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Collaboration for Leadership in Applied Health Research and Care (CLAHRC) Greater Manchester

NHS Greater Manchester Primary Care Demonstrator Evaluation

Final Report: Operational Summary

June 2015
NIHR CLAHRC Greater Manchester

Operational Summary

This report has been prepared by the primary care demonstrator evaluation team from the NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC) Greater Manchester. The team was commissioned by NHS England Greater Manchester in December 2013 to evaluate six primary care demonstrators. This summary provides a brief overview of the evaluation, including headline results from the process, activity and outcome components of the evaluation.

Headlines

- This report is based upon a quantitative outcome evaluation and a qualitative process evaluation. The outcome evaluation examined the impact of the demonstrators on levels of activity within secondary care, Out of Hours and Walk in Centre services, as well as their impact on patient satisfaction. It did so by comparing outcomes in the demonstrator areas with non-demonstrator practices across the rest of Greater Manchester ('regional comparator') and within each CCG ('local comparator'). The process evaluation explored the enablers and inhibitors which affected the operation of the demonstrators.
- The demonstrators offered different constellations of new/extended services. All demonstrators identified improved access to community-based services and reductions in hospital attendances as key goals. Four demonstrators focused largely upon providing additional availability in general practice (Bury, Central Manchester, Middleton, Heywood), with the Bury demonstrator focusing exclusively on this. The Bolton demonstrator focused on improving provision in care homes, while the Stockport demonstrator initiated or extended five services related to complex care and end of life care.
- The four 'additional availability' demonstrators successfully provided additional appointments for patients in general practice, with Central Manchester and Bury providing the largest number of appointments. Considering provision per head of population, however, Bury and Heywood supplied approximately 30-40 appointments per month per 1000 population, while Central Manchester and Middleton supplied approximately 5-10 appointments per month per 1000 population (although Central Manchester was the only demonstrator to deliver full coverage of the CCG area). Overall, an average of 65.5% of the additional appointments available were booked, with greater utilisation on weekday evenings and Saturdays than on Sundays.
- The overall effect of the additional availability demonstrators was a statistically-significant reduction of 3% in total A&E activity compared to the rest of Greater Manchester. This was comprised of statistically significant reductions in A&E activity in Bury (4%) and Middleton (3%) and non-significant reductions in Central Manchester and Heywood.
- The evaluation also focussed on minor attendances, as this is the area of activity most plausibly impacted by additional availability in general practice. The evaluation identified a statistically-significant reduction of 8% in minor A&E activity across all additional availability demonstrators when compared across Greater Manchester. This is driven by a statistically-significant reduction in Central Manchester (14%) and a non-significant reduction in Bury. Using the local comparator, the impact remains significant in Central Manchester as an 8% reduction. It is possible that part of this effect is attributable to other demonstrator activities in Central Manchester, in particular the responsiveness appointments in routine hours.

- In all demonstrators, there were statistically-significant reductions in the numbers of patients self-referring to A&E, ranging from 8% to 24% using regional comparators. In some cases, however, this reduction was offset by increases in A&E attendances referred by GP or other routes. For GP referrals, statistically-significant increases were observed in Heywood. There were statistically-significant increases in referrals from other sources in all four additional availability demonstrators when compared regionally.
- Both Out of Hours attendances and Walk in Centre attendances decreased in Bury demonstrator practices; Walk in Centre usage fell by around 14% while Out of Hours usage fell by around 38% compared to the rest of the CCG: both findings were statistically significant. By contrast, there was no statistically significant change in Walk in Centre or Out of Hours attendances by patients from the other three additional availability demonstrators.
- Examining patient satisfaction through an analysis of specific items on the General Practice Patient Survey (GPPS), no statistically-significant effects were found for all additional availability demonstrators when comparing to the rest of Greater Manchester. Although overall the demonstrators showed improvements for each item, none were statistically-significant. In Bury, some statistically-significant improvements were found in perceptions of convenience of appointment, satisfaction with surgery hours and overall quality of service.
- This evaluation has not included a full analysis of cost-effectiveness. What this evaluation does provide is an estimation of the impact of the demonstrators in terms of total A&E costs and minor A&E costs, where statistically-significant outcomes were shown. These cost variables are the sum of the tariffs attached to all attendances at A&E and just minor attendances respectively. They are not measures of the total cost of providing A&E services. It is estimated that the Bury demonstrator contributed to a decrease of £43,000 (range: £19,000-£73,000) in total A&E costs; in Middleton, an increase of £97,000 (range: £57,000-£137,000) in total A&E costs[1]; and in Central Manchester, a decrease of £425,000 (range: £285,000-£565,000) in minor A&E costs, when using the Greater Manchester comparator (although this decrease was not associated with any statistically-significant change in total A&E costs). In addition, it is estimated that the Bury demonstrator contributed to reduction in Out of Hours and Walk in Centre activity equating to a hypothetical cost reduction of around £164,000 (range: £104,000-£212,000). These estimates come with very broad confidence intervals, and the 'true' cost impact is equally likely to be anywhere within the range set out.

[1] While there was a decrease in total A&E activity in Middleton, there was an increase in total A&E costs, possibly due to increases in higher intensity (and higher cost) activity in the demonstrator period unlikely to be related with the demonstrator impact.

- The heterogeneity and small scale of the non-additional availability services offered meant that it was not feasible to perform a dedicated outcome analysis of these services, which formed part of the Central Manchester, Heywood and Middleton demonstrators, and the entirety of the Stockport and Bolton demonstrators. However, as noted above, certain non-additional availability services provided by the demonstrators in each area could have contributed to the observed effects on A&E. The only two services in the additional availability demonstrators which could plausibly have contributed to decreased A&E attendances are the responsiveness appointments in Central Manchester and the mental health crisis clinics in Middleton. The majority of non-additional availability services were more targeted at reducing admissions than attendances. Admissions were analysed for this evaluation; however, no discernible impact was observed.
- Three non-additional availability services were singled out by several individuals in each area as being particularly innovative; the care home service (Bolton), the navigator service (Heywood) and the enhanced EoL service (Stockport). Demonstrator-provided outcome data suggested cost savings associated with the care home and medicines management service (in Bolton) and the enhanced EoL service (in Stockport). These services merit further exploration and rigorous, structured evaluation.
- Enabling factors identified by the process evaluation included: federations and alliances; sharing of IT systems; early attention to information governance protocols; attention to workforce management, including realistic assessment of workforce needs; sufficient time to develop communication strategies; and access to appropriate infrastructure in the early stages of the demonstrators. The report further explores these issues, highlighting the problems that were encountered by demonstrators and the solutions adopted. Careful consideration of these issues in advance of any similar initiatives to reorganise and enhance primary care is essential.
- In addition, the demonstrators generated vital learning and offered the chance to compare different models of additional availability services in primary care. The most successful demonstrators, in terms of scale, capacity generated, patient utilisation of service, and impact were in Central Manchester and Bury. Both benefitted from the existence of a GP federation and certain advantages in their information technology and information governance arrangements. Both demonstrators also benefitted further from effective and dedicated management of the demonstrator, supported by organisational and contractual arrangements. Bury offers valuable guidance in publicising and generating demand for the service, but the workforce solution implemented by Central Manchester was more robust, sustainable and generated a whole-population coverage that the other demonstrators could not achieve using existing models.
- Beyond the narrow measure of impact on secondary care, the evaluation pointed to wider system effects of all of the demonstrators, in generating change in primary care and related sectors, but also in generating the capacity for future change within healthcare organisations and healthcare professionals.

Background

Accessible, integrated healthcare services are at the core of current national health policy aims, and form part of the Primary Care Commissioning (PCC) Strategy for Greater Manchester. NHS England Greater Manchester provided funding in 2013 for a programme of demonstrators to test aspects of the PCC Strategy. Bids for funding were invited that focussed on improving access and integration in primary care and innovative use of technology. Six demonstrator bids (Bolton, Bury, Central Manchester, Heywood, Middleton and Stockport) were initially awarded a total of £2.1m for six months from October 2013. In March 2014 this was extended to £4.1m, with an additional twelve months, up to the end of March 2015. Total funding per demonstrator was; Bolton £243,000; Bury £765,000; Central Manchester £979,000; Heywood £590,000; Middleton £810,000; and Stockport £710,000. The period of evaluation was December 2013 to December 2014.

The funded demonstrator bids were diverse in their focus and scope and there was variation in the way in which demonstrators viewed issues of access to healthcare and designed services to meet them. Each demonstrator had a diverse set of stakeholders, providers and target populations. All six demonstrators focussed on access (through additional availability in general practice and/or increased community-based services) and different aspects of integration were found across the six demonstrators (within general practice, between general practice and community services, between general practice and secondary care, between general practice and social care). All six looked to some form of technology to facilitate access and integration (sharing GP records, video consultation, electronic alerts in secondary care). Four out of the six demonstrators focussed primarily on additional availability of general practice as a service. The issues associated with Accident and Emergency (A&E) attendance and non-elective admission were identified by all demonstrators, with either demand on, or access to, general practice identified as a problem by four demonstrators. All demonstrators identified problems with integration between services; five demonstrators identified Long Term Conditions and four identified Frail Elderly as areas of the most unmet need in terms of access and integration.

The problems of acute attendance and admission were addressed by providing additional availability within general practice (Bury, Central Manchester, Middleton, Heywood), by increasing community based services (Bolton, Stockport) and by extending or enhancing the range of services offered in general practice (Central Manchester, Heywood, Middleton, Stockport). Each 'additional availability' service provided additional weekday, evening and weekend appointments in locality-based host sites and aimed to provide access to full patient records within the service. Throughout this summary we refer to the work of the demonstrators as the "demonstrator intervention".

