

Part of
**Anna Freud
Centre**



DIY Health Evaluation Report

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Introduction

In 2015, responsibility for commissioning health visiting services transferred to local authorities. The same year saw the culmination of a government commitment to provide an extra 4,200 health visitors, including 700 in London¹. As highlighted in the Five Year Forward View the future health of millions of children, the sustainability of the NHS, and the economic prosperity of Britain all now depend on a radical upgrade in prevention and public health². The challenge for commissioners of 21st century health and social care services, therefore, is the ability to shift funding upstream to make a difference, by preventing ill-health and prioritising resources to support this approach. These drivers led to the Department of Health (DH), awarding Health Education England (HEE) a grant to commission and coordinate three projects to evaluate the efficacy of the increased health visiting workforce in line with improved commissioning linked to public health outcomes. These evaluation projects are centred on a partnership with key stakeholders across North Central and East London and are also aligned to the DH six high impact areas for health visiting. The projects are:

- **Maternal Mental Health** – Perinatal Mental Health Value Score Card
- **Pre-conception care** – Start at the beginning
- **Supporting parents to manage minor ailments** – DIY health

These projects build on the Public Health Outcomes Framework and the NHS Outcomes Framework, as set out in ‘The National Health Visitor Plan: progress to date and implementation 2014 onwards’ (10), and they provide evidence of the unique contribution that health visitors provide to achieve those outcomes. This report covers the DIY Health project.

Executive summary

Background

The DIY Health model (www.uclpartners.com) aims to use co-production as the mechanism of action to improve the skills, knowledge and confidence of parents in managing minor ailments in children under the age of 5. This evaluation drew on a realist evaluation framework approach to assess the impact of DIY Health sessions on participants and the extent to which attendance fulfilled the overall project aim of empowering parents with the skills, confidence and knowledge to manage their children’s health by seeking help at the right place and time. This is a theory driven evaluation framework that focuses on exploring how the context and mechanism of action of an intervention leads to outcomes.

This report presents the evaluation of the DIY Health pilot study that involved two iterations of the 12 weekly 2-hour sessions at two delivery sites. Cohort 1 sessions were conducted September to December 2014 while cohort 2 sessions were conducted January to April 2015.

¹<http://www.1001criticaldays.co.uk/~criticaldays/UserFiles/files/Building%20Great%20Britons%20Report%20%20APPG%20Conception%20to%20Age%20%20Wednesday%2025th%20February%202015%282%29.pdf>

² <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf>

Sessions were carried out under the supervision of a multidisciplinary team of facilitators including a health visitor, an adult learning specialist and members of the two local Children's Centres including play and learn workers and family support workers. Each session aimed to pool the skills, knowledge and abilities of participants to create learning opportunities and solve problems about health topics selected based on the needs and interest of the participants.

The core curriculum covered five minor ailments (colds & coughs, diarrhoea & vomiting, fever, ear pain, and skin conditions) in addition to feeding, which were identified as reasons for repeat attendance among under 5 year olds in the literature³, in the feasibility study that preceded the pilot, through the co-production process and also via a review of GP attendance data. The DIY Health sessions for this project covered these 6 minor health concerns and additional topics of interest and relevance to the parents attending.

Methods

A range of data sources were drawn on (November 2015- May 2015) to answer the primary evaluation questions including qualitative and quantitative methods:

- Extraction of GP attendance data from electronic patient records from March 2014 to May 2015
- Interviews and focus groups with DIY Health participants
- Interviews with members of the DIY Health delivery team
- Reflective notes from the DIY Health delivery team
- Pre/ post session evaluation forms
- Bull's eye level of participation charts
- Single overall goal measures

Thematic analyses were conducted to explore the qualitative data while the quantitative data were analysed using descriptive statistics.

Discussion of Results

The evaluation aimed to answer four research questions. An overview of the findings and discussion is presented below under the research questions.

1. Do parents who attend DIY Health sessions reduce the number of visits to the GP for the 6 key minor health concerns?

Based on the qualitative data collected from both DIY Health participants and members of the delivery team, attending the DIY Health sessions was reported to help parents reduce their visits to the GP and to feel less reliant on GPs. This was the result of feeling more confident and better able to care for their children at home initially and of knowing they had alternative sources of information, advice and over the counter medicines to manage minor health concerns. These options included the possibility of visiting a pharmacy, calling the health visitors or 111 and having reliable websites to search for health information. Descriptive statistics also showed that the average number of participants' GP attendances

³ Department of Health (n.d.). *Early Years High Impact Area 5 – Managing minor illness and reducing accidents (reducing hospital attendance/ admissions)*. Department of Health: London.

reduced from the six months before DIY Health started to the six months after DIY Health started, however due to small sample sizes, significance testing was not possible.

2. Does attending DIY Health sessions improve parents' skills, knowledge and confidence in managing their children's health?

Parents reported improved skills, knowledge and confidence in managing their children's health both based on personal perceptions and experiences they shared with the group about having managed their children's health differently based on what they had learned during sessions. This included managing minor health concerns at home and feeling more confident generally about their children's health and their ability to make them more comfortable when they are unwell, knowing what to do and knowing when to seek medical help. Additional benefits were also discussed by parents in relation to reduced levels of anxiety when their children were unwell as well as reduced anxiety when children were not eating as much as they thought they should.

Parents discussed gaining additional skills and confidence in relation to breastfeeding, healthy diets, weaning, potty training, behavioural concerns and other concerns that were covered during sessions. The increased skills, knowledge and confidence in health management was also noted by members of the delivery team who were also able to share examples of parents telling them they had followed home managing steps they had learned during sessions. They also noted reduced anxiety about babies and increased incidence of children feeding themselves as well as improved interactions between parents and their children.

Data from the pre/post session evaluation forms and the levels of participation charts completed by parents indicated individual session goals being met and additional gains based on levels of improvement in scores for knowing when to seek medical help and having additional sources of information.

3. To what extent are DIY Health participants listened to during sessions and able to influence the topics covered?

Both participants and members of the delivery team reported that there was good communication within sessions with learning based on shared experiences and session topics being selected based on parent needs as well as common minor health concerns identified by the delivery team. Parents indicated feeling valued, listened to and involved in the sessions both in terms of learning and sharing their experiences to help other parents. Responses to the questions about feeling able to influence the information covered during each session were also positive.

4. What are the barriers and facilitators to implementing the DIY Health model?

Key barriers included attendance and language. The difficulty of recruiting and retaining participants was felt to be compounded by the targeted recruitment list used because this was a pilot study. The list included the parents of children aged under 5 who attended the two study surgeries 4 or more times in the 6 months prior to July 2014 (excluding immunisations). The combination of selecting families attending the GP frequently and the catchment areas of the two surgeries resulted in an abundance of vulnerable families on the

list. There was a language barrier, which reduce some parent's attendance and some lacked the confidence even to come the first session; other parents who attended one or two sessions at times felt unable to follow what was being said. There were however, parents who had trouble with English but still chose to attend and with the help of other parents and the project assistants reported gaining a lot from participating even though they tended to speak less. The late arrival and early departure of some parents was also a barrier to co-production in enabling full participation. This led to some repetition of information which was time consuming.

The levels of noise in the room because children stayed in the same room as their parents, and the distraction of children wanting their parents' attention, was considered detrimental by some parents and members of the delivery team and suggestions were made about having a separate crèche with some joint singing and snack time. The importance of having a convenient delivery location and child friendly space was also highlighted. Additional barriers for the delivery team, particularly the facilitators and project assistants, included the need for 1-2 additional hours to the time allocated for them to work on DIY Health between sessions. This additional time was felt to be necessary for each member to maximise their ability to complete their various tasks including session preparation, recruitment, reflective practice and team debriefing sessions since they all had competing work commitments.

Key facilitators included good team work, having two facilitators including a health visitor and adult learning specialist and the focus on co-production. This meant parents were involved in their own learning and that their needs were key to the way the sessions were delivered. The flexibility of sessions and the informal atmosphere were identified as particularly conducive to encouraging parents to share their experiences and knowledge and to feel that they could ask questions when they were unclear about information. Parents also appreciated the reassurance gained from hearing about other parents' struggles and the ways they overcame difficulties and managed health concerns. The availability of the children's centre staff was valued by both parents and the delivery team since it enabled parents to attend without worrying about childcare. Having the children in the same room as the parents was considered helpful by some members of the delivery team as it gave them the opportunity to observe parent and child interactions, enabled parents to quickly appease children without having to leave the room and did not require high play and learn staff ratios.

Limitations

The aim of DIY Health is to empower parents to manage minor health concerns effectively as indexed by reduced attendance at the GP for such concerns as well as parental reporting of managing them at home and feeling more confident. It was possible to collect data from parents about changes in how they approach and manage their children's minor health concerns and their feelings of confidence. Furthermore, data from the delivery team was also collected about their perceptions and observations of any changes in the parents; however, it was challenging to capture measures of increased efficient use of NHS service due to difficulties defining and measuring appropriate and inappropriate use of services based on reasons for GP attendances.

The time constraints of the evaluation did not allow for an adequate follow up period which would ideally cover a year to account for differences in health care use over different seasons. Inconsistent data sharing and record keeping across services also created challenges which

resulted in the possibility to only provide descriptive data about changes in GP attendances. Low attendance figures did not permit statistical analyses but it was possible to conduct descriptive analyses of the data from the evaluation forms which provided helpful data to triangulate with the qualitative findings.

Summary of learning points

The evaluation identified some learning points based on the experiences of participants and members of the delivery team. These learning points may be useful to review alongside the DIY Health toolkit when considering how best to implement DIY Health in the future. The learning points are presented below under the following headings: structure and management, delivery and ongoing evaluation.

Table 1: Summary of learning points

	Structure and management
1	More project based preparation time for the delivery team (1-3 hours) in addition to the 3 hours allocated for delivery time.
2	General training for the delivery team on co-production with additional role relevant training; e.g. co-production facilitation for facilitators, project management and community engagement training for project assistants.
3	Professionals interested in the ethos of co-production should be involved in the delivery of DIY Health instead of managers volunteering people to be involved.
4	Members of the delivery team and managers need to discuss organisational and personal agendas and ways of working in order to agree on clear roles, responsibilities and expectations within the collaboration.
5	It will be important to consider whether to modify the recruitment list and expand it beyond frequent GP service attenders to include families who receive support from the Children's Centre or health visitors so that staff members can invite parents from their caseloads. This could be a way to increase benefits to the partner organisations and improve recruitment and attendance.
6	Time should be allocated for the delivery team to meet for reflective practice to debrief, allow for some level of supervision within the group and for the opportunity for concerns resulting from sessions to be discussed and addressed through coordinated actions.
7	The lead organisation may be a GP, Health visiting service (the community development element) or a health focused community organisation within the local area.
	Delivery
8	Speakers from specialist organisations (e.g. pharmacist, A&E nurse) should be invited to relevant sessions but it is necessary to ensure facilitators have the opportunity to review the information that is to be shared to ensure consistency with local guidelines.
9	While ensuring there is a health practitioner with clinical oversight and responsibility over the sessions, it may not be necessary to have this person delivering all sessions. An adult educator may be trained to lead the facilitation making DIY Health less resource intensive in terms of the cost in the time of a health professional. However, the skill sets needed for

	effective and safe delivery should be considered carefully to ensure the team incorporates them.
10	Consider local needs in finalising session timing and delivery. For example, for timing, running sessions 9:30 to 11:30 may facilitate the attendance of parents with older children if they can go right after the school run instead of going home first. In terms of delivery, choice of facilitators, relevance of wider family as well as cultural and religious practice may need to be tailored to local need.
11	Consider whether to expand the recruitment list beyond the parents of children who attend the GP frequently to any interested parents of under 5 year olds and expectant parents in addition to encouraging word of mouth recruitment.
12	The learning environment and the advantages and disadvantages of having parents and children in the same room need to be balanced. The age of the children attending and the individual needs of the children may need to be considered in making this decision.
13	Sessions should ideally be delivered at a convenient location in a child friendly space with internet access that allows some separation between parents and children even if they are in the same room.
14	Additional options to situating DIY health sessions within GP practices to increase flexibility, cooperation and to encourage the involvement of different organisations should be considered. Options might include GP premises, Children's Centres or community venues and this should be explored among the collaborating organisations.
15	In order to help build relationships with parents, increase capacity building of Children's Centre staff and create an added incentive, staff members can be invited to participate in a few sessions per term.
16	Conveying the importance of committing to attending sessions and staying for the whole duration needs to be balanced with allowing vulnerable parents some flexibility and the reality of having young children.
17	Good knowledge and awareness of the local community is important to guide recruitment strategies, for session delivery and for signposting into other local services that may support health and well-being.
18	Language barriers need to be anticipated and addressed. The advantages and disadvantages of using translators or facilitators who can provide support or run sessions in other languages should be considered.
19	The networking element of DIY Health should be nurtured in order to provide parents with a possible additional source of support as well as to sustain their learning from DIY Health.
	Ongoing evaluation
20	Focus on capturing changes in pre/ post session confidence about: <ul style="list-style-type: none"> • knowledge regarding the causes of the week's minor health concern • ability to identify symptoms or problems • skills/ ability to manage or treat symptoms at home • knowledge about when to seek medical attention (already in form)
21	Time needs to be allocated during the first session to review and explain each of the evaluation questions in some detail, particularly if there are language barrier concerns among participants.

	Data collection
22	In order to examine whether attending DIY Health changes health seeking behaviour (e.g. GP attendances), it will be necessary to have a longer follow up period, a well-defined recruitment list and clear coding of reasons for GP attendance.
23	In order to better examine changes in A&E attendances, there needs to be better A&E data collection and sharing with GP surgeries, walk-in clinics and health visiting services.

Background: The DIY Health model

The DIY Health model was developed with the aim of using co-production as the mechanism of action to improve the skills, knowledge and confidence of parents in managing minor health concerns in children under the age of 5. Co-production in this context was envisioned as “*the pooling of knowledge, skills and experiences to reach shared solutions; assuming equal partnerships between parents and professionals to solve problems and reach goals*”.⁴

Specifically, DIY health was delivered in 12 weekly 2-hour sessions in which the skills, knowledge and abilities of participants were pooled to create learning opportunities and solve problems about health topics that were selected based on the needs and interest of the participants. Sessions were carried out under the supervision of a multidisciplinary team of facilitators including a health visitor, an adult learning specialist and members of the two local Children’s Centres including play and learn workers and family support workers. The core curriculum covered five minor ailments (colds & coughs, diarrhoea & vomiting, fever, ear pain, and skin conditions) in addition to feeding, which were identified as a reason for repeat attendance among under 5 year olds in the literature⁵, in the feasibility study⁶ through the co-production process and also via a review of GP attendance data. These 6 core topics including 5 minor ailments and feeding as a health concern will be referred to as minor health concerns hereafter. The DIY Health sessions for this project covered minor health concerns and additional topics of interest and relevance to the parents attending.

Theoretically, with the support of a health specialist and adult learning specialist, the sessions provide parents with opportunities to impart and gain knowledge and skills around managing minor health concerns thus empowering them with the confidence to manage them at home, to seek the right advice from a more differentiated range of professionals (e.g. pharmacists, 111, health visitors) and to know when it is necessary to visit the GP or A&E (Accident and emergency) department. The programme places particular emphasis on co-production as a means of empowering parents and improving confidence. This involves giving parents ownership over what they learn enabling them to learn from each other through their knowledge and experiences of parenthood and enabling sessions to be tailored to meet the specific needs of the group. Considering the collaborative nature of co-production as a learning process and the expectation to engage all participants, the delivery team aimed for the inclusion of 12 parents per session. An optimum group size was found to be between 10-12 participants in the feasibility study in order to maximise participation and create a comfortable learning environment.⁷

Participants were encouraged to share their experiences and health management practices while the health visitors were able to provide advice and information based on national guidelines and evidence based practice. The adult learning specialist ensured information was accessible for different levels of adult learning abilities and together with the health visitor encouraged participation, made an effort to engage all parents and checked understanding and learning. The project assistants were responsible for the administrative aspects of the sessions

⁴ DIY health (0-5) toolkit.

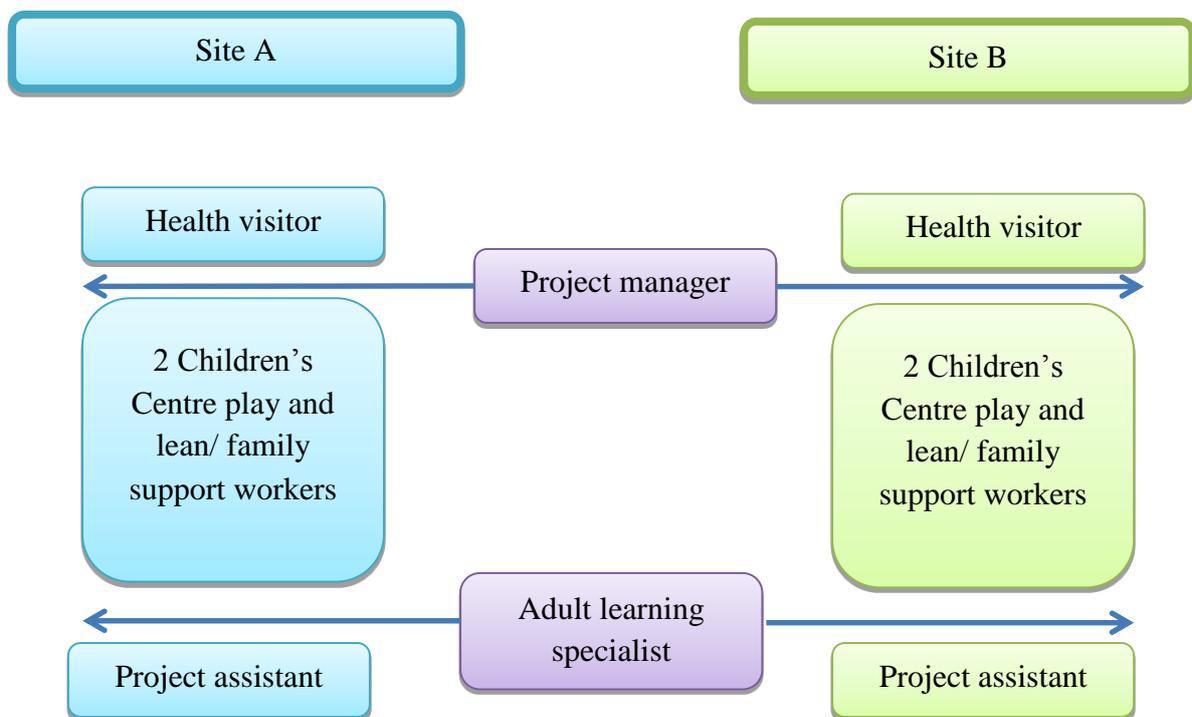
⁵ Department of Health (n.d.). *Early Years High Impact Area 5 – Managing minor illness and reducing accidents (reducing hospital attendance/ admissions)*. Department of Health: London.

⁶ Cassells, E. (2014). *DIY Health (0-5) pilot project: evaluation and outreach*. A document submitted to Kelley Webb-martin in response to the Evaluation and Outreach grant.

⁷ Ibid.

There were two different health visitors facilitating the sessions at the two sites but they also covered for each other across sites when necessary. As the order of sessions were negotiated with participants the week before, session topics were not synchronised in terms of order and focus even though the 6 key minor health concerns were covered at both sites. The adult learning specialist worked across both sites as did the project manager while staff members from two different local children centres supported one site each. Each site was also supported by a project assistant who was a member of the DIY Health delivery team as well as working as a receptionist at the respective GP surgery (see Figure 1). Although some members of the delivery team only worked at one site, the overall DIY Health delivery team met before the beginning of the first session, during half term and after the last session to plan, share experiences and debrief. Session planning involved a combination of the health visitor meeting with the adult learning specialist and the health visitors meeting separately. The health visitors also observed each other's sessions.

Figure 2: Flowchart of DIY Health delivery team

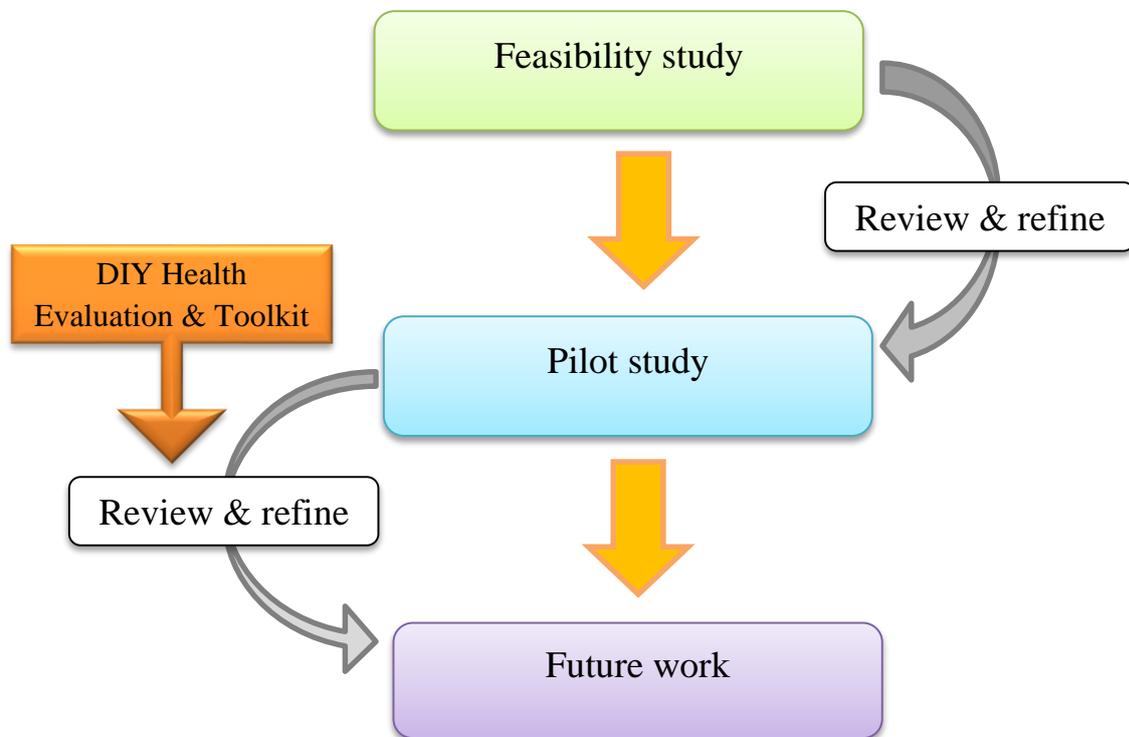


This report presents the evaluation of the DIY Health pilot study developed after the initial feasibility study was reviewed and refined¹⁰. The pilot study involved 2 iterations of the 12 sessions at the two delivery sites during term time. Cohort 1 sessions were conducted September to December 2014 while cohort 2 sessions were conducted January to April 2015 (excluding half term). See figure 2 for a flow chart describing the development of the DIY Health model. The first chapter of the evaluation reports on the experiences of the DIY

¹⁰ Cassells, E. (2014). *DIY Health (0-5) pilot project: evaluation and outreach*. A document submitted to Kelley Webb-martin in response to the Evaluation and Outreach grant.

Health participants and the delivery team while the second chapter reports on the economic evaluation.

