

Community Breast Pain Clinics are reproducible and can provide cost effective management for women presenting with breast pain

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Abstract

Community Breast Pain Clinics (CBPCs) are a novel service tackling the rising number of breast symptomatic 2-week wait (2WW) referrals. To determine whether the clinics can be adopted and rolled out at further sites, this evaluation assesses the impact on patients and care pathways within **five pilots in the East Midlands.**

The evaluation used a mixed method methodology, with quantitative and qualitative analysis with pseudonymised data on patients care from the CBPCs, secondary care (where applicable) and Family History data ranging from 01/06/21-01/11/22 with 6-24 months data for each site.

The clinical outcomes for breast pain patients were found to be broadly similar across all sites (Table 1). Alongside extremely positive patient feedback, with 98.5% likely to recommend the service, across all pilots in the first year **for every pound (£) spent, the health system received £1.23 back in benefits**

Introduction

There is strong evidence that breast pain, or mastalgia, as a standalone symptom has no association with breast cancer. However, this presentation within primary care often results in an urgent referral onto a 2-week-wait (2WW) breast cancer diagnostic pathway. This leads to unnecessary patient anxiety, diagnostic tests and ultimately adds pressure to 2WW clinics that are already running under significant pressure.

The East Midland Breast Pain Pathway (EMBPP) with Community Breast Pain Clinics (CBPCs) is a novel service tackling the rising number of breast symptomatic 2WW referrals. Historically, patients experiencing breast pain as their only symptom would be managed within primary care with no onward referral or referred to the 2WW pathway.

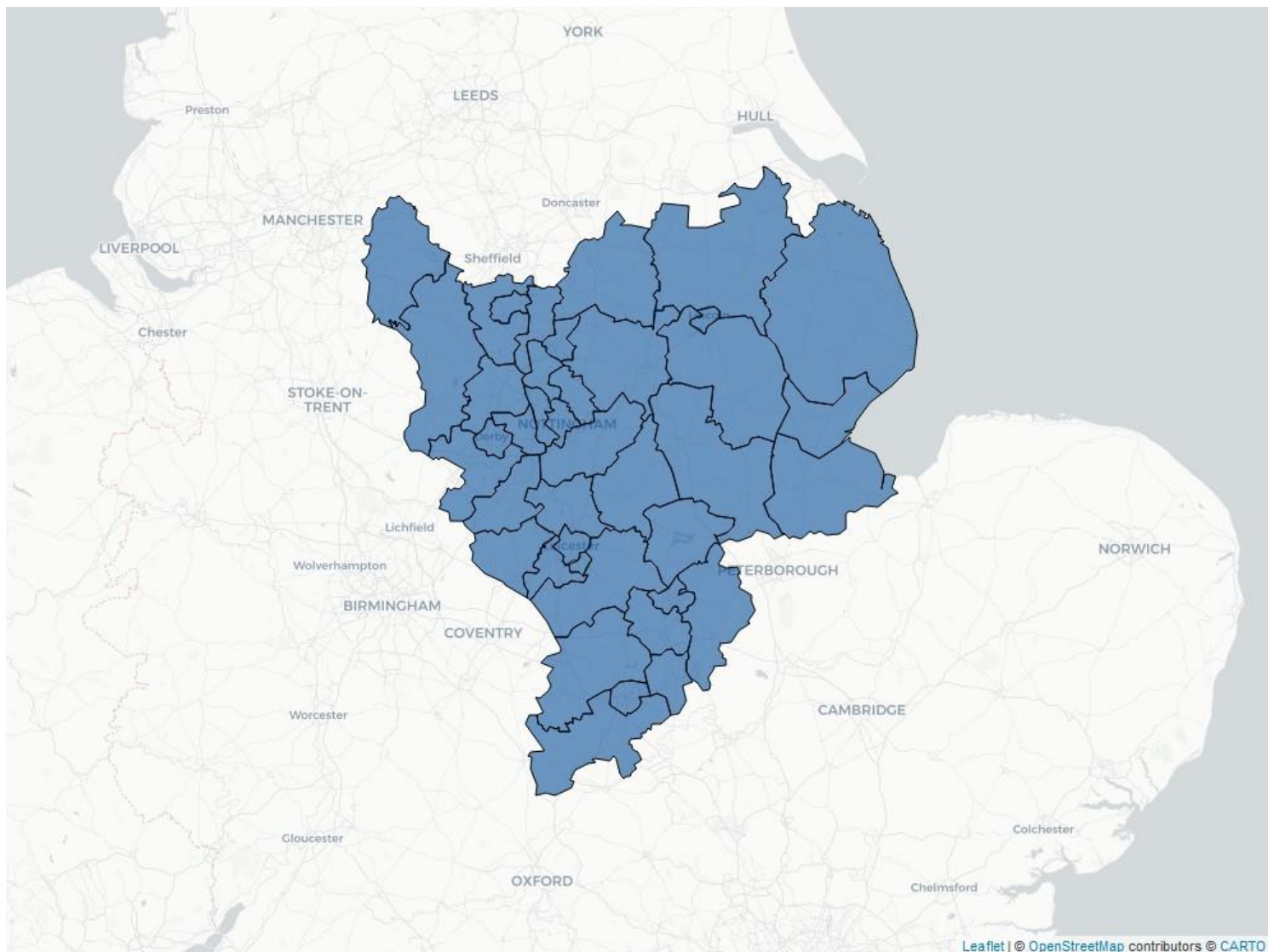
To determine whether the clinics can be adopted and rolled out at further sites, this evaluation utilises quantitative analysis of CBPC data and patient Reported Outcome Measures (PROMs) to assess the impact within five pilots in the East Midlands.

