

Rapid Evidence Synthesis: Effective approaches to detecting, treating and managing hypertension in underserved populations at high risk

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Rapid Evidence Synthesis:

Rapid Evidence Syntheses (RES) are produced by the National Institute for Health and Care Research (NIHR) Applied Research Collaboration Greater Manchester (ARC-GM). The methods used are based on a framework set out in Norman et al. 2022 and previously registered on the Open Science Framework (OSF).^{1,2}

RES use evidence synthesis approaches and draw on the GRADE Evidence to Decision framework to provide rapid assessments of the existing evidence and its relevance to specific decision problems. In the first instance, RES focus on evidence from existing evidence syntheses. They are undertaken in a real-time context of decision-making around adoption of innovative health technologies and are designed to provide a “good-enough” answer to inform decision problems in a short timescale. RES methods are flexible and adaptive. They have evolved in response to user feedback and differ depending on the nature of the assessment undertaken.

RES is not intended to serve as a substitute for a full systematic review.

We welcome feedback and are particularly interested to hear how you have used this Rapid Evidence Synthesis.

Please send any queries or comments to:

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Additional information:

This work was undertaken by the National Institute for Health and Care Research (NIHR) Applied Research Collaboration Greater Manchester (ARC-GM). The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

¹ Norman, G. *Rapid evidence synthesis to support health system decision making*. OSF registration. 2020 [cited 2023]; Available from: osf.io/hsxk5

² Norman, G., et al., *Rapid Evidence Synthesis To Enable Innovation And Adoption in Health and Social Care*. Systematic Reviews, 2022. **11**: p. 250. <https://doi.org/10.1186/s13643-022-02106-z>

Summary

The overall evidence is **uneven**. Much of the research is directly relevant to UK decision-making, as most of the included studies are from the UK or other high-income settings. However, certainty is often **low**, particularly for community case-finding approaches.

The evidence is stronger for some management approaches, particularly **pharmacist-led interventions** and **remote pharmacist follow-up**, where findings are more consistent, and certainty is moderate (in other words, we are fairly confident that what the research shows is likely close to the truth). For many outreach and community case-finding models, we do not know whether people found to potentially have hypertension go on to receive effective care.

Our key messages are:

- **There is little direct evidence on how people move from outreach testing to diagnosis, treatment and long-term care.** This is an important gap for systems trying to reduce inequalities in blood pressure care for underserved communities, rather than simply increasing the number of blood pressure measurements. Most studies report whether people had their blood pressure checked. They do not report what happens next. Where follow-up was reported, the number of people moving into diagnosis or treatment varied widely and was sometimes low.
- **There is some evidence that targeted approaches can improve access to blood pressure checks,** particularly when services are offered in convenient, trusted community settings such as pharmacies, mobile units, workplaces, community venues and other places people already use.
- **Some approaches to ongoing management appear consistently effective.** Pharmacist-led support, remote follow-up by pharmacists, and some community outreach worker models probably improve blood pressure control. Digital approaches may help some disadvantaged groups, but the evidence is less certain.
- **Service design matters as much as location.** People are more likely to get their blood pressure checked when testing is easy to access, and offered in convenient, familiar, and trusted locations with flexible hours. Uptake improves when people understand why the test is offered, what the results mean, and how their information will be used. Endorsement from trusted community organisations, and their involvement and support in planning, helps. Having trained, confident staff deliver blood pressure testing also supports consistency in delivery. Clear referral and data-sharing processes help link community testing with follow-up care in primary care.

Introduction

Hypertension (high blood pressure) is a serious condition that increases an individual's risk of cardiovascular events such as heart attacks and stroke. It can also increase the risk of other conditions, including kidney failure, heart failure and vascular dementia. Hypertension can be diagnosed via rapid and non-invasive testing and treated with evidence-based care, including the use of anti-hypertensive drugs, intensive blood pressure targets, statins when appropriate and multifactorial lifestyle changes [1].

Public Health England's Blood Pressure Action Plan, developed with partners from England's Blood Pressure System Leadership Board, called for action to lower average blood pressure in the population by 5 mmHg through better prevention, earlier detection and improved management. It estimated that achieving this over a 10-year period could generate around 45,000 QALYs and save £850 million in related health and social care costs [2]. Whilst effective detection and diagnostic tests and treatment exist for hypertension in primary care, access to and uptake of these are not optimal in the UK [3]. The NHS promotes the routine use of the NHS Health Check in primary care for general cardiovascular health promotion [4], including hypertension detection and diagnosis. There are also other routine services provided in communities, such as the NHS Community Pharmacy Blood Pressure Check Service. However, there is evidence that access to, and uptake of, these routine offers are not equitable across at-risk populations [5].

In response, approaches for detecting, treating, and managing people with hypertension that are additional to routine services have been tried in the UK to reach **high-risk** groups who are **underserved** by current pathways. High-risk groups include older adults, people who smoke, people with diets high in salt and people who are overweight. Among high-risk groups, underserved populations include people from ethnic minority heritage groups in the UK, people living in socioeconomically deprived areas, or other groups with less engagement with routine Health Check services, such as older men who live alone [6]. Implementation of effective initiatives beyond routine service provision has the potential to improve the prevention of adverse outcomes in people with untreated hypertension whose needs are not currently being met.

This RES aims to summarise evidence on these 'add-on' approaches targeted at improving access to and uptake of blood pressure measurement, and subsequent hypertension care in underserved populations at high risk in the UK. The RES also explores the factors which may influence the delivery of these approaches. Through this we aim to generate insights for decision makers on current approaches that have been explored and what evidence can tell us about these.

Key questions

Q1. What does the research evidence tell us about the effectiveness of approaches aiming to improve access to and uptake of blood pressure measurement, and subsequent hypertension care, among underserved and high-risk populations in the UK?

Q2. What does the evidence tell us about factors that influence the successful delivery of routine services and targeted approaches aiming to improve access to and uptake of blood pressure measurement and hypertension care among underserved and high-risk populations in the UK?

Methods

Search

We searched Medline (Ovid) and the OpenAlex database in February 2026. Our searches were based on key terms related to systematic reviews or qualitative research, hypertension case finding or monitoring, and outreach-related settings and approaches.

Inclusion criteria

Participants. We included research evidence as reported for adults in community settings who had risk factors for hypertension as described by NICE in 2025 [7] and were potentially underserved by routine care. We prioritised evidence from studies that were conducted in the UK but also considered evidence from other high-income countries, as the UK-specific evidence is limited or outdated, e.g., older than 10 years. Where the evidence included data from both high-income and middle- or low-income countries, we included only research in which 60% or more of studies came from high-income countries. We excluded evidence from studies that were conducted exclusively in middle- or low-income countries.

