Final

British Heart Foundation

Blood Pressure Award Programme Evaluation – Phase 1 Evaluation Report

February 2020

CordisBright

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Executive summary

Introduction

The British Heart Foundation (BHF) has commissioned Cordis Bright and Cobic to conduct an independent evaluation of its Blood Pressure Award Programme. The evaluation approach has been developed in collaboration with colleagues from the BHF and each of the funded sites. The evaluation will run until May 2021.

This executive summary presents the key findings from the Phase 1 sites evaluation report, which provides a summary of Phase 1 site models, presents programme inputs, activities and outputs, explores the outcomes and impacts achieved, and highlights lessons learned. It also presents a series of evidence-based recommendations for the future development of the Blood Pressure Award Programme, and for similar future programmes.

About the BHF Blood Pressure Award Programme

The BHF Blood Pressure Award Programme aims to provide funding to individual sites across the UK to develop, test and implement approaches to detecting people with high blood pressure.

Sites could apply for funding of up to £100,000 across two years. Funding has been allocated in two Phases:

- **Phase 1** awarded funding to a total of seven sites:
    - Bradford
    - Cheshire & Merseyside
    - Haringey & Islington
    - Lambeth
    - Leeds
    - Royal Borough of Greenwich
    - NHS 24/Lothian/Lanarkshire/Western Isles

    These sites are the focus of this report. However, the Lambeth site has experienced a number of delays in establishing its testing activity, and testing activity only began in late 2019, i.e. over two years after funding was awarded. As a result, the Lambeth site's activity, outputs, outcomes and impacts will be explored alongside the Phase 2 sites in a final evaluation report in 2021. Lessons from implementation are included in this report based on discussions with the Lambeth site lead and steering group. From this point onwards, references to 'Phase 1 sites' should be understood to mean the six Phase 1 sites, excluding the Lambeth site.

- **Phase 2** has awarded funding to eight sites. These sites will be explored further in future evaluation outputs. The Phase 2 funded sites are:

- Cheshire and Merseyside (this site was awarded funding for both Phase 1 and Phase 2)
- Hertfordshire and West Essex CCG
- East Riding of Yorkshire
- Gloucestershire
- Lancashire
- Newcastle Gateshead
- Northern Ireland's Old Library Trust
- Telford and Wrekin

Programme outcomes and impacts

When considering findings regarding the outcomes and impacts of Phase 1 sites, it is important to recognise that a number of the intended outcomes and impacts of the programme are ambitious and long-term in nature. As a result, it is challenging to demonstrate these outcomes and impacts during the two-year funded period, and for the evaluation to evidence these.

For participants

The programme has had a positive impact on:

- Participants awareness and confidence regarding their blood pressure and how to manage it. For example, 85% of participants reported that the programme has improved their awareness of their own blood pressure numbers and what would be a healthy range, and 79% that they are more aware of risk factors that can contribute to high blood pressure.

- Behaviour change and better management of risk factors associated with hypertension. For instance, around two thirds of participants reported positive behaviour changes in the three months since they received a blood pressure test as part of the programme.

For staff and services

Stakeholder e-survey and qualitative consultation data shows that the programme has had a positive impact on staff awareness of the signs of potential hypertension cases, referral processes, and knowledge and understanding in relation to managing high blood pressure. This finding is reflected across all six sites.

For the wider population

The programme has improved access to blood pressure testing for participants and communities as intended.

- This is demonstrated by data from QARs which shows that Phase 1 site activity has resulted in 31,529 blood pressure tests being delivered to adults who have not had a recent blood pressure test and are not currently diagnosed with hypertension. Testing has been delivered across 1,396 fixed and non-permanent venues, including workplaces and community settings.

This suggests that the Blood Pressure Award Programme has improved access to blood pressure testing for participants and communities.

- Of these tests, at least 2,165 participants were referred on to primary care or urgent care services for further blood pressure assessment (however, this is likely to be an underestimate due to challenges with collection of data from primary care systems). In addition, available data showed that blood pressure tests as part of the programme led to 258 confirmed subsequent diagnoses of hypertension. This is likely to be an underestimate due to challenges accessing primary care data. Participant e-survey data also showed that approximately one in four participants (24%) had a high blood pressure reading and were referred on for further testing.

  Whilst it is not possible to confirm the proportion of participants who went on to receive a formal diagnosis of hypertension, it is reasonable to assume that through this process the Blood Pressure Award Programme has been successful in identifying cases of undetected hypertension in sites.

An intended long-term impact of the Blood Pressure Award Programme is to improve population health outcomes, including reduced health inequalities. Due to the long-term nature of this impact, and the relatively short timescales of the programme's operation to date, it is challenging to evidence this change over the past two years.

It is important to consider this intended impact in the context of numbers needed to treat evidence in relation to hypertension treatment (that is, the number of people with confirmed hypertension that need to be treated to prevent one adverse outcome such as death, heart attack or stroke). An analysis of a range of studies of antihypertensive medicines suggest that on average, 125 patients need to be treated for five years to prevent a single death, 100 patients to prevent a single heart attack, and 67 patients to prevent a single stroke[1].

This highlights the potential scale of testing that may be required by the programme in order to achieve a notable impact on population-level health outcomes, such as CVD-related mortality rates.

However, qualitative evidence from consultation with site stakeholders suggests that the Blood Pressure Award Programme has had a positive impact on the number of people whose blood pressure reading has reduced to within the normal range, and health inequalities relating to hypertension in their local areas.

Programme activities and outputs

The following figures refer to activities and outputs across all sites up to September 2019, except NHS 24's figures which run until December 2019.

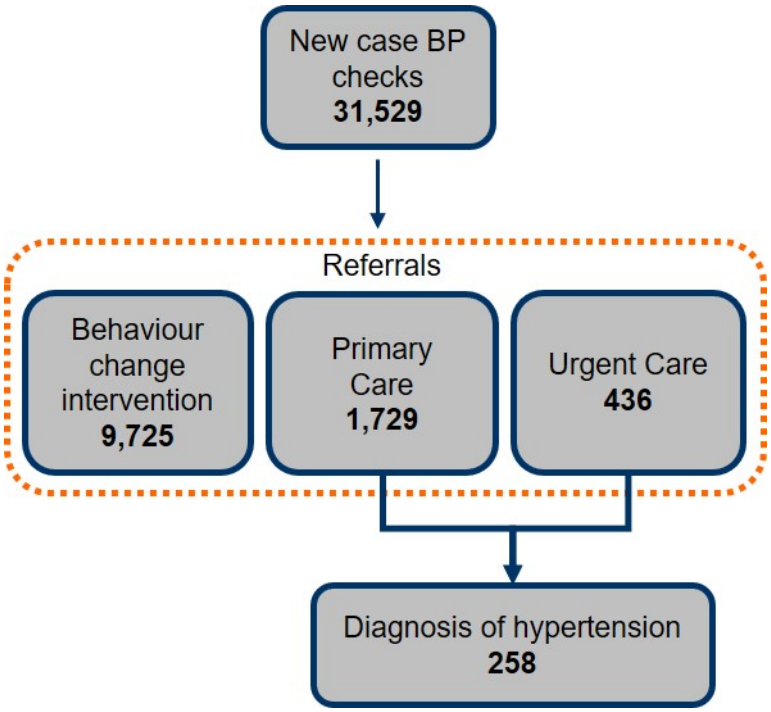
[1] Source: https://www.thennt.com/nnt/anti-hypertensives-to-prevent-death-heart-attacks-and-strokes/

Delivery of blood pressure testing

Figure 1 summarises key BHF Blood Pressure Award Programme activity across Phase 1 sites, as reported by Bradford, Cheshire & Merseyside, Greenwich, Haringey & Islington and Leeds (NHS 24 data is reported separately).

Whilst this data shows that only around 1% of blood pressure tests resulted in an official diagnosis of hypertension, this figure is likely to be an underestimate as, due to challenges with data extraction, a number of sites were unable to provide complete data regarding the outcome of referrals to primary care

Figure 1: Number of blood pressure tests, referrals and formal diagnoses of hypertension recorded across sites



- In addition, 620 blood pressure monitors have been purchased by sites and several sites also reported anecdotal evidence of participants going on to purchase their own blood pressure monitor for use at home. Combined with the blood pressure awareness information provided to participants by sites, this is likely to support participants to be better aware of their blood pressure in future.

- Consultation with participants suggests that participation in the blood pressure testing being delivered by the programme has been driven by the convenience and ease of access of testing.

- 24% of participants who responded to the e-survey had high blood pressure and 1% had very high blood pressure. This is remarkably similar to the

national prevalence of hypertension of around 1 in 4 adults in England[2]. This suggests the programme has not been overly servicing the 'worried well'. However, it also suggests that the programme is engaging with a sample representative of the general population, rather than 'at-risk' populations, as if the programme was effectively engaged with 'at-risk' populations the rate of high blood pressure observed could be expected to be greater than that observed in the general population.

Signposting and provision of lifestyle advice

The programme has been successful at supporting the signposting of participants to appropriate support services and providing lifestyle advice. In total, 9,725 referrals were made by sites to behaviour change interventions, including to smoking cessation services, cookery clubs and weight loss groups[3].

NHS 24/Lothian/Lanarkshire/Western Isles

As its site model differed significantly from other Phase 1 sites, NHS 24 site activity data is reported separately.

Unlike other sites, which focused on delivering a target of 10,000 blood pressure tests in community settings to individuals not already diagnosed with hypertension over the two-year funding period, the NHS 24 Lanarkshire/Lothian/ Western Isles project focused on widening access to home and mobile health monitoring (HMHM) to assist both diagnosis of hypertension and ongoing monitoring for patients who already have diagnosed hypertension.

Activity data shows that the site achieved and exceeded its targets, achieving:

- 162% of its target for GP practice recruitment (81/50); and
- 139% of its target for citizen recruitment to HMHM (4,162/3,000).

Lessons learned

Supporting sustained behaviour change

The nature and duration of site models may support participants to have sustained behaviour change. For example:

- Site staff and stakeholders in Leeds suggested that the nature of their workplace testing strand, which involved dedicated one-to-one 30 minute consultations for participants, gave participants a greater opportunity to discuss the importance of blood pressure, related lifestyle factors which may

[2] https://www.gov.uk/government/publications/health-matters-combating-high-blood-pressure/health-matters-combating-high-blood-pressure

[3] Across all sites it was possible to refer people to more than one intervention, so referral figures do not represent the number of participants who have received a referral.

help to control their blood pressure, and signposting to appropriate support services based on their individual needs.

- This was based on comparison with their pharmacy testing strand, where testing was delivered in community pharmacies by pharmacy staff. Internal evaluation evidence suggests that 89% of participants in the workplace testing strand were signposted to at least one other service, compared to just 14% of participants in the pharmacy testing strand.

- However, it is important to also consider the potential capacity of these different approaches, with the workplace testing strand being more resource intensive than the pharmacy testing strand, and so not able to deliver testing and advice to as many people.

Reducing burden on general practice

Participant e-survey responses suggest that almost a third of participants (30%) would have had their blood pressure tested elsewhere had the Blood Pressure Award Programme service not been available. Of these, almost two thirds (62%) said they would have gone to a GP surgery for testing.

Scaling this up across all participants in all Phase 1 sites, these figures would represent a total of over 5,800 participants receiving blood pressure testing from the programme who would have otherwise attended their GP surgery[4].

Qualitative evidence regarding the impact of the programme on reducing the burden on general practice was mixed. Although site staff and stakeholders were confident that the programme had not increased the burden on general practice, they were unsure whether there had been a reduction as a result of programme activity.

Supporting increased hypertension detection

Whilst programme sites have experienced challenges accessing data relating to the formal diagnosis of hypertension following referral to general practice, there is a wide range of supplemental evidence which suggests that the programme has supported increased hypertension detection within sites.

Supporting diagnosis of hypertension outside of traditional primary care settings

In all Phase 1 sites, testing has been delivered at least in part in non-clinical settings, such as community centres, leisure centres and workplaces, by non-clinical staff, including volunteers, leisure services staff and VCS staff. This approach may be supporting the engagement of participants who would not otherwise have their blood pressure tested. These participants are then receiving,

[4] This calculation should be treated with caution, as it assumes that the responses to the participant e-survey (sample size of 308 across three sites) are representative of all participants across all Phase 1 sites. It also assumes that participants will not attend their GP surgery for blood pressure testing as well as receiving blood pressure testing from the programme.

where appropriate, referrals to ambulatory blood pressure monitoring (ABPM) services, home blood pressure monitoring (HBPM) services or their GP practices for further diagnostics.

As a result, there is strong evidence to suggest that the Blood Pressure Award Programme is supporting the diagnosis of hypertension outside of traditional primary care settings. Qualitative data suggests a number of characteristics of effective community outreach:

- Sites where delivery partners had previous experience of effective community outreach, such as Greenwich with their CACT delivery partner and Bradford with their HALE delivery partner, appear to have had greater success at delivering blood pressure testing in community settings. Site stakeholders in Haringey & Islington highlighted the differences between their delivery partners who did not have extensive experience of delivering community outreach, and delivery partners such as Tottenham Hotspur Foundation and One You Haringey, whose core activities are based around community outreach and this was reflected in the difference in numbers of tests delivered.

- Site stakeholders also highlighted the importance of having diverse delivery teams to engage a wide range of potential participants. For example, staff and stakeholders in Greenwich reported that the young male CACT staff, wearing Charlton Athletic branded clothing, were better able to engage male participants. In Bradford, HALE staff reported that ensuring the diversity of their delivery team reflected the diversity in age, ethnicity and background amongst the Bradford population, enabled them to engage with a broader range of participants.

Successful partnership working

Successful partnership working appears key to the ability of programme sites to deliver target levels of blood pressure testing, and that the strength of this partnership working is strongly linked to a number of factors:

- Existing working relationships between key partners prior to their involvement in the Blood Pressure Award Programme; and

- A cross-system commitment to addressing hypertension as a priority.

Community pharmacy as delivery partners

Community pharmacy settings have experienced challenges with delivery due to:

- Their location, with pharmacies in areas of high footfall or those linked to GP surgeries appearing more effective at delivering blood pressure testing.

- A reliance on individual knowledge and understanding, rather than adopting a systematised approach to delivering blood pressure testing.

- The nature of the community pharmacy workforce, often involving part-time and shift working patterns and high levels of staff turnover.

Based on this, future programmes intending to work with community pharmacy staff to deliver blood pressure testing or similar services should ensure that they consider:

- The training needs of staff;
- How staff turnover may impact the delivery of training; and
- The possibility of supporting pharmacies to systematise testing practices to embed them in their 'business as usual'.

  This may include e-learning opportunities, to reduce ongoing training costs, and increase flexibility of delivery.

Recommendations for future development

Based on the evidence presented in this evaluation report, Figure 2 presents a number of recommendations for the future development of the Blood Pressure Award Programme, as well as similar programmes in the future. We recognise that not all stakeholders are likely to agree with all recommendations. However, we hope that they will support the improvement and development of the programme in the future.

Figure 2: Recommendations

Recommendation	Evidence base	Report section(s)
For the Blood Pressure Award Programme		
Recommendation 1: Review the way in which the programme, and potential future programmes, collect input, activity, output, outcome and impact data through quarterly activity reports (QARs) to ensure consistency in reporting. This should also include working with sites collaboratively from the start to ensure reporting requirements are fully understood from the outset of projects, and that sufficient systems are in place to ensure data will be available. If not already doing so, the BHF should consider allocating resource to ensuring systems are in place to capture accurate, reliable and valid data.	QAR data appears to have been reported inconsistently in places, for example in terms of additional funding and non-financial inputs. Greater clarity regarding reporting requirements, alongside regular audits of QAR data returns, may address these challenges. Sites have also faced challenges in accessing data relating to outcomes for participants who are referred on to primary care for further testing, for example whether a formal diagnosis of hypertension has been made. Such data is important in enabling the programme to assess how effectively site models have been able to target those with undetected hypertension in the community. By outlining such reporting requirements at the outset of projects, challenges such as those faced by sites with arranging access to primary care data can be addressed early and collaboratively between the BHF and all grant recipients. There is evidence from Learning Network events that this process has been taking place and that Phase 2 sites are more confident in their ability to access this data as a result. In the case of the Blood Pressure Award Programme, engagement by sites with primary care partners early on in the development process, ensuring a shared understanding of the rationale for projects and related data requests, and providing regular updates regarding the nature of the	1.4.1, 2, 4.4

Recommendation	Evidence base	Report section(s)
	intervention and potential data collection requests, may all support increased access to primary care data. In addition, for future programmes the BHF may wish to consider providing sites with dedicated funding to ensure data monitoring systems are in place to support the demonstration of impact and that sites have sufficient resource to collate and return the appropriate data.	
Recommendation 2: Continue to use Learning Network events and the Yammer sharing platform to facilitate the sharing of resources between programme sites, and sharing of common challenges and potential solutions.	Site leads were clear that the Learning Network events and Yammer sharing platform established by the BHF had been beneficial for sharing resources between sites and discussing common challenges. In particular, recent events focused on particular common challenges and facilitating a solution-focused approach to addressing these were found to have been valuable. The BHF should consider emphasising the sharing of resources such as testing protocols, data capture templates and communication and engagement materials between sites, as site leads reported that these resources have the most cross-over between projects and the greatest potential for sharing examples of successful materials based on their use elsewhere.	2.6.1
Recommendation 3: Review programme output targets on a site-by-site basis, to take into account the variety of site models being used.	Apart from the NHS 24/Lothian/Lanarkshire/Western Isles site, projects were working towards a target of 10,000 blood pressure tests to be delivered over two years. Due to the differences in site delivery models, with some sites for example delivering testing through dedicated 30 minute one-to-one consultations,	2.5

Recommendation	Evidence base	Report section(s)
	and others using community events to deliver significantly shorter, opportunistic testing, the BHF may wish to consider reviewing programme output targets in light of the different intensity of intervention being delivered. This is particularly the case given changes to site delivery models, which may have resulted in a different delivery approach being taken to what was originally intended, e.g. in Leeds where testing in community pharmacies was not able to take place at the scale it was originally intended to. Site leads reported that, in cases where changes to project delivery models during the course of the programme, as mentioned above, made it unlikely that the site would achieve its original targets, revised targets may increase motivation amongst delivery partners.	
Recommendation 4: Consider expanding the aims of the programme to include an aim to improve awareness of hypertension and promote appropriate long-term preventative action amongst local populations.	As well as work to increase the detection and management of people with undiagnosed hypertension and increase accessibility to blood pressure testing in wider community settings, the evaluation has found that sites are delivering substantial level of awareness-raising information to participants who currently have normal blood pressure. This takes the form of information, advice and signposting to relevant behaviour change interventions such as exercise classes, health eating courses and smoking cessation services. This activity is likely to have a long-term preventative effect on the health of local populations (if behaviour changes are sustained). Expanding the aims of the programme to include this aim would formally recognise this aspect	1.2.2, 2.5.2

Recommendation	Evidence base	Report section(s)
	of sites' activity, and promote the potential benefits the programme may be having at a local population level.	
Recommendation 5: If not already in place, the programme should develop a communication plan and dissemination strategy for spreading the findings from the programme's evaluation.	This evaluation report highlights a number of positive findings, key successes, and useful learning for the future. Programme sites have provided time and information to the evaluation to enable this. Findings are likely to be of interest both to programme sites (across both Phase 1 and Phase 2), and also more widely as they are applicable both to the delivery of blood pressure testing, and the delivery of wider community-based testing initiatives.	2.2, 3.2, 4
For future programmes		
Recommendation 6: When considering applications for funding for similar programmes, sites should be encouraged to use a logic model approach to outline their proposed site model.	As mentioned above, sites were not always able to collect robust data in relation to their project's inputs, activities, outputs, outcomes and impacts. In addition, delivery models varied widely between sites, making it challenging to add to the evidence base on the detection of high blood pressure. This approach, outlining the proposed inputs, activities, outputs, outcomes and impacts for a potential intervention, ensures that: • There is a clear rationale for why suggested activities are taking place, and how they will contribute to outcomes and impacts • Required inputs, above and beyond core grant funding, can be identified • Funded projects are clearly linked to the overall outcomes and impacts of the wider programme	1.2.2, 1.2.3

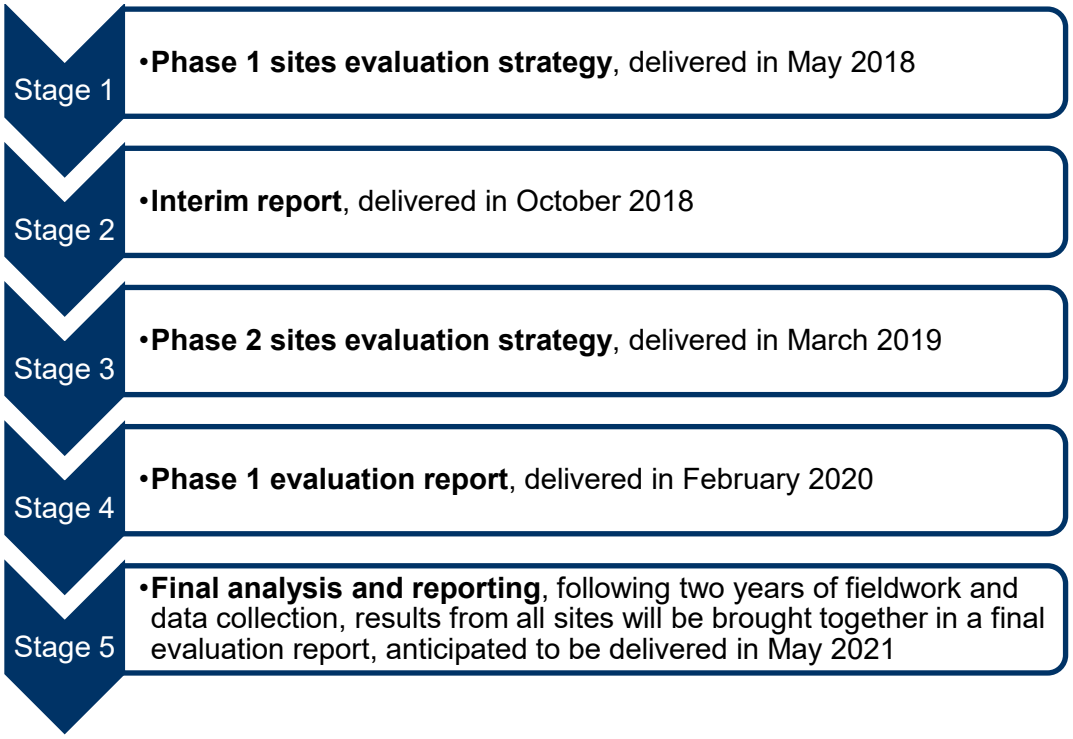
Recommendation	Evidence base	Report section(s)
	• Data collection processes can be put in place early on, linked to expected outputs, outcomes and impacts Such an approach will support the BHF to ensure all funded projects are clearly linked to the overall aims and objectives of the wider programme. This will also support the development of evidence regarding effective approaches to delivering specific aims and objectives.	
Recommendation 7: When developing future programmes which are likely to engage with community pharmacy partners to deliver interventions, ensure training and support is delivered with a focus on systematising delivery approaches to ensure the risk of knowledge being held by individuals is minimised. Such training should also consider findings from this evaluation that existing skills in relation to beginning conversations about health and wellbeing with members of the public had been overestimated, and ensure sufficient focus is given to developing these skills where appropriate.	The evaluation found evidence that those community pharmacies which were most successful at delivering blood pressure testing over the course of the programme, were those where testing activity had been embedded in the everyday operation of the pharmacy, with training embedded in new staff inductions and delivering the intervention becoming part of 'business as usual'. By supporting community pharmacies to systematise approaches to delivering interventions in future programmes, this evidence can be built upon, leading to greater success and sustainability with delivering interventions. Linked to this, site stakeholders reported that the training needs of community pharmacy staff had been underestimated, in particular around skills in relation to beginning conversations about blood pressure testing. This should be taken into account when considering training needs for future programmes.	4.7

Recommendation	Evidence base	Report section(s)
Recommendation 8: When assessing potential sites for future programmes, consideration should be given to prioritising those sites with evidenced experience of delivering community outreach services, with strong working relationships between key partners, and a cross-system commitment to programme priorities.	The evaluation found evidence that those sites which have had the greatest success at delivering blood pressure testing in community settings are those where delivering partners had previous experience of delivering community outreach services, and as a result had structures in place to support delivery of blood pressure testing. In addition, the most successful sites demonstrated strong working relationships between key partners, including between commissioners and delivery partners, with evidence of having worked together effectively in the past. Successful sites also had a cross-system commitment to delivering the programme priorities regarding the detection and management of hypertension.	4.5, 4.6

1 Introduction and methodology

1.1 Introduction

The British Heart Foundation (BHF) has commissioned Cordis Bright and Cobic to conduct an independent evaluation of its Blood Pressure Award Programme. The evaluation is taking place across five stages:



This is the Phase 1 evaluation report, which presents a summary of Phase 1 site models, an assessment of their implementation, delivery and impact, and highlights key learning which can be used to inform Phase 2 of the Blood Pressure Award Programme, as well as future similar programmes and services.