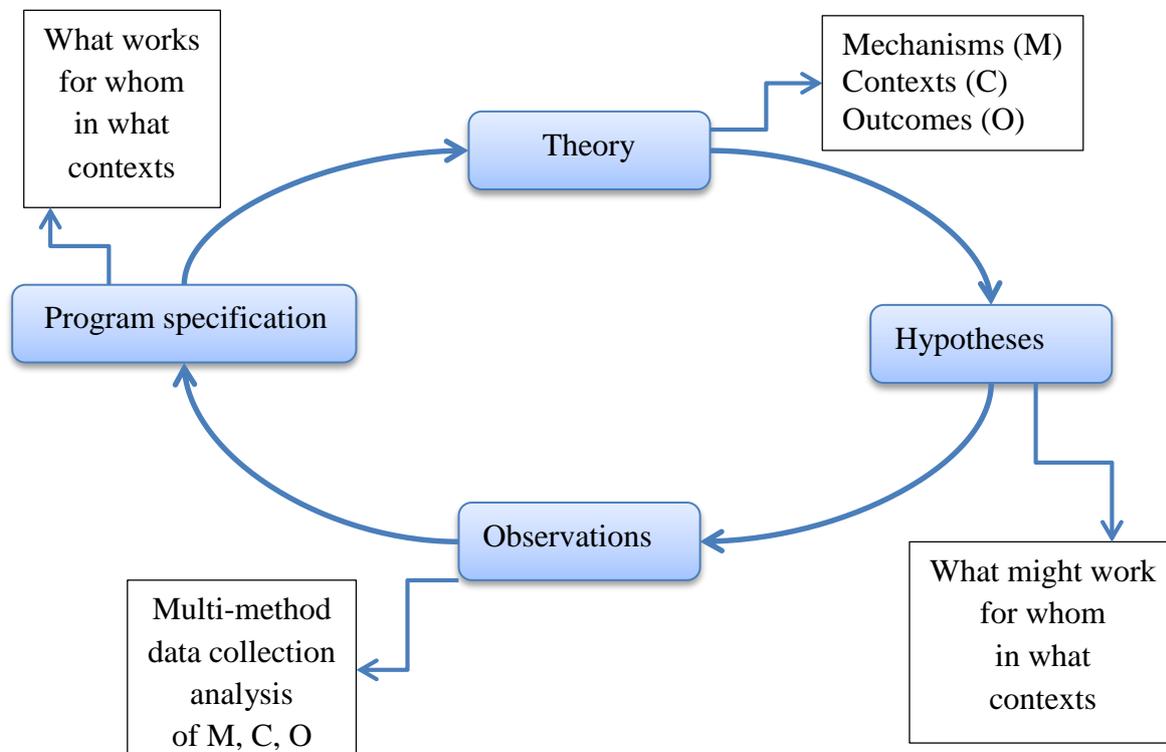
Figure 3: Flowchart of the DIY Health model development



Evaluation rationale

The evaluation¹¹ of DIY Health draws on a realist evaluation framework approach¹² (See Figure 3) to assess the impact of DIY Health sessions on participants and the extent to which attendance fulfilled the overall project aim of empowering parents with the skills, confidence and knowledge to manage their children's health by seeking help at the right place and time. This is a theory driven evaluation framework that focuses on exploring how the context and mechanism of action of an intervention leads to outcomes. Social interventions are considered to work through the action of mechanisms, via a process of intertwined resources and reasoning. Evaluation research is then expected to answer questions about what mechanisms for change are triggered by an intervention and how they have an impact on the existing social processes sustaining the behaviour or circumstances that are being targeted for change.

Figure 4: The realist evaluation cycle



A logic model can be used to facilitate the process of identifying the different elements of the intervention and the processes by which change occurs with a focus on the context, mechanism and outcomes (see Figure 1, p.13). It encourages thinking about what change is

¹¹This project has been reviewed and approved by the East Midlands-Leicester NRES ethics committee.

¹² Pawson, R. And Tilley, N. (1997). *Realistic Evaluation*. London, Sage Publications.

being sought, for whom, what the triggers might be and what the preconditions and context specific elements might be.

Specifically, the evaluation aims were to investigate the following four research questions:

1. Do parents who attend DIY Health sessions reduce the number of visits to the GP for the 6 key minor health concerns?
2. Does attending DIY Health sessions improve parents' skills, knowledge and confidence in managing their children's health?
3. To what extent are DIY Health participants listened to during sessions and able to influence the topics covered?
4. What are the barriers and facilitators to implementing the DIY Health model?

Methods

The evaluation included data collected from two parent cohorts and the DIY health delivery team involved in running sessions at Site A and Site B from Sep 2014 to Dec 2014 (cohort 1) and from January 2015 to April 2015 (cohort 2). A range of data sources were drawn on to answer the primary evaluation questions including qualitative and quantitative methods. Context, mechanisms of action and short term outcomes were explored as part of 4 activity arms. These are listed below with details about the methods used to collect the data.

- Secondary analysis of routinely collected data/
 - GP attendance data for the children of parents who attended DIY Health sessions were examined to look at average monthly attendance for the 6 key minor health concerns (coughs & colds, diarrhoea & vomiting, fever, ear pain, skin conditions and feeding) over the 6 months prior to the DIY health sessions, during the weeks DIY health sessions were running and for up to 4 months after the end of the DIY Health sessions (March 2014 to May 2015; EMIS data on attendance from GP surgeries).
- Secondary analysis of data collected by the delivery team as part of service improvement:
 - DIY Health participants were asked to complete service improvement questionnaires each week. These included an overall goal setting and progress measure form, a pre / post session evaluation form and a bull's eye level of participation chart.
- New data collected from DIY Health participants:
 - Interviews and focus group discussions were conducted with DIY health participants in order to explore their experiences of participation.
- Service development data collected from the DIY Health development and delivery team:
 - Interviews were conducted with members of the DIY Health development and delivery team and they were asked to keep reflective notes about the sessions.

Given the nature of the intervention, the evaluation timeline and the focus on the mechanisms of the intervention, data collection tools were developed to mainly explore the delivery and implementation process. Table 2 provides a summary of the data sources and analyses conducted to answer the four research questions.

Qualitative methods were chosen as the most appropriate for exploring how DIY Health was experienced by both participants and the delivery team. The data collection tools included semi structured interviews, focus groups and reflective notes. Quantitative methods were used to measure outcome scores both at session level and overall progress. The triangulation of the different qualitative and quantitative methods was key to the examination of the processes via which DIY health sessions aimed to have an impact on participants.

Measures

This section provides details about the different measures used to collect data.

Extraction of GP attendances data from EMIS database

GP attendance data were collected for the under 5 year old children of DIY Health participants. The attendances searched for were only those relating to the 6 minor health concerns (colds & coughs, diarrhoea & vomiting, fever, ear pain, skin conditions and feeding) in order to explore whether there were any changes in attendance over a period that covered from 6 months prior to parental participation in DIY Health sessions to up to 4 months after the end of the sessions.

Pre/ post session evaluation form

The pre/post session evaluation form was developed to collect feedback about individual sessions and topics (see appendix A) and includes a series of statements used to measure pre and post session self-rated scores to measure confidence in different aspects of child health management, pre and post session scores indicating progress towards a session based self-identified goal and a question about the extent to which participants felt able to influence the topics they learned about (within the realm of the minor health concern of the week and possibly related topics) during the session.¹³ The forms include final free text questions about the most and least helpful aspects of the session and reasons why participants would or would not recommend the session.

Confidence

Pre session and post session self-rated confidence scores were collected from parents in relation to managing the health topic of the session and the availability of support in terms of information and people to go to for advice. Parents were also asked to identify session specific goals and to rate their starting point and then progress by the end of the session.

The statements to measure self-rated confidence scores were developed with the aims of the DIY Health intervention in mind and using a guide for constructing self-efficacy scales (Bandura 2006).¹⁴ The scoring scale starts at 0 indicating they could not do the task at all and end at 10 indicating they could definitely do it. The middle score of 5 is labelled as moderately able to do it.

Bull's eye level of participation chart

The bull's eye chart (see appendix B) was used to capture parents' perceptions about how well they were able to participate in the sessions and to ensure information and topics they were interested in were discussed. This chart is an adapted format of the Evidence Based Practice Unit bull's eye session feedback tool developed to evaluate shared decision making¹⁵. For each of the four questions participants could give one of four scores including 0 indicating 'not at all'; 1 'only a little', 2 'somewhat', 3 'quite a bit' and 4 'totally'.

Overall goal progress measure

This measure (see appendix C) was used in order to collect overall goals from participants when they attended their first DIY Health session and to evaluate progress towards their goal at each session¹⁶. This involved participants scoring their progress on a likert scale going from 0 to 10. A score of 0 meant no progress has been made towards a goal, a score of 10 meant a goal was reached fully and a score of five was exactly half way between the two.

¹³ Bandura A (2006). Guide to constructing self-efficacy scales. In: F. Pajares & T. Urdan (Eds), *Self-efficacy beliefs of adolescents* (pp 307-377). Greenwich, CT: Information Age.

¹⁴ Ibid.

¹⁵ Wolpert, M., Hoffman, J., Abrines, N., Feltham, A., Baird, L., Law, D., . . . Hopkins, K. (2012). *Closing the gap through changing relationships* (Final report). London, England: The Health Foundation. Retrieved from http://www.health.org.uk/media_manager/public/75/publications_pdfs/CAMHS_final%20report.pdf

¹⁶ Law, D. (2011). *Goals and Goal Based Outcomes (GBOs): Some useful information*. London: CAMHS Press.

Table 2: Summary table of the research questions, data sources and analysis methods

Research questions	Data sources	Analysis
1. Do parents who attend DIY Health sessions reduce the number of visits made to the GP for minor health concerns (colds & coughs, diarrhoea & vomiting, fever, ear pain, skin conditions and feeding)?	Extraction of GP attendance data from EMIS database from March 2014 to May 2015	Bar charts showing average monthly attendance among DIY health participants' children who are under 5 years of age over the 6 months analysed to create the list of potential participants, the period during which they were attending DIY Health sessions (cohorts 1 and 2) and 4 months post DIY Health attendance (cohort 1)
	Interviews and focus groups with DIY Health participants and members of the DIY Health team Reflective notes from DIY Health delivery team	Thematic analysis of : <ul style="list-style-type: none"> • interviews and focus group discussions with participants • interviews with members of the DIY health delivery team • reflective notes from DIY health delivery team
2. Does attending DIY Health sessions improve parents' skills, knowledge and confidence in managing their children's health?	Interviews and focus groups with DIY Health participants and members of the DIY Health team	Thematic analysis of : <ul style="list-style-type: none"> • interviews and focus group discussions with participants • interviews with members of the DIY health delivery team • reflective notes from members of the DIY health delivery team
	Reflective notes from DIY Health delivery team	
	Pre/ post session evaluation form	Content analysis of the free text responses to most and least helpful aspects of the session and to reason(s) why participants reported they would or would not recommend the session to a friend
	Pre/ post session evaluation form	Descriptive quantitative analysis of: <ul style="list-style-type: none"> • scores given to self-efficacy statements • progress towards session based goals
Single Goal DIY Health evaluation measure	Descriptive quantitative analysis of: progress towards overall goal for attending DIY Health sessions	

Table 2 (continued): Summary table of the research questions, data sources and analysis methods

Research questions	Data sources	Analysis
3. To what extent are DIY Health participants listened to during sessions and able to influence the topics covered within sessions?	Interviews and focus groups with DIY Health participants and members of the DIY Health team	Thematic analysis of : <ul style="list-style-type: none"> • interviews and focus group discussions with participants • interviews with members of the DIY health delivery team • reflective notes from members of the DIY health delivery team
	Reflective notes from DIY Health delivery team	
	Pre/ post session evaluation form	Descriptive quantitative analysis of question about how able participants felt to influence what topics they learned about in the session
	Bull's eye level of participation charts	Descriptive quantitative analysis of average session scores
4. What are the barriers and facilitators to implementing the DIY Health model?	Interviews and focus groups with DIY Health participants and members of the DIY Health team	Thematic analysis of : <ul style="list-style-type: none"> • interviews and focus group discussions with participants • interviews with members of the DIY health delivery team • reflective notes from members of the DIY health delivery team
	Pre/ post session evaluation form	Content analysis of the free text responses to most and least helpful aspects of the session and to reason(s) why participants report they would or would not recommend the session to a friend

Semi structured in-depth interviews and focus group discussions with participants

The decision to conduct both qualitative methods was made in order to capture both individual experiences of and views about participating in DIY Health sessions as well as the group dynamic and interaction between participants. Topic guides were developed with the aim of capturing expectations, experiences of participation and outcomes in order to gain an understanding of the process by which the sessions do or do not influence parents' confidence and ability to manage their child's health (see appendices D and E for the parent interview and focus group topic guides respectively).

Semi structured in-depth interviews with members of the delivery team

In depth interviews with the DIY Health delivery team were conducted in order to collect information about their experiences of delivering sessions and to gather their opinions about the mechanisms by which participation in DIY Health influenced participants. It was also important to gather their views on who they felt the sessions worked better or less well for and to consider aspects of the learning process for both participants and themselves. In addition, the members of the delivery team were also well placed to contribute to the delivery aspects of the facilitators and barriers to rolling out the intervention to new settings (see appendix F for the DIY Health delivery team interview topic guide).

Reflective notes from members of the delivery team

DIY Health delivery team members were asked to keep reflective notes about their involvement in delivering sessions including observations and interactions with participants. This was in order to add to the data collected in the interviews but also to allow for information to be captured on unexpected outcomes for parents as a result of participation or themselves as a result of delivering sessions.

The interviews with the delivery team were conducted over the course of the two cohorts so the reflective notes provided an opportunity to collect delivery experiences and observations even after the interviews had been conducted.

Procedures

This section provides information about the way data was collected using the different measures. It begins with a brief overview of the settings within which DIY Health sessions were delivered.

Delivery setting

The sessions at site A were held on Tuesdays 10am-12pm in a rectangular room with a linoleum floor. The room was set up with audio-visual facilities and internet access and was located on the ground floor past the surgery reception. During the sessions, tables and chairs were set up at one end of the room in a large rectangle and the staff from the Children's Centre set up a play area at the other end.

The sessions at site B were held on Thursdays 10am-12pm in a room with a white board but no audio-visual facilities or internet access. It was located in a community centre on the second floor with lift access and did not require going through the surgery. The room was rectangular with a tiled floor and there was a small side storage room where buggies could be

parked. The sessions during the first cohort (September to December 2014) started out with parents sitting on the floor with the children but was subsequently changed because parents wanted to be able to take notes and create a separate space from the children to reduce levels of distraction from the children while still allowing them access. After some discussion it was agreed that they would sit at a low children's table and chairs at one end of the room while the other end was set up as a play area for the children. The room had a hard floor and had some echo.

Extraction of GP attendances data from EMIS database

An automatic search and manual verification/ adjustment was conducted for cohort 1 and cohort 2 searching for children under 5 years who had attended four or more appointments (excluding immunisations) in the past 6 months. The time period the searches covered included a period 6 month before DIY Health sessions started (cohort 1: 15 March-14 September 2014 for sites A and B, cohort 2: 7 July-19 2014 – 19 January 2015 for site A and 9 July 2014- 21 January 2015 for site B), the weeks during which DIY Health sessions were running (cohort 1: 15 September 2014 - 14 December 2014 for sites A and B, cohort 2: 20 January 2015- 30 April 2015 for site A and 22 January – 30 April 2015 for site B) and three months after the last DIY Health session for cohort 1 only (15 December 2014-14 March 2015 for sites A and B).

Pre/ post session evaluation form

All participants attending sessions were asked to complete the relevant sections of these forms at the beginning and at the end of the topic based sessions. This excluded the first session which was a meet and greet introductory one and the last celebratory session.

Bull's eye level of participation chart

All participants were asked to complete the chart at the end of each topic based session. This excluded the first session which was a meet and greet introductory one and the last celebratory session.

Overall goal progress measure

These were meant to be completed by each participant at their first session. After identifying an overall goal they were expected to chart progress towards it weekly.

Quantitative data analyses

For all of the scores collected measuring self-efficacy, levels of participation and progress towards goals, session based averages were used to provide descriptive statistics. The samples were not large enough for meaningful statistical analyses, however descriptive statistics were used to examine processes.

Semi structured in-depth interviews and focus group discussions with participants

All participants who attended at least one session at either site were invited to participate in focus groups or in-depth interviews. They were given information sheets and interested individuals were asked to leave their contact details with the project assistants to be passed on to the evaluation team.

In cohort 1, at site A the focus group lasted 45 minutes and it was conducted in the room where sessions were usually held, a week after the last session. At site B, 4 parents agreed to participate in a focus group but arrived at different times on the date so they were interviewed instead because it was not possible to run a focus group with 20-30 minute gaps in arrival times. One of the interviews was conducted over the phone since the participant was unable to wait until the ongoing interview ended.

Written consent for the interviews and focus groups including permission to audio record the sessions was obtained from all participants.

Semi structured in-depth interviews with members of the delivery team

All members of the delivery team were invited to participate in an interview at a team meeting and this was followed up by an e-mail invitation including the information sheets and consent form. Interested individuals were asked to contact the evaluation team with some convenient dates and times. Written consent for the interviews including permission to audio record the sessions was obtained from all participants.

Reflective notes from members of the delivery team

All members of the DIY Health delivery team were asked to keep reflective notes about the sessions they attended. The structure of the reflective notes was left for individuals to decide on.

Qualitative data analyses

Interviews and focus groups were audio recorded and transcribed and the reflective notes were also included in the qualitative analyses. Initial themes were summarised and then analysed. The topic guides were developed with the research questions in mind and the thematic analysis also focused on these questions while allowing for the emergence of additional themes and the exploration of unexpected outcomes from the experiences of participation or delivery¹⁷.

¹⁷ Miles, M.B. and Huberman, A.M. *Qualitative Data Analysis: An Expanded Sourcebook*, 2nd ed., Sage Publications, Newbury Park, CA, 1994.

Sample

Participants: Cohort 1 sessions were held from September 2014 to December 2014 at sites A and B. At Site A, 15 parents attended at least one session and at Site B, 17 parents attended at least one session. Cohort 2 sessions were held from January 2014 to April 2015 at Sites A and B. See Table 3 for the number of participants per site who completed each type of data collection tool used at least once during each cohort.

Table 3: Number of participants for each type of data collection method

Cohort 1	Site A	Site B
Type of data	Completed at least once	
Semi structured in-depth interview	0	4
Focus group	1*	0
Pre/ Post questionnaires	14	9
Bull's eye participation chart	4	0
Overall goal	0	0
Individuals who attended at least one session	15	17
Cohort 2	Site A	Site B
Type of data	Completed at least once	
Semi structured in-depth interview	-	-
Focus group	1*	1*
Pre/ Post questionnaires	14	16
Bull's eye participation chart	14	15
Overall goal	11	13
Individuals who attended at least one session	15	18
DIY Health delivery team interviews across cohorts 1 and 2	13	
Individual interviews	4	2
	2	
Group interview	-	2**
Reflective notes (cohort 1)	4	
Reflective notes (cohort 2)	3	

*The DIY Health participant focus groups included 4 parents in cohort 1 and 3 parents each in cohort 2.

**The group interview was conducted with three members of the children's centre team in cohort 1 and two members of the children's centre in cohort 2.

Inclusion criteria

All DIY Health participants were eligible to participate in an interview or focus group, they were also all eligible to complete the pre/ post session evaluation form, the overall goal form and the bull's eye level of participation chart.

All the members of the DIY Health delivery team were eligible to participate in an interview and to provide reflective notes.

In cohort 1 all parents attending DIY Health sessions were asked to complete the pre/ post session evaluation and those who were willing to do so returned completed forms. The overall goal forms and bull’s eye level of participation charts were not provided consistently.

In cohort 2 all parents attending DIY Health sessions were asked to complete the pre/ post session evaluation form, the single goal evaluation measure and the bull’s eye participation chart and those who were willing to do so returned completed forms.

DIY Health participants were overwhelmingly mothers. Although the research assistants did report having fathers pick up the phone while they were recruiting participants, they all tended to say they would let their wives know about the sessions. Some fathers attended a few sessions when they had days off to support the mums with language or on occasions that mothers were unable to attend but it was mothers who attended regularly. In cohort 2 one father attended a session at site A and completed the evaluation forms and another father at site B helped his wife complete the forms over three sessions but neither was involved in any other aspect of the evaluation.

Pre/ post session evaluation form

See Tables 4 and 5 of for details about the number of completed pre/ post evaluation forms by session for cohort 1 and 2 respectively.

Table 4: Attendance and completed evaluation forms by session (cohort 1)¹⁸

Site A			
Session No.	Topic	Number of parents attending*	Completed Pre/ post session evaluation forms**
1	Meet and greet	11	N/A
2	Feeding and eating routine	9 +(1 via e-mail)	7
3		4 +(1 via e-mail)	
4	Cold and flu	10	11
5		7 +(1 via e-mail)	
6	Fever	6 +(1 via e-mail)	6
7	Gastroenteritis-diarrhoea and vomiting	3 +(1 via e-mail)	3
8	Skin: dry skin, rashes, eczema	6 +(1 via e-mail)	5
9	Ear ache	3 +(1 via e-mail)	3
10	Eyes, new-born skincare	6	-
11	First aid	7	5
12	Party	6	N/A

¹⁸ The bull’s eye level of participation chart was only completed for 4 sessions at site A and none at site B during cohort 1 due to the challenges of getting participants to complete the pre/post session evaluation forms and the chart while parents were leaving early or were in a rush to leave. The charts were not provided consistently during cohort 1 and the ambiguity in the 4 completed charts resulted in only the pre/ post session evaluation forms being examined for cohort 1.

Site B			
Session No.	Topic	Number of parents attending	Completed Pre/ post session evaluation forms**
1	Meet and greet -	5	N/A
2	Feeding/ healthy eating	4	4
3	***	3	-
4	Cold and flu	6	6
5		8	
6	Fever	6	6
7	Diarrhoea and vomiting	7	6
8	Eczema, rashes	9	4
9	-	-	-
10	Ear infection	7	2
11	Paediatric first aid	10	Not completed
12	Party	3	N/A

* At site A all sessions were followed by a parent who worked full time and could not attend physically but was involved via e-mail. She contributed her thoughts and experiences and received notes from each session.

** Where topics were continued into a second session, pre/ post evaluation forms were completed at the beginning and end of the topic.

*** - represents missing data.

Table 5: Attendance and completed evaluation forms by session (cohort 2)

Site A				
Session	Session topic	Number of parents attending*	Completed Pre/ post session evaluation forms	Completed Bull's eye participation chart
1	Meet and greet	4 + father	N/A	N/A
2	Cold & flu	7 + grandmother	6	4
3	Cold & flu review	6	5	3
4	Fever/ coughs	5 + grandmother	5	4
5	Fever review	7		6
6	Feeding, weaning & fussy eating	6	6	6
7	Feeding (continuation) and healthy snacks	6	6	6
8	Sleeping	7	6	7
9	Vomiting and diarrhoea	4	4	4
10	Earache and ear infection	6	6	6
11	Dry skin and eczema	8	8	8
12	Summary session and abscesses	3	N/A	N/A

Site B				
Session	Session topic	Number of parents attending*	Completed Pre/ post session evaluation forms	Completed Bull's eye participation chart
1	Meet and greet	8	N/A	N/A
2	Skin conditions/ eczema (causes)	9	7	5
3	Eczema and skin conditions (treatment)	3	3	2
4	Cold and flu (causes and differences)	4	4	4
5	Cold and flu (treatment)	7	6	4
6	Diarrhoea and vomiting	4	4	4
7	Skin allergy and bathing	8	6	6
8	Chicken pox and other common childhood illnesses	4	4	4
9	Accidents at home	3	3	3
10	Urinary Tract infection	5	5	4
11	Earache and ear infection	5	5	5
12	Summary session	3	N/A	N/A

*Attendance includes parents arriving 1 hour or more late into the session, staying only 20 minutes or arriving for the last 20 minutes. However, those who only attended 20 minutes did not complete a pre/post session evaluation form.

Due to participants arriving late and leaving early, it was often challenging to ensure all sections of the form were completed. Participants who only attended for the first 20-30 minutes or arrived 20-30 minutes before the end of the session were not given a form to complete.

Bull's eye level of participation chart

It was challenging to get participants to complete the chart in addition to the pre/ post session evaluation form particularly due to parents leaving early or being in a rush to leave at the end of the session. This resulted in the charts not being provided consistently during cohort 1. They were completed for 4 sessions only at site A. Large stickers were used by each participant to indicate their scores in the four sessions during which the chart was completed. However, because the large stickers covered more than one score this created ambiguity which did not permit any meaningful descriptive analyses. No charts were completed at site B.

In cohort 2 both a member of the evaluation team and the project assistant facilitated the weekly completion of the measure.

Overall goal progress measure

Due to logistical challenges the measure was not provided to participants in cohort 1. All participants attending cohort 2 sessions were asked to complete the chart but did not always provide weekly scores. This was particularly the case when they had specific topic based overall goals.

Semi structured in-depth interviews and focus group discussions with participants

In cohort 1, at site A, 4 parents participated in a focus group. At site B, 4 parents were interviewed individually, three face to face and one over the phone. Participants had between 1 and 4 children and had tried to attend regularly. Interviews lasted 16 to 30 minutes and included a parent who had some difficulty with English but was still able and willing to be interviewed.

Semi structured in-depth interviews with members of the delivery team

All members of the DIY Health delivery team were invited for an interview. In cohort 1 this included 1 project manager, 2 health visitors, 1 adult learning specialist, 2 project assistants and 6 children's centre learn and play/ family support workers (across the two children centres). Interviews were conducted with 8 out of 12 delivery team members covering all the different team roles. This included a group interview with three members of staff from the Children's Centre. One of the children's centre managers was also interviewed as a member of the DIY Health planning and development team but had not participated in any sessions.