The Evaluation

The evaluation considers both the outcomes of the demonstrators (using quantitative data) and the process of how they worked (using qualitative data). While the outcome evaluation is appropriate for answering the question 'what worked?' (or 'what didn't work?'), the process evaluation provides understanding of the 'how' and 'why' of 'what worked?' (and what didn't). The outcome evaluation aims to establish, within reason, the effectiveness of the interventions implemented within each demonstrator providing additional availability appointments (Bury, Central Manchester, Heywood and Middleton) in terms of A&E attendance, use of Walk in Centre and Out of Hours services and patient-reported access to and satisfaction with general practice services. To do so, it principally uses routinely collected data from the Secondary Uses Service (SUS) (on A&E attendance) and the General

Practice Patient Survey (GPPS) (on patient reported access to and satisfaction with general practice services). As previously noted, the SUS and GPPS data were not appropriate for providing a dedicated evaluation of the non-additional availability components of the demonstrators (in Central Manchester, Heywood and Middleton), and hence were not relevant at all in two demonstrators (Bolton and Stockport). Here, the evaluation has relied where feasible upon activity and outcome data generated and supplied by the demonstrators themselves.

Methods Used

In the outcome evaluation, the effect of the demonstrator intervention was estimated by measuring changes in secondary care usage and patient satisfaction for demonstrator practices relative to non-demonstrator practices both across Greater Manchester and within each demonstrator CCG, over a 4 year period from the beginning of 2011 to the end of 2014. The analysis uses two datasets; SUS and GPPS. Using SUS, total A&E attendances and associated costs were measured, focusing on minor intensity attendances (as it was deemed unfeasible for the primary care demonstrators to affect intermediate or major intensity A&E attendances) and the referral route. In addition, data from local providers of Out of Hours services and Walk in Centres were analysed to examine the effect of the demonstrators on the use of these services. Using the GPPS, five questions were chosen which relate to the ease with which the surgery can be accessed, and the overall level of satisfaction with the surgery.

The process evaluation examines how the demonstrator interventions were defined, implemented and modified over time. It was based on interviews with 91 key stakeholders across the six demonstrators, including clinical and managerial representatives of CCGs, general practitioners (GPs), acute and community services, local authorities and third sector organisations. Interview transcripts were subject to primary and secondary analysis by the qualitative research team in a multi-stage process to organise content and identify themes. The process evaluation was focused on identifying learning points, which have been fed back to demonstrator sites throughout the evaluation in order to aid implementation, and can also be used to inform similar attempts at service innovation in the future within primary care and beyond.

Activity data were collected by the demonstrators and supplied to the evaluation team. The type and form of these data varied across the demonstrators. The main data for the additional availability services were; number of appointments provided, booked and Did Not Attend (DNA). All demonstrators providing additional availability supplied month-by-month data and daily breakdowns of activity levels.

Demonstrator Activity

Table 1 provides a full list of the intended components of each of the six demonstrators, including those activities that had been discontinued or dropped, had not become fully operational or remained in the planning phase at the point of final data collection.

Table 1: Summary of Demonstrator Components

Site	Components
Bolton	Proactive case management for care home residents Video consultations *(Discontinued)*
Bury	Additional availability appointments Community care plans *(Remained in planning phase)* Enhanced carer training and support *(Remained in planning phase)* Specialist outreach clinics *(Remained in planning phase)* Single care record *(Remained in planning phase)* Community engagement via champions group *(Remained in planning phase)*
Central Manchester	Additional availability appointments Responsiveness appointments Extension of specialist advice lines Homelessness service Extension of dementia enhanced service Extension of long term conditions enhanced services Living with pain service Community pharmacy respiratory project GP in-reach *(Discontinued)*
Heywood	Additional availability appointments GP-led care planning Multi-skilled care worker-led care planning Hospital navigator service
Middleton	Additional availability appointments Mental health crisis clinics Community pharmacy consultations *(Not fully operational)* Care tracker *(Not fully operational)* Web consultations *(Not fully operational)*
Stockport	Rapid response step-up service Complex care service Enhanced end of life service Carer needs assessment service Mental health liaison in-reach service, care homes End of life training, care homes and locality Health and wellbeing service *(Not fully operational)* Heart failure telehealth service *(Dropped during planning phase)*

Though broadly comparable, each of the four additional availability services were delivered according to slightly different service configurations, had different hours of operation, and different levels of support services associated with them. These differences are summarised in **Table 2**, below.

Table 2: Comparison of additional availability demonstrators

	Coverage and route of access	Hours of operation and staffing	Systems and processes	Support services
Bury	Registered patients of GPs in one CCG sector (c.32,894). Urgent and routine appointments provided from one of the participating practices. Quota for allocation of appointments according to list size. Practice phone lines diverted to a dedicated admin team for the additional availability service from 6pm.	6.30-8pm Monday-Friday, 8am-6pm Saturday and Sunday. 2 GPs and receptionists. 18x10 appointments per day Monday-Friday, 120x10 minute appointments per day Saturday and Sunday.	Six practices, all on Vision with access to the full record, allowed through a data sharing agreement on a read-write basis. GPs used a smartcard to log into each practice system. Referrals not made directly from the additional availability service. A summary of the appointment was communicated back to the regular practice with recommendation.	100 hour community pharmacy located on host site.
Central Manchester	Registered patients of GPs in entire CCG area (c.203,982). Urgent and routine appointments provided in four host practices, to patients registered at this practice and at other practices within the area covered. Quota for appointment allocation according to list size, used until 1pm then appointments are opened up to any practice. Patients contact own practice, if the practice does not have capacity for an appointment then one is booked at their host practice.	6-8pm Monday – Friday, 9-11am Saturday and Sunday. 1 GP and two receptionists. 12x10 minute appointments per day, Monday-Sunday. Staffed by local GPs and locums but only local. Receptionists from host practices provided cover.	33 practices, running EMIS, either EMIS web or as streaming practices with access to the full record, allowed through a data sharing agreement, on a read-only basis. Referrals not made directly from the additional availability service. A summary of the appointment was communicated back to the regular practice with recommendation.	100 hour community pharmacies located near to host sites. Host practices requested blood tests directly from the laboratory which were sent to the patient's practice.

Heywood	Registered patients of GPs in one CCG locality (c.30,890) Urgent and routine appointments provided from one of the participating practices. Began demonstrator with appointment quotas but switched to first-come-first-served after six weeks. Patients booked by the practice calling the additional availability provider who then filled the allocated slots.	4-9pm Monday-Friday, 9.30am-9pm Saturday and 1.30pm-9pm Sunday. Demonstrator began with one GP and one nurse but switched to two GPs after six weeks. 28x15 minute appointments per day Monday-Friday, 51x15 minute appointments per day Saturday and 34x15 minute appointments per day Sunday. The local Out of Hours provider supplied GPs and receptionists.	Six practices, four on EMIS two on Vision. Host practice accessed summary care record on Adastra on a read-only basis. Urgent referrals made directly from additional availability service, non-urgent communicated back to regular GP with recommendation.	Regular-hours pharmacy located near host site. Local acute trust provided an evening pathology collection.
Middleton	Registered patients of GPs in one CCG locality (c.51,680) Urgent and routine appointments provided from one of the participating practices. Appointments available to all on a first come first served basis. A web based diary allowed GP surgeries access to appointments between 8am-6-30pm, The additional availability provider had access to the same diary 24/7.	6.30-9.30pm Monday-Friday, 6-9pm Saturday and Sunday. One GP, 18x10 minute appointments per day Monday-Sunday The local Out of Hours provider supplied GPs and receptionist.	Eight practices, six EMIS, two Vision. EMIS practices were able to share records on a read-only basis. Vision practices were not able to access records. Since Dec 2014 all eight practices in the demonstrator have been EMIS web allowing all to share records on a read-only basis. Referrals not made directly from the additional availability service. A summary of the appointment communicated back to the regular practice with recommendation.	Local 100 hour pharmacy located near host site.

In terms of activity, a summary of the total appointments provided and utilised in each of the additional availability demonstrators is provided in **Table 3**, while **Figure 1** shows the averaged numbers of appointments by day of the week per 1000 population. As can be seen, while Bury and Central Manchester have similar numbers of total appointments, the broader population coverage of the Central Manchester demonstrator results in reduced average appointments. The numbers in **Table 3** exclude routine practice hours and any additional service in place prior to the demonstrator.

Table 3: Additional availability totals (1/12/2013-31/12/2014)

Site	Population served	Number of appointments available	Number of appointments booked	Available appointments booked %	DNAs (% of booked appointments)
Bury*	32,894	12,892	10,793	83.7%	427 (4.0%)**
Central MCR	203,982	17,033	10,492	61.6%	1433 (13.7%)
Heywood	30,890	16,277	9008	55.3%	930 (10.3%)
Middleton	51,680	5236	3226	61.6%	428 (13.3%)

** Additional telephone consultations and home visits not included in totals.*
*** Data only collected for period April-September 2014*

