

Child Health General Practice Hubs: a service evaluation

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ABSTRACT

Objective To evaluate the impact of an integrated child health system.

Design Mixed methods service evaluation.

Setting and patients Children, young people and their families registered in Child Health General Practitioner (GP) Hubs where groups of GP practices come together to form 'hubs'.

Interventions Hospital paediatricians and GPs participating in joint clinics and multidisciplinary team (MDT) meetings in GP practices, a component of an 'Inside-Out' change known as 'Connecting Care For Children (CC4C)'.

Main outcome measures Cases seen in clinic or discussed at MDT meetings and their follow-up needs. Hospital Episode data: outpatient and inpatient activity and A&E attendance. Patient-reported experience measures and professionals' feedback.

Results In one hub, 39% of new patient hospital appointments were avoided altogether and a further 42% of appointments were shifted from hospital to GP practice. In addition, there was a 19% decrease in subspecialty referrals, a 17% reduction in admissions and a 22% decrease in A&E attenders. Smaller hubs running at lower capacity in early stages of implementation had less impact on hospital activity. Patients preferred appointments at the GP practice, gained increased confidence in taking their child to the GP and all respondents said they would recommend the service to family and friends. Professionals valued the improvement in knowledge and learning and, most significantly, the development of trust and collaboration.

Conclusions Child Health GP Hubs increase the connections between secondary and primary care, reduce secondary care usage and receive high patient satisfaction ratings while providing learning for professionals.

BACKGROUND

"Children represent the future, and ensuring their healthy growth and development ought to be a prime concern of all societies".¹ As individuals we value our children above all, but as nations we neglect children and young people, who are often left off the agenda for health improvement.² Europe-wide data show significant variability across developed and developing economies in child mortality rates and outcomes for children with long-term conditions.³

UK health services are not well connected, and children are not being seen by the right person, in the right place, at the right time.⁴ Patients report that the current healthcare system prohibits continuity of care,⁵ and the numbers of A&E admissions and hospital outpatient attendances in those

What is already known on this topic

- There is an increasing awareness of the need to shift more care to the community
- Out of hospital specialist presence is important to facilitate this
- Novel service models are needed to integrate primary and secondary care

What this study adds

- Child Health General Practitioner Hubs help to shift more care to the community and reduce secondary care usage
- Patients prefer being seen in the community and value collaboration between primary and secondary care
- Professionals value the hubs for increased learning and the formation of networks and social capital

aged 0–16 are rising year on year⁶ leading to an increasing financial and workforce burden.

Recent nationwide⁷ and city-wide⁸ reports have placed improved health for our nation's children high on their list of priorities. They emphasise the need for new models of care that support patients as individuals through integrating care to suit their needs. Care in the community is often preferred by families.⁵ Care from the general practitioner (GP), who knows the child in a wider social context, plays an important role in overall health. An out-of-hospital paediatric specialist presence supports this ideal.⁹ Previous studies have demonstrated the potential for paediatric outpatient clinics to be moved to the community, but identified that this needed to be as part of wider efforts to improve patient engagement.¹⁰ These challenges formed significant drivers for change.

Fortuitously anticipating the policy direction set by the Five Year Forward View, paediatricians at Imperial College Healthcare NHS Trust and colleagues in local Clinical Commissioning Groups (CCGs) have established a collaborative integrated child health system: Connecting Care for Children (CC4C). This system has been developed with extensive stakeholder consultation and in partnership with a wide range of service users. Break-even economic modelling predicted a 12-hub system would be cost neutral after 2 years and would

