Extended Abstract of a Realist Review that Seeks to Understand the Role of the Paramedic in Primary Care

Georgette Eaton[1]

1. Nuffield Department of Primary Care Health Sciences, University of Oxford (georgette.eaton@phc.ox.ac.uk)

Background: Recent recommendations to improve UK NHS workforce capacities have led to a major push to increase the number of paramedics recruited into primary care. However, gaps exist in the evidence base regarding how and why these changes would work, for whom, in what context and to what extent. **Methods:** A realist approach was used to search electronic databases. Included documents were from the UK, Australia, Canada and the Americas—countries within which the paramedic role within primary care is well established. **Results:** 205 documents were included in the review, from which data were extracted to produce a programme theory. The results outline that paramedics are more likely to be effective in contributing to primary care workforces when they are supported to expand their existing role through formal education and clinical supervision. We also found that unless paramedics were fully integrated into primary care services, they did not experience the socialisation needed to build trusting relationships with patients or physicians. **Conclusions:** This review is the first to offer insight into understanding the impact paramedics may have on the international primary care workforce and shaping how they might be optimally deployed.

Keywords: Extended roles, allied health personnel, paramedic, primary health care, realist review, urgent care.

Edited by:
Abelardo De Anda Casas

Reviewed by:
Elizabeth Thomas
Claire Duddy

Copy-edited by:
Samantha Morito
Sydelle de Souza

Received: 4 September 2021
Published: 1 March 2023

Cite as: Eaton, G. (2023). Extended abstract of a realist review that seeks to understand the role of the paramedic in primary care. *St. Catherine's Academic Review*, *1*, 3–8

1 Background

Building workforce capacity in health systems is a priority for many countries, and access to primary care has been a persistent problem for decades in the National Health Service (NHS). Current policy to address this issue has focused on increasing the number and range of clinicians working in primary care. As a result, more and more paramedics have been employed to work in primary care, a transition also mirrored within Australia, Canada and the United States of America (USA).

Paramedics within the United Kingdom (UK) are traditionally associated with the provision of emergency care within an Emergency Medical Service (EMS), responding to life-threatening emergencies through the 999-call system. However, a combination of a reduced amount of emergency calls (8% of 999 calls are for life-threatening illnesses or injuries (NHS England, 2014) and a sociocultural dependence on EMS (Wankhade, 2010) has led to the evolution of the paramedic role. As well as advanced life support, paramedics now need to be skilled in managing long-term conditions, acute presentations of mental ill-health, social-care assessments, and a range of urgent care presentations (National Institute for Health and Care Excellence, 2018a, 2018b). For the UK, this expanded role for paramedics to focus on urgent care has coincided with a move to degree-level pre-registration programmes (Health and Care Professions Council, 2018), and a career framework for paramedics to progress

in specialist practice in urgent or critical care, before moving onto more generalist advanced roles through postgraduate study (College of Paramedics, 2015).

Recent recommendations to improve UK NHS workforce capacities have led to a major push to increase the number of paramedics recruited into primary care. We previously undertook a scoping review of evidence published since 2005 (Eaton et al., 2020), which outlined that paramedics can safely apply their extended skills to assess and treat patients in primary care, but there were conflicts in relation to job titles, roles and responsibilities. We also found a lack of standardisation and complexity of the role of paramedics in primary care and that paramedics working in primary care are most helpfully conceptualised as a complex intervention.

Understanding complex interventions requires a clear theoretical model outlining the contributing components and how these work together to produce outcomes (Craig et al., 2008), which are context-sensitive. The factors that underpin how paramedics work well (or not) in primary care are unclear and likely to depend on a range of different contexts. To understand the ways in which paramedics impact (or not) the primary care workforce, we conducted a realist review.

2 Methods

This realist review builds on the aforementioned scoping review (Eaton et al., 2020) to offer an in-depth understanding of how paramedics might work in practice, for whom, in what circumstance and how to optimize the contribution of paramedics to primary care. A realist approach aims to provide causal explanations through the generation and articulation of contexts, mechanisms, and outcomes. Realist reviews also seek to relate substantive theory to the findings of the review, in order to make sense of the complex intervention.

Our search of electronic databases (Cochrane Database of Systematic Reviews [29/01/2021], MEDLINE (OvidSP) [2002–29/01/2021], PsycINFO (OvidSP) [2002–29/01/2021], Embase (OvidSP) [2002–29/01/2021], CINAHL (EBSCOHost) [2002–29/01/2021], NHS EED and DARE via CRDWeb (https://www.crd.york.ac.uk/CRDWeb/) [01/01/2002–29/01/2021], ERIC (Pro-Quest), Joanna Briggs Institute (https://jbi.global/), EBP (https://jbi.global/ebp) and OpenGrey (http://www.opengrey.eu/)) was supplemented with Google and citation checking to locate grey literature including news items and workforce reports. Included documents were from the UK, Australia, Canada and the Americas—countries within which the paramedic role within primary care is well established. Our review is reported following the RAMSES publication standards for realist synthesis (Wong et al., 2013).