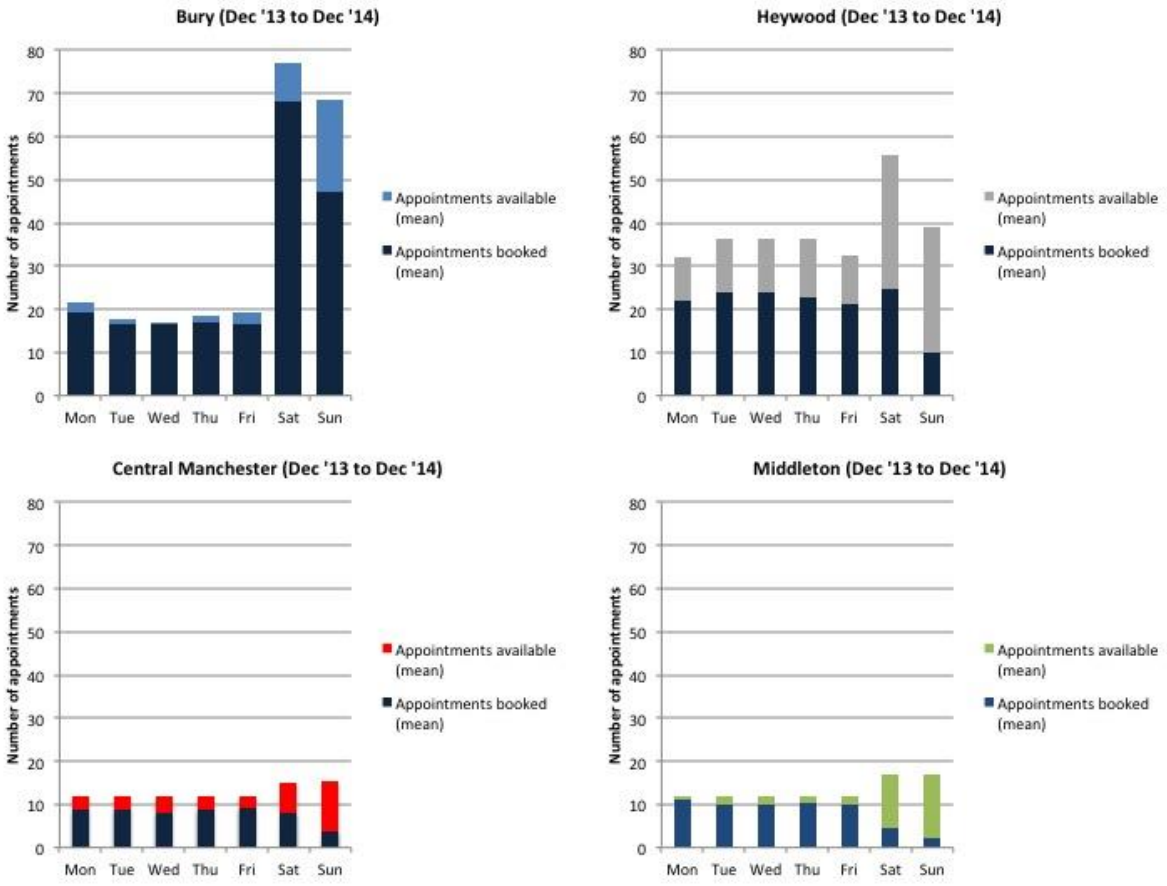

Figure 1: Average appointments available/booked, per 1000 population per day per site

The key points to draw from the activity data are as follows;

- Central Manchester provided the most additional availability appointments in total (17,033), while Bury had the most appointments booked (10,793) in total.
- Considering provision per head of population, Bury and Heywood provided on average approximately 20-40 additional availability appointments per month per 1000 population, Central Manchester and Middleton supplied approximately 5-10 appointments per 1000 population, although the population coverage of Central Manchester was almost twice as large as the other three demonstrators combined.
- An average of 65.5% of available appointments were booked overall, with the highest utilisation rate in Bury and Central Manchester. There was a general trend of increasing bookings over the analysis period for both weekday evening and weekend appointments.
- The uptake of weekend appointments appears substantially greater in Bury than in the other demonstrators. The uptake and attendance at Sunday appointments is considerably lower in Central Manchester, Heywood and Middleton.

What was achieved?

In terms of total A&E activity, **Figure 2** (below) provides a comparison of the demonstrator practices vs non-demonstrator practices in Greater Manchester since 2011. The vertical line on the graph marks the beginning of the post-demonstrator intervention period.

As **Figure 2** shows, while there is a certain amount of fluctuation, patients at the demonstrator practices were higher users of A&E than the rest of Greater Manchester in the pre-intervention period. Moreover, the trend in the demonstrator practices up to 2014 was for increasing usage of A&E, while the trend for non-demonstrators ('GRMCR comparators' in **Figure 2**) prior to 2014 was a slight decline in A&E activity. As the previous trends differ, the outcome evaluation must adjust for these pre-existing trends to establish the actual estimated impact of the demonstrators.

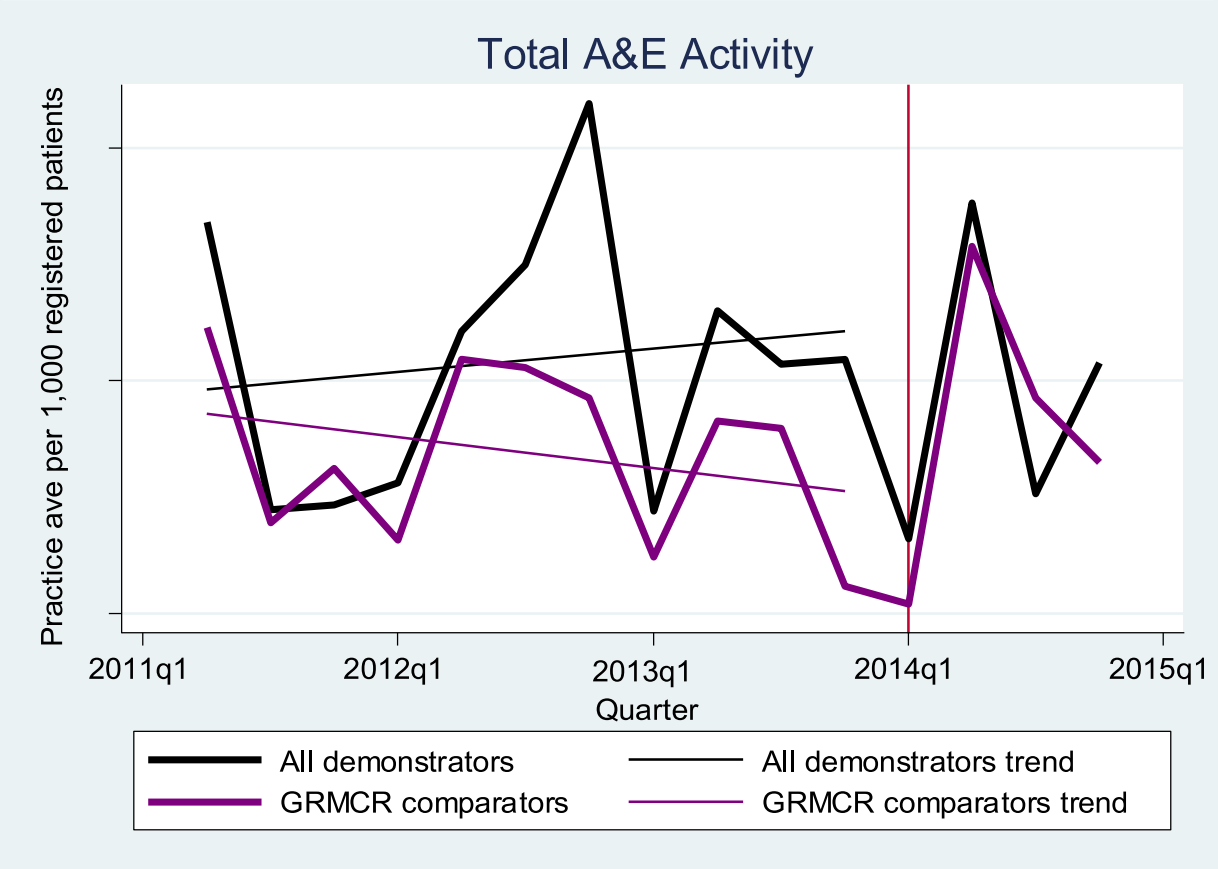

Figure 2: Average A&E attendances per 1000 registered population per practice per quarter across Greater Manchester demonstrators and non-demonstrators

In order to estimate the impact of the demonstrator interventions, it is necessary to measure the difference over and above the difference that might have been expected had the demonstrator intervention not occurred. The best way to establish what difference might have been expected if there had been no intervention is to track the changes which occurred to a control group unaffected by the intervention. It is then possible to calculate the difference in outcomes from before to after the intervention and comparing this to changes in outcomes in the control group. This is called a Difference-in-Difference (DiD) estimate (see **Figure 3** below for a hypothetical illustration).

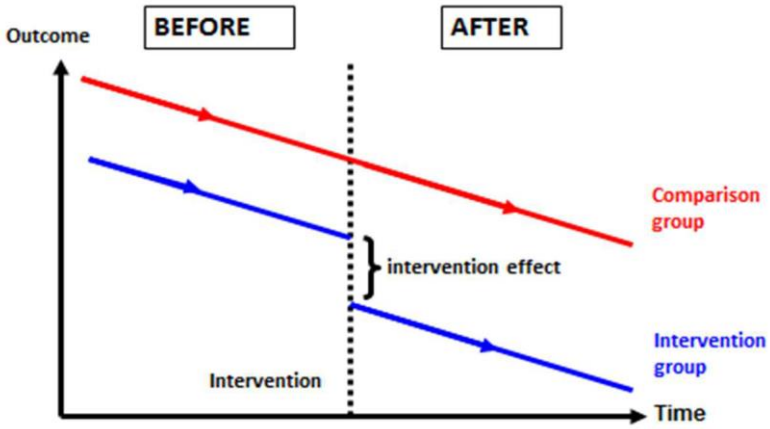

Figure 3: Example of Difference-in-Difference (DiD) analysis

DiD analysis was used to examine both the impact of the demonstrators on A&E attendances, Walk in Centre and Out of Hours activity, and on patient satisfaction. Two control groups were used for this analysis; firstly all non-demonstrator practices in Greater Manchester (referred to as the 'regional comparison') and all non-demonstrator practices within the CCG in question (referred to as the 'local comparison').

In addition, data were adjusted in three other ways to provide a more robust analysis. Firstly, data were adjusted to take into account different trends between the demonstrator and non-demonstrator practices before the intervention (as indicated in **Figure 2**). Secondly, in order to adjust for varying practice sizes, the data are presented per 1000 population. Finally, the data were *asinh*-transformed in order to account for the right skew in the data created by many practices having few or zero quarterly emergency attendances. This is a technical issue which is likely to be of interest only to those with an interest in statistics but does increase the robustness of the analysis.

