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Designing and implementing an educational framework for advanced paramedic practitioners rotating into primary care in North Wales

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ABSTRACT

Background: Rotational working has been offered as a solution to bridge the retention crises faced by ambulance services in the United Kingdom due to the inception of paramedics working in primary care. One project in North Wales examines the viability of rotating Advanced Paramedic Practitioners employed by Welsh Ambulance Services NHS Trust into primary care. As part of this project, an educational framework was developed to prepare and support Advanced Paramedic Practitioners in the provision of clinical care in primary care settings. This educational framework was evaluated to determine how it supported the development of Advanced Paramedic Practitioners in the primary care setting.

Methods: Semi-structured focus groups were undertaken with Advanced Paramedic Practitioners (n = 7) and GP trainers (n = 4).

Outcome: A narrative analysis of the information collected highlighted three overarching themes concerning the need for clinical supervision and feedback in primary care, and the usefulness of the education framework in regard to a tailored curriculum and recording progression.

Discussion: Despite the upcoming workforce changes, there is currently no standard education framework to support the development of Advanced Paramedic Practitioners in primary care. This evaluation offers insight into the educational needs of Advanced Paramedic Practitioners working in this setting and suggests an education structure that can best support their learning, whilst meeting regulatory requirements for paramedic professional development. Formal research is required to determine any link between provision of education for Advanced Paramedic Practitioners in primary care and patient outcome and safety.

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KEYWORDS

Paramedic; primary Health Care; program Development; education; professional

Introduction

Ambulance services in the United Kingdom (UK) are facing increasing pressures to retain paramedics within their workforce [1]. With both the *NHS Long-Term Plan* [2] and the new *Network Contract Directed Enhanced Service (DES) Specification* [3] advocating the employment of paramedics in primary care in England, there are more opportunities available across the National Health Service (NHS) for this valuable group of staff. Rotational working has recently been posited as one method to address this retention, providing career and development opportunities, and contribution across different clinical sectors, whilst sustaining an ambulance service-based career [4,5].

Rotational working has been adopted within the Advanced Paramedic Practitioner (APP) programme within the Welsh Ambulance Services NHS Trust (WAST). In this programme, APPs [designated as advanced clinicians through the attainment of Master's

level education and at least five years clinical experience post registration] are employed by WAST to respond as part of the emergency medical services and work within the Clinical Contact Centre, as well as undertake work on an external rotation in primary care. Within this model, APPs work two days a week in primary care, and work alongside the wider primary care multi-disciplinary team by undertaking home visits and consulting with patients in the clinic.

A successful joint bid for Welsh Government Pacesetter programme funding enabled the formation of a collaborative team drawn from WAST, Betsi Cadwaladr University Health Board, Public Health Wales and NewMedEd to initiate, develop and support the rotation for Advanced Paramedic Practitioners within WAST and within primary care. The funding for this project was also used to commission an innovative education framework from a team of North Wales

GP educators, to deliver sessions to the APPs every two weeks to support them on their developmental journey into a new work context. This funding also secured time for General Practitioners (GPs) to act as clinical supervisors to support the APPs in practice.

Unlike GP Trainees, there is no national standard for paramedics working in primary care. Recent attempts to establish a curriculum or competency framework for paramedics working in primary care have focused on England, and yet without update across all four nations [6]. For this project, NewMedEd developed an educational framework which combined the curriculum within the Royal College of General Practitioners [7] with the core capabilities outlined by Health Education England for paramedics working in primary care [8]. Attainment of these capabilities was benchmarked by a combination of education days every two weeks, supported practice within primary care, and an individual development record using an education needs assessment and a reflective log (Appendix A).

This educational framework was evaluated to determine how well it structured the development of the APPs in the primary care setting. This was guided by the following questions:

- Does the educational framework promote an environment for shared learning?
- How does the educational framework facilitate theoretical learning to complement the clinical capabilities?
- How does the educational framework support APPs to become competent, safe and effective in a wide range of primary care conditions?