3 Results

Our searches resulted in 205 pieces of literature from Australia, Canada, the USA and the UK. From these documents, data were extracted to produce context-mechanism-outcome configurations (CMOCs) within a final programme theory. Our engagement and incorporation of substantive theory to develop our CMOCs followed an abductive process to elaborate on the proposed mechanisms and continue the process of refinement until the programme theory became more nuanced. We drew on theories of professional role boundaries (Lamont & Molnár, 2002), professional identity (Freidson, 2001), and liminal states (Meyer & Land, 2003) to develop our final programme theory.

Our results outline that paramedics are more likely to be effective in contributing to primary care workforces when they are supported to expand their existing role through formal education and clinical supervision. We also found that unless paramedics were fully integrated into primary care services, they did not experience the socialisation needed to build trusting relationships with patients or physicians. Indeed, for patients to accept paramedics in primary care, their role and its implications for patients' care should be outlined by a trusted source.

We have provided a narrative overview of three key abstract categories that were developed from these documents, and combined with substantive theories, to produce a programme theory about how paramedics work in primary care roles, outlined below:

3.1 Expectations of Paramedics Working in Primary Care

Understanding the expectations of how paramedics may contribute and work within primary care was viewed through different perspectives:

Patient Perspectives Patients may view the role of the paramedic in primary care favourably after being informed of it by a trusted source. Uncertainty exists when the role is not made clear to patients or their expectation is not met if they attend an appointment with a paramedic when they believed they were seeing their usual GP.

GP Perspectives Whilst there was much positivity when considering the paramedic in primary care, in some reviewed literature, GPs saw paramedics as offering assessment-only roles (i.e. to make a diagnosis but not treat the patient). Deployment of paramedics in such a way was unlikely to free up GP time and often led to unintended consequences, such as patient frustration in the unnecessary duplication of consultations.

Paramedic Perspectives Paramedics perceive themselves as generalist clinicians who, by virtue of their work within emergency medical services, need to respond to all types of patients, across all ages, with any presenting complaint. Due to their generalist nature, paramedics would seek opportunities to work in primary care, believing their capabilities would fit well within this workforce.

Contribution to Primary Care Teams The idea that paramedics were pluripotential (i.e. able to do a range of tasks) was considered a useful addition for primary care teams. However, where the skills and competencies of the paramedic duplicated existing services (such as when urgent assessment clinics were already being run by another discipline, such as Nurses), paramedics were not considered to be a useful addition to the team.

3.2 Transition from EMS into Primary Care Roles

Our research found that paramedics are more likely to be effective in contributing to primary care workforces when they have significant experience as a paramedic and are supported to expand their existing role through formal education and clinical supervision.

Education The clinical gaps in paramedic knowledge that need to be filled for a successful transition to primary care centred around biochemistry (for the understanding and interpretation of blood tests), pharmacotherapy (to support independent prescribing for long-term conditions or complex patient groups), and some technical skills such as wound care, urinalysis, and imaging.

Supervision Clinical supervision enabled paramedics to feel supported as they adjusted their skill set to a new clinical setting and gave them confidence and satisfaction in their new role. Supervision also enabled GPs to build trusting relationships with the paramedics. Where clinical supervision was not provided or where there were difficulties in the supervisory relationship, paramedics reported feelings of isolation and lower satisfaction with the work in their role, opting to return to EMS employment.

Experience Paramedics, employers and policymakers emphasised the need for paramedics to have had significant experience within the ambulance service prior to working in primary care. This role consolidation was considered crucial for the successful transition and development of clinical capabilities.

3.3 Role and Responsibilities

Unless paramedics are fully integrated into primary care services, they do not experience the socialisation needed to build trusting relationships within the team to work to the best of their capabilities.

Working in a Team Integration into the primary care team is crucial to avoid role duplication. These are less likely to occur when the professional role boundaries of the paramedic in primary care do not overlap with existing healthcare professionals. However, where role boundaries became blurred or where the paramedic was viewed as a jack-of-all-trades, resistance could occur from other healthcare professionals due to a lack of confidence in the capabilities of the paramedic or feelings of threat in terms of their own job security.

Interpersonal Skills The ability of paramedics to build rapport and trusting relationships in a short amount of time (as required during emergencies) was considered an important component for replication in primary care. Patients were more satisfied when attended by paramedics with strong interpersonal skills and enthusiasm, citing their ability to connect to these healthcare professionals as a key marker of the success of their work in primary care.

