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Improving access out of hours

Evaluation of extended-hours
primary care access hubs

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About the report

In 2014, the Barking and Dagenham, Havering and Redbridge (BHR) Clinical Commissioning Groups (CCGs) in outer east London set up two schemes framed under the 'Better Access, Better Care, Better Lives' programme and partially funded by the Prime Minister's Challenge Fund.

The schemes involved:

- improving public access to primary care by providing additional capacity outside of core hours
- the development of a new integrated care hub for the management of people with complex care needs.

They aimed to improve the quality of primary care services and to improve patients' experience and outcomes over a two-year period.

BHR CCGs commissioned the Nuffield Trust to evaluate both schemes and to consider their impact on patients and carers, staff and the wider health system. This report covers the first of the two schemes – the primary care access programme. It adopts a mixed-methods approach, including both quantitative and qualitative components, to assess whether the services improved service availability, patient access and patient outcomes. It also makes a broad assessment of cost implications for commissioners.

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This report uses information provided by Barking and Dagenham, Havering and Redbridge Clinical Commissioning Groups. We take the use of personal data seriously. Read more on our website.

Secondary Uses Services (SUS) Data (2013–17). Re-used with the permission of the 'data provider'.

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Executive summary

Background

The Barking and Dagenham, Havering and Redbridge (BHR) Clinical Commissioning Groups (CCGs) in outer east London commissioned the Nuffield Trust to evaluate their initiative for improving public access to primary care by providing additional capacity outside of core hours. This initiative was part-funded by the Prime Minister's Challenge Fund, with extra funding from the CCGs.

Our evaluation, which we undertook in 2015 and 2016, focused on the following questions:

- Has the availability of primary care services increased across the three boroughs?
- Have the new primary care services improved patient access?
- What has been the impact of extended primary care provision on other health care services in the area?
- Has the provision of the new services improved patient outcomes, including patient experience?
- What has been the impact of the new primary care services on cost?

We adopted a mixed-methods approach, combining analysis of local patient data with information from interviews with and surveys of patients and staff.

Use of the access hubs

Between September 2014 and November 2015, seven new general practitioner (GP) 'access hubs' opened as part of the scheme: two in Barking and Dagenham, two in Havering and three in Redbridge. Together these offered between 1,000 and 1,500 appointment slots a week on weekday evenings and Saturdays and Sundays. Approximately 80% of these slots were filled.

When the hubs first started, patients were not able to book their own appointments – GP practices made referrals on patients’ behalf. By 2016, between 80% and 90% of attendees booked their own appointments, with almost all other attendees being referred by NHS 111.

Attendance volumes on a Sunday were approximately two thirds those of a weekday evening. But because fewer appointment slots were available, the rate of attendance per GP hour was equivalent to the rest of the week. Attendance on a Saturday was more in line with that of a weekday evening. The number of referrals from NHS 111 on a Saturday or Sunday was more than three times the number they referred on a weekday evening.

People who attended the access hubs were generally younger than those who attended in-hours GP services, with an average age of 27, compared with an average age of 56 for people attending in-hours services. One in five was below the age of five. Even though overall demand was lower on a Sunday, use of the hubs by the youngest children on a Sunday was still higher than use by any other age group at any other time of the week.

Some staff noted that the service was being used mostly by patients with urgent but minor conditions. The most common reason for attendance was an upper respiratory infection, which was more than twice as frequent as the next most common condition. Only around 3% of attendees were referred on to hospital and we did not uncover any evidence to suggest that the severity of patient needs was any different at the weekend in comparison with weekdays.

Use of other out-of-hours services in the area

At the time of the research, a range of other out-of-hours services were available across the area – a mix of GP out-of-hours services and urgent care or walk-in centres. Although there was some potential duplication of function, urgent care and walk-in centres were equipped to cater for different needs, such as minor injuries and helping to relieve the pressure on existing services. However, the range of different services on offer could confuse some patients.

Impact on patients' access to primary care services

More than half of the staff we surveyed said they believed that the hubs had made it easier for the public to access primary care. The generally younger age of people who attended the hubs supports the view of some patients and staff that people who work during the day can find it difficult to attend in-hours appointments. Moreover, the hubs can provide quick reassurance for parents who are anxious about their children's health.

Features of the hubs that patients particularly liked were the longer 15-minute consultation times and that they could book an appointment and thus avoid the risk of a long wait that exists at accident and emergency (A&E) departments or walk-in centres. However, it was not unusual to be waiting more than 10 minutes to get through to a call handler in order to make the initial booking.

Impact on other services

There has been a general increase in A&E visits since before the hubs opened. Despite this, we estimated that A&E visits among the population living in areas where there was most hub attendance were significantly lower than they would have been if they increased at the rate observed in the areas where hub attendance was lowest, by 4.5%. This finding was reflected in the views of staff working at the hubs: just over half (56%) agreed that the hubs had a positive effect on A&E attendance. Moreover, around a quarter of the 36 patients who were interviewed in 2016 said that, had the hubs not been there, they would have attended A&E instead.

The implication for local commissioners of these reductions in A&E attendance was calculated as an average of £8.10 for each hub visit. This, alone, was not high enough to offset the local cost of providing the hub service, which was estimated at £43 per visit.

It was difficult to quantify the impact of the hubs on other out-of-hours services and walk-in centres because data from these services have not been

consistent. However, of the 36 patients who were interviewed in 2016, nine (25%) said they would have attended a walk-in centre if the hub had not been available.

It was also difficult to quantify the impact of the hubs on attendance at in-hours GP services, although older people, who accounted for approximately a third of all reported GP contacts, only made 7% of hub visits. Staff working within in-hours general practice in the area told us that any impact was unclear, and that this may not be surprising given the high demand for primary care in the area. Of the hub staff interviewed, 41% thought that waiting times for primary care had shortened since the hubs had opened.

Impact on patients' experience of care

Patients were very positive about the care they received at their local hub. All those who responded to our survey said they would use it again and would recommend the service to others. Some patients said that they would use their local hub in preference to their own GP practice.

Impact on staff working at the hubs

Staff survey responses revealed a largely positive attitude towards working at the hubs, with 59% of staff saying that working at the hubs was better than their other or previous work. Staff were generally very positive about specific elements of the work and most staff were satisfied with the care they were providing – the longer appointment time being an important factor in this.

Some staff working at the hubs raised concerns about a lack of access to medical records. New systems were developed to respond to this, but at the time of the research, it was too soon to gauge the extent to which this had addressed the problem. Although the reasons for the hub scheme's approach to referrals were understood, some concerns were raised about potential risks associated with not having the same ability as a patient's own GP to refer on to other services and diagnostics.

National implications

It is not clear how our findings in relation to improved access would apply more generally across England, as this will be affected by both the quality of services provided and the extent of unmet demand in each local area. Particular benefits are likely to be realised where people find it difficult to make an appointment to see their regular GP or where there is less flexibility in the provision of in-hours appointments. Also, any impact on A&E services is likely to depend on the location of the hubs and hospitals and could therefore be very different in a rural setting.

Increasing access to general practice using approaches such as extended-hours access hubs that are separate from the registered practice list could lessen continuity of care by breaking the link between the patient and the practice. However, risks could be reduced by more integrated sharing of information.

Key points

- As part of the Prime Minister’s Challenge Fund, Barking and Dagenham, Havering and Redbridge Clinical Commissioning Groups (CCGs) introduced a scheme to improve access to primary care by providing GP services outside of normal hours. Seven ‘access hubs’ were established across the area over the course of two years.
- The CCGs commissioned the Nuffield Trust to evaluate this initiative. We used a mixed-methods approach, combining analysis of local patient data with information from interviews with and surveys of patients and staff.
- The 2014 GP Patient Survey provided information on what patients thought of primary care services in the area before the hubs were opened. Some of the responses relating to the experience of making a GP appointment were consistently below the national average and, in Redbridge, among the lowest in England.

- People who attended the hubs had an average age of 27, which is notably younger than those who attend in-hours GP services, where the average age is 56.
- Most of the patients we interviewed told us that they had chosen to attend the hubs because they found it difficult to attend in-hours primary care services. Others said that they had wanted a speedy clinical assessment for themselves or their children.
- Patients particularly liked the appointment-based system at the hubs and this was what they highlighted when distinguishing between the hubs and other services such as walk-in centres and A&E departments.
- Since the hubs opened, there has been an increase in the use of A&E services across the boroughs. However, during our research the size of this increase appeared to be associated with hub attendance in that it was significantly lower in areas where hub attendance was highest by approximately 4.5%. This suggests that the presence of the hubs may have been diverting some people who would otherwise choose to attend A&E, or who may have been sent to A&E by NHS 111, away from this service.
- However, from a commissioning perspective, such reductions in A&E attendance would not be enough to offset the local cost of providing the hub service.
- During the study, a call centre had been introduced to improve the appointment booking process. By 2016, between 80% and 90% of patients attending the hubs were recorded as self-referrals, presumably because they had used the call centre. The number of referrals from NHS 111 had remained more stable and generally not increased as new hubs opened.
- The hubs had adapted to lower demand on Sundays by reducing opening hours and staffing, thus ensuring that Sunday usage rates were comparable to usage rates on other days of the week.

- Some staff working at the hubs raised concerns about their lack of access to patients' medical records and their inability to refer patients on for further treatment. Both these areas require effective systems to be in place to avoid the potential of increased clinical risk.
- Survey responses from staff working at the hubs revealed a largely positive attitude towards working at the hubs, with 59% of staff saying that working at the hubs was better than their other or previous work.
- It is possible that the hub scheme may have had an effect on the locum market in the area: some staff not working at the hubs suggested that higher locum rates being paid to hub staff might reduce the availability of locums for in-hours work.

1 Introduction

In 2014, the Barking and Dagenham, Havering and Redbridge (BHR) Clinical Commissioning Groups (CCGs) in outer east London were jointly successful in securing £1.4 million from the Prime Minister's Challenge Fund to improve access to primary care for locally registered patients and explore new ways of delivering primary care. This was one of several pilot projects that were funded by the Prime Minister's Challenge Fund (NHS England, 2015).

This funding, together with further committed money from the CCGs, led to two schemes framed under the 'Better Access, Better Care, Better Lives' programme:

- improving public access to primary care by providing additional capacity outside of core hours
- the development of a new integrated care hub for the management of people with complex care needs.

The schemes' ambitions were to improve the quality of primary care services and to improve patients' experience and outcomes over a two-year period.

The BHR CCGs commissioned the Nuffield Trust to evaluate both schemes and consider their impact on patients and carers, staff and the wider health system. This report covers the first of the two schemes – the primary care access programme.

The Research Ethics Committees of the Research Ethics Service approved the evaluation (REC reference: 14/NS/1082) and the Barking, Havering and Redbridge University Hospitals NHS Trust gave approval for local research and development.

BHR CCGs' primary care access initiative provides general practitioner (GP) services outside of normal hours. Over the course of two years, seven out-of-hours 'access hubs' were set up across the three BHR CCG areas (two in Barking and Dagenham, two in Havering and three in Redbridge).

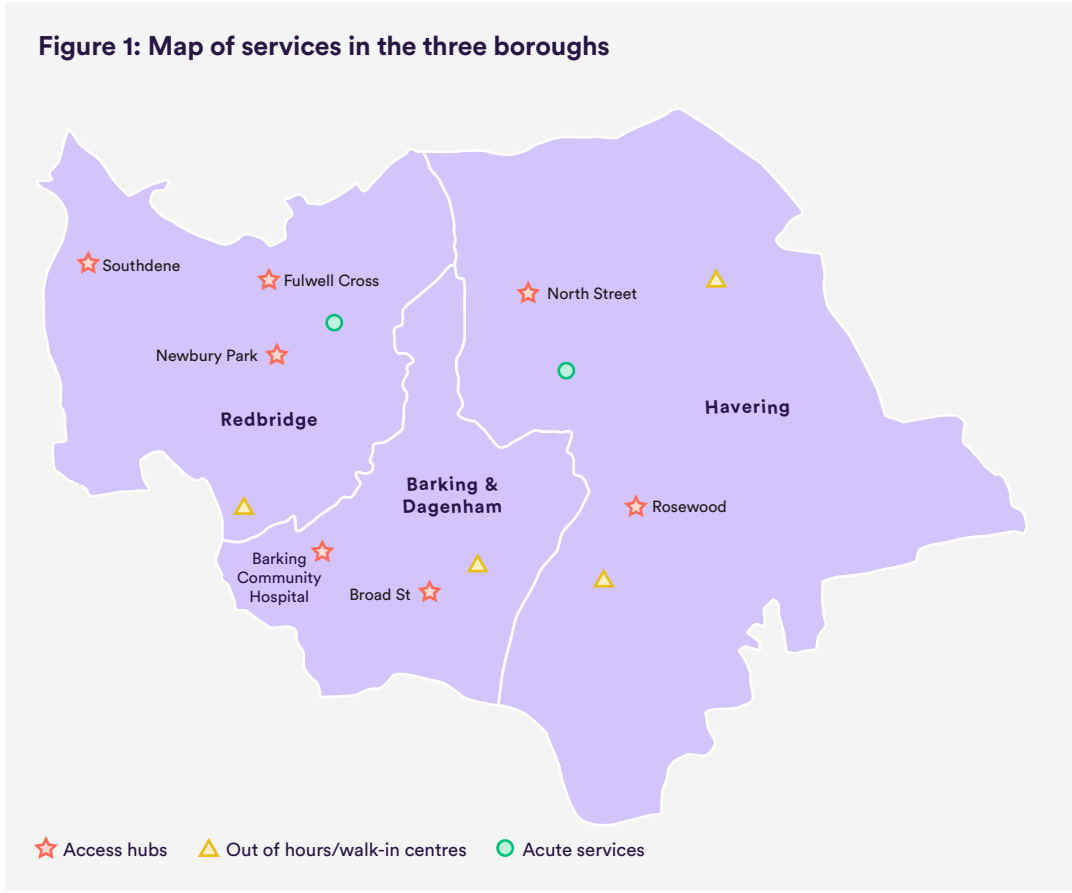
They are operated by three new providers that were established by the local GP federations.