We defined underserved, minoritised or other vulnerable communities according to the characteristics listed in PROGRESS Plus such as ethnicity, socioeconomic status, place of residence, faith, LGBTQ + identity, disability [8] and also considered any other specific groups identified as being underserved for hypertension detection, diagnosis and care. We excluded evidence for children and pregnant women, assuming that these subpopulations need and receive dedicated approaches to hypertension detection.

Interventions. We included evidence on any types of approaches designed to increase **access** to and **uptake** of hypertension measurement and follow-up hypertension care in the UK, that were used in addition to routine services in the UK. We consider routine services to be the standard NHS Health Check, the NHS Community Pharmacy Blood Pressure Check Service, and other universal, nationwide hypertension case-finding initiatives. Examples of relevant targeted approaches include opportunistic or non-traditional case finding, delivery outside standard primary care settings, or “Health Check-plus” type models.

We categorised approaches identified using the Cochrane Effective Practice and Organisation of Care (EPOC) taxonomy of health systems interventions [9], in collaboration with an experienced public health practitioner. The stages of the hypertension care cascade we considered include:

- **Detection.** Approaches to case finding of the undiagnosed population, such as community outreach via offering blood pressure services in barbershops and faith centres.
- **Diagnosis.** Linkage approaches to ensure that those with high readings can receive a formal diagnosis to avoid the drop-off of potential cases. For example, pharmacists directly book the GP appointment for diagnostic measurements for those with high readings.
- **Treatment.** Approaches to improving the initiation/uptake of treatments among those with a confirmed hypertension such as pharmacist-led phone follow-ups.
- **Ongoing management.** Approaches to ensuring adherence to treatments for long-term hypertension management.

We prioritised hypertension-targeted interventions in the first instance; however, as these were limited, we also considered interventions targeting broader cardiovascular health.

Comparator: We considered evidence from systematic reviews with any comparator group, including no intervention, and alternative interventions.

Outcomes: For Q1 we included various outcomes which reflect the potential impact of the intervention on the three key aspects of ***blood pressure measurement and/or treatments***:

- ***Access***
- ***Uptake***
- ***Adherence***
- ***Clinical outcomes including the reduction in blood pressure***

We accepted any definition of the above outcomes given by the authors of the eligible research. We captured and summarised insights from included studies about how detection/case-finding approaches linked back into diagnosis and treatment, or where they broke down.

For Q2, we included identified facilitators and barriers to the access, uptake and adherence of routine services and the add-on, targeted approaches to blood pressure measurement and/or treatments.

Study design: Following the overview of reviews approach for this RES, we initially considered existing evidence syntheses, including systematic and rapid reviews. We considered quantitative, qualitative, and mixed methods research as appropriate to the question addressed. We used a broad definition of systematic reviews as having a systematic search, clear inclusion criteria, any form of critical appraisal, and synthesis of evidence.

Where directly relevant evidence from existing systematic reviews was limited, we also included primary studies, looking at the most robust primary study designs first. For Q1, these include randomised controlled trials and non-randomised comparative studies that evaluated the implementation of targeted approaches, compared with alternative or no implementation. Such research had to follow up clearly defined participants over an appropriate period and adjust for confounding in the analysis or by study design. For Q2, these are well-conducted qualitative or mixed-methods studies.

In summarising the evidence for Q1, we focused on the most comprehensive, most recent and/or most robust evidence synthesis. When the included reviews overlapped, we explored the impact of this during data extraction and interpretation to ensure evidence was not over-weighted (that is, double counted). For Q2, we used principles of best-fit framework synthesis to guide data extraction and synthesis. Specifically, frameworks such as COM-B (Capability, Opportunity, and Motivation—Behaviour) and the TDF framework (Theoretical Domains Framework) guided the identification of qualitative themes and sub-themes. These frameworks helped group evidence into practical themes, such as the public’s awareness and understanding, staff skills and confidence, location convenience, trust, resources and follow-up.

We first present the effectiveness findings (Q1), followed by the qualitative findings (Q2), to integrate evidence for informing implementation. For brevity, we summarised the key influencing factors by individual hypertension case-finding approach in the results section, with complete qualitative findings provided in the appendix.

We followed general GRADE criteria in assessing the certainty of evidence without performing a full GRADE assessment of the evidence (Q1). For qualitative results (Q2), we assessed confidence in the main findings using the GRADE-CERQual assessment. We followed the GRADE and GRADE-CERQual approaches to categorising the certainty of evidence into four levels:

- **high** certainty or confidence, indicating we are confident that the research findings reflect a true effect or phenomenon of interest;
- **moderate** certainty or confidence, indicating we are fairly confident that the findings reflect a true effect or phenomenon of interest;
- **low** certainty or confidence, indicating we have limited confidence in the findings, and more research is likely to change them;
- **very low** certainty or confidence, indicating there are no clear findings.

The RES also includes intervention and contextual details to help evidence users (e.g., health professionals, service managers, VCSE organisations, policymakers, and commissioners) draw implementation insights.

Public and patient involvement

We invited feedback from public contributors on this RES via the VoiceIn platform. We received and used a total of six responses to inform the data extraction and synthesis for Q2.

Results

We identified 4283 records through database searches and included 16 systematic reviews or other types of evidence synthesis [4, 10-24] and 2 primary studies [25, 26] that reported evidence on the effectiveness of using targeted approaches for blood pressure case-finding and subsequent care.

We conducted separate literature searches to identify qualitative studies exploring factors that influence the uptake and delivery of hypertension case-finding approaches and subsequent care. We included six qualitative studies with eight reports of perspectives from various stakeholders [27-34]. All identified evidence focuses on hypertension case-finding using blood pressure testing, and the evidence is largely relevant to community-based, opportunistic case-finding approaches in the UK. This report did not include implementation literature on approaches related to the NHS Health Check. We acknowledge that the implementation-related factors identified may apply to the approaches covered below, but may not be transferable to others. Also, our searches may have limitations.

In the sections below, we focus on reporting the effectiveness evidence. Evidence on the key influencing factors is reported at a high level to inform implementation decisions. Further information on implementation-related factors is presented in the Appendix.

Integrated pathways linking hypertension detection (case finding) to follow-up care

We did not identify systematic reviews of integrated pathways directly linking hypertension detection to diagnosis, treatment initiation and long-term management. As noted below, the majority of reviews reported whether people had a blood pressure check, but not whether they then received a diagnosis, started treatment, or stayed engaged with care.

Hypertension detection (case finding)

We identified two reviews and one primary study on the clinical effectiveness of targeted approaches for hypertension case-finding [14, 23, 25].

