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# Characterising the outcomes, impacts and implementation challenges of advanced clinical practice roles in the UK: a scoping review

Catrin Evans ,[1] Brenda Poku,[2] Ruth Pearce,[3] Jeanette Eldridge,[4] Paul Hendrick,[1] Roger Knaggs,[5] Holly Blake,[1] Gowsika Yogeswaran,[4] John McLuskey,[1] Philippa Tomczak,[2] Ruaridh Thow,[6] Peter Harris,[7] Joy Conway ,[8] Richard Collier[9]

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For numbered affiliations see end of article.

**Correspondence to**
Dr Catrin Evans;
catrin.evans@nottingham.ac.uk

## ABSTRACT

**Objectives** In response to demographic and health system pressures, the development of non-medical advanced clinical practice (ACP) roles is a key component of National Health Service workforce transformation policy in the UK. This review was undertaken to establish a baseline of evidence on ACP roles and their outcomes, impacts and implementation challenges across the UK.

**Design** A scoping review was undertaken following JBI methodological guidance.

**Methods** 13 online databases (Medline, CINAHL, ASSIA, Embase, HMIC, AMED, Amber, OT seeker, PsycINFO, PEDro, SportDiscus, Osteopathic Research and PenNutrition) and grey literature sources were searched from 2005 to 2020. Data extraction, charting and summary was guided by the PEPPA-Plus framework. The review was undertaken by a multi-professional team that included an expert lay representative.

**Results** 191 papers met the inclusion criteria (any type of UK evidence, any sector/setting and any profession meeting the Health Education England definition of ACP). Most papers were small-scale descriptive studies, service evaluations or audits. The papers reported mainly on clinical aspects of the ACP role. Most papers related to nursing, pharmacy, physiotherapy and radiography roles and these were referred to by a plethora of different titles. ACP roles were reported to be achieving beneficial impacts across a range of clinical and health system outcomes. They were highly acceptable to patients and staff. No significant adverse events were reported. There was a lack of cost-effectiveness evidence. Implementation challenges included a lack of role clarity and an ambivalent role identity, lack of mentorship, lack of continuing professional development and an unclear career pathway.

**Conclusion** This review suggests a need for educational and role standardisation and a supported career pathway for advanced clinical practitioners (ACPs) in the UK. Future research should: (i) adopt more robust study designs, (ii) investigate the full scope of the ACP role and (iii) include a wider range of professions and sectors.

## Strengths and limitations of this study

- This is the first attempt to comprehensively map the evidence on advanced clinical practice roles across all sectors, professions and settings in the UK, highlighting clear implications for national health workforce policy development. The review covers ACP roles in all health professions, hence, has a broad relevance and applicability.
- The use of an internationally recognised framework (PEPPA-Plus) to map the outcomes, impacts and implementation challenges of advanced practice roles boosts the international relevance of the findings.
- This was an extremely wide ranging and comprehensive review that was underpinned by a careful, comprehensive and systematic search strategy.
- Ongoing ambiguity and variability of advanced clinical practice roles and titles within the UK means that some relevant studies may nonetheless have been missed or misclassified.

## BACKGROUND

Like countries all over the world, the National Health Service (NHS) in England and across the UK is facing unprecedented pressures associated with ageing populations, rising demand, rising costs, increasing health inequalities, workforce shortages and, more recently, the coronavirus pandemic.[1–3] NHS policies such as the NHS Long Term Plan (2019),[4 5] the NHS People Plan (2020)[6 7] and the General Practice Forward View (2016)[8] set out a vision for significant change in future service delivery with a concomitant need to develop models of care that cross traditional sectors and professional boundaries.[4 8–13] In order to support service development, there is considerable attention being given to the potential for non-medical advanced clinical practice (ACP) roles to contribute to the transformation agenda.[5–7 14–19]

These developments mirror policy initiatives and debates on 'task shifting' and optimal workforce skill mix in many other countries,[20–26] and are supported by international systematic review evidence that

advanced practice roles are safe, effective, have high levels of patient satisfaction and produce a range of benefits for service accessibility and efficiency.[27–55] In many countries, ACP roles are separately regulated and are underpinned by standardised training programmes.[20 56–58] In contrast, in the UK, advanced roles have evolved more organically in response to local need, local health service commissioning decisions and profession-specific imperatives rather than as part of an overarching national health workforce plan.[58 59] As a result, there has been a proliferation of roles with different titles, different job descriptions, different scope of practice and different educational requirements (particular confusion relates to roles with titles such as 'extended' or 'specialist' practitioner vis a vis 'advanced' practice roles).[58–60] Moreover, the definition and understanding of advanced roles have differed both within as well as between professions.[61] This variability and lack of consistency gives rise to concerns for patient safety and impedes workforce planning at scale.[62–64]

In England, the NHS workforce transformation agenda is being supported by a national non-departmental public body, 'Health Education England' (HEE). HEE is spearheading a range of developments to bring greater national consistency around ACP, and, in 2017, it published a 'Multiprofessional Framework for Advanced Clinical Practice' for England that sought to provide a clear definition of ACP.[65] The HEE framework states that:

> Advanced clinical practice is delivered by experienced, registered health and care practitioners. It is a level of practice characterised by a high degree of autonomy and complex decision-making. This is underpinned by a master's level award or equivalent that encompasses the four pillars of clinical practice, leadership and management, education and research, with demonstration of core capabilities and area specific clinical competence. Advanced clinical practice embodies the ability to manage clinical care in partnership with individuals, families and carers. It includes the analysis and synthesis of complex problems across a range of settings, enabling innovative solutions to enhance people's experience and improve outcomes.

In this definition, ACP is established as a level of practice applicable across professions, rather than a specific role. A key distinguishing feature of ACP is the level of autonomy exercised by a practitioner as well as an ability to operate at an autonomous advanced level across four domains, including, but not limited to, clinical practice. These are referred to as the four 'pillars' of ACP (education, leadership, research and clinical practice), and the framework describes a set of generic core capabilities that should be achieved within each pillar.[65]

The HEE ACP framework applies specifically to England but has been developed in collaboration with relevant stakeholders across the UK and has been informed by existing advanced practice frameworks from the other three countries.[15 17 18] The framework aims to support NHS providers to enable delivery of sustainable health and care services. It also recognises that introducing, developing and supporting ACP within an organisation requires good governance in order to embed ACP in the workplace.[65 66] The urgency of this agenda has been thrown into sharp relief during the coronavirus pandemic where advanced clinical practitioners (ACPs) have been required to work in new ways and with even greater autonomy.[3]

In a related development, HEE is leading the establishment of a 'Centre for Advancing Practice'. The Centre's role is to strengthen governance arrangements for advanced level practice by recognising practitioners working at an advanced level through two routes: (i) accreditation of university education programmes and (ii) an HEE recognition route that an individual can follow.