It has only been possible to conduct the Difference in Difference analysis for the demonstrators offering additional availability services (Bury, Central Manchester, Heywood and Middleton). This is because the analysis presented here draws on routinely collected population-level data, and so requires a sufficient level of activity to have been recorded against a service to discern an impact. In general, the non-additional availability services were not sufficiently extensive to have such an impact. Where possible, we have used data supplied by each demonstrator site to evaluate the outcomes of non-additional availability services, and this is presented below the Difference in Difference Analysis.

Demonstrator Impact on A&E Attendance

The figures below show the changes in A&E activity among demonstrator practices compared either regionally (with changes in A&E activity across Greater Manchester) or locally (with non-demonstrator practices in the CCG). The bar shows the estimated percentage change in activity. The thin, bracketed vertical line indicates the boundaries of the 95% confidence interval. If this interval includes zero, we cannot be sure of the direction of the estimated effect. Where this occurs, we cannot say with confidence that any observed effect is attributable to the demonstrator intervention. The simplest way to read this is as follows; **bars where the thin vertical line (the confidence interval) crosses zero are not statistically-significant.**

Figure 4 shows the difference in total A&E activity in demonstrator practices after the introduction of additional availability in 2014, compared to non- demonstrator practices in Greater Manchester. Across all demonstrators we estimate a statistically-significant 3% reduction in activity after the intervention. This is comprised of statistically-significant reductions in activity in Bury (4%) and Middleton (3%) and non-significant reductions in Central Manchester and Heywood when comparing each of these CCGs to all Greater Manchester non-demonstrator practices. When this is repeated using local comparators, however, the effects are no longer statistically-significant.

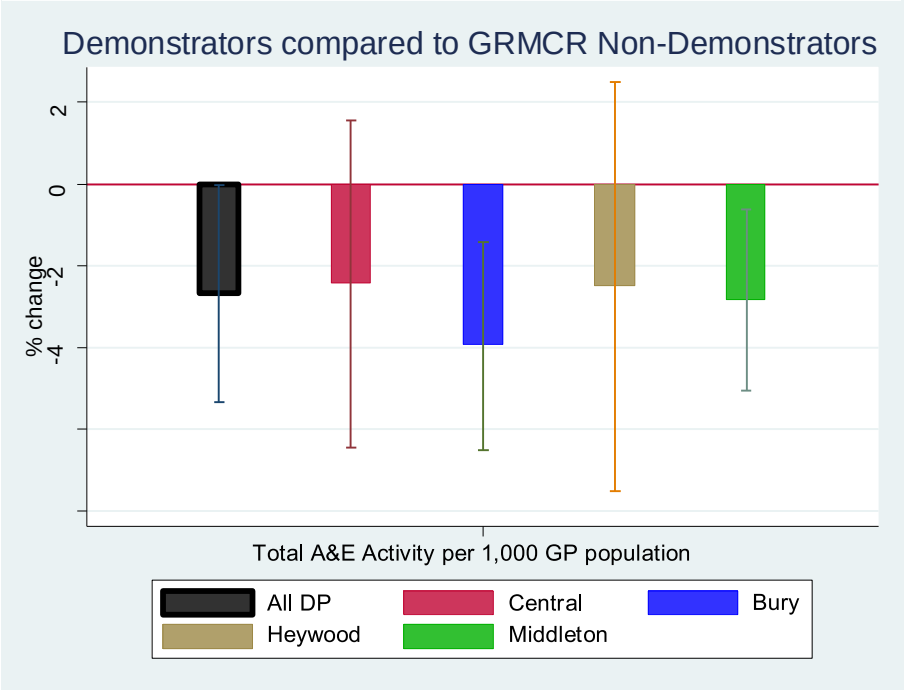

Figure 4: Change in total A&E activity per 1000 registered population. Regional comparison with non-demonstrators in Greater Manchester

A separate analysis of minor A&E attendances was carried out as it was assumed that improvements in access to primary care are most likely to affect this attendance type, and very unlikely to impact on other types of attendance (intermediate and high intensity). Looking at minor A&E activity in isolation, across all demonstrators (**Figure 5**) there is a statistically-significant reduction in minor A&E activity of around 8%, driven by a statistically-significant reduction in minor A&E attendances in Central Manchester of around 14%, supplemented by non-significant changes in the other demonstrators compared to all Greater Manchester non-demonstrator practices. Using local rather than regional comparisons, this picture remains, although the reduction in minor A&E activity in Central Manchester is now smaller (8%).

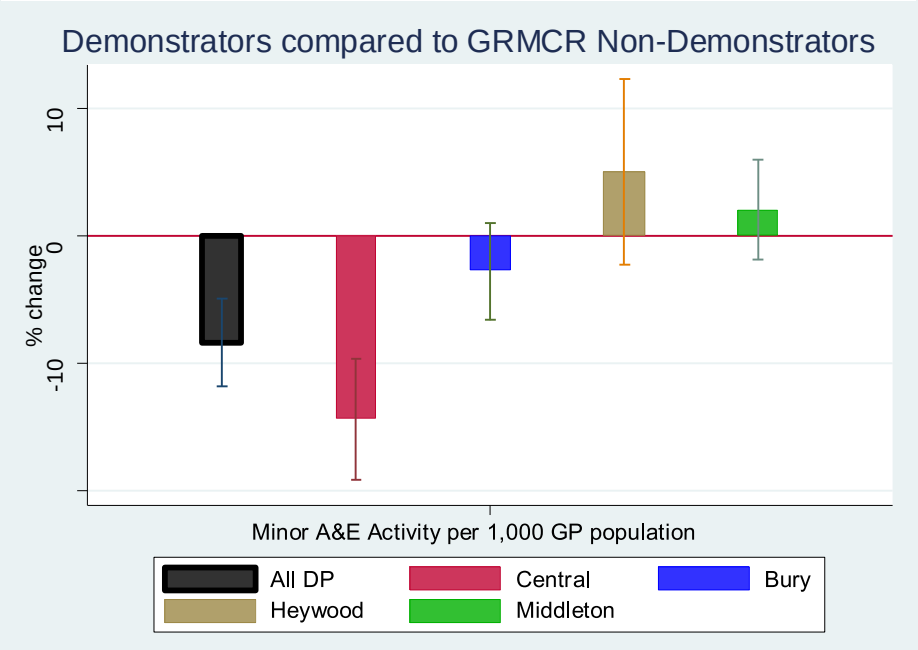

Figure 5: Change in minor A&E activity per 1000 registered population. Regional comparison with non-demonstrators in Greater Manchester

Finally, examining the data in terms of the way people were referred to A&E, a slightly different picture emerges. In all four demonstrators there was a statistically-significant reduction in self-referrals to A&E when compared to all non-demonstrators in Greater Manchester. Using local (within-CCG comparisons), the reduction was not statistically significant in Heywood and Middleton, but remained significant in Central Manchester and Bury. This reduction was offset by statistically-significant increases in GP referrals to A&E from Heywood and non-significant increases in Bury and Middleton using either regional or local comparisons. Referrals to A&E from other sources increased in Bury, Heywood, and Middleton demonstrators when using Greater Manchester as a comparison group, but none of these were statistically-significant when compared locally.

Demonstrator Impact on Out of Hours and Walk in Centre Activity

There was no statistically significant change in Walk in Centre or Out of Hours attendances by patients from the Central Manchester, Heywood or Middleton demonstrators. However, both Out of Hours and Walk in Centre attendances decreased in Bury demonstrator practices. Walk in Centre usage fell by around 14% while Out of Hours usage fell by around 38% compared to the rest of the CCG (as illustrated in **Figure 6**): both findings were statistically significant.

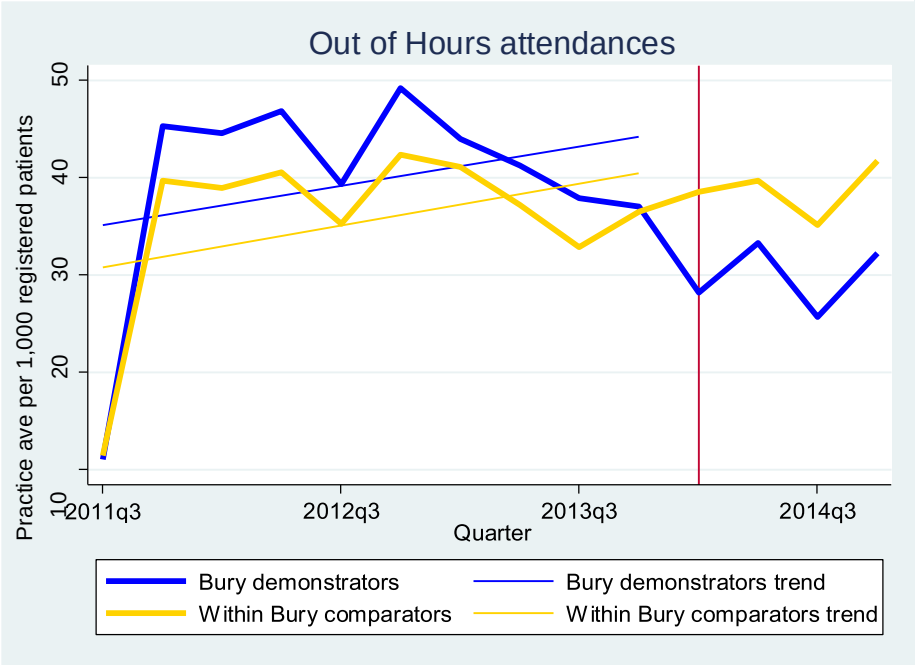

Figure 6: Average number of OOH attendances per 1000 registered population per practice per quarter in Bury. Local comparison Bury demonstrators vs Bury non-demonstrators

Demonstrator Impact on Patient Satisfaction

Finally, analysis of GPPS scores was undertaken to test for any significant differences in patient perceptions of their GP and GP surgery following the introduction of the demonstrators in 2014. Considering the GPPS data (**Figure 7**), no significant effects were found for all demonstrators when compared to all non-demonstrators in Greater Manchester. Though positive for each question, none are statistically-significant.