The delivery team remained mainly the same across cohorts 1 and 2. The project manager, the two health visitors, the adult learning specialist and the two project assistants continued their involvement as members of the delivery team. There were some changes among the children's centre staff because duties were reassigned; however, there remained a pool of 3-4 learn and play workers and family support workers per site. This included a volunteer staff member and a bank staff member at site A.

Reflective notes from members of the delivery team

Four members of the team provided reflective notes for cohort 1; these included session based notes as well as more general overall observations.

Results

The results section presents the evaluation findings organised under the research question headings and divided within each question according to the broad source of information with a final summary of the key themes described.

1. Do parents who attend DIY Health sessions reduce the number of visits to the GP for the 6 key minor health concerns?

The DIY Health project aimed to empower parents to manage minor health concerns effectively, as indexed by reduced attendance at the GP for these concerns. This was evaluated mainly based on changes as reported by parents and the delivery team and the process of using the key mechanism of action theorised to be co-production. While it is a logical expectation that if parents are better able to manage minor health concerns at home they are likely to reduce the number attendances at the GP for these concerns, the small number of participants only allowed for descriptive quantitative analysis. Furthermore, the post intervention period was not long enough to measure meaningful change. Parental reports of changes in health seeking behaviour are included in the data used to report on this research question.

Pre/ Post session evaluation form

Parents were asked to write down goals in attending DIY Health sessions overall and for individual sessions. These were grouped thematically and included goals to: increase knowledge about overall children's illnesses as well as learning how to manage specific conditions (e.g. eczema, allergies), being better able to manage children's health at home, finding out what to do and when it is necessary to go to the GP.

The free text response to questions about the most helpful thing about the session and why they would recommend the session also provided data to answer this research question and responses focused on learning how to manage minor health concerns at home, being given tips and home remedies as well as knowing when to stay at home and when to seek professional advice and from whom.

Session goal: Learn what to do when child has diarrhoea, when to go to doctor and when to manage at home and tips. (Site B, mum of 2)

Reason for recommending session: It's useful to find out what other mums have gone through, more helpful than just going to the doctor. (Site B, mum of 3)

Parent interviews and focus groups

Parents reported **feeling more confident** about being able to manage their children's health at home which they felt led to them visiting their GP less frequently.

I feel more confident in myself. Before I used to worry like if my children fall ill. My son had the worst cold ever two weeks ago. I felt confident to take care of him like, than rushing him to the doctor. Cause I knew how to handle him. Before I need the doctor to tell me something to comfort me. But now I was like more confident in myself to deal with the situation. (P1 Site B, mum of 2)

They also described **going through the home care steps** learned during sessions (e.g. using a thermometer to monitor temperature regularly instead of just feeling the forehead with a hand). Participants shared experiences of putting home remedies and tips learned from attending sessions into practice. Parents also reported learning about the option to ring health visitors, ring 111 and use pharmacy first as initial sources of health advice.

Like with a temperature I've brought my children so many times to the doctor thinking that it wasn't going away and then they used to send me back and I used to feel really disappointment and there's nothing they could do... I never used to measure their temperature, I used to just feel with my hand which was wrong. (P1 Site B, mum of 2)

A key incentive for agreeing to attend sessions was a desire to gain skills in managing their child/ children's health better, to feel more confident about what to do, and a desire to be a better parent.

I was reading up on the leaflet that [the project assistant] gave me in the first place, and I wanted to find out more information for myself, to stop myself from going to the doctor so much with my children...cause like any little thing I was coming to the doctors. Like, they'd (children) complain they'd got a sore throat, I'd come to the doctors. So I just think like now I'm more aware that I can just go to the chemist and buy something instead of keep running to the doctors and sitting here getting more germs. I can just go to the chemist, buy it and sit at home and not get so many germs. (FG-Site A, mum of 3)

Some parents were aware that they were going to the GP very frequently and wanted to change that while others just wanted to refresh their knowledge. There were also admissions among some parents that a lack of confidence in health professionals who were not doctors contributed to frequent GP appointments.

Personally I think because a doctor has that name, doctor, you think they know everything and, like, I was scared...you can go to the pharmacy and they give you advice. To me it's, like, I don't feel confident enough to go to them and ask anything. (PI2, site B, mum of 1)

DIY Health delivery team interviews

The project assistants who work as receptionists at the surgeries reported anecdotal evidence about noticing differences in some of the parents. They saw some who used to come to the surgery often attending less and also commented that they would mention the steps they had already taken to resolve the health concern when they rang for an appointment. This indicated both **increased empowerment in taking control of their child's health** and **the ability to communicate better about their child's condition**.

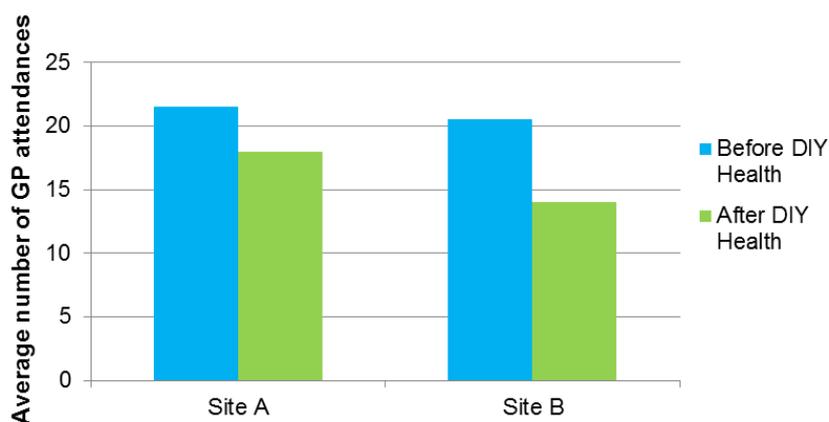
Other members of the delivery team also referred to parents returning from one week to another and reporting their success putting information and skills learned during sessions to use and avoiding visits to A&E and the GP.

Often they [parents] come back the following week, they'll say, "Oh, my child was sick this week and, you know, they had diarrhoea and vomiting", and then all the parents will ask, "What did you do?" And then they will, sort of, go over all the things that we've talked about and they're like, "No, I didn't go to A&E, I didn't call the GP", you know, I did do this, I did do that. So they will speak to, like... telling each other what they've done and what they haven't done so you can see clearly that they are, sort of, following through of... the steps that we talked about. (DIY Health team, SI3)

Descriptive analysis of GP database quantitative data

Findings from the parent evaluation forms and the perceptions reported by both parents and members of the delivery team suggest DIY Health participants may be better able to manage minor health concerns at home thus reducing visits to the GP for these concerns. Similarly, the figure below shows that the average number of participants' GP attendances reduced from the six months before DIY Health started to the six months after DIY Health started.

Figure 5: Average number of GP attendances before and after DIY H for cohort 1



Note. N = 15 for Site A and 17 for Site B¹⁹.

In particular, Table 6 and Table 7 shows GP attendances for all participants who attended at least one session at Site A or B respectively during cohort 1 with concerns relating to any of the 6 minor health concerns covered within DIY Health sessions. The attendance figures (excluding phone consultations) are listed per participant and divided here over the period including 6 months before attending sessions, the period during which sessions were held and three months post sessions for cohort 1.

¹⁹An increased use of health services is expected over winter and the period when DIY health sessions were being held as well as the post DIY session periods fell under winter months.

Table 6: Cohort 1, Site A-Number of attendances at GP surgery for minor health concerns*

Site A	6 months before DIY Health sessions	3 months during DIY Health sessions	3 months post DIY Health sessions
Individual Patients**	15 Mar 2014 to 14 Sep 2014	15 Sep 2014 to 14 Dec 2014	15 Dec 2014 to 14 Mar 2015
A1	2	1	0
A2	12	5	12
A3	10	5	0
A4	1	1	1
A5	2	1	0
A6	1	0	0
A7	1	3	0
A8	2	1	0
A9	1	4	0
A10	2	2	0
A11	0	1	1
A12	4	1	2
A13	3	1	0
A14	2	5	2
A15	0	0	0

*The attendance figures exclude phone interviews

**These are the children of participants who are under 5 years old

Table 7: Cohort 1, Site B- Number of attendances at GP surgery for minor health concerns *

Site B	6 months before DIY Health sessions	3 months during DIY Health sessions	3 months post DIY Health sessions
Individual Patients**	15 Mar 2014 to 24 Sep 2014	15 Sep 2014 to 14 Dec 2014	15 Dec 2014 to 14 Mar 2015
B1	1	1	1
B2	3	0	1
B3	5	0	1
B4	5	0	1
B5	1	0	0
B6	1	0	2
B7	1	0	2
B8	3	0	0
B9	6	3	2
B10	1	1	0
B11	2	1	0
B12	9	4	2
B13	0	1	0
B14	1	0	1
B15	2	1	1
B16	0	0	0
B17	0	0	0

*The attendance figures exclude phone consultations.

**These are the children of participants who under 5 years old

GP attendance figures for the 6 minor health concerns among children of cohort 2 participants are presented in Table 8 and Table 9 for site A and B respectively over the 6 months before the DIY Health sessions and over the 15 week period when sessions were conducted (this includes 3 half term weeks). Figures again exclude phone consultations and include the children of parents who attended one or more sessions. The number of children GP attendance data was available for is lower than the number of 0-5 year old children the 15 Site A and 18 Site B participants had because there were participants at both sites who attended as a result of being invited by a parent rather than by the DIY Health delivery team as a result of being on the recruitment list.

Table 8: Cohort 2, Site A-Number of attendances at GP surgery for minor health concerns*

Site A	6 months before DIY Health sessions	3.5 months during DIY Health sessions
Individual Patients**	7 July 2014 to 19 Jan 2015	20 Jan 2015 to 30 Apr 2015
AA1	0	1
AA2	1	0
AA3	7	4
AA4	2	1
AA5	4	0
AA6	1	0
AA7	4	3
AA8	6	3
AA9	0	1
AA10	2	0
Average	2.7	1.3

Table 9: Cohort 2, Site B-Number of attendances at GP surgery for minor health concerns*

Site B	6 months before DIY Health sessions	3.5 months during DIY Health sessions
Individual Patients**	9 July 2014 to 21 Jan 2015	22 Jan 2015 to 30 Apr 2015
BB1	3	3
BB2	3	1
BB3	3	1
BB4	2	2
BB5	1	0
BB6	1	1
BB7	3	0
BB8	3	2
BB9	1	0
BB10	5	1
BB11	1	1
BB12	8	1
BB13	1	1
BB14	0	1
BB15	3	1

BB16	2	0
BB17	1	3
BB18	3	2
Average	2.4	1.2

*The attendance figures exclude phone consultations.

**These are the children of participants who are under 5 years old.

The average number of total GP attendances for minor ailments in the 6 months pre DIY Health sessions was 3 as was the average number of attendances over the 15 weeks when DIY Health sessions were running in the second cohort in site A while the average was 5 attendances over the same two time periods for site B. The average number of GP attendances for individual participants' children pre and during DIY Health sessions also remained the same at 1 across both sites.

Summary of themes

- Increased confidence in personal ability to manage child's health at home
- Confidence and experience of going through home care steps
- Increased empowerment to take control of child's health
- Ability to communicate better about child's health
- Reduced need for reassurance from GP

Economic Analysis

A preliminary health economic analysis was conducted of the DIY feasibility study by Jeff Round (UCL Comprehensive Clinical Trials Unit). Only Objective 1 of the evaluation plan was investigated and therefore the only assessment made was related to whether attending DIY Health sessions led to a reduction in visits to general practice (GP) for minor ailments among specially selected parents of under 5 year olds. The economic analysis looked at GP use by a small proportion of patients who are frequent users of the practice so it is not representative of the whole practice. Also, the analysis was unable to assess any changes in how parents/carers accessed the health system as a whole e.g. walk-in centres, Emergency departments, other emergency services or pharmacy which may have followed families' engagement with the DIY intervention. In addition, because this project was a 'pilot' and included co-production of the learning materials, it is anticipated that the pilot may have been more expensive than the costs of a scaled up program based on the tested DIY model.

The economic evaluation is therefore not intended to be definitive and if further economic evaluation was required it is suggested that this would be as part of a full scale RCT or other controlled study. The aim of this economic evaluation was to explore what factors are driving the costs and outcomes in terms of resource use. Following the main analysis extensive sensitivity analysis was reported to illustrate how changes in the costs and effects would impact on the cost-effectiveness. The full report is available on request from UCLPartners.

Methodology,

Data was available for two cohorts of children whose parent or carers attended DIY Health sessions at one of two general practices. The original data was extracted from the records of the GP practices. The extracted data covered a period of six months before DIY Health sessions started, the three months during which DIY Health sessions were running and three months after the last DIY Health session. GP attendances were included in the data if they related to one of six minor ailments - cold & flu, diarrhoea & vomiting, fever, ear pain, eczema and feeding.

Results

Total cost of delivering the trial intervention was £13,464.96. The cost per session was £561.04 (based on 12 sessions). 29 children took part in the intervention which gives an expected cost per child of £464.31 overall (and £19.35 per child per session).

Prior to the intervention, the average quarterly cost per child of GP use was £53.82, or £216.28 annually. This is the mean cost for the pre-intervention comparator. The average expected cost of GP care post intervention was £63.48 per quarter or £253.92 annually. This is added to the mean cost per child of delivering the intervention giving a mean annual expected cost of £718.23 for the DIY health intervention.

Total and monthly GP attendances

n=29	Total	Mean	(se)	Per month	Mean monthly cost ^c
Pre-intervention	84	2.90	0.55	0.48	£22.08
Post-intervention	40	1.38	0.45	0.46	£21.15

^a Based on six months pre-intervention data

^b Based on three months post-intervention data

^c A standard consultation with a GP costs the NHS £46 (PSSRU Unit Costs of Health and Social Care)

It's important to consider varying effectiveness. Although in the primary analysis the intervention was not cost-effective compared to a strategy of no intervention, it must be remembered that given the small sample size of the trial, the effect size is highly uncertain. Given that the cost of the delivering the intervention is known with some degree of certainty, the key sensitivity analysis is to explore what a change in the effect size would do to the ICER.

In sum, a standard consultation with a GP costs the NHS £46 (PSSRU Unit Costs of Health and Social Care). Pre-intervention the average cost per child per month of GP use was £22.08 or £264.96 per year. Post intervention the average cost of GP care was £21.15 per child per month or £255 per year.

Limitations

It is important to note that the cost-effectiveness analysis has significant limitations.

1. The only outcome measured was GP appointments. It is entirely possible that while GP appointments did not change as a result of the intervention, other service use did – for example Emergency department's attendances or use of 111 services – but this was not measured.
2. The main evaluation considers other outcomes that could not be considered as part of the economic evaluation. For example, the main evaluation also asked parents about their confidence in managing illness in the home before and after sessions. It is important to consider that these are important outcomes from the perspective of the patient and parents and may be worth paying for.
3. There may be other benefits which were not measured as part of the evaluation but that are important to children and parent/ carers. For example, learning about illness may reduce anxiety in parents that arises when children are ill. While this may not reduce overall GP attendances, it may lead to more positive experience of accessing health care.

Discussion

Giving parents the skills to manage common illnesses may lead to noticeable improvements in parental anxiety. The relatively low cost of the intervention may be something that is considered worth the cost if it leads to appreciable improvements in parent/carers wellbeing.

For children, being cared for in the home may also lead to improvements in wellbeing through reduced anxiety. For children a doctor visit may be a source of stress – being able to be looked after by parents confident in treating the illness at home could remove an important source of anxiety at a time of illness. Such an outcome would be important yet not easily placed within a standard economic evaluation framework.

The above two outcomes relate to the process of the intervention and are not ones that can be considered explicitly in the context of the cost of delivering the intervention. However, it is important that they are considered within the research project, as for complex interventions such as this it is important to understand what components may be driving any effect. Improving the design and delivery of the intervention so that it reflects the needs of parents may in turn help to improve the cost-effectiveness of the intervention in future. The more likely it is for parents to find the intervention sessions useful and to contain information they feel they need, the more likely they are to attend the sessions and learn. This in turn makes it more likely that the intervention will have the intended effect.

It would be useful to conduct an economic evaluation of new DIY projects operating over a longer period of time to fully assess the impact on services. In addition, future evaluations could assess quality of life data to show the long term value of these sessions to parents and their children. For example, an assessment could be made of parents' GP and emergency services usage 6 months or 1 year after their training sessions, to assess parents' residual training knowledge and confidence in managing minor ailments.

2. Does attending DIY Health sessions improve parents' skills, knowledge and confidence in managing their children's health?

Pre and post session evaluation form

Descriptive statistics show that parents reported improvements in their perceptions of their skills, knowledge and confidence managing their children's health in relation to the weekly topics. This was indicated by the changes in the pre session and post session scores parents gave themselves for the 5 self-efficacy questions. Figures 4-9 present the pre and post session average scores for the five questions at each site for cohort 2. The completion of the forms was more challenging for cohort 1 resulting in less consistent data collection. The average session scores are presented in appendix G.

Overall participants either did not change or reported progress in response to questions asking about knowledge, skills and confidence before and after sessions. This shows a positive average rate of improvement. The greatest improvements were reported in progress achieving personal session based goals and there was least change in response to feelings about maintaining contact with parents in the group for support (see Figures 9 and 8 respectively).

Parents reported aspects of increased knowledge, skills and confidence in response to the free text sections of the post session questions about what one thing they found most helpful in the session and why they would recommend the session. Their responses focused on being able to identify minor health concerns, understanding causes, learning about preventive measures, knowing how to make their children more comfortable and how to treat them at home. New sources of information and learning about dangerous practices were also valued. An example of the latter was the use of cotton buds to clean ears.

Improvements in progress towards individual session based goals were scored highest and these focused on knowing what to do, where to go and when to seek medical advice for each session topic. The goals were explored using content analysis based on the free text responses. Learning about home remedies from different cultures was valued as well as parents' tried and tested solutions, for example creams for nappy rash and eczema or methods to decongest blocked noses. The process of co-production encouraged parents to share their experiences which was valuable both to provide participants with new information, for reassurance from a health professional and to enable the health visitors to advise parents against harmful or ineffective practices.

Figure 5: Site A Cohort 2- Average scores per session for degree of confidence in contacting services for health advice about their child other than GP or A&E visits

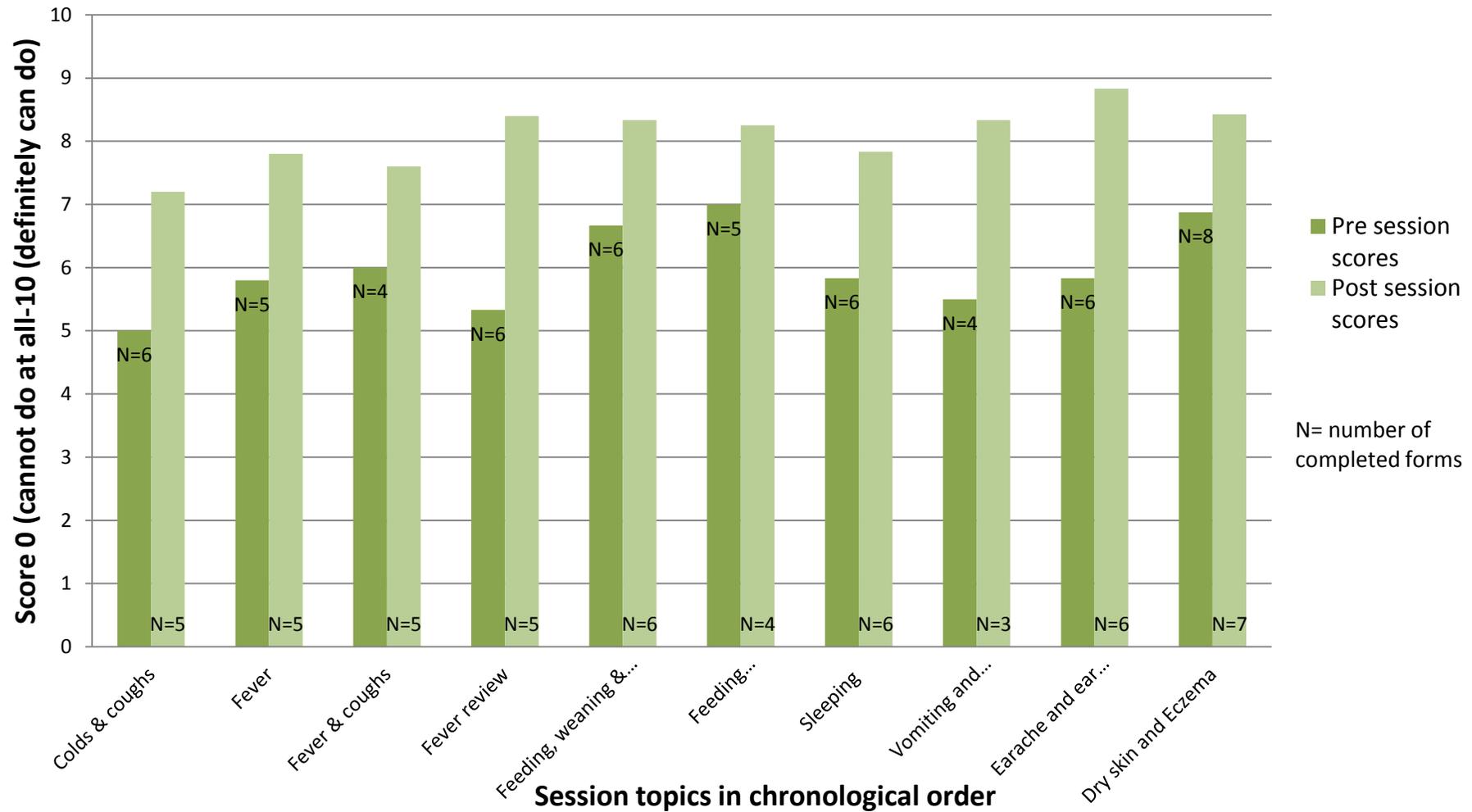


Figure 6: Site B Cohort 2- Average scores per session for degree of confidence in contacting services for health advice about their child other than GP or A&E visits

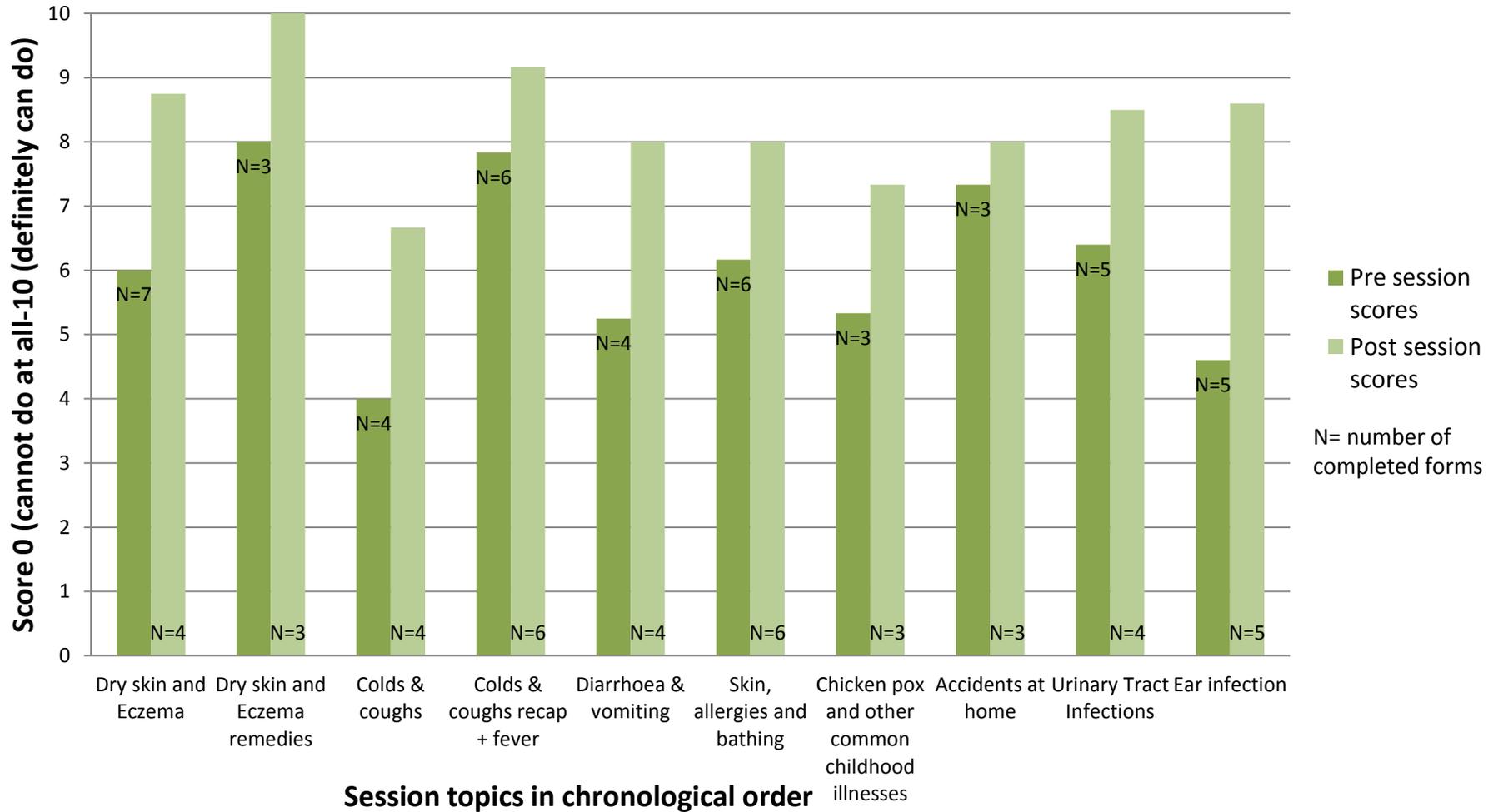


Figure 7: Site A Cohort 2- Average scores per session for degree of confidence in finding health information that they can trust to help manage child's health