Available services in the area

In August 2016, there were 138 GP practices within the three boroughs (40 in Barking and Dagenham, 51 in Havering and 47 in Redbridge), with a total registered population of approximately 790,000 people.

Within the local area there is one large acute NHS trust: Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT), which has two main sites (Queen’s Hospital and King George Hospital), both of which operate accident and emergency (A&E) and urgent care centres. Residents also make use of A&E services in neighbouring boroughs – most significantly, those operated by Barts Health NHS Trust at Whipps Cross and Newham Hospitals.

Over the course of our evaluation, other GP out-of-hours services were operating at King George Hospital, Grays Court and Queen’s Hospital, as well as at three further urgent care/walk-in centres operating outside the main acute provider. However, the provider landscape in the BHR area is complex and changing. The locations of all main services in the area at the time of the study are displayed in Figure 1.



Access to local primary care services and patient satisfaction before the access hubs opened

A key aim of the primary care access hubs was to improve the availability of primary care services in the area under the responsibility of the three CCGs. The GP Patient Survey administered in 2014 (published in January 2015) provides a useful window into the views of patients before the hubs were opened (see Table 1). Some of the responses relating to the experience of making a GP appointment were consistently below the national average and, in Redbridge, among the lowest in England. For example, only 58% of Redbridge patients had a good experience of booking an appointment – the second-lowest value for CCGs nationally. Redbridge also had the second-lowest national value (84%) for the proportion of patients who, having been offered an appointment, reported that the appointment time they were given

was convenient. Also, both Redbridge and Barking and Dagenham recorded the fourth-lowest proportion of respondents in England able to get an appointment, at 84% and 88% respectively.

In line with the rest of England, these results indicated that there was a need for more convenient primary care appointments, with a high proportion of patients suggesting that more capacity was required on Saturdays (69–75%) or after 6.30pm on weekdays (57–73%). Fewer respondents felt that opening their GP practice on a Sunday would be convenient (33–43%).

Table 1: NHS England’s 2014 GP Patient Survey results by clinical commissioning group area and compared with England overall, published January 2015

| GP Patient Survey indicator | England overall | Barking and Dagenham CCG | Havering CCG | Redbridge CCG |
|--|-----------------|--------------------------|--------------|---------------|
| Response rate | 33% | 26% | 36% | 28% |
| Good overall experience of making an appointment | 74% | 68% | 71% | 58% |
| Able to get an appointment | 85% | 77% | 84% | 77% |
| For those offered an appointment, the appointment time offered was convenient | 92% | 88% | 91% | 84% |
| Of those for whom the appointment time was not convenient, the proportion who went to A&E/a walk-in centre | 10% | 16% | 15% | 12% |
| % who agreed that the current GP opening hours were convenient | 74% | 74% | 69% | 68% |

| GP Patient Survey indicator | England overall | Barking and Dagenham CCG | Havering CCG | Redbridge CCG |
|---|-----------------|--------------------------|--------------|---------------|
| Additional opening times that would make it easier to see or speak to someone | | | | |
| Before 8am | 34% | 28% | 36% | 32% |
| At lunchtime | 12% | 11% | 14% | 11% |
| After 6.30pm | 71% | 57% | 73% | 65% |
| On a Saturday | 74% | 69% | 75% | 75% |
| On a Sunday | 38% | 33% | 38% | 43% |
| None of these | 3% | 6% | 2% | 3% |

Source: 2014 GP Patient Survey, which contains weighted and aggregated data collected from January to March 2014 and July to September 2014.

The extended-hours access hub model

The first two access hubs opened in September 2014 (one in Havering and one in Redbridge), followed in January 2015 by a hub in Barking. Additional hubs opened in Havering in March 2015, in Redbridge in April and July 2015, and in Dagenham in November 2015.

During our research, each hub was staffed by one or two GPs, according to planned demand, and occasionally a nurse, a receptionist, a service manager and a clinical director on call. The GPs were paid a locum salary and patient slots were allocated at 15-minute intervals.

Although hub appointments were initially booked via the patient's registered GP practice, this approach was amended in April 2015 to accommodate patient self-referrals via a call centre. Patients could also be referred to the hubs via NHS 111.

After being seen by a GP at the hub, they could be referred back to their own GP practice or advised to contact their GP for follow-up if necessary. Some patients with more severe problems were referred on to hospital.

Following a low initial uptake of appointments, opening hours were amended. Table 2 shows opening hours for the hubs as at August 2016.

Table 2: Access hubs, start date and opening times as at August 2016

| Access hub name | Start date | Weekdays | Saturday | Sunday |
|---|-------------------|---|--|--|
| Barking Community Hospital (Barking and Dagenham) | 19 January 2015 | 6.30pm–10pm (2 GPs), 2.30pm–10pm on Thursday (2 GPs) | Noon–4pm (2 GPs) | Noon–4pm (2 GPs) |
| Broad Street (Barking and Dagenham) | 2 November 2015 | 6.30pm–10pm (2 GPs) | Closed | Closed |
| North Street (Havering) | 15 September 2014 | 6.30pm–10pm (2 GPs) | 9am–2pm (1 GP), noon–5pm (1 GP) | Noon–4pm (2 GPs) |
| Rosewood (Havering) | 31 March 2015 | 6.30pm–10pm (2 GPs) | Noon–5pm (2 GPs) | Noon–4pm (1 GP) |
| Newbury Park (Redbridge) | 16 September 2014 | 6.30pm–10pm (2 GPs) | 11am–2.30pm (2 GPs) | 11am–2.30pm (1 GP) |
| Fullwell Cross (Redbridge) | 13 April 2015 | 6.30pm–10pm (2 GPs) | 11am–2.30pm (2 GPs) | 11am–2.30pm (2 GPs) |
| Southdene (Redbridge) | 13 July 2015 | 6.30pm–10pm (2 GPs) | 1pm–5pm (1 GP) | 11am–2.30pm (1 GP) |
| Call centre | | 2pm–5.30pm (4 call handlers), 5.30pm–9pm (3 call handlers) | 9am–3pm (4 call handlers), 3pm–6pm (1 call handler) | 9am–3pm (3 call handlers), 3pm–6pm (1 call handler) |

By comparison, Partnership of East London Co-operatives (PELC) Ltd also provides GP out-of-hours services, commissioned by the CCG. These operate between 6.30pm and 8am on weekdays. The out-of-hours primary care access hubs were planned as extended-hours pilot sites and have been run separately from PELC services.

2 Methods

Our key evaluation questions were:

- Has the availability of primary care services increased across the three boroughs?
- Has the provision of the new primary care services improved patient access?
- What is the impact of extended primary care provision on other health care services in the area?
- Has the provision of the new services improved patient outcomes, including patient experience?
- What is the impact of the new primary care services on cost?

We adopted a mixed-methods approach, including both quantitative and qualitative components. Detailed cost analysis was locally focused, using local commissioning costs, and is not presented in this report. Instead we reflect on the broader cost implications for commissioners.

Data on activity and outcomes

The local CCGs provided anonymised patient-level data linking primary and secondary care for all patients registered with a GP in the area since 1 October 2013. This included all contacts reported in primary care as well as information from the Secondary Uses Service (SUS) data warehouse on acute hospital visits (inpatients, outpatients and A&E attendance).

The in-hours GP data can contain several different records for the same patient on the same day. Moreover, these do not only correspond to face-to-face consultations but may also be a record of laboratory results or information from a discharge letter. This can make it difficult to quantify the use of GP services. For our analysis we defined each GP contact as a unique date for which a record was made for an individual patient. Although such contacts do not all represent unique consultations, they provide some indication of the level of primary care activity in relation to each person.

We obtained individual patient-level data on attendance at the access hubs from a separate reporting system (ADASTRA). This system records individual consultations at the hubs from when they first opened in September 2014 and provides information about the patient and the consultation, including the source of referral, the GP practice the individual is registered with, the patient's age, gender and Lower Layer Super Output Area (LSOA) of residence, as well as clinical diagnosis and onward referral. However, the data could not be linked to the rest of the primary and secondary care data at an individual patient level.

We obtained additional descriptive information on activity levels at each of the access hubs and 'did not attend' (DNA) rates from activity monitoring sheets completed by each of the hubs and submitted to the CCG on a weekly basis.

Information from patients and staff

The qualitative component of the evaluation comprised two phases. The first phase took place in 2015 and the second in 2016 (see Box 1). During both phases we conducted telephone interviews with people who had used the hubs, to learn about their experiences when accessing and attending the hubs.

In each phase we interviewed patients in each of the three boroughs, in order to get a good spread of responses. In doing so, we were reliant on patients who had provided their contact details being willing to participate in a telephone interview. We attempted to obtain interviewees attending each hub.

Altogether, we interviewed 72 patients across the duration of the study (36 in phase 1 and 36 in phase 2). We selected the sample size of 72 to enable us to carry out interviews with 12 patients in each borough each year. We felt that given the resources available, and considering the methodological literature, this was an appropriate number for the study.

We carried out the interviews in depth using a structured topic guide, intended to provide rich qualitative data about the experiences of patients using the out-of-hours service. Such interviews perform a different function from approaches requiring larger sample sizes, such as surveys. Because of the complexity of the questions we were asking patients, because of the likelihood of low response rates if we were to ask patients to complete and return surveys

and because the CCGs were collecting their own survey data separately, we felt that we could add best value by conducting data-rich interviews.

We transcribed and analysed the interviews to identify themes shared between interviewees, as well as alternative viewpoints. The interviewees raised a significant number of common themes, suggesting to us that the interviews did provide an accurate and sufficiently detailed picture of patients' experiences of using the hubs.

Box 1: Summary of qualitative research methodologies

Phase 1: 2015

- Interviews with 36 patients who had used the service.
- Interviews with 12 hub staff members with a range of roles, including:
 - GP lead (design of the hub or GP network lead)
 - GP delivering the service
 - receptionist
 - hub manager.

Phase 2: 2016

- Interviews with 36 patients who had used the service.
 - Interviews with eight hub staff members with a range of roles, including:
 - GP lead (design of the scheme)
 - GP delivering the service
 - call-centre worker (GP receptionists and hub managers were omitted from this round of interviews on the basis that the call centre was managing all bookings).
 - Interviews with two staff not providing the hub service but working in the areas where the service operates.
 - An online survey of 29 staff delivering the hub service.
 - An online survey of 40 staff not providing the hub service but working in the areas where the service operates (including three former hub employees).
-

As shown in Box 1, in phase 1 we interviewed 12 hub staff members about their experiences of providing the service, the practicalities of implementing the service and their perceptions of the impact of the service on patient care. In phase 2 we conducted interviews with eight hub staff members and two members of staff working in the area but not providing the hub service. The slightly lower number of staff interviewees in this second phase was due to difficulties in finding staff willing to be interviewed, but the number of staff recruited for interviews was proportionate to the number of patients recruited for interviews.

In phase 2 we also carried out an online survey of 29 current hub staff members. Occasionally, survey respondents skipped individual survey questions. Where a number lower than 29 is cited in our results, this is the base number for respondents completing a particular question. In addition, 40 primary care professionals, who had either never worked at the hubs or were no longer doing so, completed an online survey on their thoughts about the effectiveness of the hub scheme.

Analysis of hub usage

The hub data involved 78,590 records of patients who had used the service between September 2014 to August 2016. We used this data to derive profiles of the patients, for example, by age, gender, Lower Layer Super Output Area (LSOA) of residence, source of referral and time during the week of the appointment. We also analysed overall hub usage rates (the proportion of appointments available that were taken up), reason for referral and subsequent outcome (that is, whether patients were referred back to their own GP or on to A&E and so on). The LSOA of residence was missing for 3.9% of the records (3,084/78,590) and the gender of the patient was missing for 2.73% of the records (2,147/78,590). The patient's clinical condition was missing in 33 records and age was missing in only 12 records. There was a data field for ethnicity, but this was only reported in 200 records.

Analysis of impact

We assessed the impact of the hubs on access to services from information gleaned from our patient and staff interviews, and combined this with what we knew about the services being offered and what we learnt from the data about how they were being used.

Our assessment of the impact of the hubs on other health care services was mainly governed by our analysis of the individual patient-level data. Since we were not able to link individual patients in the out-of-hours hub data with the in-hours GP and acute hospital data, we could not follow the histories of individual patients who attended the hubs. Therefore, we adopted a less direct approach, looking at the LSOA of residence and testing whether areas with high rates of hub attendance were associated with a bigger change in A&E attendance. We ordered the LSOAs by the rate at which residents attended the hubs and used this ordering to divide the LSOAs into quintiles. We then used the LSOA quintile as a confounder in our analysis to compare changes in A&E attendance rates and A&E cost before and after the hubs opened. The denominator for each LSOA was the resident population who were registered with local GP practices. So for some LSOAs that were outside the boroughs, these denominators could be small.