In Bury, however, statistically-significant improvements can be seen in patient satisfaction with opening hours (Q25) using either a local or a regional comparison. Also statistically-significant improvements with the convenience of appointment (Q15) in Bury were found when using a regional comparison, as were improvements with the overall experience of the surgery (Q28) compared to other non-demonstrator practices in Bury.

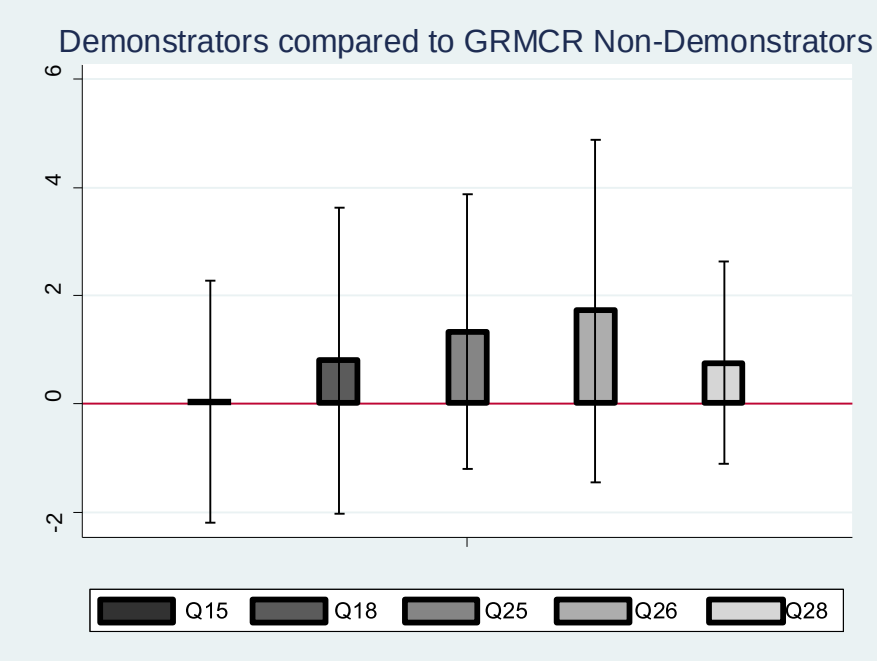

Figure 7: Change in GPPS responses. Regional comparison, all demonstrators with non-demonstrators in Greater Manchester

The full report examines the outcomes for each additional availability demonstrator in more detail. A summary table of the outcome analysis by demonstrator site is presented below (**Table 4**); orange cells show statistically-significant increases in activity and purple cells show statistically-significant decreases in activity. Only statistically significant results have been included.

Table 4: Summary of additional availability outcome analysis

	Total A&E Activity	Total A&E Cost	Minor A&E Activity	GP Referral	Self-Referral	Other Referral	Out Of Hours GP	Walk In Centre
Bury	**-4%**	**-4%**			**-25%**	**+27%**	**-38%**	**-14%**
C. Mcr			**-14%**		**-8%**			
Heywood				**+18%**	**-15%**	**+26%**		
Middleton	**-3%**	**+5%**			**-9%**	**+22%**		

Percentages given are estimates based on sinh transformations of the regression coefficients, and have been rounded. All results are with Greater Manchester non-demonstrators as the comparator (except for OOH and WIC where for Bury, Heywood and Middleton within-CCG comparators are used, and for Central Manchester where non-demonstrator practices in North and South Manchester CCG are the comparator).

Two important clarifications should be made here. Firstly, the reduction in total A&E activity in Middleton accompanied by a rise in total A&E costs can be explained by the precise mix of A&E activity; a total decrease may include a large decrease in less-costly minor activity accompanied by a smaller increase in more costly intermediate and major intensity activity. It is also important to note that this table refers to percentage changes, not absolute changes. So, for instance, where Bury sees a reduction of 25% in self-referrals but an increase in other referrals of 27%, these should not be taken as equivalent in size; there are roughly twice as many self-referrals to A&E in total as 'other' referrals.

Demonstrator Impact of Non-Additional Availability Services

Compared to the additional availability services, the aims of the non-additional availability services, and the nature of the services themselves, were more heterogeneous. They also did not accrue sufficient activity levels to create an impact which could be identified using the secondary data sources drawn on for the outcome analysis of the additional availability services. As stated above, it was therefore not feasible to perform a dedicated outcome analysis of these services, which formed part of the Central Manchester, Heywood and Middleton demonstrators, and the entirety of the Stockport and Bolton demonstrators. Several services (rapid response, the navigator, homelessness and mental health clinics) addressed acute problems in the first instance then worked to organise ongoing care, which would often be provided by other organisations. Others focussed more on preventative or long-term (including palliative) care (complex care, enhanced end of life, care homes and care planning services). Most required a great deal of collaboration and coordination beyond the immediate demonstrator teams and across care providers.

Using the activity data provided by the demonstrators, the following estimates of impact can be made:

- In Bolton, across the four care homes participating in the demonstrator, during the evaluation data collection period there was a decrease of 23% in A&E attendances by ambulance at Royal Bolton Foundation Trust compared to the same months during the previous year. This compares to a 9% reduction in non-demonstrator care homes in Bolton during the same period. A comparison of non-elective admissions over the same time periods shows a 13% decrease in demonstrator care homes compared to a 16% decrease in non-demonstrator care homes in Bolton.
- In addition, the employment of a medicines optimisation pharmacist contributed to the demonstrator, performing medication reviews with some patients. Bolton CCG provided data showing that the cost of the pharmacist input over the duration of the demonstrator was £15,400. The pharmacist carried out medication reviews (ad hoc, MAR chart and comprehensive) which led to reported reduced medication costs of £55,611. The summary provided by the CCG shows the impact of the demonstrator on medication prescribing costs, but is not a cost-effectiveness analysis as neither the full cost of providing the reviews, nor the cost of the alternative, are known and no outcomes were observed. It should also be noted that the summary figures provided include costs related to activity carried out after the demonstrator evaluation period had ended (up to February 2015).
- In Stockport, 90% of people who died while enrolled on the enhanced End of Life service died at home. However, without patient-specific information relating to previous years to use as a comparator, it is not possible to measure the impact of the demonstrator here. Due to the small activity levels (105 patients in total) there has been no discernible impact on the overall rate of deaths at home across the areas covered by the service.

A fuller discussion of the non-additional availability services can be found in the full Final Report. Many of these services showed clear evidence through their activity data that they were filling a previously unmet need, as well as extending access to vulnerable groups, for example, the mental health crisis clinics (Middleton), and the homelessness service (Central Manchester). Three services in particular, have been singled out by several individuals across the sites as being particularly innovative; the care home service (Bolton), the navigator service (Heywood) and the enhanced end of life service (Stockport). Although relatively small numbers of patients were involved, the recurrent and strong

expression of positive views and experiences of these services and their potential, in terms of their perceived value for patients and staff alike, discerned through the process evaluation, suggest that these services in particular merit further exploration and rigorous, structured evaluation, including from the patient perspective.

Demonstrator Impact: Estimated Cost Implications

The demonstrators were asked to provide a summary of expenditure, organised so as to distinguish between set up costs and service delivery costs. **Table 5** below shows this information, provided by the demonstrators to NHS England; the table only contains data for those services whose outcomes are evaluated in this report.

It should also be noted that, in the case of Central Manchester, the reported cost of providing the additional availability and responsiveness services alone already exceeds the total demonstrator funding provided by NHS England – this is because other funding was used to supplement the demonstrator funds here. These figures have not been independently validated by the evaluation team and are presented as reported by the demonstrator leads.

Table 5: Summary of costs associated with evaluated demonstrator components

	Set-up Cost (£)	Service Delivery (£)	Total Cost (£)*	Services included in recurrent cost**
Bury	142,855	383,112	525,967	Additional availability
Central Manchester	121,409	1,161,520	1,282,929	Additional availability Responsiveness service
Heywood	37,200	355,829	393,029	Additional availability
Middleton	50,000	232,000	282,000	Additional availability
Stockport	25,000	260,000	285,000	Enhanced end of life service
Bolton	77,190	65,405	142,595	Care home service Pharmacist reviews

** Total cost refers to the period evaluated (Dec 2013-Dec 2014).*
***For full list of services provided in each demonstrator see* **Table 1**.

This evaluation has not included a full analysis of cost-effectiveness. What this evaluation does provide is an estimation of the impact of the demonstrators in terms of total A&E costs and minor A&E costs, where statistically-significant outcomes were shown. The variables 'total A&E costs' and 'minor A&E costs' are sum of the tariffs of patients attending A&E (all patients, and minor patients only, respectively), they do not represent the total cost of providing A&E services. These estimates come with very broad confidence intervals, and the 'true' cost is equally likely to be anywhere within these intervals. Central estimates are provided as the most accurate indication this evaluation can provide of the true impact on costs, however, these should be taken as broad estimations only.