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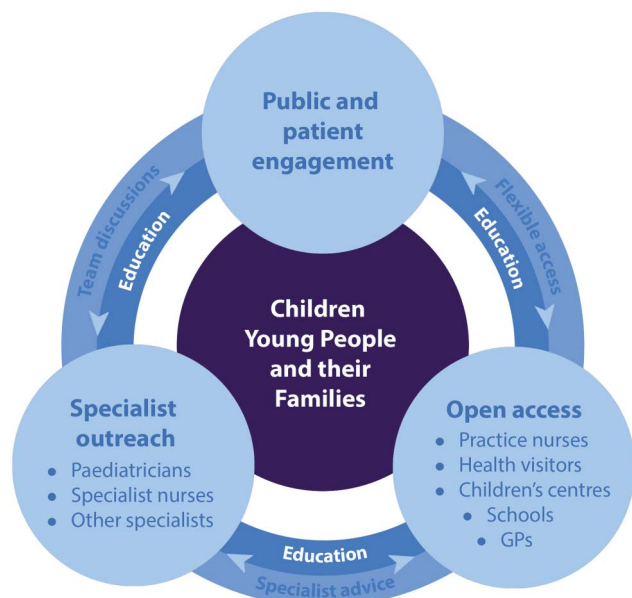


Figure 1 Connecting Care for Children: the Child Health General Practitioner (GP) Hub.

deliver significant savings from year 3. The ‘Inside-Out’ approach starts with what is most fundamental to healthcare—the relationships between different components of the system—and explores what needs to be put in place so that each component is as productive as it can be.

CC4C places general practice at its heart and reinforces the role of the GP in the delivery of high quality care for children, young people and their families. CC4C comprises three main elements (detailed below) that come together to form Child Health General Practice Hubs. For optimal efficiency, a hub comprises 3–4 practices and a population of 20 000 of which around 4000 are children (figure 1) (see online supplementary appendix A).

1. Specialist outreach: monthly joint clinics between GPs and hospital-based general paediatricians and multidisciplinary team (MDT) meetings held in GP practices.
2. Open access: providing primary care clinicians with ready access to paediatricians for advice and support while also ensuring that children, young people and their families have good access to their GP.
3. Public and patient engagement: patient education, empowerment of children and young people and design of services using volunteers from the GP practice population (Practice Champions).¹¹ This increases opportunities for peer-support, self-management and genuine collaboration.

This paper describes the evaluation of the impact and effectiveness of the first 12 months of piloting the Child Health GP Hub system in West London CCG, with a focus on the specialist outreach component. One hub (Hub 1) was modelled closely on the original design of the Child Health GP Hub, combining three small neighbouring practices (total practice population of ~15 000). The other two hubs were made up of large single practices (Hubs 2 and 3), each with a practice population of ~7500. All of the practices involved are urban and serve populations with significant social deprivation.¹²

METHODS

Design

A service evaluation was conducted to understand the impact of the Child Health GP Hubs prior to wider dissemination and

implementation locally and nationally. The aim of the evaluation was to measure the effect on secondary care use, patient experience and health professional support and learning.

Participants

All children and young people aged 0–16 registered in the five enrolled GP practices and their families were included in the study. Community health professionals involved in any aspect of healthcare provision for these children were invited to attend the MDT meetings and to use the wider activities of the hub.

Measures and data collection

From each hub MDT meeting and clinic, for 12 months of the pilot, data were collected on professionals’ attendance; numbers of cases discussed or patients seen; topics of discussion; appointment plans after MDT discussion or clinic assessment; and learning points from the sessions.

Routine Hospital Episode data were collated per hub practice. New outpatient referrals, follow-up appointments and A&E attendances were monitored for the 2 years prior to implementation of the hub and for the first 12 months of the hubs from 1 April 2014 to 31 March 2015. In addition, a comparative measure was gained through monitoring the referrals from non-hub GP practices over the same time period.

Feedback was collected from patients and their families who attended the outreach clinics using a previously prototyped patient-reported experience measure (PREM) whose content was validated by other existing child health PREM tools.¹³ Professionals who attended and participated in the MDT meetings and/or clinics were asked to rate the extent to which they agreed with three statements using Likert scales. The statements addressed the main aims of the hubs: specific knowledge of local children’s services; collaboration and professional relationships; and clinical capability.