To correspond to the times before and after the hubs opened, we chose two six-month periods: 1 March to 31 August 2014 and 1 October 2015 to 31 March 2016. The first period represents the time just before the first hubs opened and the second, a time when all seven hubs were fully operable. Because we were correcting for time period in our analysis, we could address the fact that these periods did not cover equivalent calendar months.

We excluded any A&E visits that were followed by an inpatient admission either on the same day or the following day. This ensured that we were focusing on a group of individuals with less severe needs whose attendance was more likely to be affected by the presence of an access hub.

We also only included A&E visits to the two major acute providers servicing residents of the area: Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT) and Barts Health NHS Trust. Attendances to other A&E

units that are outside the area were rare and would anyhow be less likely to be influenced by the presence of the hubs (for example, when someone needs urgent care when on holiday or visiting family). The A&E data also included attendances at the service operated by North East London Foundation Trust (NELFT) at Barking Hospital, which may, in fact, have been visits to the walk-in centre. However, these attendances were inconsistently reported, with some months missing, so we decided not to include them in our analysis.

For our analysis of A&E attendance, we fitted a multivariate statistical model (negative binomial regression) that evaluated the effects of different factors on the use of A&E. Model factors included the time period, the LSOA quintile, age group, and interaction terms between LSOA and time period and between time period and age group. To achieve an understanding of the possible impact of the hubs, we focused our analysis on the highest and lowest LSOA quintiles. The regression coefficient for the LSOA and time period interaction provided us with an estimate of the marginal change in attendance within the LSOAs where there is most hub attendance and thus a possible reflection of the impact of the hubs. The model was built using version 9.4 of the software SAS.

To estimate the impact of the hubs on the commissioning costs of A&E attendance, we based costs per A&E attendance using the national Payment by Results tariffs and applied these to the marginal changes in attendance, but also taking account of any changes in the mix of Healthcare Resource Groups between the two time periods. Again, we restricted the A&E attendances to those that were not followed by an inpatient admission.

3 Local reflections on the purpose of the access hub scheme

During our interviews with staff, we asked for their views as to why the hub scheme was set up. During the first phase of interviews, some staff mentioned a lack of clarity about the purpose of the scheme, with a split between those who thought that it was primarily to alleviate pressure on in-hours general practice and those who thought that it was to reduce pressure on A&E.

In the second phase of interviews, we asked staff again what the initial purpose of the hub scheme was when it was set up. For those staff who gave a general answer, we asked a follow-up question to see whether they could be more specific about which aspect of care the hubs had been chiefly intended to support.

All current hub staff interviewees spoke about a general need to increase capacity in primary care in response to increased demand for GP services. Reasons offered for this high demand included:

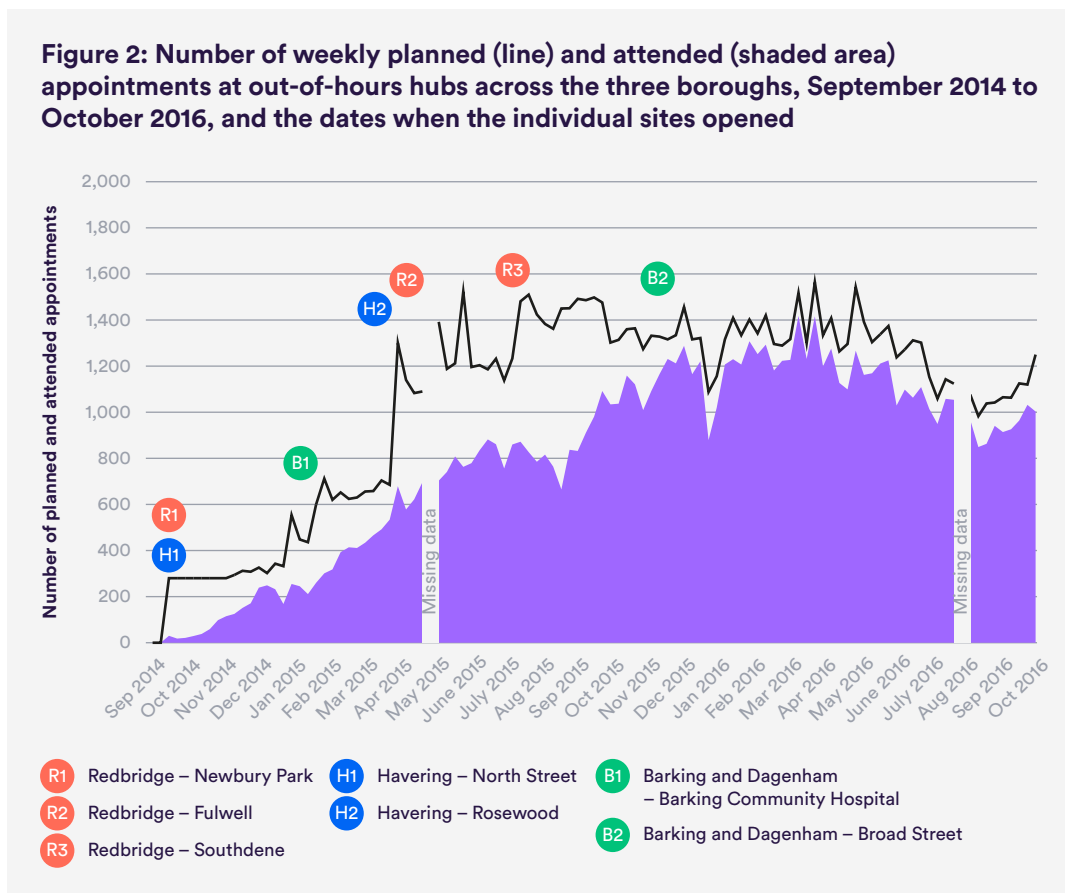
- population increases in the local area not being reflected in primary care planning
- elevated patient expectations, resulting from “family structures and schooling”
- increased administrative workload for GPs, meaning less time for clinical work
- problems with recruiting GPs.

Some GPs viewed expanding capacity outside of core hours as a pragmatic solution to problems of excessive in-hours demand, because the limited supply of GPs meant that it was more difficult to add capacity in hours, when most GPs were already committed to work.

4 Use of the access hubs

Attendance at the hubs

Figure 2 illustrates the numbers of weekly appointments commissioned across all hubs compared with the numbers of appointments actually attended. From April 2015, when the second Havering hub opened, numbers of available appointment slots oscillated between approximately 1,000 and 1,500 a week, with a downturn in the most recent months of the evaluation period. This suggests that, from April 2015, the presence of the new hubs had the effect of moving resources between sites rather than providing extra capacity across the three boroughs as a whole. Attendance increased steadily up to December 2015 and has remained at over 80% since then.



Source: BHR CCG weekly monitoring reports.

Only 2% of hub attendees were registered with practices from outside the three boroughs. For 5% of appointments that were made from January 2016, the person failed to turn up.

Patient profiles

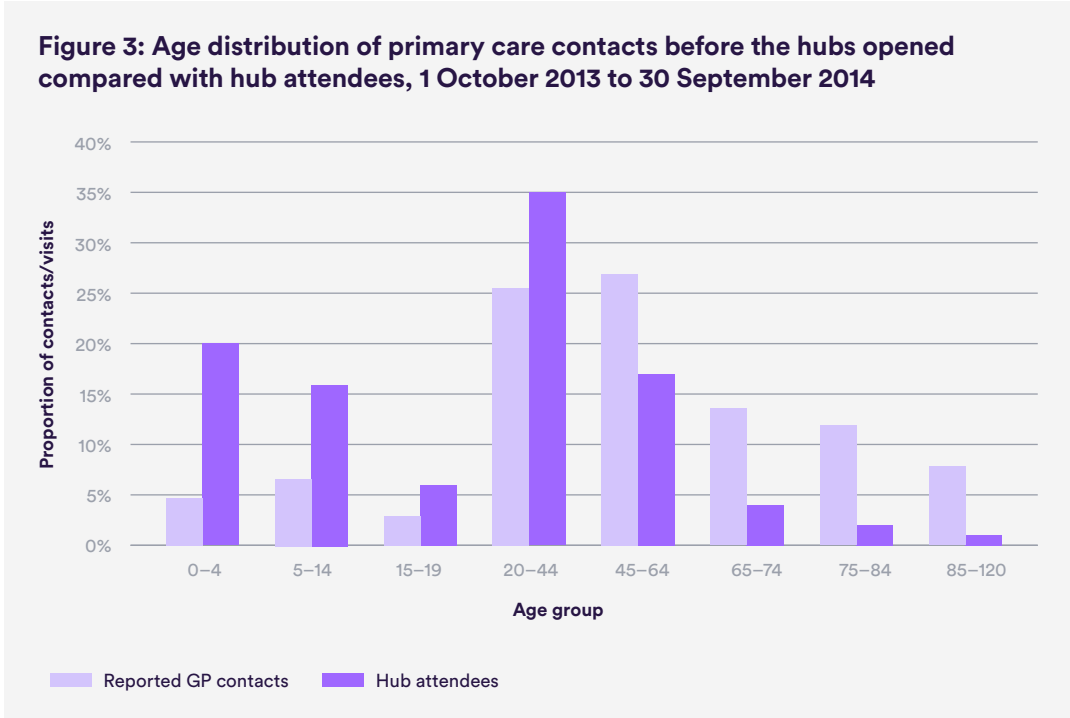
The age and sex distributions of attendees at each hub are shown in Table 3. These were broadly similar for each hub. Between 57% and 60% of attendees were female and the average age across all hubs was 27.4 years, with 77% below the age of 45 and 20% below the age of five. This was a notably younger population than those who were contacting in-hours GP practices before any of the hubs opened, where the average age was 55.8 years, 40% were below the age of 45 and only 5% were below the age of five (see Figure 3).

Table 3: Age and sex of attendees at each out-of-hours hub, September 2014 to August 2016

| | Barking and Dagenham | | Havering | | | Redbridge | | All |
|----------------------------|----------------------------|--------------|--------------|-------------|--------------|---------------|-------------|-------------|
| | Barking Community Hospital | Broad Street | North Street | Rosewood | Newbury Park | Fulwell Cross | Southdene | |
| Number of attendees | 14,149 | 4,223 | 14,587 | 9,925 | 13,259 | 9,959 | 6,050 | 72,152 |
| Age band | | | | | | | | |
| 0–4 | 24% | 19% | 19% | 19% | 22% | 15% | 22% | 20% |
| 5–14 | 17% | 18% | 14% | 15% | 18% | 16% | 13% | 16% |
| 15–19 | 5% | 7% | 6% | 7% | 5% | 6% | 5% | 6% |
| 20–44 | 34% | 36% | 37% | 34% | 35% | 35% | 37% | 35% |
| 45–64 | 15% | 17% | 17% | 18% | 15% | 20% | 16% | 17% |
| 65–74 | 3% | 3% | 4% | 5% | 3% | 5% | 4% | 4% |
| 75–84 | 1% | 1% | 2% | 3% | 1% | 3% | 2% | 2% |
| 85+ | 0% | 0% | 1% | 1% | 0% | 1% | 1% | 1% |
| Mean age (years) | 24.8 | 25.8 | 28.3 | 28.9 | 25.8 | 30.8 | 27.6 | 27.4 |
| Female (%) | 57% | 60% | 60% | 60% | 59% | 58% | 57% | 58% |

Note: Not all percentages total 100 due to rounding.

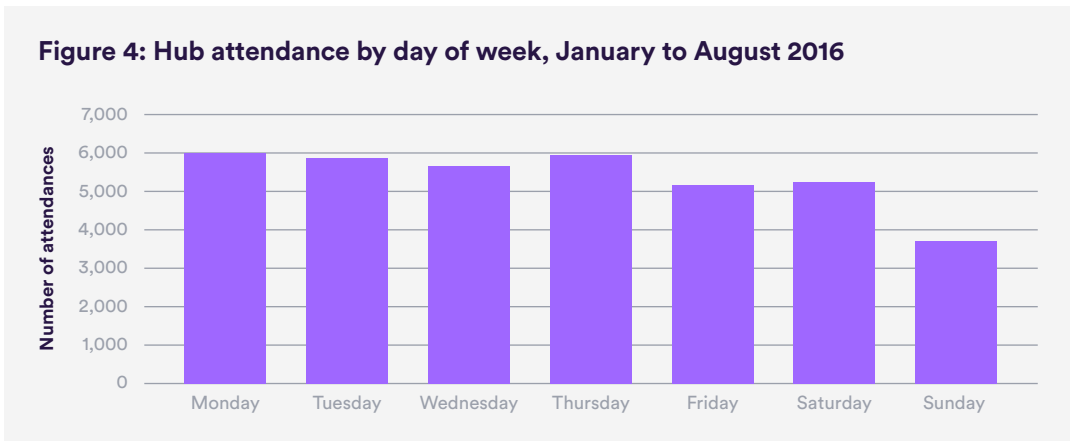
Source: Access hub data.