1.2 About the BHF Blood Pressure Award Programme

1.2.1 Overview

This section provides an overview of the BHF Blood Pressure Award Programme, including a summary of the funded sites, and the programme's theory of change.

1.2.2 About the programme

The BHF Blood Pressure Award Programme provides funding to individual sites across the UK to develop, test and implement into practice approaches to detecting people with high blood pressure. The aims of the programme[5] are to:

- Increase the detection and management of people who have undiagnosed hypertension
- Increase accessibility to blood pressure testing in wider community settings
- Increase support for patient self-management and self-testing of blood pressure in the population to become routine practice
- Add to the evidence base on effective detection and management of high blood pressure and demonstrate the impact of the interventions through external evaluation

The programme has three key objectives, these are to:

- Develop and test innovative approaches to detecting people with high blood pressure, and ensure a pathway to facilitate medical and behaviour change support is in place
- Target areas of high social and health inequality, with high prevalence of cardiovascular disease (CVD) and higher than average CVD and premature mortality rates
- Disseminate best practice and promote widespread adoption of the models to increase the number of people tested and treated for high blood pressure

Sites could apply for funding of up to £100,000 across two years. There are also two phases of funding across two time periods as summarised below.

Phase 1 sites

Phase 1 awarded funding to a total of seven sites, and sites were launched from October 2017:

- Bradford
- Cheshire & Merseyside
- Haringey & Islington
- Lambeth

[5] Source: BHF Briefing Document: Blood Pressure Award Programme – Round 2

- Leeds
- Royal Borough of Greenwich
- NHS 24/Lothian/Lanarkshire/Western Isles (WI)

These sites are covered in this report. However, the Lambeth site has experienced a number of delays in establishing its testing activity, and testing activity only began in late 2019, i.e. over two years after funding was awarded. As a result, the Lambeth site's activity, outputs, outcomes and impacts will be explored alongside the Phase 2 sites in a final evaluation report in 2021. Lessons from implementation are included in this report based on discussions with the Lambeth site lead and steering group. From this point onwards, where reference is made to 'Phase 1 sites', this should be understood to mean the six Phase 1 sites, excluding the Lambeth site.

Details of the intended delivery models for each Phase 1 site, alongside logic models and evaluation frameworks for each site, are provided in the Phase 1 sites evaluation strategy.

Standalone case studies for each site have been produced in collaboration with site leads. These are provided in the appendix.

Phase 2 sites

During Phase 2, the BHF has awarded funding to eight sites. Phase 2 sites were launched from April 2019. These sites will be explored further in future evaluation outputs. The Phase 2 funded sites are:

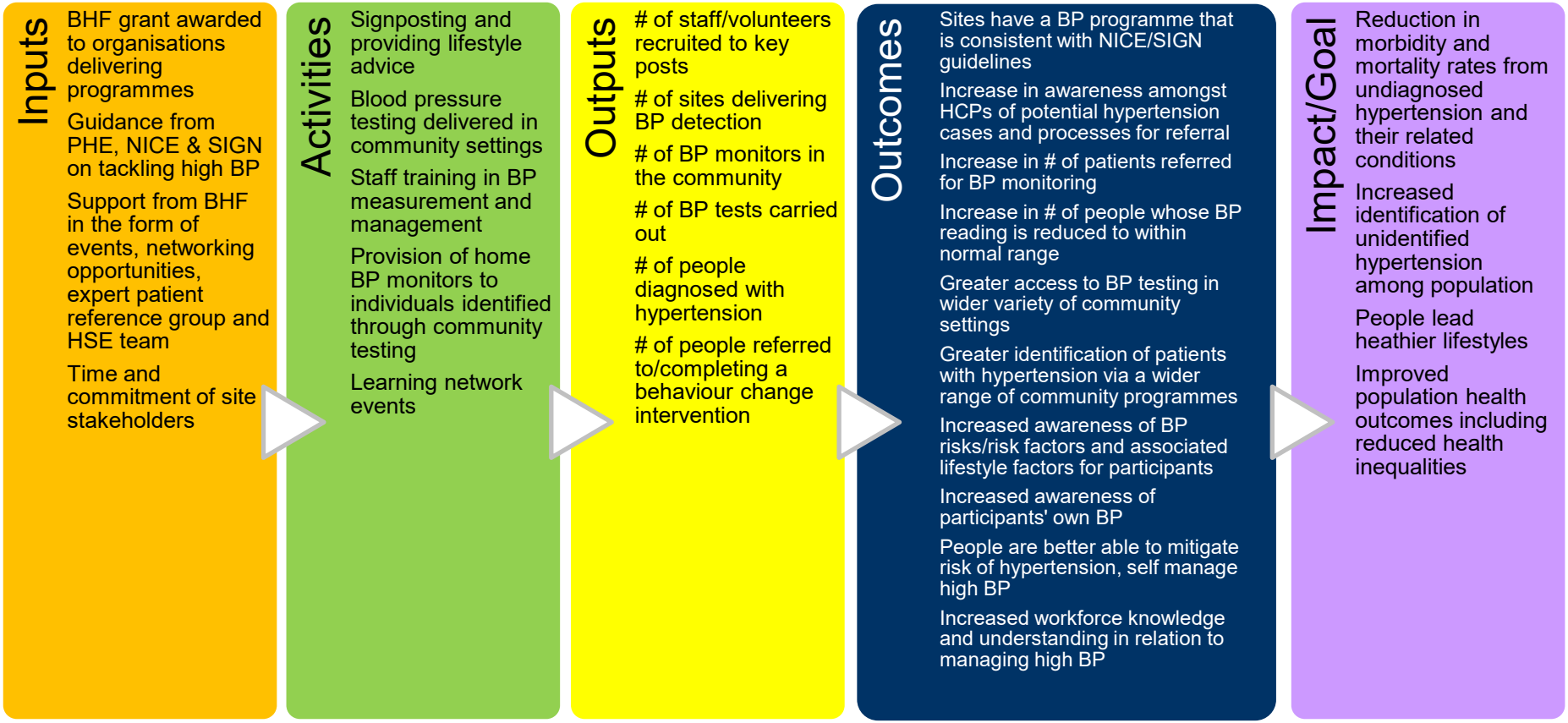
- Cheshire and Merseyside (this site was awarded funding for both Phase 1 and Phase 2)
- Hertfordshire and West Essex CCG
- East Riding of Yorkshire
- Gloucestershire
- Lancashire
- Newcastle Gateshead
- Northern Ireland's Old Library Trust
- Telford and Wrekin

1.2.3 Theory of change

The evaluation strategy produced a revised theory of change, summarised as a logic model, for the programme, shown in Figure 3. This was developed following

workshops with individual sites, and reflects outcomes which site stakeholders reported their projects to be intending to contribute towards.

Figure 3: Programme theory of change



1.3 About the evaluation

The evaluation focuses on both the process of implementation of the programme and its impact on outcomes, and addresses the following evaluation questions outlined in the evaluation specification, which closely relate to the overall aims of the Blood Pressure Award Programme:

- Which model(s) work best to support diagnosis of hypertension outside of traditional primary care settings?
- Which pathways are the most effective in reducing the burden on primary care?
- What are the key drivers and system levers which support successful multi-partnership working to ensure the success of the projects?
- What are the key lessons that have been learnt (including for processes such as setting up the project, project management or for the partnership) and what are the recommendations for the future?
- What barriers and challenges were encountered and how can these be avoided/overcome?

Please note, the cost-benefit/return on investment of interventions is not explored at this stage of the evaluation. This will form part of the final evaluation report.

1.4 Methodology

This evaluation report draws together evidence gathered using the following methods. It builds on the collaboratively produced logic models and evaluation plans developed with sites and the BHF.

1.4.1 Analysis of BHF quarterly activity reports (QAR)

Sites are required to provide quarterly data returns to the BHF, and these have been provided to us for analysis as part of the evaluation. In total, QARs were received for Phase 1 sites covering the following periods:

- Quarter 3 2017/18 (October to December 2017)
- Quarter 4 2017/18 (January to March 2018)
- Quarter 1 2018/19 (April to June 2018)
- Quarter 2 2018/19 (July to September 2018)
- Quarter 3 2018/19 (October to December 2018)
- Quarter 4 2018/19 (January to March 2019)

- Quarter 1 2019/20 (April to June 2019)
- Quarter 2 2019/20 (July 2019 to September 2019)

QARs capture data relating to the inputs, activities and outputs of sites.

1.4.2 Analysis of additional performance monitoring data collected by sites

In addition to the QARs, sites provided a range of additional performance monitoring data directly to us, as agreed in the evaluation strategy.

Due to delays with implementation, a number of Phase 1 sites had not completed their two years of funded testing activity by the beginning of December 2019, at which point data were required for analysis to meet reporting timescales. As a result, in places the data presented do not reflect the full testing activity across the entire funded period for a site. Where this is the case, we have highlighted it in the report.

1.4.3 E-survey of site stakeholders

From July to August 2019 we surveyed key stakeholders across the Phase 1 Blood Pressure Award Programme sites, to explore their views in relation to the activities, outputs, and outcomes of the programme to date. This is a repeat of the survey run in July and August 2018, in order to measure changes in stakeholder views over time. We are also using the survey with Phase 2 site stakeholders at two points in time to enable comparison across Phase 1 and Phase 2 sites. This will be included in the final evaluation report, to be delivered in 2021.

The survey questions were designed and agreed with BHF and site stakeholders before use. A link was then distributed to site leads to be cascaded to site stakeholders via email, and site leads were supported to send several reminders over the period for which the survey was live. The survey questions are linked to the overall programme theory of change (see section 1.2.3), and explore the implementation of site projects, and stakeholders' views of the outcomes and impacts achieved by the projects.

The interim evaluation report, delivered in October 2018, presented an analysis of the Time 1 survey responses. This report presents an analysis of both the Time 1 (T1) and Time 2 (T2) survey responses, exploring how responses have changed over the course of Phase 1, and where possible comparing responses between Phase 1 sites.

When analysing the findings of the e-survey, it is important to consider the following:

- The NHS 24 site did not participate in the e-survey. It was agreed with site and BHF colleagues that an e-survey approach would not be appropriate for this site due to a combination of information governance restrictions and the unique model being used by the site.

- Response rates between sites varied at both T1 and T2. Figure 4 below summarises site response rates and shows that at both T1 and T2 some sites were under-represented in the survey sample. As a result, it has not always been possible to compare results between sites, and the views of respondents may not necessarily be representative of all stakeholders in a site.

Figure 4: Which BHF Blood Pressure Award Programme site are you associated with?

Survey respondents by site	T1		T2	
	#[6] of respondents	% of total respondents[7]	# of respondents	% of total respondents[7]
Royal Borough of Greenwich	3	2%	48	40%
Cheshire & Merseyside	103	72%	38	32%
Haringey & Islington	11	8%	14	12%
Leeds	18	13%	13	11%
Bradford	9	6%	7	6%
Total	**144**		**120**	

1.4.4 E-survey of participants in blood pressure testing

When developing the evaluation strategy, the possibility of delivering a participant e-survey to all those who have received blood pressure testing as part of the programme was explored with sites.

Colleagues in the Bradford, Greenwich, and Haringey & Islington sites were able to implement this participant e-survey approach. This involved sites distributing a link to an e-survey to all participants via email or text message, approximately three months after receiving a blood pressure test. The survey was designed and agreed in collaboration with BHF and site colleagues.

This approach was not possible in other sites for a variety of reasons. In the NHS 24 site, the different nature of their delivery model meant it was instead decided that evaluation resources would be used to capture qualitative feedback from project stakeholders through interviews and focus groups.

In Leeds, the site had established an internal participant survey approach as part of their internal evaluation, for which we supported the development of questions.

[6] # = number

[7] Percentages do not necessarily total 100% due to rounding.

In the Cheshire & Merseyside site, a participant e-survey approach has been designed and agreed. However, at the time of analysis, only three responses had been received due to challenges with disseminating the survey by delivery partners. As a result of this low response rate, the Cheshire & Merseyside site has not been included in the analysis of participant e-survey responses. It is hoped that this can be rectified for the Phase 2 evaluation report in 2021.

308 survey responses were received in total: 163 from Bradford, 115 from Greenwich, and 30 from Haringey & Islington. Demographic details of respondents to the participant survey, including how samples compare with the characteristics of those tested by sites, and site populations more widely, can be found in Appendix 7.3.

1.4.5 Site visits and interviews with site leads

Across September, October and November 2019, the evaluation team visited sites to observe testing activity, and interview a range of site stakeholders, including delivery partners, project managers and site leads.

These interviews were conducted using a topic guide agreed in collaboration with BHF colleagues. As well as informing the findings presented within this evaluation report, the site visits formed the basis of the site case studies which have been developed and are provided as an appendix to this document.

As mentioned above, it was agreed that the methodological approach for the NHS 24 site would differ from others due to the different nature of its delivery model. As a result, in place of a site visit, we instead conducted a focus group with 13 stakeholders from GP practices, leisure services, VCS representatives, Telehealth Assistants, NHS 24 and the BHF. Telephone interviews were also conducted with six GP practice staff members, and four project leads.

1.4.6 Learning Network events

The BHF have hosted Learning Network events attended by all sites on a six-monthly basis since the beginning of the programme. The evaluation team has attended these events, including presenting and sense-testing the evaluation strategy and findings from the interim evaluation report. Findings from discussions at these events have informed this report.

1.4.7 Consort diagrams

We have worked with BHF colleagues to develop a consistent approach to displaying sites' participant pathways, resulting in the development of the consort diagrams presented in this report. Consort diagrams depict the flow of patients/participants/service users through the phases of an intervention. These diagrams also present data, where available, relating to project activity.

1.5 Challenges and limitations

There are a number of challenges and limitations for the evaluation which should be taken into account when considering the findings presented in this evaluation report:

- **Comparing different approaches between sites:** Each site is based on a unique delivery model. Whilst there are similar characteristics shared across sites, due to the differences between delivery models it is not possible to draw direct comparisons between sites.

- **Comparing different intended outcomes between sites:** Linked to the above challenge, as demonstrated by the site logic models produced in the evaluation strategy, each site was working towards a different set of intended outcomes. Whilst there are outcomes which are common between sites, this presents a challenge to evaluation design. As a result, where possible the evaluation has sought to assess progress against the outcomes and indicators defined in the overall programme theory of change (see section 1.2.3).

- **Attribution:** Without a randomised control trial or similar quasi-experimental design it is a challenge to demonstrate and attribute outcomes and impacts to the programme and its constituent elements. Also, it is likely that there will be a number of other projects, programmes and initiatives taking place at local, regional and national levels, which will be seeking to have some of the same outcomes and impacts as the Blood Pressure Award Programme sites. The mixed methods approach taken by this evaluation seeks to address this by enabling triangulation of findings to make assessments regarding the likely impact of the programme.

- **Site monitoring data:** The availability of monitoring data at an individual site level has varied, with some sites experiencing challenges with data collection due to information governance restrictions, particularly in relation to accessing data from primary care. As a result, some sources of monitoring data outlined in the evaluation strategy have not been available for this evaluation report.

1.6 Structure of this report

This report is structured as follows:

- **Section 2** presents a summary of the implementation and delivery of the programme

- **Section 3** explores the progress made by the programme in relation to its intended outcomes and impacts

- **Section 4** highlights the lessons learned from Phase 1 of the programme

- **Section 5** summarises the sustainability and future plans for Phase 1 sites

- **Section 6** provides recommendations for future development

- **Section 7** contains appendices to the report

2 Process and delivery

2.1 Overview

This section draws together QAR and additional site monitoring data, along with the findings from the stakeholder e-survey and qualitative evidence from site visits and interviews with site leads. It provides a summary of the progress of Phase 1 sites in terms of their inputs, activities and outputs.

2.2 Key messages

The following figures refer to activities and outputs across all sites up to September 2019, except NHS 24's figures which run until December 2019.

Delivery of blood pressure testing

- The programme has delivered 31,529 blood pressure checks across the Bradford, Cheshire & Merseyside, Greenwich, Haringey & Islington and Leeds sites (NHS 24 data is reported separately).
- Data shows that only around 1% of blood pressure tests resulted in an official diagnosis of hypertension, this figure is likely to be an underestimate as, due to challenges with data extraction, a number of sites were unable to provide complete data regarding the outcome of referrals to primary care
- In addition, 620 blood pressure monitors have been purchased by sites to facilitate the delivery of blood pressure tests. Several sites also reported anecdotal evidence of participants going on to purchase their own blood pressure monitor for use at home. Combined with the blood pressure awareness information provided to participants by sites, this is likely to support participants to be better aware of their blood pressure in future
- Consultation with participants suggests that participation in the blood pressure testing being delivered by the programme has been driven by the convenience and ease of access of testing.
- 24% of participants who responded to the e-survey had high blood pressure and 1% had very high blood pressure. This is remarkably similar to the national prevalence of hypertension of around 1 in 4 adults in England[8]. This suggests the programme has not been overly servicing the 'worried well'. However, it also suggests that the programme is engaging with a sample representative of the general population, rather than 'at-risk' populations, as if the programme was effectively engaged with 'at-risk' populations the rate of

[8] https://www.gov.uk/government/publications/health-matters-combating-high-blood-pressure/health-matters-combating-high-blood-pressure

high blood pressure observed could be expected to be greater than that observed in the general population..

Signposting and provision of lifestyle advice

- The programme has been successful at signposting participants to behaviour change interventions and providing lifestyle advice. This is demonstrated by the number of referrals which shows that in total, 9,725 referrals were made by sites to behaviour change interventions, including to smoking cessation services, cookery clubs and weight loss groups[9].

NHS 24/Lothian/Lanarkshire/Western Isles

As its site model differed significantly from other Phase 1 sites, NHS 24 site activity data is reported separately.

- Unlike other sites, which focused on delivering a target of 10,000 blood pressure tests in community settings to individuals not already diagnosed with hypertension over the two-year funding period, the NHS 24 Lanarkshire/ Lothian/Western Isles project focused on widening access to home and mobile health monitoring (HMHM) to assist both diagnosis of hypertension and ongoing monitoring for patients who already have diagnosed hypertension.

- Activity data shows that the site achieved and exceeded its targets, achieving:

  - 162% of its target for GP practice recruitment (81/50); and
  - 139% of its target for citizen recruitment to HMHM (4,162/3,000).

2.3 Programme inputs

This section summarises the inputs into the BHF Blood Pressure Award Programme. The data are drawn from sites' original applications to the BHF and QARs. Together, these data highlight the differing funding contexts in which each site operates.

When considering the programme's inputs, it is also important to recognise that the success of each project often relied heavily on staff goodwill, especially in terms of time contribution. The scale of this type of 'benefit in kind' is difficult to track and therefore it is unlikely that all sites recorded it consistently and in full. As such, this analysis should be interpreted with the understanding that some input figures are likely to be based on incomplete data and therefore will be conservative or under-estimations.

[9] Across all sites it was possible to refer people to more than one intervention, so referral figures do not represent the number of participants who have received a referral.

2.3.1 BHF Blood Pressure Award Programme funding

Each site applied for funding from the BHF Blood Pressure Award Programme to cover the predicted cost of equipment, staffing, and other expenses, including venues for blood pressure testing, staff training and marketing.

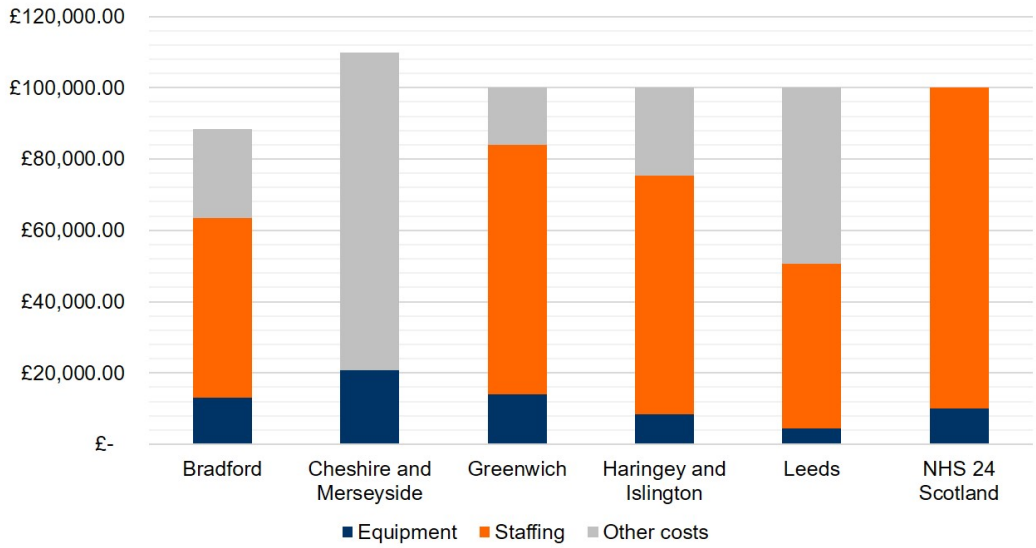
Figure 5 shows the amount of funding that each site applied for. Figure 5 shows that most sites applied for £100,000, except Bradford (£88,400) and Cheshire & Merseyside (£109,812). Sites also tended to front-load their funding in order to cover initial set-up costs, such as blood pressure equipment and training.

Figure 5: Amount of Blood Pressure Innovation Award funding applied for and projected yearly spend by site

	Requested funding		
Site	**Year 1**	**Year 2**	**Total**
Bradford	£48,200	£40,200	£88,400
Cheshire & Merseyside	£59,956	£49,856	£109,812
Haringey & Islington	£60,400	£39,600	£100,000
Leeds	£54,200	£45,800	£100,000
Royal Borough of Greenwich	£50,000	£50,000	£100,000
NHS 24	£77,500	£22,500	£100,000
Total	**£350,256**	**£247,956**	**£598,212**

Although sites applied for broadly similar funding amounts from BHF, their planned allocation of these funds varied, as shown in Figure 6. This reflects the variation in site models, and emphasises the challenge in comparing activity and outcomes between sites, given the differences in inputs and approaches.

Figure 6: Amount of Blood Pressure Award funding allocated to equipment, staffing and other costs (e.g. venues, training and promotional materials) by each site



Source: QAR data

2.3.2 Additional funding and non-financial inputs

BHF encouraged sites to secure additional funding for the project, although this was not a requirement of their application. Half of the sites reported plans to secure additional funding, which amounted to a total of £314,000 (see Figure 7).

Figure 7: Additional funding secured or planned to be secured by each site at the time of their BHF award application

Site	Plan to secure additional funding?	Source
Bradford	No	-
Cheshire & Merseyside	£12,500	System partners (not secured at time of application)
Haringey & Islington	No	-
Leeds	No	-
Royal Borough of Greenwich	£71,500	Health Foundation
	£60,000	Community Education Provider Network (CEPN)
	£70,000	Department for Communities and Local Government (not secured at time of application)
NHS 24	£100,000	Scottish Government – National Technology Enabled Care (TEC) Fund
Total	**£314,000**	**-**

QAR data showed that

- The BHF provided a total of £38,550[10] in additional funding for Phase 1 site activities
- Phase 1 sites received a total of £359,562 in additional funding from other sources, including the Health Innovation Network (Greenwich), local Public Health departments (Cheshire & Merseyside), and the Local Government Association (Haringey & Islington)
- Sites received benefits in kind with a total estimated monetary value of £33,475, including staff time and blood pressure monitoring equipment. However, it is likely that this is a conservative estimate, as site leads in all sites reported significant amounts of staff time had been provided in-kind to projects, and QAR returns were completed inconsistently across sites.

This means that, on average, for every £1 awarded to sites from the BHF, sites received at least 66p from other sources, either in the form of monetary funding or benefits in kind. This includes 60p in additional funding from external sources, and at least 6p in benefits in kind (although this is likely to be a conservative estimate).

Each site also needed to consider how to cover costs outside of the scope of the BHF Blood Pressure Innovation Award, including travel, meeting costs, etc. The sites' plans at the time of their applications were as follows:

- **Bradford, Cheshire & Merseyside, Greenwich and NHS 24** reported plans to rely on existing resources and systems to cover the costs of these elements.
- **Leeds** reported commitments from Leeds City Council and Leeds CCG to ensure that any additional costs were met as part of project delivery, along with staff time within Leeds City Council performed in kind.
- **Haringey & Islington** also reported plans to incorporate staff time from their local authority as well as venue hire from stakeholders, both provided in kind.

Site leads from all Phase 1 sites were clear that time provided in-kind from a wide range of organisations has been crucial to the implementation and delivery of Blood Pressure Award Programme projects, including programme management, internal performance monitoring, communications and engagement, project steering groups, and clinical input.

[10] This total excludes the figure of £100,000 reported by Greenwich and £107,914 reported by Cheshire and Merseyside as they closely correspond with these sites' BHF grant amounts, so we assumed that they were erroneously included as additional funding.