In order to inform this ambitious programme of work, HEE commissioned a team at the University of Nottingham to undertake a review that would identify and summarise the existing available evidence on ACP across the four countries of the UK. This recognises that while advanced roles in certain professions have a strong evidence base internationally, there is a need to establish a baseline of evidence for ACP roles specifically within the UK context. Nonetheless, given the international imperative around advanced practice role development, the review outcomes will be of interest to other countries currently considering the development of similar roles.

The review aim was to characterise the current evidence base underpinning multi-professional advanced level practice from a workforce, clinical, patient and service perspective in the UK. Specific objectives were:

- To identify what evidence exists about implementation, impacts and outcomes of advanced clinical practice in the UK across (i) different professions, (ii) different sectors and (iii) different specialities.
- To identify the challenges reported to affect advanced level practice implementation by sector, specialty and profession in the UK.
- To identify and describe the different types of outcomes and impacts of advanced level practice roles that have been reported, and to summarise existing knowledge on these, by sector, specialty and profession in the UK.
- To identify key gaps in the existing evidence base and the most urgent questions for future research.
- To consider how advanced level practice is being defined, conceptualised and applied across professions and the public, private and voluntary sectors of service provision.

## METHODS AND METHODOLOGY

The aim of this review was to identify and map the existing evidence (rather than to synthesise it in relation to a specific question), hence, it adopted a scoping review methodology, following JBI guidance.[67–69] The review

was registered with Open Science Framework.[70] A highly detailed protocol was published in 2020[71] (see online supplemental file 1). For this reason, the description of methods below is relatively brief—the protocol provides a full justification and explanation of all methodological steps and decisions. The review is reported in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) reporting guidance (extension for scoping reviews).[72]

## Searching

A highly comprehensive and complex search strategy was implemented between November 2019 and February 2020 across 13 online databases and grey literature sources (see online supplemental file 2 for a list of all information sources and online supplemental file 3 for a full search strategy as applied within Medline). Reference lists of included studies and systematic reviews were also scrutinised (but systematic reviews were not included as papers in the review). The review included evidence that met the following criteria: (i) primary research, service evaluations or audits of any study design, including grey literature; (ii) reported on ACP roles or services fulfilling the HEE definition of ACP; (iii) reported on an established role or service (ie, did not include trainees); (iv) any profession; (v) any sector and any setting and (vi) must be in the UK (England, Scotland, Northern Ireland, Wales). A UK-focused search filter (based on previously published search filters[73 74] was incorporated into the overall search strategy to limit the search results to UK-focused studies, including relevant international studies that involved the UK. The latter were considered for inclusion, provided UK data were reported separately. The date range of the search was 2005–onwards. The rationale for the date limit of 2005 is due to the timing of key policy developments around advanced clinical practice in the UK. Prior to this date, most advanced clinical practice roles and research were limited to nursing and referred to a wide range of highly inconsistent titles, educational preparation, role definitions and scope of practice.[60]

## Screening and study selection

Study screening and selection was undertaken by two reviewers (CE, BP) working independently. The greatest challenge in the search and study selection related to the highly varied terminology used to describe ACP roles. This resulted in a preanticipated large number of records being retrieved, both for the initial screening process as well as for review of the full text. Each record was scrutinised for descriptions and evidence that the role met the HEE criteria. In cases where the role title included the term 'advanced' but details within the paper showed that it did not meet the HEE definition, it was excluded. Likewise, in cases where the role title did not include the word advanced but described a role that met the HEE criteria, it was included. Where the two independent reviewers were unsure or could not agree, the paper was discussed with another team member (sometimes with several team members) and advice was sought from experts representing different professions. Excluded papers were listed in a table with reasons for exclusion noted (see online supplemental file 4).

## Data extraction, charting and summary

Data charting and summary was undertaken using a framework approach,[75] guided by the PEPPA-Plus framework—an internationally recognised and widely used framework for evaluating the structure, outcomes and implementation of ACP roles.[76–78] Data extraction and charting was undertaken by three team members (CE, BP, GY). Following piloting of the framework template, GY undertook extraction and charting for the secondary care sector papers and BP did this for the papers in all the other sectors. CE independently extracted data from 20% of all papers as a measure to ensure quality control and consistency. The three team members met regularly together to discuss any queries and challenges and resolved these through consensus or by discussion with members of the wider team.

Data extraction/summary involved three steps (see online supplemental file 5 for the study characteristics and structure data extraction template and online supplemental file 6 for the outcomes and implementation data extraction template):

1. Charting key study characteristics relating to methodology, study aims and 'structural' features of ACP roles (eg, title, profession, sector, setting, stage of role implementation). As per scoping review guidance, formal quality appraisal was not undertaken.
2. Extracting and summarising data related to ACP outcomes according to five key outcome domains, each with predefined subdomains: (i) patient and family (eg, clinical/functional health status, health-related behaviours, healthcare experiences, perceptions/satisfaction with care); (ii) quality of care (eg, patient safety, processes of care and access to care); (iii) healthcare provider, team and stakeholder (eg, healthcare team performance, knowledge/skills, acceptance and satisfaction with the ACP role, ACP role support); (iv) organisation (eg, recruitment and retention) and (v) healthcare use and costs (eg, length of stay, readmission rates, waiting times, cost avoidance, cost savings).
3. Using thematic analysis[79] to code study findings and identify key themes affecting ACP implementation (using NVIVO V.12 Pro software[80]).

Data from steps 1 and 2 were analysed using descriptive summaries presented numerically (eg, percentages in tables or figures) or narratively. Data from step 3 were analysed thematically.[79] As per the review objectives, the narrative summaries sought to characterise the evidence base as a whole while drawing attention to any sector, specialty and professional-specific commonalities and differences.