This is the first published systematic synthesis of the literature using a realist lens to explore how this role can be implemented optimally. Based on this realist review, the employment and integration of paramedics into primary care should consider the framework to support implementation outlined in Figure 3.1 below.

4 Conclusions

Our final programme theory shows that paramedics are more likely to be effective in contributing to primary care workforces when supported to develop their knowledge through formal education (such as a postgraduate degree) combined with clinical supervision within the primary care setting. This also builds trust between the paramedic-GP and helps the paramedic to find their role within the workforce without threatening the contributions of other professions. Paramedics who are trusted to practice at their full potential are more satisfied working in primary care, and this may contribute to the enthusiasm perceived by patients in their role. Paramedics with strong interpersonal skills are highly rated by patients, and the development of a trusting relationship between patient and paramedic is paramount in meeting patient expectations, but also acceptance of the role. For patients to accept paramedics in primary care, the role and its implications for their care should be outlined by a trusted source, such as the primary care clinic or surgery. When this is done, it engenders support for these new roles.

Understanding of the deployment of paramedics into primary care roles was also gained from the literature. Paramedics were able to integrate well within primary care and EMS when they worked in a rotational role. This was attractive from a personal, professional identification point of view, as well as by EMS, who otherwise would risk losing their most experienced and highly educated staff. Such a peripatetic nature may not enable paramedics working in this way to be embedded or socialised enough in primary care or socialised enough to build trusting relationships with patients or GPs. However, paramedics employed by EMS providing primary care services in remote settings were able to address healthcare access gaps and were embedded within local communities accessing these services.

Our realist review highlights the complexity surrounding the introduction of paramedics into primary care roles. As well as offering an insight into understanding the paramedic professional identity, we also discuss the