NHS 24 Funding Context

The BHF Blood Pressure Award grant for NHS 24 Lothian/Lanarkshire/ Western Isles funded a 'scaling up' of existing remote blood pressure monitoring pathways, through the promotion and integrated use of a telehealth solution which was already in place. As such, although this report focuses on NHS 24 figures and project plans related to the BHF Blood Pressure Award Programme grant, it should be noted that these sit within a broader project context of the Scottish Government's Technology Enabled Care (TEC) programme. The TEC programme was a £30 million project running over three years, of which managing hypertension through increased home and mobile health monitoring (HMHM) is only one strand.

2.4 Site delivery models

When applying for funding from the Blood Pressure Award Programme, sites were expected to detail a delivery model for detecting high blood pressure in their area, with a target of 10,000 blood pressure tests to be delivered over the two-year funded period. Sites are expected to demonstrate commitment to developing delivery models which are consistent with national guidelines (e.g. NICE/SIGN). These guidelines are explored in the hypertension rapid evidence assessment provided alongside the evaluation strategy.

Figure 8 below draws out the common characteristics between the models for the seven Phase 1 sites. This shows that across Phase 1, sites are commonly intending to deliver opportunistic blood pressure testing in community settings, provide blood pressure management and lifestyle advice to participants, and train staff to be able to support this. Site models differ in the partners with whom they will be working to deliver testing, split between either voluntary and community sector (VCS) partners and/or local pharmacies.

Figure 8: Characteristics of site models

Sites → Characteristics ↓	Bradford	Cheshire & Merseyside	Haringey & Islington	Leeds	Royal Borough of Greenwich	NHS 24/ Lothian/ Lanarkshire/ WI[11]
Funding to provide new BP monitors	✓	✓	✓	✓	✓	✓
Delivering opportunistic BP testing in community settings	✓	✓	✓	✓	✓	✓

[11] Due to the multi-site nature of the NHS 24/Lothian/Lanarkshire/WI site, some characteristics may not be applicable in all areas (Lothian, Lanarkshire and Western Isles).

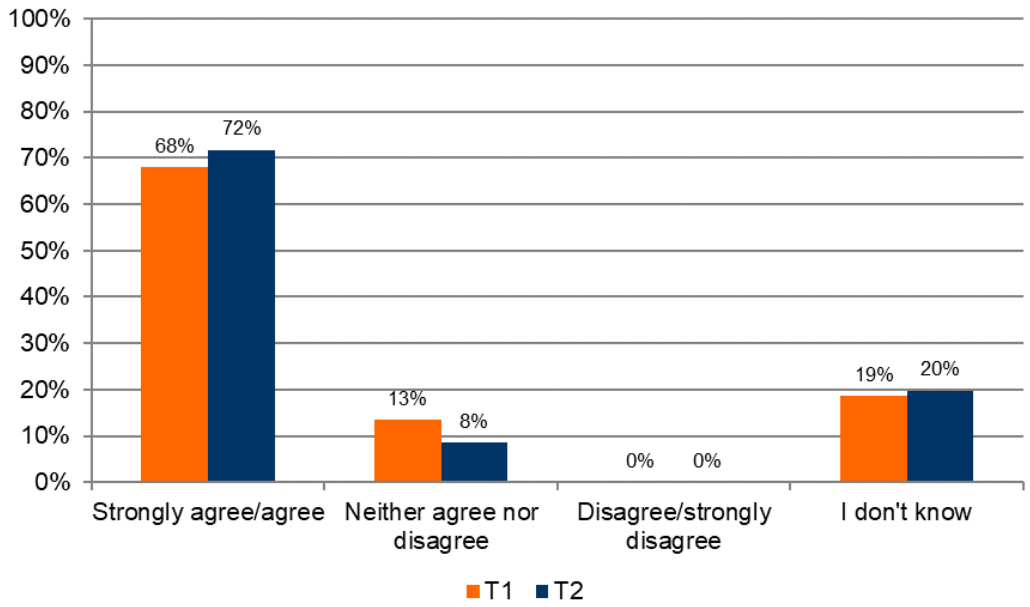
Sites ➔ Characteristics ➘	Bradford	Cheshire & Merseyside	Haringey & Islington	Leeds	Royal Borough of Greenwich	NHS 24/ Lothian/ Lanarkshire/ WI[11]
Working with VCS partners to deliver BP testing	✓		✓		✓	✓
Working with local pharmacies to deliver BP testing		✓		✓	✓	
Providing BP management and lifestyle advice to participants	✓	✓	✓	✓	✓	✓
Training staff to deliver BP testing and provide lifestyle advice	✓	✓	✓	✓	✓	✓
Supporting general practice to deliver remote BP monitoring						✓

Details of individual site delivery models are provided in the site case studies (see appendix), and summarised in the consort diagrams provided in section 2.4.1.

Figure 9 shows that the majority (72%) of stakeholders at time 2 (between July and August 2019) agreed or strongly agreed that their local area has a blood pressure programme that is consistent with NICE/SIGN guidelines as a result of the Blood Pressure Award Programme. Observation of site delivery and reviewing site documentation also suggests that sites are delivering blood pressure testing in line with NICE/SIGN guidelines, with thresholds for high blood pressure readings consistent with guidance (140/90).

This finding suggests that aligning local blood pressure pathways with NICE/SIGN guidelines continued to be an achievement for site projects.

Figure 9: As a result of the BHF funded Blood Pressure Award Programme initiative, my local area has a blood pressure programme that is consistent with NICE/SIGN guidelines (T1, n=134; T2, n=106)



Source: stakeholder e-survey

2.4.1 Consort diagrams

Each site employed a different logic model to work towards achieving their intended outcomes, which were developed by the evaluation team in collaboration with site stakeholders at the beginning of projects. The following consort diagrams were developed using the sites' individual logic models; they map out each site's pathways for participants from blood pressure testing to diagnosis and other outcomes.

In the consort diagrams, arrows represent direction of movement through site pathways. Rounded-corner rectangles are participant outcomes or actions that form part of the site's project system. Those ringed in orange are groups of project-based activities which change a person's natural direction of travel as a result of taking part in the site's project, i.e. a person whose blood pressure is high being placed on a pre-diagnosis pathway or being referred to healthcare services. Finally, right-angle rectangles represent final participant outcomes, signifying the end of the site's project pathway.

Where available, data on the number of participants passing through the pathways are included on the diagrams. Unless otherwise stated, this data is as of the end of September 2019.

The consort diagrams are intended to provide an overview of site models by depicting pathways for participants. Further detail on site activities, outputs and outcomes are provided in sections 2 and 3.

Figure 10: Consort diagram for Bradford (launched in November 2017)

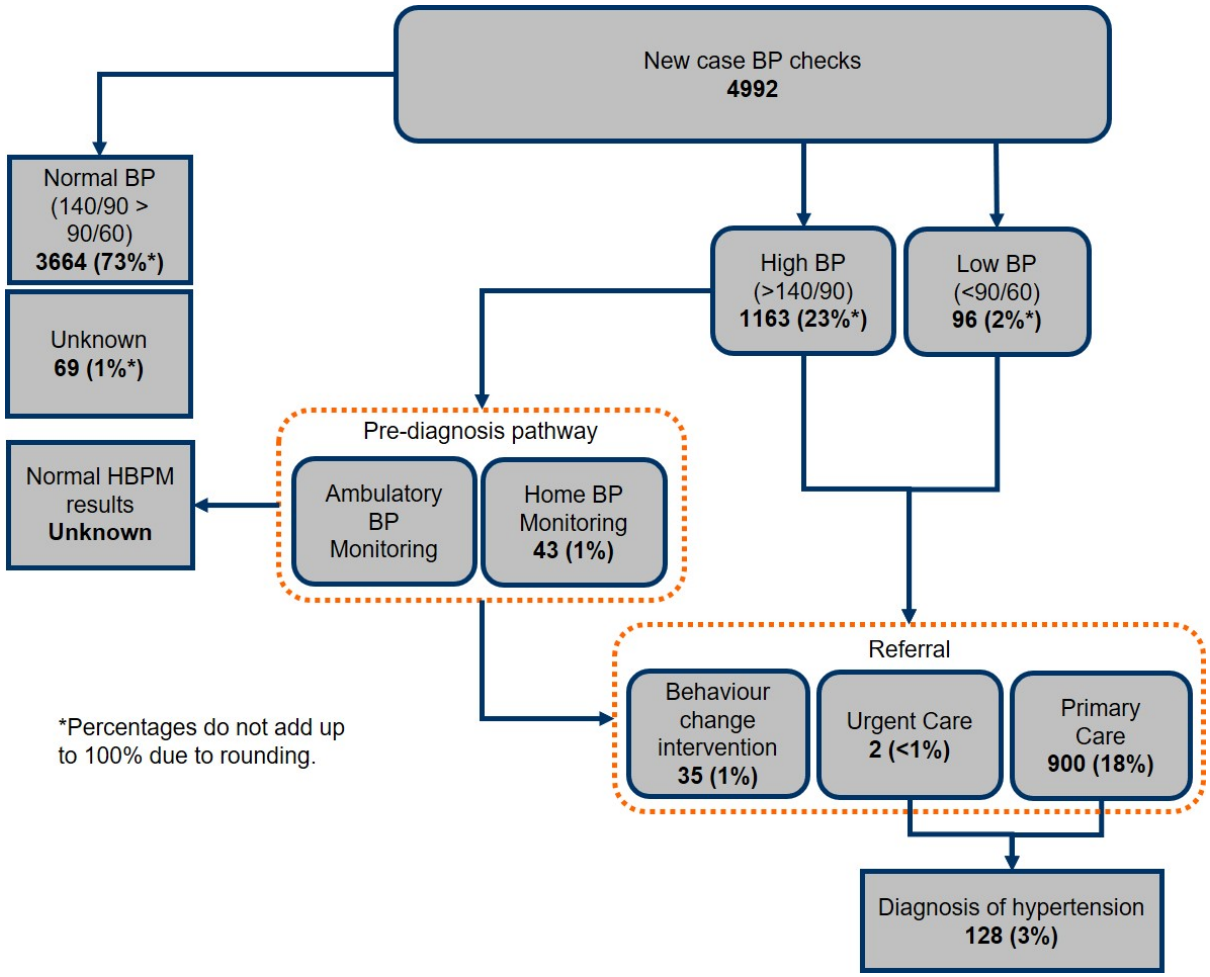


Figure 11: Consort diagram for Cheshire & Merseyside (launched in October 2017)

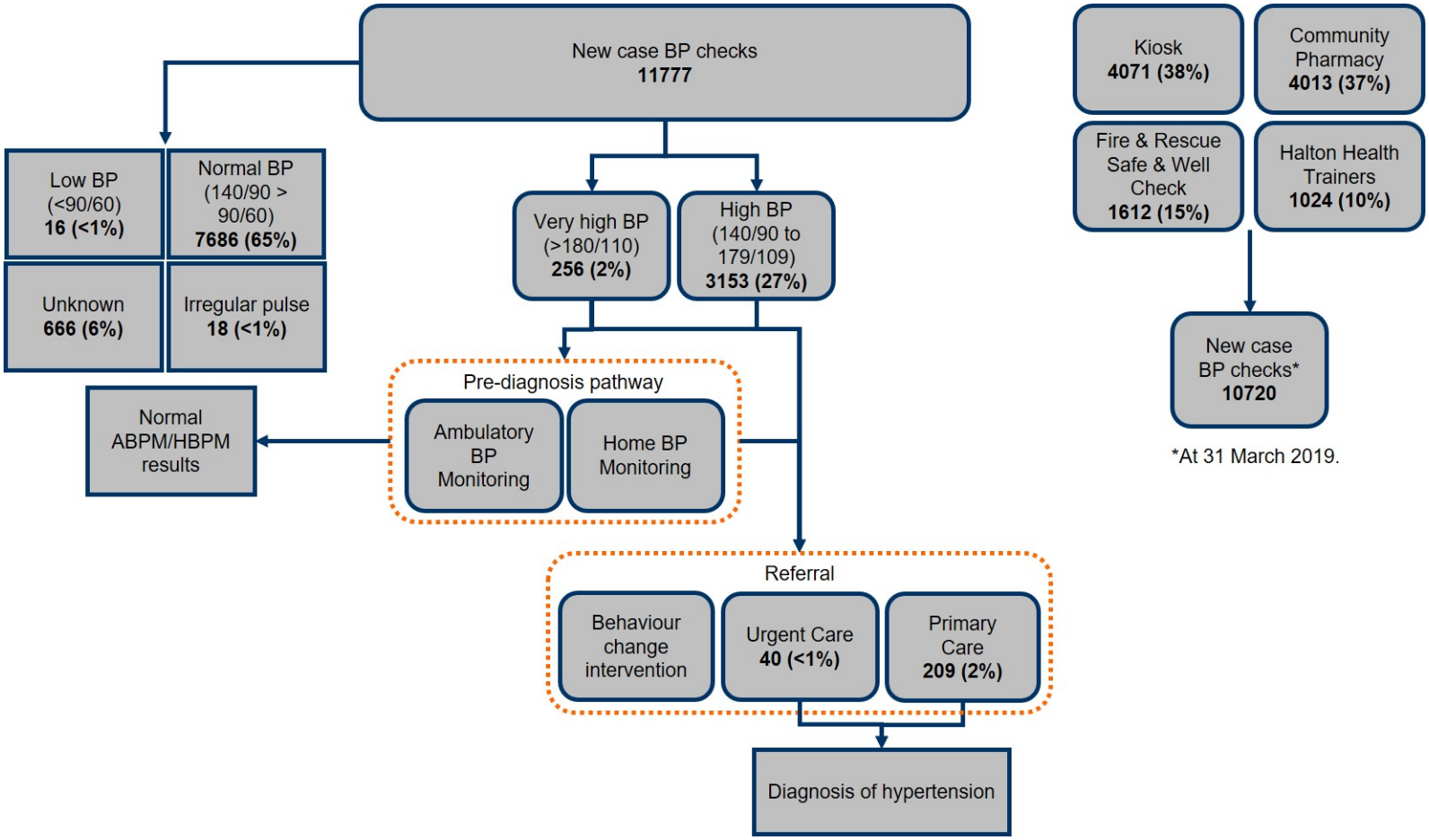


Figure 12: Consort diagram for the Royal Borough of Greenwich (launched in October 2017)

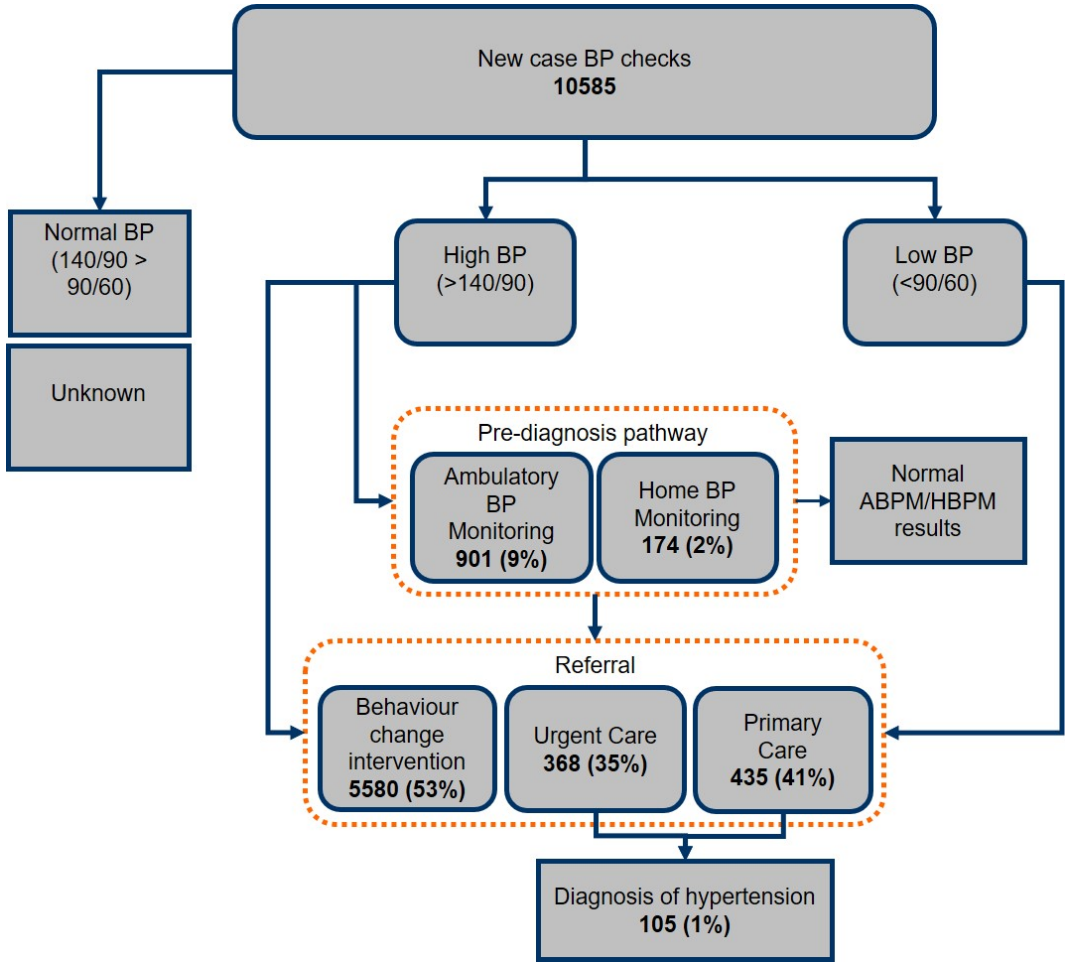


Figure 13: Consort diagram for Haringey & Islington (launched in February 2018)

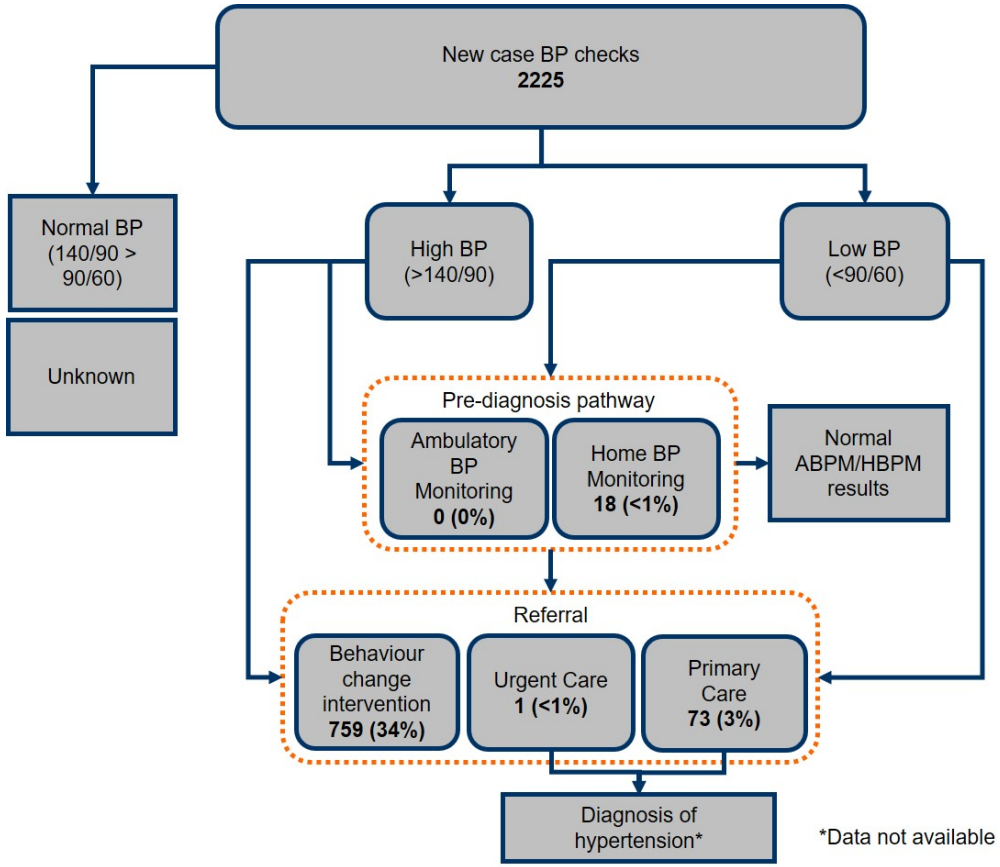


Figure 14: Consort diagram for Leeds (launched in February 2018)

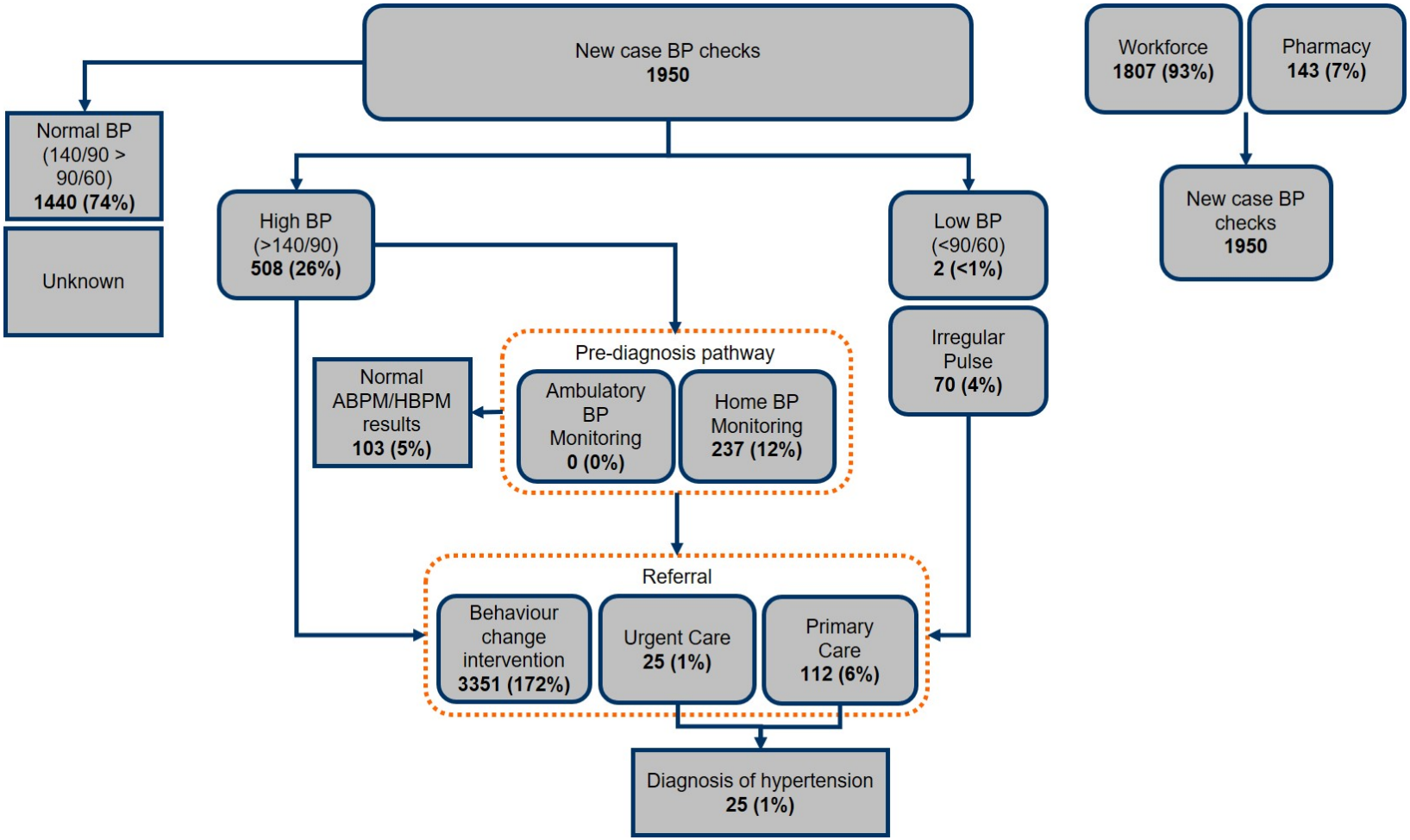
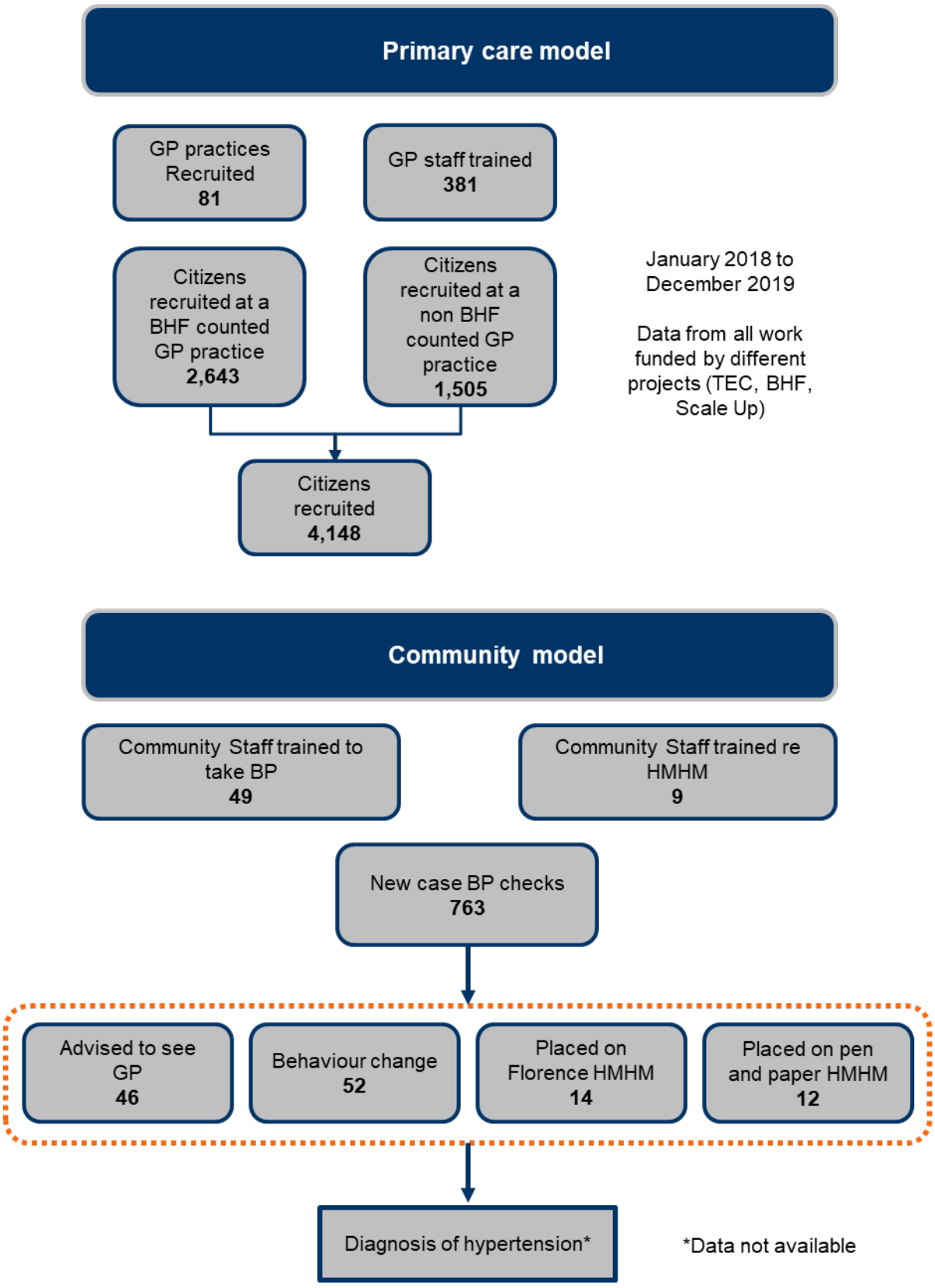


Figure 15: Consort diagram for NHS 24/Lothian/Lanarkshire/Western Isles (launched in January 2018)



2.5 Programme activity and outputs

This section draws from sites' QARs and monitoring data, which included key achievements such as number of blood pressure readings taken, and number and type of referrals made.