Methods and Materials

The evaluation used a mixed method methodology, with quantitative and qualitative analysis using RStudio. Pseudonymised data on patients care from the CBPCs, secondary care (where applicable) and Family History data (FaHRAS, UK) was obtained from each location, covering each pilot period (start ranging 01/06/21-01/11/22 with 6-24 months data).

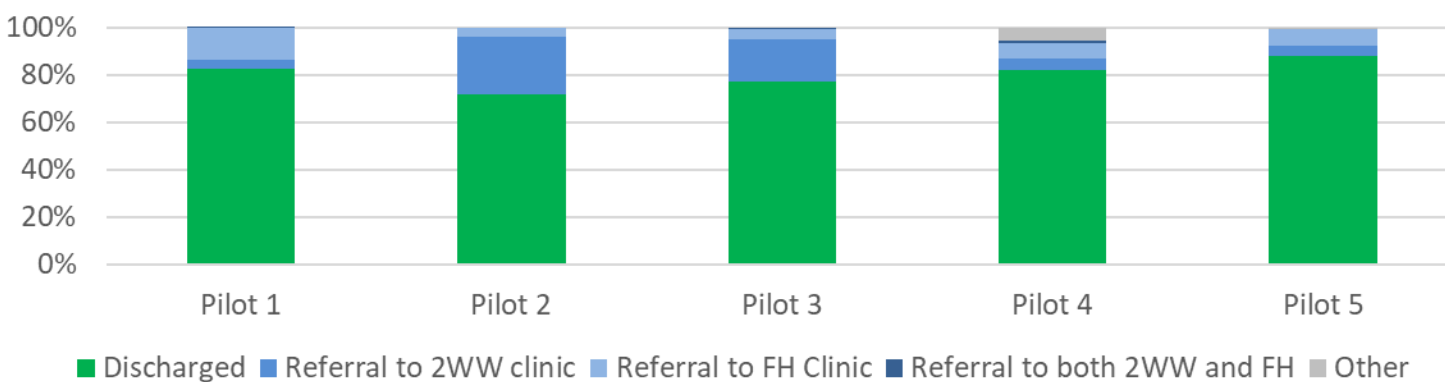
The initial population-based pilot within Derbyshire (population ~1 million) which is served by two Secondary Care Breast Units (Royal Derby Hospital and Chesterfield Royal Hospital), involved setting up three CBPCs per week at two community locations. Since then, the CBPCs have expanded across the East Midlands (population ~5.5 million). The area covered is depicted in Figure 1. Since the implementation of CBPCs in Derbyshire, other clinics implementing the EM Breast Pain Pathway have opened across the East Midlands at different times. Clinics in Leicestershire opened in January 2022, followed by Lincoln in April 2022, then Nottinghamshire and Northampton in September and November 2022 respectively.

Figure 1. Map of Area supported by CBPCs



Results

Of 1,935 attendances (not including national data opt-outs) across the 5 pilot sites, the average age of patients was 48 years (range 16-92). **The clinical outcomes for breast pain patients were found to be broadly similar across all sites** (as below, figures in Table 1).



These patients on average had an Index of Multiple Deprivation score of 6 (range 1-10). Where ethnicity was recorded (66%), 88% reported as being white, 8.2% asian, 2.1% black and 1.6% mixed. All sites demonstrated broadly similar performance and all cancer diagnosis rates were in keeping with population values.