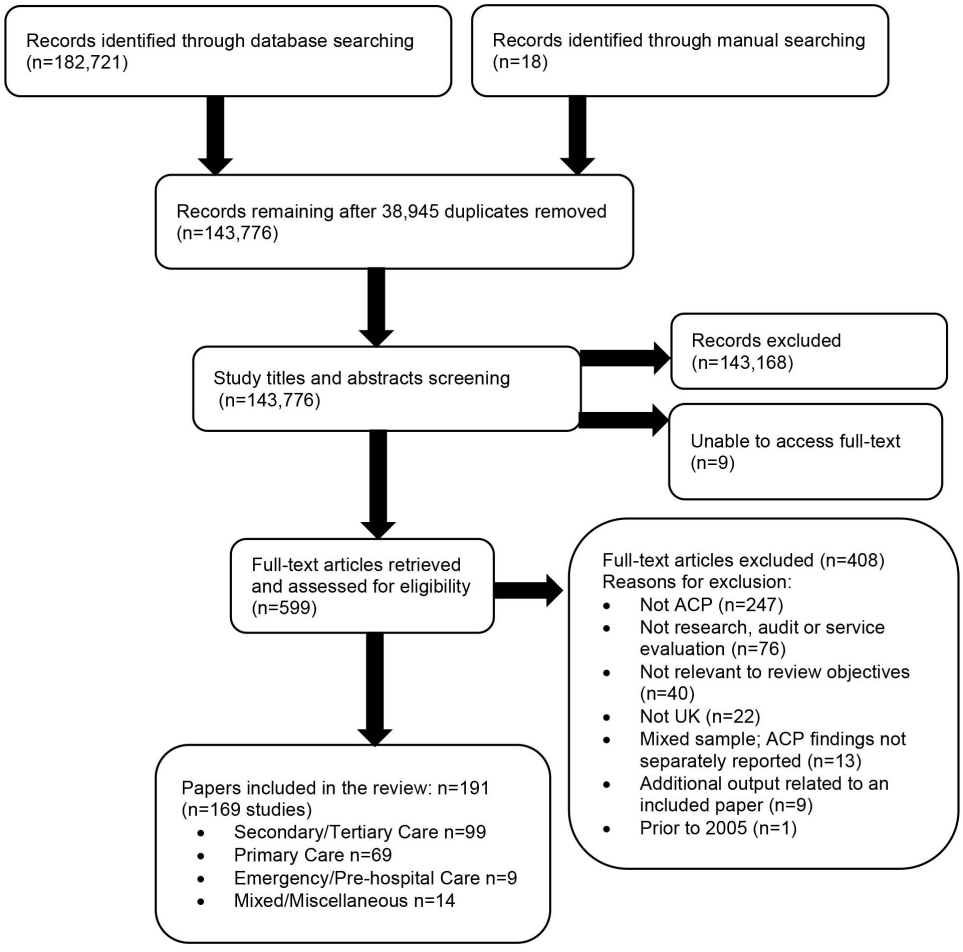


**Figure 1** Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram.

## Patient and public involvement

The review was conducted by a multi-professional, multidisciplinary team including an experienced librarian. A lay representative within HEE (PH) was a key part of the team and was involved at every stage. He was particularly instrumental in ensuring that patient and family perspectives were reflected in the review objectives and highlighted in the discussion points and recommendations.

## RESULTS

This review had a wide and highly comprehensive scope and included a large number of papers (see later). Hence, in order to maintain readability, the results are necessarily presented in a highly summarised form. Online supplemental files have been extensively used to provide the reader with more detail, and to maintain the rigour and transparency required to meet robust scientific standards.[69 72]

## Literature search

Records were imported into EndNote, a reference management programme. After deduplication of records, 143 776 were screened; 599 records were reviewed as full-text papers and 191 papers (representing 169 distinct studies) were included in the final review.

See the PRISMA[81] flow diagram in figure 1 for a summary of the search process.

## Study characteristics and structural features of the ACP role

The 191 papers were categorised into four sectors: (i) primary care, (ii) secondary/tertiary care, (iii) emergency/prehospital care and (iv) a mixed/miscellaneous group. The latter relates to papers reporting evidence across multiple sectors or from a small number of other settings (see online supplemental file 7 for full tabular summaries of key study characteristics organised per sector).

### Study design

In terms of study design, overall there was a preponderance of relatively small-scale (eg, single-site, single-Trust, single-service, single-practitioner) studies, reflected by the fact that 61% of the papers (n=116) were reporting service evaluations or audits. The majority of papers used quantitative designs (n=112), 27% (n=52) used a qualitative approach and 14% (n=27) were mixed-method. Most quantitative papers used descriptive or observational designs. Only three papers reported Randomised Control Trials (RCTs).[82–84] Two additional papers reported on a pilot study[85] linked with one of these RCTs and an associated economic evaluation.[86] Three papers used

Table 1 Included papers per sector

| Sector | Papers (n) | Studies (n) | References |
|---|---|---|---|
| Secondary/tertiary care | 99 | 92 | 82 89–108 127 128 130–133 135–139 147–157 202–257 |
| Primary care | 69 | 55 | 84–88 109–119 129 140–146 158–175 258–284 |
| Emergency and prehospital care | 9 | 9 | 83 134 285–291 |
| 'Other' sectors/settings, including:<br>► Multiple/mixed sectors<br>► Mental health trusts<br>► Community learning disability team<br>► Alcohol and drug services<br>► ADHD clinic | 14 | 13 | 120–126 176 177 292–296 |

ADHD, Attention Deficit Hyperactivity Disorder.

quasi-experimental designs.[87–89] See online supplemental file 8 for more details on study design and scope.

### Sector, profession, setting and date

The majority of papers related to primary and secondary/tertiary care sectors (n=69 and n=99, respectively). A small number focused on emergency/prehospital care (n=9) and a small number were categorised as 'miscellaneous', representing mixed sectors (n=14). Table 1 includes the paper references per sector.

Half the papers (n=95) were published within the last 5 years indicating that most evidence around ACP is relatively recent. The majority of papers (n=148) were from settings in England.

The papers mainly represented four professions: nursing (n=77), pharmacy (n=34), radiography (n=34) and physiotherapy (n=32). A minority of papers related to other professions or had mixed samples (midwifery, audiology, healthcare scientist, paramedic, occupational therapy, perioperative specialist practitioner). There were no papers related to social care. Table 2 gives the references of the papers categorised per profession.