Although we compare figures in this analysis, it is important to note that project launch dates were different for different sites:

- Cheshire & Merseyside and Greenwich launched in October 2017
- Bradford started their recruitment process in October 2017 and started testing in November 2017
- NHS 24 launched in January 2018
- Haringey & Islington and Leeds launched in February 2018

Unless otherwise stated, all reported figures date from the site's project launch until September 2019 (the date of the most recent QAR return at the time of analysis), except NHS 24's figures which run until December 2019.

2.5.1 Delivery of blood pressure testing

Figure 16 summarises key BHF Blood Pressure Award Programme activity across Phase 1 sites, as reported by Bradford, Cheshire & Merseyside, Greenwich, Haringey & Islington and Leeds (NHS 24 data are reported separately).

It shows that 31,529 blood pressure tests led to 9,725 referrals to behaviour change interventions[12], while 1% (258 cases) resulted in an official diagnosis of hypertension. However, this figure is likely to be conservative, due to challenges with data extraction, a number of sites were unable to provide complete data regarding the outcome of referrals to primary care.

It is important to consider this data in the context of 'numbers needed to treat' evidence in relation to hypertension treatment (that is, the average number of people with confirmed hypertension that need to be treated to prevent one adverse outcome such as death, heart attack or stroke). An analysis of a range of studies of antihypertensive medicines suggest that on average, 125 patients need to be treated for five years to prevent a single death, 100 patients to prevent a single heart attack, and 67 patients to prevent a single stroke[13].

Based on these figures, assuming the 258 confirmed cases of hypertension identified by the Blood Pressure Award Programme go on to receive

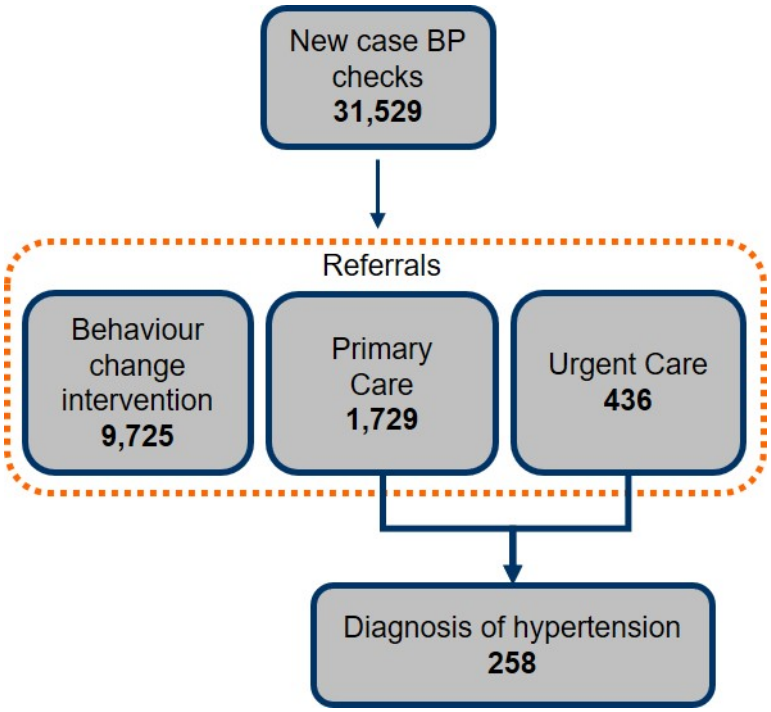
[12] Please note that people may have been referred to more than one intervention.

[13] Source: https://www.thennt.com/nnt/anti-hypertensives-to-prevent-death-heart-attacks-and-strokes/

antihypertensive treatment for a minimum of five years, the programme may have prevented at least two deaths, at least two heart attacks, and at least three strokes.

This highlights the potential scale of testing that may be required by the programme in order to achieve a notable impact on population-level health outcomes, such as CVD-related mortality rates.

Figure 16: Number of blood pressure tests, referrals and formal diagnoses of hypertension recorded across Bradford, Cheshire & Merseyside, Greenwich, Haringey & Islington and Leeds sites



This data shows that the BHF Blood Pressure Award Programme has supported the delivery of blood pressure testing in community settings and workplaces, with tests having been carried out across a total of 1,396 fixed and non-permanent sites, including libraries, council offices, shopping centres, universities, gyms, cafés and places of worship.

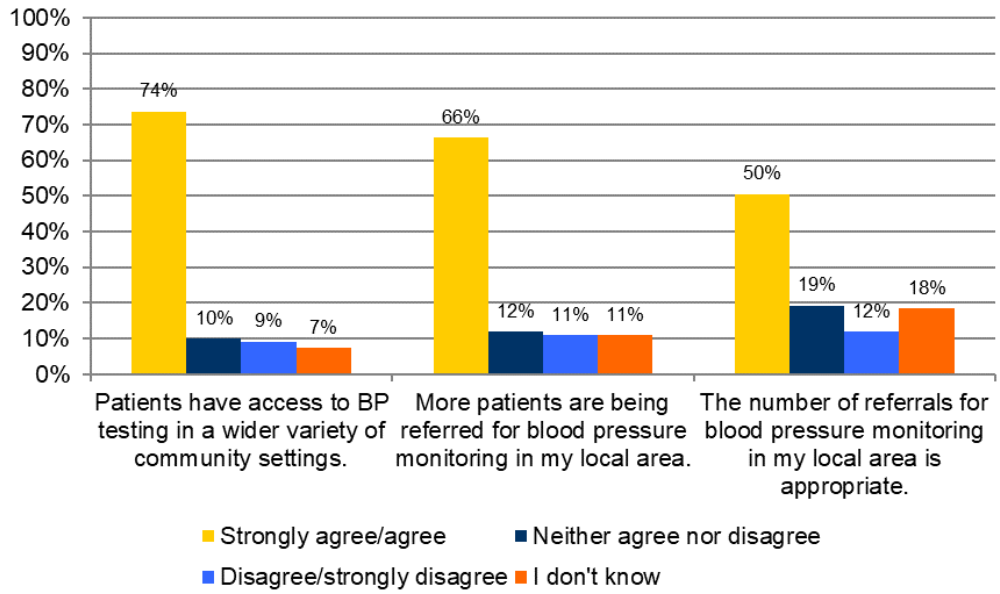
In addition, 620 blood pressure monitors have been purchased by sites to facilitate the delivery of blood pressure tests. Of these, 92% (573) were funded by BHF. Several sites also reported anecdotal evidence of participants going on to purchase their own blood pressure monitor for use at home. Combined with the blood pressure awareness information provided to participants by sites, this is likely to support participants to be better aware of their blood pressure in future.

Figure 17 shows that:

- 66% of stakeholders agreed or strongly agreed that as a result of the BHF funded Blood Pressure Award Programme more people are being referred for blood pressure monitoring in the local area and that as a result of the initiative, more people have access to blood pressure testing in a wider variety of community settings (74%)

- 50% of stakeholders reported that the Blood Pressure Award Programme is resulting in an appropriate level of referrals for blood pressure monitoring in their local area. However, this is an increase from 34% of stakeholders in the first iteration of the e-survey, indicating that appropriate numbers of referrals for blood pressure monitoring are improving (or perception of such is increasing)

Figure 17: As a result of the BHF funded Blood Pressure Award Programme initiative… (n=109-10)



Source: stakeholder e-survey

Figure 18 shows that:

- For the majority of outputs, stakeholders reported an increase as a result of the Blood Pressure Award Programme. This was most notable in terms of the number of blood pressure tests being carried out (with 75% of stakeholders reporting an increase at T2), and the number of sites delivering blood pressure tests (with 63% of stakeholders reporting an increase at T2).

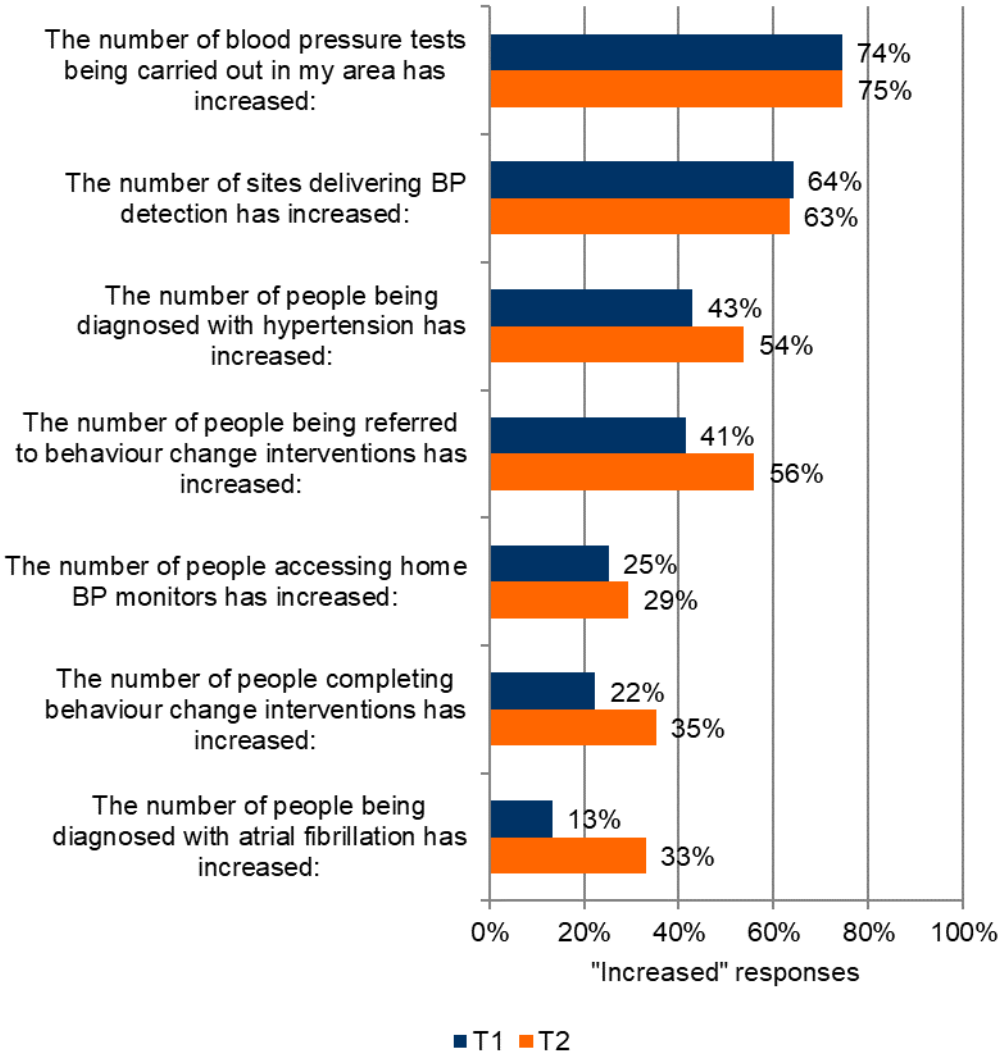
- This suggests that, for the most part, stakeholders agree that the programme's projects successfully delivered its core intended outputs over the course of Phase 1.

The T1 survey indicated that a large proportion of stakeholders were often unsure about the prevalence of programme activities in their local area. Respondents at T2 seemed to have a greater awareness of the programme activities taking place

in their local area. This could be due to factors such as the programme becoming further embedded in local areas in the year since T1, as well as the programme moving past initial implementation hurdles and allowing for greater clarity around its delivery of activities.

However, while levels of awareness around programme activities have increased since T1, they remain relatively low for certain outputs, with 59% of respondents not knowing what impact the programme had on the number of people being diagnosed with atrial fibrillation, and 59% of respondents not knowing what impact the programme had on the number of people accessing home BP monitors.

Figure 18: As a result of the BHF funded BP programme initiative… "Increased" responses (T1, n=133-5; T2, n=108-10)



Source: stakeholder e-survey

However, responses to this question vary greatly between sites:

- 83% of respondents in Bradford and 71% in Cheshire & Merseyside agreed or strongly agreed that staff have been successfully recruited to fill key posts.
- Only 31% of respondents in Haringey & Islington held the same view

This is consistent with challenges reported by site leads in Haringey & Islington regarding the recruitment and retention of volunteers, which caused delays to the project and further challenges regarding the need to deliver additional training due to volunteer turnover.

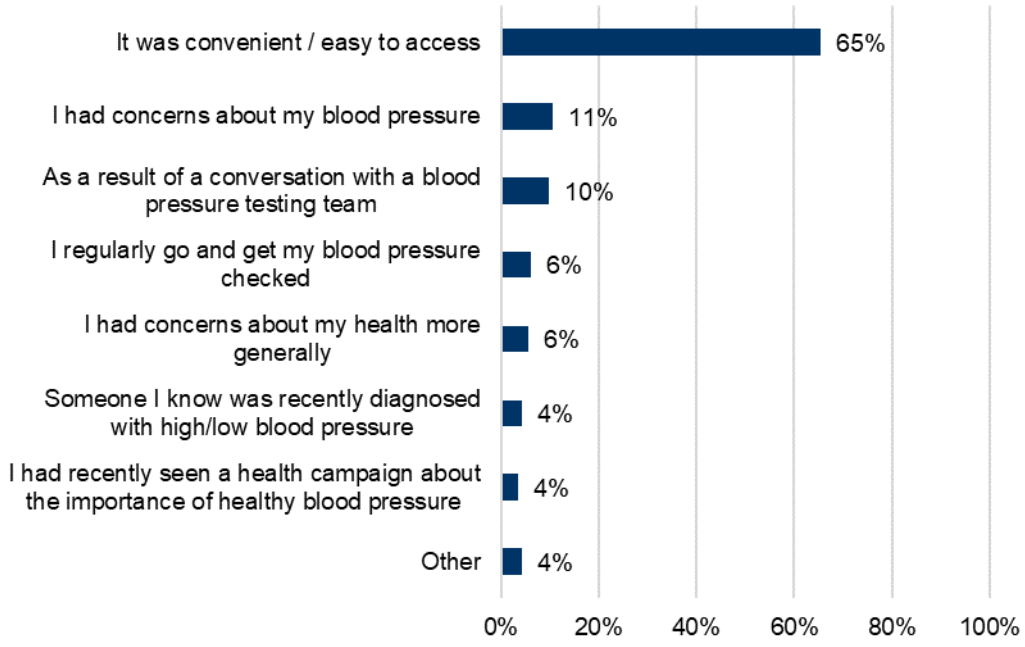
Reasons for being tested

Participants were asked, via the e-survey, why they chose to take a blood pressure test, with more than one answer per person being possible (Figure 19).

- 65% reported that they had the test because it was convenient and easy to access.
- 11% said they had concerns about their blood pressure.
- 10% said they had the test as a result of a conversation with a blood pressure testing team.

Reasons for taking a blood pressure test were notably similar across the three sites. The programme's convenience and accessibility appear to be an important way to engage those who do not normally have their blood pressure tested. This shows the importance of that programmes such as the Blood Pressure Award Programme which focus on providing people with convenient and easy access to services and interventions (in this case, blood pressure testing).

Figure 19: Why did you choose to take a blood pressure test on this occasion? Choose all that apply (n=304)



Source: participant e-survey

Results of blood pressure testing

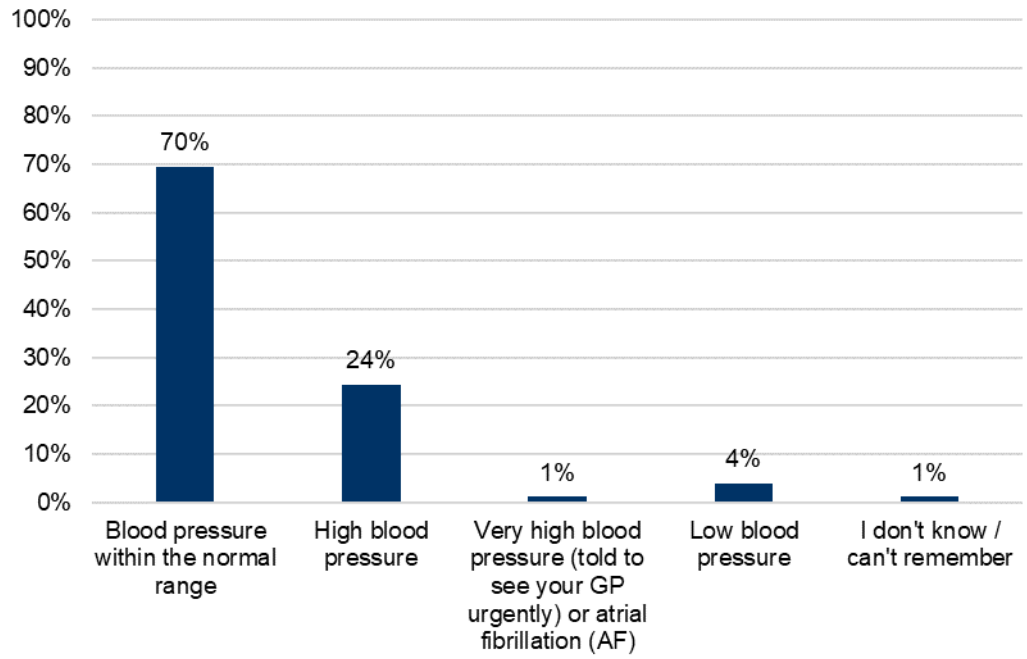
Figure 20 shows the results of participants' blood pressure tests, based on responses to the participant e-survey:

- 24% had high blood pressure and 1% had very high blood pressure. This is similar to the national prevalence of hypertension of around 1 in 4 adults in England[14].

This suggests the programme has not been overly servicing the 'worried well'. However, it also suggests that the programme is engaging with a sample representative of the general population, rather than 'at-risk' populations, as if the programme was effectively engaged with 'at-risk' populations the rate of high blood pressure observed could be expected to be greater than that observed in the general population.

[14] https://www.gov.uk/government/publications/health-matters-combating-high-blood-pressure/health-matters-combating-high-blood-pressure

Figure 20: What was the outcome of your blood pressure test? (n=276)



Source: participant e-survey

Onward referrals

Bradford and Greenwich had access to an Ambulatory Blood Pressure Monitoring service (ABPM) to which those with a potential diagnosis of hypertension could be referred. Bradford also had access to a Home Blood Pressure Monitoring service (HBPM) which participants could also be referred to.

- 5% of Greenwich participants and 4% of Bradford participants were referred for ABPM. 3% of Bradford participants received an HBPM.

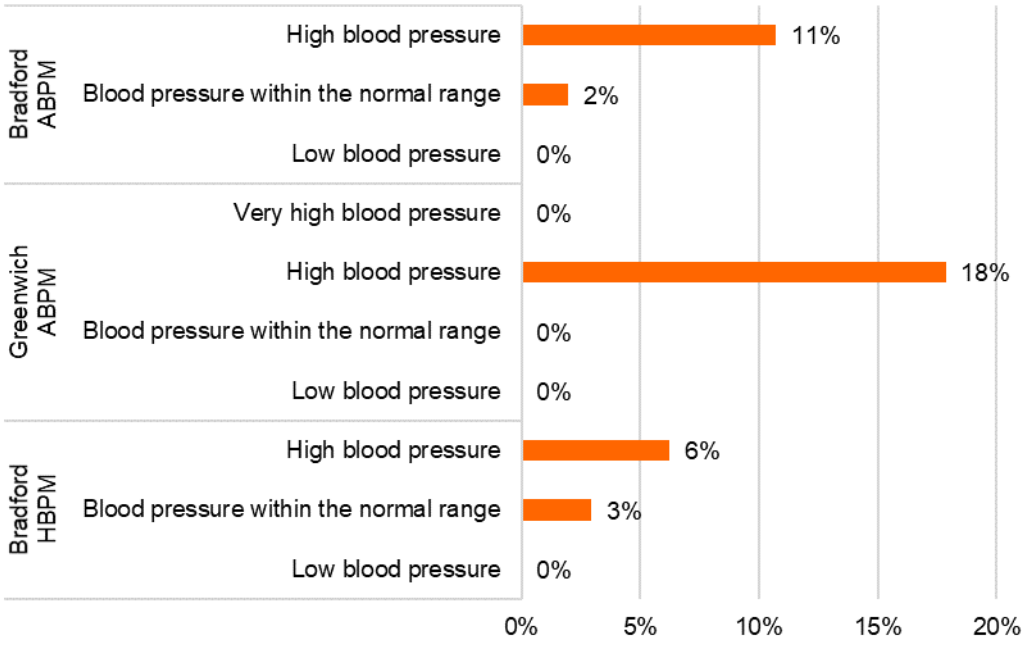
- This indicates that these sites are making use of this service to some extent. However, not all eligible participants are being referred, as approximately 25% of participants' initial tests resulted in a high blood pressure reading.

Figure 21 shows that only 18% of Greenwich participants with a high blood pressure reading and 11% of Bradford participants with a high blood pressure reading were referred to an ABPM. 6% of Bradford participants with a high blood pressure reading were given an HBPM. We can assume that the remainder of participants with high blood pressure readings were referred to primary care or GPs. However, data regarding whether these participants did subsequently attend for further testing is not available.

There is therefore evidence that the sites are passing on patients with an initial high blood pressure reading to GPs without additional assessment. Though not inappropriate, by identifying unmet need, this contributes to pressure on GP services.

In a small proportion (less than 20%) of cases, however, the sites are supporting GPs so that a diagnosis can be made based on evidence from further assessment (i.e. from ABPM or HBPM) when they do eventually see the patient.