The following is a summary of the significant findings in each area:

- In Bury, the average quarterly cost of A&E attendances per 1,000 registered patients in the demonstrator practices was £7,997 in 2013. An estimated reduction of 4% corresponds to an estimated reduction in costs of A&E attendances of between £140 and £534 (central estimate £337) per 1,000 patients per quarter. The total registered population in demonstrator practices in Bury in 2013 was 34,244 patients. For the registered demonstrator population as a whole, the estimated quarterly reduction is thus between £4,800 and £18,300, with a central estimate of £11,500 on average. This amounts to a yearly reduction in A&E costs of between £19,000 and £73,000 (central estimate £43,000) for the population registered in Bury demonstrator practices as a whole.
- Using a similar calculation, the reduction in Out of Hours activity in Bury corresponds to an estimated annual reduction of between £91,000 and £181,000 (central estimate £142,000) for the population registered in Bury practices as a whole. This has been calculated using the per case tariff, and therefore does not represent an actual cost reduction as Out of Hours is subject to a block contract calculated by population. The reduction in Walk in Centre activity in Bury corresponds to an estimated annual reduction of between £13,000 and £31,000 (central estimate £22,000). This has been calculated using the tariff per non registered attendance. The total costed reduction in OOH and WIC activity in Bury is therefore in the region of £164,000.
- For Middleton, a similar calculation suggests an estimated increase in A&E expenditure for the Middleton demonstrator population as a whole of between £57,000 and £137,000 (central estimate £97,000) over a year. This is equivalent to an average increase in A&E costs per 1,000 registered patients of between £275 and £666 (central estimate £471) per quarter. However, given the reduction in minor A&E activity identified here, it is likely that this increase results from an increase in costs associated intermediate and major intensity activity, which is unlikely to be a consequence of primary care changes as part of the demonstrator.
- In Central Manchester, the estimated reduction in minor A&E attendances using all non-demonstrator practices as comparison group suggests a reduction per 1,000 registered patients per quarter of between £381 and £656 (central estimate £519), corresponding to a total yearly reduction of between £285,000 and £565,000 (central estimate £425,000) for the 215,000 registered patients in the demonstrator population as a whole. The more conservative comparison to North and South Manchester would suggest a reduction in A&E costs for minor attendances of between £85,000 and £410,000 (central estimate £248,000), which corresponds to between £99 and £476 (central estimate £288) per 1,000 registered patients per quarter.

How it was achieved

The process evaluation identified six 'enablers' or 'barriers' i.e. factors which had an identified, positive or negative, effect of the ability of each demonstrator to achieve its objectives. These are;

a. Federations and Alliances,
b. Information Technology (IT),
c. Information Governance (IG),
d. Workforce and Organisational Development,
e. Engagement and Communication, and
f. Supporting Infrastructure

Federations and alliances were attributed an important enabling role within several demonstrators. Demonstrator funding provided an opportunity for newly-established federations in three areas (Bury, Central Manchester and Stockport) to deliver a focussed program of work. Respondents in these three demonstrator areas described several advantages to federations in helping to forge a common purpose between practices, in the perceived benefits for service delivery which they could produce, and in the prospective role they could play in 'protecting' primary care.

The common purpose of federations can be embedded in their legal status and underscored by their locality-based membership. Successfully established federations can overcome long standing relational difficulties and can provide a forum for collective experimentation and learning. Federations also have the potential to deliver various advantages of working at scale, such as the provision of a flexible workforce, and the sharing of back-office functions. In terms of service delivery, federations promise benefits such as improved data sharing, improvements in the quality of care provision and standardisation of practice, and the possibility of providing population-wide coverage of primary health services. The combined benefits of federation are seen by supporters as providing 'protection' for primary care, against what are perceived to be inevitable future resource restrictions and the challenge of private providers.

However, challenges were noted concerning the establishment and sustainability of federations, relating to their ownership, management and funding. Some resistance to federation was also noted. In part, this related to concerns over the loss of individual practice identity, but also, reflected concerns of a loss of control and a concern that while, primary care might be protected by a federation, individual practices may not.

Information Technology was similarly a critical issue for the successful delivery of the demonstrators. In most cases, IT was essential as the demonstrators relied upon integration of both clinical systems and user protocols across different GP practices in order to implement data and patient-record sharing. Challenges were identified at both operational (intra organisational) and strategic (inter organisational) levels in all six demonstrators. These challenges can be organised according to three categories; over-optimism regarding IT and its potential for integration; the contested IT roles of other parties; and the unrecognised costs of IT change.

Several demonstrators appear to have underestimated the financial, technical and human challenges involved in IT transformation, generating delays and sub-optimal delivery of services. The inter-organisational character of IT change, particularly where communication was necessary between different IT systems with limited inter-operability, exacerbated difficulties. Also, the enforced reliance of demonstrators upon external contractors such as Commissioning Support Units, resulted in communication and contractual difficulties. For some demonstrators, the extent of these IT challenges proved divisive, generating difficult relationships between specific individuals and organisations.

Effective management of IT within the demonstrators requires informed and realistic planning involving multiple stakeholders, clear ownership of responsibility, and a full recognition of the costs of installation, training, and consultancy. Where feasible, investment in a standard IT system (for patient records) across practices in a locality is the ideal solution. Where this is not feasible, then inter-operability between different systems is a more pragmatic goal. This would need to be delivered with the support of computer suppliers. It would also require investment in training and the formation of stronger trust-based relationships within and outside primary care.

Information Governance also played a critical role in enabling or challenging the effective delivery of the demonstrators. Each demonstrator encountered challenges associated with access to, and the sharing of, confidential material as part of the process of integrating systems and collaborating across organisational boundaries. Challenges raised by IG across all demonstrators may be summarised as involving: inflexibility of governance procedures; disparity in IG protocols between organisations; management of access to clinical records; difficulties providing honorary contracts and the underlying issue of trust.

Potential solutions to challenges underlying IG included: a willingness to adapt to new systems via learning and engagement; supportive roles and collective solutions to IG/integration barriers; early work to set up honorary contracts; and the establishment of trust-based working relationships. Sustainable solutions required detailed engagement between a range of parties, pragmatically informed processes, planned timescales for installation/integration, and the delegation of key individuals to act as 'drivers' of IG within organisations.

Workforce and Organisational Development played a key role in delivering the capacity to extend access or develop integrated care in the community. Challenges arose where issues of skill-mix, capacity, remuneration and sustainability were not appropriately addressed.

The demonstrators provide some insights into how these changes might affect workforce capacity. The additional availability demonstrators did not generate substantial skill-mix changes (either within practices or across sectors) that could have released capacity. Skill-mix was an issue for the extension of nursing provision. Any extension of nursing hours requires a clear knowledge of which nurses can provide which services, or increased training of nurses. The main workforce issue concerning additional availability services was having sufficient GPs to cover additional appointments, which in the short term led to work-life balance issues for GPs and the necessity to employ locums, with associated remuneration issues.

Broader issues emerging here relate to absolute system capacity. Questions arise as to whether there are sufficient GPs available to cover additional availability if expanded to a larger-scale roll-out. Relatedly, there is concern that multi-disciplinary working and increased community-based services tend to involve additional workforce costs. Evidence suggests that only partial savings can be made by moving work from secondary care into the community, with such savings unlikely to fully cover the cost of additional community provision. This again may increase the strain on the healthcare system overall without careful workforce planning.

Communications and Engagement addresses two substantial challenges for the demonstrators. There was significant variation in the extent to which demonstrators strategically managed both communications and engagement, and challenges were exacerbated by the speed and fixed duration of the demonstrator programme.

Each demonstrator was required to effectively communicate the changed service with patients, carers and other parts of health and social care. The most structured approaches offered formalised opportunities for public involvement, such as a reference group, and inclusion in strategy and delivery groups. Various media campaigns were also part of each demonstrator, from the minimum of leaflets distributed to participants, up to appearances in regional and national media outlets.

Several demonstrator leads described lacking the time and resources necessary for a comprehensive approach to establishing new relationships, leading to a dependence on pre-existing relationships for those demonstrators that had them. In areas without an established federation, the demonstrator provided opportunities to initiate and formalise joint-working, planning and collective provision of services, and to build new and effective relationships with acute and community service providers. Other demonstrators reported much more strained relationships between sectors. Variable levels of engagement sometimes resulted in service inequity (e.g. not all practices in a locality engaging sufficiently to refer into demonstrator services).

Supporting Infrastructure was also essential to deliver changes to services in the demonstrators, although significant variation was evident in the precise nature of infrastructure necessary. At sites providing additional appointments, services, such as late pathology collection and extended hours community pharmacy, were noted as enhancing the delivery of new services. GP federations were once again positively cited for their potential role in delivering resource efficiencies through infrastructure sharing between practices.

Assessing the Demonstrators

Bury

Measured simply in terms of the number of additional availability appointments provided and the utilisation of these appointments, Bury was the most successful additional availability demonstrator. It is worth noting that Bury focussed solely and exclusively on providing additional availability appointments, unlike Central Manchester, Heywood and Middleton. Bury started with two key advantages; an established GP Federation to coordinate activities and the substantial advantage that all demonstrator practices were already using the same IT system provider. Bury developed a workaround in terms of the integration of technology and governance that does not in itself appear to offer a sustainable solution as yet. The additional availability appointments also relied on the palpable commitment plus a degree of un-funded work intensification among various clinical and managerial staff. This may have produced significant dividends within the lifetime of the demonstrator; for example, the service was largely staffed by local GPs, who had an interest in making it successful (this may go some way to explain the increased take-up of Sunday appointments in Bury, for example). Again, though, this poses challenges to the sustainability of the demonstrator in the longer term. Extending the service would therefore require the hiring of new workforce, with implications for cost and availability of such staff, or a contract with a local provider, as in the case of Heywood and Middleton. Both options may result in the diluting of the 'originator commitment' that has been so important to the success of the demonstrator.

Outcome data in Bury shows around a statistically-significant 4% reduction in total A&E activity, a statistically-significant 4% reduction in total costs, and a 3% reduction in minor attendances, which was not significant, when compared across Greater Manchester in the post-demonstrator period. As minor attendances are the only area of A&E that could plausibly be impacted by the additional availability services, it appears that only part of the reduction in attendances can be ascribed to the demonstrator; with the reduction in costs suggesting reductions in higher intensity activity. The pattern of impact on GP- and self- referrals in Bury is very similar to that of Heywood and Middleton, and the three are discussed together below. In terms of out-of-hospital activity, Bury shows a statistically-significant and substantial impact on both Out of Hours GP usage (-38%) and Walk in Centre activity (-14%). Although based on relatively small numbers, these findings offer a clear indication of the additional availability service substituting for existing services. Lastly, Bury were the only site of the four additional availability services to record a statistically-significant positive impact on patient satisfaction scores relating to access, that was sustained throughout the demonstrator period. It is possible that the higher demand for the Bury service, coupled with the fact that it was staffed largely by local GPs has produced a higher level of awareness among service users, which might have impacted the satisfaction scores. It is also possible that Bury's communication strategy was the most effective in this regard, although this was not assessed in the evaluation.