RESULTS

MDT meetings: activity and outcomes

In the initial 12 months of this pilot, 24 MDT meetings took place. Each meeting was attended by 7–15 professionals and 154 cases were discussed. In 59% of cases (91/154) the referring community-based professional was given advice that enabled the child to be managed in primary care, 21% (32/154) were directed to the paediatric outreach clinic for an appointment the following month and, in the remaining 20% (31/154) of cases, the professional who had brought the case to the MDT meeting was advised to refer the patient directly to specific named health professionals such as hospital specialty paediatricians, community dietitians, physiotherapists or child and adolescent mental health services (CAMHS).

Clinics: activity and outcomes

In the 24 outreach clinics that took place in the first 12 months of the pilot, 126 patients were seen. Did not attend (DNA) rates were <5% (compared with >15% in the local hospital⁶). Ninety-four of the 126 patients (75%) were assessed, given advice and discharged without any formal follow-up. Only 2% (2/126) of patients were advised to return to the outreach clinic, while 17% (22/126) were advised to be seen by another named health professional working in tertiary paediatrics or specialist community services; 6% (8/126) were recommended for specialist investigation.

Hospital Episode data

The pilot hubs started in February/March 2014 and, allowing for a time lag between referrals and actual outpatient

Table 1 Comparison of hospital-based activity post-intervention (2014–2015) with pre-intervention baseline (2013–2014)

	Non-hub practices	Hub 1 (multi-practice hub)	Hub 2 (single-practice hub)	Hub 3 (single-practice hub)
New general paediatric outpatient appointments	23% ↑	134 to 25 81% ↓ (39% avoided, 42% shifted to out of hospital)	54 to 20 63% ↓ (all 63% shifted to out of hospital)	28 to 10 64% ↓ (all 64% shifted to out of hospital)
New sub-specialty paediatric hospital outpatient appointments	5% ↑	180 to 146 19% ↓	64 to 44 31% ↓	34 to 29 15% ↓
Paediatric A&E attendances	12% ↓	1613 to 1263 22% ↓	520 to 541 4% ↑	304 to 215 29% ↓
Patients who attend paediatric A&E >4 times/year	48% ↑	69 to 47 32% ↓	27 to 39 44% ↑	5 to 5 ↔
General paediatric admissions into hospital	13% ↓	221 to 183 17% ↓	109 to 91 17% ↓	37 to 35 5% ↓

appointments of 8–10 weeks, the April–June (Q1) data for 2014/15 is the first quarter that would be expected to show any significant impact of the hubs on Hospital Episode data (table 1).

In Hub 1, which was working at near full capacity, 39% of new patient hospital appointments were avoided altogether through MDT discussion and improved care coordination. A further 42% of appointments were shifted from hospital to GP practice. In addition, there was a 19% decrease in sub-specialty new patient appointments, a 17% reduction in paediatric admissions and a 22% decrease in A&E attenders (compared with a 10% decrease in non-hub practices). As illustrated in table 1, Hubs 2 and 3—which were smaller, running at lower capacity and still in the early stages of implementation—had less impact on hospital activity. A breakdown of the data and further explanation can be found in online supplementary appendix B, tables 1a–e.

Patient feedback

All patients attending an outreach clinic appointment were offered a feedback questionnaire, and 60 responses were collected from the three hubs (54% response rate) over the first 12 months of the pilot. Responses indicate that clinic attendees felt really listened to (99%), involved in decisions (88%), very confident in the care they were receiving (99%), satisfied that their concerns were addressed and that they had received clear explanations (96%).

Most families (70%) had initially presented to their GP thinking a paediatric referral would be needed. All respondents indicated that they either preferred, or had no preference about, having the appointment at the GP practice rather than the hospital. 88% of respondents answered that, as a result of the appointment, they felt more comfortable taking their child to see their GP. 100% of respondents said they would recommend the service to friends and family (see online supplementary appendix C).

Participant feedback

Fifty professionals who had attended the Child Health GP Hubs over the first 12 months of the pilot were contacted by email asking for feedback; 28 (56%) of those contacted responded. Participants ‘agreed’ or ‘strongly agreed’ that the hubs had helped them to gain knowledge of local services; improve collaboration and professional relationships; and increase professional capability, with the exception of three neutral responses regarding professional capability. The development of social capital, which we define as ‘trust, reciprocity and

collaboration’,¹⁴ was the benefit most strongly identified by participants (82% ‘strongly agreed’) (see online supplementary appendix D).