Alongside extremely positive patient feedback, with 98.5% likely to recommend the service, across all pilots **in the first year for every pound (£) spent, the health system received £1.23 back in benefits.**

Table 1. CBPC Clinical Outcomes

	Overall ² N=1935	Pilot 1 ² N=1027	Pilot 2 ² N=212	Pilot 3 ² N=337	Pilot 4 ² N=244	Pilot 5 ² N=115
Clinic Outcome						
Discharged	1558 (81%)	847 (82%)	152 (72%)	259 (77%)	199 (82%)	101 (88%)
Referral to Family History Service	185 (9.6%)	137 (13%)	8 (3.8%)	16 (4.7%)	16 (6.6%)	8 (7.0%)
Referral to 2WW clinic	168 (8.7%)	39 (3.8%)	52 (25%)	60 (18%)	12 (4.9%)	5 (4.3%)
Other	15 (0.8%)	0 (0%)	0 (0%)	0 (0%)	14 (5.8%)	1 (0.9%)
Referral to both 2WW clinic and Family History Service	8 (0.4%)	4 (0.4%)	0 (0%)	2 (0.6%)	2 (0.8%)	0 (0%)
Diagnosed with Cancer	8 (0.4%)	6 (0.6%)	0 (0%)	1 (0.3%)	1 (0.4%)	0 (0%)
¹ Note: The option of 'Other' contains 'Advice from Family History Service', 'Referral to clinical genetics' and 'DNA'. Pilot 4 has one record with no clinic outcome which is counted in the total ² Pilot sites: Derbyshire (1), Leicestershire (2), Lincolnshire (3), Northamptonshire (4), Nottinghamshire (5)						

Discussion

Across all sites, of those 1935 patients seen within the CBPC, 162 were subsequently seen in secondary care from via three pathways. 139 of these 1935 (7.2%) patients were referred directly from the CBPC. 3/1935 (0.2%) patients were referred via NHSBSP mammographic screening. Thirdly 20 (1%) patients were subsequently seen as new referrals through their GP. There is some variability between the percentages of each outcome in each area. **The percentage discharged from the CBPCs ranges from 88% at Nottinghamshire to 72% at Leicestershire.**

In addition, the cancer incidence rate in the patient cohort attending CBPCs was in line with similar population estimates in the literature [1]. **Initial estimates of breast cancer incidence among women attending CBPCs was estimated to be 3.2 (CI: 1.4-6.9 per 1,000).**

Analysis of the distribution of IMD scores shows there are slightly higher attendances at the CBPC for patients from less deprived areas. This may be explained by findings from Cancer Research UK which report age-adjusted breast cancer incidence is lower in the most deprived women with mortality being slightly higher in this group [2] [3]. This has been explained by a lower utilisation of breast screening programmes (BSPs) by women in more deprived areas [4]. These trends may now be being seen in the CBPCs.

In terms of value for money, all sites were cost effective by Year 2 except for Leicestershire. In spite of this, across all clinics included within the East Midlands audit, the CBPC pilots were found to have a benefit ratio of 1.23 in Year 1 and 1.24 in Year 2. This means that for every £1 spent by the health system on these clinics, they receive just over £1.20 back in benefits. All clinics become cost beneficial if all clinics reach their maximum utilisation, in which scenario it is estimated that for every £1 spent by the health system on these clinics, they receive just over £1.87 back in benefits (range £1.27 to £2.91).

Conclusions

The results confirm the pathway is reproducible in a safe and cost-effective manner, demonstrating the broader applicability to generalised NHS pathways.

Contact & Disclosures

Mark Sibbering (mark.sibbering@nhs.net): a Breast Surgeon who has provided Breast Cancer Educational Services and attended Advisory Boards for Roche Products Ltd. **TB** is a GP with special interest in Cancer Services, Clinical Lead for Mid Nottinghamshire Placed Based Partnership. **JR** is a Breast Surgeon with an interest in early cancer detection and has consulted for AstraZeneca, Bayer, Carrick Therapeutics & Cullinan Oncology. He also has provided expert testimony for AstraZeneca. He holds shares in Oncimmune Holdings, FaHRAS Ltd and Carrick Therapeutics. The implementation of CPBCs has been a collaborative effort by multiple organisations throughout the NHS and beyond. We would like to thank the patients who attended CBPCs and provided their feedback.

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