Figure 21: After your blood pressure test, were you referred on to an Ambulatory Blood Pressure Monitoring (ABPM) service? (n=234) / Did you receive a Home Blood Pressure Monitor (HBPM)? (n=135)



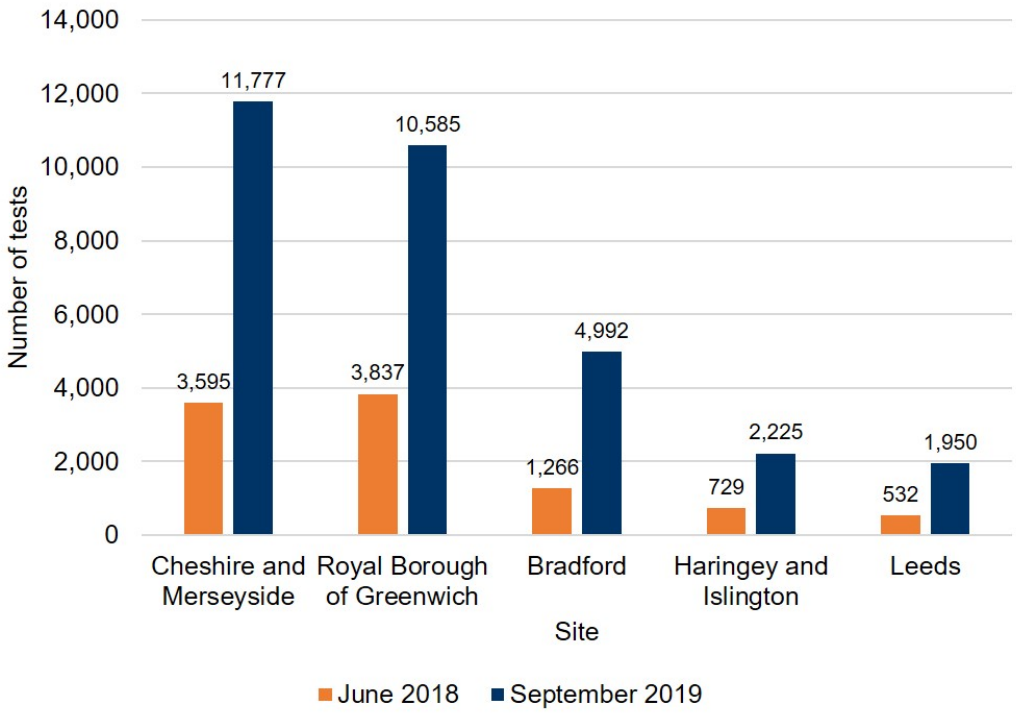
Source: participant e-survey

Site-level analysis

Figure 22 summarises the total number of blood pressure tests conducted by each site from the start of the programme. When interpreting this data, it may be helpful to consider the length of time each site had been operating, which is shown in Figure 23. Although the sites' start dates were all within five months of each other, their position in this timeline will have affected their ability to carry out tests.

Figure 22 shows that as of September 2019, two sites had reached the BHF Blood Pressure Award Programme target of 10,000 tests delivered per site (Cheshire & Merseyside and Greenwich).

Figure 22: Total number of blood pressure tests conducted by each site by June 2018 and September 2019



Source: participant e-survey

Figure 23: Number of months each site had been operating by June 2018 and September 2019

Site	Months operating by June 2018	Months operating by September 2019
Cheshire & Merseyside	8	24
Greenwich	8	24
Bradford	7	23
Haringey & Islington	5	21
Leeds	5	21

Figure 24 summarises the delivery of tests across each location, and the results of testing activity, according to the programme outputs listed in the theory of change.

It is important to note that not all sites used the same models, so their pathways differ. In Figure 24, cases where pathway options are not applicable are indicated with a dash. For example, not all sites tested for irregular pulses, or referred into ambulatory blood pressure monitoring (ABPM) or home blood pressure monitoring (HBPM).

Figure 24 shows that:

- Of 18,719 blood pressure tests carried out across Bradford, Cheshire & Merseyside and Leeds, over a quarter (5,080, 27%) resulted in a high blood pressure reading[15]. This correlates closely with the estimated prevalence of high blood pressure in England of approximately one in four adults[16].
- Of the 13,727 blood pressure tests carried out in Cheshire & Merseyside and Leeds, only 88 (less than 1%) people were diagnosed with an irregular pulse[17]. However, it is understood that not all tests conducted in Cheshire & Merseyside were looking for an irregular pulse.
- In total, 1,373 participants were referred on to HBPM or ABPM following their initial blood pressure test. Cheshire & Merseyside did not offer either HBPM or ABPM as part of its project model, and Greenwich was the only site to offer ABPM as part of its project model.
- Urgent care referrals (for participants whose initial blood pressure test returned a very high reading, typically over 180/110) were relatively rare, while primary care referrals (for participants whose initial blood pressure test returned a high reading, typically over 140/90) were more common.
- A relatively low number of formal diagnoses of hypertension have been made across sites (258, less than 1%). However, as mentioned earlier, difficulties with extracting data relating to diagnoses from primary care information systems mean this figure is likely conservative.

Figure 24: Summary of performance outputs by site

Output	Bradford	Cheshire & Merseyside	Haringey & Islington	Leeds	Greenwich	Total
No. of sites delivering blood pressure detection	134	618	324	32	288	**1,396**
No. of blood pressure monitors purchased	20	330	80	80	110	**620**

[15] For the purposes of comparing blood pressure tests taken with high blood pressure results recorded, these figures exclude Haringey and Islington and Royal Borough of Greenwich, as these sites did not provide high blood pressure data.

[16] https://www.gov.uk/government/publications/health-matters-combating-high-blood-pressure/health-matters-combating-high-blood-pressure

[17] For the purposes of comparing blood pressure tests taken with irregular pulse results recorded, these figures exclude Bradford, Haringey and Islington and Royal Borough of Greenwich as these sites did not test for irregular pulse.

Output	Bradford	Cheshire & Merseyside	Haringey & Islington	Leeds	Greenwich	Total
No. of blood pressure tests carried out	4,992	11,777	2,225	1,950	10,585	**31,529**
No. people with high blood pressure	1,163	3,409	-	508[18]	-	**5,080**
No. people with an irregular pulse	-	18	-	70[18]	-	**88**
No. people referred for ABPM	-	-	-	-	901	**901**
No. people referred for HBPM	43	-	18	237	174	**472**
No. people referred to primary care for further testing	900	209	73	112	435	**1,729**
No. urgent referrals made	2	40	1	25	368	**436**
No. people diagnosed with hypertension	128	-	-	25	105	**258**
No. referral to behaviour change intervention[19]	35	-	759	3,351	5,580	**9,725**

Figure 25 summarises where participants received blood pressure tests in Bradford, Greenwich and Haringey & Islington, based on responses to the participant e-survey (responses from other sites were unavailable). It shows that:

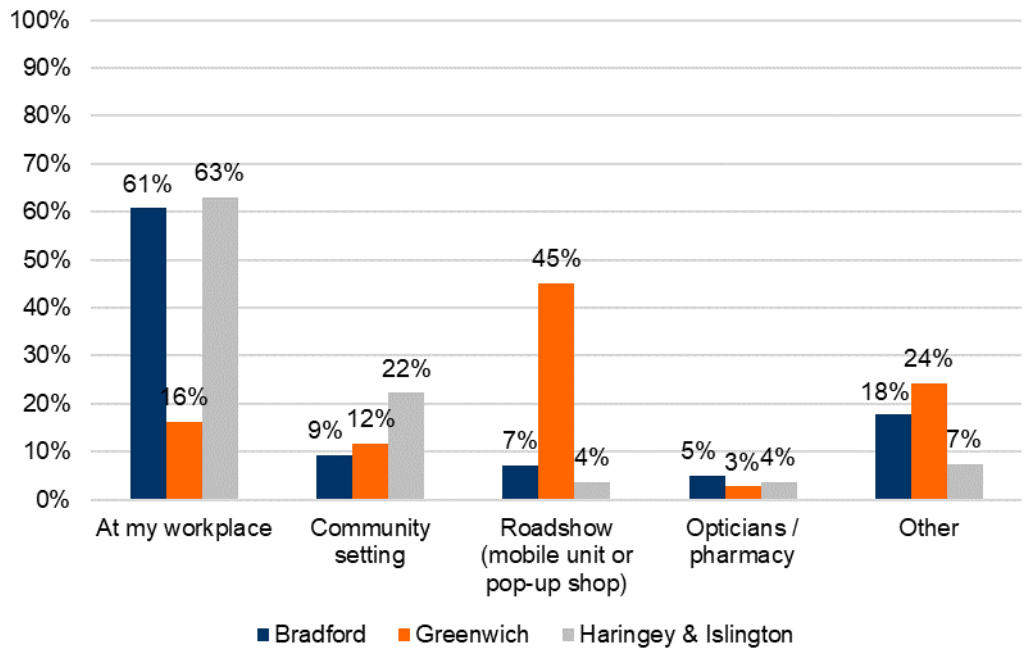
- Most respondents in Bradford (61%) and Haringey & Islington (63%) had their blood pressure tested at their workplace. This was the case for only 16% of Greenwich respondents.
- 22% of Haringey & Islington respondents had the test in a community setting, in comparison with 9% of those in Bradford and 12% in Haringey & Islington.
- Almost half (45%) of Greenwich respondents came across the Greenwich blood pressure testing programme at a roadshow, which is substantially higher than for the other two sites.
- Those in the 'Other' group included locations such as a hospital, school, hotels and events run by local charities. For Greenwich respondents, the 'Other'

[18] This figure is from February 2018 to September 2019

[19] These figures represent total number of referrals to a behaviour change intervention, rather than total number of participants referred to one or more behaviour change intervention. As a result, it is likely that the total number of participants referred to one or more behaviour change intervention is lower than this figure.

group is made up mostly of those who came across the programme at Ikea (16%), and at The Valley football stadium (7%).

Figure 25: Where did you have your blood pressure tested? / Where did you come across the Live Well Greenwich blood pressure testing programme? (Bradford n=140, Greenwich n=111, Haringey & Islington n=27)



Source: participant e-survey

2.5.2 Signposting and provision of lifestyle advice

In total, QAR data shows that 9,725 referrals were made by sites to behaviour change interventions, including to smoking cessation services, cookery clubs and weight loss groups[20]. Greenwich made a particularly high number of behavioural intervention referrals, which may in part reflect the wide variety of interventions available in Greenwich (see Figure 26). However, it should be noted that across all sites it was possible to refer people to more than one intervention, so referral figures do not represent the number of people who have received a referral.

Despite this, the figures suggest that testing activity is resulting in signposting and provision of lifestyle advice to a greater cohort than just those participants identified as having a high blood pressure reading.

[20] This figure may be an underestimate as blank responses in the QARs were presumed to be zero.

Figure 26: Behaviour change interventions by site[21]

Site	Intervention
Bradford	• Local weight loss group • NHS exercise referral scheme
Haringey & Islington	• Smoking cessation services • Alcohol support services • Islington lifestyle services
Leeds	• One You Leeds[22] • NHS Health Check leaflet • BHF leaflet
Royal Borough of Greenwich	• Stop Smoking Service • Change for Life[23] • Expert Patient Programme[24] • Welfare Rights Service[25] • Greenwich Get Active[26] • Cookery Club[27] • Live Well Coach[28] • Live Well Line[29] • Brief interventions lifestyle advice • Lifestyle advice leaflets (including BHF leaflet) • ESCAPE Pain[30] • Stay Warm Stay Safe[31]

[21] This table presents only those interventions referred to by sites in Quarterly Activity Reports.

[22] https://oneyouleeds.co.uk/

[23] https://www.nhs.uk/change4life

[24] A Community Interest Company providing cognitive therapy courses to help people develop control over their conditions (source: https://www.gov.uk/government/case-studies/the-expert-patients-programme)

[25] A service providing Royal Borough of Greenwich residents with advice about benefits and tax credits, and eligibility to apply for them (source: https://www.royalgreenwich.gov.uk/forms/form/54/en/contact_the_welfare_rights_service)

[26] https://www.greenwichgetactive.com/

[27] https://gcda.coop/cookery-clubs/

[28] https://livewellgreenwich.org.uk/live-well-coach/

[29] https://livewellgreenwich.org.uk/contact/

[30] A rehabilitation programme for people with chronic joint pain of the knees and/or hips (source: https://escape-pain.org/)

[31] A scheme which provides extra services and support for residents who may be at risk during the cold weather (source: https://livewellgreenwich.org.uk/livingwell/swss/)

Site visits confirmed that projects were using the interaction created by the blood pressure testing to provide a range of lifestyle advice to participants, and to signpost to relevant services. For example, in Bradford, testing was delivered as part of workplace wellness events, alongside advice and support in relation to smoking cessation, healthy eating, exercise, alcohol consumption, stress management and mental health support.

2.5.3 Staffing and volunteers

A key part of the Blood Pressure Award Programme across all sites is the recruitment and training of staff and volunteers to deliver blood pressure testing. The nature of this varied greatly between sites; for example, the Leeds site recruited a single Workplace Blood Pressure Champion to deliver blood pressure testing, whereas the Haringey & Islington site worked with seven delivery partners who recruited large numbers of volunteers over the course of the funding period.

QAR data could not be used to determine exact staffing and volunteer numbers due to apparent inconsistencies in the way that sites interpreted how to report this information in their QARs. Specifically, it appears that some sites recorded numbers for all volunteers involved in the project, and possibly also duplicated numbers across multiple quarters. It would be beneficial to ensure a consistent recording method when designing future BHF reporting systems and methodologies.

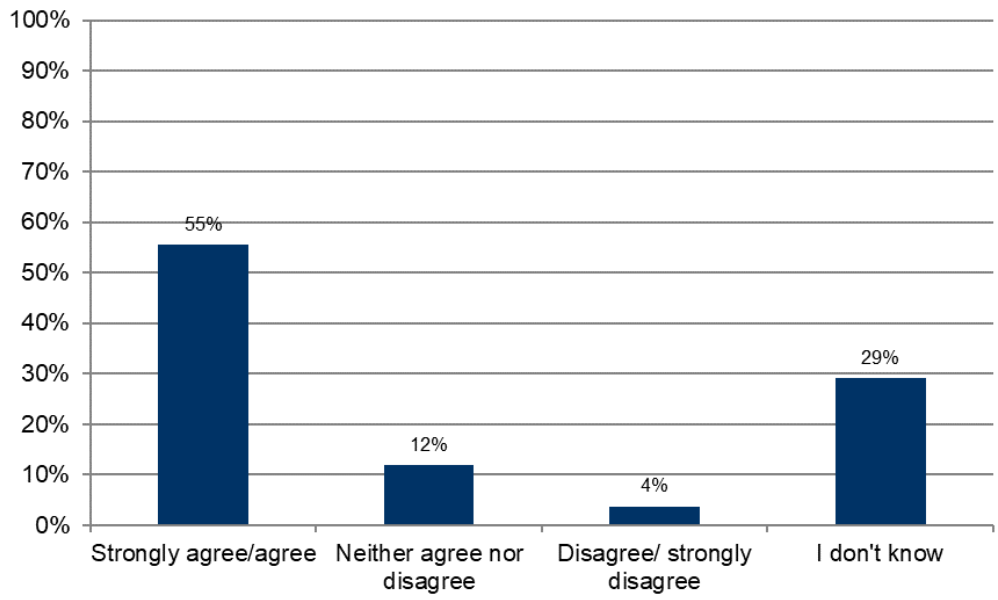
Figure 26 presents site stakeholder e-survey responses which show that over half of stakeholders (55%) agreed or strongly agreed that staff had been successfully recruited to fill key posts relating to the BHF funded Blood Pressure Award Programme initiative in their local area at T2. This is similar to the proportion of respondents who agreed or strongly agreed at T1 (51%).

However, responses to this question vary greatly dependent on site:

- 83% of respondents in Bradford and 71% of staff in Cheshire & Merseyside agreed or strongly agreed that staff have been successfully recruited to fill key posts.
- Only 31% of respondents in Haringey & Islington held the same view.

This is notable as the Haringey & Islington site model was unique in relying heavily on volunteers to deliver blood pressure testing. Interviews with site stakeholders in Haringey & Islington suggest that the site experienced a range of challenges due to this approach, with high levels of turnover amongst volunteers making it resource intensive to deliver repeat training as new volunteers were recruited.

Figure 27: Within the BHF funded Blood Pressure Award Programme initiative, staff have been successfully recruited to fill key posts (n=110)



Source: stakeholder e-survey

Sites also highlighted the benefits of using diverse teams of staff and volunteers to deliver blood pressure testing, to reflect local communities and better engage with potential participants. For example, HALE staff in Bradford (the project's local delivery partner) reported that their delivery team reflected the diversity of age, ethnicities and backgrounds in the wider Bradford community, and as a result was better able to engage with participants. Similarly, site stakeholders in Greenwich reported that Charlton Athletic Community Trust (CACT, the local delivery partner) used young male staff members, wearing Charlton Athletic branded clothing, as they found they were better able to engage male participants in blood pressure testing and advice.

2.5.4 NHS 24

As its site model differed significantly from other Phase 1 sites, NHS 24 site activity data is reported separately.

Unlike other sites, which focused on delivering a target of 10,000 blood pressure tests in community settings to individuals not already diagnosed with hypertension over the two-year funding period, the NHS 24 Lanarkshire/Lothian/ Western Isles project focused on widening access to home and mobile health monitoring (HMHM) to assist both diagnosis of hypertension and ongoing monitoring for patients who already have diagnosed hypertension. The project had two core models:

- **Primary care model:** In Lothian, Lanarkshire and the Western Isles, the project sought to recruit and support GP practices to implement HMHM for patients diagnosed with hypertension, or with suspected hypertension. This

included initial training and ongoing support to practices delivered by Telehealth Assistants, and provision of home blood pressure monitoring equipment.

Once practices have established the HMHM system, patients are provided with a home blood pressure monitor (HBPM) to record their blood pressure via SMS HMHM technology to assist diagnosis while minimising the need for face-to-face appointments required in general practice. For patients who already have diagnosed hypertension, HBPMs are provided to allow them to report regular blood pressure readings back to GP practice staff. Additionally, some patients are also provided with advice and support via an SMS using HMHM technology to support their blood pressure management. The HMHM system used by the project is known as Florence, or Flo.

- **Community model:** In Lanarkshire and the Western Isles, the project focused on identifying patients for HMHM through community services. In Lanarkshire, this was through the Leisure and Culture Services which delivered a programme of blood pressure testing as part of physical activity prescription (PAP) inductions, as well as wider testing delivered by Leisure and Culture staff. In the Western Isles, staff from the Community Carers forum delivered blood pressure testing to carers. In both cases, training, support and equipment were provided by Telehealth Assistants, and where patients were found to have high blood pressure, referrals were made to their GP for the patient to be set up on HMHM.

Figure 28 summarises the outputs achieved by NHS 24 from their project launch in January 2018 to the end of December 2019. It shows that the site achieved:

- 162% of its target for GP practice recruitment (81/50)
- 139% of its target for citizen recruitment to HMHM (4,162/3,000)[32]

Figure 28: Summary of NHS 24's outputs, January 2018 to December 2019 inclusive

Model	Output	Number
Primary Care Model	No. of blood pressure monitors purchased	1,941[33]
	No. of GP practices recruited	81
	No. of new GP staff trained	381
	No. of new citizens using HMHM	4,148
Community Model	No. of community staff trained to take blood pressure	49

[32] This includes both the 4,148 patients recruited via the Primary Care Model, and 14 patients recruited to SMS HMHM via the Community Model.

[33] Some of these monitors were also used by the Community Model. Additional monitors were also purchased by not funded by the BHF project.

Model	Output	Number
	No. of community staff trained in HMHM	9
	No. who have had blood pressure checked	763[34]
	No. placed on SMS HMHM	14
	No. placed on pen and paper HMHM	12
	No. advised to see GP	46
	No. referred to behaviour change intervention	52
	No. diagnosed with hypertension	Unknown

2.6 Programme management

The e-survey of site stakeholders, site visits and interviews with site leads explored how effectively the BHF Blood Pressure Award Programme has been managed at both a national and site level.

2.6.1 National level

Nationally, site leads reported that Blood Pressure Award Programme was well-led, and that the BHF had provided a range of support beyond the financial funding. This included:

- Communications and engagement support
- Provision of information materials about blood pressure, risk factors and associated lifestyle factors
- Facilitating Learning Network events
- Establishing a Blood Pressure Award Programme Yammer site, enabling sites to discuss and share challenges, successes and resources

In particular, the BHF's facilitation of sharing and collaboration between sites and BHF colleagues was identified as a key strength of the programme. Whilst it is acknowledged that each site has a unique delivery model and is targeted at the needs of its specific population, a number of challenges identified have been common across sites, such as data collection systems and working with primary care colleagues.

Site leads suggested that the programme could further benefit from greater facilitation of the sharing of site outputs, such as testing protocols, data capture templates and communication and engagement materials. This may also help to

[34] This number on reflects those for whom readings were recorded. Project staff report that more readings were taken, but not recorded.

support the sustainability of programme impacts, by enabling the resources produced by sites to be disseminated and used more widely.

2.6.2 Site level

At a site level, qualitative evidence from site visits and interviews with site leads, suggests that programme management has supported the delivery of the programme. It was stressed that the programme management resource was being provided by partners in goodwill, not being directly funded by the BHF grant, in accordance with grant funding conditions.

As may be expected, those sites where the Blood Pressure Award Programme project was linked to a wider area of work, such as in Cheshire & Merseyside, Greenwich and NHS 24/Lothian/Lanarkshire/Western Isles, were often able to commit greater resources to programme management, highlighting how the programme has been able to deliver added value through its delivery alongside other similar projects and within systems.

However, this was not universally the case, with both the Leeds and Bradford sites reporting that dedicated programme management resource has been essential to the project's success through securing access to testing venues through engagement with workplaces and community settings. In these cases, programme management resource was provided in kind by lead organisations.

Responses to the T2 site stakeholder e-survey suggest that stakeholders were positive about the management of the programme and its impacts on local healthcare systems. The majority of stakeholders agreed or strongly agreed that the Blood Pressure Award Programme project in their area:

- Is well-led (69%)
- Is well-managed (69%)
- Has been rolled-out effectively (67%)

3 Outcomes and impacts

3.1 Overview

This section examines QAR and additional site monitoring data, findings from stakeholder and participant e-surveys, and qualitative evidence from site visits and interviews with site leads. It provides a summary of the progress of Phase 1 sites in terms of the intended outcomes and impacts of the BHF Blood Pressure Award Programme.

When considering these findings, it is important to recognise that a number of the intended outcomes and impacts of the programme are ambitious and long-term in nature. As a result, it is challenging to demonstrate these outcomes and impacts during the two-year funded period, and for the evaluation to evidence these.

3.2 Key messages

For participants

- The programme has had a positive impact on participants' awareness and confidence regarding their blood pressure and how to manage it in all six Phase 1 sites. Participants appear more aware of blood pressure risks, risk factors and associated lifestyle factors, and better able to mitigate the risk of hypertension.

- These is also evidence of behaviour change and better management of risk factors associated with hypertension, with high levels of self-reported behaviour change from participant e-survey data, and referrals to and attendance at behaviour change interventions.

  This applies both to participants who had high blood pressure readings and to those with normal reading, indicating that the programme may be having a preventative effect.

For staff and services

- The programme has had a positive impact on staff awareness of the signs of potential hypertension cases, referral processes, and knowledge and understanding in relation to managing high blood pressure, based on stakeholder e-survey and qualitative consultation data. This finding is reflected across all six sites.

For the wider population

- The Blood Pressure Award Programme aims to improve the identification of undetected hypertension and access to blood pressure testing in local areas. It is important to note that the programme's model has been focusing on de-medicalising blood pressure testing, hence the focus on delivering tests in community settings using non-clinical staff and volunteers. As such, formally

diagnosing hypertension is not the aim of the community-based activity. Rather, a goal was identification of a group for referral to their GP and further assessment as indicated. It is important to recognise this when considering the success of the programme.

Data relating to the number of diagnoses of hypertension made as a result of the programme is lacking due to sites' challenges with accessing primary care data. However, Phase 1 site activity data suggests that the Blood Pressure Award Programme has improved access to blood pressure testing for participants and communities.

- An intended long-term impact of the Blood Pressure Award Programme is to improve population health outcomes, including reduced health inequalities. Due to the long-term nature of this impact, and the relatively short timescales of the programme's operation to date, it is challenging to evidence this change over the past two years.

  However, qualitative evidence from consultation with site stakeholders suggests that the Blood Pressure Award Programme has had a positive impact on the number of people whose blood pressure reading has reduced to within the normal range, and health inequalities relating to hypertension in their local areas.

3.3 For participants

This section explores the impact of the Blood Pressure Award Programme on participants (i.e. those who received a blood pressure test as part of the programme). It explores changes in participants' awareness, confidence and behaviour in relation to managing their blood pressure and associated lifestyle factors.

Awareness and confidence

Site leads across all six Phase 1 sites reported that they were confident the programme in their area has had a positive impact on the awareness and confidence about participants' own blood pressure.

