Community Led Hypertension Detection in Brent

A Population Health Case Study of the Microtech Community Health Pod Model May 2026

Executive Summary

Hypertension remains one of the most significant and modifiable risk factors for cardiovascular disease, yet a substantial proportion of adults particularly those least engaged with routine primary care remain undiagnosed or sub optimally managed. This study presents a real-world data and findings from the London Borough of Brent, examining the population health and system level impact of deploying Microtech Health Pods as a community-based blood pressure detection and engagement intervention.

Drawing on observed screening data and conservative extrapolation, the case study demonstrates that community located hypertension detection can uncover substantial hidden cardiovascular risk, enable earlier clinical intervention, and deliver meaningful reductions in avoidable stroke, myocardial infarction, and downstream care costs. The findings position the HealthPod model as a scalable, evidence led mechanism for strengthening upstream cardiovascular prevention at population scale. The evidence demonstrates that community-located screening identifies a substantial volume of previously unmet cardiovascular risk and provides a scalable, cost-effective route to earlier clinical intervention, reduced acute events, and material NHS savings.

Using NICE aligned screening protocols, around one in five adults (20.8%) screened recorded blood pressure readings in the range indicative of Stage 1 hypertension or above, with around one in twenty (5.0%) recording readings indicative of Stage 2 hypertension or hypertensive crisis.

These findings represent screen detected elevated blood pressure, not formal clinical diagnoses. Individuals with persistently elevated readings during a single screening encounter are identified as requiring further clinical investigation, in line with NICE guidance.

Importantly, a clinically significant high-risk group, around 5% of adults screened were identified with readings indicative of Stage 2 hypertension or hypertensive crisis. This cohort represents individuals for whom rapid progression from screening into confirmatory assessment and clinical management is clinically indicated, given the strong association with avoidable stroke, myocardial infarction.

1. Background and Rationale

Cardiovascular disease remains a leading cause of morbidity, mortality, and health system pressure across England. Hypertension is the most prevalent and treatable risk factor, yet detection and engagement challenges persist particularly among residents who do not routinely access general practice or preventive services.

Community-based health infrastructure offers an opportunity to shift identification and engagement upstream, closer to residents' everyday environments. The Community HealthPod model was deployed in Brent to test whether trusted, accessible community settings could meaningfully improve hypertension detection and connection into clinical pathways.

2. Intervention Overview: The Community HealthPod Model

The Microtech HealthPod delivers structured blood pressure screening with GP system coding, alerts, integration and engagement within non-clinical, high-footfall community venues such as libraries and community hubs.

The model is designed to:

- Reach residents least likely to access traditional primary care
- Identify previously undiagnosed or poorly controlled hypertension
- Act as a front door into cardiovascular prevention
- Facilitate timely referral and engagement with general practice

By relocating identification activity into community settings, the Pods complement existing primary care capacity rather than displacing it, enabling earlier detection without increasing demand on GP appointments for opportunistic screening.

The Community HealthPod functions as a screening and risk dentification intervention, rather than a diagnostic service. Blood pressure measurements are taken using validated devices and NICE aligned protocols, with up to three readings captured during a single encounter.

Within the Brent case study, consistently elevated blood pressure readings recorded during a single screening session are treated as sufficient evidence to progress the individual to the next stage of the care pathway. At this point, responsibility moves from community-based screening into general practice, where a confirmatory phase of investigation can take place.

GP practices connected to the HealthPod system receive configurable alerts when a registered patient records a raised blood pressure reading. In parallel, the individual is prompted on the HealthPod screen to arrange an appointment with their GP, ensuring timely follow-up and continuation of appropriate clinical care.

Blood pressure measurement context matters, and there is well established evidence that readings taken in traditional clinical environments may overestimate true underlying blood pressure for a proportion of patients.

"Evidence indicates that blood pressure readings taken outside traditional clinical environments often better reflect true underlying blood pressure. White-coat hypertension driven by anxiety, time pressure, and the clinical setting itself affects up to 30% of adults, with office readings overstating systolic blood pressure by 10–30 mmHg in some individuals. Community-based settings reduce anticipatory stress and enable standardised, unhurried measurement, producing readings more consistent with home and ambulatory monitoring, which are known to correlate more closely with cardiovascular risk." (White-Coat Hypertension: Tips for Stress-Free Blood Pressure Readings | Ochsner Health)

3. Observed Screening Outcomes in Brent

3.1 Blood Pressure Risk Profile

Community screening conducted through the Health Pods revealed a concentrated burden of previously unmet cardiovascular risk within the screened population.