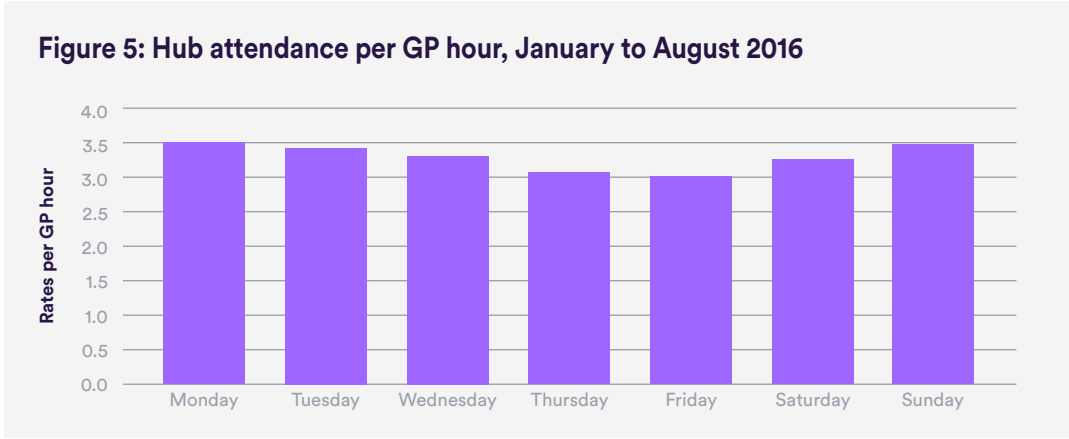
Sources: BHR CCG data and access hub data.

Day of attendance

Figure 4 illustrates hub attendance by day of the week between January and August 2016. Volumes on Sunday were 65% of the average over the rest of the week. However, because fewer GP hours were provided on a Sunday, the rates of attendance per GP hour were roughly equal to the rates over the rest of the week (see Figure 5).

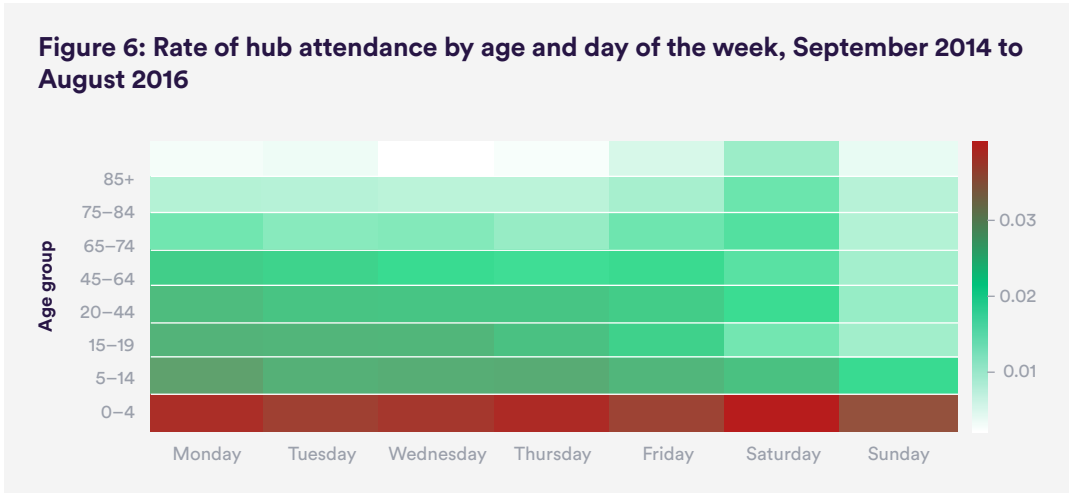


Source: Access hub data.



Source: Access hub data.

Figure 6 illustrates how attendance rates per registered population changed over the week by age between September 2014 and August 2016. Although most attendees were working-age adults, young children were the more frequent attendees per head of population. Also, even though there were fewer attendances on Sundays overall, children aged 0–4 still had a higher rate of attendance on a Sunday than any other age group at any other time of the week.

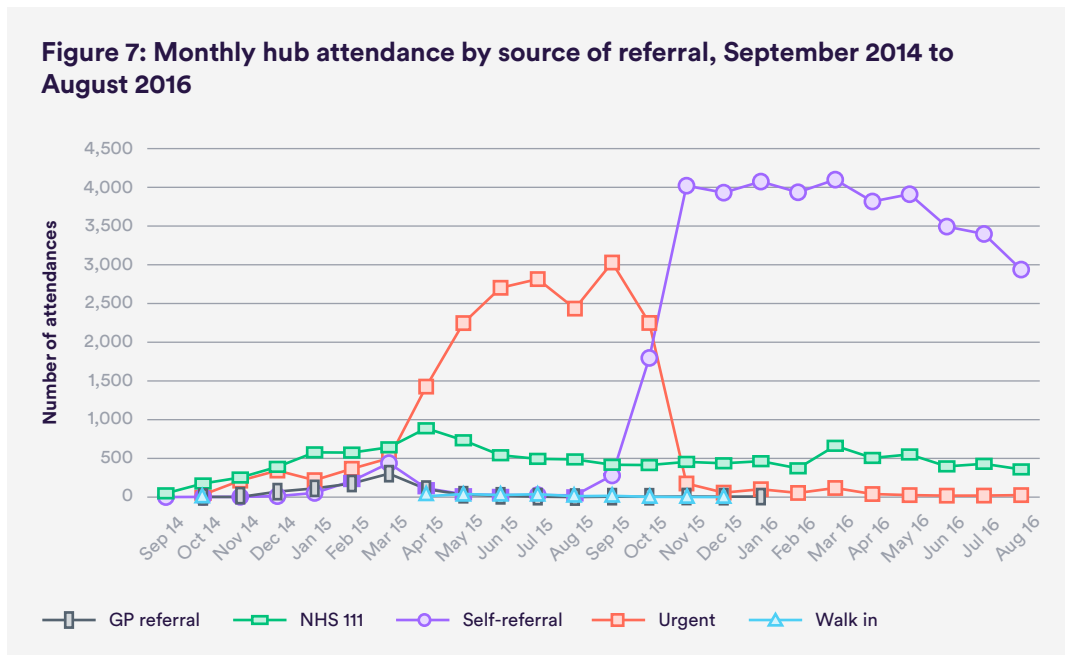


Note: Attendance rates are per registered population within each age band.

Source: Access hub data.

Source of referral

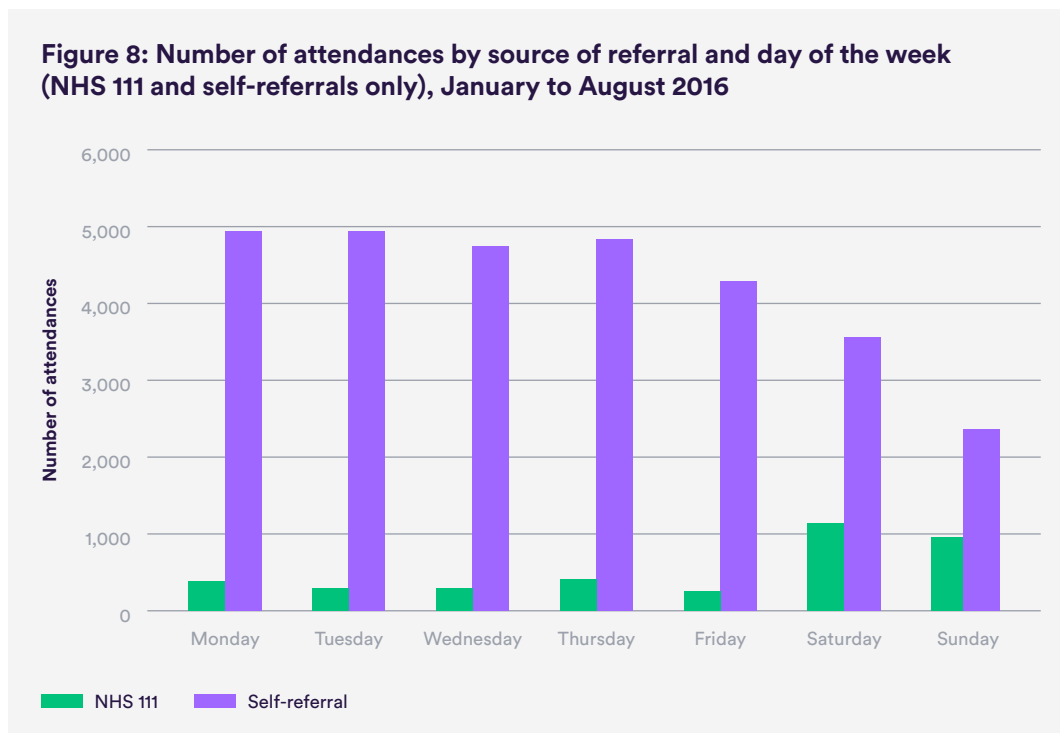
Figure 7 illustrates monthly hub attendance by source of referral between September 2014 and August 2016. The large number of referrals reported as ‘urgent’ in 2015 was a result of variable interpretation of codes, and these referrals were more likely to have been self-referrals. The large increase in attendance after the first year of operating – from September 2015 – corresponds with the decision to allow patients to book their own appointments, which accounted for between 80% and 90% of all attendances by 2016. The high rate of self-referrals contrasts with the early months of the scheme when most patients were referred via NHS 111 or their regular GP. The number of referrals from NHS 111 reached a peak of around 900 in April 2015 and maintained a consistent level from June 2015. NHS 111 referrals did not increase as more hubs opened.



Source: Access hub data.

The relative volume of attendees by source of referral varied according to the day of the week (see Figure 8). On a Saturday or Sunday, the number of referrals from NHS 111 was more than three times the number on a weekday, while, in contrast, the number of self-referrals on a Sunday was less than half the weekday amount. The increase in NHS 111 referrals at weekends may have been a consequence of a combination of the time of day, that fewer alternative

services were available and that fewer self-referrals meant that the hub call centre was less busy.



Source: Access hub data.

The changes in the source of referral were also reflected in patient interviews. Of the 36 patients interviewed in 2016 (phase 2), 31 (86%) reported that they had booked an appointment by telephoning the hub call centre. Four patients made their appointment with the hub by calling NHS 111 and only one person had their appointment arranged through their GP practice. By comparison, most patients interviewed in 2015 (phase 1) had their appointment with the hub made through their GP practice (after having called and tried to make a routine appointment) or by calling NHS 111.

Health needs of hub attendees

The six most frequent conditions of hub attendees, as reported by Read Codes (a coded thesaurus of clinical terms used in electronic health care records), are shown in Table 4. Together they constituted 39% of all reported codes and were the top six codes on both weekdays and Sundays. This suggests that the

needs of most individuals attending the hubs on Sundays were not largely different from the needs of those attending during the week, although there were notably more patients with upper respiratory infections on Sundays.

Table 4: The prevalence of the most common conditions reported in Read Codes assigned to hub attendance, weekdays compared with Sundays, September 2014 to August 2016

| Condition | Percentage of patients with the condition (rank) | | |
|---|--|------------------|-----------|
| | All days | Monday to Friday | Sunday |
| Upper respiratory tract infection (not otherwise specified) | 12.7% (1) | 12.5% (1) | 18.3% (1) |
| Viral infection (not otherwise specified) | 5.9% (2) | 5.8% (3) | 6.7% (2) |
| Skin/subcutaneous infection | 5.7% (3) | 5.8% (2) | 5.3% (5) |
| Cystitis | 5.1% (4) | 4.9% (5) | 5.1% (6) |
| Lower respiratory tract infection | 5.0% (5) | 5.0% (4) | 5.6% (3=) |
| Acute tonsillitis | 4.5% (6) | 4.1% (6) | 5.6% (3=) |

Note: Ranks are across all conditions.

Source: Access hub data.

The relatively high prevalence of respiratory conditions was consistent with the findings from the patient interviews. Of the 36 patients who were interviewed in 2015 (phase 1), 15 reported attending the hub because of a cold, flu or related infection, while of the 36 patients who were interviewed in 2016 (phase 2), 10 reported attending because of a cough, cold, sore throat, chest infection or flu.

The staff we interviewed made several comments about the nature of the patients attending the hubs and their suitability. Some staff noted that

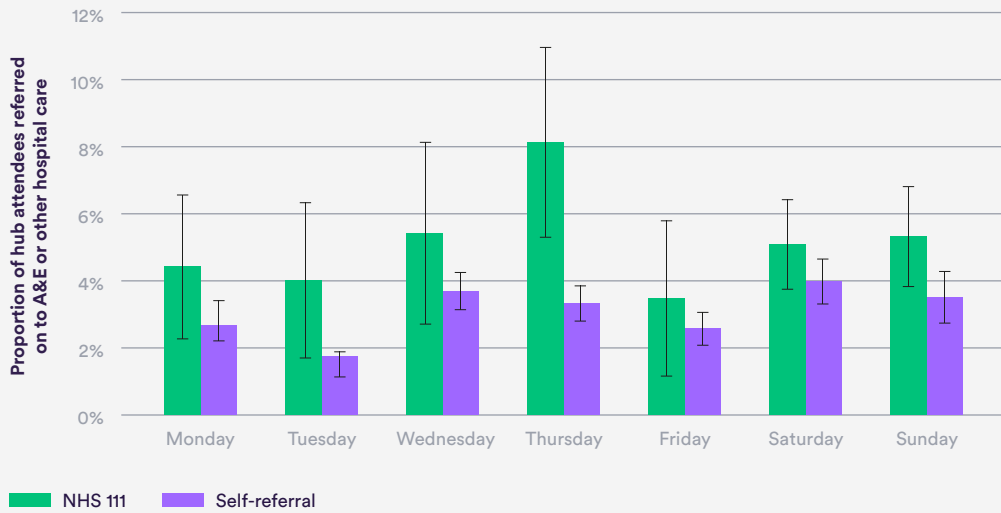
the service was being used mostly by patients with urgent but minor or “appropriate” conditions such as infections, as intended by the scheme’s designers. They also said that there were understandable reasons why patients might end up approaching a hub for routine issues, such as where a chronic condition had flared up or where the patient was unable to access in-hours general practice for work reasons.