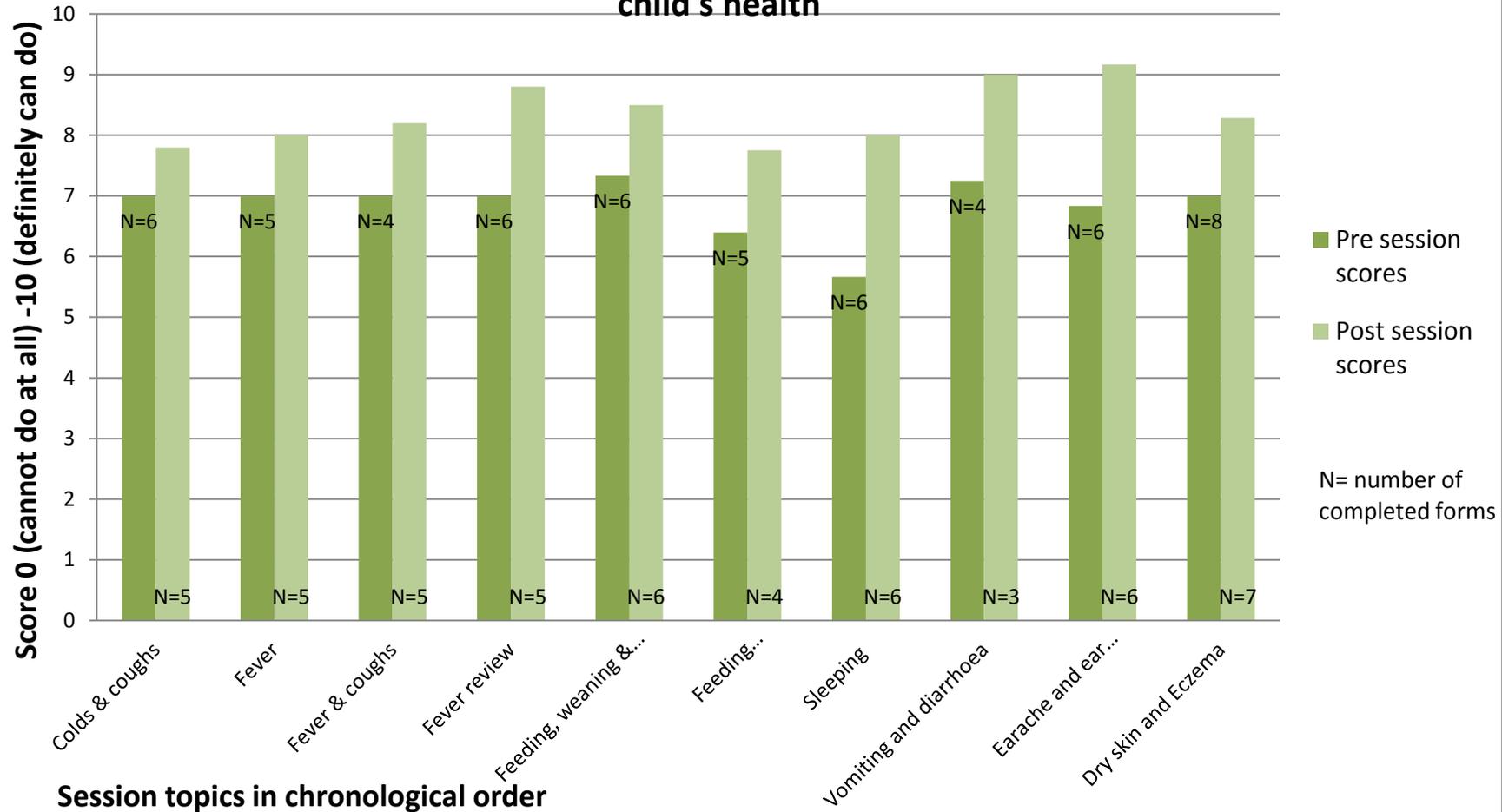


Figure 8: Site B Cohort 2- Average scores per session for degree of confidence in finding health information that they can trust to help manage child's health

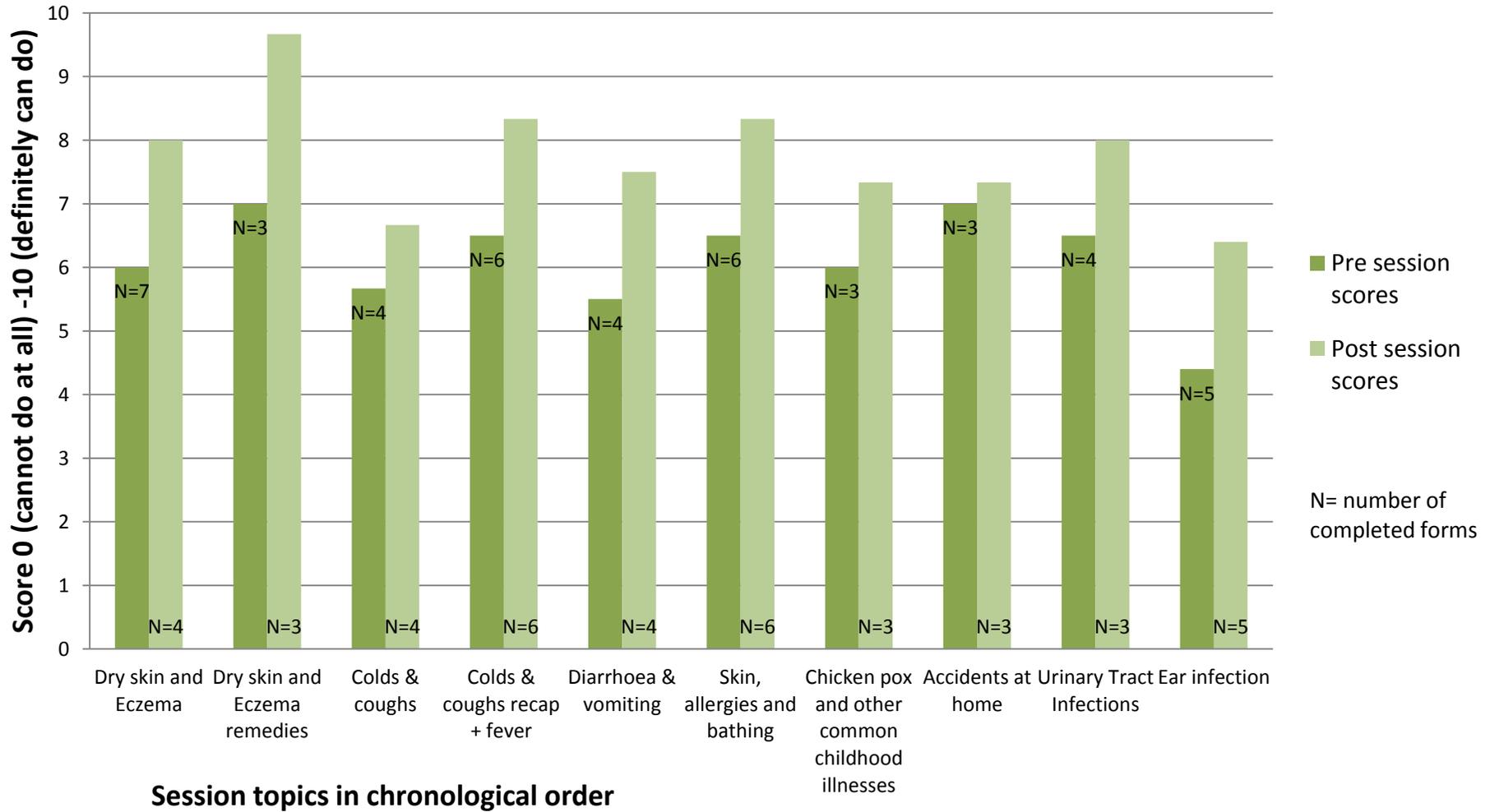


Figure 9: Site A Cohort 2- Average score per session or degree of confidence in making decisions about when it is necessary to take their child to a doctor

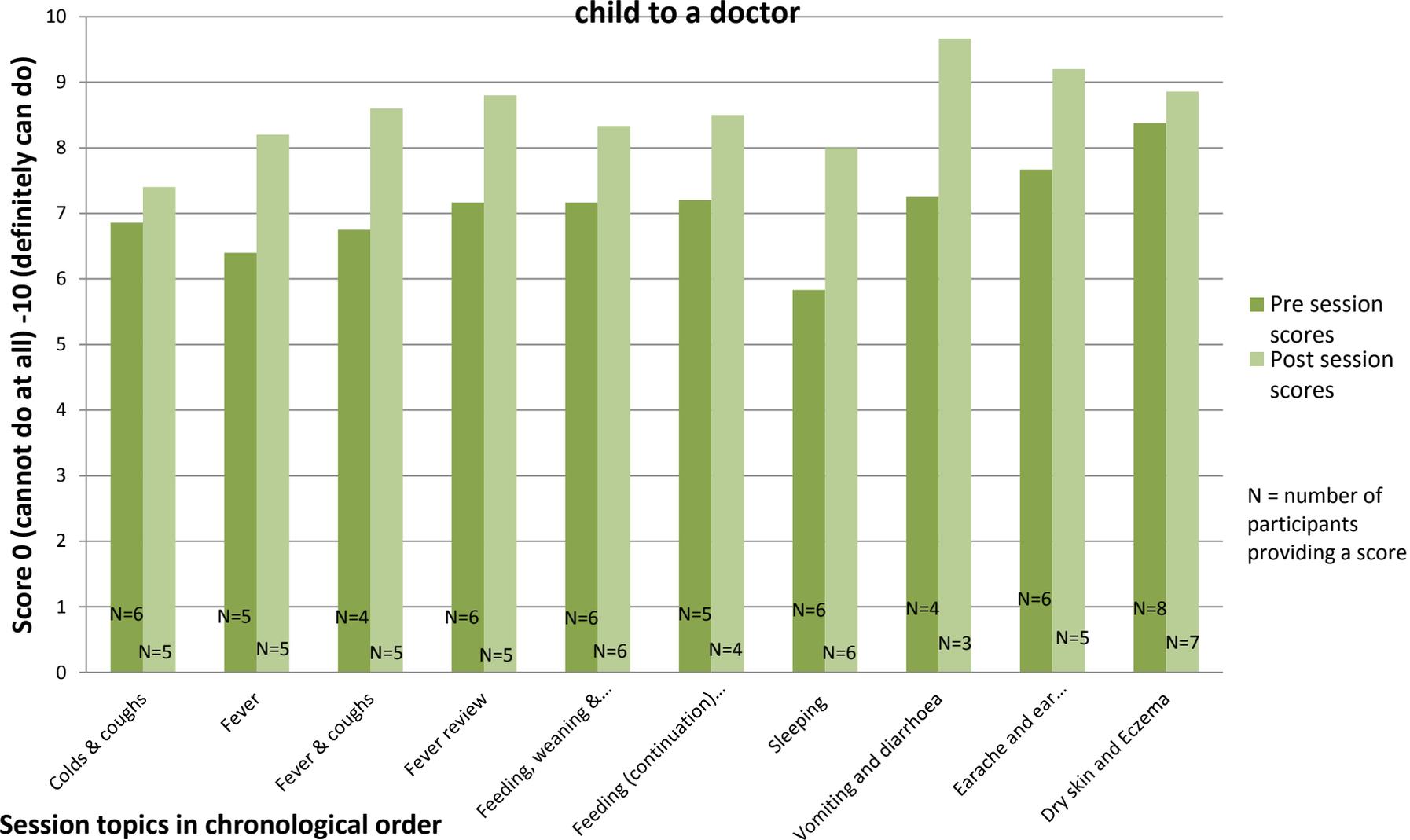


Figure 13: Site B Cohort 2- Average scores per session for degree of confidence in making decisions about when it is necessary to take their child to a doctor

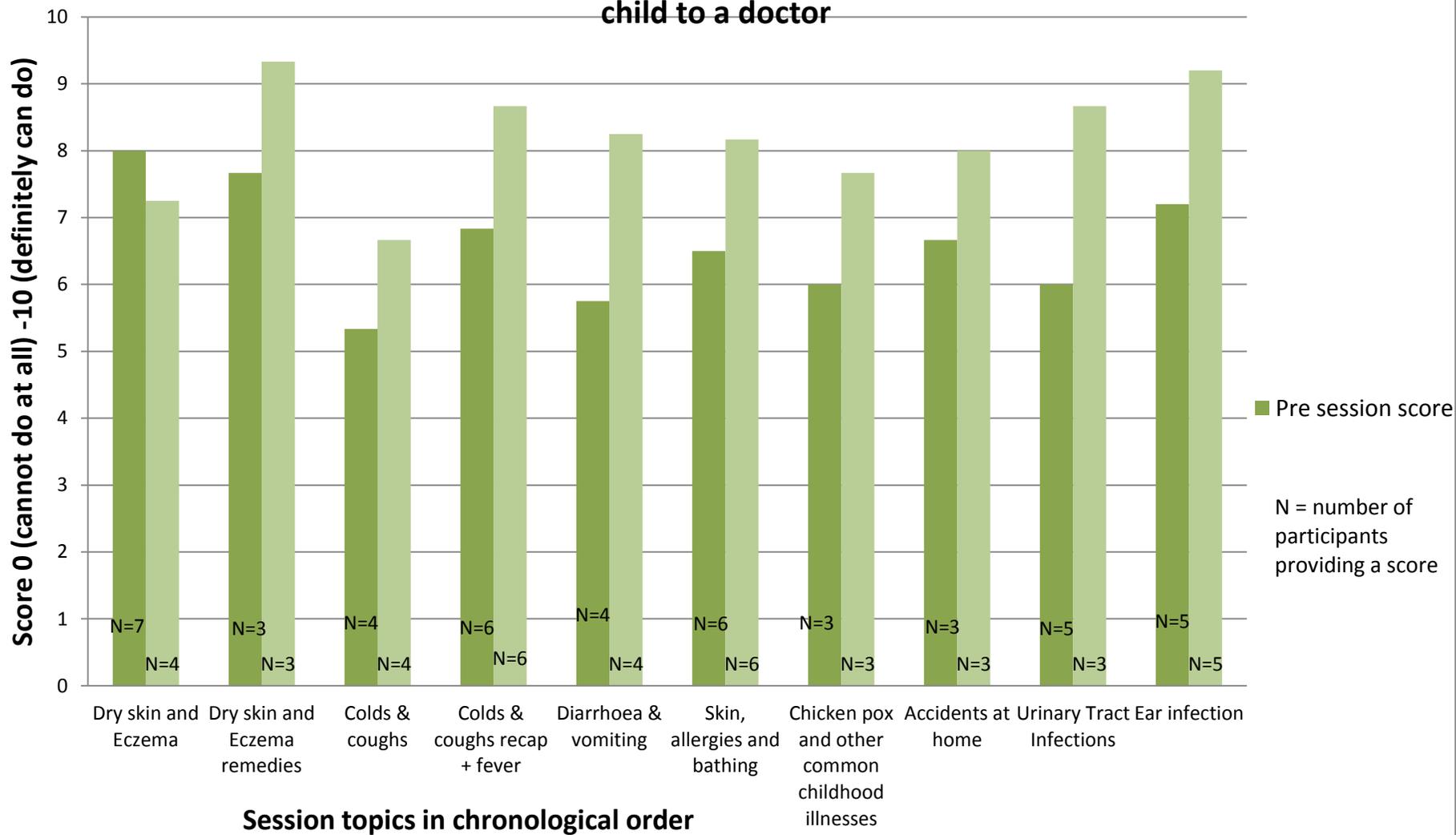


Figure 11: SiteA Cohort2 -Average score s per session for degree of confidence in contacting people they can rely on for support when they are worried about their child's health

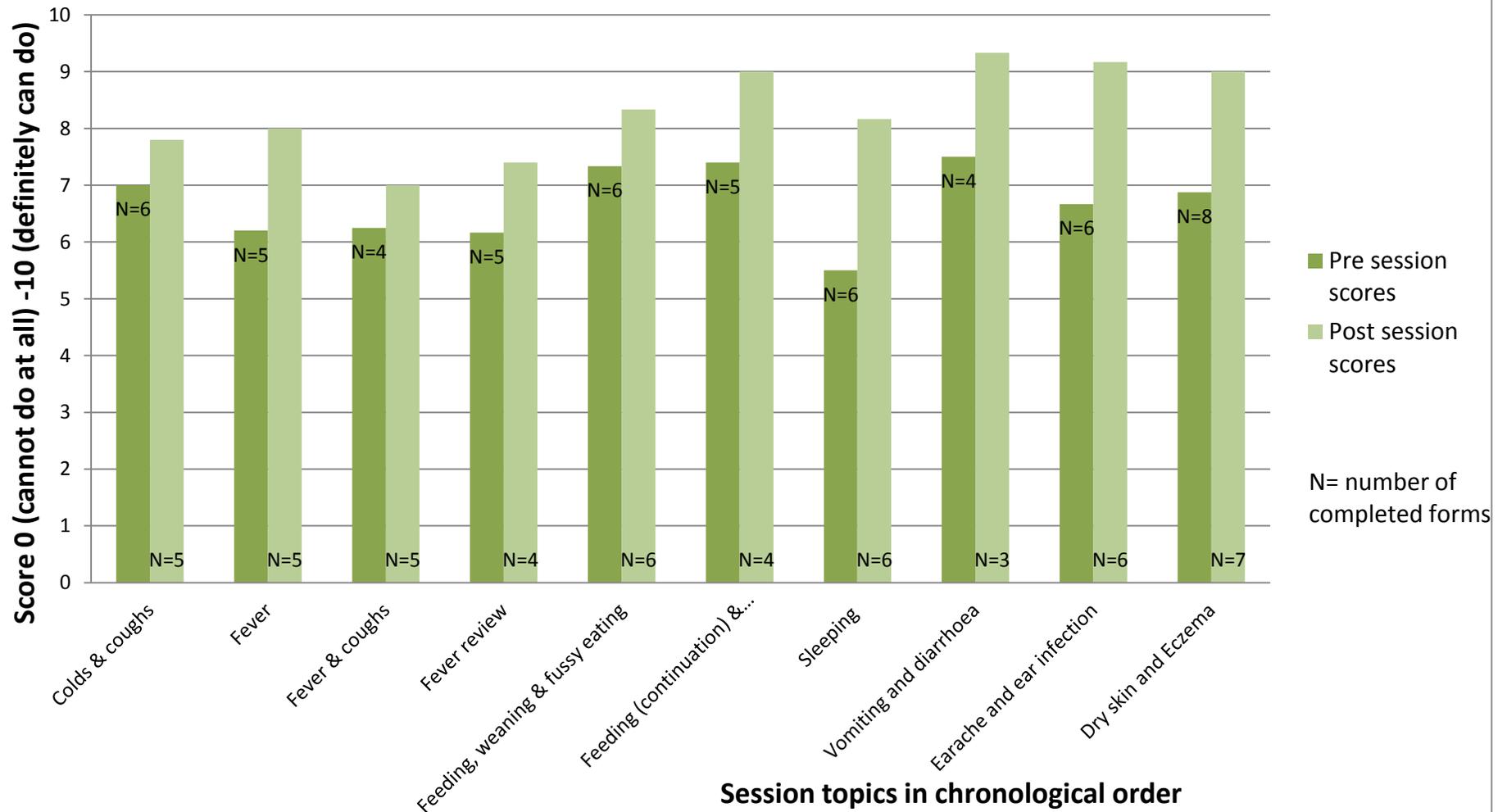


Figure 12: Site B Cohort 2- Average score s per session for degree of confidence in contacting people they can rely on for support when they are worried about their child's health

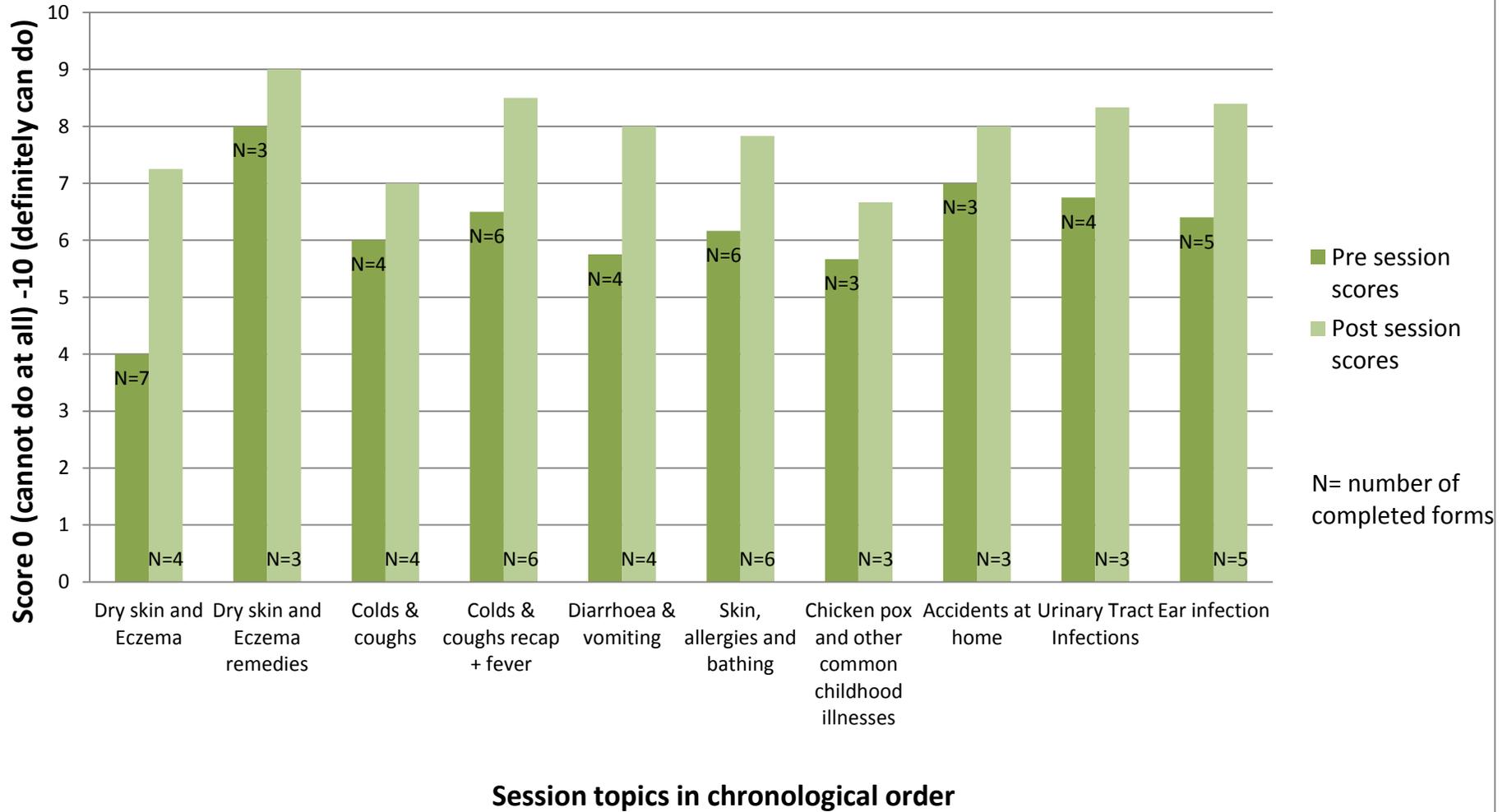


Figure 13: Site A Cohort 2- Average scores per session for degree of confidence in maintaing contact with parents in the group to help each other support children's health