### Terminology

A key finding was that across the papers and professions, ACP was referred to by a multitude of different titles, some of which denoted the profession but not the advanced level (eg, nurse practitioner), some of which denoted the

Table 2 Papers according to professions

| Professions | Papers (n) | References |
|---|---|---|
| Nursing | 77 | 82 91 96–100 102 106–112 115 116 119 120 124–126 129 131 132 134–137 148 149 153 154 157–161 163 164 170–176 204 208 212 213 217 218 220 223–226 230 231 234 237 242 244 248 253 259 268–270 273 276 278 280 281 284 287 |
| Pharmacy | 34 | 84–89 105 138 140 156 162 165 167 168 205 214 227 228 233 251 252 261–265 271 274 283 285 288 294–296 |
| Radiography | 34 | 92–94 101 103 130 141 147 150–152 155 202 206 207 209 210 216 219 229 236 238 239 245–247 249 250 254–257 286 292 |
| Physiotherapy | 32 | 83 95 113 114 117 127 128 139 142–146 166 203 211 215 221 235 240 243 258 260 266 267 272 275 277 279 282 289 290 |
| Occupational therapy | 2 | 232 241 |
| Midwifery | 1 | 133 |
| Healthcare scientist | 1 | 222 |
| Paramedic | 1 | 291 |
| Perioperative specialist practitioner | 1 | 104 |
| Audiology | 1 | 90 |
| Multi-professional (papers including a varied mix of professions, including health visiting, midwifery, nursing, physiotherapy, pharmacy, paramedics, dietician, speech and language therapy, unspecified allied health professionals) | 7 | 118 121–123 169 177 293 |

Table 3 Reporting of four pillars

| ACP pillar | Papers (n) | References |
|---|---|---|
| Clinical | 150 | 82–107 110–114 116 117 119 127–131 135–147 153 157 159–168 170–172 174 175 202 203 205–215 217–219 221–224 226–233 235–237 240 243–245 247–263 266–291 294–296 |
| Clinical, education, research and leadership | 15 | 121 124–126 132–134 156 204 216 225 238 246 292 293 |
| Clinical and leadership | 8 | 96 120 122 123 151 152 158 234 |
| Clinical, education and leadership | 7 | 108 115 155 169 239 241 242 |
| Clinical and education | 2 | 173 265 |
| Clinical and research | 2 | 149 154 |
| Education and research | 1 | 150 |
| Clinical, education and research | 1 | 148 |
| Clinical, leadership and research | 1 | 220 |
| Unreported | 4 | 118 158 176 177 |

ACP, Advanced Clinical Practice; ACPs, Advanced Clinical Practioners.

level but not the profession (eg, advanced practitioner), and some of which denoted neither the level nor the profession (eg, extended scope practitioner). For the four major professions represented (nursing, pharmacy, radiography, physiotherapy), the number of different role titles reported in the papers was, respectively: 15, 13, 13 and 17 (see online supplemental file 9 for a table listing all the ACP role titles found in the papers per profession).

### Reporting of ACP 'pillars'

The majority of the papers (n=150) reported exclusively on the clinical pillar of the ACP role; 16% of papers included some element of advanced clinical practitioners' (ACPs) leadership role, 13% included education and only 10% included research. More detail is provided in table 3.

### ACP role implementation stage

One hundred and fifty papers provided details on the stage of ACP role implementation. Of these, only 39 papers reported on roles that had been implemented for over 2 years.[90–126] This suggests that many studies and evaluations of the ACP role are taking place when the role is still in the relatively early stages or are not explicitly including role maturity within their analytical framework.

### Evidence related to ACP outcomes

The evidence related to ACP outcomes was organised into five overarching domains, each with a number of subdomains. These correspond to the domains of the PEPPA-Plus Framework.[78] See figure 2 for the number of papers per outcome domain, and see online supplemental file 10 for a detailed table of outcome domains and subdomains linked to the papers reporting on these according to sector. In terms of over-arching outcome domains, a large number of papers reported on 'healthcare provider and stakeholder' outcomes (n=104 papers) and 'healthcare use and cost' outcomes (n=104 papers). Less than half the papers (n=73) reported on 'patient and family-related' clinical outcomes, just over a quarter of the papers reported on 'quality of care' related outcomes (n=51) and only five papers reported on outcomes related to 'organisation, professional and workforce' issues.

The most commonly reported outcome subdomains were 'appropriateness of care' (n=91) and 'patient perceptions/experiences of ACP roles' (n=66). The

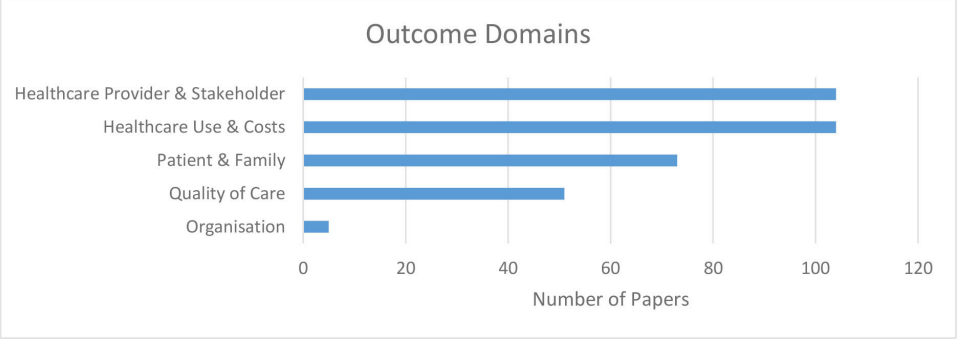


Figure 2 Number of papers per outcome domain.