Several patient interviewees described attending the hub to gain reassurance about their child’s problem, rather than with the expectation of necessarily receiving any treatment: “I don’t think it was that bad anyway really. It was just for peace of mind, taking her [child] there, to satisfy myself” (parent of patient). This corresponded with a view from a GP who described occasionally seeing the ‘worried well’ who simply required reassurance.

At the other end of the spectrum, clinicians described the risks associated with seeing patients who were potentially seriously ill and should not have attended the hub. One example was given of children with potential meningitis being asked to wait for several hours until evening hub appointments became available.

Of all patients seen between January and August 2016, 3.2% were referred on to A&E or other hospital care. The proportion varied according to the source of referral. About 5.2% of patients who attended the hub via NHS 111 were referred on, which was significantly greater than the proportion of self-referrals who were referred on (3.0%). Onward referral rates by day of the week are shown in Figure 9. There was no significant difference in onward referral rates among the NHS 111 cohort between weekends and weekdays. Rates for self-referrals were significantly higher at the weekend, but this may reflect the relatively low rates on a Monday or Tuesday rather than an increase in the severity of patient need at the weekend.

Figure 9: Proportion of people referred to A&E or other hospital care by GPs in the hub by day of the week and source of referral, January to August 2016



Note: Error bars represent 95% confidence intervals.

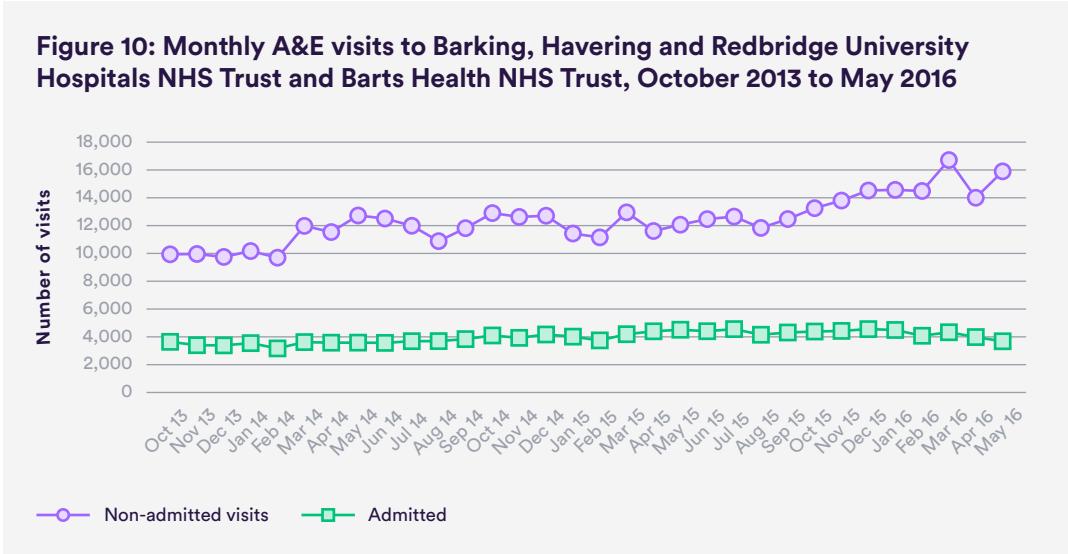
Source: Access hub data.

5 Use of other out-of-hours services in the area

Most of the patients we interviewed in phase 2 of the research reported having used other out-of-hours services at some point in the past. Of these, the majority had used walk-in centres, with smaller numbers attending A&E or using the NHS 111 service or GP out-of-hours services. Some patients had used more than one service. However, a quarter of interviewees reported having used no other out-of-hours services apart from the hubs.

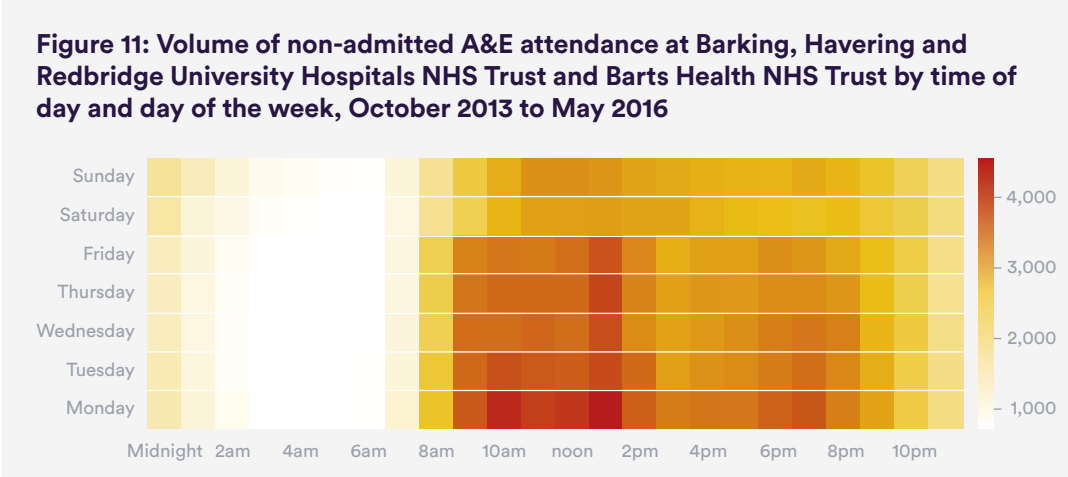
From October 2013 to May 2016, approximately 76% of A&E attendances by people registered with GP practices in the three boroughs had been at two type 1 providers: Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT) and Barts Health NHS Trust. A further 9% were reported to have attended the service operated by North East London Foundation Trust (NELFT) at Barking Hospital, but, as mentioned in Chapter 2, its data appear inconsistent and these may have been walk-in centre attendees.

Attendance at the two main providers' A&E units was increasing from 2015, but mainly with patients who were not subsequently admitted (see Figure 10).



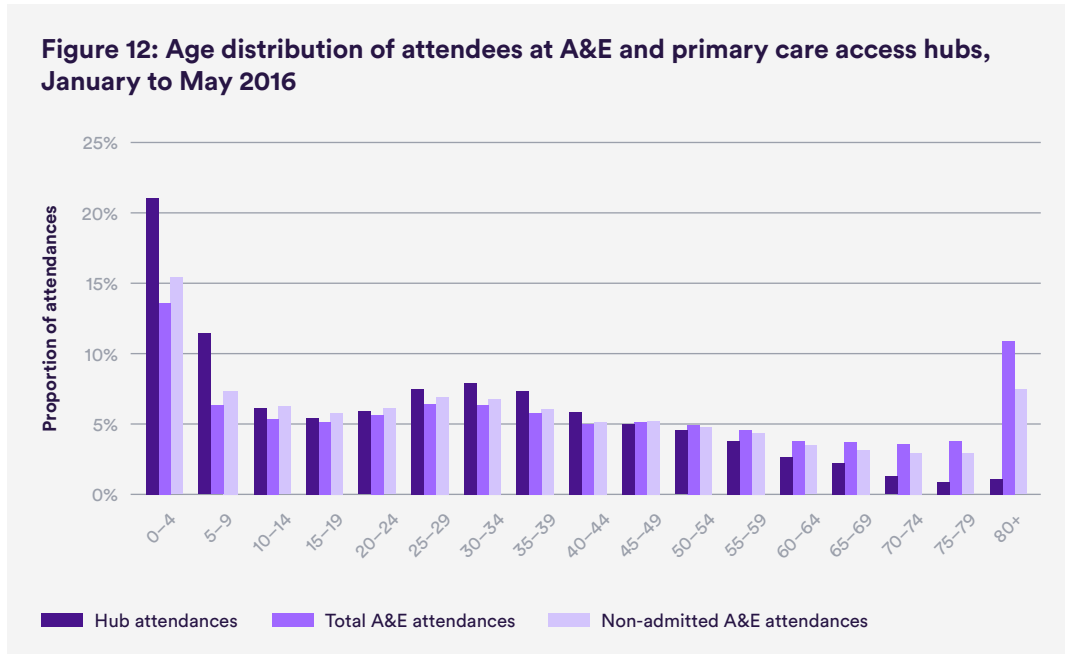
Source: BHR CCG data.

Over the same period, the busiest time of the week for A&E was Monday morning between 10am and 2pm, with the least busy times being in the early hours (see Figure 11). The weekday hub opening hours corresponded to when A&E attendance tended to pick up after a slight drop in the afternoon.



Source: BHR CCG data.

Attendees at A&E tended to be older than attendees at the hubs (see Figure 12), with an average age of 39 years for the former in comparison with 27 years for the latter.



Source: BHR CCG data.

The hub staff we interviewed generally felt that although a “disparate” range of out-of-hours services was operating across the area, the hubs were working for patients by increasing the total number of appointments available out of hours and taking pressure off existing services. It was recognised that there had been some duplication of services, but walk-in centres were also able to deal with urgent minor injuries such as injured hands or sprained ankles. However, the range of services on offer could be confusing to patients:

I think that they complement each other, but the only problem is it’s very confusing for the patients.... When they go to [NHS] 111, they are not sure whether they should be going to the PELC [Partnership of East London Co-operatives] walk-in clinic or they should be coming to the hub, although I think they prefer coming to the hub because they have these pre-booked appointments and not much waiting time. (Clinician)

There was a suggestion that there could be benefits in shifting walk-in centres to an appointment-based system, with the appointment being allocated either over the telephone or when the patient arrived at reception:

I like the idea of the ‘call and come in’ idea in concept, and what I’d like to see is that wherever a patient presents to primary care – and I include the A&E front doors in that – they get a consistent approach... (Clinician)

6 Impact on patients' access to primary care services

Many of the patients we interviewed in phase 2 of the study told us that they had chosen to attend the hub because they found it difficult to access in-hours primary care services. Most reported that no GP appointment had been available when they rang their GP practice. Six said that their GP practice was closed, four of whom had phoned on a weekend. One patient did not bother trying to get an in-hours appointment and simply phoned the hub service direct. Several patients expressed significant dissatisfaction with the accessibility of their in-hours GP provision:

I'm a teacher so I'm not able to go to appointments during the daytime. And often my GP says you have to call at 9.00 to get an evening appointment but I'm in class at 9.00 so there's no way I can get an appointment. So I have to call the hub because that's the only place where I can get an appointment. (Patient)

I didn't have a choice. I was trying to get through to my doctor's for, maybe, a week and a half to get an appointment and, every time I phoned, she told me to phone back. (Patient)

Staff both employed by the hubs and not employed by the hubs were asked a series of survey questions to establish what impact they thought the hub scheme had had on patients' ability to access services. Their responses show that the majority believed that the scheme had enabled patients to access

primary care more easily (see Table 5). Approximately half of the respondents felt that the scheme had improved access to in-hours care.

Table 5: Proportions of staff survey respondents who agreed or strongly agreed with statements about patient access

| Statement | Current hub employees (n=27) | Used to/never worked for the hub (n=40) |
|---|------------------------------|---|
| Patients are now able to access urgent primary care services more easily | 85% | 73% |
| Patients are now able to access routine in-hours primary care appointments more easily | 56% | 50% |
| Patients are now able to access primary care services using a broader range of technologies, for example telephone, email, Skype* | 42% | 33% |
| A greater number of appointment slots are now available at evenings and weekends for urgent patients | 85% | 65% |
| Patients can now be referred more quickly to the right service or medication* | 65% | 40% |
| Carers and other professionals now have greater access to urgent primary care support | 74% | 58% |

* Twenty-six respondents answered the question.

The staff we interviewed mentioned that what was particularly appealing to patients was that they could pre-book appointments and not have to wait to be seen, as is the case in walk-in centres and A&E departments. Furthermore, they received longer 15-minute appointment slots. However, one GP suggested that some patients could be bypassing in-hours general practice and using the hub as their first port of call for primary care services.

Location of the hubs

In the interviews we undertook in phase 1 in 2015, a number of staff suggested that patients living further away were less likely to take appointments at the hubs. In the interviews in phase 2 in 2016, after more hubs had opened, their location did not come up in staff or patient interviews as a significant factor. But it was understood that patients might sometimes choose not to use the hub service if their local hub was full and the only available slots were at other locations some distance away.

No patients interviewed reported being dissatisfied with the location of any of the hubs. Many already knew the location because it was also the premises of an existing GP practice. Five interviewees highlighted parking availability at the hub as a benefit of the location and a sixth described being offered a choice of hubs and selecting one with parking for reasons of accessibility. One noted a hub's proximity to an out-of-hours pharmacy as a benefit. Another urged that hubs should be co-located with extended-hours pharmacies so that attendees can get prescriptions filled. As we did not interview patients who did not attend the hubs, we do not know whether satisfaction levels decrease for patients living furthest away from them.