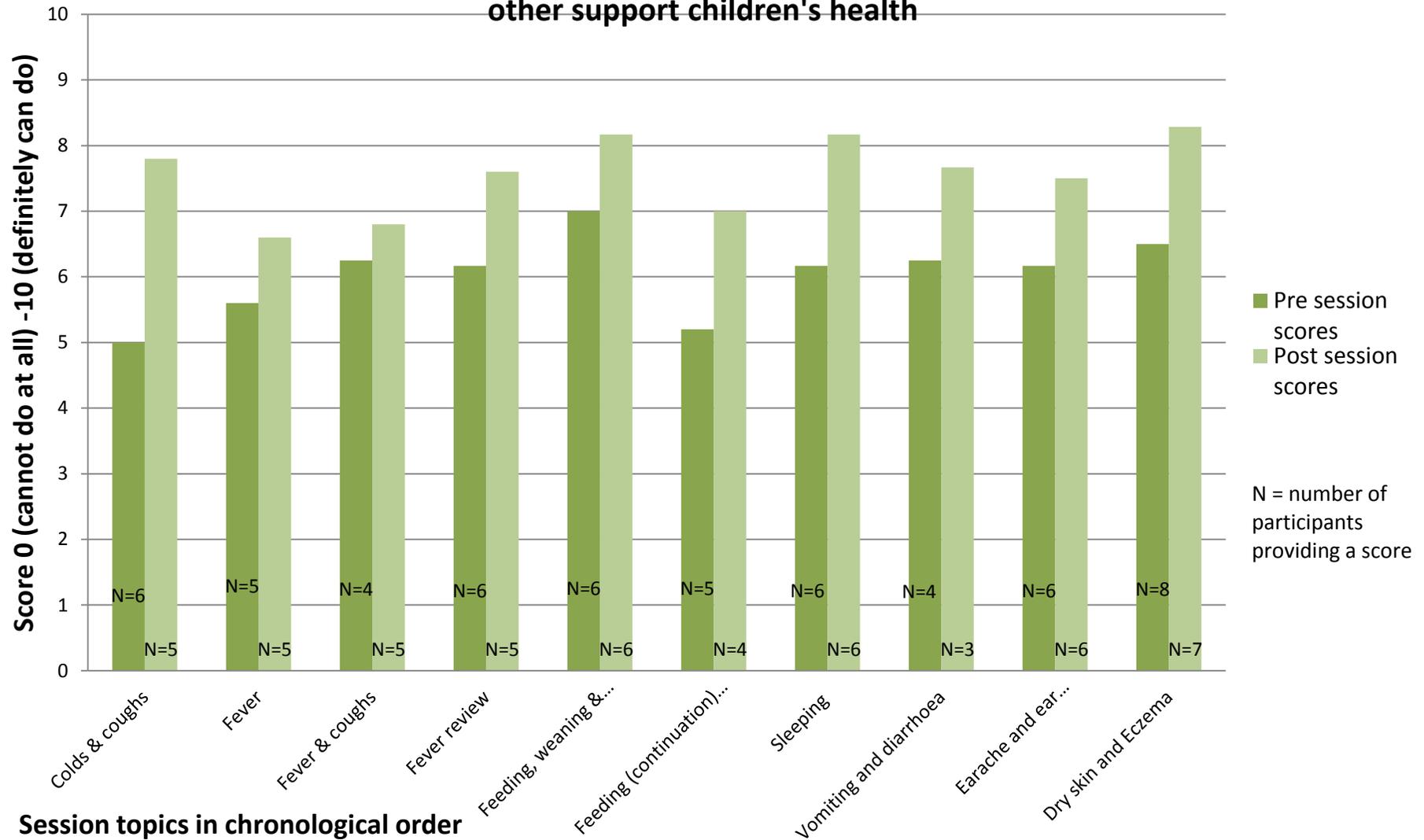


Figure 14: Site B Cohort 2- Average scores per session for degree of confidence in maintaining contact with parents in the group to help each other support children's health

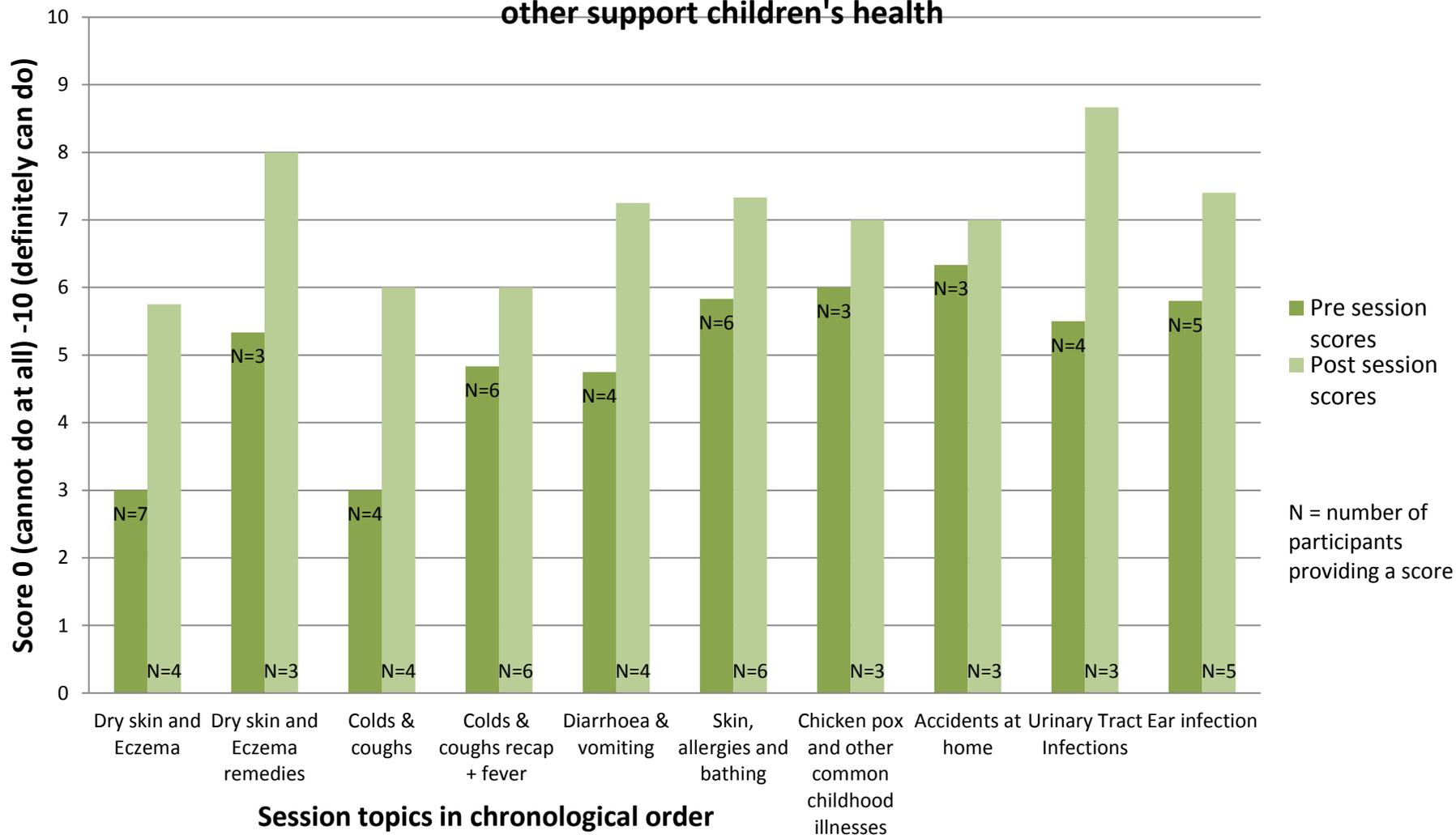


Figure 15: Site A Cohort 2- Average scores showing start and end levels of confidence about personal goals for each session

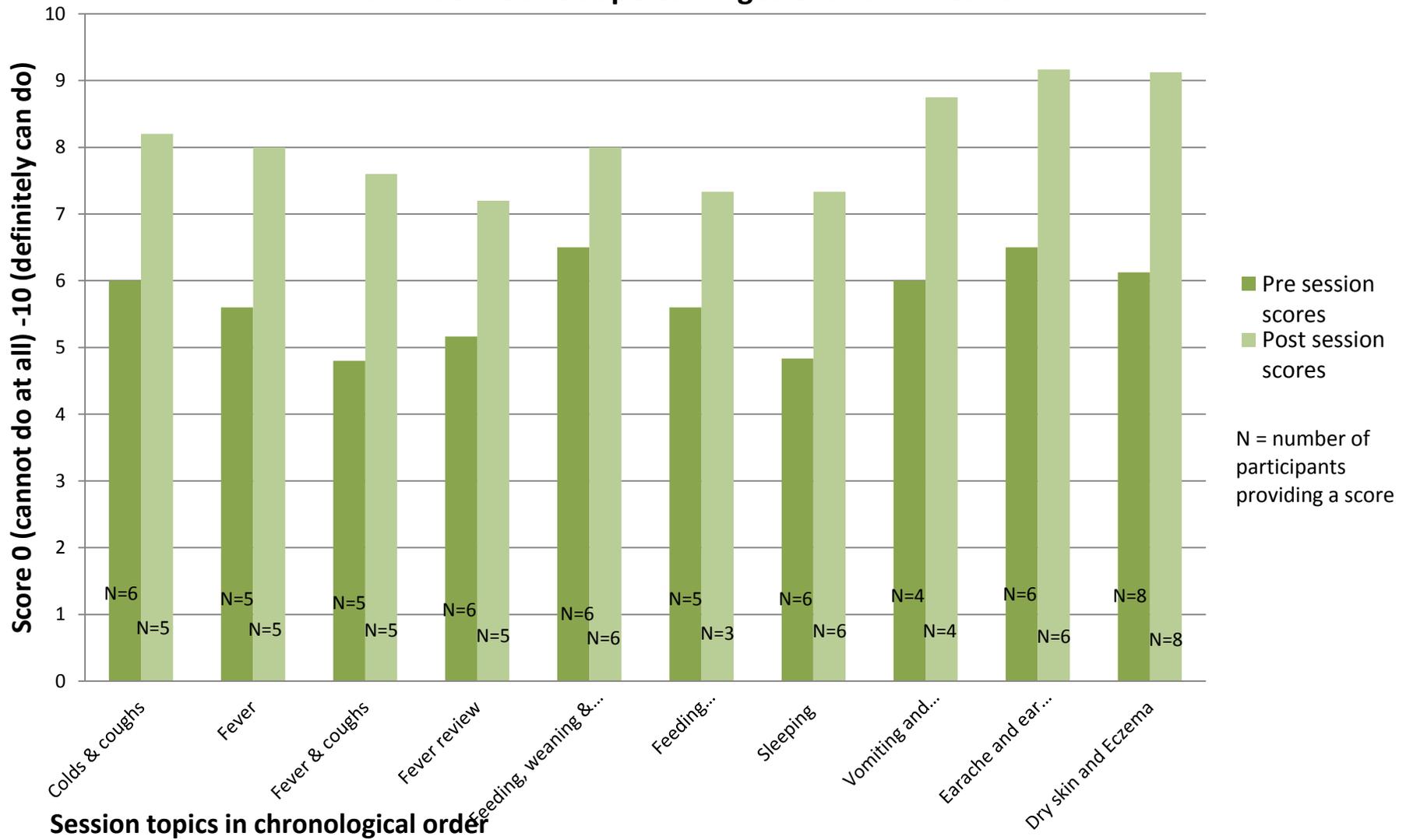
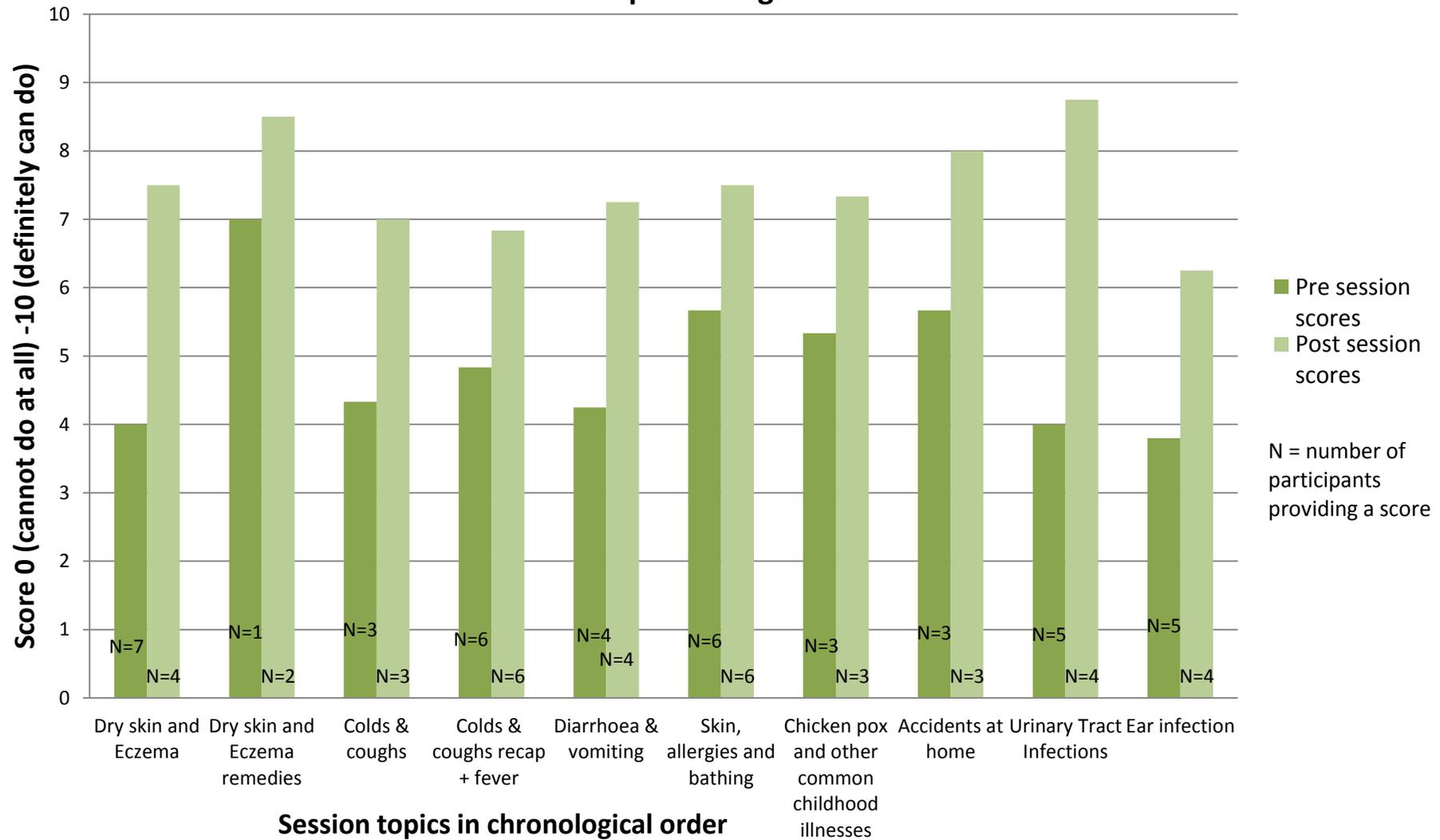


Figure 16: Site B Cohort 2- Average scores showing start and end levels of confidence about personal goals for each session



Parent interviews and focus groups

Parents reported **feeling less anxious and worried** about their children, sleeping better and even **increased school attendance** when in the past they might have kept them home. One mum reported 100% attendance at school which had never happened before and felt proud about attributing the achievement to her **increased confidence** resulting from DIY Health.

The opportunity to gain confidence was both a draw to attend the sessions and an outcome that was discussed and valued by parents.

I'm not as anxious now. When he's ill the world doesn't fall apart, we just move on and get over it and just comfort each other... I know he will get better. (PI4 Site B, mum of 4)

The discovery of **new sources of health information** was considered very helpful. Some mums knew of nowhere else to go for help except the GP, A&E and inputting symptoms into search engines. The latter was found to cause unnecessary concern due to the possibility of finding rare and serious diagnoses based on the symptoms entered into a search engine when they were more likely the result of minor ailments. One mum referred to advice obtained by entering symptoms into a search engine this manner as using "Dr Google". The discovery of reliable NHS websites, 111 and pharmacy first as well as the option of ringing health visitors outside weigh in clinic sessions if parents had concerns, were considered much more helpful and reliable.

While feeling appreciative about having more sources of health advice, some parents were honest about their lack of confidence in going to see pharmacists or health visitors in the past compared to getting advice from a medically trained doctor. The experience of attending sessions with the DIY Health visitors had given them confidence in those individuals who were considered professional and able to answer all their questions but not necessarily increased their trust in the professions more generally.

When I came to the Health visitors when he was a small baby, I didn't know why he had the allergies and stuff like that. So when I came here for his dry skin to the health visitors here I felt like they were giving me the wrong information so that's why I don't think I don't really trust them, but the health visitor here [DIY Health facilitator] I think I trust her more than the ones that I used to see for him [son] so I think it depends who it is. (PI2, Site B mum of 1)

Participants felt the sessions were important to make available to all parents and there were several requests about the possibility of inviting a friend or family member to attend.

I only came for food and eczema but I learned more than I expected to know so I think that's brilliant. (PI2, Site B mum of 1)

Remedies and customs from parents of different cultural backgrounds were welcomed and shared when they fit with evidence based practice; however, the importance of **abandoning practices which have no evidence or may even be harmful** was also considered important particularly for parents who had not been in the UK long.

Very helpful for first time mums definitely and mums that have probably not been in the country for a long time because lots of people have that cultural mind set of what to do for things whereas if you learn like what we've learnt you'll be more like "Ok what culture says is actually wrong" but with mums who haven't been here long they will just follow what they've learned from where they were, like giving honey to babies and stuff. A couple of us said that cause that's what my mum used to tell us. (PI2, Site B mum of 1)

Some participants had attended DIY Health sessions as a result of the recommendation of a parent from a previous cohort and some participants brought a friend or relative along after asking permission.

While the project assistants reported that some parents with several children declined to attend DIY Health sessions because they felt they knew what to do, there were several parents who were not first time mothers who said they still learned a lot and found it helpful to refresh and update their knowledge.

There's always new information new investigation and things that come up. There's always something new to learn and it's not just about learning new things it's just the whole environment and getting together with other parents and getting to know them and opportunity for the kids to play while you do things and learn new things, I think it's really important. When the other kids were younger, I don't remember attending sessions like that at all. (PI4 Site B, mum of 4)

She went on to explain that this kind of session was quite new to her and would have been more helpful when she had her first child since she had been going on instinct, what her mother told her and other information that she could find but nothing really like DIY Health. She felt adamant that these sessions were not less helpful for mums with several children but did suggest that it might be good to make it available to all pregnant women.

Everyone could benefit from getting information like this... They should make it a little bit compulsory for parents to attend. This is quite basic and they should have a grasp of this. (PI4 Site B, mum of 4)

First time mums were also particularly appreciative of the benefit to them.

When you are a new mum and stuff, first time mums, I think, you don't really...you're not, like, an expert but...I'm not saying I'm an expert now but I think I know more about my son's health as well. That's the best thing about it. (PI2 site B, mum of 1)

Parents from the first cohort reported **changes in the way they managed their children's health** in terms of knowing to wait a few days before going to the doctor when their child has fever or diarrhoea. They also reported **newly gained confidence** about **knowing what medicines to give** or actions to take at home to make their child more comfortable or to manage the problem. The importance of measuring temperature with a thermometer and taking measurements soon after giving medication as well as

being less concerned about a child who does not eat as long as there is good liquid intake.

A mum who had been to see a doctor on several occasions for fever explained how despite her frequent visits, she had still not been given the same clear information from her visits as she had through DIY Health. She justified this as the result of GPs having very limited time for each appointment.

They [GPs] have a slot for you like 10 minutes, they wouldn't sit down and explain everything in gritty details they'll just tell you oh Calpol, ibuprofen like give Calpol in the morning, give ibuprofen in the morning and then I used to leave it for 6 hours, measure the temperature again, it's high. It's like [now I know] I have to give the medicine with measuring the temperature.

And you weren't told that?

Yeah, It's like simple things like that. (...) But I don't blame them [GPs] because they have so many people to see as well. (PI1 Site B mum of 2)

The changes resulting from attending DIY health that mothers pointed out were both about confidence in **knowing what steps to take** and **in having learnt new tips and remedies**. In addition, they described levels of anxiety falling and sleeping better where in the past they might have had sleepless nights because their child was not eating for example.

Several mothers also discussed changes in relation to feeding, for example **allowing their child to feed themselves** and be independent, **worrying less about how much they ate**, feeding them cooked food instead of store bought food jars and feeling confident about what to give them. The **discovery of many new healthy snacks** was mentioned as well as reduced anxiety about and the experience of trying new foods.

The reason why I wanted to come was because I wanted...because he has allergies, food allergies. So I wanted to know now, what kind of foods that I can give, you know, find out about different types of food. I was scared to try foods with him and I used to think, like, these crackers and stuff are boring foods. So I think maybe he won't like it. But since I've been here I've actually learnt more about food and what kind of food to give him and stuff. And be more healthy...

[I was scared] Like if he choked...being a first time mum you don't really know much and you want to be a better mum... I was really scared to give him an apple. And then the ladies here, the children's centre, they were, like, you know, give it to him, try it. And I was happy that the health visitor was here as well so I knew at least there is a professional here, you know, who can...if anything happened she is there. So she's, like, he will learn and now he does know how to have an apple and everything so. He has that at home all the time...(PI2 site B, mum of 1)

The introduction of new healthy snacks had an impact not only on the children but on the whole family as participants reported eating things like raw broccoli with hummus, avocado, raw peppers and raw sugar snaps for the first time.

[They] brought us like sugar free jam and I didn't know thing like that existed and if you told me that these scones were sugar free or whole meal, I wouldn't have it. But it was delicious. I wouldn't have experienced that if we didn't have that in the healthy eating session. Cause now I know I can make scones without sugar. (P11 Site B, mum of 2)

While some mums felt able to seek and find information before, the possibility to interact with a trained professional was important and provided greater reassurance and confidence in the information than just reading it. They were also pleased about **being able to help friends and relatives with the information and skills they gained**. Some participants also reported that they were providing regular weekly updates to friends and relatives who were unable to attend because they lived elsewhere, worked, or did not attend the GP enough to be on the recruitment list.

As the sessions progressed, parents received relevant items sold over the counter to add to their DIY Health first aid kit which they were encouraged to add more items to such as paracetamol and ibuprofen as important items to manage minor health concerns at home. The provision of the first aid box was mentioned by several parents and found to be helpful both in reinforcing what they were learning and in providing them with some tools to start the home management. The kits included, saline drops, a digital thermometer, a chest rub and olbas oil. Parents were given instructions about what age different items could be used from but also reminded to read instructions about age appropriate use and dosage.

DIY Health delivery team interviews

Staff members reported particularly positive outcomes for regular attenders including **increased participation during sessions and attempts to manage different ailments at home**:

You can hear them asking questions, given their own experiences, and saying, feedback. They were receiving information and they were giving feedback, and I've even heard parents say, yes, we did that. So, they've taken it away, and they've practised what they've heard. (DIY Health team, CS3)

I have heard parents, even from a few sessions, progress and become slightly more confident in what they're feeling or what they're going to be doing. They won't be going to the GP, there has been within discussions, you hear that confidence. (DIY Health team, CS2)

Members of the delivery team also spoke of parents reporting back to the group on their experiences of putting what they had learned to use over the course of the sessions.

I think parents do learn, parents to ask a lot of questions, and they say, oh, I didn't know this, or I didn't know this as well, so I do find parents, the ones that are learning, are learning, and they're... like we've said, when they've had their discussions, they always talk about their experience and they've tried this. Or, from the last lesson, you said this and we did try out, so like I said, it is a very good session, and it is very... you can really learn so much from it. (Site B Staff CS2)

The overall feeling reported among the delivery team was that attending DIY Health seemed to help mums **get reassurance and gain confidence in their parental skills**. This was particularly noted among some mums who reported limited autonomy at home and had few opportunities to socialise with other parents/ non family members. For the latter group, DIY Health was seen to provide the chance to do so and to learn about the different activities available locally (e.g. through the children's centres). Snack time together with children helped members of the delivery team identify parental anxieties about food, to incorporate discussions about baby led weaning and to introduce parents and children to healthy food options they had not previously tried.