Self-testing and any other community-based case-finding approaches

A systematic review of 73 studies, published in 2015, scoped evidence on the use of any type of self-test and other community-based testing for hypertension [14]. The approaches included were delivered in multiple community settings, outside of established health facilities, targeting high-risk populations and those who do not attend primary care. The three most reported settings were pharmacies, public areas/retail settings, community buildings (e.g., fire stations, places of worship), and mobile units (e.g., in the form of “clinics on wheels” using vans to provide services in convenient locations such as supermarkets, community centres, libraries).

Mobile unit-based and pharmacy-based services could achieve good uptake of hypertension detection among eligible individuals (21%–88% of the population screened in mobile units, and 40%–90% in pharmacies). The review noted that included studies may have used different denominators (i.e., populations eligible for testing) but did not specify how ‘eligibility’ was defined. Where follow-

up of participants after screening was reported, a median of 44% (range 17%–100%) received a hypertension diagnosis or antihypertensive medication. The evidence is of **low certainty** due to the existence of methodological limitations among 62% of the included studies, and it is **directly relevant** as nearly all studies (98%) were conducted in Europe, North America, and Australasia.

Factors influencing the delivery of community-based testing delivered by trained staff or health professionals. Three studies (from four reports) reported related evidence [27-29, 34], in which blood pressure was measured by various types of trained staff, including pharmacists, pharmacy assistants, health trainers, nurses, Fire and Safety staff, or commissioned providers. The relevant factors were summarised below, and further information on these factors is provided in the Appendix.

- **Working with patients, the public and trusted organisations** helped identify barriers and enablers before delivery and supported the production of culturally relevant materials.
- **Offering testing in accessible, familiar and trusted community venues**, such as pharmacies, barbershops, churches, workplaces, leisure centres, shopping centres and homes, helped uptake. Flexible times, including evenings and weekends, also helped. **Using private areas** reduced anxiety, stigma and concerns linked to public testing.
- **Promoting blood pressure testing opportunities** was supported by trusted community gatekeepers, clear promotional materials, targeted messages and images, active invitation from staff, and clear explanations of why testing was offered and how personal data would be used.
- People's understanding of hypertension improved when staff **explained blood pressure readings clearly** and provided accessible printed or digital information. Understanding was limited by language barriers, digital literacy and staff confidence.
- **Participation was limited by resource issues**, including a lack of large cuff sizes and translated materials.
- **Partnerships** with Clinical Commissioning Groups and Public Health teams helped recruit and retain healthcare staff and support delivery despite competing clinical priorities.
- Professional staff were seen as able to measure blood pressure, although their confidence in speaking with the public varied.
- **Clear care pathways and shared IT systems** supported recording, follow-up and continuity of care. Poor integration could lead to duplicated work and extra workload for primary care.

Self-testing via automated kiosks in public spaces and care settings

A 2025 systematic review summarised the evidence of using kiosk devices for unsupervised self-testing of blood pressure in public spaces and healthcare settings [23].

The included studies suggest that self-testing of blood pressure via kiosk devices provided in settings including community elderly centres, pharmacies, and workplaces may have the potential to improve hypertension detection. Evidence on the uptake and impact of kiosks located in primary care settings is very limited. All of the evidence is of **low certainty**, with limited reporting of study results. The evidence is **directly relevant**, as all studies were from high-income countries.

Factors influencing self-testing via kiosks in community settings. Two studies (from three reports) reported relevant evidence [32-34]. The key factors were summarised below, and see Appendix for further information on these factors.

- **Placing kiosks in accessible, busy locations** helped uptake, such as GP waiting rooms, workplaces, leisure centres and shopping centres. Semi-private spaces helped reduce anxiety and stigma.
- **Promoting kiosks with clear, visible materials and staff prompts** helped. Without active promotion, kiosks were sometimes missed; small signs or inactive displays made them harder to notice.
- **Supporting people with sensory impairments, learning disabilities, dementia or some mental health conditions** could help equitable reach, although most people could use kiosks independently
- **Simple printed and digital information, provided with results or placed near kiosks**, helped people understand blood pressure. Barriers remained when information was not tailored or accessible.
- Concerns about venue staff's ability to answer questions and manage kiosks affected willingness to host these devices. Limited ongoing support also reduced staff confidence and capacity.
- Follow-up depended on people sharing their own results. Poor links with clinical records limited continuity of care.

Community health and wellbeing worker visits for promoting NHS Health Check

In 2023, a non-randomised controlled study involving 662 households evaluated the impact of the Community Health and Wellbeing Worker initiative on the uptake of vaccination, cancer screening and the NHS Health Check in a deprived community in London [25].

The study suggested that, compared with households that had been assigned a Community Health and Wellbeing Worker but had not yet received a visit, those receiving at least one visit had higher uptake rates at the household level for immunisation services (22% in the intervention vs 15% in the control, respectively), cancer screenings (14% vs 12% respectively), and NHS Health Check services (35% vs 12%, respectively) [25]. As the study used the sub-optimal, non-randomised design and had no adjustment in data analysis, the evidence is of **low certainty** but **directly relevant**.

Factors influencing the delivery of community testing delivered by non-health professionals. The evidence was from two studies in which blood pressure was measured by pharmacy students or barbers [30, 31]. The evidence may be transferable to the intervention involving community health and wellbeing worker visits for promoting NHS Health Check. The relevant factors are summarised below; see Appendix for more information on these factors.

- **Accessible, familiar community venues** helped uptake, although participants were more often older or more health-aware. Evening and weekend sessions helped people with other commitments, but limited staff availability outside normal working hours reduced flexibility.
- Variability in non-health professionals' confidence in providing advice, referral and signposting influenced the consistency and continuity of care. **Training in public engagement, data entry, supervision, and clear referral and escalation processes** could help.

- Competing business demands reduced motivation to offer blood pressure testing. **Incentives**, such as payment, training and recognition, and supportive learning environments helped.
- **Referral processes** helped continuity of care, but limited referral systems and poor IT integration reduced follow-up.

Using targeted or tailored invitations for NHS Health Check

In 2022, a systematic review identified 13 studies (range of study designs) assessing the impact of different invitation approaches to an NHS Health Check uptake, compared with a standard invitation letter [4].

The following methods were reported to increase uptake of the NHS Health Check:

- use of questionnaires that were designed based on the *Question-Behaviour Effect* phenomenon for promoting health check invitations with or without a financial incentive (£5). Here *Question-Behaviour Effect* refers to a phenomenon in which asking individuals questions about a behaviour may result in subsequent behaviour change.
- SMS reminders and letters offering access to testing for a specific and time-limited period;
- telephone invitations (which seem preferred by primary care and outreach workers), and
- opportunistic invitations.