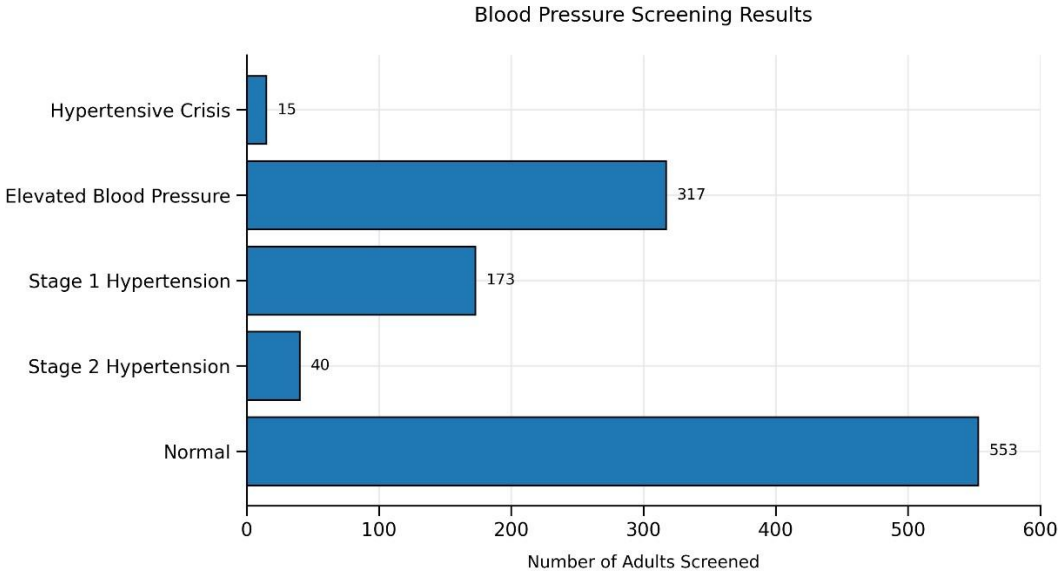
Table 1. Distribution of Blood Pressure Readings (HealthPod Screenings, Brent)

Indicative Blood pressure category	Share of adults screened	Clinical relevance
Normal	50.4%	Low immediate cardiovascular risk
Elevated	28.9%	Increased future risk without lifestyle intervention
Stage 1 hypertension	15.8%	Clinically significant; major prevention opportunity
Stage 2 hypertension	3.6%	High risk of stroke and myocardial infarction
Hypertensive cr	1.4%	Immediate risk requiring urgent clinical escalation
Total Stage 1+ hypertension	20.8%	1 in 5 adults screened met thresholds indicative of Stage 1 hypertension or above

1 in 5 adults screened met screening thresholds indicative of Stage 1 hypertension or above.

These readings signal elevated cardiovascular risk and the need for further assessment, rather than representing a formal diagnosis at the point of screening.

A substantial proportion of these individuals had no previous diagnosis or limited engagement with routine care, indicating that community delivery is revealing risk that would otherwise remain undetected. Blood pressure screening followed NICE aligned protocols, with up to three readings recorded per encounter. Where multiple readings were taken, these reflect a single screening episode rather than multiple individuals. The observed distribution therefore represents conservative estimates of underlying cardiovascular risk. **Table 2. Screening results with indicative hypertension classification**



Blood pressure screening followed NICE aligned protocols, with up to three readings recorded within a single screening encounter. Where elevated readings persisted across measurements, individuals were flagged as requiring further clinical review.

It is important to note that these results reflect screen detected blood pressure risk, not clinically diagnosed hypertension. Formal diagnosis occurs following confirmatory assessment in primary care, typically involving home or ambulatory blood pressure monitoring during normal daily activity.

4. Population Level Impact: Extrapolation for Brent

4.1 Estimated Scale of Unmet Need

Applying the observed screening proportions to the estimated adult population of Brent illustrates the scale of treatable cardiovascular risk at borough level.

Table 3. Extrapolated Population Impact (Brent)

Metri	Observed / estimated impact
Total Brent population	~353,000
Estimated adult population	~275,000
Adults estimated to have blood pres Stage 1 hypertension or above	~57,200
Adults estimated to have blood pres Stage 2 or crisis hypertension	~13,750
Strokes potentially avoided per year	~140
Heart attacks potentially avoided pe	~113

This extrapolation suggests a substantial preventable burden of stroke, myocardial infarction, long-term disability, and dependency if hypertension remains uncontrolled.