Local pressures on mothers were discussed by some members of the delivery team, in particular due to the cultural practice among some of the predominantly Bengali local community of living with in-laws. They referred to anecdotal reports for example of mother in laws who could have strong views about how to manage children's health problems and these methods did not always coincide with national guidelines and best practice. While this kind of family influence was not spoken about directly by parents in the interviews and focus groups, there was some discussion during the cohort 2 sessions observed as part of the evaluation, about the strong influences of customs and advice from mother in laws, sisters and mothers. The charts in the following pages present the average pre-session and post-session scores reported by participants about their levels of confidence in different aspects of managing their child's health in relation to the weekly health topics.

A particular change noted by members of the delivery team was **the improvement of healthy food options** as they noted **children trying new foods and parents becoming aware of new options** and different ways of getting reluctant children to eat vegetables and fruit. The inclusion of snack time when parents and children came together facilitated this change and also encouraged parents to allow children to feed themselves and try new things with the encouragement of the delivery team.

I think snack time as well, where we provide all different types of snacks, that's worked well. Some of the mums really let their children explore and get dirty and get into it, and some of the mums learn that it's not boring food. That they can give this to their child, and their children do like different, bland food. So, that was quite... (...) For example, rice cake has got no taste in it. You have to either have a banana or put stuff on it, jam or butter on it, but we do give it to the children playing at times, and children eat it. They love it. Bread stick, it has a little taste to it, I find it has, but even bread stick, if you have it plain, children love it. As adults, you can put it with any kind of hummus or dips, but some of the mums did think, that's really good, the bread stick and if the child eats it as a snack between, it's a good thing, instead of giving them a packet of crisps, so yes. I find the snack time has been quite positive, that's been quite successful, and we tried to take different types of things every week. (DIY Health team, CS2)

Anxieties around food in terms of choking and fears babies and children were not eating enough were identified by members of the delivery team and this was an area in which very clear improvements were noted by both parents and the delivery team.

[Mums would] feed the child themselves and they'd really struggle with that. Like in the beginning we had a lot of mum's saying babies don't eat, you know, they struggle with feeding them but when we encouraged, you know, babies feeding themselves that complaint really went down...And parents actually did come back and go, like, I set up a plastic sheet on my floor and I put all the fruit out and when he wanted it, he just ate. It was really messy but it was really good. (DIY Health team, SI4)

The need for these sessions even among parents who already have older children was identified by staff members as well as parents. The former group based their views both on seeing the benefit to parent who had two or more children and on being told by participants that the DIY Health sessions would have been very helpful for them when they were raising their older children.

It was a really engaging learning curve for them as well and I've seen quite a few of the parents say, you know, this is really different, I wish they did more of this. And some say, I wish they did this years ago, you know, those who especially have older children who felt that they've struggled all these years (DIY Health team, SI3)

Summary of themes

- Increased understanding of causes of minor health concerns
- Reassurance from other parents about common struggles
- Knowledge about what to do at home, how to make child comfortable, what over the counter medicines to give
- Learning when medical attention is necessary
- Gaining new sources of health information
- Learning about practices to abandon that have no evidence or may even be harmful
- Hearing about how other parents cope with similar problems
- Decreased anxiety when child is unwell
- Knowledge about preventive measures
- Confidence and ability to advise friends and relatives with new knowledge and skills
- Confidence to allow children to feed themselves
- Worrying less about food intake
- Discovering new health snacks for child and whole family
- Children trying new healthy food
- Increased school attendance
- Gain reassurance and confidence in parental skills
- Increased opportunities to get advice from a health visitor

3. To what extent are DIY Health participants listened to during sessions and able to influence the topics covered within sessions?

Pre and post session evaluation form

The average session scores for the second cohort at Site A and B are presented in Figures 17 and 18 respectively. These are scores reported by parents at the end of each session in response to the question: “How able did you feel to influence what topics we learned about in the session today?” the options ranged from 0 indicating “could not do at all” to 10 indicating “definitely could do” with 5 as a mid-point labelled “moderately could do”. While the main session’s minor health concern to be covered each week was discussed and decided upon by the facilitators and participants the previous week, this question refers to the possibility of having different aspects of the chosen concern discussed.

The site A average scores were 7 and above across the first 5 topic based sessions of cohort 2 indicating that generally participants felt they were able to influence the topics covered in each session. At Site B the scores varied more by session and ranged from 5 to almost 9. Elements of participation and levels of influence were explored further using the bull’s eye charts that aimed to capture levels of participation from participants. These are reported in the next section.

Figure 17: Site A Cohort 2- Average scores per session showing ability to influence what topics they learned about in the sessions

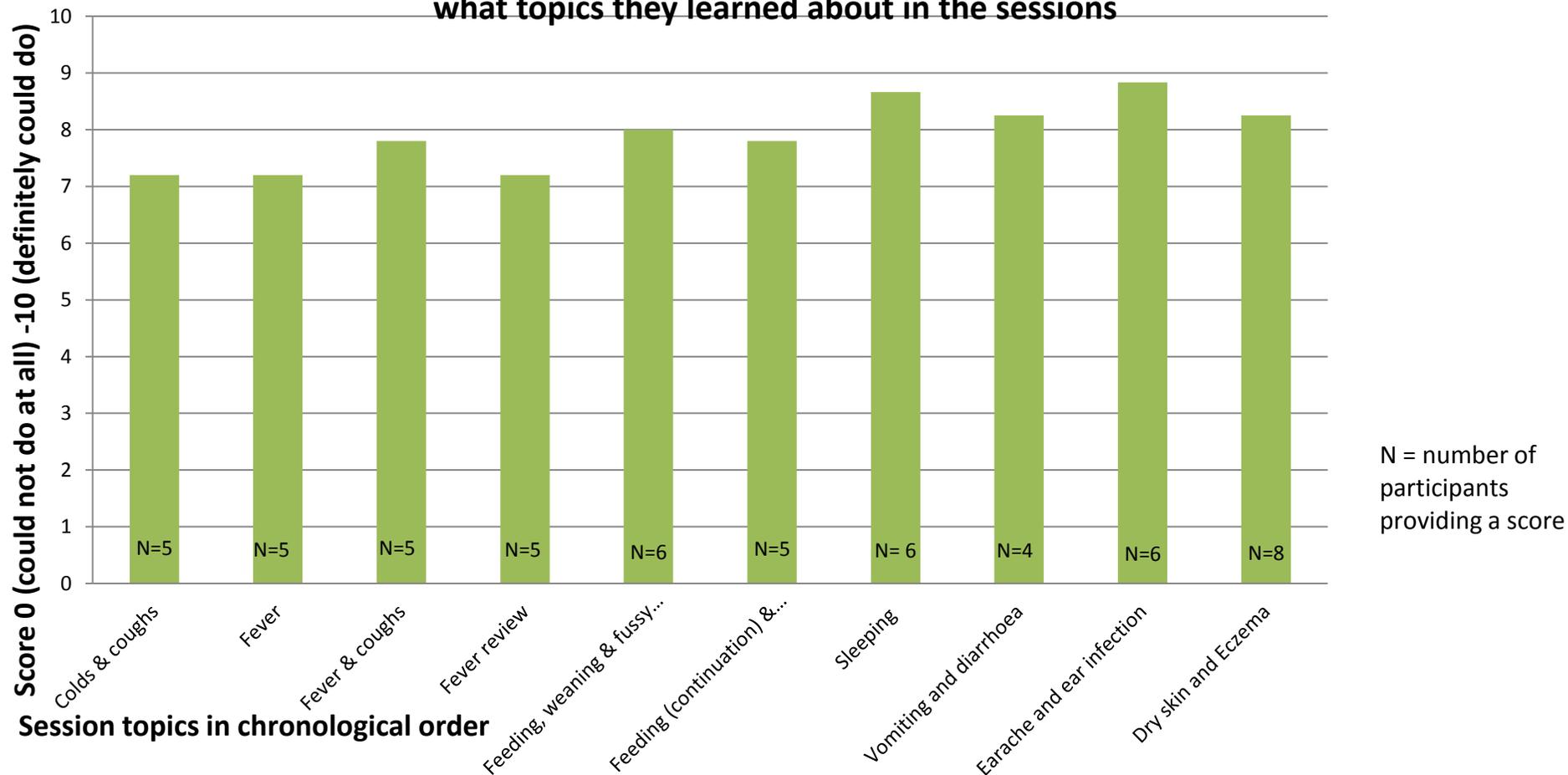
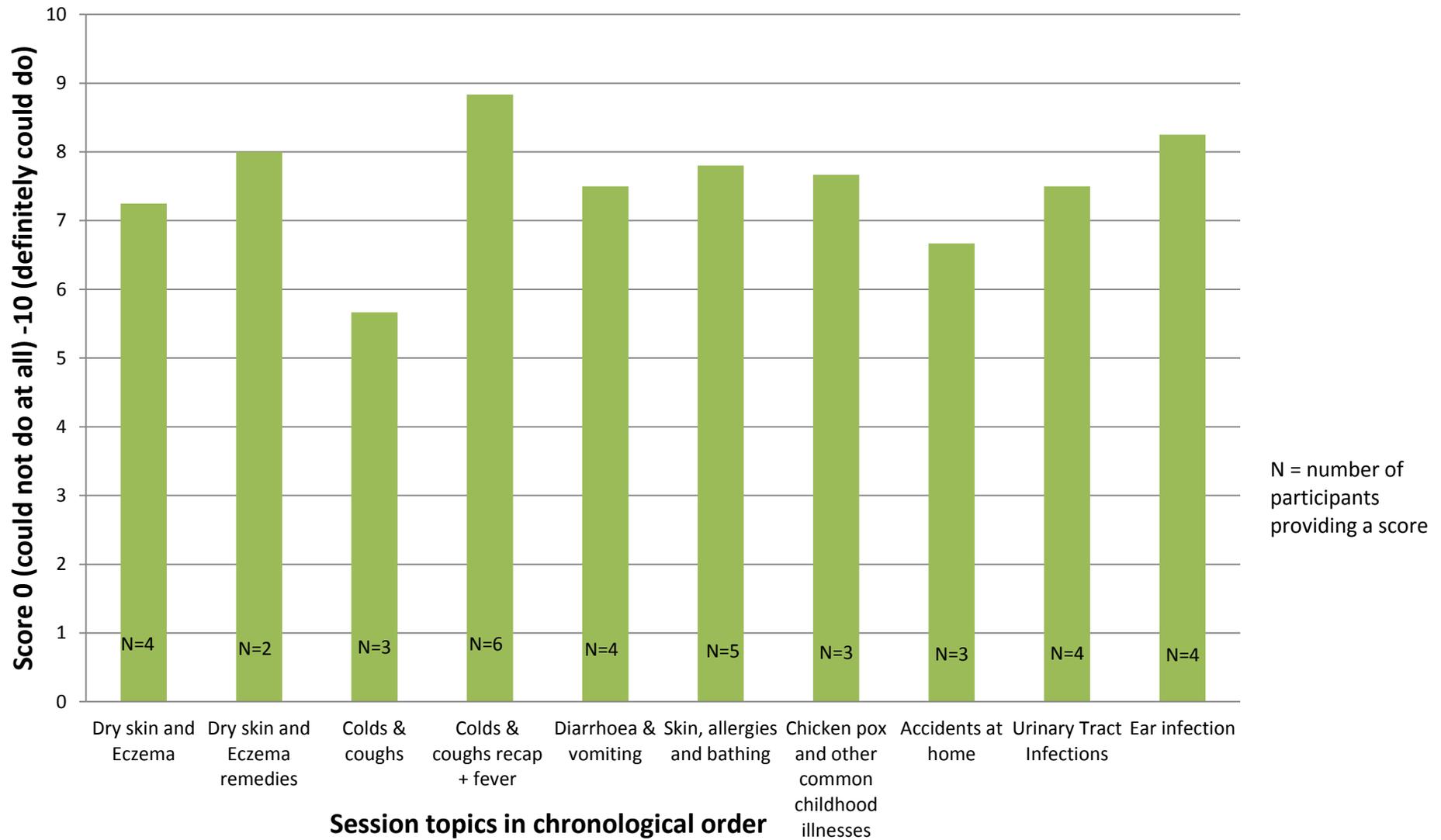


Figure 18: Site B Cohort 2- Average scores per session showing ability to influence what topics they learned about in the sessions

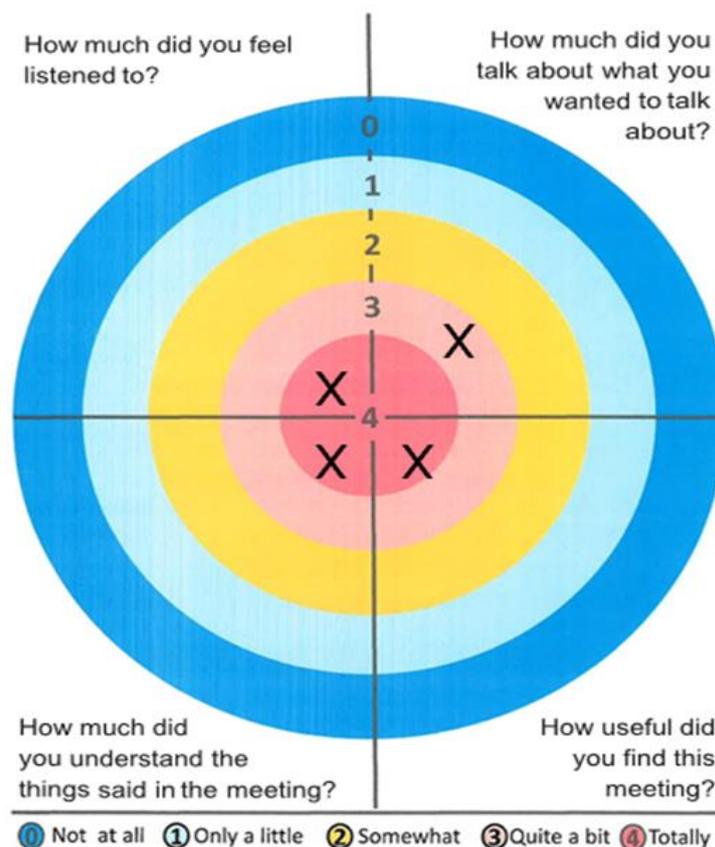


Bull's eye level of participation chart

The bull's eye level of participation chart (see appendix B) was used to collect scores from participants after each session about the extent to which they felt listened to, felt able to talk about what they wanted, found the session useful and understood what was said. Overall, participants reported positive results in terms of all four questions. There was some variation in the levels participants felt listened to, reported that they talked about what they wanted to talk about, found the sessions useful and understood the information provided. However, no participants reported scores of 0 or 1 indicating participation levels and relevance of information to be absent or minimal.

Parents scoring 2, indicating that they only felt somewhat able to talk about what they wanted in particular pointed out that they had missed some of the session or that they had not been interested in talking really but were happy to listen. Figure 19 presents the scores per quadrant indicating the averages of the individual session average scores for Sites A and B across sessions 2-11 for cohort 2. These show positive responses from participants indicating that they felt “totally” listened to, “totally” understood what was discussed and found the session “totally” useful. Participants reported being able to talk about what they wanted “quite a bit” (scored 3).

Figure 19: Site A and B-Bull's eye level of participation chart average scores of individual session averages for Cohort 2



Parent interviews and focus groups

Parents felt valued because they were **always being asked about their experiences** and to share their methods of handling the different health matters discussed. **A sense of ownership was reported by participants.**

They always make us feel interacted into the session. That's the good thing about it. It's always about us and them it's not about them telling us what to do, it's always about us and I think that's what I liked about it as well. (PI2 Site B, mum of 1)

They also found it very useful to hear about the experiences of other parents. The combination of receiving professional advice as well as hearing how other parents were managing health problems was particularly valued.

My opinion really mattered to them, they were putting it up on the board, they weren't questioning me, they were taking our opinions on board (PI1 Site B mum of 2)

Parental input was deemed to be a key element of the sessions both in terms of the learning process and helping them to realise they were not alone struggling with different worries and problems.

I think that with the eating I was like just thinking what is it, is it me? And you know what I mean, with other people saying that certain things oh it's 'cause your kids copy what you do and things like that so I'm thinking they're watching me not eat so they're not eating. But then listening to other people saying my kids fussy and they don't eat this and they don't eat that it was like okay, it's not me, it's all children are the same. So it did help. (FGP1 Site A, mum of 3)

The realisation that they were not unique in their different struggles provided parents with some reassurance and helped them feel more confident that they were not bad parents and that what they were doing was not wrong.

Attendance at the first session and finding that it was **informal, friendly** and that parents were **asked about their experiences and encouraged to be involved and contribute** helped parents decide to return. The opportunity to write down what they wanted to learn about and identify the problems they were dealing with was also very important in making the information relevant and important to them. The topics that were of interest to parents were listed and those of relevance to greater numbers were given priority although the exact order was determined as a group deciding about the next session at the end of the previous one.

Just being given the information and like being asked what we wanna discuss, not being told what we were going to be discussing. So we were asked what do we wanna know more about so it was more information for what we wanted and not what we were told we were going to discuss. (FGP1 Site A, mum of 3)

The **flexibility of sessions** and the efforts of the facilitators to ensure everyone grasped the main concepts **allowed people to keep asking about topics until they were clear.** One mum

explained how participants did not fear being told off about not having paid attention and were happy to ask many questions including repeated questions about topics until they were clear about them. Weekly recaps were used by the facilitators to check understanding about the previous sessions and these were also particularly appreciated by participants who had other commitments and had to leave early regularly.

The availability of help from other parents and from the project assistants was appreciated by parents who did not understand some things, particularly due to difficulties with English. Several of the mums spoke Bengali and helped each other. One of the project assistant also spoke Bengali while the other spoke Italian. Two Bengali speaking participants who also spoke Italian were particularly appreciative of the project assistant's help.

Everybody was listened to. Pace wasn't so fast and it wasn't so slow either. If someone didn't understand somebody or a parent next to them would explain. It was nice to see. (PI4 Site B, mum of 4)

Engagement from all participants was nurtured through the facilitation by the adult learning specialist and the health visitor which was noted by several parents. Participants pointed out that they were **friendly and approachable** and commented on the fact that they would make an effort to go around the room for each topic asking each person about their **personal experiences with that problem**. This included asking about opinions and remedies used. This encouraged even shy people to contribute. Parents were also asked to report back on anything they had tried since the last session based on suggestions from other parents. Suggestions to alleviate eczema were popular and one mum reported back on trying to use emollient bath additives which had been helpful. Both mums and members of the delivery team reported changes in levels of participation from mums who started out shy and saying little but gained the courage to be more involved and to ask questions.

Participants reported that people ended up asking about the same topic over and over in different ways. Parents also took the opportunity of having a health visitor available to speak privately to them. This enabled both further clarification of topics covered during the DIY Health sessions and advice about additional topics such as coping with stress, health problems of older children, breastfeeding and post-baby body concerns.

DIY Health delivery team interviews

Members of the delivery team described the DIY Health sessions as collaborative and a new experience in the level of participation and delivery model. There were reports relating both to the delivery experience and to the learning experience within the group that resulted from **sharing experiences and different expertise**.

When we deliver the session there's a lot of reinforcement to check that they are... they are getting it. The pace is different in the previous sessions that I've run and I think having [adult learning specialist] from, you know... from educational side, she's able to, sort of, stop and see if parents are able to relate this to their personal experiences and by having them... by having the parents

involved it... we don't just deliver from, sort of... this is what research said and this is what you should do.

It really tries to be more practical as to what their experiences were and how they managed so I think seeing... I think for parents, seeing how other parents managed... because (...) they're learning from each other as well and that's what I've found is really different so it's not... it gives them that skill to see somebody else can do it so it's not as bad, so it's not just coming from health professionals. So it's getting those... not just new information but skills from other parents where they're learning... they're co-learning and that's really... I think that's a skill they take away a lot. (SI3)

The delivery team noticed clear changes in parents who attended frequently. Mums who were initially quiet were asking questions and sharing experiences. Members of the delivery team observed that parents felt able to ask for explanations of past topics and to ask about specific areas of interest within sessions even if they were not directly linked to the topic of the day.

DIY is very different to the traditional, if you like, health visiting parent group that we run. It's not as interactive or as, sort of, co-produced as DIY where we plan the session. There's not much, you know... we identify... the parents are not really involved, having an ownership in it. (SI3)

There was also an acknowledgement that despite different levels of confidence in English and some individuals being shyer than others, participants still gained a lot out of attending.

I think we were quite good a listening. Yes, I like to think we were. I think parents felt really confident enough to interrupt, to stop and say, I didn't get that, what did that mean? Or, can we just do that all over again? And at some weeks they stopped us from moving on to the next topic and said, well, can you just, sort of, focus on where we left off from last week? And that, sort of, pushed us behind but we had to do that in order to accommodate their needs as well. (...) It was all delivered still, the objectives are still the same but it was just delivered in a really comfortable environment that was welcoming for all the parents. And quite a lot of the parents, English wasn't their first language and they struggled, you know, but they were comfortable and confident. (SI3)

Group work outputs within sessions

In the first session, parents had the opportunity to list all the reasons they normally visit the GP for as well as the topics they wanted to learn more about. These were not the same. The reasons they went to the GP for matched the 6 core minor health concerns while topics they wanted to learn more about included more wide ranging topics including potty training and sleep routines. A tally was conducted during the first session in order to choose the most common topics of interest and then as a group, decisions were made about what topic to start with. At the end of each session, the topic for the next session was agreed upon together.

A group exercise was also conducted during the first session to select shared values and what participants wanted out the sessions. These were put up on the wall each week.

Summary of themes

- Participants felt valued
- Participants were always asked about personal experiences with weekly health concerns
- Participants reported feeling a sense of ownership about what they were learning
- Opportunity to hear experiences and expertise of other parents was valued with parental input considered a key element of the sessions
- Informal and friendly atmosphere was felt to encourage involvement and contributions
- Flexibility of sessions provided time to ask questions and for things to be repeated where necessary
- Facilitators made great efforts to engage all participants
- Friendly and approachable facilitators were appreciated

4. What are the barriers and facilitators to implementing the DIY Health model?

The focus of realist evaluation is on mechanisms or processes and understanding the circumstances under which these do or do not work. Considering that there was cross over in the delivery team, that site A and site B are not geographically disparate and the similarities among the participants which reflected the local demographics, this evaluation was not necessarily examining two very different contexts. However, helpful insights were gained in terms of facilitators and barriers which can help inform recommendations for future iterations of the DIY Health model.

Parent interviews and focus groups

Facilitators

Participants were appreciative of the support provided by the Children's Centre staff to take care of children so that childcare difficulties did not prevent parents from attending. The combination of professional and parental experience and expertise was also valued and enabled parents to feel that they were getting advice from medically trained individuals while also learning about the practical aspects and struggles of parents similar to themselves.

When you hear an example from another person, in the same level as you, you take it in more. (PII Site B mum of 2)

The friendly environment and friendly and encouraging staff were described as important for encouraging parents to ask questions, to feel comfortable and to feel valued as a parent. The weekly calls and text reminders the day before sessions were welcomed in helping mums feel valued but also in reminding them to attend sessions.

Participants were also very appreciative about having a well-informed health visitor with clinical knowledge delivering sessions and available for one-on-one discussions.

Barriers

Parents reported clashes with other courses and previous commitments as barriers to participation and as reasons for having to leave early. Some parents found that the children being in the same room with the parents created a noisy and distracting environment which made it difficult to concentrate on the session.

While the involvement of all parents was highly valued, parents also raised the possibility of having parents who were struggling with health problems due to underlying conditions taking up a big share of time. This was raised as an occurrence by a parent with the utmost sympathy that she would have done the same to try to get answers for her child. She also acknowledged the understandable frustration of parents battling minor health concerns alongside other underlying conditions and how this can make it difficult to accept it is beyond the remit of the sessions and the expertise of the delivery team. The situation was described as having been dealt with very well by the DIY Health team without upsetting the parent involved.

Over the winter months, sessions were missed because mums or children were unwell, due to school meetings or previous commitments. None of the parents reported the day of the week, location or time of day as barriers in and of themselves. Some parents were only invited once sessions had started as replacements for people who said they would attend but did not show up or decided to stop attending due to language problems. This meant they inevitably missed the

first few sessions. Some of these parents however, then asked to attend future cohorts when the topics they missed were covered and did so.