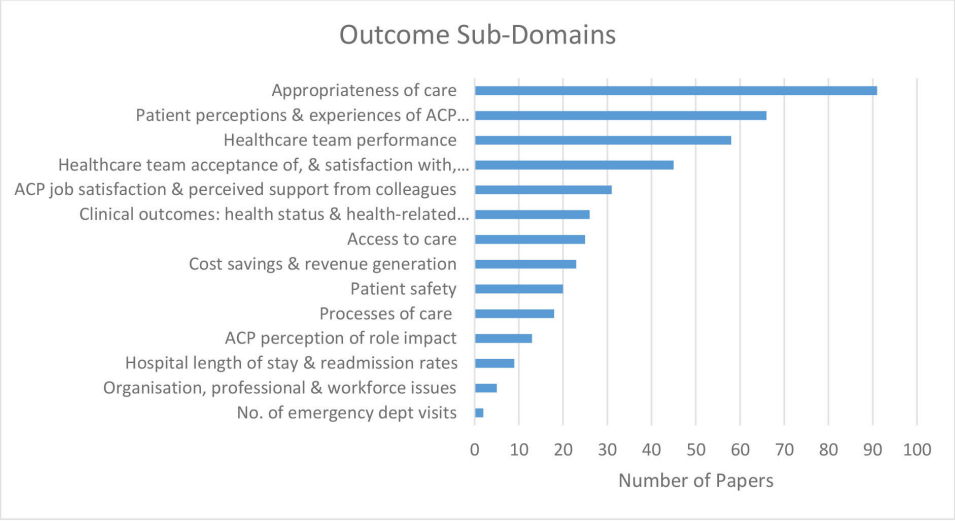


**Figure 3** Number of papers per outcome subdomain.

number of papers reporting other subdomains ranged from 58 (healthcare team performance) to 2 (number of emergency department visits). Of note is that only 14% of papers (n=26) reported on clinical outcomes relating to health status and behaviour and only 10% of studies (n=20) reported on patient safety-related outcomes. See figure 3 for the number of papers per outcome subdomain.

### Outcome domain 1: patient and family outcomes

ACP-led care was reported to be achieving positive clinical, functional and health behaviour-related outcomes across a wide range of conditions and settings. ACP-led care was reported to be highly acceptable to patients and their families with most studies reporting high levels of satisfaction. Of note is that only five of the papers reporting on patients' health status were based on experimental (RCT)[82–84] or quasi-experimental study designs.[87 88] A very small number of studies reported resistance from patients towards ACP-led consultations but this was primarily linked to a lack of awareness of the ACP role and skill set.[115 127–129]

### Outcome domain 2: quality of care outcomes

ACP roles and services were reported to lead to improved access to care and improved systems and processes of care delivery. Where reported, the papers suggest that most ACP roles and services achieved positive impacts on patient safety. However, six studies conducted in the last 3 years, reported statistically non-significant adverse events or complications associated with ACP roles and services (compared with set clinical targets or prevalence of adverse events prior to the introduction of ACP roles and services).[96–99 130 131]

### Outcome domain 3: healthcare provider and stakeholder outcomes

ACPs were reported to have a positive impact on healthcare team performance in terms of creating capacity within the team for more flexible and efficient allocation of tasks and responsibilities. The impact on medical doctors' workloads was less clear cut. Some papers reported a beneficial impact, but others suggested that medical workloads may have become more complex (and sometimes more stressful), with some medical practitioners having to take on additional supervision and training responsibilities for the ACPs. Overall, the evidence suggested that ACP roles are well accepted and valued by the wider healthcare team and are perceived to be making important contributions to, and improvements in, patient care and service delivery. Key areas of concern (especially in primary care) related to the variability in ACPs' backgrounds, education and competence leading to uncertainty around defining an appropriate scope of practice. In many settings, highly specialist and more experienced ACPs were particularly valued. In general, ACPs were reported to find their work enjoyable, satisfying and interesting. Role tensions and lack of support were associated with settings where the ACP scope of practice was not clear or where the role was not well planned. A small number of papers (n=5),[123 125 132–134] particularly relating to non-medical consultant level roles, reported challenges with excessive workloads. ACPs perceived their roles as having a wide range of positive impacts for patient care, for other team members and for improvement of service delivery processes.

### Outcome domain 4: healthcare use and costs

The evidence on appropriateness of care suggested that ACP-led care meets service/role objectives and leads to desired service outcomes. ACP-led care was reported to be associated with improvements in key areas such as hospital readmission rates and length of hospital stay. However, direct evidence on cost savings and revenue generation associated with ACP roles and services was limited and highly descriptive. Twenty-two of the papers reported actual or inferred cost savings and revenue generation. These were associated with: (i) reduced

running costs of ACP-led services compared with doctor-led services,[92 102 135–137] (ii) clinical interventions/procedures related to ACP services,[108 138–141] (iii) release of medical practitioner capacity[90 142] and (iv) reduction in healthcare use.[139 143–146] Only one (pharmacy-related) study included a robust economic evaluation.[86] Of note is that none of the papers took into account costs associated with role introduction or implementation (eg, education, training, supervision, mentorship). Likewise, single sites and small sample sizes limit the interpretations of cost-related data. None of the studies took into account the effects of ACPs' level of experience and 'service maturation' (length of time in role) on cost. In addition, none of the studies explored economic impacts of ACP roles/services for service users.

### Outcome domain 5: organisational, professional and workforce issues

There was limited evidence related to the impact of ACPs on recruitment and retention of staff practising as ACPs or on their associated teams. The evidence suggested that ACP roles helped to create positive working environments. In some cases, however, particularly, for non-medical consultant level roles, more work may be needed to optimise workloads and to provide professional support structures.

## Evidence related to ACP implementation

Just over one-quarter (n=51) of the 191 papers highlighted factors that hindered or facilitated the development, implementation and sustainability of ACP roles and services.[86 91 102 104 111–113 115 118 120–122 125 126 132–134 137 142 147–178] The majority of these papers were nursing-focused (n=24)[91 102 111 112 115 120–122 125 126 132 134 137 148 149 153 154 157–161 163 164 170–177] and based in primary care (n=26).[86 111–113 115 118 142 158–175 178] The evidence was interpreted into eight themes: (i) autonomy, (ii) rationale for ACP roles and services, (iii) role definition, (iv) role awareness, (v) funding, (vi) role evaluation and cross-organisational engagement, (vii) education, support and training and (viii) career progression and pathway. See online supplemental file 11 for a detailed table elaborating the meaning of each theme and linking each of the themes to the papers and sectors that related to them. Figure 4 depicts the different theme areas according to the frequency of reporting. The findings from the themes were then inferred in relation to factors that appeared to hinder and facilitate ACP role implementation.

### Factors that hindered ACP role implementation

The main challenges reported for ACP role implementation were related to a perceived lack of integration of the ACP role into wider workforce plans, and a lack of clarity among organisations and stakeholders regarding role preparation, role definition and scope of practice. This in turn was linked to wide variations in educational backgrounds and competencies among current role holders (this appeared to be a particular problem for nursing and for the primary care sector). Lack of role clarity created tensions related to understanding role boundaries, developing a professional identity and enacting role autonomy. The papers identified a felt need for greater supervision, mentorship, continuing professional development (CPD) and a clear career pathway. Where these were not in place, this was seen to be linked to lack of funding and strategic planning. All these challenges were perceived to be linked to future role retention and role sustainability.