However, compared with four-page leaflets, the use of shorter leaflet styles (two pages) was not reported to be associated with changes in uptake.

Where further details were reported in these studies, opportunistic invitations increased uptake of NHS Health Check services among men, younger people and those with a higher deprivation level. A cost analysis suggested that 1,000 people invited by telephone, compared with standard letters, may lead to an additional 180 NHS Health Checks at an extra cost of £0.24 per patient.

The review however did not report sufficient information to inform the certainty of evidence assessment. The evidence is from European countries and **directly relevant** to the UK context.

Online tool-based NHS Health Check

A 2024 randomised controlled trial evaluated the uptake of a digital version of the NHS Health Check compared with the traditional face-to-face service among people eligible for an NHS Health Check in the borough of Southwark, UK, (i.e., aged 40–74 years), who had not received a Health Check in the previous five years [26]. The digital Health Check was delivered via an online tool comprising: a self-completed health assessment section, an advice and support section, and a section on how to obtain and update follow-up physical measures (blood pressure, cholesterol, glycated haemoglobin (HbA1c)).

Responses from the health assessment were used to generate a QRISK3 score (10-year risk of heart attack or stroke) and a QDiabetes score (10-year risk of type 2 diabetes). Where scores indicated high risk, the tool advised users to contact their GP for further consultation and support. Health check data were also transmitted to the GP Federation to update patient records and, where appropriate, to alert individual GP practices for follow-up action. In addition, the tool identified potentially

unhealthy lifestyle behaviours and provided tailored recommendations and links to support further action, including signposting to services available through pharmacies, leisure centres, kiosks, GP practices, or a home finger-prick blood test kit.

The 2024 trial suggested that the uptake of the digitally delivered NHS Health Check was 21% (1189/5705 participants), with an additional 3% (198/5705) opting for a face-to-face assessment [26]. This compared with an 11% uptake (305/2900) in the standard face-to-face group. The evidence is **directly relevant** and is of **moderate certainty**, meaning that digitally delivered Health Checks likely increase service uptake among those who are eligible but who may not have previously engaged with the NHS Health Check.

Hypertension management

We found 13 systematic reviews reporting evidence on clinical outcomes around hypertension management in people with a hypertension diagnosis [10-13, 15-22, 24].

Faith institution-facilitated cardiovascular risk reduction services including blood pressure tests

One mixed-methods review summarised the related evidence from randomised (n=6), non-randomised controlled (n=16), and qualitative studies (n=2), aiming to investigate the features of faith institution-facilitated hypertension risk-reduction activities and their effectiveness in maintaining normal blood pressure in adults [22].

Of the interventions included, faith institution roles, as reported, largely include cardiovascular health promotion and education features promoting, encouraging and facilitating the engagement of people in cardiovascular risk reduction activities. Such roles include:

- health education related to cardiovascular health/disease directly linking to harmful lifestyle behaviours;
- teaching/ encouragement of personal psychological control;
- facilitation of exercise/physical activity as part of normal lifestyle, nutrition change for cardiovascular health, cardiovascular health measurements, and opportunistic blood pressure tests.

In this review [22], **limited** evidence suggests that participating in faith institution-facilitated cardiovascular risk-reduction activities may reduce systolic blood pressure by an average of 2.98 mmHg (95% CI -4.39 to -1.57) at three months and by 0.65 mmHg (95% CI -0.91 to -0.39) at 12 months. However, there may be no difference in diastolic blood pressure at both three months (0.14 mmHg; 95% CI -2.74 to 3.01) and 12 months (-0.53 mmHg; 95% CI -1.86 to 0.80). All the evidence is of **low certainty** due to the existence of some methodological limitations in most of the included studies and their small sample sizes. The evidence is **directly relevant** to the UK context; almost all studies were from the USA.

Community outreach worker-delivered hypertension management

Three systematic reviews report evidence on this topic, all published in 2024, with one focusing on community health worker-delivered services [24], and one focused on lay advisor-led services [19].

The third review included various types of interventions involving either health professionals or non-health professionals, including community health workers and health educators [18].

All three reviews included randomised controlled trials. Only the review of lay advisor-delivered services gave details of the interventions being assessed [19], and these were described as including patient navigation, education or support provided by anyone who does not have a health professional degree, such as peer supporters, faith-based workers, hairdressers and community health workers. These reviews **consistently** suggested that hypertension management services delivered by any of the three community outreach roles were associated with reductions in systolic and diastolic blood pressure among any population with a hypertension diagnosis [18, 19, 24]. Overall, the evidence is of **moderate** certainty, meaning that community outreach worker-led interventions probably reduce systolic and diastolic blood pressure. We cannot judge the relevance of the evidence due to the limited reporting of the related information. However, all the reviews included international literature, and, where information is presented in one of the reviews, most studies were conducted in the USA.

Digital hypertension management interventions targeting disadvantaged groups

Three systematic reviews reported evidence on digital hypertension management approaches targeting populations experiencing socioeconomic or ethnic disadvantage, including Black/African American populations and rural populations in high-income countries [10, 11, 16]. The content of interventions included was not fully detailed. Where information was reported, one review focused on interventions incorporating wearables and/or app-connected devices (via an app, mobile site, and/or mobile internet), with systolic and/or diastolic blood pressure as the primary outcome and a patient-facing interface for use outside the clinic [11]. A second review focused on interventions involving the integration of electronic health records (EHRs) and mobile health (mHealth) technologies to support early identification, improve access to care, and enable hypertension self-management in primary care settings [10]. The third review included mobile technology-enabled, self-management interventions (e.g., smartphone apps, text messaging, or web-based platforms) [16].

Despite the variations in focuses of these three reviews, the narrative syntheses reported **consistently** suggested that the digital approaches have the potential to improve blood pressure control and/or reduce systolic and diastolic blood pressure among disadvantaged groups including Black/African American populations and rural populations. However, the evidence is of **low certainty**, as most studies included had methodological limitations. The evidence is **directly relevant** to the UK context as most studies included in the reviews are from high-income countries.

Community pharmacist-facilitated hypertension management services

Four systematic reviews included general community pharmacist-led interventions [13, 15, 20, 21]. The evaluated pharmacist-facilitated interventions had core features of: (1) patient education and counselling about lifestyle, medication and medication adherence; (2) feedback to healthcare professionals (including drug-related problem identification; recommendations to physicians for medication changes; team meetings, development of treatment plans); (3) medication management among patients (including drug monitoring with adjustment or change in medication); (4) measurement of blood pressure, hypertension risk stratification, and reviewing of home blood

pressure measurements; (5) reminder systems (including telephone contact, web services, home visits, or drug adherence aids); and (6) healthcare professional education, including training [20, 21].