DIY Health delivery team interviews

Facilitators

Good team work, preparation and session planning was very important in order to allow for full participation and engagement of participants while also providing key information relevant to the selected topics. In order to ensure good team work, members of the team suggested that it was important for all the different organisations and individuals involved to be clear about their roles and responsibilities as well as to ensure the individual staff members were clear about the collaboration, aims, ethos and progress. Having a project manager who worked across both sites was identified as particularly helpful in the implementation of DIY Health. She brought the team together, took care of all the administrative tasks and was in charge of the project assistants.

It was deemed important that the members of the delivery team should have an interest in the project rather than being assigned to it and this was considered important for future iterations of DIY Health. This was particularly raised due to the facilitation via co-production which was considered as new and somewhat challenging to usual health promotion and considered to require more time and new skills for the health visitors and other members of the delivery team.

Delivery team meetings before the first session, half way through and at the end were organised to make the most of the collaboration but there were also suggestions that - for better reflective practice and to ensure coordinated procedures and policies for unexpected problems, such as safeguarding concerns - it might be better to have more frequent team meetings. The difficulty coordinating additional time from the whole team who all used up their allotted time and gave extra hours to DIY Health made this a challenge.

The facilitators and project assistants had 3 hours of delivery time allocated for DIY Health which included 2 hours with parents and time for setting up and clearing up which also provided time for parents to have private conversations with them. The Children's Centre staff had 30 minutes set up time but at site A had to leave at the end of snack time (half an hour before the end of the 2 hour session) and at site B, at the end of the 2 hour session. There was no time allocated for a quick session debriefing for the whole team.

The benefit of more reflective practice was raised as a way to both address professional development for all members of the delivery team and to take back the learning from the sessions to their respective organisations, thus benefiting the wider organisations collaborating on the delivery.

While the distraction of having the children in the same room was acknowledged, it was also valued by some members of the team because it helped provide information about parent-child interactions, including food and behavioural anxieties (e.g. parents who were overly concerned about a child making a mess while eating or found it difficult to let their child feed themselves). The project assistants found that the weekly phone calls and texts to parents were helpful to encourage attendance and to ask the parents how they were finding the sessions.

Facilitation by both a health visitor and adult learning specialist was considered an advantage in ensuring there was a focus both on evidence-based content and appropriate delivery whereby everyone was following the session content. The flexibility provided by co-production was key to the process of striving to make the topics and related information relevant to the parents attending.

I think it was the openness of the session. It wasn't rigid, it wasn't, sort of, top down. It was: okay, these are the areas we have to explore and we're all going to be working with it, you know. So the ownership was not on... with... on one particular group so... and I think that, sort of, built their confidence and constantly reminded... especially [the adult learning specialist], she really had a knack with dealing with people and they find her really funny and engaging so that really helped [unclear] really silly and do, you know... speaks in [Bengali], which I'm sure she's doing terribly badly, that's probably why they think she's funny, but, yes, I think having a team that's not so serious but, you know... it is a serious subject but it's how you approach it. (DIY Health team SI3)

Parents with limited English shared Bengali with one project assistant and Italian with the other which allowed them to be supported both by fellow participants and members of the delivery team where possible. The role of the adult learning specialist was appreciated by the other members of the delivery team as well as parents in order to ensure information was accessible to people with different language abilities and learning styles. The terms and language used were kept simple and the pace was dictated by how well the facilitators felt participants were understanding the information. Members of the delivery team also described helpful attributes about having a friendly, fun and “fizzy” person in the role of adult learning specialist.

So they felt not intimidated as... and we avoided as much as possible to use, sort of, medical terms, you know. We knew what we were talking about and we would say, that's the medical term but in everyday language this is what it means. So I think that also took the pressure off them to perform and say, you know, I can't remember how you say that, what is that supposed to mean? So it was less formal but the learning... it doesn't mean that the learning wasn't there, you know. It was all delivered still, the objectives are still the same but it was just delivered in a really comfortable environment that was welcoming for all the parents. (DIY Health team, SI3)

As part of an effort to ensure information was clear and understandable, even to participants who were not confident about their English, there was a focus on visual explanations, practical skills and repetition as well as keeping the information simple. English was a second language for many of the participants and they had different levels of proficiency.

I have to say that all the staff tried to make very clear what we were talking about – talking slowly, repeating things a few times in different ways, showing pictures, which is very useful because they can actually see what we're talking about. Also we watched some videos and stuff, I think they found the easiest way to explain certain things that could be very difficult, sometimes also because of medical terms and things like that. But on the other hand, obviously there is a language barrier; there can be a language barrier. In this case it wasn't only for those who speak

Italian, also because these two people who speak Italian also speak Bengali, and most of our parents were actually from Bangladesh, so their main language was Bengali. (DIY Health team, S11)

The relaxed and friendly environment was further appreciated for enabling parents to ask questions about health which was not an easy task for many people during GP visits both due to feelings of intimidation and concerns that they may be judged as parents. .

Sometimes some parents are scared, when they go to the GP a lot, I have heard parents in the past where they worry, if they go to the GP a lot, they may think they're a bad parent, so instead, they go out and buy the medicine, so maybe if we open it up there are parents like that, will be interested. (DIY Health team, CS2)

Also, having DIY, they can ask questions that they'll be frightened to ask the GP, who might say to them, they go to the doctor, the child's got a cough and the doctor doesn't prescribe antibiotics or cough mixture and they say, give Calpol to bring down the temperature, they can't understand why. DIY, they will explain to them the reasons why. Let's face it, even us, we're frightened to ask the doctor questions, let alone mums that feel vulnerable, don't they? (DIY Health team, CS3)

Part of the argument for opening up sessions to all parents was the realisation about the level of unmet need among many parents. This was particularly highlighted by the observation that some of the third and fourth time parents were lacking in confidence in similar ways to first time mums and it was evident they had not received the necessary support with their previous children.

I think also really trying to get the early identification of parents of (...)I was quite surprised that some of the parents had three or four children and were still identified as persistently accessing services inappropriately, so reaching out to parents earlier rather than much later is definitely... you have much more receptive response. We have quite a few first time parents but a good number of third and fourth time parents and... who still feel, in terms of confidence level, pretty much the same as first time parents and I was surprised by that so I think approaching or maybe... approaching the families... earlier stage of their, you know, child's life rather than waiting for them to be identified... (S13)

The importance of knowing the local community and context was also considered key to the recruitment and retention of participants. For the pilot study the fact that the project was associated with the GP practice gave it legitimacy.

I always say when I'm introducing myself, I always say I'm calling from the doctor's surgery and that, you know, I work at Reception but we have something going on at the surgery and then they get really... because in the first cohort I'd say, hi, I'm calling to invite you to our project and then they'd, sort of, like... and you can hear they just want to hang up, like it's a standard company call or something. (DIY Health team, S14)

Barriers

Time restrictions on planning and recruitment were problematic. Although an extra hour was allocated for preparation, in addition to the 3 hours delivery time, the need for 1 to 2 additional preparation hours was consistently raised across members of the delivery team.

I think if it's rolled out it's really important that health visitor teams are supported by not just the toolkit itself but the team to make sure it's, sort of, embedded, that they can avoid certain pitfalls that we've learnt from. (...) I think planning; that is definitely... you need a lot more planning time in... ideally. (...) Not many health visitors do lesson planning so that was definitely something new to me and also the pace of the delivery was very different, so I think that's where some training would be very useful.(SI3)

As part of training it would be helpful to include time for members of the delivery team, particularly the facilitators to sit in on sessions of experienced facilitators to learn from observing how the sessions are run.

I think identifying a lead person with health visiting teams, within the main health visiting... and, you know... and have that lead person to cascade any kind of training and support so as teams run their own DIY sessions they'll have a lead person to refer back to for support. (SI3)

Low attendance figures and problems with retention were considered problematic. Parents saying they were coming and then not showing up meant other parents on the list could not be invited. The team started by inviting 20 parents in order to fill 12 places and in the second cohort a decision was made to invite 30 parents with a view that many might say they will attend but would not. This ended up being the case. The project assistants made several attempts to call participants and potential participants every week and inevitably there were a number of parents who said they would come and did not.

The late arrival and early departure of parents made it difficult to cover all the necessary information and to encourage discussion. Engaging participants required facilitators to allow more time for information to be discussed than didactic delivery methods and the combination of late arrivals, early departures and sporadic attendance meant more time was spent on reviewing information which could have a negative impact on the group.

When parents miss out a session, then they come to the following one and they are asking questions that were related to the session in the past, and sometimes that can delay the session or they needed more to step back, and talk about something they talked about in the past, in the last session. (...) People were coming but, but that was a lot of chunk of time that was really wasted, because people were not coming in on time, so that was a complete waste of time... (DIY Health team, CS2)

It's also to do with the settle in progress, that parents, when they come late, the child, some children, they have to be settled, and pacified and everything, so that holds things up as well.(DIY Health team, CS3)

Sporadic attendance was also problematic leading to sessions being missed as well as low attendance numbers despite recruitment efforts and calls the day before sessions during which

parents agreed to attend. There were suggestions about needing to be stricter about timing with parents but this also had to be balanced with concerns about putting parents off or discouraging parents with more chaotic lives who may have a greater need for the sessions.

I do think it is a very, very good class, but I just find that I don't see the outcome being that great, because of people not attending properly. (...) I find the parents maybe just think it's just a dropping in, they're not, actually I don't think parents are respecting it, the fact that it is actually a full on session, and they should come on time. Parents are just strolling in when they please, and I've found out that we'll be just sitting there for half an hour, and parents just slowly coming in, so I don't think... it needs to be really emphasised that it is a serious course. You should be here on time. (...) If you're late, you might not be able to get in; I think we need to be slightly more strict. I don't know, it is really hard with parents, because you don't want to be too strict, and then chase them away either, and I don't know, maybe we should open it up to every parent, and not just that you have to go to that GP to attend that session. (DIY Health team, CS2)

Both surgeries had catchment areas including deprived areas and including many vulnerable families which needed to be taken into consideration.

I felt at times the parents' commitment was not quite as strong and maybe that was not really emphasised. You know, I mean, we don't want to come on too hard but at the same time I think parents need to know that a lot effort and time's gone into this so, you know, it would be important if they make some effort as well and so it was difficult to get them to be consistently attending but they've all got different commitments. (DIY Health team, SI3)

It was also deemed important to take into account family dynamics and the local circumstances in tackling engagement and commitment.

In Tower Hamlets it's very difficult to get parents to engage. I don't know what other boroughs are like. The family dynamics are different; ... people live with large family members, they've got a lot more commitment and they're not just seeing to their child; they're seeing to their in-laws, they have to cook for a large number of people so it's also trying to understand what they had to deal with at home. (DIY Health team, SI3)

The Bengali community was also seen to favour doctors compared to other health professionals also as sources of health information which could make the absence of a doctor on the delivery team a barrier to attendance.

I think they [future DIY Health delivery teams] should know the community well, look at the culture, the way they think about things... [our community] they're very dependent on, like, professionals so, like, doctors and stuff so and you need to understand that, they probably won't see this as beneficial, they'll only realise after they've come in. So yes, a lot of convincing... A lot of parents have that mentality that the doctor knows all and, like, you can't get any, sort of, help unless you're in the GP surgery in a consultation with them. I think it's lack of trust as well...of the project and ... I think, not to be mean to health visitors, but a lot of parents don't

have a good, like, image of health visitors from wherever they've heard or what they've personally been through so when you say, oh, you know, it's run by a health visitor and a learning support worker they're just, like, no, I don't want to be involved, it's not enough. It's all about knowing enough... They'd just be, like, oh, so who runs it? And you're, like, a health visitor and, like... And they're, like, oh no, I'm okay and I think I know enough, you know. (DIY Health team, SI4)

Referring to the sessions as a course seemed to help parents feel they would gain more from it while other words did not get positive responses.

The word Course [was a good word to use]. I know it's not... [the adult learning specialist] does not like the word Course but that word really, like; it makes people think, oh, I'm going to learn something, like [...] I will learn something, I will go, I'm going to get something out of it, you know [...] Some words are such a turnoff for parents and you have to be really careful with, like, how you say it. Some parents, they'll be, like, so who runs it? Is it just, like, a receptionist or is it a doctor? I'm, like, no, it's just a... it's a health visitor so, like, someone who knows a lot about children and illnesses, she'll give you information. They'll be, like, okay. Some... some parents are very reluctant. They want a doctor. (DIY Health team, SI4)

Recruitment was identified as a particularly difficult task as a combination of the particular local community, the language barrier, the restricted target list and difficulties even managing to get through to speak to people on the phone.

I have felt a lot of the time that the community itself is quite a difficult community to engage in a project like this [...] like, especially those that had limited English, so even those that didn't, they weren't really... when you say it's a project they don't really understand, especially this community, so you have to say stuff like, it's sort of like a course, so like, sort of, explaining it without taking away the essence of the project was really difficult. Recruitment was extremely difficult. It's either they don't pick up or they're just not interested. That was really hard.

Opening sessions up to any interested parents was suggested as well as making it a first come first served set up in order to tackle the low attendance but there were concerns about how this solution might excluding more vulnerable parents, the people who need it most in terms of mothers who were shy, isolated or less confident with English.

[Site B] works with some of the most vulnerable families, in terms of getting involved and getting out of the house, and English often being a bit of a struggle... So I think, really, all of that is really robust in terms of finding the most important people to actually do this work with. So I think that's good, because otherwise you could nurture something that was very much more about people who knew what to do on the whole but were really interested, which is fine as well. But then you've left behind those who might not have any, sort of, thoughts of even trying to find out. (...) I think you probably do get the most vulnerable people. ((DIY Health team, SI2)

Several parents who were contacted said they were interested in the sessions but were unable to attend due to work. An attempt was made to include a parent remotely by sharing e-mail about the sessions with her but this was decided not to be a good idea because the health visitor was not sure she was grasping all the information and got the feeling there were other underlying problems she was unable to uncover through e-mail exchanges.

A key barrier was language for people who had limited English and either expressed a fear they would be unable to understand much so declined to attend at all, or tried one session and as a result of not understanding much did not return. The possibility of involving translators for the most common languages of the area were suggested but there were mixed feelings about this being a good idea within the delivery team.

This is another point, probably an interpreter could help in the sessions, I don't know how easily it could be arranged in the future. But it could definitely help because some parents I noticed, because they told me on the phone or because they just said, you know, I can't follow because I can't understand anything, so I'd rather stay home. (DIY Health team, S11)

The disruption an interpreter might cause was a concern and alternative suggestions were made about slowing down the pace further to make sure everyone understood. In order to avoid slowing the pace down too much for everyone, the possibility of holding sessions at one site for people who were not very confident about their English was suggested. An alternative option to having a translator was to recruit health visitors who speak the key local languages spoken so that the sessions can be run in those languages.

The possibility of attending with their children and the presence of the children's centre staff were appreciated by parents but the distraction of having children in the same room due to noise and children interrupting was noted both by members of the delivery team and parents. The noise levels and the children's tendency to run up to their parents were concerns in terms of distracting parents and hindering a positive learning environment. The challenges of interacting with the children beyond child minding were also raised and attributed to the wide age range (0-5 years) along with the difficulty of setting up activities that make little noise while also engaging with them properly and following their professional curriculums.

Where the children and the parents are in the same room, sometimes it's harder for the parents to be concentrating, because the children are there, or sometimes it's harder for us to play with the children or to interact with the children, because they just want to be with their mums, and sometimes we don't want to talk loud, because obviously there's a class running, and we don't want to interrupt the class, so I think that's the only issue, where I find a lot of parents don't learn or don't concentrate, because they're too busy with their children half the time. (...) If we had it in a separate room, we could set up or we would keep it in a way where children can explore and we don't have to stop them and keep putting up barriers. They can just explore whatever is there, it's for them to explore. (...) having the children and the parents in one room, is making it difficult for parents and for the children to both learn in their own individual ways. (Site B Staff CS2)

It was interesting to note that the presence of the children in the same room where the sessions were running was not considered problematic at both sites. Although it was acknowledged that the ease with which the Children's Centre staff could fulfil their roles depended on the ages, dispositions and needs of the children whose parents attended sessions, site A was considered less problematic. The possibility of appeasing a child quickly by having mums within easy reach was in fact seen as a positive aspect of sharing the room during sessions. A further concern with having a separate room was that it would require more than two children's centre staff to be involved in order to maintain necessary child to carer ratios.

While the rooms were also not considered to be particularly child friendly in terms of safety and maximising work with children, concerns were mainly raised about site B.

We are qualified childcare workers... when we go along, it's more like a baby-sitting situation, where we're trying to restrict the children, because they've got half the room, or less than half the room, and it's a restriction to them, and to us because we can't really do our work properly...we have made suggestions to make it more of a crèche situation, like making it a safer environment for the children, which in that room it isn't... We need ways to make it more comfortable and more safe for children, and we don't feel that the room is very safe. (DIY Health team, CS3)

They [parents] can concentrate more, absolutely, because with children, they're not meant to be just playing. It's meant to be their learning through play and they're linking things and they're learning from linking and exploring, and being the individual where they're not being restricted at every point. (DIY Health team, CS2)

In order to tackle concerns about safety and child friendly environments, suggestions were made to hold the sessions at the children's centres. This however was countered by alternative views focusing on the benefits of the delivery rooms being in the same buildings as the surgeries so that it feels connected to health services and allows parents to feel this is their space too.

While the informal nature of the sessions was valued by parents and staff members as encouraging, changes had to be made in response to parents finding the set up on the children's play mats not to be conducive to concentrating and learning.

In [Site A] you've got the tables and the chairs quite, sort of, high so the parents were really able to focus on more and you've got the IT facilities so they can... able to watch certain clips that [the health visitor] wanted them to see, that particular condition, where in [Site B] we didn't have that and we were all sitting on the floor so it was much less formal. And some parents felt that it wasn't a separation for them to focus on the learning and we tried to, towards the end, address that by having small tables and chairs so we were able to... because in the end we... the beginning we were all on the floor, so the children were just, sort of, going round; easily parents were just, sort of, getting distracted and moving after their children so we did try to address that and have tables and chairs towards the last three or

four sessions. And I think that worked better for some parents because they suggested... they said, well, they would like to have a separate space where they can really concentrate on... (DIY Health team, S11)

Concerns were raised about the recruitment list containing only parents from the site A and B surgeries because this meant the majority of the DIY Health participants fell outside the catchment area for one of the Children's Centres. This made it challenging for the Children's Centre to justify releasing two play and learn workers on a weekly basis when none of the parents went on to attend any sessions at the centre and they were not able to record their activities as benefiting the parents within their catchment areas which they have a remit to prioritise.

The opportunity to promote their services was valued as was the opportunity to fulfil their remit of building relationship with health team and other disciplines but there were perceptions that the Children's Centre may not be benefiting enough in terms of value for money. It was also difficult to build relationships with parents because the staff were concentrating on engaging the children to make sure they did not disturb the parents. Although during team meetings and the original planning, there were discussions about running DIY Health within a family learning dynamic, this was not seen as ideal for the learning and sharing process and the reality of the dynamics of the DIY Health set up by the play and learn workers.

A solution to this may be to enable Children's Centre Staff to refer vulnerable parents with health concerns to attend DIY Health sessions as well as to have the sessions running at the Children's Centre in order to increase support to the parents from their catchment areas. It would also help to build relationships with parents if a member of the Children's Centre staff was to participate in a few sessions per term in addition to increasing knowledge and skills in relation to minor health concerns.

Additional benefits

Families registered with children's centres providing them with opportunities to participate in activities to get out of the house, help child development, improve health and socialise with other parents. Through the DIY Health sessions, parents found out about additional local services available to families, for example the free nursery hours for children over 3 years of age and had the opportunity to get one to one advice from health visitors. The latter was identified by both parents and members of the delivery team as a valued added benefit of the sessions for parents that had a positive impact on the rest of the family as well. Several parents took the opportunity to seek advice and alleviate concerns about their own health or an older sibling's health as well as behavioural concerns. Parents also appreciated the opportunity the sessions provided for their children to socialise with other children.

It was good for my son to meet different kids, not just his cousins (FG1 Site B, mum of 1)

Members of the delivery team discussed personal professional development resulting from their participation in the delivery of DIY Health session and also spoke about wider positive impacts of DIY Health.

It's been an interesting learning curve and really I think if our caseload reduces in terms of health visiting, and health visitors have a bit more time, I think it would be

something that they would be interested in because the long-term benefit for the parents ... the health visitors will have fewer families who are stressed and accessing services. The knock-on effect is not just the condition they are enquiring about but it would be related topics as well because if you've got... a mum's very worried about the child's reoccurring minor illness she'll be anxious; that anxiety level will present itself in some other way so you will be able to reduce vulnerability within the family on many levels by, sort of, like, addressing their... most concerns. And this is one of the main concerns, you know, minor ailments, and we get a huge amount of A&E notifications every week and in the end we just have to prioritise the ones who go in with health and safety issues and we just address that. So it would be really important, I think, to have something like this across. (DIY Health team, SI3)

Some of these advantages went beyond the narrow idea of health and included providing parents with the opportunity to leave the house, be in an environment where they were learning and sharing and could realise that they were not alone struggling with parenthood.

One of our mums, when she first came... before the sessions I have to interview parents and one of the mums she, sort of, mentioned that, you know, she's really young and she... not all her friends have kids, the ones that do their kids are, like, perfect and they don't complain and she feels like she's struggling and she's also expecting her second child and the first one is, like, only one, not even, and she was saying she wants help with, like, the emotional side of it, she's struggling, she's scared about postnatal depression and stuff like that, and I feel like after coming to the sessions, at the end she was a lot more happier, she was going to the Children's Centre, she was really interacting with other mums and I think that was really good, the fact that we could actually introduce her to all these things that could help her cope and...just knowing about other service so if... they could also signpost her to other ways to help her maintain two young ones.(DIY Health Team, SI4)

Although participants in both cohorts did not report many people exchanging numbers and keeping in touch, two neighbours started speaking to each other having met during the first cohort and other mums discussed stopping and having a quick chat whenever they bumped into each other at local children's events or while walking in the neighbourhood.

I think the engagement of it, in itself, is already building, the capacity for a community to understand health better. (DIY Health team, SI2)

There was also enthusiasm from the children's centre in terms of being asked to partner and engage with health services when usually they are the ones trying to engage clinicians who are short of time into their centre.

I think it's absolutely amazing that we've got, you know, the clinicians wanting to engage in all of this, for a start-off, and that we're being invited to take part, because really, this is what we should be and it is what we want and should be doing, and in terms of multi-agency working, the more initiated from our partners, the better, actually, because we can't initiate the areas that we don't have a lot of

knowledge in, either [...] So it's being done in the best environment that it could be done, you know rather than us trying to initiate it here, dragging in clinicians that haven't got time to come here, you know. Actually, it's a win win for us that we should be involved in that, and in terms of the, sort of, refreshments and things, those are minor, you know, minor expenses. (DIY Health team, SI2)

All members of the delivery team in addition reported that they had learned a lot of helpful information, both from professional and personal perspectives. The former included for example the Children's Centre staff feeling able to give basic health advice to parents they work with and the project assistants feeling that they had built relationships with practice parents. Problems with the local implementation of local health visitor practice guidelines were also identified based on reported participant difficulties with obtaining vitamins. From a personal perspective, members of the delivery team reported learning health information that they deemed helpful whether they had no children or much older children including improving healthy eating for the whole family.

Summary of themes

Facilitators

- Presence of Children's Centre staff to take care of children to relieve childcare concerns
- Combination of professional and parental expertise shared which meant participants felt they were gaining medical knowledge as well as learning the practical aspects and struggles of people like them
- Friendly environment and staff
- Weekly reminder calls and texts were good reminders and made participants feel valued
- Availability of well-informed health visitors with clinical knowledge to deliver sessions and provide one on one information
- Good team work
- Preparation and planning time
- Delivery team members who value co-production as a facilitation method
- Reflective practice
- Presence of children in the room to enable the observation of parental interaction and to enable behavioural, food or other anxieties to be identified
- Weekly phone calls to help build relationships
- Facilitation by both a health visitor and adult learning specialist allowed focus on evidence based content and appropriate delivery ensuring clarity and accessibility of information
- Flexibility of co-production helped maximise relevance to participants
- Knowledge of local community and context helped in the recruitment and retention process

Barriers

- Previous parental commitments/ work
- Noisy and distracting environment with children in the same room
- Parents of children with underlying health conditions may require more information and assistance than the remit of the sessions to tackle minor health concerns

- Sickness of participants or children over winter months affected attendance
- Time restrictions on planning and recruitment
- Low attendance and retention
- Late arrival and early departure of some parents as well as sporadic attendance
- Restricted recruitment list that included many vulnerable families had an impact on attendance and retention
- Family influence with local community having high extended family commitments
- Local community favouring doctors compared to other health professionals as reliable sources of health information
- Language barrier for those with English as a second language and who did not feel confident to even try one session or decided not to attend after trying a session
- Delivery rooms that were not child friendly and prevented play and learn workers from engaging the children as they would have liked
- Presence of children in the same room as parents were trying to learn created restrictions in the activities children could be engaged in
- If parents on the restricted recruitment list did not fall under the catchment area of the Children's Centre, there needed to be alternative incentives for the involvement of the Children's Centre

Additional benefits

- Opportunity to get out of the house
- Parents learning about other sessions held at the Children's Centre
- Parents learning and being referred to other local sessions for children and services available for children and families (e.g. free nursery hours, help for behavioural concerns)
- Opportunity for children to socialise with other children
- Reassurance that they are not alone struggling with parenthood
- Meeting local parents
- Improved healthy eating options for the whole family
- Personal and professional development for members of the delivery team in terms of collaboration and useful health information
- Creation of links between organisations through collaboration
- Problems with local health visiting provision identified

Discussion

This section begins with an overview of the findings under the four research questions followed by a discussion of the limitations of the evaluation and finally learning points for the future implementation of DIY Health.