DISCUSSION

Patients

The majority of patients and their families felt that being seen in an outreach clinic enabled their GP to continue to care for them in the community, reducing the need for them to see hospital specialists. Professional participants reported that the system had strengthened relationships between community health professionals and paediatricians. As a result, the threshold for contact, questions and clinical discussion is lowered: our experience is that GPs, health visitors or other professionals who have met a paediatrician in one of the MDT meetings will freely telephone or email at other times to ask for clinical support. This is reassuring for patients, who can see that their GP has easy access to specialist input.

The MDT meeting also provides other opportunities—for example, for patients with complex health needs to have the wide range of professionals involved in their care come together or for patients with long-term conditions or social challenges to have proactive support given. Our data suggest that improved care coordination leads to fewer appointments and, for the small number of cases who need referral to hospital specialists, time and duplicate appointments are saved by referral to the most suitable clinician or service instead of pinballing around the system.

Patients found the outreach clinics more convenient; they reported that the environment of a GP-based outreach clinic was less threatening and more comfortable. Patients felt that being seen simultaneously by the GP and paediatrician improved communication and demonstrated a reassuringly collaborative approach to their care. The Friends and Family Test is a validated evaluation measure of patient experience¹⁵ and a 100% positive response rate is highly encouraging. Although the pilot has not been going long enough to measure long-term changes in health-seeking behaviour, attending the hub clinic had a reported impact on *intended* behaviour—patients responded that being seen in the outreach clinic had made them more confident to see their GP in the future. Some of the patients explained that this is because they value the specialist links and support they perceive the GP to have.

Professionals

The Child Health GP Hubs offer outstanding opportunities for professional learning and development. In addition to

improving clinical knowledge, the professionals greatly valued the relationships that developed and the collaborative approach to patient care and learning that emerged. The professionals also reported improved knowledge in navigating the local healthcare system on behalf of their patients.

Perhaps the most important finding was the impact of the hubs in developing networks and social capital. There is a growing body of evidence that development of social capital improves health outcomes¹⁶ and, although difficult to measure, this is an important area of future study.

Healthcare system

There is a strong desire to reduce the reliance on hospital care for better, smarter usage of limited resources.⁷ MDT discussion can reduce secondary care usage through (1) enabling patients of greater clinical acuity to be managed in the community; (2) where needed, patients being directed into the appropriate specialist clinic first time; and (3) better coordination of care of patients with complex health needs.

The Hospital Episode data relating to patients from the hubs show substantial reductions in secondary care usage. The most significant impact is demonstrated by the reduction in outpatient referrals. Hub 1 achieved this more quickly as it had the largest patient population and more professionals engaged in the hub. This highlights the importance of hubs running at a sufficiently large capacity: our estimate is that this should be a total practice population of at least 15–20 000.

The Child Health GP Hubs, with their MDT meetings, email and telephone open access and outreach clinics, achieve more than the impact of a lone community-based clinic. Our data show the benefits to include low DNA rates compared with standard paediatric outpatient rates of >15%. Furthermore, as the patient is seen alongside a GP and management plans are fully discussed with them and recorded in the GP-held electronic record, the consultant paediatrician follow-up rate of 2% is much lower than in paediatric outpatients where it is about 50%. This is probably related to the presence of the GP in the consultation to jointly agree a plan, and the awareness of easy connectivity for further paediatric input should it be needed.