Of the four reviews, we focused on the two large reviews in this RES [20, 21]. Both reviews **consistently** suggested that, regardless of whether they were delivered alone or in collaboration with other professionals, pharmacist-facilitated interventions, compared with usual care, probably reduce systolic and diastolic blood pressure or improve blood pressure control. Santschi (2014) also suggested that treatment effectiveness tended to be larger if the intervention was led by the pharmacist and delivered at least monthly [21]. The evidence is of **moderate certainty** and is **directly relevant** to the UK context, as most studies included in the reviews are from high-income countries.

Pharmacist-facilitated hypertension management services that involved the use of digital technologies

Of the two related reviews [12, 17], Matsumoto and colleagues published the more comprehensive and recent review in 2024. The review focused on pharmacist-led hypertension management with patient follow-up via remote communication tools, but it provided limited detail on the management components.

While the review did not focus on disadvantaged populations, we considered it relevant because remote delivery may improve access to hypertension management across population groups. Including 13 randomised trials (n=3969 participants), the review suggested that remote follow-up by pharmacists probably reduced systolic blood pressure in people with hypertension [17].

The original review authors rated most of their included studies at moderate quality, and most studies (>80%) were from high-income countries. All the evidence is of **moderate certainty** and **directly relevant** to the UK context.

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Appendix. The synthesis of evidence on factors influencing the delivery of targeted approaches to hypertension case finding.

Potential factors were identified repeatedly across studies using different hypertension case-finding approaches. Here we report synthesised findings by barriers and enablers influencing the delivery of blood pressure case-finding approaches, rather than by individual approaches. Results are structured using implementation frameworks such as the COM-B model for Behavioural Change (Capability, Opportunity, Motivation-Behaviour), and the Theoretical Domains Framework.

The opportunistic case-finding approaches included in this synthesis are described below:

- Self-screening case-finding: Automated kiosks measured blood pressure in primary care [27, 28] and community settings [26].
- Professional-delivered case finding: Trained staff, such as pharmacists, pharmacy assistants, health trainers, nurses, Fire and Safety staff [26, 32, 33], or commissioned providers [31], measured blood pressure in community settings.
- Non-professional-delivered case finding: Pharmacy students [30] or barbers [29] measured blood pressure in community settings.

Capability

The public's capacity to access blood pressure tests was influenced by their awareness of these tests and knowledge of hypertension, while service deliverers' capacity was shaped by their skills and confidence.

1. Awareness of the case-finding approach

Several studies found that limited awareness of the intervention by members of the public was highly likely to be a **barrier** to service uptake in both the general population and underserved groups, across most case-finding approaches (**high confidence**).

Enablers: Invitation methods. Use of invitation methods facilitated awareness. For example, in workplace settings, people received emails with dates and times for hypertension tests [34], or managers encouraged attendance [27, 28]. In community and pharmacy settings, some became aware opportunistically through posters, while others participated after being directly approached by intervention staff [34]. Direct invitation was found to be particularly useful to encourage potential users to participate. For example, one pharmacy customer noted reluctance to "*bother*" staff and would not have participated unless asked [34]. This pattern was also observed in a study targeting men from ethnic minority groups [27, 28]. However, some people noted that social media can be used to advertise blood pressure tests in community locations by venue managers/owners/staff [33].

Barriers: Inconsistent use: Lack of awareness may be linked to inconsistent use of promotional materials and may be common among those who infrequently use the venues where interventions are available, potentially reducing uptake [33, 34].

2. The public's knowledge and understanding of hypertension

People from underserved groups and the general population showed different levels of knowledge about hypertension, its symptoms, the risks associated with hypertension, and how blood pressure tests are conducted. Most demonstrated a limited understanding of hypertension's asymptomatic nature and what defines a normal blood pressure reading. This limited understanding was highly likely to act as a **barrier** to their willingness to have their blood pressure checked (see subtheme *perceived value of the approach*) (**high confidence**).

Enabler: Intervention staff. Trained staff in community settings acted as enablers by explaining blood pressure test readings, clearing misunderstandings, and offering lifestyle advice, which improved users' knowledge and, in some cases, increased blood pressure test uptake [11, 26, 31, 32, 33]. Discussions often encouraged healthy lifestyle changes ('planting a seed') and supported engagement with follow-up care [26, 30]. However, one study noted that one person preferred to rely on pharmacists rather than understand their blood pressure reading [26].

Enabler: Supporting material. Supporting information materials were available before and after blood pressure tests, which facilitated understanding by including details about the case-finding approach, guidance on interpreting blood pressure readings, information about blood pressure, and advice for lifestyle changes to reduce high blood pressure [26, 32, 33]. Some leaflets were targeted to high-risk groups, including information on the elevated risks for specific ethnic minority groups [32, 33]. Leaflets or cards included space to record results [26]. Kiosks provided printed or emailed results, along with brief, tailored lifestyle advice [26]. Health literature and leaflets near some kiosks supported education [26]. However, not all kiosks offered supporting information, which could be a **barrier** to health literacy and using the blood pressure equipment correctly [26,27]. This is important because people expressed concerns about interpreting blood pressure readings from kiosks and thus avoided them due to this uncertainty [33].

Barrier: Format of supporting material. The format of intervention materials may limit accessibility for people with lower levels of digital literacy. Printed materials were recommended to support engagement among older adults, while reliance on QR codes or digital-only formats may limit access to information and engagement with blood pressure testing among populations with poor digital literacy [30].

3. Staff capability and cultural competence

Staff capability, including confidence in conducting blood pressure tests, interpreting results, providing advice, and managing referrals, influenced the delivery of blood pressure tests. Clinically trained staff were generally more confident than lay or non-clinical staff, while gaps in confidence and training among non-clinical staff acted as **barriers** to service delivery and follow-up (**high confidence**). Limited evidence suggested that cultural competence may possibly enable uptake in specific populations (**low confidence**, due to limited evidence).

Enabler: Staff confidence. Staff confidence facilitated intervention delivery across case-finding approaches, particularly among healthcare professionals such as pharmacists and nurses, who reported greater confidence in interpreting blood pressure readings, providing advice based on results, and making referrals than non-clinical staff [26,33].