Booking appointments

When asked whether they would know how to make an appointment with the hub in the future, the vast majority of patients said they would telephone the call centre, two patients said they would ring their GP first and one patient said they would ring NHS 111 and ask them to book an appointment.

However, a significant number of patients reported waits to get through to the call centre to make their appointment. Eight said that they had to wait on the telephone or redial for at least 10 minutes before getting through, and five described delays longer than 20 minutes:

[W]hen I called, it took me really long to be in the queue, because I was calling for an hour... then after an hour calling, calling, calling, I finally got in the queue with the answer machine... (Patient)

[I]t took 27 minutes before I got through. I remember thinking 'oh that's ages'. (Patient)

Staff generally felt that the call centre was an improvement on previous arrangements. Four GPs highlighted improvements to the booking system stemming from the introduction of the call centre, with one reporting that some patients were storing the telephone number in their phones and bypassing in-hours general practice completely.

Other supportive comments included that:

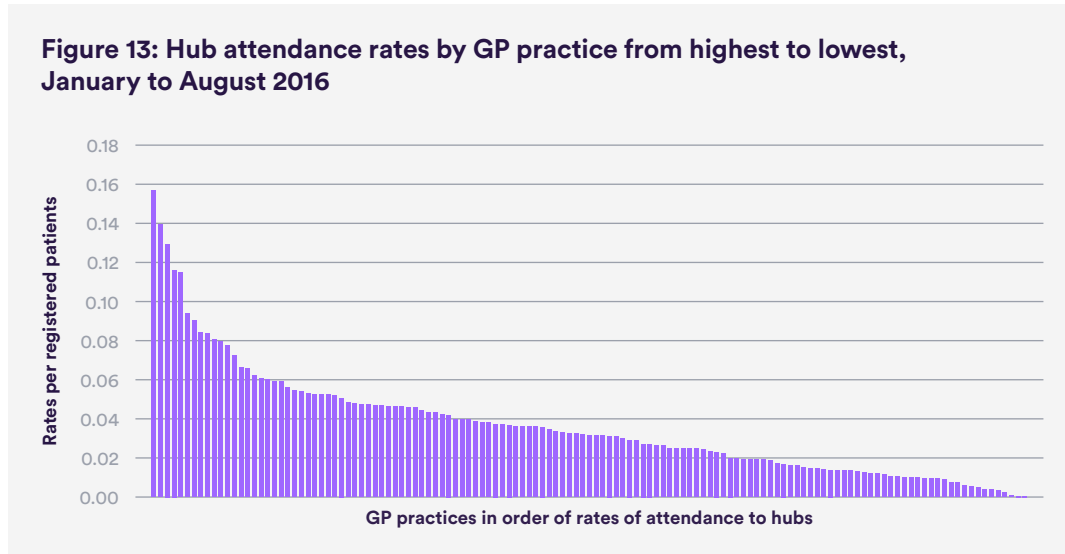
- the call centre is preferable to the NHS 111 referral route because patients are left to wait for less time
- patients might not be able to determine for themselves the difference between a routine, general complaint and an urgent complaint, and the call centre's call handlers are better placed to do this on their behalf.

Two significant concerns raised about the call centre were that:

- it was "failing" between 2pm and 5pm, when it was "overwhelmed" by callers
- triage arrangements had sometimes not been working, and these had recently needed to be strengthened with new protocols.

When we interviewed staff in 2015 in phase 1 of the research, before the call centre was operating, we heard a number of comments about the complexity of the booking process. In our more recent interviews in 2016, this issue did not arise. However, one GP suggested that a small number of practices might be using more than their fair share of hub appointments. This concern echoed suggestions made in phase 1 of the study, where we were told that

some practices had been allocated an allowance of hub appointments to prevent them from monopolising the service when practice receptionists were responsible for booking appointments. We found a wide variation in attendance rates by practice (see Figure 13). However, it is unclear how much this was due to proximity to the hubs rather than the influence of the GP practices.

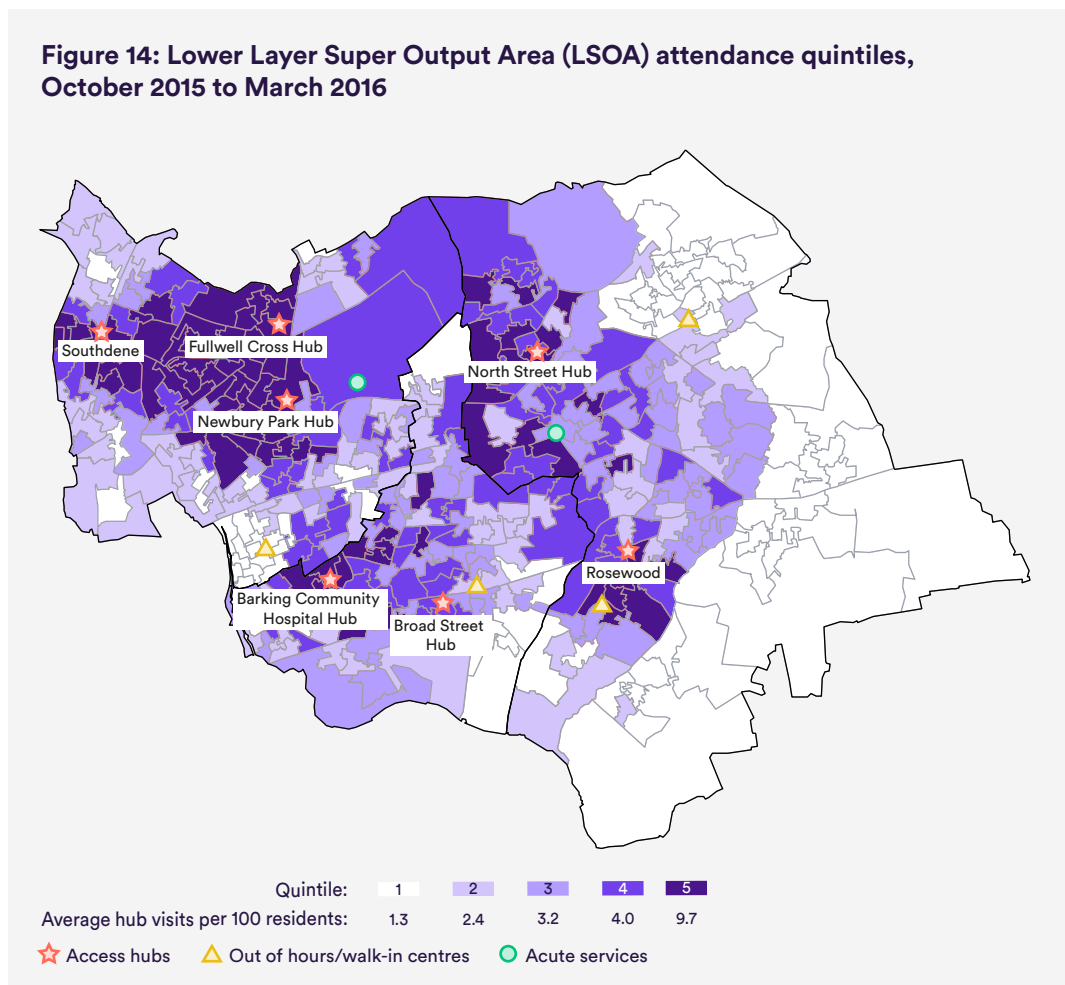


Source: Access hub data.

7 Impact on other services

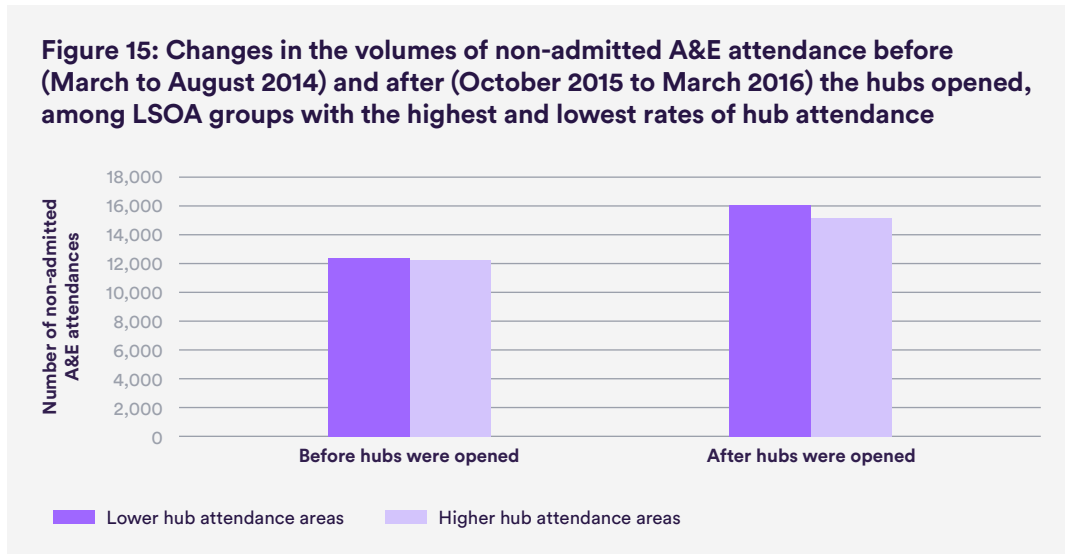
The LSOA quintiles reflecting rates of hub attendance are illustrated in Figure 14. Unsurprisingly, the high-attendance LSOAs were close to the hubs, and most of the low-attendance areas were on the eastern side of Havering borough.

Figure 14: Lower Layer Super Output Area (LSOA) attendance quintiles, October 2015 to March 2016



Source: Access hub data

Figure 15 shows the changes in A&E attendance rates that did not lead to an inpatient admission, before and after the hubs opened, and compares the highest- and lowest-attendance quintiles. Although there was a general increase in A&E attendance within the boroughs, the increase in areas with the most hub attendance was less than the increase in areas where hub attendance was lowest.



Source: BHR CCG data.

After adjusting for age, there was a significant marginal decrease in A&E attendance after the hubs opened of 4.5% (95% confidence interval: 1.1% to 7.8%) for people resident in the high-attendance LSOA quintile. This means that, although there was a general increase in A&E attendances after the hubs opened, A&E attendances in areas where there was the most hub attendance were 4.5% lower than they would have been if they increased at the rate observed in the low hub attendance areas. Details of the model are shown in the Appendix.

Despite the overall increase in A&E attendance and associated costs, the increase in A&E commissioning costs within areas with higher levels of hub attendance was £82,600 lower over the six months from October 2015 to March 2016 (95% confidence interval, £19,500 to £148,600) than within areas with lower levels of hub attendance. This equated to an average reduction of £8.10 per hub visit (95% confidence interval, £1.90 to £14.52) and should be balanced against the costs of providing the hub service, which in the local area was £43 per visit.

That the hubs may have some impact on A&E attendance was also reflected in responses from patients. Ten of the patients interviewed in 2016 (phase 2) reported that, had the hubs not been available, they would have gone to A&E because they felt that they needed urgent advice (including three who listed A&E as one of multiple options). This was a lower number than in the 2015 interviews where 18 people said they would have gone to A&E.

Of the patients who said they would have considered attending A&E, and who also specified the condition they had presented with, conditions included infections, the exacerbation of chronic conditions, post-natal care and illness or minor injury in a child.

Patients who had used local A&E services often spoke of long waits. One described leaving without being seen, having become tired of the wait.

Of the 27 members of hub staff who took part in the staff survey in 2016 (phase 2) who answered the question, 15 (56%) said they agreed or strongly agreed that A&E attendance rates had reduced as a result of the hub service being introduced. This compared with a significantly smaller number (10) of the responses from the 40 members of staff who had never worked or no longer worked at the hubs (p=0.01).

Other extended GP services and walk-in centres

It was difficult to quantify the impact of the hub scheme on other out-of-hours services and walk-in centres due to inconsistent data. However, eight of the patients who we interviewed in 2016 (phase 2) said that they would have attended a walk-in centre if the hubs were not available.

A sizeable majority of the patients who told us they had used other out-of-hours services said they preferred the hub service to these other out-of-hours arrangements. Reasons given were shorter waits and less unpredictability:

[T]he walk-in centre I used last time, you know, I had to queue, I think we had to wait for about six-and-a-half hours, so this [the hub] was amazing, where I only had to queue for a few minutes. (Patient)

The walk-in centre is generally not the best experience. It seems like there is always a lot of queue and again there is this unpredictability of how much time you have to give up from your day... (Patient)

Patients who spoke favourably of other out-of-hours and walk-in services gave reasons including that they were “like a mini-A&E” that can be used for certain emergencies without the need to go to the main A&E, and that it had been easier to get an appointment at a previous extended-hours scheme that had been provided by their own GP practice.

One GP with experience of working at walk-in centres found the hub service preferable to the walk-in centre environment, where GPs were attempting to see “everybody that walks through the door”. The same clinician praised the fact that the hubs are co-located with GP practices, meaning that standard primary care equipment is available, while the service is closer to most patients’ homes than an A&E department.