Method

This evaluation followed a naturalistic enquiry [9], using focus groups with participants situated in the setting their education took place. By allowing a collective, rather than individualistic view [10], such methods correlate well with education evaluation.

The focus groups were digitally recorded using an encrypted device. Interviews were transcribed and read alongside the audio to develop familiarity with the data [11]. Explicitly stated themes were mapped horizontally [12]. This particular approach is useful in evaluation within groups, expanding on individual descriptions to capture the experiences of the group overall. It also ensures that data is inductively coded, allowing it to exist outside of the analytic presumptions of the evaluator [13]. Findings were considered key due to the frequency of opinion among participants and the level of agreement (or disagreement) during the focus groups.

Results

Participation in the evaluation was voluntary. Three semi-structured focus groups were undertaken. The first was with the APPs ($n = 7$) involved in the project, the second with four of the General Practitioners who had been providing supervision or support across four of the clusters in which APPs were working. The third focus group returned to the seven APPs, one year after the start of the project. Each focus group lasted up to 75 minutes.

The key themes and various subthemes are detailed in Box 1.

-
- (1) The Importance of Clinical Supervision
 - a. The Ambulance Service
 - b. Primary care
 - (2) Provision of feedback
 - (3) Framework for Education
 - a. Taught Curriculum
 - b. Gaps in Knowledge
 - c. Recording Learning
-

Box 1. Themes and subthemes from main findings.

The importance of clinical supervision

When asked in the focus group about the gaps between education and practice, APPs outlined that a lack of mentorship or supervision prevented bridging their skills from a theoretical to a practical perspective. This lack of supervision was considered through the two clinical contexts experienced by the APPs:

The ambulance service

Within WAST, the APPs outlined a lack of 'senior clinical supervision' [APP1] acknowledging that 'there isn't anybody in the ambulance service that can provide' [APP2] such support for advanced practice roles. They also understood that they would be part of a group in the future who would 'be integral in developing' [APP6] supervision for advanced practitioners.

Primary care

Across different practices, the GPs outlined a straightforward supervision model offered within primary care, initially featuring direct supervision for each APP, 'just to check that they can take a history and I'm happy that . . . when they are relating what they've found, that it's accurate, that they know what they're doing.' [GP2]. Following this, the APPs outlined a semi-structured approach to supervision, reporting to a supervisor after a designated time, which was either

sessional or per patient contact, with a sense that GPs ‘just trust us to crack on.’ [APP2]

Both groups made a distinction between clinics in primary care, and home visits. The APPs associated home visits with more autonomy, and the GPs found that the APPs appeared more comfortable undertaking these visits rather than the clinics, where they were perceived to be ‘totally out of [their] comfort zone’ [GP3].

The APPs felt they could be ‘beneficial and effective’ [APP3] working in their role in primary care, but they felt ‘like a conveyor belt’ [APP7] in regard to high patient contact without supervision. They voiced concerns that their need to ask questions of GPs during clinics was ‘slowing things down’ [APP4]. This was echoed by the GPs, who outlined their need ‘to triage the clinics, otherwise the poor GP who is supervising next door is going to be in and out [supervising the APP] all the time’ [GP2]. Whilst there was an acknowledgment that the APPs were there to work and contribute to patient care, the lack of ‘supervision, [was] not really beneficial’ [APP6] to their clinical development.

Provision of feedback

Feedback was linked intuitively to supervision and provision of learning by the GP group. They felt that feedback was regularly given to the APPs as part of their supervision, either ‘on the spot all the time’ [GP2] or retrospectively: ‘I looked back at all the cases he’d seen [to] see if they’d been seen again or since then’ [GP1].

The APPs felt they only started receiving feedback one year into the project, and that it was informal where, ‘you could have a chat if you wanted it’ [APP5]. Whilst this informality likely has practical benefits, it is unlikely to have supported the use of the education framework for this project, which is based on written feedback from clinical supervision in primary care.