Some non-healthcare professional staff, including students, barbers, pharmacy assistants, and health trainers, reported lower confidence in interpreting blood pressure readings, giving lifestyle advice, and navigating referral processes, which was likely to hinder follow-up and continuity of care [26,28–30]. For example, pharmacy assistants were confident conducting blood pressure tests but less confident in interpreting results [28], while students reported insufficient knowledge to consistently guide or refer people effectively [30]. In a barber-delivered intervention, barbers did not consistently use the provided resources to give advice after blood pressure readings [29].

Enabler: Cultural competence. Limited evidence suggests cultural competence facilitated engagement with specific groups. For example, one nurse demonstrated awareness of African-Caribbean dietary practices and provided culturally relevant advice, which appeared to support delivery among men of African-Caribbean background [32,33].

Enabler: Additional training. Across studies, intervention deliverers suggested that additional training in public engagement, initiating conversations about blood pressure, providing lifestyle advice, using referral resources, and entering data into computer systems could potentially **enable** service delivery [26,28,29,33]. Similarly, potential community providers who did not offer self-screening kiosks, were concerned about responsibility and competence if tests were introduced in the community: *“they would start asking me questions that I wouldn’t be confident to answer”* [28].

Barrier: Community settings. One member of staff reported feeling less comfortable delivering case-finding approaches in certain community settings than others, suggesting that settings influenced confidence [32,33].

Motivation

Motivation to participate in blood pressure tests was shaped by perceived value of the intervention, fears, anxiety and uncertainty, perceived accuracy and reliability of measurements, and whether blood pressure tests misaligned with the social or professional identities of service providers. While reinforcement mechanisms such as incentives motivated sustained delivery.

4. Perceived value of the approach

People’s motivation to engage with blood pressure interventions was shaped by their judgments of the relevance and value of blood pressure tests. While some people perceived little need to participate when asymptomatic, which acted as a likely **barrier**, others valued blood pressure tests as a convenient and useful preventive health activity (**moderate confidence**, due to some concerns about the limited number of studies providing rich information).

Enabler: Intervention features. The perceived value of blood pressure interventions was facilitated by intervention features. For example, some people preferred automated blood pressure measurement via kiosks rather than staff-led tests, as this reduced embarrassment and concerns about judgement, as stated by a male member of public: *“... You’re not really ashamed, cos if it says ‘you’re too fat’, it’s just a machine, whereas if it’s a person in your face, you think ‘oh now they now know that I eat too much chocolate.”* [26]. Others described feeling empowered by self-screening approaches, which provided a greater sense of control over when blood pressure was measured and disclosed, supporting motivation to participate [26,27].

Barrier: Low perceived need. Some people perceived little need for blood pressure tests, particularly when feeling well, which reduced motivation to engage in preventive screening. Service providers

similarly described limited public interest in blood pressure tests, reporting difficulties encouraging participation in blood pressure tests conducted on a bus: *"It's hard slog, you know, people don't just come rushing out and say, 'Oh yes, please take my blood pressure!'"* [28].

5. Fear, anxiety and mistrust

Fear, anxiety, and mistrust acted as likely **barriers** to reducing motivation to participate in blood pressure tests, particularly fears about receiving a diagnosis, concerns about making subsequent lifestyle changes, anxiety about having blood pressure measured in public, and the handling of personal data, particularly in public or community settings (**moderate confidence**, due to the limited number of studies providing rich information). Some of these concerns were more prominent in studies targeting ethnic minority groups [32, 33].

Enabler: Communication. Clear communication about the purpose of blood pressure tests and how personal data would be managed helped build trust and facilitated uptake in a healthcare professional-delivered blood pressure intervention [32,33]. In the barber-delivered intervention, resistance to recording blood pressure readings persisted despite ethnic matching between staff and members of the public [29], suggesting that concerns about personal data collection were not fully addressed by staff characteristics alone (see subtheme *convenient settings*). These findings indicate that mistrust related to data use and privacy likely remained a **barrier** to engagement in some community-based approaches.

Enabler: Private settings. Ensuring private or discreet spaces for blood pressure measurement was also identified as an enabler to reduce anxiety associated with public blood pressure tests across eligible populations, including underserved groups (see subtheme *convenient settings*).

6. Accuracy and reliability of measurements

Trust in the accuracy and reliability of blood pressure measurement equipment and the staff delivering the intervention was highly likely to **enable** uptake and delivery (**high confidence**).

Enabler: Trust. Trust in trained staff appeared to facilitate uptake of blood pressure tests among people. Across most studies, people described staff who delivered blood pressure tests as skilled, knowledgeable, and professional, which facilitated trust. One person described feeling reassured by the professionalism and clarity provided by a staff member: *"It's professional. I posed a question, and after the reading is done, it was explained to me why it was it was number of times it was done. I was comfortable"* [31]. No service users reported concerns about the accuracy of blood pressure measurements delivered by intervention staff.

Most people trusted the accuracy of self-screening kiosks, and some intervention providers viewed kiosks as offering practical benefits, including freeing up consultation time and supporting Quality and Outcomes Framework (QOF) targets [28]. However, when blood pressure readings were elevated, GPs expressed some concerns about the accuracy and reliability of the measurements. General practitioners viewed waiting-room kiosks primarily as a 'rule-out' tool, with high readings re-checked before making treatment decisions: *"If they've then got a low result I'll be happy to accept that and put it into the computer... whereas if it's high, I would always check it myself again before making any treatment decisions on the basis of that result"* [28]. This approach improved the accuracy and reliability but may reduce the potential time-saving benefits.

Barriers: Lack of a personal touch. A few people preferred healthcare professional-delivered blood pressure measurement for reassurance and personal interaction, rather than automated kiosks: *"there's something quite kind of therapeutic about the healthcare professional putting on a blood*

pressure cuff, blowing it up, reading out the numbers, it just seems like kind of, I can't really explain it ... like the personal touch is really important [28]. These preferences may reduce uptake in kiosks but may **enable** healthcare professional-delivered approaches.

7. Organisation or professional alignment

Evidence suggests that when blood pressure approaches were perceived as misaligned with service providers' organisational roles, priorities, or professional identity, motivation to host, promote, or embed blood pressure testing in community settings is reduced, acting as a likely **barrier** to delivery (**moderate confidence**, due to the limited number of studies providing rich information)

Enabler: Perceived legitimacy. People across studies, reported little or no concerns about the legitimacy of intervention staff which included trained healthcare professionals and trained non-healthcare professionals delivering blood pressure tests, suggesting that professional role or identity did not undermine acceptability from a service user perspective [26,28–30]. However, a minority of people questioned whether blood pressure tests were appropriate for Fire and Rescue Service staff to deliver in one study [26].