In-hours GP services

The impact on in-hours GP services was difficult to quantify. Over the six months between December 2015 and May 2016, when all seven hubs were open, 3.1 million separate primary care contacts were recorded in the in-hours practice data, which compared to 32,000 hub attendances over the same period. Not all the in-hours primary care contacts were actual GP visits, and some may have been reporting information sent from the access hubs themselves. However, the relative scale of these figures suggests that we would be unlikely to observe an impact of the out-of-hours hubs within the in-hours data. We noted above that the age distribution of attendees at hubs

and of attendees at in-hours primary care is different, with people aged 65 or over making only 7% of hub appointments compared with 33% of in-hours GP contacts. Of patients attending the hubs, 71% were advised to follow up with their GP, but it is unclear whether this was an explicit referral or general advice to follow up if their condition did not improve.

Feedback from the GPs we interviewed was also variable, ranging from a view that the hub services had “made life easier for all GPs”, to an opinion that it was too early to tell what the impact is. Importantly, no GPs felt that the hubs had significantly reduced in-hours workload, with reasons including that demand in the area was already extremely high. “I think there’s so much demand that it would be foolish to imagine that a three-hour hub, run during the evening, is actually going to have an impact” (clinician).

There was a majority view among the staff we interviewed that the presence of the hubs had improved the working environment of receptionists and those involved with scheduling appointments or triaging patients in in-hours primary care: “If the patient’s screaming ‘I need an appointment!’, you can, depending on the problem, discuss [attending the hub]” (staff member).

Of the 27 members of hub staff who took part in the survey in 2016 (phase 2) who answered the question, 11 (41%) agreed or strongly agreed that waiting times for primary care services had shortened since the hubs opened; compared with 11 (28%) of the 40 staff who used to work or had never worked at the hubs. But these differences were not statistically significant ($p=0.26$).

Impact on other services

There was a lack of consensus about the effect of the hubs on other services such as pharmacy and hospital outpatients. Pharmacists were seen to benefit because more prescriptions were being generated as a result of the hub service, yet the perceived impact on wider pharmacy services remained unclear.

One GP thought that the hubs could have eased pressure on specific hospital services such as pain clinics.

Fifteen of the 27 (56%) hub staff who responded to our survey and answered the question either agreed or strongly agreed that patient reliance on acute care services had reduced since the hubs opened. This compared with 12 out of the 40 (30%) staff who no longer or had never worked at the hubs. Just eight (30%) of the hub staff agreed or strongly agreed that patients requiring further treatment were followed up more quickly; compared with seven (18%) of the non-hub staff.

One GP said that the hubs “complemented” the full range of existing services in the area and another suggested that the existence of the hubs had provided a “positive boost” for the whole health economy.

8 Impact on patients' experience of care

A notable majority of the patients we interviewed responded positively to questions about the care they received at the hubs. All interviewees said they would use the service again and the vast majority agreed that:

- the service had made accessing a GP easier
- they had confidence in the advice the GP gave
- they had been able to spend enough time with the GP
- they had been sufficiently involved in decision-making
- they were more confident that they would be able to access high-quality NHS care as a result of visiting the hub.

Half the interviewees said they would have preferred to see their own GP. These patients frequently spoke of a trade-off between quick access and continuity, sometimes emphasising memories of better access in the past:

Obviously it's better than waiting two weeks for an appointment, but it would have been better to see your GP. Going back quite a few years, you used to see your GP, always make an appointment, go there and see your local GP when you were ill and that was obviously the better option. (Patient)

However, other patients appeared relatively unconcerned by issues of continuity:

My own personal GPs, which I've got in [redacted], they are extremely good, yes. But, to be quite honest, a doctor is a doctor. They're qualified to do a job. But in an ideal world, yes, I would like to see my own GP because he knows my history. (Patient)

Several patients highlighted their GP's familiarity with their medical history as a benefit of using their registered practice, but only a small number of patients told us they felt the GP they saw at the hub had not known enough about their condition.

For most patients who did not express a preference to see their own GP, the difficulty of accessing the in-hours service was usually the reason cited for attending the hub, and this had generally eclipsed any potential benefit of continuity.

Two patients said they would actively use the hub service in preference to their own GP practice.

We asked patients whether they thought their condition or concerns had been resolved by their attendance at the hub and whether they had required subsequent medical support. More patients reported that their issue had been resolved in the second phase of the evaluation than in the first phase. Of the nine who told us they had gone on to use other services, three also said that the hub had resolved their issue. Two of these had been told to return to their GP for a follow-up appointment and one had been sent to A&E.

The hub service achieved very high overall satisfaction levels among the patients we interviewed: the vast majority said they would use it again and would recommend it to others. Some patients emphasised the pleasant environment and the warmth of the staff:

You know, you go in a doctor's, most of them are looking at the bloody computer while you're talking. She was lovely – she come and met me, she was looking at me, she was advising me.... She wasn't rushing to get me out or nothing and I felt important, yes... (Patient)

I did feel better in the hub because, as I said, they treated me as me. It wasn't: 'Oh, I've got 15 minutes to see this patient.' That's what I've got sometimes in my own doctor's surgery... (Patient)

One patient contrasted the helpful receptionists with the “dragons” they sometimes encountered in GP surgeries.

The negative comments that patients made included that the environment was very noisy.

Some GPs we spoke to were unsure about whether clinical outcomes – as distinct from patient satisfaction – would have been affected by the arrival of the hubs. Reasons for this lack of certainty included that:

- clinicians would not automatically know whether outcomes had improved – or be able to tell
- any improvements in outcomes detected for hub attendees would be difficult to quantify
- the speed at which a patient's problem could be addressed would not necessarily translate into an improved outcome.

The high satisfaction levels reported by patients were echoed in feedback from hub employees. Of the 29 hub staff completing the staff survey, 69% felt that patients were very satisfied with the service and 28% felt that they were fairly satisfied. In addition, 52% said that the service was meeting the needs of patients very well and 45% said that it was meeting the needs of patients fairly well. All except one of the hub staff surveyed said that they were satisfied with the length of time allocated to individual patients at the hubs.

In terms of the care being provided, the main areas of satisfaction that staff reported were:

- longer appointments (15 minutes' duration compared with 10 minutes in in-hours primary care)
- an out-of-hours service more akin to in-hours primary care services in feel, albeit with services provided by a locum or previously unknown staff member
- positive reactions from patients about the calibre of the doctors employed by the service.

9 Impact on staff working at the hubs

Staff survey responses revealed a largely positive attitude towards working at the hubs – 59% of staff said that working at the hubs was better than their other or previous work, and staff were generally very positive about specific elements of the work. The areas that scored most highly in terms of proportions saying they were satisfied with the conditions were:

- the length of time allocated for appointments (97%)
- the number appointments a day (93%)
- relationships with colleagues (90%)
- the appointment booking system (86%)
- the administrative workload (86%)
- hub operating hours (83%)
- the hubs as employers (82%)
- the working environment (76%)
- pay rates (71%).

Staff interviews reinforced the survey findings, with all those involved in providing the service speaking positively about their experience. No interviewees identified the hubs' operating hours as a problem in terms of their own satisfaction, although staff for whom the operating hours would have been problematic were unlikely to seek work at the hubs, so this view may not reflect the perspective of the general practice community at large.

Three clinicians commented on the lower administrative burden of providing primary care services at the hub, compared with in-hours general practice. One interviewee highlighted the longer 15-minute appointment slots as being more pleasant for GPs as well as for patients.

However, when asked about working conditions at the hubs, interviewees also described some challenges. First, two clinicians highlighted the fact

that individuals were expected to cover their own indemnity insurance costs, meaning that the cost of working at the hubs was greater for clinicians. Second, GPs working at the hubs are paid locum rates, but some interviewees acknowledged that this adversely affected the recruitment of locums for in-hours work. One said that this had caused him increased stress in his own in-hours role.

10 Access to patient records

There were only two aspects of hub work where fewer than 50% of the 27 hub staff who filled out the survey and answered the questions reported that they were very or fairly satisfied:

- access to patient records and clinical information (48%)
- information technology (IT) and IT support (31%).

Furthermore, of the 40 survey respondents who had never or no longer worked at the hubs, just seven (18%) agreed that it was easier for all staff to access patient information since the hubs opened.

We also asked interviewees specifically about access to patient records and the inability of hub staff to refer on to other services. During the period when most of the interviews were conducted, staff still did not have access to patient records. When asked about the impact of this for hub doctors, they raised the following issues:

- a lack of information about other medications that patients might be taking, posing a problem for GPs wanting to prescribe a drug
- a lack of information on patients with multiple health conditions (co-morbidities)
- a greater need for follow-up appointments with the patient's registered GP, resulting from the lack of medications and condition information.

Even some patients were puzzled that GPs had been unable to view their medical record:

He did say he couldn't get into my medical file, which I thought was a bit strange. I didn't see why he couldn't. I mean – it's computerised and if I'm there, why can't he? I did find that a bit weird. (Patient)

However, the view from the majority of staff interviewees was that most of the time it was possible to accommodate these issues, particularly where patients were attending the hub to seek treatment for minor acute conditions (for which the service was designed).

Towards the end of the research period, a new computer system – 'Vision 360' – was being tested to address the patient record problem. One staff interviewee, speaking when the new system had recently been launched, said:

That has improved the way things work because I am able to sit with the patient, know what their past medical history is, what their GP has said, and then you work along those lines. (Clinician)

11 Referring patients for further treatment

During our evaluation, hub GPs were unable to refer patients on to other services, except for some urgent and emergency services, and they were not able to request diagnostic tests unless they were carried out in an urgent or emergency care setting. When asked how this affected hub GPs’ practice, interviewees highlighted the additional workload generated by calling, writing to or emailing a patient’s registered GP to ensure that follow-up requirements were documented and acted upon, and even writing letters to inform GPs of the outcome of consultations.

Opinion about whether or not hub GPs should have referral rights was split. Arguments against providing rights of referral included that referral decisions should only be made by the GPs responsible for the budgets for further treatment, and that referrals should be left to the clinicians who were familiar with the patient:

Even now that I have access to patient notes, I’m glad that the out-of-hours GPs are not doing referrals for the patients, like routine referrals, because you really don’t know that patient – all you’re getting is this one picture but you don’t know the whole thing that is going on in their life, so I would rather send them back to their own GP to do any routine referrals. (Clinician)

[E]mergencies are [referred to hospital] straight away, but routine GP work in which the GP holds the budget, that is for the GP to do. (Clinician)

Arguments in favour of referral rights included the view that patients would then be receiving a “full GP service out of hours”. Also, there would be a duplication of effort involved in diagnosing the need for a referral, sending documentation back to the registered GP practice and the practice then booking another appointment to refer the patient.

One GP referred to hub services operating in other boroughs that did permit some referrals to diagnostic services, meaning the process could be shortened. The example this GP cited related to the ability of the hub to support in-hours general practice in adhering to a national requirement for referral into cancer services, where a time-limited target applies:

An example I can give you is about a patient with a lump in the breast who came over the Easter holidays to the hub. The doctor saw her and put her on a two-week cancer pathway through the hospital from the hub, and on Monday morning when the regular GP arrived in the surgery, they looked at the patient notes and everything was there from the hub so... they didn't have to do anything. (Clinician)

12 Discussion

Three CCGs in outer east London were interested in providing better access to primary care for individuals with health care needs, while, at the same time, understanding the associated impact on costs and effectiveness throughout the system. As a result, seven access hubs were established, each of which provided extended-hours GP access on weekday evenings and over the weekend.

During our evaluation of these hubs, we found that they were meeting the needs of individuals who found it difficult to attend normal in-hours primary care services or who felt they required a speedy clinical assessment for themselves or their children. They also seemed to have had a positive impact on the use of local A&E services, possibly by diverting some people who would otherwise have chosen to attend A&E, or who may have been sent to A&E by NHS 111, away from the service. However, the costs to local commissioners of providing the access hubs were not offset by A&E savings: reductions in A&E attendance would have needed to be approximately five times greater for the hub service to break even.

Patients and staff appeared highly satisfied with their experiences of the hubs. For patients, the perceived high quality of the service provided by the clinicians and the improvements to primary care access arrangements were particularly important.

Impact on public access to GP services

The landscape of out-of-hours provision is often complex and difficult to navigate, and understanding the extent of demand for primary care services in general is problematic. But responses to the 2014 national GP Patient Survey suggested a need for more convenient primary care appointments, particularly on a weekday evening or on a Saturday.

This corresponds with the views of the patients who we interviewed. Difficulty in accessing existing GP services was the main reason people cited for using the hub, whether this was because their existing services were oversubscribed or because they were only available at inconvenient times. They identified the availability of appointments (as distinct from walk-in services) outside of core hours as one of the main benefits of the scheme. After the introduction of the access hub call centre, patients did not speak of being offered a choice when booking appointments, but this was not raised as a problem and suggests that patients using the hubs prioritised fast access over being able to choose specifically when they attended.

However, it is important to note that the patients we interviewed were those who had been able to obtain a hub appointment and we do not know how widespread the view is among the local population as a whole that the hub scheme has improved access. We also do not know how many people, if any, were attempting and failing to get hub appointments. We do know that some of those who made appointments had long waits before getting through to a call handler.

In addition, although staff both working and not working at the hubs told us that the hubs had improved access to primary care, only a minority thought that the service had reduced waiting times for primary care appointments. This reflects the view of staff that demand had been significantly outstripping supply in the three boroughs.