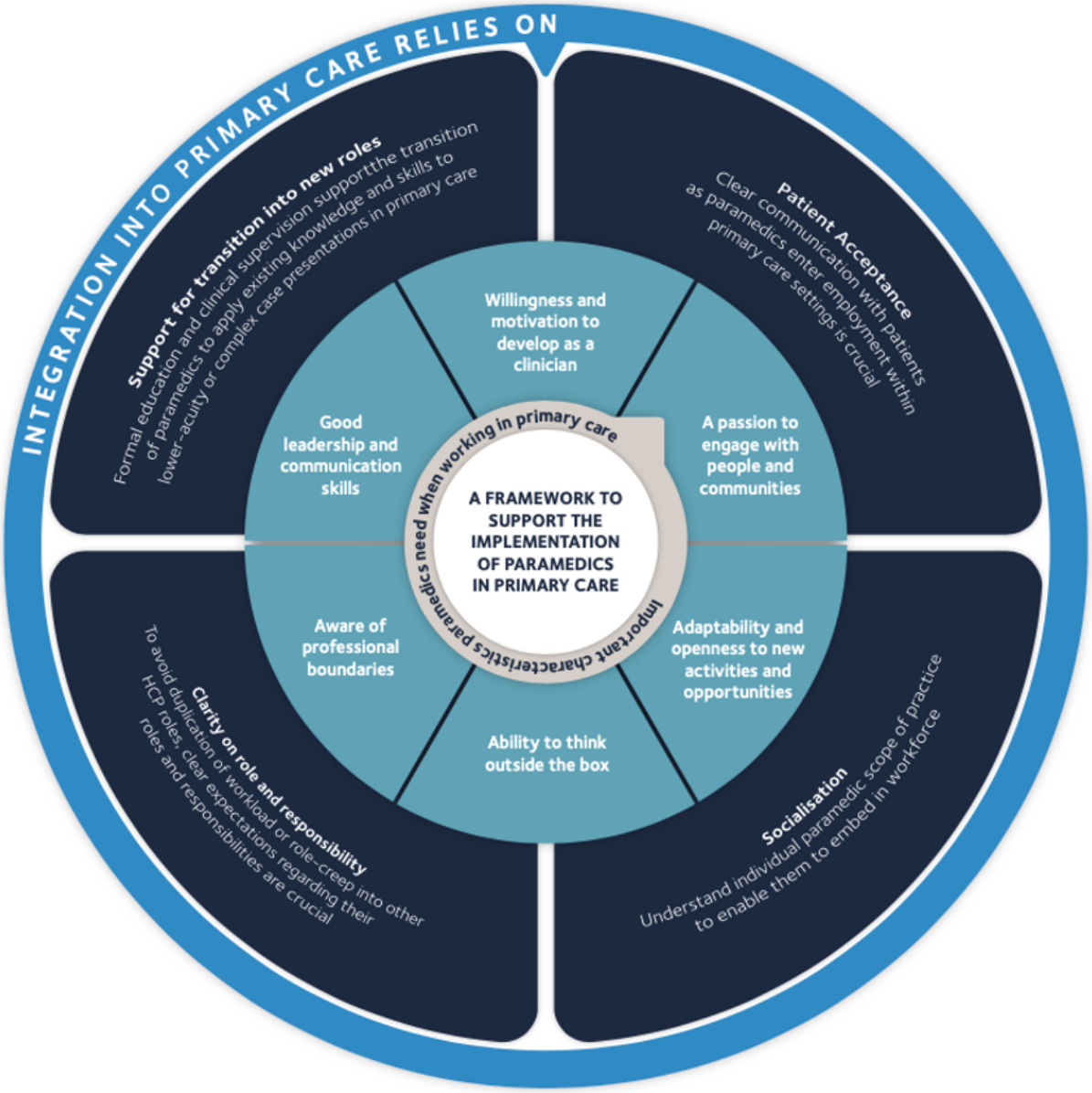

Figure 3.1: A framework to support the implementation of paramedics in primary care (Eaton et al., 2021).

range of expectations this professional group will face in the transition to primary care. These expectations come from patients, General Practitioners (Family Physicians) and paramedics themselves. This review is the first to offer insight into understanding the impact paramedics may have on the international primary care workforce and shaping how they might be optimally deployed. Our realist review has been published open access and is available at:

> Eaton, G., Wong, G., Tierney, S., Roberts, N., Williams, V., & Mahtani, K. R. (2021). Understanding the role of the paramedic in primary care: a realist review. *BMC Medicine*, *19*(1), 145. https://doi.org/10.1186/s12916-021-02019-z

Acknowledgements

The author would like to thank all members of the public and our stakeholders from the College of Paramedics, Health Education England, the Nuffield Trust and the Royal College of General Practitioners with whom the development of the programme theory was discussed. Thanks are extended to Amadea Turk, Nuffield Department of Primary Care Health Sciences, for the second screening of articles and data extraction and coding checks. The author wishes to acknowledge NHS Health Education England for its support of this research (ref: 190121). The author is also supported by a National Institute for Health Research (NIHR) Doctoral Research Fellowship (NIHR300681). The views expressed are those of the authors and not necessarily those of the NHS, the NIHR, Health Education England or the host institution.

References

College of Paramedics. (2015). Paramedic Post Registration – Career Framework (3rd ed.).

Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew, M. (2008). Developing and evaluating complex interventions: the new Medical Research Council guidance. *BMJ*, *337*, a1655. https://doi.org/10.1136/bmj.a1655

Eaton, G., Wong, G., Williams, V., Roberts, N., & Mahtani, K. R. (2020). Contribution of paramedics in primary and urgent care: A systematic review. *British journal of general practice*, *70*(695), E421–E426. https://doi.org/10.3399/bjgp20X709877

Freidson, E. (2001). *Professionalism: the third logic*. Polity Press.

Health and Care Professions Council. (2018). Changes to SET 1 for paramedics. Retrieved September 2, 2021, from https://www.hcpc-uk.org/education/resources/education-standards/changes-to-set-1-for-paramedics/

Lamont, M., & Molnár, V. (2002). The Study of Boundaries in the Social Sciences. *Annual review of sociology*, *28*(1), 167–195. https://doi.org/10.1146/annurev.soc.28.110601.141107

Meyer, J. H. F., & Land, R. (2003). Threshold Concepts and Troublesome Knowledge: linkages to ways of thinking and practising within the disciplines. In C. Rust (Ed.), *Improving student learning – ten years on* (pp. 412–424). Oxford Centre for Staff and Learning, Oxford Brookes University.

National Institute for Health and Care Excellence. (2018a). Chapter 3 Paramedics with enhanced competencies. In *Emergency and acute medical care in over 16s: Service delivery and organisation*. Retrieved September 2, 2021, from https://www.nice.org.uk/guidance/ng94/evidence/3paramedics-with-enhanced-competencies-pdf-4788818464

National Institute for Health and Care Excellence. (2018b). Chapter 4 Paramedic remote support. In *Emergency and acute medical care in over 16s: Service delivery and organisation*. Retrieved September 2, 2021, from https://www.nice.org.uk/guidance/ng94/evidence/4paramedic-remote-support-pdf-4788818465

NHS England. (2014). The Keogh Urgent and Emergency Care Review. Retrieved September 2, 2021, from https://www.nhs.uk/NHSEngland/keogh-review/Documents/UECR.Ph1Report.FV.pdf

Wankhade, P. (2010). Cultural characteristics in the ambulance service and its relationship with organisational performance: evidence from the UK. *Does Culture Matter Track, Public Administration Committee (PAC) Annual Conference*.

Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., & Pawson, R. (2013). RAMESES publication standards: Realist syntheses. *BMC medicine*, *11*(1). https://doi.org/10.1186/1741-7015-11-21