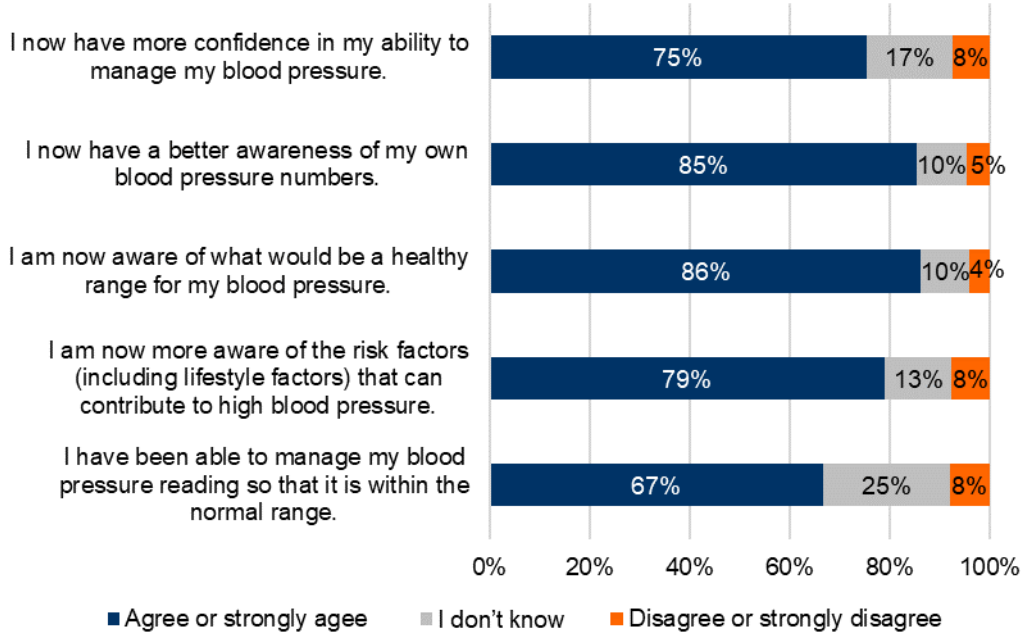
Responses to the participant e-survey reflect this. Most participants agreed or strongly agreed not only that they had greater awareness and confidence about their own blood pressure, but that the testing and support they received had positively affected this (Figure 29).

- 86% agreed or strongly agreed that the testing had helped their awareness of what would be a healthy range for their blood pressure.

- 85% agreed or strongly agreed that the testing had helped their awareness of their own blood pressure numbers.

- 79% of participants agreed or strongly agreed that the testing and support they received meant they were now more aware of the risk factors that can contribute to high blood pressure.
- Around two thirds said the testing had helped them manage their blood pressure so that it is within a normal range.

Figure 29: To what extent do you agree that the testing and support you received from the service has helped you to do the following over the past three months? (n=238-247)



Source: participant e-survey

Figure 30 shows that stakeholders were broadly positive about the outcomes and impacts of the programme for participants, based on responses to the stakeholder e-survey, with the majority of stakeholders agreeing or strongly agreeing that as a result of the programme:

- Participants are more aware of blood pressure risks, risk factors and associated lifestyle factors (69%)
- Participants are more aware of their own blood pressure level (67%)
- People are better able to mitigate the risk of hypertension (56%)

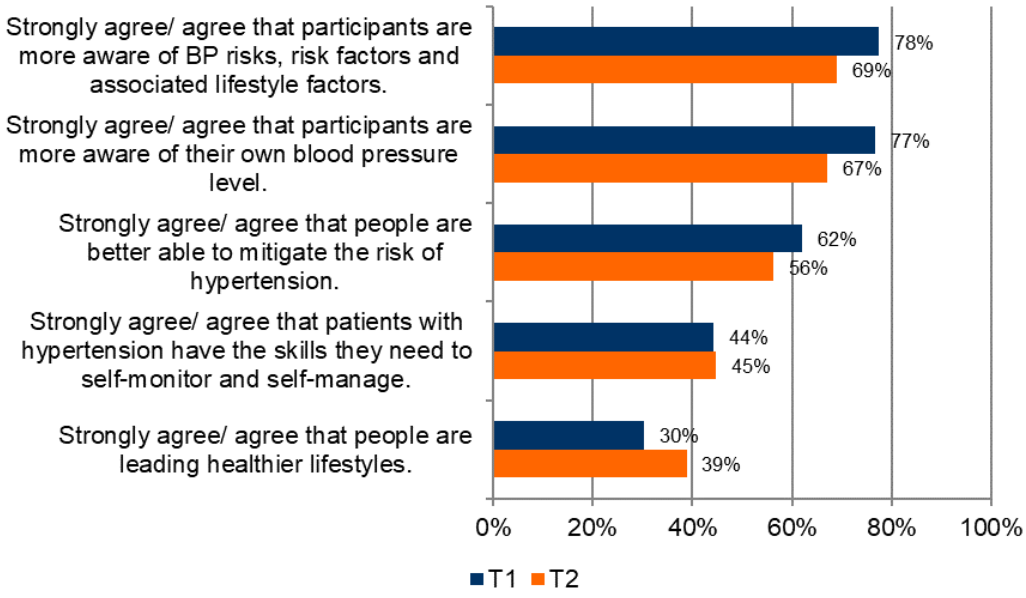
In addition, almost half of stakeholders agreed or strongly agreed that the Blood Pressure Award Programme is giving patients with hypertension the skills they need to self-monitor and self-manage (45%,), and that as a result of the programme, people are leading healthier lifestyles (39%).

Figure 30 indicates that in comparison with T1 responses, respondents are slightly less confident that the programme is achieving positive outcomes for participants at T2 than at T1. However, for some outcomes, such as awareness of blood pressure risks and lifestyle factors, and participants' awareness of their own BP levels, there is an overall high level of agreement that the programme is having a positive impact for participants.

This suggests that whist there is evidence that programme participants have increase awareness of blood pressure risks and lifestyle factors, it is not yet possible to know whether that effect has spread beyond participants to others in the local community.

Again, it is worth noting here that the respondents for the T1 and T2 surveys differed, and as such may represent views of different areas of the local healthcare systems.

Figure 30: As a result of the BHF funded Blood Pressure Award Programme initiative... (T1, n=129; T2, n=103) "Strongly agree/agree" responses



Source: stakeholder e-survey

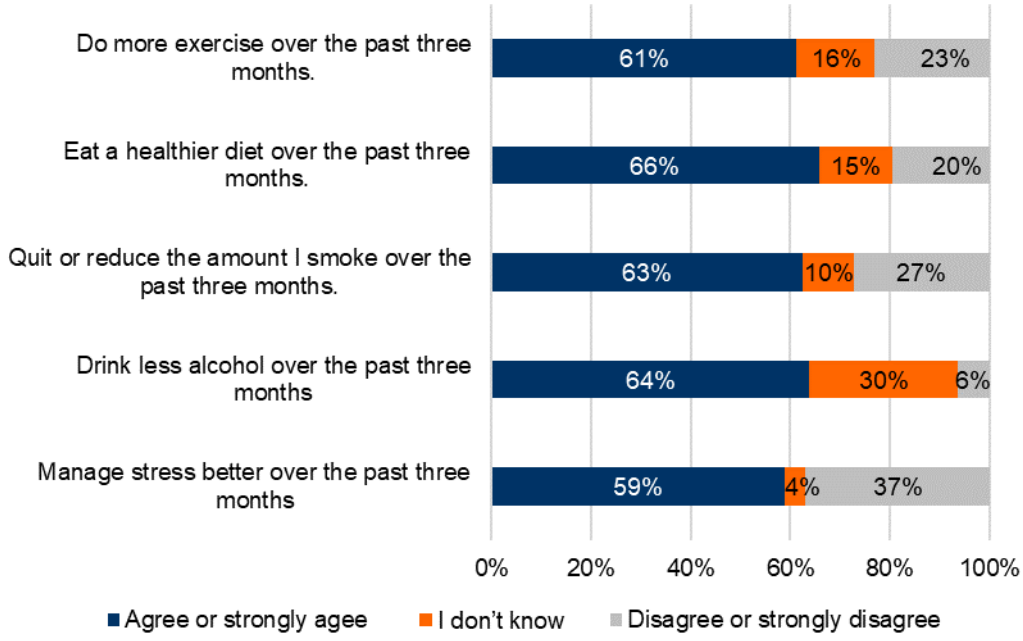
Behaviour change

In addition to increased awareness, there is also evidence of behaviour change and better management of these risk factors, with around two thirds of respondents to the participant e-survey reporting positive behaviour changes in the months since taking the test (Figure 31).

- Excluding non-smokers, 63% of participants agreed or strongly agreed that the testing and support had helped them to reduce the amount they smoke.

- 66% agreed or strongly agreed that the support they received helped them to eat a healthier diet since taking the blood pressure test.
- 61% agreed or strongly agreed that the support helped them do more exercise in the months since taking the test.
- 59% agreed or strongly agreed that the support helped them to manage stress better in the months since the blood test.
- Almost two thirds (64%) agreed or strongly agreed the support had helped them drink less alcohol in the months since taking the test.
- Again, these apply both to participants who had high blood pressure readings and to those with normal readings, which indicates that the programme may be having a preventative effect.

Figure 31: To what extent do you agree that the testing and support you received has helped you to… (n=245-248, n=88 excluding non-smokers[35]).



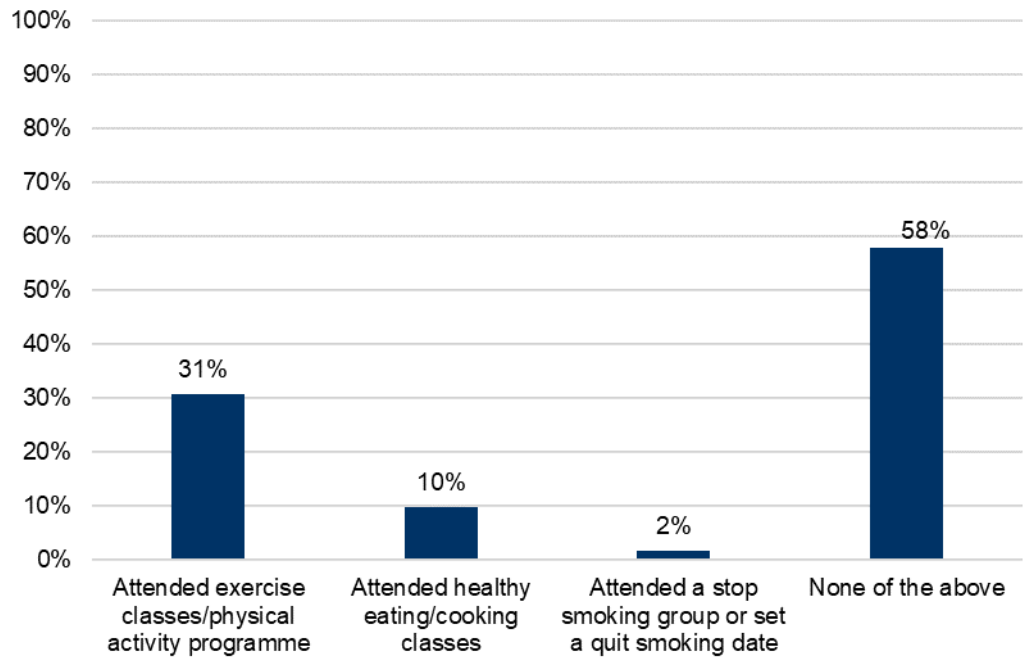
Source: participant e-survey

Slightly less than half of respondents reported that they had made a behaviour change involving some sort of intervention (Figure 32). This indicates the programme has had a real, measurable effect for these people beyond self-reported behaviour change.

[35] 65% of respondents answered that they did not smoke.

- 31% said they had attended exercise classes or a physical activity programme as a result of the testing and advice they received.
- 10% said they attended healthy eating or cooking classes, as a result of the testing, and 2% said they attended a stop smoking group or set a quit smoking date.
- As above, this indicates positive behaviour change even for participants who did not have a high blood pressure reading.

Figure 32: As a result of the blood pressure testing and advice you received, have you done any of the following in the past three months... (n=176)



Source: participant e-survey

3.4 For staff and services

As well as outcomes for participants, the Blood Pressure Award Programme aims to achieve outcomes for staff and services involved in delivering blood pressure testing. This section explores changes in staff awareness of blood pressure cases and referral processes, and workforce knowledge and understanding in relation to managing high blood pressure.

Figure 33 presents site stakeholders' responses to the e-survey at T1 and T2 to a series of questions related to the impact the Blood Pressure Award Programme has had on staff awareness and local workforce knowledge of issues related to blood pressure.

Responses show that the programme is having positive impacts in relation to staff awareness, knowledge and understanding of blood pressure and related factors.

Figure 33: As a result of the BHF funded Blood Pressure Award Programme initiative… (T1, n=133-4; T2, n=105-6)

Survey question		T1	T2	Change
Staff awareness of the signs of potential hypertension cases has:	Increased	84%	75%	-9%
	Stayed the same	6%	9%	+3%
	Decreased	0%	0%	0%
	Don't know	10%	16%	+6%
Staff awareness of the referral process for potential hypertension cases has:	Increased	83%	73%	-10%
	Stayed the same	5%	9%	+4%
	Decreased	0%	0%	0%
	Don't know	12%	18%	+6%
Local workforce knowledge and understanding in relation to managing high BP has:	Increased	81%	70%	-11%
	Stayed the same	8%	8%	0%
	Decreased	0%	0%	0%
	Don't know	11%	23%	+12%

This was reflected by qualitative findings from site visits. Site staff and stakeholders across all six sites were confident that the knowledge and understanding of managing high blood pressure amongst the local workforce had increased as a result of the Blood Pressure Award Programme.

3.5 For the wider population

As well as the direct recipients of blood pressure testing, the Blood Pressure Award Programme has a number of intended outcomes and impacts for the wider population of participating sites.

Identifying undetected hypertension and access to blood pressure testing in the local area

It is important to note that the Blood Pressure Award Programme's model has been focusing on de-medicalising blood pressure testing, hence the focus on delivering tests in community settings using non-clinical staff and volunteers. As such, formally diagnosing is not the aim of the community-based activity. Rather, a goal was identification of a group for referral to their GP and further assessment as indicated. It is important to recognise this when considering the success of the programme.

As detailed in section 2.4, Phase 1 site activity has resulted in 31,529 blood pressure tests being delivered to adults who have not had a recent blood pressure test and are not currently diagnosed with hypertension. Testing has been delivered across 1,396 fixed and non-permanent venues, including workplaces and community settings.

This suggests that the Blood Pressure Award Programme has improved access to blood pressure testing for participants and communities.

Of these tests, at least 2,165 participants were referred on to primary care or urgent care services for further blood pressure monitoring (however, this is likely to be an underestimate due to challenges with data collection). In addition, available data showed that blood pressure tests as part of the programme led to 258 confirmed diagnosis of hypertension. However, this is likely to be an underestimate due to challenges accessing primary care data.

Participant e-survey data showed that approximately one in four participants (24%) had a high blood pressure reading and were referred on for further testing. Whilst it is not possible to confirm the proportion of participants who went on to receive a formal diagnosis of hypertension, it is reasonable to assume that through this process the Blood Pressure Award Programme has been successful in identifying cases of undetected hypertension in sites.

Figure 34 presents site stakeholder e-survey responses regarding the impact of the programme on the identification of unidentified hypertension among local populations. This shows that respondents are confident that the programme has had an impact on identification of undiagnosed hypertension, reflecting other sources of evidence. While a notable proportion of respondents are unsure of the impact of the programme in this area, this is understandable given the timescales involved, as the programme is only in its second year.

Figure 34: As a result of the BHF funded Blood Pressure Award Programme initiative... (T1, n=126; T2, n=103)

Survey question		T1	T2	Change
The identification of unidentified hypertension among the population in my local area has:	Increased	51%	59%	+8%
	Stayed the same	11%	3%	-8%
	Decreased	3%	3%	0%
	Don't know	35%	35%	0%

Improved population health outcomes and healthier lifestyles

An intended long-term impact of the Blood Pressure Award Programme is to improve population health outcomes, including reduced health inequalities. Due to the long-term nature of this impact, and the relatively short timescales of the programme's operation to date, it is challenging to evidence this change over the past two years.

Figure 35 presents stakeholders' responses at T1 and T2 to a series of questions regarding the long-term impacts of the Blood Pressure Award Programme. Responses show that the majority of stakeholders remain unsure about the potential impact of the programme on longer term impacts for participants, echoing last year's results.

While T1 responses indicated that the majority of stakeholders being unsure about the potential impact of the programme on longer term impacts for participants was to be expected at such an early stage in the life of the programme, these high levels of uncertainty have persisted, to an extent. This likely reflects the long-term nature of these impacts, as they are unlikely to be evidenced during the timescales of the programme or the evaluation.

Overall, stakeholder responses suggest that the Blood Pressure Award Programme has had a positive impact on the number of people whose blood pressure reading has reduced to within the normal range, and health inequalities relating to hypertension in their local areas. However, it is still very early to evidence these impacts, given their long-term nature.

Figure 35: As a result of the BHF funded Blood Pressure Award Programme initiative... (T1, n=129; T2, n=101-2)

Survey question		T1	T2	Change
The number of people whose BP reading is reduced within the normal range has:	Increased	14%	31%	+17%
	Stayed the same	14%	9%	-5%
	Decreased	2%	0%	-2%
	Don't know	71%	60%	-11%
Morbidity and mortality rates from undiagnosed hypertension and their related conditions have:	Increased	4%	7%	+3%
	Stayed the same	12%	8%	-4%
	Decreased	7%	9%	+2%
	Don't know	77%	76%	-1%
As a result of the BHF funded Blood Pressure Award Programme initiative, health inequalities relating to hypertension are improving in my local area.	Strongly agree/agree	44%	50%	+6%
	Neither agree nor disagree	17%	10%	-7%
	Disagree/ strongly disagree	2%	2%	0%
	Don't know	37%	38%	+1%

4 Lessons learned

4.1 Overview

This section synthesises the evidence presented in the evaluation report to explore the lessons learned by the Blood Pressure Award Programme's Phase 1 sites in relation to a number of key areas of enquiry. Where possible, this section examines whether particular site models have been more effective than others, and if so, the possible reasons for this.

Lessons learned from Phase 1 sites should be used to inform continued delivery of Phase 1 site models, where applicable, the ongoing delivery of Phase 2 sites, and the delivery of similar programmes and services elsewhere in the future.

4.2 Supporting sustained behaviour change

Evidencing the sustainability of any behaviour changes as a result of the Blood Pressure Award Programme is challenging due to the timescales of the programme and evaluation. However, there is some evaluation evidence suggesting site models have been able to support behaviour change in participants at least three months after coming into contact with the programme.

For example, participant e-survey responses suggest that between 59% and 66% of participants agree that the testing and support received from the programme has helped them to do the following in the three months following coming into contact with the programme:

- Do more exercise (61%)
- Eat a healthier diet (66%)
- Quit or reduce the amount they smoke (63% of those who smoked when they first came into contact with the programme)
- Drink less alcohol (64%)
- Manage stress better (59%)

This is supported by responses showing that 42% of participants had attended a behaviour change intervention (such as exercise classes, healthy eating classes and stop smoking groups) in the three months following coming into contact with the programme.

Whilst this data only covers participants from the three sites from which e-survey data was available (Bradford, Greenwich, and Haringey & Islington), it suggests a positive impact of the programme in terms of supporting sustained behaviour change for participants in relation to blood pressure related lifestyle factors. It should also be noted that this covers all participants, not just those whose blood pressure was high at initial contact with the programme, suggesting the

programme may be having a preventative impact amongst those participants who do not currently have high blood pressure.

Nature and duration of initial testing

Qualitative evidence from site visits and interviews with site staff and stakeholders suggests that the nature and duration of site models may support participants to have sustained behaviour change.

Site staff and stakeholders in Leeds suggested that the nature of their workplace testing strand, which involved dedicated one-to-one 30 minute consultations for participants, gave participants a greater opportunity to discuss the importance of blood pressure, related lifestyle factors which may help to control their blood pressure, and signposting to appropriate support services based on their individual needs.

This was based on comparison with their pharmacy testing strand, where testing was delivered in community pharmacies by pharmacy staff. Internal evaluation evidence suggests that 89% of participants in the workplace testing strand were signposted to at least one other service, compared to just 14% of participants in the pharmacy testing strand.

However, it is important to also consider the potential capacity of these different approaches, with the workplace testing strand being more resource intensive than the pharmacy testing strand, and so not able to deliver testing and advice to as many people. This is reflected in overall participation figures, with the Leeds site delivering 1,950 blood pressure tests as of September 2019 using its model which focused predominantly on dedicated one-to-one workplace consultations, compared to the Bradford (4,992 tests), Greenwich (10,585 tests) and Cheshire & Merseyside (11,777 tests) sites, which offered shorter, less intensive blood pressure tests.

4.3 Reducing burden on general practice

There is mixed evidence regarding whether the Blood Pressure Award Programme has reduced the burden on general practice primary care services.

Evidence from the participant e-survey, presented below, suggests that almost a third of participants (30%) would have had their blood pressure tested elsewhere had the Blood Pressure Award Programme service not been available. Of these, almost two thirds (62%) would have gone to a GP surgery for testing.

Scaling this up across all participants in all Phase 1 sites, these figures would represent a total of over 5,800 participants receiving blood pressure testing from the programme who would have otherwise attended their GP surgery[36].

However, evidence from site visits and interviews with site staff and stakeholders suggests a more mixed picture. Whilst they were confident that the programme had not increased the burden on general practice, they were unsure whether there had been a reduction as a result of programme activity.

Similarly, stakeholder e-survey responses found that at T2 only 37% of respondents agreed that the programme had resulted in reduced pressure on the primary care system.

It was suggested that, by focusing testing activity on participants who have not had their blood pressure tested recently, the programme may not be diverting many participants who would otherwise have attended their GP. Instead, it is focusing on identifying potential cases of undetected hypertension, which are then referred on to general practice for formal diagnosis.

Despite their different approach, which involved supporting the roll-out of home and mobile health monitoring (HMHM) technology to GP practices across Lanarkshire, Lothian and the Western Isles, findings were similar for the NHS 24 site. Site staff and stakeholders reported that they were unsure whether the project has increased capacity of staff in general practice, and in some cases reporting that the project may have increased workload for GP practice staff during the initial implementation of the HMHM service. However, a 2016 evaluation of same HMHM service in Lanarkshire prior to the BHF funded project found that the use of HMHM of blood pressure for approximately three weeks avoided on average four to five GP or practice nurse appointments[37].

If the service had not been available – participant e-survey data

Participants were asked whether they would have had their blood pressure tested somewhere else if the service they used had not been available. Figure 36 shows:

- Almost half (47%) of respondents said that if the service had not been available, they would not have had their blood pressure tested somewhere else.

[36] This calculation should be treated with caution, as it assumes that the responses to the participant e-survey (sample size of 308 across three sites) are representative of all participants across all Phase 1 sites. It also assumes that participants will not attend their GP surgery for blood pressure testing as well as receiving blood pressure testing from the programme.

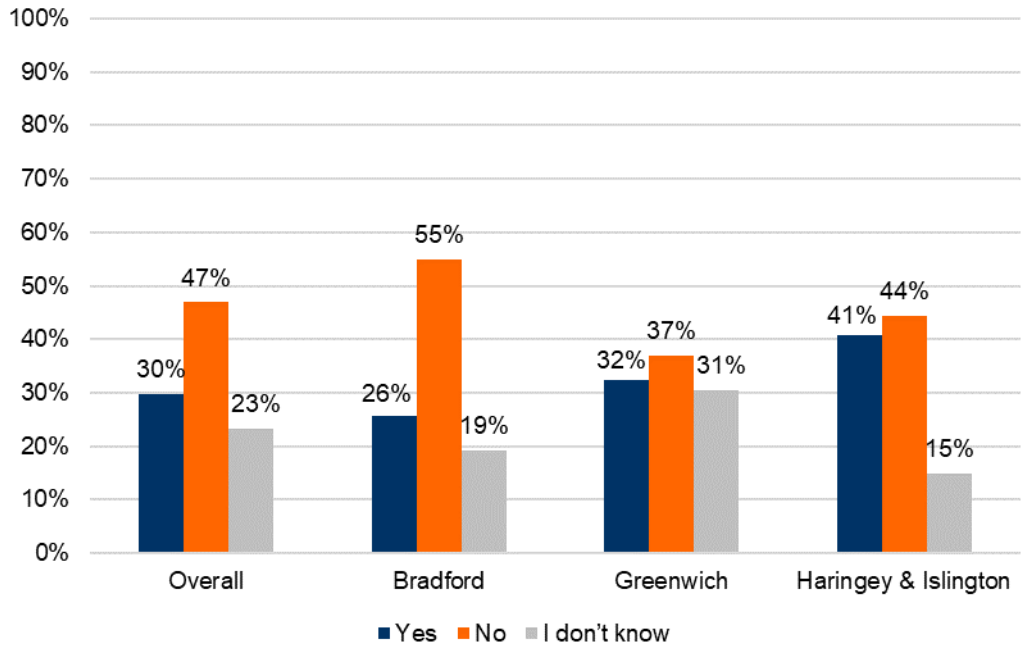
[37] Source: https://sctt.org.uk/wp-content/uploads/2015/12/Lan-GP-Hypertension-Rapid-Improvement-Final-12July16.pdf

- This is encouraging, as it indicates that the service is targeting a substantial proportion of people who would otherwise have missed out on having their blood pressure tested.