The replicability of the benefits of the hubs elsewhere is not clear, as this will be affected by both the quality of services provided and the extent of unmet demand in each local area. While many of the patients we spoke to in Barking and Dagenham, Havering and Redbridge told us that they found it difficult to make appointments to see their regular GP, it is unclear how much this would be the case across the whole of England.

This study has also raised questions about the flexibility of regular in-hours general practice in relation to some modern working environments. The bookable out-of-hours primary care option seems to be welcomed by people of working age who are generally healthy and less concerned with continuity of care, and particularly by people working in professions such as teaching and people on zero-hours contracts, where there are difficulties associated

with taking time off work. Also, for families concerned about their young children, the ability to see a GP quickly offers advantages and, in some cases, reduces the need to attend A&E as an alternative.

One large analysis of responses to the GP Patient Survey found a relationship between worse in-hours access and increased use of out-of-hours primary care services (Zhou and others, 2015). The authors of this study concluded that if there was a causal relationship, then improving access to in-hours care could reduce the use of out-of-hours appointments by up to 11%. Another study analysed responses to the GP Patient Survey and found a positive relationship between patient satisfaction and the availability of appointments (Campbell and others, 2013).

Increasing access to general practice using approaches such as hubs separate from the registered practice list has the potential to lessen continuity of care by breaking the link between the patient and the practice (Palmer and others, 2018). In such schemes, a direct trade-off can often be observed between better access and care continuity. Therefore, the extent to which hub schemes are beneficial is likely to be determined by local factors such as:

- the demographics of the patient base
- the extent to which the local population values quick access over continuity
- the extent to which a good level of access is already in place
- related to that, the level of unmet need in the local area.

The patients we interviewed did not generally perceive continuity of care as a more important factor than quick access. And patients using the hubs described significant challenges in obtaining in-hours appointments at their own GP practice. It is, however, possible that those patients valuing continuity more than quick access opted out of using the hub service, and would therefore not be present in our interview data.

Interestingly, several patients described differentiating between straightforward conditions, where they felt it was appropriate to see a hub GP, and more complex or ongoing issues, where they would prefer to see their own GP who knew their history. This might suggest that patients are able to exercise a degree of judgement about the importance of care continuity in relation to their presenting complaint, which could mean that the risk to care continuity in such schemes could be less in some cases than has been feared.

A further risk associated with expanded-access schemes such as the access hubs is that of supply-induced demand. In an environment of increasing demand for primary care services, it is difficult to determine how much additional demand would be created by increased supply, rather than being existing demand that is currently unmet. One study found that 16% of people attending walk-in clinics said that they would have done nothing had the service not been available (Rosen, 2014). It is a difficult and subjective judgement to determine in what circumstances withholding treatment to see whether a problem will resolve itself is appropriate, and one that was outside the scope of this research.

How services are provided

The provision of out-of-hours services since the first hubs opened has appeared both pragmatic and responsive. More recently, new hubs have opened to improve geographical coverage and to spread existing capacity across the boroughs. Also, opening hours at weekends have been adapted to match perceived demand, with weekend provision changing so that usage levels match those of weekday evenings.

The patients interviewed for our research particularly liked the appointment-based system at the hubs and this was what they highlighted when distinguishing between the hubs and other services such as walk-in centres and A&E. This adds further weight to the suggestions from some staff interviewees that there may be a lack of understanding on the part of patients of the difference between the various types of out-of-hours provision available, and that there could be opportunities to streamline the out-of-hours offering so that it works better for both patients and the NHS locally.

As others have noted (Rosen, 2014), health service managers face challenges in informing the public about the appropriateness of different types of out-of-hours facility, and especially A&E services, for different conditions. Although untested in this research, it is feasible that patients will have different priorities from managers regarding urgency of treatment versus efficient use of resources. Where potentially cheaper services are perceived as being more attractive – as appears to be the case for the hub scheme – this offers an opportunity to steer patients in a direction that would represent a more efficient use of resources.

The current (at the time of the fieldwork) position of referring patients back to their own GP for diagnostic testing and onward referral may need to be reviewed. Although it ensures rigorous gatekeeping and continuity of care, it could lead to the duplication of activity and potential delays.

Staff working at the hubs raised concerns about a lack of access to medical records and an inability to refer patients on for further treatment, both of which are areas where there is potential for increased clinical risk as a result of the hub system. Staff told us they were “getting away with” not having access to medical records, a situation that should be improved with the wider roll-out of access to GP records. The effectiveness of the hub approach relies on hub staff communicating effectively with in-hours GPs where a referral or follow-up is needed.

Integrated information systems between out-of-hours practices and regular in-hours services are important to enable data sharing and continuity of care. Out-of-hours services would also benefit from being able to refer patients onwards, either for more testing or for a hospital visit.

Staffing

The hub staff we interviewed did not raise any concerns around the staffing of the hubs, although one suggested that it might be beneficial to broaden the skill mix, for instance by using some nurse practitioners. The two staff we interviewed in phase 2 who were not working at the hubs suggested that the higher rates being paid by the hubs for locum shifts were having an effect on the locum market in the area, with one suggesting that this was causing recruitment difficulties for in-hours primary care. Staff working at the hubs acknowledged the preferential rates, but there was a view that these were reasonable because of the antisocial hours the hubs operate in. Further investigation of the impact these rates are having on staff recruitment and retention in the area may help in assessing whether any changes to rates will be necessary to avoid negative impacts on in-hours primary care.

Satisfaction among staff working at the hubs was high, with a particular emphasis on the relative lack of bureaucracy, as well as some advantages from being able to spend more time focusing on patients and being able to engage

with them in a slightly different way. This shines a revealing light on the bureaucratic burden that in-hours GPs face.

Impact on the use of other services

Since we were not able to link hub and A&E datasets at an individual patient level, we used a population-based approach at the level of the LSOA to look at the impact of the hubs on the use of other services. Our analysis showed that, although overall numbers of A&E attendances were increasing locally over the period of our evaluation, the new hub services appeared to be having an impact on attendances at A&E that were not followed by an inpatient admission, reducing numbers by 4.5% in areas where hub attendance was highest compared with areas where attendance was lowest. We cannot prove cause and effect, and there may have been other local initiatives that also affected the changes in attendance at A&E within these specific LSOAs. In particular, the majority of LSOAs in the comparator group, where hub attendance was lowest, were on the eastern side of Havering borough, where two walk-in centres operate. Also, because of data consistency issues, we limited our analysis of A&E visits to just two type 1 providers; the relative impact on other A&E and walk-in services was not determined.

Staff working both in the hubs and in the wider community raised the question of whether the hubs would be able to alleviate significant pressure on A&E departments. They posed this question specifically in terms of the extent to which demand for services such as A&E is inappropriate. A hub service would not be suited to absorbing excess demand for A&E services if this was appropriate A&E demand. On the other hand, of all the hub attendances we examined in this research, only around 3% were subsequently referred on to A&E or other hospital services.

It is not clear how much our findings would translate to non-urban environments. In London, A&E services are generally easier to access, and so the impact of hubs on A&E attendance may be more understandable than in places where the nearest A&E services are more than an hour's drive or bus journey away. Even just within urban settings, the impact would be very dependent on the way the services are organised locally, such as the number, location and opening hours of hubs.

To assess general cost-effectiveness, any hub benefits would need to be balanced against costs, which again will depend on local circumstances. For example, in Barking and Dagenham, Havering and Redbridge during the period of our evaluation, hub appointment slots were 15 minutes and GPs were paid locum salaries, which may not be an approach that other areas wish to adopt. And this study was not able to measure the longer-term public health benefits of providing better access.

Previous studies show differing results in relation to the impact on secondary care services of improving access to primary care. One study performed a systematic review of the impact of primary care interventions on A&E (Ismail and others, 2013). Of the interventions they tested, none showed a notable effect on A&E attendance, although they concluded that data on patient outcomes and cost-effectiveness are limited and, in fact, none of the studies addressing out-of-hours care satisfied the review's quality assessment. Another study of individual patient records in Hospital Episode Statistics concluded that general practices providing more timely access to primary care had fewer self-referred visits to A&E per registered patient (Cowling and others, 2013). Agarwal and others (2012) interviewed 23 patients (or their carers) who attended the emergency department and found that factors affecting attendance included:

- access to general practice
- anxiety about the presenting problem
- awareness and perceptions of the efficacy of the services available in the department
- a lack of alternative pathways.

For the first national evaluation report of the Prime Minister's Challenge Fund sites, the authors monitored trends in A&E attendance across all Challenge Fund GP practices throughout England up to May 2015. They were able to demonstrate significant reductions in minor self-presenting A&E attendances, and described notable reductions in Barking and Dagenham, and Havering and Redbridge (NHS England, 2015). However, they did not find any significant change in other hospital attendances. Our qualitative research has supported these findings, with the subset of patients who said they would have gone to A&E had the hubs not been there reporting the type of relatively minor conditions that might be expected among self-presenting A&E patients.

Suggestions in the literature of a relationship between patient satisfaction with access and performance and improved clinical quality were hard to evaluate in our research, but the responses of the patients we interviewed imply that simply by providing an additional route to accessing primary care, some poorer patient outcomes caused by a lack of service availability may have been avoided. Hub staff believed that the quality of provision was high and the service was able to address patients' needs most of the time, but they were not able to point directly to evidence of improved patient outcomes. And an important point is how much such services are providing access for people who would otherwise not use an alternative – for instance because work commitments leave them unable to attend in-hours primary care. The point made previously about the hubs' approach to handling referrals that was in use during our evaluation is also relevant here, and it may be beneficial to conduct a further assessment of any risks relating to the approach – particularly for urgent care pathways – to ensure that the risk of poorer outcomes is minimised.

Sunday services

There is some debate about the value of providing primary care services on a Sunday due to reported low use, with suggestions made that Sundays might be best reserved for urgent care rather than pre-bookable appointments (NHS England, 2015). In our research, the BHR hubs had adapted to the lower demand on Sundays by reducing opening hours and staffing, and thus ensuring that usage rates were comparable to those on other days of the week. Visits by children aged 0–4 were still relatively high on a Sunday; meanwhile, the conditions people were presenting with were similar to the conditions people were presenting with in the rest of the week. NHS 111 referrals were more than three times as frequent on a Sunday, which may reflect the lack of other services during the middle of the day or may be because the hub call centre was less busy. Economically under these circumstances, the viability of Sunday opening may just depend on the fixed costs of running the service.

Ongoing challenges to primary care

It is unsurprising that the primary care staff we interviewed focused most on the ability of the hubs to address problems existing in primary care, as this would be the focus of their day-to-day experience. Two major benefits of the hubs were their ability to improve the lives of reception/appointment-booking staff (a finding echoed in the literature) and the increased confidence the hubs provided to local GPs that patients getting appointments were being well looked after.

However, it was interesting that some staff interviewees alluded to concerns about capacity, quality and staff morale within the area's primary care services, in terms of the extent of the hubs' ability to respond to these perceived problems. This suggests that whether or not the hubs are a complete solution to issues of capacity, quality and staff morale, these were ongoing challenges for primary care in Barking and Dagenham, Havering and Redbridge at the time of the fieldwork, which would need to be addressed.

Also of interest was the suggestion from one hub employee that the hub approach had something in common with the pre-2004 system of providing patients with access to primary care out of core hours – albeit that the hub approach is operating at a larger scale. This might reflect the fact that although there is no requirement for the hubs to recruit staff working locally for locum shifts, several have been doing so. This could mean that some hub staff perceive either closer links between the hubs and local in-hours primary care services, or greater ownership of the hubs by the local GP community, than can be achieved when out-of-hours care contracts are let to separate out-of-hours care providers.

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Appendix: A&E attendance model parameters

| Parameter | Estimate (95% confidence limits) | p value |
|--------------------------------|-------------------------------------|---------|
| Intercept | -2.56 (-2.59, -2.54) | <.0001 |
| Time period | 0.13 (0.09, 0.16) | <.0001 |
| Age 0–4 | 0.72 (0.68, 0.77) | <.0001 |
| Age 5–14 | 0.095 (0.052, 0.138) | <.0001 |
| Age 15–19 | 0.15 (0.09, 0.20) | <.0001 |
| Age 20–44 | Reference category | |
| Age 45–64 | -0.014 (-0.051, 0.023) | 0.4614 |
| Age 65–74 | 0.18 (0.12, 0.23) | <.0001 |
| Age 75–84 | 0.49 (0.44, 0.55) | <.0001 |
| Age 85+ | 0.74 (0.67, 0.81) | <.0001 |
| High-attendance LSOA quintile | -0.021 (-0.047, 0.005) | 0.1109 |
| Interactions with time period | | |
| *High-attendance LSOA quintile | -0.046 (-0.081, -0.011) | 0.0102 |
| *Age 0–4 | 0.26 (0.20, 0.32) | <.0001 |
| *Age 5–14 | 0.068 (0.011, 0.125) | 0.0196 |
| * Age 15–19 | 0.10 (0.03, 0.18) | 0.0083 |
| * Age 20–44 | Reference category | |
| * Age 45–64 | -0.042 (-0.092, 0.008) | 0.1008 |
| * Age 65–74 | -0.18 (-0.26, -0.11) | <.0001 |
| * Age 75–84 | -0.034 (-0.110, 0.041) | 0.3694 |
| * Age 85+ | 0.072 (-0.023, 0.167) | 0.1356 |
| Dispersion | 0.86 (0.81, 0.91) | |

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