Central Manchester

Central Manchester were the most ambitious in their initial objectives for the demonstrator. In addition to providing the additional availability to by far the biggest population of any of the four piloted services (four times larger than the next largest in population coverage), they also recorded activity against several other services, such as a GP-led homelessness service, and responsive appointments during routine GP hours. One key success for Central Manchester is the effective

provision of whole population coverage within a very short time period. This provides clear evidence of a well led and managed demonstrator, despite indications of contractual challenges faced during the demonstrator operation. The demonstrator thus makes the greatest contribution to extending access of any of the additional availability services. Like Bury, Central Manchester began with all practices using the same clinical systems provider. However, they have also developed the most sustainable approach to information governance, through the data sharing agreement produced by the GP federation. The further advantage of having the federation provide the additional availability services was that in spite of having the largest population to serve, Central Manchester also developed possibly the most robust workforce solution; more sustainable than services operated by local GPs (as in Bury), and encountering fewer governance and human resources obstacles than those services partnering with external organisations (as in Heywood and Middleton).

Outcome data for Central Manchester shows small reductions in total A&E activity and cost, which are not statistically-significant, but a 14% statistically-significant reduction in minor attendances, when compared across Greater Manchester (8% when compared to North and South Manchester) in the post-intervention period. The impact on minor attendances indicates the successful substitution of A&E activity by the Central Manchester demonstrator services. However, it is not possible to clearly evaluate the impact of the additional availability service separate from the responsiveness service, as either or both could have plausibly have effected this reduction. Additionally, the fact that Central Manchester record only a statistically insignificant 2% reduction in A&E costs, in spite of the substantial reduction in minor attendances, indicates that challenges remain in terms of shifting resources away from secondary care by offering additional availability in general practice. Lastly, the lack of a statistically-significant impact on either Out of Hours GP usage or Walk in Centre activity is surprising in Central Manchester, given the population coverage achieved by the demonstrator service, and its apparently successful substitution of minor A&E attendances. This is a possible consequence of the relatively few weekend hours offered as part of the demonstrator services.

Heywood and Middleton

Both these areas encountered significant challenges in terms of IT, with demonstrator practices using a range of IT providers, which absorbed a substantial amount of time and funding, and with only mixed success. Both Heywood and Middleton were dependent on engagement with other organisations outside of routine primary care services, with their workforce sourced from local Out of Hours providers. This created unanticipated challenges in the disparities that existed between organisational expectations around governance and levels of commitment.

Heywood did not record significant impacts on total A&E activity, cost or minor attendances when compared either across Greater Manchester or within their CCG. Nor did they achieve a significant impact on Out of Hours GP usage or Walk in Centre activity. Middleton, by contrast, recorded a statistically-significant 3% reduction in total A&E activity. However, this is coupled with a statistically-significant 5% increase in A&E costs, and no significant impact on minor attendances. It is therefore difficult to assert with confidence that the 3% reduction in activity is attributable to the demonstrator.

Significant impacts were found in Heywood in relation to referrals, with statistically-significant and substantial increases in GP referrals to A&E, accompanied by reductions in self-referrals and increases in other referrals (a pattern also seen in both Bury and Middleton). The fact that there were significant reductions in self-referrals in all four demonstrators offering additional availability, however, strongly supports the argument that the new services have provided an alternative to attending A&E as the

first port of call. However, in Heywood, Middleton and Bury this reduction was coupled with an increase in GP referrals, suggesting a greater propensity to refer when additional availability services rely on Out of Hours providers, and have limited access to patient records or the ability to directly refer to A&E from the service. No significant impact on minor attendances at A&E, Out of Hours or Walk in Centres was observed in Heywood or Middleton. As with Central Manchester, this is a possible consequence of the relatively few weekend hours offered by the demonstrator services.

While focused primarily on additional availability services, both Heywood and Middleton also had other demonstrator components outside the additional availability with activity recorded against them; the navigator and community support worker services in Heywood, and mental health clinics in Middleton. Although these were not directly evaluated through independent data, qualitative analysis indicated merit in both, with particular potential being seen in the Heywood navigator and Middleton mental health service.

Bolton and Stockport

The Bolton demonstrator was established to improve provision in care homes and, despite initial unrealistic aspirations around the use of technology, appears to have achieved this. Bolton had the narrowest scope of all the demonstrators, in terms of being focussed on the smallest population and having the smallest funding budget. However, whilst the number of 'cases' of service provision was lowest at this site (114 patients were taken onto the caseload), this caseload was managed by a single practitioner, and the service provided was one of the most complex and long-term, in terms of multiple organisations being involved with the care of each patient and patients staying on the caseload permanently, once they had entered it and receiving multiple visits from the case manager and others. The ability to liaise and build trust effectively across sectors and organisations is critical to the successful working of this service. In terms of sustainability and extension of this service, simply increasing the number of case managers may not be sufficient and more support may be needed to engage general practices and care homes. Given the scale of the demonstrator, it was not possible to evaluate its impact using independent data.

Stockport designed the most varied and complex demonstrator, providing five different types of service, extending some existing services and also developing new ones. Several of these are noteworthy for bringing together a wide range of health, social care, domiciliary and third sector service, working together under new management arrangements. Two services provided long-term support to people with complex needs, using a risk stratification tool and a 'multi-disciplinary team' developed care plans; a 'multi-disciplinary group' worked with other, broader, criteria to identify patients and put support in place. The enhanced end of life service appears to be an example of service innovation, in that domiciliary workers, from an often overlooked service felt they could make better use of their skills and also started to work more collaboratively with district nurses. According to the data supplied by Stockport, of the patients referred into the enhanced service who died, 90% died at home; however, examining the overall figures for deaths in the region, it is not possible to identify a discernible impact of the service (a likely consequence of the small scale of this component).

Both the Stockport EoL service and the Bolton care home service built on existing local practice and involved staff taking on roles that were new for them as well as new to the respective service. Our process evaluation has illustrated recurrent and strong expressions of positive views and experiences of these services and their potential, in terms of their perceived value for patients and staff alike.

Conclusions

The report first assesses the extent to which the demonstrators effectively delivered the services intended. For four demonstrators, (Bury, Central Manchester, Heywood and Middleton) this was focused on delivering additional availability GP appointments in the evening and on weekends, although the precise model of additional availability varied in terms of staffing, and the hours and offered. All four had the additional availability appointments in place in some form from December 2013, all fully operational by March 2014 and all in operation until the end of the evaluation period (December 2014). Central Manchester offered the most appointments and the broadest population coverage; Bury achieved the greatest utilisation rate of appointments offered, but all four overcame complex challenges to establish a substantial and broadly effective service. Overall, then, the demonstrators were successful in offering additional availability in primary care. In addition, Central Manchester, Heywood and Middleton established ancillary services as part of the demonstrator.

Stockport and Bolton did not offer additional availability GP appointments, but delivered, respectively, a broad range of associated components connecting primary and social care, and a targeted and well-received enhancement of end of life care. Four of these components appear to merit further exploration and evaluation; the Bolton care home service, the Bolton medicines management service, the Heywood navigator service and the enhanced end of life service run in Stockport.

The evaluation identified a reduction of 3% in total A&E activity associated with the four additional availability demonstrators when compared across Greater Manchester, and all four achieved statistically-significant reductions in self-referrals to A&E of between 8% and 24%, when compared across Greater Manchester. However, a more reliable measure of impact would be changes to minor A&E activity, as this represents the only aspect of A&E which additional availability in general practice might plausibly influence. Focusing on minor A&E, a statistically-significant reduction of 8% can be associated with the activity of the demonstrators, driven by an 8% to 14% reduction in minor A&E activity from the Central Manchester demonstrator depending on comparator group. Other demonstrators achieved smaller and non-significant reductions in minor A&E activity.

Applying 2013/14 tariffs for minor A&E, this equates to an overall annual reduction of £425,000 (range: £285,000-£565,000) for the 215,000 registered patients in the Central Manchester demonstrator. While estimates suggest Bury produced a small cost reduction and Middleton a small increase, there were no cost impacts on A&E attendance at all found for three out of the six demonstrators.

Surprisingly, only one demonstrator (Bury) resulted in a reduction in Out of Hours and/or Walk in Centre activity, equating to a hypothetical cost reduction of around £164,000 (range: £104,000-£212,000). The lack of impact on OOH/WIC elsewhere suggests that there was some duplication of services in all other demonstrators. Duplication is an expected part of any demonstrator scheme, where existing services are not de-commissioned; however, if there is no evidence that the demonstrator services can divert demand from existing services, this suggests that the demonstrator service has created new demand. While it is possible that the demonstrator service could be meeting a previously unmet need, the increased cost implications of this should be considered. Bury was the only demonstrator to have a positive, statistically-significant effect on patient satisfaction with opening hours, convenience and overall quality of care, as measured by GPPS.

In addition, the demonstrators generated important learning about the kind of challenges which such undertakings will face, and offered the chance to compare different models of additional availability services in primary care. It is notable that the most successful demonstrators, in terms of capacity generated, patient utilisation of service, and impact (Central Manchester and Bury) both benefitted from the existence of a GP federation and certain advantages in their information technology and information governance arrangements. Both of these advantages cannot be assumed if this service is to be adopted more widely, and careful consideration should be paid to these fundamental elements of innovation in primary care, at both a local and a system level. Both demonstrators also benefitted from effective and dedicated management of the demonstrator, supported by organisational and contractual arrangements. While Bury was substantially more successful in publicising and generating demand for the service, especially at weekends, it appears that the workforce solution implemented by Central Manchester was more robust, sustainable and generated whole-population coverage that the other demonstrators could not achieve using existing models.