- Bradford engaged the highest proportion of participants who would not otherwise have had their blood pressure tested, with over half of participants saying they would not have been tested somewhere else, and only around a quarter saying they would have.

- Greenwich had the lowest proportion of participants who said they would not have had a blood pressure test elsewhere with 37%, although this is still a substantial proportion.

Figure 36: Would you have had your blood pressure tested somewhere else, if the service that you used had not been available? (Bradford n=140, Greenwich n=108, Haringey & Islington n=27)



Source: participant e-survey

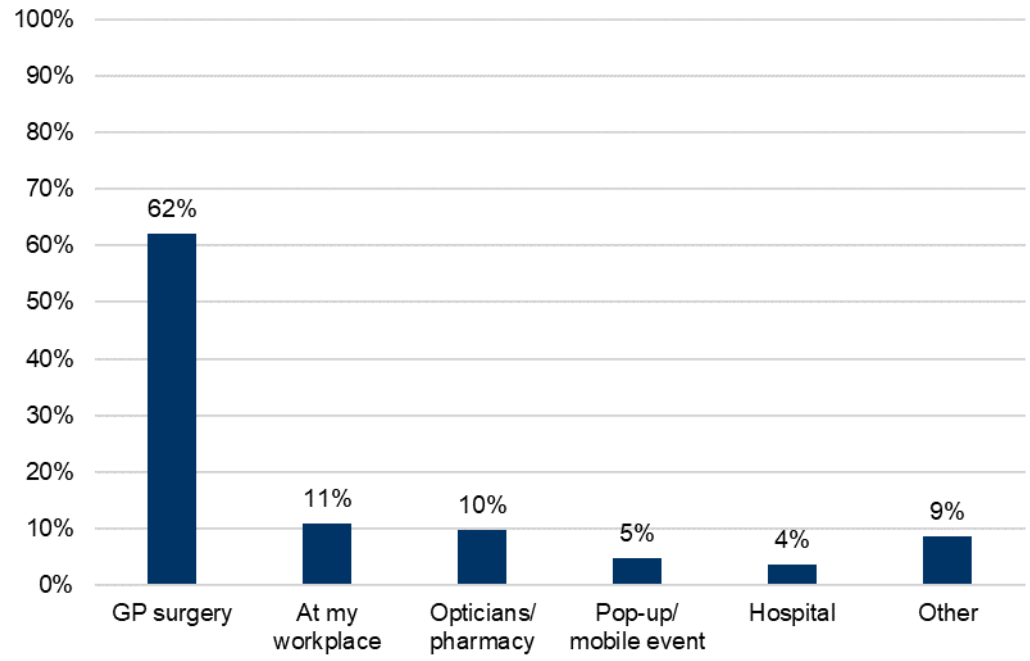
Figure 37 shows where participants would have had their blood pressure tested if the service they used had not been available. It shows that:

- Of those who said they would have had a blood pressure test even if the service they used had not been available, the majority (62%) answered that they would have had a test at the GP.

- The next most popular locations were at the workplace, and at the opticians/pharmacy.

This suggests the programme may go some way to reducing the pressure on GP surgeries, which again is a positive finding.

Figure 37: Where would you have had this test (i.e. if the service that you used had not been available)? (n=82)



Source: participant e-survey

4.4 Supporting increased hypertension detection

Whilst programme sites have experienced challenges accessing data relating to the formal diagnosis of hypertension following referral to general practice, there is a range of evidence which suggests that the programme has supported increased hypertension detection within sites.

Firstly, quantitative monitoring data from sites shows that at least 258 diagnoses of hypertension have been made following blood pressure tests conducted as part of the Blood Pressure Award Programme. This is likely to be an underestimate as, due to challenges with data extraction, a number of sites were unable to provide complete data regarding the outcome of referrals to primary care.

Secondly, evidence from the stakeholder e-survey, site visits and interviews with site leads suggests that stakeholders across all sites are confident that the programme is supporting increased hypertension detection, although the scale of this is largely dependent on the scale of the overall testing being delivered by sites.

Assessing which site models are most effective at increasing hypertension detection is challenging, due to the difficulties with data collection mentioned above, coupled with the wide range of total blood pressure tests delivered across sites. For example, whilst the Bradford site reported the highest number of confirmed hypertension diagnoses (128), despite delivering less than half the

total number of tests than the Greenwich and Cheshire & Merseyside sites, this is likely due to data collection challenges under-representing the number of diagnoses made in Greenwich and Cheshire & Merseyside, rather than the Bradford site model being more effective at supporting the diagnosis of hypertension.

As a result, we suggest that the total number of tests delivered by sites be considered a more accurate measure of the model's ability to support the diagnosis of hypertension at present, than reported numbers of diagnoses, due to these challenges with data collection.

For Phase 2 sites, and similar future programmes, it is essential that collection of data regarding diagnoses made in general practice be considered and systems put in place prior to commencing blood pressure testing.

4.5 Supporting diagnosis of hypertension outside of traditional primary care settings

As stated in section 3.5, it is important to note that the Blood Pressure Award Programme's model is focused on using blood pressure testing delivered in community settings to screen for high blood pressure, rather than diagnose hypertension. As a result, it is not aiming to replace the diagnosis of hypertension in traditional primary care settings (such as GP practices), but rather support the ability of traditional primary care settings to diagnose hypertension by identifying and referring individuals with high blood pressure when first tested.

A key part of this is a focus on de-medicalised models which deliver tests in community settings using non-clinical staff and volunteers. In all Phase 1 sites, testing has been delivered at least in part in non-clinical settings, such as community centres, leisure centres and workplaces, by non-clinical staff, including volunteers, leisure services staff and VCS staff.

Site staff and stakeholders suggested that this approach is supporting the engagement of participants who would not otherwise have their blood pressure tested, and this is supported by participant e-survey responses showing that almost half of participants would not have had their blood pressure tested elsewhere had the service not been available. These participants are then receiving, where appropriate, referrals to ABPM services, HBPM services or their GP practices for further diagnostics.

As a result, there is evidence to suggest that the Blood Pressure Award Programme is supporting the diagnosis of hypertension outside of traditional primary care settings. However, as mentioned in section 4.4 above, it is not possible to interrogate how the different characteristics of different site models may impact this using quantitative data.

Qualitative data suggests a number of characteristics of effective community outreach:

- Sites where delivery partners had previous experience of effective community outreach, such as Greenwich with their CACT delivery partner and Bradford with their HALE delivery partner, appear to have had greater success at delivering blood pressure testing in community settings. Site stakeholders in Haringey & Islington highlighted the differences between their delivery partners who did not have extensive experience of delivering community outreach, and delivery partners such as Tottenham Hotspur Foundation and One You Haringey, whose core activities are based around community outreach and this was reflected in the difference in numbers of tests delivered.

- Site stakeholders also highlighted the importance of having diverse delivery teams to engage a wide range of potential participants. For example, staff and stakeholders in Greenwich reported that the young male CACT staff, wearing Charlton Athletic branded clothing, were better able to engage male participants. In Bradford, HALE staff reported that ensuring the diversity of their delivery team reflected the diversity in age, ethnicity and background amongst the Bradford population, enabled them to engage with a broader range of participants.

In addition, evidence from the participant e-survey is clear that convenience is very important to people choosing to accessing blood pressure testing. As a result, delivery sites for delivering similar community outreach in future should be selected with this in mind. To support this, initial consultation activity could be conducted with local community groups to identify potential venues which meet these criteria.

These characteristics should be taken into account when considering future delivery models for similar programmes.

4.6 Successful partnership working

There is evidence to suggest that successful partnership working is key to the ability of programme sites to deliver target levels of blood pressure testing, and that the strength of this partnership working is strongly linked to a number of factors.

Stakeholder e-survey responses suggest that the Blood Pressure Award Programme has improved partnership working for their organisation for 59% of respondents, and qualitative evidence from site visits and interviews with site leads also suggests that partnership working had both improved over the course of the programme, and facilitated the implementation and delivery of local projects.

Existing working relationships between key partners

Those sites which demonstrated the most success in meeting delivery targets (Cheshire & Merseyside, Greenwich and NHS 24) all had strong existing working relationships between key partners prior to their Blood Pressure Award Programme projects.

In Cheshire & Merseyside, the project has been led by the Cheshire & Merseyside Public Health Collective (Champs), which is formed of the eight Directors of Public Health from across Cheshire & Merseyside. The collaboration has been operating since 2003, and has many years of experience of working with the project's key delivery partners of the Cheshire & Merseyside Fire and Rescue Services, and Healthy Living Pharmacies from across the region.

In Greenwich, the lead organisation (Royal Borough of Greenwich) commissioned the Charlton Athletic Community Trust (CACT) to deliver its project. Royal Borough of Greenwich has a long history of working with CACT to deliver community outreach services.

The NHS 24/Lothian/Lanarkshire/Western Isles site involved joint working between NHS 24 and the three NHS Health Boards. The BHF funded project built on existing work between the partners, funded by the Scottish Government's Technology Enabled Care (TEC) programme, which began in 2015. As a result, the BHF funded element was able to benefit from the close existing relationships and structures, including a well-established steering group.

Conversely, the Lambeth site project intended to commission the local GP federation to deliver blood pressure tests through a Federation Cardiovascular Prevention Team, and work with the Local Pharmaceutical Committee (LPC) to deliver testing in community pharmacies. However, site stakeholders reported that in both cases communications between the lead partner (Lambeth CCG) and the delivery organisations (the GP federation and the LPC) had been difficult, with no existing relations or lines of contact between the partners. As a result, the site struggled to put in place testing and data collection processes, which has resulted in the site's implementation being significantly delayed.

To conclude, programme delivery appeared to be more successful in areas where key partners had strong existing working relationships. As a result, it may be useful to examine such relationships when considering similar projects in future, and where relationships are not as mature, account for longer timescales for implementation and delivery.

Cross-system commitment to the same priorities

Another key characteristic of those sites which saw the most success in meeting delivery target is a cross-system commitment to addressing hypertension as a priority.

In Cheshire & Merseyside, Champs has a wider public health strategy to improve high blood pressure awareness, diagnosis and encourage healthy living. In Greenwich, site stakeholders reported that tackling high blood pressure was seen as a whole system priority by senior leaders, and the Blood Pressure Award Programme project linked to the existing Live Well Greenwich scheme to promote healthy lifestyle advice. In the NHS 24 Lothian/Lanarkshire/Western Isles site, work focused on increasing access to HMHM for blood pressure had been ongoing for several years prior to the Blood Pressure Award Programme, with partners across all three Health Board areas committed to addressing hypertension as a priority.

In all three areas, stakeholders agreed that the commitment of partners across the system, as demonstrated by their shared priorities, supported the delivery of the Blood Pressure Award Programme by encouraging joint working to overcome challenges surrounding implementation, data collection and delivery.

As such, the commitment to addressing hypertension (or another relevant priority for programmes with a different focus) should be looked for when considering sites for delivering similar projects in future.

4.7 Community pharmacy as delivery partners

Three Phase 1 sites had delivery models which included working with community pharmacy colleagues to deliver blood pressure testing (Cheshire & Merseyside, Leeds and Greenwich).

Each of these sites experienced challenges with delivering blood pressure testing through community pharmacy settings, with activity at these settings less than expected. This is explored further in site case studies.

Evidence from site visits and interviews with site staff and stakeholders suggests that community pharmacy settings have experienced challenges with delivery due to a number of reasons:

- Sites reported that the location of a pharmacy can make it more or less suited to delivering blood pressure tests as part of the programme.
    - Those pharmacies which are in areas of high footfall, such as town and city centres and highstreets, were reported to be more likely to continue to engage with site projects, as may be expected given their potential to delivery higher numbers of tests. In addition, those pharmacies which were linked to or geographically situated next to GP surgeries were also reported to have been more effective at delivering blood pressure testing.
- Stakeholders also reported that some community pharmacies struggled to maintain a level of engagement with site projects due to a reliance on individual knowledge and understanding, rather than systematising their approach to delivering blood pressure testing.
    - In such cases, site stakeholders reported that pharmacies were overly reliant on the individual members of staff who attended training delivered by the site. Where these individuals were unable to lead the blood pressure testing for their pharmacy, whether due to staff turnover, working patterns or capacity issues, stakeholders reported that pharmacies tended to disengage from the site project. Conversely, in Greenwich, site stakeholders highlighted how those pharmacies which had been successful in delivering blood pressure testing throughout the course of the programme had been those which had systematised the blood pressure testing, embedding it in new staff inductions and making it part of ‘business as usual’.

- Linked to the above point, the nature of the community pharmacy workforce, often involving part-time and shift working patterns and high levels of staff turnover, was reported to present a challenge to delivering blood pressure testing through site projects.
    - Also, as highlighted in the interim evaluation report, site stakeholders reported that the training needs of community pharmacy staff had been underestimated, in particular around skills in relation to beginning conversations about blood pressure testing.

All sites offered payments to incentivise community pharmacies to deliver blood pressure tests.

Based on this, future programmes intending to work with community pharmacy staff to deliver blood pressure testing or similar services should ensure that they consider the training needs of staff, how staff turnover may impact the delivery of training, and the possibility of supporting pharmacies to systematise testing practices to embed them in their 'business as usual'. This may include e-learning opportunities, to reduce ongoing training costs, and increase flexibility of delivery.

5 Sustainability and future plans

5.1 Overview

This section explores how sites intend to continue the blood pressure testing activity following the end of the BHF funded period, and examines the sustainability of programme impacts.

5.2 Future plans for site models

Future plans for site models varied between sites, and are explored in more detail in individual site case studies. Plans are summarised below:

- **Bradford:** Bradford Districts CCG has decided not to continue the project following the end of the BHF funding in September 2019, due to funding constraints. However, the delivery partner HALE will continue to deliver a range of health and wellbeing initiatives as part of its wider work, and the training and experience gained by staff through their involvement with the Blood Pressure Award Programme will increase their knowledge and expertise in relation to blood pressure and its management.

- **Cheshire & Merseyside:** Champs has been successful in applying for Blood Pressure Award Programme funding as a Phase 2 site, and this will be explored in the final evaluation report. Of the Phase 1 activity, Champs has been able to secure commitment from partners to continue funding and delivering blood pressure testing through Fire and Rescue services, community pharmacies and health workers. In addition, funding has been secured from NHS England to support the remuneration of community pharmacies for delivering blood pressure tests for the next two years, which should further support the sustainability of the Phase 1 site model.

- **Haringey & Islington:** At the time of writing, the Haringey & Islington project has not yet come to an end and commissioning decisions regarding its future have not yet been made. However, improved hypertension detection and management is not a key priority for both local authorities.

- **Leeds:** Following the end of the BHF funded project in September 2019, site leads have submitted a written options appraisal to the Leeds CCG cardiovascular disease steering group to consider future delivery options, and a final decision on project continuity is expected by April 2020. In addition, the two pharmacies who participated with the project are continuing to deliver blood pressure testing, and the e-learning training developed by the project will continue to be available for them to support staff training.

- **Royal Borough of Greenwich:** The council will not be recommissioning the project in its current form, however, blood pressure testing has now been embedded into the council's contracting for the Live Well Greenwich service, which includes CACT as a delivery partner, highlighting that hypertension continues to be a system-wide priority for all partners.

- **NHS 24/Lothian/Lanarkshire/Western Isles:** Future funding to support the Telehealth Assistant roles and continued rollout of HMHM has been secured from the Scale-Up BP Programme, a collaboration between primary care, Scottish Government, Healthcare Improvement Scotland and the Technology Enabled Care Programme. The success of the HMHM is also contributing to the development of national guidance regarding HMHM for Scotland.

5.3 Sustainability of programme outcomes and impacts

This section explores the sustainability of programme outcomes and impacts, based on the evaluation evidence presented in this report.

In general, site stakeholders were cautiously optimistic regarding the sustainability of programme outcomes and impacts to date, but keen to stress that for many of the longer-term impacts, it is too early to say with confidence whether impacts have been achieved and sustained. As discussed above, blood pressure testing is being continued following the end of the BHF funded project in at least three of the six Phase 1 sites, with other sites awaiting decisions regarding continuation of testing activity.

In addition to this, regardless of whether testing activity is being formally continued, site stakeholders were confident that the positive impact of training and experience of delivering blood pressure testing and advice for staff and volunteers will have a sustained impact on their work in future, giving them increased knowledge, understanding and confidence in relation to managing blood pressure and associated lifestyle factors.

For participants

As discussed in section 4.2, there is evidence that site models have been able to support sustained behaviour change amongst participants, including increased exercise, healthier diets, reduced levels of smoking and alcohol intake, and better management of stress. Such behaviour change is likely to improve the management of hypertension for those participants who were subsequently diagnosed with hypertension, and to have a preventative effect for others.

For staff and services

Regarding impacts for staff and volunteers, site staff and stakeholders were confident that the increased workforce knowledge and understanding in relation to managing high blood pressure (as discussed in section 3.4) would be somewhat sustained following the end of the programme. Even in areas where blood pressure testing would not be formally continued following the end of the BHF funded project.

For the wider population

Through the continuation of the blood pressure testing activity in some sites following the end of the BHF funded project, it is likely that improved access to blood pressure testing in community settings will be sustained. Stakeholders also

suggested that the programme has helped raise hypertension up amongst local priorities for system leadership, and so may lead to a greater focus on the detection and management of hypertension in future. However, it was emphasised that it is challenging to demonstrate a sustained impact on the wider population of sites during the timescales of the programme and evaluation.

6 Recommendations for future development

Based on the evidence presented in this evaluation report, this section presents a number of recommendations for the future development of the Blood Pressure Award Programme, as well as similar programmes in the future. We recognise that not all stakeholders are likely to agree with all recommendations. However, we hope that they will support the improvement and development of the programme in the future.

Figure 38 presents the recommendations alongside a summary of the evidence on which they are based. It also refers to the report section(s) which provide further information.

Figure 38: Recommendations

Recommendation	Evidence base	Report section(s)
For the Blood Pressure Award Programme		
Recommendation 1: Review the way in which the programme, and potential future programmes, collect input, activity, output, outcome and impact data through quarterly activity reports (QARs) to ensure consistency in reporting. This should also include working with sites collaboratively from the start to ensure reporting requirements are fully understood from the outset of projects, and that sufficient systems are in place to ensure data will be available. If not already doing so, the BHF should consider allocating resource to ensuring systems are in place to capture accurate, reliable and valid data.	QAR data appears to have been reported inconsistently in places, for example in terms of additional funding and non-financial inputs. Greater clarity regarding reporting requirements, alongside regular audits of QAR data returns, may address these challenges. Sites have also faced challenges in accessing data relating to outcomes for participants who are referred on to primary care for further testing, for example whether a formal diagnosis of hypertension has been made. Such data is important in enabling the programme to assess how effectively site models have been able to target those with undetected hypertension in the community. By outlining such reporting requirements at the outset of projects, challenges such as those faced by sites with arranging access to primary care data can be addressed early and collaboratively between the BHF and all grant recipients. There is evidence from Learning Network events that this process has been taking place and that Phase 2 sites are more confident in their ability to access this data as a result. In the case of the Blood Pressure Award Programme, engagement by sites with primary care partners early on in the development process, ensuring a shared understanding of the rationale for projects and related data requests, and providing regular updates regarding the nature of the	1.4.1, 2, 4.4

Recommendation	Evidence base	Report section(s)
	intervention and potential data collection requests, may all support increased access to primary care data. In addition, for future programmes the BHF may wish to consider providing sites with dedicated funding to ensure data monitoring systems are in place to support the demonstration of impact and that sites have sufficient resource to collate and return the appropriate data.	
Recommendation 2: Continue to use Learning Network events and the Yammer sharing platform to facilitate the sharing of resources between programme sites, and sharing of common challenges and potential solutions.	Site leads were clear that the Learning Network events and Yammer sharing platform established by the BHF had been beneficial for sharing resources between sites and discussing common challenges. In particular, recent events focused on particular common challenges and facilitating a solution-focused approach to addressing these were found to have been valuable. The BHF should consider emphasising the sharing of resources such as testing protocols, data capture templates and communication and engagement materials between sites, as site leads reported that these resources have the most cross-over between projects and the greatest potential for sharing examples of successful materials based on their use elsewhere.	2.6.1
Recommendation 3: Review programme output targets on a site-by-site basis, to take into account the variety of site models being used.	Apart from the NHS 24/Lothian/Lanarkshire/Western Isles site, projects were working towards a target of 10,000 blood pressure tests to be delivered over two years. Due to the differences in site delivery models, with some sites for example delivering testing through dedicated 30 minute one-to-one consultations,	2.5

Recommendation	Evidence base	Report section(s)
	and others using community events to deliver significantly shorter, opportunistic testing, the BHF may wish to consider reviewing programme output targets in light of the different intensity of intervention being delivered. This is particularly the case given changes to site delivery models, which may have resulted in a different delivery approach being taken to what was originally intended, e.g. in Leeds where testing in community pharmacies was not able to take place at the scale it was originally intended to. Site leads reported that, in cases where changes to project delivery models during the course of the programme, as mentioned above, made it unlikely that the site would achieve its original targets, revised targets may increase motivation amongst delivery partners.	
Recommendation 4: Consider expanding the aims of the programme to include an aim to improve awareness of hypertension and promote appropriate long-term preventative action amongst local populations.	As well as work to increase the detection and management of people with undiagnosed hypertension and increase accessibility to blood pressure testing in wider community settings, the evaluation has found that sites are delivering substantial level of awareness-raising information to participants who currently have normal blood pressure. This takes the form of information, advice and signposting to relevant behaviour change interventions such as exercise classes, health eating courses and smoking cessation services. This activity is likely to have a long-term preventative effect on the health of local populations (if behaviour changes are sustained). Expanding the aims of the programme to include this aim would formally recognise this aspect	1.2.2, 2.5.2

Recommendation	Evidence base	Report section(s)
	of sites' activity, and promote the potential benefits the programme may be having at a local population level.	
Recommendation 5: If not already in place, the programme should develop a communication plan and dissemination strategy for spreading the findings from the programme's evaluation.	This evaluation report highlights a number of positive findings, key successes, and useful learning for the future. Programme sites have provided time and information to the evaluation to enable this. Findings are likely to be of interest both to programme sites (across both Phase 1 and Phase 2), and also more widely as they are applicable both to the delivery of blood pressure testing, and the delivery of wider community-based testing initiatives.	2.2, 3.2, 4
For future programmes		
Recommendation 6: When considering applications for funding for similar programmes, sites should be encouraged to use a logic model approach to outline their proposed site model.	As mentioned above, sites were not always able to collect robust data in relation to their project's inputs, activities, outputs, outcomes and impacts. In addition, delivery models varied widely between sites, making it challenging to add to the evidence base on the detection of high blood pressure. This approach, outlining the proposed inputs, activities, outputs, outcomes and impacts for a potential intervention, ensures that: • There is a clear rationale for why suggested activities are taking place, and how they will contribute to outcomes and impacts • Required inputs, above and beyond core grant funding, can be identified • Funded projects are clearly linked to the overall outcomes and impacts of the wider programme	1.2.2, 1.2.3

Recommendation	Evidence base	Report section(s)
	• Data collection processes can be put in place early on, linked to expected outputs, outcomes and impacts Such an approach will support the BHF to ensure all funded projects are clearly linked to the overall aims and objectives of the wider programme. This will also support the development of evidence regarding effective approaches to delivering specific aims and objectives.	
Recommendation 7: When developing future programmes which are likely to engage with community pharmacy partners to deliver interventions, ensure training and support is delivered with a focus on systematising delivery approaches to ensure the risk of knowledge being held by individuals is minimised. Such training should also consider findings from this evaluation that existing skills in relation to beginning conversations about health and wellbeing with members of the public had been overestimated, and ensure sufficient focus is given to developing these skills where appropriate.	The evaluation found evidence that those community pharmacies which were most successful at delivering blood pressure testing over the course of the programme, were those where testing activity had been embedded in the everyday operation of the pharmacy, with training embedded in new staff inductions and delivering the intervention becoming part of 'business as usual'. By supporting community pharmacies to systematise approaches to delivering interventions in future programmes, this evidence can be built upon, leading to greater success and sustainability with delivering interventions. Linked to this, site stakeholders reported that the training needs of community pharmacy staff had been underestimated, in particular around skills in relation to beginning conversations about blood pressure testing. This should be taken into account when considering training needs for future programmes.	4.7

Recommendation	Evidence base	Report section(s)
Recommendation 8: When assessing potential sites for future programmes, consideration should be given to prioritising those sites with evidenced experience of delivering community outreach services, with strong working relationships between key partners, and a cross-system commitment to programme priorities.	The evaluation found evidence that those sites which have had the greatest success at delivering blood pressure testing in community settings are those where delivering partners had previous experience of delivering community outreach services, and as a result had structures in place to support delivery of blood pressure testing. In addition, the most successful sites demonstrated strong working relationships between key partners, including between commissioners and delivery partners, with evidence of having worked together effectively in the past. Successful sites also had a cross-system commitment to delivering the programme priorities regarding the detection and management of hypertension.	4.5, 4.6

7 Appendices

7.1 Phase 1 site case studies

Bradford

BHF Bradford site case study.pdf

Cheshire & Merseyside

BHF Champs site case study.pdf

Greenwich

BHF Greenwich site case study.pdf

Haringey & Islington

BHF H&I site case study.pdf

Leeds

BHF Leeds site case study.pdf

NHS 24/Lothian/Lanarkshire/Western Isles

BHF NHS24 site case study.pdf

7.2 Characteristics of stakeholder e-survey respondents

In total, 120 responses to the T2 e-survey were received. This compares to 144 respondents to the T1 survey. As shown in Figure 39, we received the largest

response from stakeholders in Royal Borough of Greenwich (40%, 48), followed by Cheshire & Merseyside (32%, 38) and lower levels of response from Haringey & Islington (12%, 14), Leeds (11%, 13) and Bradford (6%, 7).