### Factors that facilitated ACP role implementation

Conversely, the papers linked successful ACP role implementation/sustainability to role preparation (eg, roles that were integrated into strategic workforce plans with adequate funding attached), role clarity, provision of ongoing CPD, mentorship and a clear career progression pathway. A sense of role clarity was linked to greater standardisation (of ACP education/training, of ACP scope of practice and of ACP titles), and greater awareness of ACP roles and scope of practice among relevant stakeholders. Likewise, the papers suggested that role performance was enhanced by consistent clinical governance processes, ongoing mentorship and continued professional development opportunities. Finally, the findings suggested that role sustainability would be enhanced by ongoing role evaluation and the development of a structured career pathway.

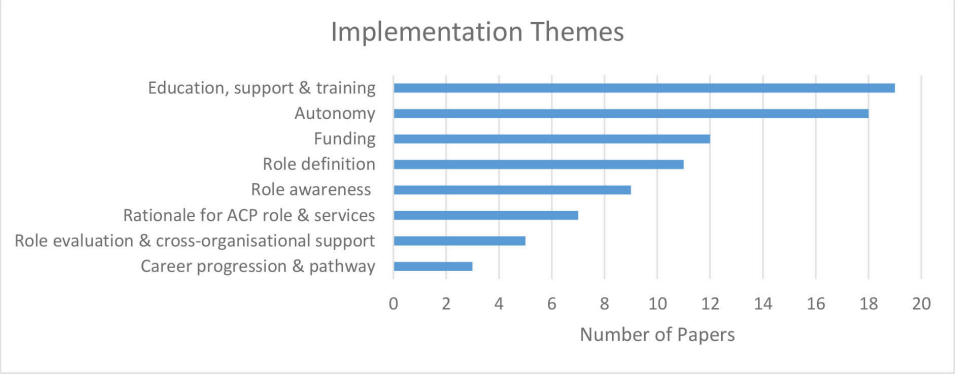


**Figure 4** Frequency of implementation theme reporting.

## DISCUSSION

This scoping review included 191 papers. The discussion sets out key insights derived from the review and contextualises these in terms of existing evidence and policy directives. Recommendations for future policy development and research are made.

### Breadth of ACP role: adoption of ACP roles across sectors and professions

The review showed that most ACP roles are being implemented in a wide range of settings and specialisms in primary, secondary/tertiary and prehospital care sectors within the NHS. There was minimal evidence from other settings or sectors, however. In particular, there was a dearth of evidence on ACP in the context of mental health or learning disability settings or social work/social care settings. Contemporary developments in ACP suggest that these roles are being implemented much more widely than the evidence currently reflects.[179] There is a need, therefore, for ongoing research to capture the impacts of ACP roles across a wider range of healthcare settings.

Similarly, the majority of evidence in the review (93%) was focused on ACP roles within four professions (nursing, pharmacy, physiotherapy and radiography). This reflects the historical evolution of ACP in the NHS, but suggests that there is a need for more research to create an evidence base for ACP within the other professions.[38 41 51 180–182]

### Outcomes and impacts of ACP roles

Due to the highly heterogenous aims and contexts of the papers and the large number of small-scale descriptive studies, evaluations and audits, it is not possible to draw definitive conclusions regarding the outcomes and impacts of ACP roles and this was not the aim of this review. Scoping reviews provide a descriptive summary of evidence (rather than a synthesis aiming to definitively assess effectiveness of an intervention), moreover, they do not include a quality assessment of the studies. With these caveats in mind, the current evidence nonetheless suggests that ACPs are achieving beneficial outcomes for patient care across a range of clinical, functional and behavioural domains and are having a positive impact on service objectives around safety, efficiency and accessibility. This is consistent with systematic reviews of international evidence on advanced roles across settings, professions and sectors.[33 35 40 47 50 53 183–186] The current evidence from the UK reports that patients/families are satisfied with ACP-associated care. In particular, they appreciate the person-centred approach and highly developed communication skills that ACPs, as experienced healthcare professionals, often bring to their role. These findings are in line with the international evidence on advanced level roles.[30 33 35 39 40 43 47 50 53 183–186] A minority of studies reported that patients were sometimes uncertain about receiving ACP-led care.[115 127–129] This was primarily related to a lack of understanding of ACP skills and roles. Hence, this finding suggests that it is important to raise awareness among the general public about ACP roles and about the safety and quality of care that they provide.

In line with the international picture,[187] the review found limited evidence regarding the cost-effectiveness of ACP roles. Several studies suggest the potential for considerable cost savings and revenue generation, but a lack of robust full economic evaluation limits the ability to draw any further conclusions. Thus, future research should include a full economic evaluation.

Only 10% of the papers reported directly on patient safety-related outcomes. Although there were few papers, they reported ACP-led care to be safe and beneficial (eg, reducing errors in patients' medications through medication review and reconciliation, medicine optimisation, reducing prescriptions for patients, promoting a healthy lifestyle and preventative interventions and adhering to standards of care). Only six papers (relating to three clinical settings) reported statistically non-significant adverse outcomes.[96–99 130 131] The lack of reported adverse outcomes in the overall body of evidence is encouraging but also raises questions about potential publication bias. Given the small number of papers focusing on this area, additional investigations may be required to establish the safety of ACP-delivered care more confidently (such as an analysis of serious incident reports). Future research should include patient safety-related outcome measures.

### Implementation issues

The review showed that there is a wide proliferation of titles for ACP roles being used across the UK. This variability was found across professions and sectors. Similar variability has been reported in studies related specifically to nursing in the UK.[59 60] For example, Leary *et al*[60] found 595 different job titles for specialist and advanced nurses (within a dataset of 17 960 UK nurses collected over a 10-year period). The issue of ACP titles relates to other findings of the review suggesting that some of the barriers to smooth implementation of ACP roles were associated with a lack of understanding among relevant stakeholders of ACPs' role, scope of practice and capabilities. The variability in nomenclature was one of the issues contributing to this barrier.

