenging and increasing the time and support required of them would need careful consideration.

The students felt their inability to prescribe hampered their effectiveness. At the time of writing legislation has been passed to enable paramedics working in advanced practice to complete prescriber training [19].

Strengths and limitations

This evaluation provides evidence of one programme used to prepare paramedicsin the delivery of GP OOHs care. It identifies areas for potential development of in-house training that could be transferred to other organisations addressing the challenges of increasing service demands with a reducing GP base.

As the evaluation was cited in one organisation and based on the performance of two students, it is limited in its scope. However, data were collected from a range of sources, corroborating to offer findings of wide interest amongst OOHs providers.

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