The survey featured greater variance in site than T1, where 70% of respondents were associated with the same site (Cheshire & Merseyside), as indicated in Figure 39.

Figure 39: Which BHF Blood Pressure Award Programme site are you associated with?

Survey respondents by site	T1		T2	
	# of respondents	% of total respondents	# of respondents	% of total respondents
Royal Borough of Greenwich	3	2%	48	40%
Cheshire & Merseyside	103	70%	38	32%
Haringey & Islington	11	7%	14	12%
Leeds	18	13%	13	11%
Bradford	9	6%	7	6%
Total		**144**		**120**

Figure 40 shows that:

- 31% (37) of survey respondents were pharmacy staff
- 21% (26) were GP practice staff
- 17% (21) worked for voluntary/community sector organisations
- 16% (19) were local authority staff

The 'other' organisations that stakeholders reported working for included private health organisations and local pharmaceutical committees.

Figure 40 also indicates that this iteration of the survey saw a greater variance in terms of organisations that respondents worked for, in comparison with T1 wherein the majority of survey respondents were pharmacy staff (52%, 73).

Each site also differed greatly in terms of the organisations its respondents worked for; for example, 54% of survey respondents from the Greenwich site (26) were GP practice staff, while 85% of survey respondents from the Cheshire & Merseyside site (33) were pharmacy staff. A large majority of respondents within

each of the survey sites aligned with a specific profession. As such, caution should be taken in attempts to analyse variations in response across sites, as these variations may have more to do with the differences in professions than the sites themselves.

Figure 40: Which type of organisation do you work for? (T1, n=140; T2, n=120)

Survey respondents by type of organisation	T1		T2	
	# of respondents	% of total respondents	# of respondents	% of total respondents
Pharmacy	73	52%	37	31%
GP practice	17	12%	26	21%
Voluntary/Community sector organisation	14	10%	21	17%
Local authority	26	19%	19	16%
Other	14	10%	10	8%
Other NHS service/provider	5	4%	7	6%
Clinical Commissioning Group (CCG)	5	4%	6	5%
Hospital Trust	0	0%	0	0%

Figure 41 shows that:

- 42% of survey respondents (50) of respondents worked on the frontline delivering BHF funded blood pressure tests
- 28% of respondents (33) worked in management roles at either the strategic or the operational level
- The 'other' roles that stakeholders reported holding included social workers and practice managers

Figure 41 also shows that while frontline staff is still the most represented role, there was a drop in representation of frontline staff between T1 and T2, from 54% (78) to 42% (50), and an increase in strategic or operational management staff from 23% (34) to 28% (33).

The previous survey discussed the possibility that stakeholders being unaware or unsure about certain programme outcomes and impacts could be attributed to the fact that the majority of survey respondents worked in frontline roles and thus may not have had oversight in these areas; however, this increase in strategic or

operational management staff does not appear to have effectively mitigated such responses.

Figure 41: Please select the option that best describes your role (T1, n=145; T2, n=120)

Survey respondents by type of organisation	T1		T2	
	# of respondents	% of total respondents	# of respondents	% of total respondents
Delivering BHF funded blood pressure tests e.g. optician, community pharmacist, VCS, staff/volunteer, etc.	78	54%	50	42%
Strategic/operational management role e.g. public health officer, local authority staff, etc.	34	23%	33	28%
Other clinical healthcare role e.g. GP, general practice nurse, etc.	18	12%	24	20%
None of the above	15	10%	13	11%

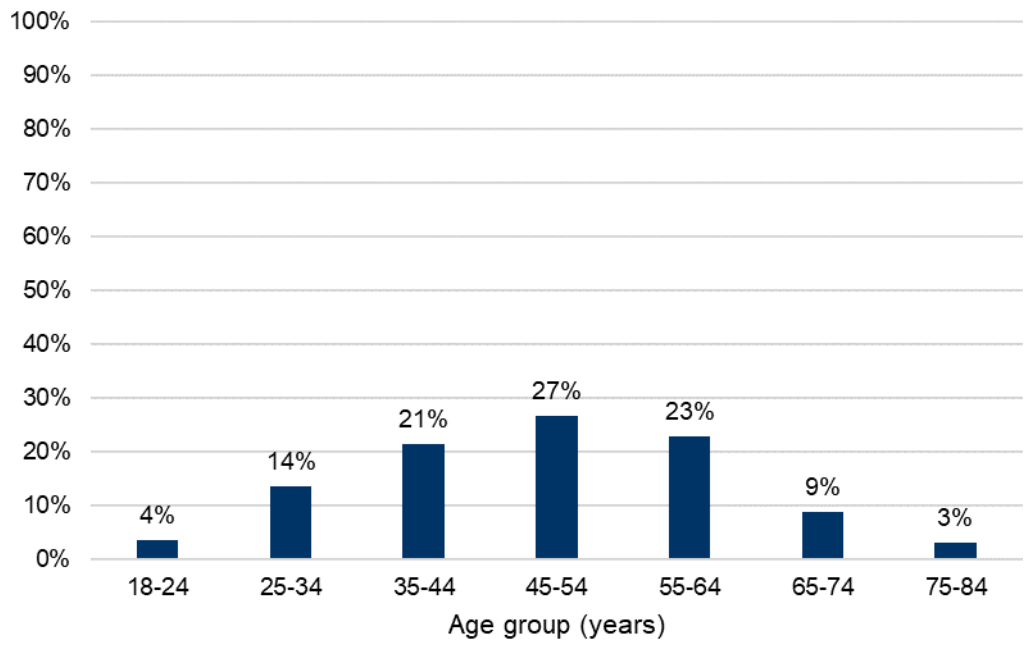
7.3 Demographic data of participant e-survey respondents

As noted in 1.4.4, 308 survey responses were received in total: 163 from Bradford, 115 from Greenwich, and 30 from Haringey & Islington.

Age

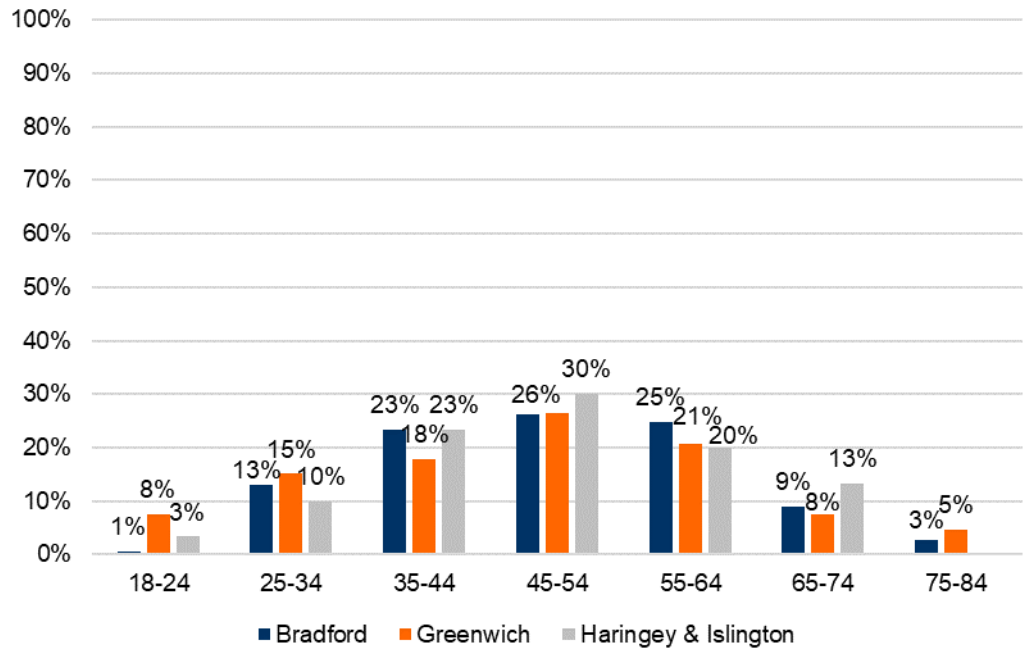
- Most participants (83%) were over 35, with 62% over 45 (see Figure 42).
- Half of respondents occupied the 45-64 age group.

Figure 42: Age of respondents (n=281)



- This was mostly consistent across the three sites, with the majority of respondents in the 35-64 age bracket (Figure 43).
- However, Greenwich had a higher proportion of respondents from the younger age groups, with 23% below 35 in comparison with 14% and 13% respectively of Bradford and Haringey & Islington respondents.

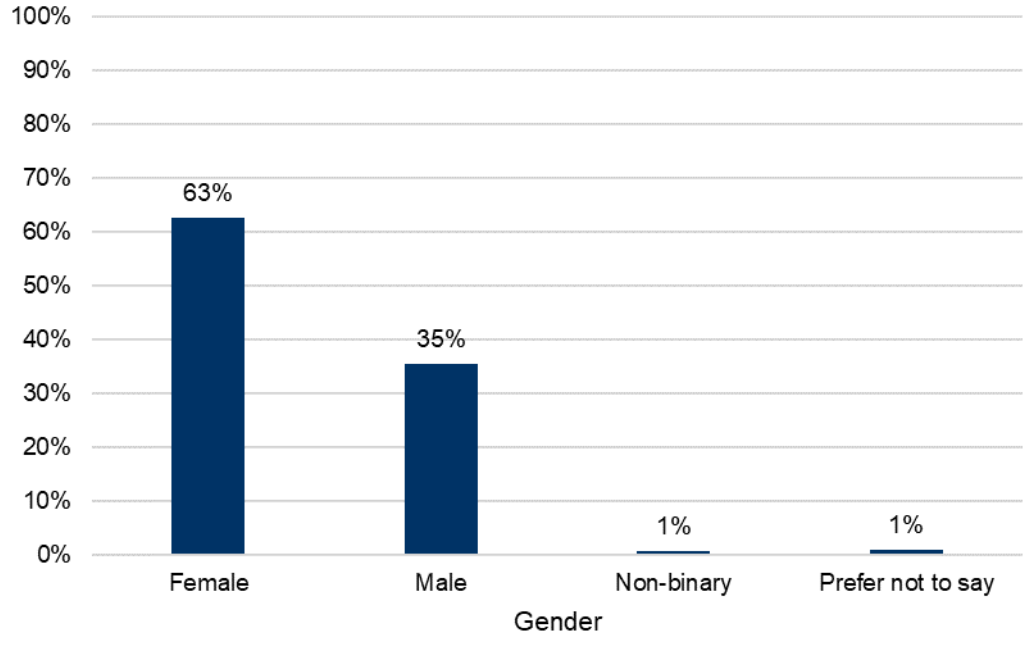
Figure 43: Age of respondents by site (Bradford n=145, Greenwich n=106, Haringey & Islington n=30)



Gender

Most respondents to the e-survey were female (63%, 175 people, Figure 44).

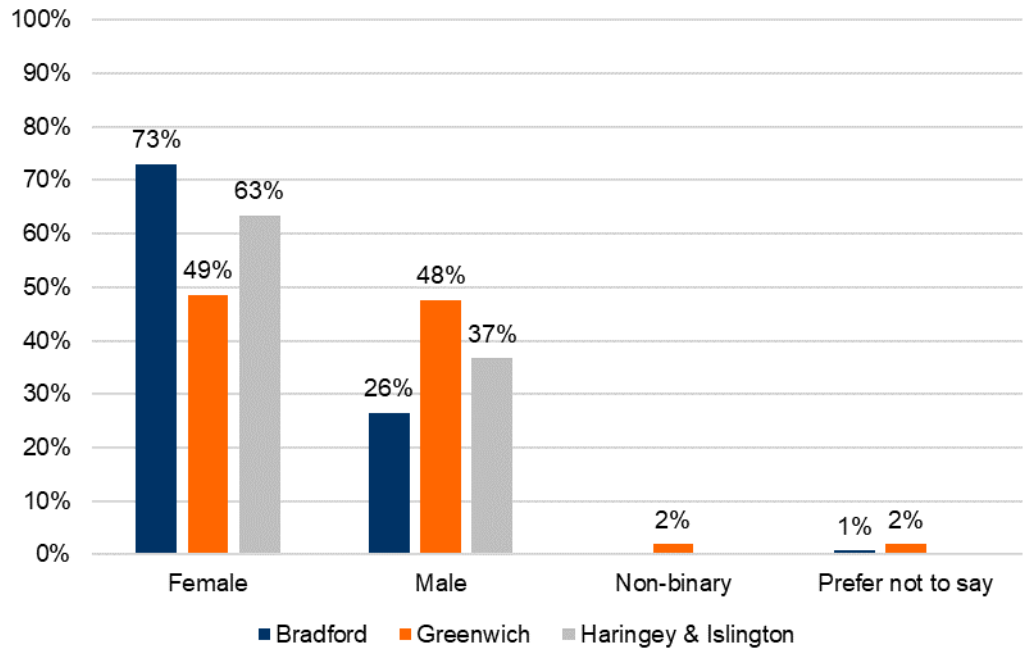
Figure 44: Gender of participants (n=279)



Gender representation differed across the three sites (Figure 45).

- The Haringey & Islington respondents were divided approximately as above (63% female to 37% male).
- Bradford had a higher proportion of female to male respondents (73% and 26%).
- Greenwich had around 50% each of female and male respondents.

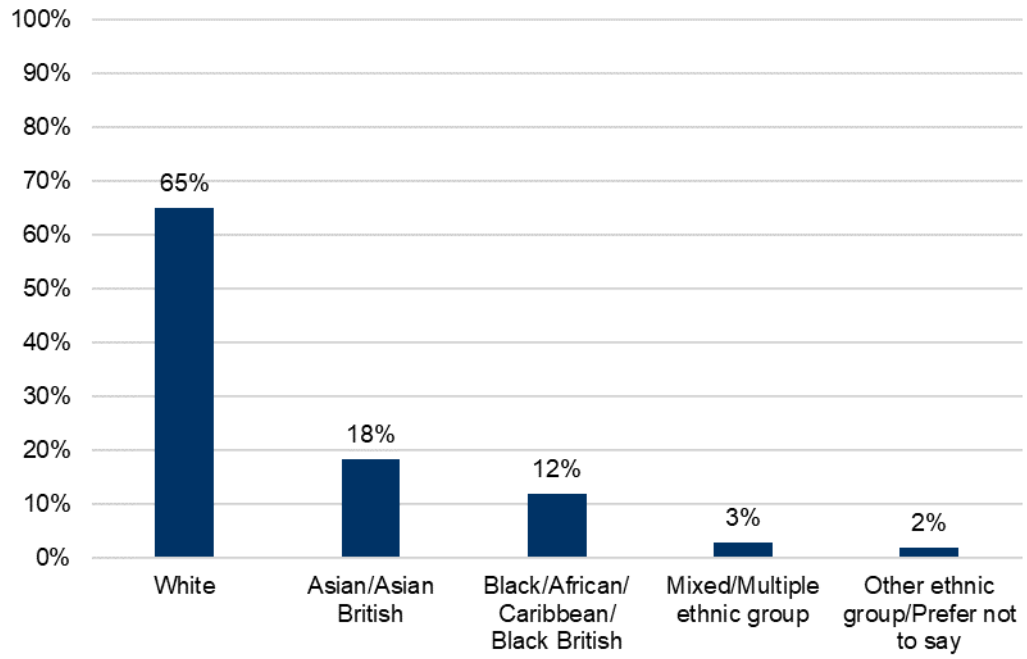
Figure 45: Gender of respondents by site (Bradford n=144, Greenwich n=105, Haringey & Islington n=30)



Ethnicity

Around two thirds of participants (65%) were White, with the second largest group (18%) being Asian/Asian British (Figure 46).

Figure 46: Ethnicity of participants (n=278)



There were differences in ethnicity by site (Figure 47):

- Haringey & Islington had a much higher proportion of White respondents (80%), in comparison with 72% for Bradford and 51% for Greenwich.
- Bradford had the highest proportion of Asian/Asian British respondents (25%), in comparison with 14% for Greenwich and 0% for Haringey & Islington (although note the small sample size of 30 for the latter).
- Greenwich had the highest proportion of Black/African/Caribbean/Black British respondents (27%), in comparison with 17% in Haringey & Islington and 0% for Bradford.

Figure 47: Ethnicity of participants by site (Bradford n=143, Greenwich n=105, Haringey & Islington n=30)

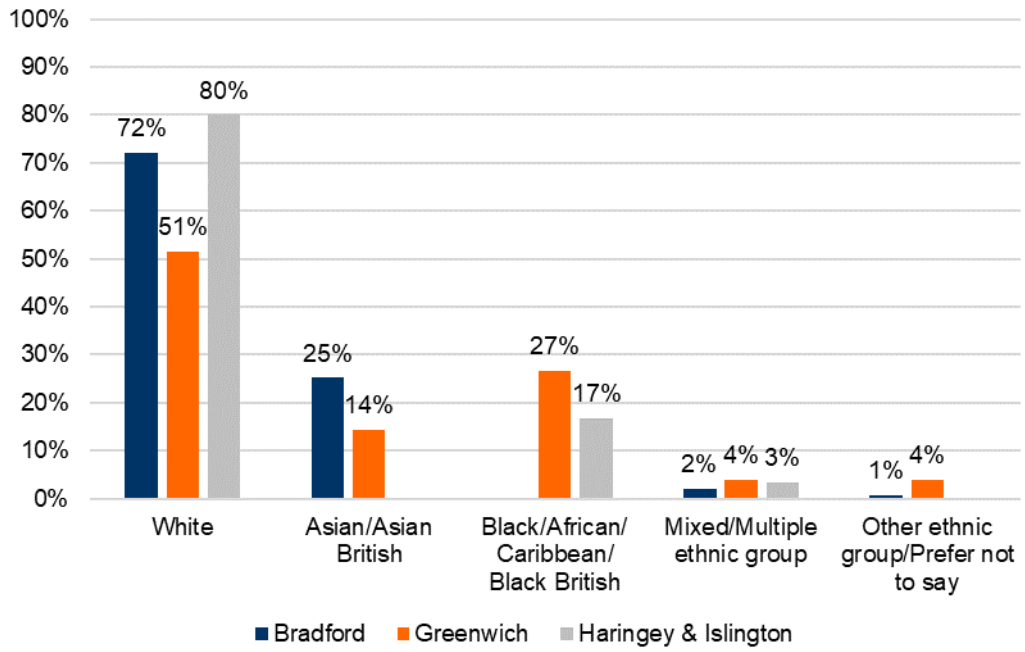
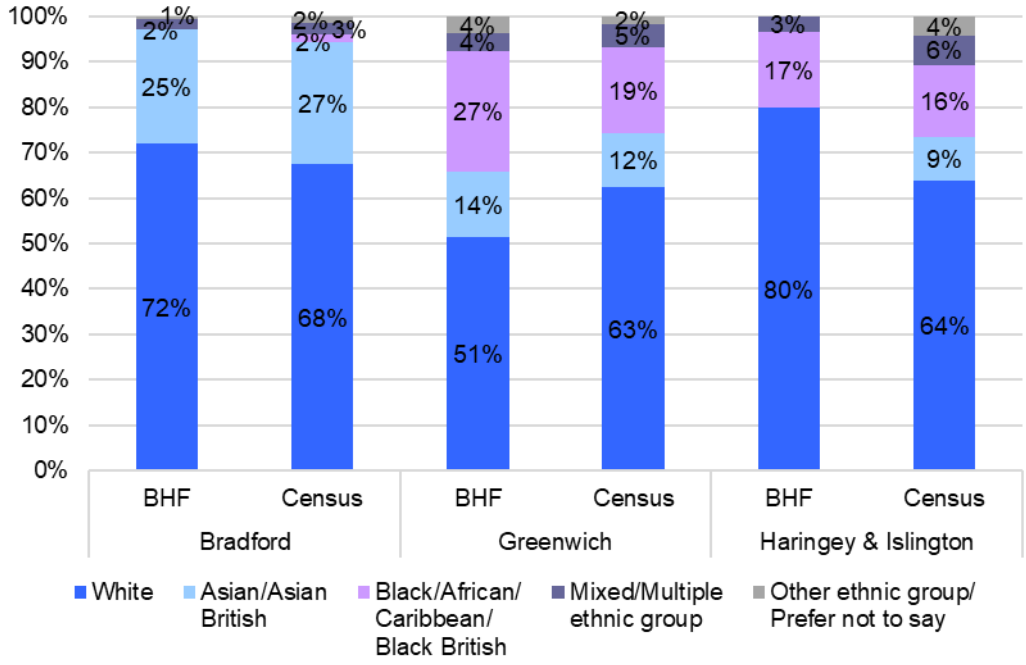


Figure 48 compares the ethnicity of participants with demographic data from the 2011 census data for the three sites.

- Participants in the BHF programme in Bradford are fairly representative of the population.
- In Greenwich, Black/African/Caribbean/Black British people are overrepresented in the study, with this group making up 27% of survey participants despite being 19% of the Greenwich population, according to census data. Conversely, White people are slightly underrepresented, making up 51% of those surveyed, despite being 63% of the Greenwich population.
- In Haringey & Islington, 64% of the population is White, yet they made up 80% of participants, meaning they are overrepresented. Asian/Asian British people are underrepresented, with none taking part in the study despite making up 9% of the Haringey & Islington population.

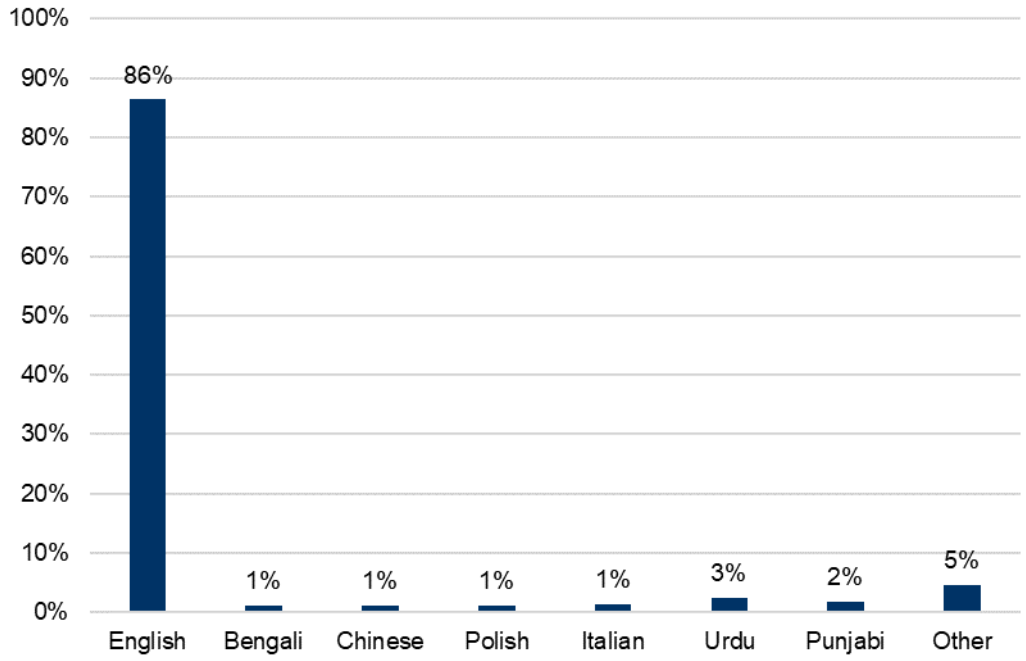
Figure 48: Ethnicity of participants by site compared with 2011 Census demographic data



Language

The majority of respondents (86%) usually used English (Figure 49). The next largest single languages were Urdu (3%) and Punjabi (2%).

Figure 49: Which language do you usually use? (n=279)



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