Framework for education

The education framework was explored in the context of the curriculum that underpinned the framework, the gaps in knowledge this highlighted, and the usefulness of the portfolio documentation.

Taught curriculum

There was consensus across both the APPs and GPs that the underpinning curriculum was extensive. At the start, the APP group were ‘excited’ [APP1] about the framework which covered areas such as mental health and endocrinology ‘where we’re notoriously weak as paramedics’ [APP2]. The APPs felt it was important to ‘cover everything, as anything can come through the door in primary

care settings’ [APP4] whereas the GPs found it ‘unrealistic to cover it in a year’ [GP1] and ‘overwhelming’ [GP4].

One year into the project, whilst it was acknowledged the curriculum remained extensive, the APPs outlined that the education days were ‘filling the gaps with knowledge . . . desperately plugging holes [from the Master’s degree] with information’ [APP3]. Topics like genetics were highlighted as having little practical importance in the general practice setting, beyond an ‘awareness’ [APP7]. However, topics such as palliative care and substance misuse were perceived as much more useful and missing from the current curriculum, due to the prevalence of presentations APPs were encountering within these patient groups.

Gaps in knowledge

The GPs felt that studying for a Master’s degree in Advanced Practice ‘gives [the APPs] a grounding’ [GP2] to work in primary care, but they ‘need to actually be able to apply’ [GP4] that knowledge into their practice. The APPs were unanimous in their view that the content of the Master’s degree expanded their knowledge, and the formal education sessions as part of the Pacesetter bridged the gap between theory and practice.

The GPs were surprised about some of the gaps that existed in the paramedic knowledge base, in particular around pathophysiology and biochemistry. As one GP said:

I recently did a session on looking at bloods and I didn’t realise they really had to go from scratch. There’s a lot of . . . fundamental knowledge about a disease process that they didn’t have, because they’ve come from a different background . . . they probably come from more of a practical angle [GP4]

All participants across the APP and GP focus groups agreed that the biggest gap in APP knowledge was the understanding and interpretation of blood tests, and this related to the knowledge required to undertake medicines’ prescribing. When asked specifically about bloods in the second focus group, the APPs preferred a ‘functional’ [APP7] knowledge:

‘Do we need to know the biochemistry that backs up the findings, or do we need to just know enough to know what the findings mean? I don’t think we need to know the biochemistry behind it, as long as we can identify what’s happening, I don’t think it matters’ [APP5]

Recording learning

There was poor uptake amongst the APPs and GPs in completing the educational needs assessment and learning log documents produced in this project (Appendix A). When probed about this, issues relating to time for completion, the complexity of the

form and the collecting of other data for the WAST component of the programme were all barriers the APPs faced in the completion of these documents.

With differences between how learning was assessed in the education framework, compared to within the RCGP curriculum, the GPs found that the tool was confusing to them. One GP outlined that a missing component of the framework was sign-offs based on number of examinations or patient encounters, ‘*see 10 Upper respiratory tract infections, for example*’ [GP3], which did not feature at all in the framework used during this education initiative.

The APPs found a different tool, BMJ Portfolio [14], was better formatted for ‘*supporting my learning in primary care and it’s something that’s structured already as opposed to me reflecting on something that I can’t add anything to*’ [APP6].

Discussion

This evaluation is the first of its kind to determine how an education framework structured the development of the APPs as they transitioned from working within an emergency medical service, to a primary care setting. Our findings demonstrate that this innovative education framework prompted the exploration of gaps in the knowledge of APPs, with taught education days led by GPs being used to support APPs to bridge the gap between the theoretical learning of their Master’s education, and the practicalities of working in primary care.

Despite clinical supervision being a core component of the Pacesetter project, the APPs experienced inconsistencies in receiving clinical supervision and feedback in primary care. Such deficits are indicative of ineffective supervision [15], and the APPs correlated their effectiveness and safety with the provision of supervision and feedback to aid their development in this setting.