These estimates represent the potential scale of unmet cardiovascular risk within the adult population, based on observed community screening results. They should be interpreted as indicative of individuals likely to require further clinical investigation, rather than as confirmed prevalence of diagnosed hypertension.

5. Health System Impact and Economic Implications

5.1 Clinical Outcomes

Robust clinical evidence demonstrates that effective management of Stage 1 and Stage 2 hypertension leads to:

- Significant reductions in first stroke
- Reductions in myocardial infarction
- Lower emergency admissions and hyper-acute stroke activity
- Reduced long-term disability and social care need

At Brent scale, Health Pod enabled identification and engagement has the potential to prevent hundreds of major cardiovascular events annually.

5.2 Indicative NHS Cost Avoidance

Estimated Baseline Cardiovascular Events in Brent

- Strokes: ~510 per year
- Myocardial infarctions: ~410 per year
- Approximately 55**%** attributable to uncontrolled hypertension
- This reflects national evidence on hypertension-related cardiovascular risk
- These estimates reflect population-level risk reduction associated with improved blood pressure control in the highest-risk cohort, rather than event incidence within the treated individuals alone.

Average NHS Cost per Event

- Stroke (acute and first year): ~£45,000
- Myocardial infarction (acute and first year): ~£20,000

Preventable Events Scenario

- Assume effective BP control achieved in 50% of adults with Stage 2 hypertension or hypertensive crisis
- Equivalent to intervention in ~6,900 high-risk adults borough-wide
- Prevented strokes per year: ~140
- Prevented myocardial infarctions per year: ~113

Estimated Annual NHS Savings (Brent)

- Stroke cost reduction: ~£6.3 million
- MI (Heart attack) cost reduction: ~£2.3 million

Total direct NHS savings: ~£8.6 million per year

These estimates exclude wider productivity losses, informal care, and long-term social care costs, indicating that total system benefit is likely higher.

6. Strategic and System Value

The Community HealthPod model represents a scalable, evidence-based population health intervention that:

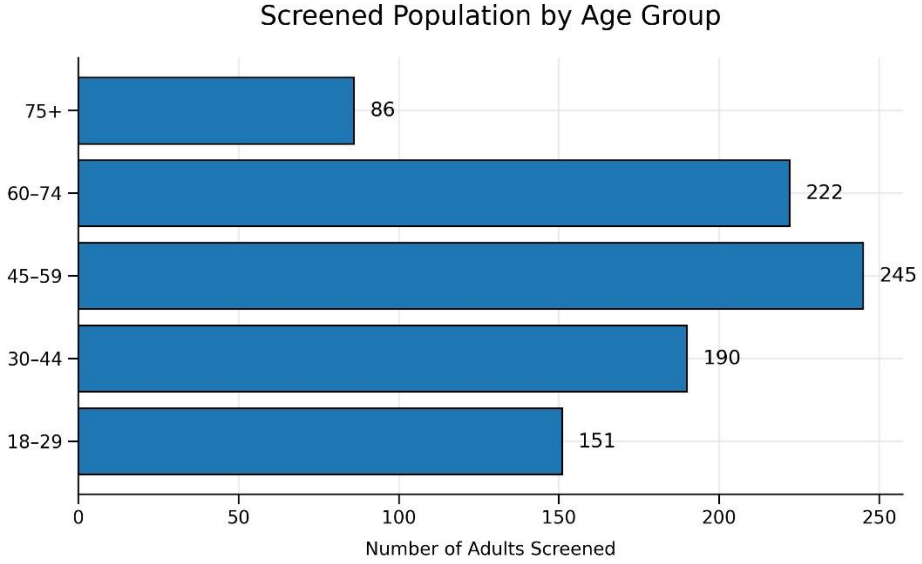
- Extends cardiovascular identification beyond clinical environments
- Reaches residents with the lowest routine healthcare engagement