Expanding the Child Health GP Hubs

Child Health GP Hubs put GPs and other primary care health professionals at the heart of the system, and a population-based approach is taken to proactively manage the health and well-being of children and young people. Instead of solely working in outpatients or the emergency department, consultant paediatricians can use their time and clinical expertise in a much more intuitive and efficient way.¹⁷

Few people in the NHS believe that improvement is likely to result from top-down structural reorganisation. An 'Inside-Out' approach is appropriate when the intent is to improve the quality and efficiency of existing processes. The Child Health GP Hubs are not intended to create primary care paediatricians but, instead, to support child health professionals to work together across traditional organisational boundaries in a more connected way. The impact of the pilot hubs has come about through relationships, networks and collaborative working, and has occurred despite the context of system-wide disincentives such as disjointed information systems and Payment by Results (the UK tariff system that pays secondary care for episodes of care such as outpatient attendances). Financial and information systems will need to be adapted to become enablers for the expansion of these hubs through novel commissioning strategies. Possibilities around capitated budgets, outcomes-based commissioning and

the potential role for accountable care organisations will be important concepts to explore in the years ahead.⁷

The original economic modelling of the hubs suggested that the ideal size of a hub should be around 20 000 practice population, typically involving 3–4 general practices. The stronger results from the three-practice pilot hub (Hub 1) and the under-filled capacity of some of the MDT meetings and clinics in the single-practice hubs (Hubs 2 and 3) endorse this as the right scale for further expansion.

Limitations of this service evaluation

Although this service evaluation has attempted to collect and analyse process data, Hospital Episode data, PREMs and professional experience feedback, it has not been possible to measure the direct impact of the hubs on patient outcomes. In addition, while the pre- and post-hub implementation data alongside comparisons with non-hub practices have demonstrated impressive reductions in health service usage, the complexity of the health system means that many confounding factors may have influenced the results. The pilot is relatively small and has only generated 12 months of data to date. Although these data demonstrate the potential impact of a well-established multi-practice hub, there is a need for the hubs to be subject to ongoing evaluation as they are scaled up. There is also only 1 year of pre-intervention data as, prior to 2013, data were not available in a comparable format so have not been included. The open access and specialist outreach components are linked, so we are unable to separate the impact of one from another. However, the open access was available across all local GP practices, so the differing hospital usage can be attributed more to the specialist outreach.

Next steps

The Child Health GP Hubs continue to expand their pilot phase in North West London. There are now 22 practices forming eight hubs over three CCGs (West London, Central London, Hammersmith and Fulham), their development informed by the pilot hubs and now all multi-practice in structure. The breadth of professionals involved in the hub MDTs continues to increase (figure 2). The hubs also provide an important mechanism for the training of the future child health

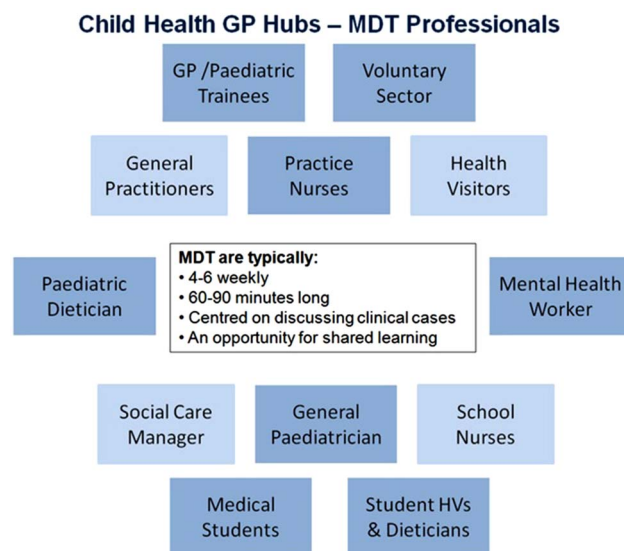


Figure 2 The breadth of professionals involved in the hub multidisciplinary teams (MDTs).

workforce. If we are to successfully change the way in which care is delivered, education and workforce development need to be at the heart of all service innovations like these.¹⁸

CONCLUSION

New models of care are needed across health systems to deliver high quality community-based services and patient-centred care. This evaluation shows that Child Health GP Hubs, designed to increase the connections between secondary and primary care, are effective in reducing secondary care usage, with high patient satisfaction ratings while providing learning for professionals and developing social capital. As this model of care is more widely implemented, further evaluation is needed on patient outcomes and, at a time of tightening resources, to understand better the economic impact of a system that can deliver 39% productivity gains.

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