However, the education days provided as part of this programme were considered invaluable by the APPs to develop their knowledge, to share experiences and to improve their practice. Equally, these were received positively by the GPs who taught during these days, as they were able to understand the role of the APP much better and build a trusting relationship which translated into the practice environment. It was apparent that bringing the GP educators and APPs together for a formal education day enabled a community of practice to be formed within the project [16], and this shared learning was considered the most useful component of the education framework.

Exploring the gaps in the paramedic undergraduate curriculum found that underlying pathophysiological

principles considered to be essential by the GPs were also missing from the postgraduate education of the APPs. Whilst the depth and breadth of the project curriculum were welcomed by the APPs, it was considered to be too extensive by the GPs, in relation to timeframe for education and relevance to the patient groups that they expected would be seen by the APPs in primary care. Both groups agreed a need to focus on the common complaints within primary care, such as the provision of palliative and end of life care, rather than specialist areas of medicine, such as genetics.

Whilst it is clear that the education approach supports APPs to continue to learn and develop, the current framework may need to change to ensure that the safety and effectiveness of the APPs is demonstrable. The importance of safe practice was a key consideration for the general practitioners, and the supervision provision within the educational framework allows practices to integrate the APPs into primary care, building trust and ensuring safety in their practice. However, charting of competency is not formally captured by the documentation in the education framework, and APPs used another framework to document their education progression. This indicated that the learning log offered is not fulfilling their requirements in its current form. The barriers to completing the framework included time, complexity and repetition against other elements of the project, such as data collection required by WAST. With a work-place based assessment document a required component for national examinations in advanced practice [such as the College of Paramedics Diploma in Primary and Urgent Care], the need for the APPs to record their development is necessary for their clinical progression [17]. These focus groups suggest that, whilst the education days are fundamental for the development of APPs, the framework does not support the documentation of the APPs’ development.

Limitations of this evaluation include small numbers of participants from one emergency medical service and education from a select group of GPs. In the absence of any similar workforce policy or direction by Health Education and Improvement Wales, application of Health Education England’s competency document was applied to undertake this education framework. Whilst it may be difficult to determine whether these results are applicable to APPs in other primary care settings, they offer a number of learning points worthy of consideration in other areas where APPs are working in primary care. Future formal research could be used to further explore the provision of supervision and education in a larger cohort of APPs working in primary care.

Conclusion

This evaluation provides a practical insight into the delivery of an education framework to support APPs rotating between the ambulance service and primary care. The provision of education days provided a platform to address gaps in knowledge of APP education and fostered a community of practice within the project.

However, the application of the RCGP curriculum was deemed too extensive for APPs, and a curriculum with more practical components was advised. In addition, documentation recording APP supervision and development was insubstantial. It may be that broadly benchmarking the curriculum against the core capabilities of paramedics outlined by Health Education England does not assist with the attainment of capabilities for APPs in primary care. A more concise model may be more beneficial.

This evaluation highlights the need for formal clinical supervision for APPs in primary care, linking such provision to their development as clinicians. Formal research would determine if there is any link between the provision of supervision and patient safety. However, this evaluation demonstrated one educational intervention framework that could be refined and adapted to support the ongoing development of APPs in primary care.

Acknowledgments

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Disclosure statement

The Welsh Government Pacesetter programme is an initiative to encourage and support innovation in primary care. The principles behind the scheme were announced by the then Minister for Health and Social Services, Mark Drakeford AM in November 2014. Since 2015, over £3.5 million has been invested each year. The money is allocated to health boards to support projects which test and evaluate new and innovative ways of working in order to achieve sustainability, improve access and deliver more care in the community.

The first round of 24 projects started in 2015, followed by a second round of 14 projects in 2018. This project was part of this second round and asked the question 'Does a rotational model utilising the skills and knowledge of Advanced Practice Paramedics support a sustainable model of Primary Care Services in North Wales?' As part of the project, a group of experienced local GP educators were commissioned to produce and deliver an educational framework to support the integration of the Advanced Paramedics into primary care settings [18,19]. This article is the evaluation of these results.