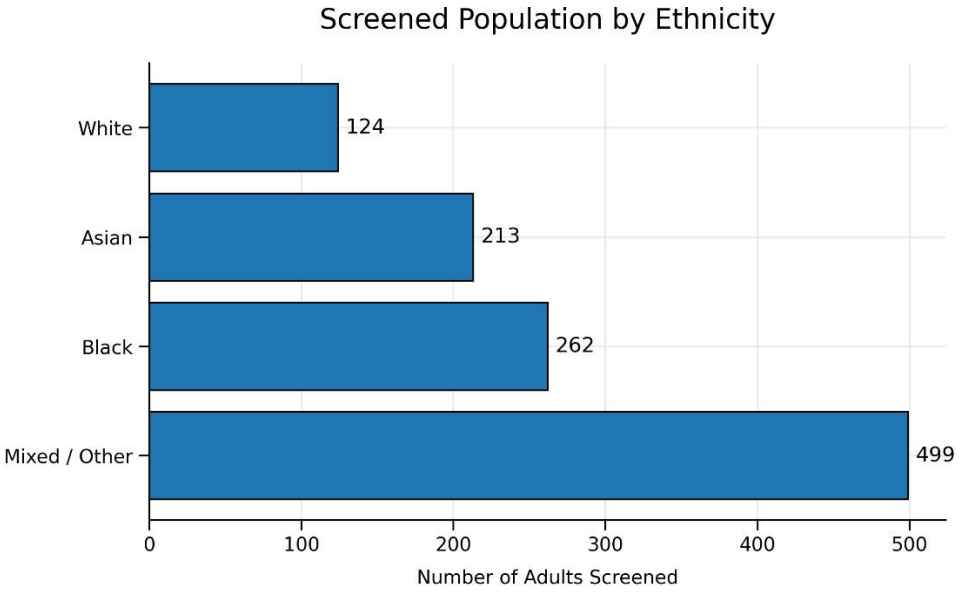
- Strengthens upstream prevention pathways
- Reduces downstream pressure on acute, rehabilitation, and social care services

Crucially, the model allows health systems to act earlier, closer to communities, and at scale without increasing pressure on general practice or hospital capacity.

From a QOF perspective, community-based blood pressure identification directly supports PCN delivery of hypertension and cardiovascular disease indicators by improving case finding, register accuracy, and timely progression to structured review. Earlier identification of patients with persistently elevated or Stage 1–2 hypertension supports achievement of hypertension prevalence and control indicators, while clearer stratification enables more targeted medication review and lifestyle intervention. In addition, identifying previously unrecorded hypertension materially strengthens cardiovascular risk profiling, supporting downstream CVD prevention activity aligned to broader cardiometabolic QOF objectives.

Table 4. Age and ethnicity





Taken together, the age and ethnicity patterns demonstrate that community-based blood pressure screening is not simply increasing volume but improving the quality of case-finding. The model preferentially reaches:

- adults at genuine risk of hypertension,
- populations less likely to attend routine reviews,
- and groups where earlier intervention can meaningfully reduce future clinical complexity.

For PCNs, this translates into clearer, more relevant cohorts entering primary care pathways, enabling proactive, planned hypertension management aligned with existing QOF and long-term condition workflows rather than opportunistic detection during pressured consultations.

7. Conclusion

The Brent case study demonstrates that community-based hypertension detection through Microtech Health Pods delivers material population health and system benefits. Scaling this approach offers a high-impact opportunity to:

- Prevent avoidable stroke and myocardial infarction
- Reduce long-term disability and loss of independence
- Improve cardiovascular equity and access
- Deliver measurable, recurring savings to the NHS

The evidence supports the Health Pods as a critical enabler of population-level cardiovascular event prevention within Brent and a compelling model for wider system adoption.

This case study demonstrates that community-based blood pressure screening can play a meaningful role in strengthening primary care hypertension management by identifying unmet need earlier and in settings that patients are more likely to access. The Brent experience shows that Health Pods reach populations at demonstrable cardiovascular risk, including working-age adults and ethnically diverse communities, and generate clinically relevant cohorts that can be routed into existing primary care and QOF aligned workflows. For PCNs, this model supports proactive case-finding, cleaner registers, and better-prioritised reviews, helping shift hypertension management from opportunistic detection toward planned, population-based care without increasing appointment pressure.

For more information on this work please email Julie.Shearer@microtech-group.co.uk

Methodological Note: Screening, Thresholds and Clinical Confirmation

Blood pressure measurements reported in this case study are derived from community-based screening encounters, not from formal diagnostic consultations. The Microtech Health Pods operate as a risk-identification and engagement intervention, using validated devices and NICE-aligned protocols to capture up to three readings within a single screening episode.

Where elevated blood pressure readings persist across repeated measurements during the same encounter, individuals are identified as having screen-detected blood pressure levels indicative of hypertension. Meeting this threshold is sufficient to trigger progression to the next stage of the clinical pathway, with responsibility transitioning to general practice.

In line with NICE guidance, formal diagnosis of hypertension takes place in primary care following confirmatory assessment, typically through home or ambulatory blood pressure monitoring conducted during normal daily activity. All prevalence figures and population extrapolations presented therefore reflect the indicative scale of unmet cardiovascular risk and investigation need, rather than the confirmed prevalence of diagnosed hypertension.