A key action that could be taken to bring clarity and to aid mutual understanding of the ACP role would be to standardise job titles as appropriate to particular settings and professions. The multiplicity of titles currently in use appears to reflect an ongoing lack of clarity about whether ACP denotes a role, a level of practice or both[61] (HEE's 2017 definition of ACP affirms that ACP reflects a level of practice, not a role).[65] For example, within primary care, HEE has recently developed a core capability framework for advanced nursing practice in primary care, using the role title *Advanced Clinical Practice (Nurse)*—thus denoting the professional group.[188] Other ACP roles, however, such as the *Advanced Critical Care Practitioner* (ACCP), are explicitly multi-professional and are represented as a new role as well as an advanced level role (eg, the Faculty of

Intensive Care Medicine states that ACCP is a distinct role - they are 'clinical professionals' - that, with the right training, can be filled by individuals drawn from a range of different professional groups).[189]

The review also showed that the ambiguity caused by lack of standardisation in job titles was exacerbated by a lack of clarity around the definition and scope of practice of ACP roles, which were highly localised. This sometimes led to inter-professional tensions, role overlaps, misunderstandings of the role purpose and scope and a sense of dissonance around professional identity.[61] Similar issues have been reported in other (international) reviews.[190 191]

Another key factor influencing ACP implementation was identified as the variability in the education and training pathways underpinning ACP roles. Although the situation is changing now[188] (especially with the introduction of the Centre for Advancing Practice), historically ACPs have moved into their roles with widely varying educational backgrounds and via differing training routes. This has led to a situation where ACPs using similar titles may have quite different skill sets, knowledge, confidence and competencies. Similar challenges with variation in educational background have been reported in other international reviews,[34 64 185 191] suggesting an urgent need to standardise training pathways, to develop sector or specialty specific training and to communicate the nature of ACPs' capabilities across the health system. The review suggests that greater standardisation of education and training would enhance clarity regarding the ACP role among relevant stakeholders and facilitate the development of appropriate and consistent clinical governance processes.

The review highlighted a need for ongoing CPD, mentorship and support for ACPs, with several papers noting that this was not always available. This was partly attributed to lack of availability of relevant specialist training, lack

**Table 4** Recommendations

| | |
|---|---|
| **Research** | |
| Research focus areas | Ongoing research is needed to explore the impacts of ACP roles in a wider range of sectors/clinical settings (eg, mental health) and in a wider range of professional groups |
| | ACP-related research studies should include a full economic evaluation in order to develop a better understanding of the cost-effectiveness of ACP roles within the health system |
| | More research is needed to understand the impact of ACP roles/services on healthcare team performance and workload. There is also a need to evaluate long-term impact and evolution of roles |
| Methodological and conceptual issues | Research studies should adopt methodological approaches that are able to account for complexity (eg, case studies and mixed-method designs) |
| | Research studies should investigate the ACP role/service across a system or network (or across multiple sites) to enable organisational contexts and variations to be fully explored and understood |
| | Future research should take into account service maturation and the level of experience of ACPs |
| | Future research should investigate impacts of the ACP role across all four pillars and seek to explore and explicate the ways in which the four pillars are integrated within advanced clinical practice |
| | Future research should move beyond demonstrating ACP impacts within an implicit medical substitution paradigm (ie, ACP outcomes need to be compared appropriately and not just with medical professionals) and explicitly re-frame the enquiry within a service enhancement or service transformation paradigm |
| **Patient safety and engagement** | |
| | Additional investigations (eg, of serious untoward incident reports) may be needed to evaluate the safety record of ACP-led care |
| | There is a need for greater awareness raising of ACP roles and the benefits of ACP care among the general public to enhance their knowledge, understanding and acceptance of these roles |
| **Policy** | |
| Education and support | There is a need for standardisation of education/training routes |
| | Educational pathways need to cover specialist (as well as generalist) competencies |
| | There is a need to support provision of, and access to continuing professional development for ACPs |
| | There should be systems in place to provide ACPs with ongoing mentorship and clinical supervision |
| Governance/regulation | There is a need for standardisation of role titles and nomenclature. This may require regulation |
| | There should be greater consistency of clinical governance processes for ACP roles across settings/sectors. This may require regulation |
| | ACP roles should be incorporated into strategic workforce plans at national/regional level to avoid localisation (especially in primary care) and to maximise their impact across the system |
| | In order to maximise retention and job satisfaction, there is a need for clearer career pathways for ACPs |
| | Guidance for relevant stakeholders should be developed to assist with planning for ACP role implementation and evaluation (eg, toolkits) |

of funding or high workloads which prevented uptake of training opportunities. The review also highlighted that a lack of career pathway in some settings potentially impeded the ongoing development, motivation and job satisfaction of ACPs. Thus, the evidence suggests that as the ACP workforce grows, there is a clear need to provide structured ongoing CPD opportunities as part of a structured career pathway.[61]

### Methodological features of the evidence base

The evidence in this review included quantitative studies, evaluations and audits (focusing on measures of competence, performance and clinical/service outcomes), qualitative studies (providing more detailed analysis of the nature of ACP implementation) and mixed-method studies (providing data on both aspects). Over half the papers were based on studies conducted within the last 5 years. Hence, the review shows that the evidence base on ACP roles across the UK is contemporary and substantial, providing data on all review objectives.

The majority of evidence was based on relatively small-scale and single-site investigations focused on a limited range of outcomes. The evidence is thus highly localised and the preponderance of descriptive observational studies introduces a high potential for bias and lack of certainty around the reported outcomes. As a result, it is hard to judge how transferable the key findings would be across the country or to other organisational contexts or practice settings. The findings on implementation challenges likewise highlighted wide variability in organisational contexts depending on the local setting, yet suggested that organisational context (eg, related to role clarity or support) played a critical part in successful role/service implementation. The way in which organisational context influences the magnitude, breadth and sustainability of outcomes is a key question for future ACP research. Given the complexity of ACP roles, it may be beneficial for future research to move beyond single-site or single-design approaches and to more explicitly recognise ACP as a 'complex intervention' (ie, comprised multiple intersecting interventions being introduced into a dynamic multi-level system or network)[192–194] and to adopt more robust study designs to take complexity and organisational context into account. In-depth, mixed-method, multi-site case studies may help to address some of these challenges.[192]

### Conceptual issues: making the full potential of ACP roles visible

This review provides an encouraging picture of the potential of ACPs to support the service transformations envisaged in the NHS Long Term Plan. Nonetheless, the review has highlighted some conceptual issues related to the current evidence that may be impeding the development of a full appreciation of the potential of ACP roles within the health system. There are three salient issues.