Dr Happs and Dr Tanner are both directors of NEWMEDED LTD. Neither receive any payments for their

director role. Dr Tanner has received payments for providing educational supervision to the APP group. Georgette Eaton was reimbursed to undertake this evaluation as an external evaluator.

Ethical standards

As this was an educational intervention project to determine service development, ethical approval was not required.

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Appendix A – Initial Education Framework

Curriculum

The breadth of the curriculum may appear daunting and it seems unlikely that the whole curriculum will be covered during the Project. The important point here is that the curriculum is aspirational, and designed to offer educational waypoints for the clinical territory of primary care, which the APP can explore with their supervisors and peers.

The curriculum areas comprise:

- The acutely ill person
- Mental health
- Children’s health
- Older adult’s health
- End of life care
- Musculoskeletal
- Cardiovascular
- Respiratory
- Gastrointestinal
- Genitourinary
- ENT
- Eyes
- Skin
- Neurological
- Endocrine and metabolic
- Women’s health
- Men’s health
- Drug and/or alcohol misuse
- Sexual health
- Intellectual disability
- Genetics

Education Needs Assessment

Educational Review [circle]StartMid-pointEnd

Curriculum coverage [Total entries in review period]

Capability self-rating

Benner’s five stages of performance novice [N]; advanced beginner [AB]; competent [C]; proficient [P]; Expert [E]

Performance Descriptors

Novice

- Beginner with no experience
- Taught general rules to help perform tasks
- Context – free, applied universally
- Rule-governed behaviour is limited and inflexible

Advanced beginner

- Demonstrates acceptable performance
- Has gained prior experience in actual situations to recognise recurring, meaningful components
- Principles, based on experience, begin to be formulated to guide actions

Competent

- Practitioner with 2-3 years experience on the job in same area or similar day-to-day situations
- Gains perspective from planning own actions based on conscious, abstract and analytic thinking and helps to achieve greater efficiency and organisation
- More aware of long-term goals

Proficient

- Perceives and understands situations as whole parts
- More holistic understanding improves decision-making
- Learns for experiences what to expect in certain situations and how to modify plans

Expert

- No longer relies on principles, rules or guidelines to connect situations and determine actions
- Background of greater experience
- Has intuitive grasp of clinical situations
- Performance is fluid, flexible and highly-proficiency

Acutely ill	Mental health	Children	Older adults	End of life	Musculo-skeletal	Cardio-vascular	Respiratory	Gastro-intestinal	Genito-urinary
ENT/ Eyes	Skin	Neurological	Endocrine/ Metabolic	Women's health	Men's health	Drugs & alcohol	Sexual health	Intellectual disability	Genetics

	Communication	Person-centred care	Families and carers	Referrals & integrated working	Law and ethics	Consultation skills	Examination skills		
Self-Rating Evidence ES rating Evidence [if different to self-rating]		Investigations & Diagnosis	Clinical	management		Prescribing	Health promotion		
Leadership		Education & learning	Research & critical appraisal						
Self-Rating Evidence ES rating Evidence [if different to self-rating]									

Communication	Person-centred care	Families and carers	Referrals & integrated working	Law and ethics	Consultation skills	Examination skills			
Investigations & Diagnosis	Clinical management	Prescribing	Health promotion	Leadership	Education & learning	Research & critical appraisal			

Acutely ill	Mental health	Children	Older adults	End of life	Musculo-skeletal	Cardio-vascular	Respiratory	Gastro-intestinal	Genito-urinary
ENT/ Eyes	Skin	Neurological	Endocrine/ Metabolic	Women's health	Men's health	Drugs & alcohol	Sexual health	Intellectual disability	Genetics

Summary of MSF discussion
ES recommendations for next period

SignedDate

Learning Log

Please tick the capabilities and curriculum headings that apply

What happened?
What, if anything, happened subsequently?
What did you learn [or supervisor feedback]
What will you do differently in future?
What further learning needs did you identify?
How and when will you address these?
Date
Signature of supervisor if applicable