Barrier: Misaligned priorities. Where blood pressure approaches conflicted with organisational priorities or business models, service providers were less likely to host or promote them. For example, for kiosks, supermarket managers prioritised retail space for commercial activities over health promotion: *"... we're very limited for space. Space is for selling, which is ultimately the main thing, reason, we're here"* [28].

Similarly, although pharmacists viewed delivering blood pressure tests as aligning with their professional identity and role, they were often perceived as health promotion activities that conflicted with the pharmacy business model. In the absence of direct commercial incentives, this misalignment resulted in limited promotion and delivery of blood pressure tests [28].

8. Incentives

Motivation to deliver community-based blood pressure approaches was likely influenced by reinforcement mechanisms which **enabled** sustained delivery. When blood pressure tests competed with professional or business priorities, sustained delivery was likely reduced, particularly under external events such as the COVID-19 pandemic (**moderate confidence**, due to the limited number of studies providing rich information, and some concerns about how the studies were conducted).

Enabler: Intrinsic motivation. Intrinsic motivation enabled delivery among service providers who strongly identified with the community benefit of blood pressure interventions. For example, one barber from a barber-delivered case-finding approach expressed a sense of purpose and social impact, stating: *"You can change the world with a haircut"* [29].

Enabler: Extrinsic motivation. Extrinsic reinforcement mechanisms such as financial incentives (e.g., payment per blood pressure reading), public recognition (e.g., media coverage), and service providers offering training, practical support, and supervision, also supported sustained delivery [29,30].

Barrier: Competing demands. Competing demands acted as likely barriers to sustained delivery. Time and workload pressures were reported by clinically trained staff, including pharmacists and nurses, and competing demands hindered staff retention, despite their initial high motivation [26,29]. Competing business priorities also reduced motivation. For example, non-healthcare

professionals, such as barbers, reported reduced delivery when blood pressure tests competed with business activities during financial uncertainty [29].

Barrier: Pandemic. The COVID-19 pandemic intensified workforce pressures, adversely impacting service delivery in community settings. The pandemic led to cancelled sessions, difficulties retaining clinical staff, and reduced capacity to conduct blood pressure tests [29,33].

Opportunity

The environmental context of the intervention, such as inclusivity, convenience, and resources, influenced implementation, alongside social influences such as community endorsement.

9. Inclusivity of the intervention

Appointment-free blood pressure approaches, which did not require prior booking, likely **enabled** uptake of blood pressure testing as they were perceived as inclusive (**moderate confidence**, due to the limited number of studies providing rich information)

Barrier: Kiosk device accessibility. A minority of people suggested that self-screening kiosks may reduce accessibility for some groups, including individuals with mobility limitations, sensory impairments, learning disabilities, dementia, or mental health conditions, unless appropriate adaptations are made [26].

Barrier: Inconsistent use of eligibility criteria. Service deliverers reported that the inclusive case-finding approach detected hypertension in some people who were already receiving hypertension treatment, as intervention staff did not consistently apply the eligibility criteria intended to exclude them [26], potentially increasing the risk of duplication and increased primary care workload (see subtheme *follow-up, referral, and feedback mechanisms*).

10. Convenient settings

Delivering blood pressure testing in accessible, familiar, and private settings highly likely **enabled** uptake of blood pressure testing, for all populations including underserved groups (**high confidence**). With flexible delivery times likely improving uptake (**moderate confidence**, due to the limited number of studies providing rich information).

Enabler: Accessible settings. Offering blood pressure testing in accessible and familiar locations, such as workplaces, barbershops, churches, shopping centres, city markets, leisure centres, and households, reduced practical barriers to service uptake such as time and travel [26,27,29,30,32,33]. These settings were particularly valuable for individuals who may not typically attend GP appointments: *“a lot of males just don’t attend the doctors even when they may feel sick ... but if it is something that is going to provide at their doorstep, say walking to the barber shop and there are other people that are doing it as well may sort of give a chance”* [33]. Similarly, blood pressure tests conducted by Fire and Rescue Service staff as part of Safe and Well visits improved access for elderly individuals and those with limited mobility, as checks were conducted in households [26].

Enablers: Flexible delivery. Delivery times during evenings or weekends can facilitate access for people who have trouble attending routine GP appointments, taking time off work, or other competing priorities [26, 30]. However, attention also needs to be paid to the out-of-hours availability of intervention staff, which may act as a **barrier** to service delivery.

Enablers: Private settings. Privacy and confidentiality facilitated uptake in community-based blood pressure services. Members of the public, particularly men from underserved groups, reported that private or discreet blood pressure tests within community settings reduced anxiety, stigma, and embarrassment [32, 33]. In contrast, a lack of privacy in public or semi-public venues were perceived as a **barrier** [26, 27, 28, 33]. A few people described concerns about being observed during blood pressure tests, potential stigma, discomfort with removing clothing in public spaces, and fears about personal health information being shared [26, 27, 32, 33]. One participant explained that, while barbershop relationships were trusted, clients “*did not come here for this*”, highlighting tensions between familiarity and expectations of privacy [33].

Barrier: Use of partitions or screens. Efforts to improve privacy included the use of partitions or screens in public spaces [26, 28], which drew accessibility concerns from a few people. While partitions could support privacy [28], they were perceived by some as unwelcome or as creating accessibility challenges for individuals with limited mobility, potentially reducing uptake of blood pressure services for these individuals [26, 28].

11. Resource constraints

Limited material, human, and financial resources were likely a **barrier** to the sustainability of blood pressure approaches (**moderate confidence**, due to the limited number of studies providing rich information).

Barrier: Financial resources. Many blood pressure case-finding approaches relied on short-term or project-based funding and were discontinued when funding ended, limiting sustainability [29,33]. Limited financial incentives also influenced service provider participation, such as pharmacies’ willingness to host and deliver blood pressure testing [28] and their motivation to deliver blood pressure testing in a barber-delivered approach [29] (see subtheme *incentives*).

Barrier: Human resources. Several studies reported challenges in recruiting and retaining healthcare professionals, which influenced delivery capacity and likely reduced service implementation [28, 29, 32, 33].

Barrier: Material resources. The lack of large blood pressure cuffs hindered uptake among some participants [26]. In a healthcare professional-delivered case-finding approach, limited English proficiency among some customers in a barbershop led to misunderstandings about blood pressure readings, which were resolved with assistance from bilingual customers [33]. The availability of translated supporting materials may have **facilitated** engagement.

12. Community endorsement

Community endorsement by trusted local gatekeepers likely **enabled** the uptake of blood pressure services and their delivery, particularly in engaging men from ethnic minority backgrounds who may otherwise be reluctant to access healthcare services (**moderate confidence**, due to the limited number of studies providing rich information).