The first relates to an understanding of the multi-faceted nature of the ACP role. The review demonstrated that most of the existing evidence (79% of papers) on ACP roles primarily and exclusively evaluated activities or outcomes related to the clinical pillar. It is unclear whether the limited amount of evidence related to the other ACP role pillars reflects the fact that ACPs are indeed focusing mainly on the clinical aspects of their role or whether the research has simply not yet focused on a more in-depth evaluation of ACPs' work related to the other role pillars. There is very little UK or international evidence related to the impact of ACP in terms of the research or education pillars. In relation to leadership, the implementation challenges identified earlier (regarding role clarity/ambiguity, professional identity, inter-professional relationships, organisational support and mentorship) have also been identified in other international reviews as key factors that influence ACPs' ability to enact their leadership capabilities.[185 195–198] Overall, in order to more fully understand the impact of ACP roles across all aspects of the health system, future research should focus on a more explicit investigation of the ACP role as an integration of activity/capability across the four pillars rather than examining one aspect in isolation.

Second, it was notable that much of the research related to the clinical pillar of the ACP role involved a direct comparison of ACP outcomes with other professions (mainly comparing ACPs with medical professionals, rather than comparing them with other cadres or levels of professionals). As such, the evidence base reflects a strong implicit assumption of the ACP role as a primarily clinical or medical substitution role, rather than a role with the potential to enhance, augment or transform services and skills mixes through innovating within a multi-professional team and bringing additional skills to bear associated with the cognate profession. Thus, in order to more fully understand the potential for transformational impacts across a whole service, there is a need to undertake research that examines the potential for ACPs to improve care above and beyond substitution for other professions.[199]

Third, the review found that the majority of evidence reported on roles/services that were still relatively new (<2 years). It is important to recognise therefore that most studies are reporting on the performance and skills of relatively 'novice' ACPs. This suggests that many studies and evaluations of the ACP role are taking place when the role is still in the relatively early stages and may not yet reflect the full picture of what ACPs can accomplish once they achieve a higher level of expertise and once the service is well established. As time goes on, one might expect experienced ACPs to deliver an even better or broader set of outcomes across the four pillars. It will be important for future research to include long-term evaluations that investigate the effect that 'service maturation' has on ACP outcomes and implementation, and to differentiate between novice and experienced practitioners.[78 200]

### Strengths and weaknesses of the review

This was an exceptionally comprehensive review, examining the evidence on ACP roles/services in the UK across all settings, sectors and professions. As such, it provides a state-of-the art overview of ACP impacts, outcomes and role implementation challenges. The use of the international recognised PEPPA-Plus[78] framework contributes to the development of an internationally transferable understanding of the factors influencing advanced practice role development, implementation and sustainability. The review was underpinned by a careful, comprehensive and systematic search strategy.

A potential weakness of the review is that the ambiguity and variability of ACP roles and titles means that some relevant studies may nonetheless have been missed or misclassified. In particular, there is ongoing ambiguity regarding the role of prescribing as a potential indicator of advanced clinical practice. The commissioned review requested the evaluation of the evidence base for advanced level practice beyond nursing, midwifery, allied health professions and pharmacy to include healthcare science, psychology, pharmacy, dental, social work, criminal justice and local authority. With such a broad range of professions, we took the view that qualifications such as non-medical prescribing could not be considered in isolation as a qualification representing advanced practice. Therefore, while for some professions such as nursing, independent prescribing is a critical component of advanced practice for others, such as social work, prescribing is not a requirement to practice at an advanced level.

### Recommendations

The recommendations identified above are summarised in table 4 in terms of research, patient safety and engagement, and policy.

## CONCLUSION

Due to government investment and current NHS policy imperatives, ACP is a rapidly evolving phenomenon in the UK, and it is likely that the snapshot of evidence presented in this report will quickly become out of date. Many of the challenges identified in this review are already being addressed (eg, through the educational governance process led by the Centre for Advancing Practice, through the development of sector-specific or setting-specific capability frameworks,[188] and through role implementation toolkits[201]). Further innovations have emerged more recently as a response to the coronavirus pandemic.[3] Going forward, it will be important to continue to evaluate, document and support this important area of health workforce development.

**Author affiliations**
[1]School of Health Sciences, University of Nottingham, Nottingham, UK
[2]School of Sociology and Social Policy, University of Nottingham, Nottingham, UK
[3]School of Education, University Hospitals Birmingham NHS Foundation Trust, Birmingham, UK
[4]Faculty of Medicine and Health Sciences, University of Nottingham, Nottingham, UK
[5]School of Pharmacy, University of Nottingham, Nottingham, UK
[6]Emergency Department, Nottingham University Hospitals NHS Trust, Nottingham, UK
[7]Health Education England East Midlands, Leicester, UK
[8]College of Health, Medicine and Life Sciences, Brunel University London, Uxbridge, UK
[9]Centre for Advancing Practice, Health Education England, Leeds, UK

**Twitter** Catrin Evans @Catrin_notts

**Contributors** CE: coordinated and conceptualised the project. Developed all aspects of the project methodology and manuscript. Undertook key elements of the review. BP: reviewed and commented on the whole manuscript. Undertook all elements of the review. RP: conceptualised the project. Reviewed and commented on the whole manuscript. Assisted with study selection. Contributed to formulation of recommendations. JE: developed and implemented the search strategy. Reviewed and commented on the manuscript. PHendrick: reviewed and commented on the manuscript. Assisted with study selection. RK: reviewed and commented on the manuscript. Assisted with study selection. HB: reviewed and commented on the manuscript. Contributed to development of the methodological approach. Assisted with review of primary care sector data and formulation of recommendations. GY: reviewed and commented on the manuscript. Undertook some aspects of data extraction. JM: reviewed and commented on the manuscript. PT: reviewed and commented on the manuscript. Developed implications for non-traditional healthcare settings. RT: reviewed and commented on the manuscript. PHarris: reviewed and commented on the manuscript. JC: contributed to conceptualising the project. Reviewed and commented on the manuscript. Contributed to formulation of recommendations. RC: contributed to conceptualising the project. Reviewed and commented on the manuscript. Contributed to formulation of recommendations.

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**ORCID iDs**
Catrin Evans http://orcid.org/0000-0002-5338-2191
Joy Conway http://orcid.org/0000-0001-6464-1526

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