Finally, it is vital to recognise the broader impact of the demonstrators in terms of building capacity for further development. New relationships and shared practices have been forged through this intense engagement between general practices and other elements of the local health economy. The practical accomplishment of GP record sharing and the successful integration of clinical systems not only offers examples of new foundations being laid upon which future development can be built but also represents a level of systemic trust which makes future cooperation and integration a more realistic prospect.

Recommendations for Future Planning

Drawing together the findings of the quantitative and qualitative analysis, this evaluation provides the following considerations for future attempts to provide additional availability in general practice:

1. Establishing a new additional availability service in general practice requires an engagement and set-up period of at least six months in order to develop integrated technology and governance approaches within general practice and between general practice and other parts of the health and social care economy.
2. The additional availability services with the best outcomes in this evaluation were those supported by GP federations.
3. Providing additional availability in general practice will not necessarily substitute existing services. Only one demonstrator impacted Out of Hours and Walk in Centre activity, possibly due to the greater number of weekend appointments offered and taken up. Only one demonstrator impacted minor A&E attendances, possibly due to its additional availability service covering the whole CCG population.
4. The demonstrators in this evaluation were self-selecting, which means that the outcomes observed here might not be replicated with areas that have not volunteered to become demonstrators.

Given the variation in the design and execution of each demonstrator, it is recommended that careful consideration be given to the detailed process evaluation for an understanding of the features which contributed to the performance of each demonstrator.

The following more general recommendations are premised upon findings obtained from the qualitative component of the process evaluation. Each of the following recommendations seek to enhance the overall aims and objectives associated with initiating, developing or extending a particular primary care demonstrator project. In addition, these recommendations have been informed by the identification of specific enablers that facilitate good practice and its development. All recommendations below have been arranged by *theme;* the suggested audience of each particular point has also been indicated.

The value of federations/federated general practice

Target Audience: For GPs (or others) considering a federated model of practice

For a federated model of practice to be sustainable there should be sufficient income generation that exceeds the costs of service provision.

The legal status of any federation, (including its purpose, principles and working procedures) should be clarified with the full participation of all membership (and extended to any organisations involved in joint-working). This should aim to clarify aims, intent and goals of initiating, developing or extending a federated model of general practice.

The common identity of a federation's membership appears as one of its greatest strengths. Federations should be encouraged to develop and promote this identity in an attempt to increase awareness and participation (professional and public) in services provided.

Challenges to the creation/maintenance of any federation identity may be addressed by the formation of a working party/steering group dedicated to this specific task. This body would further seek to

establish/demonstrate the value of federated models of practice and how this may improve the quality of care (such as data sharing).

Federations should seek to demonstrate the benefits of membership in the face of increased 'competition' (from private companies) and the associated quality of care this may provide.

Enabling access and clinical integration with Information Technology (IT)

Target Audience 1: For commissioners and service providers involved in the design and delivery of IT systems

Technological development provides opportunities to improve and advance the way in which services are designed, delivered and received. However, to enable and maximise the efficiency and impact of such technology there is a need for any development to be fully *operable*, *compatible* and *understood* amongst all parties involved. For these reasons, the enablement of IT within primary care settings requires a need to:

1. Counter over-optimism attached to IT systems (at an operational level) with pragmatically-informed processes delivered at an 'expert' level (includes installation/design/strategic).

Target Audience 2: For dedicated 'system leaders' within service providers involved in the design and delivery of IT systems

2. Countering over-optimism may involve the inclusion of multiple organisations and/or individuals with specific IT roles that 'steer' development.

Steering measures (led by system leaders within organisations) should:

- include feasible and pragmatic timescales for acquisition, purchase, installation and training opportunities
- designate key individuals as 'drivers' of IT within organisations and who also act as coordinator/conduit of other IT drivers (individuals) from other organisations (Such a network would facilitate sustainability in the event of any 'loss' of IT drivers in the event of illness, relocation etc.).
- develop and introduce all IT in a planned 'step-wise' programme (as phases or stages). This would permit sufficient and progressive training opportunities for all relevant operators who may access hardware/software as a result of innovation
- adopt a phased staging for the development of IT within and across organisations that progresses from small to medium to large scale. This programme would permit the trial – demonstration – launch of IT in a variety of settings and identify (beneficial and problematic) issues of operation.

Target Audience 3: For commissioners, service providers and 'system leaders' involved in the design and delivery of IT systems

The integration of primary care initiatives appears to depend upon *interoperability* of *mutually comprehensive* and *mutually accessible* clinical systems. Testimony from this research suggests that system interoperability improves project integration that in turn improves patient outcome and primary/secondary care. For these reasons, the introduction of interoperable clinical systems should consider 'best fit' integration procedures in projects requiring, for example, access to specific data. These 'best fit' considerations include acquisition; contractual obligation (to existing systems), cost, operation, availability, installation, training packages, wider access (including 'read and write-to' availability) and if they may (or may not) be accessed in multi-disciplinary settings (for example between and across health and social care agencies).

Enabling the process of Information Governance (IG)

Target Audience 1: For commissioners and service providers involved in the design and delivery of services (especially relating to integration)

Disparity attached to Information Governance protocols within different settings (primary/secondary care, social services) provide operational challenges associated with any integration of clinical systems across/within those organisations. In order to enable integration, similar measures attached to the introduction of innovative IT should be equally applied to IG.

1. For example, attempts should be made to counter problematic governance procedures attached to the integration of clinical systems across/within organisations with pragmatically-informed processes assisted at an 'expert' level (includes installation/design/strategic).
2. The above process should involve the inclusion of multiple organisations and/or individuals with specific IT roles (here termed 'system leaders') that 'steer' IG development and address associated 'ethical' issues.

Target Audience 2: For 'system leaders' involved in the design and delivery of IT roles and IG development

Steering measures should:

- include realistic timescales for installation and developing systems/permissions for data sharing (including universal recognition of limitations and permissions)
- initiate key individuals to act as 'drivers' of IG within organisations and act as coordinator/conduit of related issues between other organisations

Target Audience 3: For commissioners, service providers and 'system leaders' involved in the design and delivery of IT systems and/or IG development

Interoperability of clinical systems demands decisions that determine the 'best fit' for integration in projects that may involve sharing patient records. These decisions should include the identification of individuals (clinicians and non-clinicians) who require access to systems and measures for safeguarding this access. The provision of multi-site, honorary contracts for specific individuals/organisations – issued on a 'fast-track' basis where possible – may address this current problematic area of Information Governance. This would be particularly beneficial to those individuals who may not necessarily be employed on a full-time basis within particular primary/secondary care settings (e.g. locum general practitioner).

Enabling Workforce and Organisational Development

Target Audience 1: For service providers and 'system leaders' involved in the design and delivery of workforce and organisational development

The introduction of innovative practice within primary care requires a recognition that all workloads, work streams and associated tasks are allocated to an *appropriately* skilled and *available* workforce. Accordingly, organisational development may require recognition that employment posts *need to be created* in order to cover and sustain existing and new positions. (For example, strategic planning should determine whether or not there are sufficient GPs to cover extended hours within a given practice/setting).

Target Audience 2: For commissioners, service providers and 'system leaders' involved in the design and delivery of workforce and organisational development

Strategic and operational planning should also consider the tendency for multi-disciplinary working

and increased community-based services to involve additional workforce costs with only partial savings that may be made through the deflection of work (this planning may require an extension of existing employment roles across and within organisations).

Enabling Engagement and Communication

Target Audience 1: For all organisations and agencies (and respective commissioners, service providers and 'system leaders') involved in the design and delivery of innovative models of community-based primary care

Community-based primary care initiatives require appropriate time periods to become established, to foster longevity and to demonstrate impact. The allocation of specific time limits for implementation, service delivery and demonstration of performance does not necessarily enable positive outcome. Similarly, limited time allocation restricts and intensifies attempts at enabling engagement and communication. Successful outcome in all regard should be encouraged via the provision of more suitable time periods for all aspects of project management.

Target Audience 2: For service providers and 'system leaders' involved in the design and delivery of innovative models of community-based primary care

Extended periods of operation would further enable more sustained and more focused attempts at publicising the service. This would also provide opportunities for managing inter/intra organisational expectations and ensuring that patients' needs may be met if/when a project (or demonstrator period) is withdrawn.

Effective communication with patients, (particularly with regard to any additional availability), should further enable sustainability of project delivery. This form of communication may involve a variety of existing and innovative publicity campaigns and/or participation in other *locally relevant* methods of raising awareness of health issues.

Where projects overlap or duplicate service delivery, further co-ordination and communication of information should take place. This would enable appropriate service delivery and avoid any confusion at service-user level.

Sustainability through Supporting Infrastructure

Target Audience 1: For all organisations and agencies (and respective commissioners, service providers and 'system leaders') involved in the design and delivery of innovative models of community-based primary care

The time-limited nature of the demonstrators proved an obstacle to the acquisition or creation of new shared infrastructure in the shape of buildings or equipment. Should demonstrator activities become fixed services, investment in dedicated infrastructure would become more feasible and may enhance the quality of services delivered.

Where dedicated 'hubs' of service delivery may not be available, the shared use (across organisational and sectoral boundaries) and uptake of existing infrastructure should provide temporary (short-term) mutual benefit.

In circumstances where projects are led by community-level services (such as GP practices) consideration may be given by larger established organisations to accommodate these initiatives as part of the latter's existing practice (as a trial or demonstration period). This form of system modification should provide opportunities to enable project start-up and enable smaller organisations to benefit from larger system availability (and associated routines).