Enablers: Gatekeepers. The involvement of trusted gatekeepers, such as community venue managers, barbers, and faith leaders, likely facilitated service uptake by increasing awareness and acceptability of blood pressure testing. For example, in a healthcare professional-delivered case finding approach [33], gatekeepers actively informed community members directly (e.g. barbers encouraging clients to participate), promoted blood pressure testing online (e.g., sharing information via social media), and endorsed blood pressure testing by participating and discussing blood pressure readings with members of the public, potentially reducing stigma, masculinity norms, and distrust,

reported among some men from ethnic minority backgrounds: “I saw it on his [referring to barber] social media site... good concept...especially as far as the black men don’t like to go to the doctor and check themselves” [33].

Project leads reported that face-to-face engagement with gatekeepers was more effective than email or telephone contact for establishing relationships and building trust, particularly in community-based settings [33]. Additionally, identifying the ‘right person’ to liaise with in community settings was important to saving time and effort. This was challenging in some settings, like barbershops, where barbers often rent out chairs, and it is not always clear who the manager or owner is [33]. Similarly, at the bus depot, the partnership manager was the right person to contact for liaison, rather than the staffing manager [33]. Delays in identifying the right gatekeeper were perceived as wasted effort and likely a **barrier** to initiating interventions.

Barrier: Time. Building trust and securing community endorsement from gatekeepers required significant time and effort.

Intervention design

The intervention design influenced blood pressure delivery. Effective delivery required suitable venues, targeted outreach, co-production, and partnership working to improve accessibility and relevance for underserved groups, and to coordinate delivery. Integrated IT systems and referral pathways were important for supporting effective follow-up, continuity of care, and reducing primary care workload.

13. Venue suitability and targeted reach

The implementation of community-based blood pressure approaches was likely **enabled** by the suitability of venues (**moderate confidence**, due to the limited number of studies providing rich information). In addition, using equity-focused planning may possibly support strategies to reach underserved groups (**low confidence**, due to limited evidence and strong concerns about how the study was conducted).

Enabler: Suitable venue. Implementation of blood pressure testing was facilitated when venues were considered safe and provided adequate space, privacy, and essential facilities such as access to a sink for professionals delivering blood pressure tests. Where venues did not meet safety, space, or facility requirements, implementation was delayed. In one study, delays in implementing kiosks were caused by challenges in locating secure sites with security personnel to monitor kiosk equipment and ensure its safety [26].

Enabler: Equity-focused approaches. Equity-focused planning of blood pressure approaches may possibly support wider reach to high-risk groups. For example, local blood pressure screening data were collected and mapped against area-level deprivation indices to identify gaps in reach, which informed the planning and implementation of case-finding initiatives [31].

14. Co-production

Co-production likely **enabled** the acceptability and accessibility of blood pressure testing for underserved groups (**moderate confidence**, due to the limited number of studies providing rich information).

Enabler: Co-production. Co-production with trusted organisations and patient and public involvement (PPI) facilitated implementation. For example, collaboration with the Men's Health Forum and patient and public involvement contributors with lived experience informed the development of culturally relevant posters and information leaflets tailored to the target population [33]. Co-production also helped identify key barriers and facilitators to the case-finding approach before initiation [33]. These factors likely improved the acceptability and accessibility of blood pressure testing for African Caribbean and Black African men.

15. Partnership working and organisational buy-in

Partnership working and organisational buy-in are likely to have **enabled** the implementation of blood pressure approaches by supporting their set-up, launch, and delivery in community settings (**moderate confidence**, due to the limited number of studies providing rich information).

Enabler: Partnership working and buy-in. Partnerships and buy-in from health-system organisations likely facilitated the delivery of blood pressure case-finding approaches. For example, collaboration with Clinical Commissioning Groups (CCGs) and public health teams supported coordinated planning, delivery, and referral across settings (e.g., recruitment of healthcare professionals; promotion; access to community locations; access to underserved groups; confirming the community blood pressure pathway) [26, 33]. As explained by one service deliverer who highlighted the practical and relational support: *"the communication, the support, particularly from [name] in the Champs Network, has been superb. They've supported us every step of the way. They've been to our launch events, they've supported us with advertising material, and that two-way communication has been really good, making us feel part of what they're doing, and vice versa, we're supporting them in their priorities... We feel part of the project, rather than being remote from it."* [26].

One study suggested that timely buy-in could be facilitated where CCGs and public health teams recognised the limited timelines of case-finding projects, demonstrated flexibility to adapt existing delivery models to community-based approaches, and where case-finding approaches aligned with CCG commissioning and primary care network arrangements [33].

In community settings with limited health sector support or experience of interventions, implementation was limited [28]. Some community organisations expressed reluctance to host blood pressure services due to concerns about duplication of existing services and the absence of clear system-level partnerships [28]. Limited partnership working and coordination were also associated with lower referral rates in one study (see subtheme *follow-up, referral and feedback mechanisms*) [30].

Barrier: Time. Building partnerships and securing organisational approvals was time-intensive [26], which delayed the initiation of case-finding approaches, particularly in short-term or pilot-based projects [26, 33].

16. Follow-up, referral and feedback mechanisms

Effective follow-up and feedback mechanisms were likely important for **enabling** continuity of care while minimising additional workload for primary care (**moderate confidence**, due to the limited number of studies providing rich information).

Enabler: Integrated pathways. Integrated referral pathways likely facilitated follow-up and continuity of care. For example, the Merseyside Blood Pressure Pathway acted as a decision aid, clarifying referral decisions based on blood pressure readings and supporting consistent escalation [26]: *"The*

other big positive that's come out of this project from my perspective is that we've got the blood pressure pathway, which we didn't have before... We use it across the C&M [referring to Cheshire & Merseyside] patch, and if it hadn't been because of this there would have been lots of different ones we'd have used." However, when pathways and protocols were not followed in the student-delivered approach, this was a barrier to follow-up and the continuity of care [30].

Enabler: Shared IT systems. Shared IT systems or platforms likely facilitated follow-up and continuity of care. The Merseyside Blood pressure pathway was facilitated by shared electronic platforms, such as PharmOutcomes, which allowed blood pressure results to be recorded and shared across healthcare professionals [26]. These systems were perceived as reducing the need for additional primary care appointments by ensuring that blood pressure results were available to clinicians, thereby supporting follow-up and referral [26].

Barrier: Lack of feedback mechanisms. Where blood pressure readings were recorded on paper without systematic feedback mechanisms, continuity of care was likely limited [28, 29, 33]. The absence of shared feedback systems may also increase primary care workload by duplicating effort, as people may not always disclose blood pressure results to their GP [27].