1. Do parents who attend DIY Health sessions reduce the number of visits to the GP for the 6 key minor health concerns?

Based on the qualitative data collected from both DIY Health participants and members of the delivery team, attending the DIY Health sessions was reported to help parents reduce their visits to the GP and to feel less reliant on GPs. This was the result of feeling more confident and better able to care for their children at home initially and of knowing they had alternative sources of information, advice and over the counter medicines to manage minor health concerns. These options included the possibility of visiting a pharmacy, calling the health visitors or 111 and having reliable websites to search for health information.

Descriptive statistics also showed that the average number of participants' GP attendances reduced from the six months before DIY Health started to the six months after DIY Health started, however due to small sample sizes, significance testing was not possible.

2. Does attending DIY Health sessions improve parents' skills, knowledge and confidence in managing their children's health?

Parents reported improved skills, knowledge and confidence in managing their children's health both based on personal perceptions and experiences they shared with the group about having managed their children's health differently based on what they had learned during sessions. This included managing minor health concerns at home and feeling more confident generally about their children's health and their ability to make them more comfortable when they are unwell, knowing what to do and knowing when to seek medical help. Additional benefits were also discussed by parents in relation to reduced levels of anxiety when their children were unwell as well as reduced anxiety when children were not eating as much as they thought they should.

Parents discussed gaining additional skills and confidence in relation to breastfeeding, healthy diets, weaning, potty training, behavioural concerns and other concerns that were covered during sessions. The increased skills, knowledge and confidence in health management was also noted by members of the delivery team who were also able to share examples of parents telling them they had followed home managing steps they had learned during sessions. They also noted reduced anxiety about babies and increased incidence of children feeding themselves as well as improved interactions between parents and their children.

Data from the pre/post session evaluation forms and the levels of participation charts completed by parents indicated individual session goals being met and additional gains based on levels of improvement in scores for knowing when to seek medical help and having additional sources of information.

3. To what extent are DIY Health participants listened to during sessions and able to influence the topics covered?

Both participants and members of the delivery team reported that there was good communication within sessions with learning based on shared experiences and session topics being selected based on parent needs as well as common minor health concerns identified by the delivery team. Parents indicated feeling valued, listened to and involved in the sessions both in terms of learning and sharing their experiences to help other parents. Responses to the questions about feeling able to influence the information covered during each session were also positive.

4. What are the barriers and facilitators to implementing the DIY Health model?

Key barriers included attendance and language. The difficulty of recruiting and retaining participants was felt to be compounded by the targeted recruitment list used because this was a pilot study. The list included the parents of children aged under 5 who attended the two study surgeries 4 or more times in the 6 months prior to July 2014 (excluding immunisations). The combination of selecting families attending the GP frequently and the catchment areas of the two surgeries resulted in an abundance of vulnerable families on the list. There was a language barrier, which reduce some parent's attendance and some lacked the confidence even to come the first session; other parents who attended one or two sessions at times felt unable to follow what was being said. There were, however, parents who had trouble with English but still chose to attend and with the help of other parents and the project assistants reported gaining a lot from participating even though they tended to speak less. The late arrival and early departure of some parents was also a barrier to co-production in enabling full participation. This led to some repetition of information which was time consuming.

The levels of noise in the room because children stayed in the same room as their parents, and the distraction of children wanting their parents' attention, was considered detrimental by some parents and members of the delivery team and suggestions were made about having a separate crèche with some joint singing and snack time. The importance of having a convenient delivery location and child friendly space was also highlighted. Additional barriers for the delivery team, particularly the facilitators and project assistants, included the need for 1-2 additional hours to the time allocated for them to work on DIY Health between sessions. This additional time was felt to be necessary for each member to maximise their ability to complete their various tasks including session preparation, recruitment, reflective practice and team debriefing sessions since they all had competing work commitments.

Key facilitators included good team work, having two facilitators including a health visitor and adult learning specialist and the focus on co-production. This meant parents were involved in their own learning and that their needs were key to the way the sessions were delivered. The flexibility of sessions and the informal atmosphere were identified as particularly conducive to encouraging parents to share their experiences and knowledge and to feel that they could ask questions when they were unclear about information. Parents also appreciated the reassurance gained from hearing about other parents' struggles and the ways

they overcame difficulties and managed health concerns. The availability of the children's centre staff was valued by both parents and the delivery team since it enabled parents to attend without worrying about childcare. Having the children in the same room as the parents was considered helpful by some members of the delivery team as it gave them the opportunity to observe parent and child interactions, enabled parents to quickly appease children without having to leave the room and did not require high play and learn staff ratios.

Limitations

The aim of DIY Health is to empower parents to manage minor health concerns effectively as indexed by reduced attendance at the GP for such concerns as well as parental reporting of managing them at home and feeling more confident. It was possible to collect data from parents about changes in how they approach and manage their children's minor health concerns and their feelings of confidence. Furthermore, data from the delivery team was also collected about their perceptions and observations of any changes in the parents; however, it was challenging to capture measures of increased efficient use of NHS service due to difficulties defining and measuring appropriate and inappropriate use of services based on reasons for GP attendances.

The time constraints of the evaluation did not allow for an adequate follow up period which would ideally cover a year to account for differences in health care use over different seasons. Inconsistent data sharing and record keeping across services also created challenges which resulted in the possibility to only provide descriptive data about changes in GP attendances. Low attendance figures did not permit statistical analyses but it was possible to conduct descriptive analyses of the data from the evaluation forms which provided helpful data to triangulate with the qualitative findings.

Data records

The difficulty in assessing appropriate and inappropriate GP attendance is partly due to differing positions from which to assess what is appropriate or inappropriate based on a parental or GP perspective. For example, a parent may have called their surgery or 111 and be advised to make an appointment even though the problem is then identified as a minor health concern. It can be difficult to decide how to categorise that appointment.

The inappropriate use of A&E services for circumstances that are not emergencies are of particular concern due to the cost implications and may be more easily determined. However, due to inconsistent reporting of A&E attendances at GP surgeries and the tendency for the A&E reports that are sent to health visitors to be scanned instead of coded into the system, it was not possible to examine changes in A&E attendance among DIY Health participants.

As a proxy, to provide some descriptive information about changes over time in GP attendance, we have reported on changes in average GP attendances among the 0-5 year old children of parents who attended a DIY Health session at least once per cohort for any of the 6 minor health concerns (colds & coughs, diarrhoea & vomiting, fever, ear pain, skin conditions and feeding). Average GP attendance in the 6 months prior to cohort 1

commencing, and the six months after cohort 1 commenced, was examined. Consequently, the follow-up evaluation period included three months during DIY Health and three months after the completion of DIY Health; future evaluations should examine change in GP attendances with a longer follow-up period after the completion of DIY Health.

It is worth noting that increased use of health services is expected over winter: the period when DIY health sessions were being held and the post session period for cohort 1 fell under winter months. Further, because of the small number of participants, it was only possible to present descriptive statistics on attendance data. The inclusion of participants who attended even for just one session further complicated comparisons.

Focus groups

Originally we planned to conduct a focus group with DIY Health participants at the beginning of the sessions as well as at the end in order to capture their expectations and then their experiences while also observing any changes in group interaction. Unfortunately this was not possible. Due to time limitations it was not possible to include a discussion in the first or last session and the challenge of getting participants to attend also made the delivery team reluctant to ask for a pre DIY Health session meeting. This arose out of concern about the feasibility of getting them to attend but also that they may then be put off from attending sessions. Given that several parents mentioned that they came to the first session with a view that they were just going to give one session a try, and then not attend if they felt it was not relevant for them, the idea of a group session before the start of the course is likely not ideal. Challenges with attendance also made the delivery team reluctant to ask them to attend an additional session after completion for a focus group. Although focus groups were set up the week after the last sessions at each site for cohort 1, only one occurred at site A because at site B, participants came at 20-30 minute intervals so interviews were conducted instead. In cohort 2, time was set aside during the last session to discuss the participants' experience of DIY Health due to concerns about getting parents to attend a separate session.

Session based evaluation forms

The late arrival and early departure of parents made it challenging to ensure all attending participants completed the three evaluation forms weekly. Language barriers also created a barrier to understanding the questions particularly for participants who only attended one session. Some of this was ameliorated by other parents or the project assistants explaining the questions in another language (Bengali and Italian). Further difficulties arose from participants' interpretations of the self-efficacy statements even when language was not a problem. Some parents gave top scores in response to the self-efficacy pre-session questions while a more ambiguous reality was noted upon observing the sessions. Although attempts were made to ensure that they meant to give a pre session maximum score, it was not appropriate to question this too much and risk them feeling pushed to put another score. Making time during the first session to review and explain each of the questions in the evaluation forms, may help alleviate some misunderstandings but would not eliminate the problem among the many parents who started attending only during following sessions or only attended a few of them.

Learning points

The evaluation of the DIY Health pilot identified some learning points based on the experiences of participants and members of the delivery team. These are presented next under the following headings: structure and management, delivery and ongoing evaluation and are summarised in Table 1.

Structure and management

More project based time should be allocated to the delivery team in order to maximise weekly planning, preparation and recruitment but also for reflection time within the team. From the perspective of the facilitators, the additional allocated time would help with session planning, both individually and with the co-facilitator, with follow ups if: a) concerns are raised by participants and then to make any necessary referrals, b) to keep named health visitors for the relevant children updated and c) to keep up to date on guidance, relevant literature, evidence and relevant resources and services to signpost parents to. For the project assistants, additional time would help them build relationships with participants and to encourage attendance as well as maintaining their administrative tasks and inviting external speakers from specialist organisations to attend sessions.

Training needs were identified for the delivery team. Some general training on co-production for the whole team was considered important in order to understand the ethos of the project. More specifically training on co-production and on the associated facilitation skills for facilitators was considered crucial since it was a different approach to the more common practice of didactic information sharing. In line with this, the importance of having health visitors who are interested involved rather than being volunteered was highlighted. Training for health visitors in general facilitation skills was also considered likely to be helpful for those with little experience as well as the opportunity to observe experienced DIY Health facilitators whilst running sessions.

Project management and outreach training were identified as likely to be helpful for the project assistant roles in addition to tips on engaging with parents when they first call and on maintaining continued engagement within the context of the local community.

Given the multi-professional nature of the DIY Health delivery team, good team work is crucial including the **acknowledgement and discussion of expectations and the different agendas and ways of working** for the professions and organisations coming together to deliver the sessions. There need to be **clear roles and responsibilities set out as a team with the members of the delivery team involved** directly in addition to the management teams to ensure the individual staff members are clear about the collaboration, aims, ethos and progress.

It may be helpful to **modify the recruitment list and expand it** beyond frequent GP service attenders to **include families who receive support from the Children's Centre** so that these staff members can invite parents from their caseload. Similarly, an expansion could be made to **include parents identified from health visitor caseloads and from individual GPs**. Depending on which organisation DIY Health ends up being delivered from, this would help increase benefits to the partnership organisation as well as likely increasing attendance and

providing an additional way to identify and recruit vulnerable parents who are found to have concerns about health, particularly if they are mainly about minor health concerns rather than underlying conditions for which these sessions may not be the most appropriate support.

The need for more **reflective practice as a team** was raised by several members of the team. Although meetings were held before the start of sessions, in the middle and after the last session, these tended to be strategic and not all members of the delivery team were able to attend. The need for more reflective practice was suggested for a variety of reasons, which included the provision of supervision, an opportunity to discuss concerns and actions arising from sessions and an opportunity to have an overview of the sessions. Ideas about reflective practice included suggestions for wider discussions about session planning as well as reflections and an opportunity to debrief as a team particularly given the involvement of individuals from different professional backgrounds and organisations. If a quick debrief at the end of each session was not going to be feasible due to time constraints, monthly meetings, with a focus on ensuring members of the delivery team can attend, may be a viable alternative to talk about how the sessions are going.

Delivery

Parents enjoyed having **people from specialist organisations delivering sessions** (e.g. pharmacists, first aid trainers) however it is important for the facilitators to have the opportunity to **review the information to be delivered to ensure evidence based guidelines are reinforced** and to avoid having information and advice presented that contradicts local guidance and evidence based practice. The facilitators need to be able to review the information to be delivered by external speakers, including any parents who may be encouraged to facilitate sessions on topics about which they have expertise.

Although parents were very appreciative of having a health visitor co-facilitate sessions because they found the clinical knowledge important and trustworthy, in cohort 2 a few sessions were conducted by the adult learning specialist alone and were well received. This may suggest that it may not be necessarily for a health visitor to deliver all sessions. This dovetailed with suggestions from the delivery team that it may not be essential for a health visitor to facilitate all sessions. It would be **important to have someone with clinical overview supervising the information presented** to parents and ensuring practices are in line with guidelines, but it **may be an option to train an adult educator to deliver sessions, reducing the costs of the intervention.**

There were mixed views among delivery team members about whether to **restrict attendance to parents of children who attend the GP surgery often for minor health concerns or open it to all parents of under 5 year olds as well as expectant parents.** Participants suggested that DIY Health sessions would be very helpful for expectant parents, first time mums in particular, and even parents with two or more children.

In terms of suggestions to improve weekly attendance, suggestions were made by parents about the possibility of **running sessions 9:30 to 11:30 in order to encourage parents with older children to attend right after the school run** instead of returning home first. There were suggestions that having returned home, it could take a while to get out again.

Expanding recruitment beyond the GP list and encouraging word of mouth recruitment were also suggested given the fact that participants spoke of friends and family members who would have been interested in attending.

Contradictory views were also expressed about having children in the same room based on the disadvantage of them being a distraction to parents but also on the advantage that it allowed parent-child interactions to be observed by the delivery team. These different views need to be addressed possibly by coming together for snack and song time and also having separate time. The delivery facilities need to be considered carefully to **ensure the rooms are child friendly, the environment is conducive to learning, the location is convenient to access and there is the availability of internet access** in order to use web resources as well as to introduce parents to appropriate websites. In creating a positive learning environment, parents need to be able to have a separate space even if they are in the same room with the children.

Situating the sessions within general practice buildings and involving staff from the practices in recruitment was acknowledged as having helped give the sessions legitimacy, particularly in the present settings in which medical training and professional titles seen by some participants as important. However, suggestions were made by the delivery team about the possibility of **situating the sessions within Children's Centres or making them part of the community development element of health visiting practice.** This was suggested as providing an opportunity to increase community involvement and introduce parents to new services.

Members of the delivery team emphasised the **importance of parents committing to sessions and attending the whole session** by arriving on time and staying until the end, which they felt needed to be emphasised to participants in order to maximise the benefits of participation. However, they also recognised that **being strict needs to be balanced with allowing for the difficulties parents may face due to having young children and being vulnerable parents.**

Good knowledge and awareness of the local community was considered crucial in guiding recruitment strategies and delivery. Language barriers need to be anticipated and addressed within reason. Keeping the pace slow, using visual delivery methods where possible and checking knowledge and understanding helped but it may be necessary to have translators or to consider having facilitators who speak the main languages spoken by the local community to help explain elements even if not delivering the session in that language. The pilot study included Bengali and Italian project assistants who helped the several Bengali parents who were not confident in English but still decided to attend and these parents reported very positive experiences.

Community network development was an important element of DIY Health and, given that the networking element was not emphasised as much during the pilot study, this was felt to be a loss for the participants. Community network development may be an element that **needs to be nurtured more in future cohorts since it can create an additional source of**

local support and reassurance for parents in general and particularly for those who may not have much alternative support nearby.

Ongoing evaluation

The pre/ post session evaluation form (see appendix A) was helpful in this evaluation, particularly to capture the views of participants who only attended a few sessions. In terms of future evaluations of DIY Health, it may be more useful to have self-efficacy questions on the first page of the form which **focus on capturing changes in pre/ post session confidence about:**

- **knowledge regarding the causes of the week's minor health concern/ core topic**
- **ability to identify symptoms or problems**
- **skills/ ability to manage or treat symptoms at home**
- **knowing when to seek medical attention (already in the form)**

While the current questions about what services to contact for health advice other than the GP and A&E are important overall, as is the question about being able to find trustworthy health information, these are a few resources (111, midwives, pharmacy NHS choices etc.) that will be relevant for the majority of minor health concerns and other common problems for 0-5 year olds. Therefore it is likely parents will learn about them over a few sessions and it may not be relevant to ask about this on a weekly basis.

The question about confidence in making decisions about when to see a doctor is relevant to ask on a weekly basis as noted above, while knowing about weekly changes in parents' ability to contact people they can rely on for support may not be crucial. The question about confidence in maintaining contact with parents in the group will be relevant in particular if the element of creating a new network among participants is nurtured and becomes one of the aims of the sessions, otherwise it may not be (see appendix G for a revised pre/post session DIY Health evaluation form).

During the pilot study, the delivery team did not feel able to promote the networking aspect of DIY Health as much as they were able to during the feasibility study. This was due in part to needing time at the start and end of sessions to complete the evaluation forms. Still, the second side of the form may be of relevance when evaluating future DIY Health cohorts. Based on suspicions that some parents may not have fully grasped some of the questions in the evaluation forms, it would be ideal to **allocate some time during the first session to review and explain each of the evaluation questions in some detail**, particularly if there are any language barriers.

Data collection

Given the importance of showing an economic benefit gained by health interventions, it will be **important to be able the collection of more detailed data over longer periods of time to examine changes in health service use among participants**. This will require clear inclusion criteria for recruitment lists if a targeted recruitment strategy is used. Furthermore, it will be **crucial to collect accurate A&E attendance as well as walk-in centre**

attendance data for participants, which will require **better reporting between A&E departments and GP services as well as A&E departments and health visiting services.**

Summary of learning points

The evaluation identified some learning points based on the experiences of participants and members of the delivery team. These learning points may be useful to review alongside the DIY Health toolkit when considering how best to implement DIY Health in the future. The learning points are presented below under the following headings: structure and management, delivery and ongoing evaluation.

Table 1: Summary of learning points

	Structure and management
1	More project based preparation time for the delivery team (1-3 hours) in addition to the 3 hours allocated for delivery time.
2	General training for the delivery team on co-production with additional role relevant training; e.g. co-production facilitation for facilitators, project management and community engagement training for project assistants.
3	Professionals interested in the ethos of co-production should be involved in the delivery of DIY Health instead of managers volunteering people to be involved.
4	Members of the delivery team and managers need to discuss organisational and personal agendas and ways of working in order to agree on clear roles, responsibilities and expectations within the collaboration.
5	It will be important to consider whether to modify the recruitment list and expand it beyond frequent GP service attenders to include families who receive support from the Children's Centre or health visitors so that staff members can invite parents from their caseloads. This could be a way to increase benefits to the partner organisations and improve recruitment and attendance.
6	Time should be allocated for the delivery team to meet for reflective practice to debrief, allow for some level of supervision within the group and for the opportunity for concerns resulting from sessions to be discussed and addressed through coordinated actions.
7	The lead organisation may be a GP, Health visiting service (the community development element) or a health focused community organisation within the local area.
	Delivery
8	Speakers from specialist organisations (e.g. pharmacist, A&E nurse) should be invited to relevant sessions but it is necessary to ensure facilitators have the opportunity to review the information that is to be shared to ensure parity with local guidelines.
9	While ensuring there is a health practitioner with clinical oversight and responsibility over the sessions, it may not be necessary to have this person delivering all sessions. An adult educator may be trained to lead the facilitation making DIY Health less resource intensive in terms of the cost in the time of a health professional. However, the skill sets needed for

	effective and safe delivery should be considered carefully to ensure the team incorporates them.
10	Consider local needs in finalising session timing and delivery. For example, for timing, running sessions 9:30 to 11:30 may facilitate the attendance of parents with older children if they can go right after the school run instead of going home first. In terms of delivery, choice of facilitators, relevance of wider family as well as cultural and religious practice may need to be tailored to Local need.
11	Consider whether to expand the recruitment list beyond the parents of children who attend the GP frequently to any interested parents of under 5 year olds and expectant parents in addition to encouraging word of mouth recruitment.
12	The learning environment and the advantages and disadvantages of having parents and children in the same room need to be balanced. The age of the children attending and the individual needs of the children may need to be considered in making this decision.
13	Sessions should ideally be delivered at a convenient location in a child friendly space with internet access that allows some separation between parents and children even if they are in the same room.
14	Additional options to situating DIY health sessions within GP practices to increase flexibility, cooperation and to encourage the involvement of different organisations should be considered. Options might include GP premises, Health centres , Children's Centres or community venues and this should be explored among the collaborating organisations.
15	In order to help build relationships with parents, increase capacity building of Children's Centre staff and create an added incentive, staff members can be invited to participate in a few sessions per term.
16	Conveying the importance of committing to attending sessions and staying for the whole duration needs to be balanced with allowing vulnerable parents some flexibility and the reality of having young children.
17	Good knowledge and awareness of the local community is important to guide recruitment strategies, for session delivery and for signposting into other local services that may support health and well-being.
18	Language barriers need to be anticipated and addressed. The advantages and disadvantages of using translators or facilitators who can provide support or run sessions in other languages should be considered.
19	The networking element of DIY Health should be nurtured in order to provide parents with a possible additional source of support as well as to sustain their learning from DIY Health.
	Ongoing evaluation
20	Focus on capturing changes in pre/ post session confidence about: <ul style="list-style-type: none"> • knowledge regarding the causes of the week's minor health concern • ability to identify symptoms or problems • skills/ ability to manage or treat symptoms at home • knowledge about when to seek medical attention (already in form)

21	Time needs to be allocated during the first session to review and explain each of the evaluation questions in some detail, particularly if there are language barrier concerns among participants.
	Data collection
22	In order to examine whether attending DIY Health changes health seeking behaviour (e.g. GP attendances), it will be necessary to have a longer follow up period, a well-defined recruitment list and clear coding of reasons for GP attendance.
23	In order to better examine changes in A&E attendances, there needs to be better A&E data collection and sharing with GP surgeries, walk-in clinics and health visiting services.

Appendix A: Pre/ post session DIY Health evaluation form

WEEK..... TOPIC.....

The statements listed below are activities about managing your child's health. **Thinking about the topic of this week** please rate your degree of confidence in being able to do each activity on a scale from 0 to 10. If you feel you cannot do it at all, circle 0; if you feel you can definitely do it, circle 10; if you feel you can moderately do it, circle 5.

Contact services for health advice about my child other than GP or A&E visits

		Cannot do at all			Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10
End of session		0	1	2	3	4	5	6	7	8	9	10

Find health information that I can trust to help me manage my child's health

		Cannot do at all			Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10
End of session		0	1	2	3	4	5	6	7	8	9	10

Make decisions about when it is necessary to take my child to a doctor

		Cannot do at all			Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10
End of session		0	1	2	3	4	5	6	7	8	9	10

Contact people whom I can rely on for support when I am worried about my child's health

		Cannot do at all			Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10
End of session		0	1	2	3	4	5	6	7	8	9	10

Maintain contact with parents in the group to help each other support our children's health

		Cannot do at all			Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10
End of session		0	1	2	3	4	5	6	7	8	9	10

End of session		0	1	2	3	4	5	6	7	8	9	10
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Please continue on reverse

My Goal for the session today is to.....

Session No.	Date	Today I would rate my progress to this goal as? (Please circle the appropriate number below)										
Remember a score of zero means no progress has been made towards a goal , a score of ten means a goal has been reached fully, and a score of five is exactly half way between the two												
Start point		0	1	2	3	4	5	6	7	8	9	10
End of session		0	1	2	3	4	5	6	7	8	9	10

During this session...

How able did you feel to influence what topics we learned about in the session today?

Could not do at all	Moderately could do					Definitely could do				
0	1	2	3	4	5	6	7	8	9	10

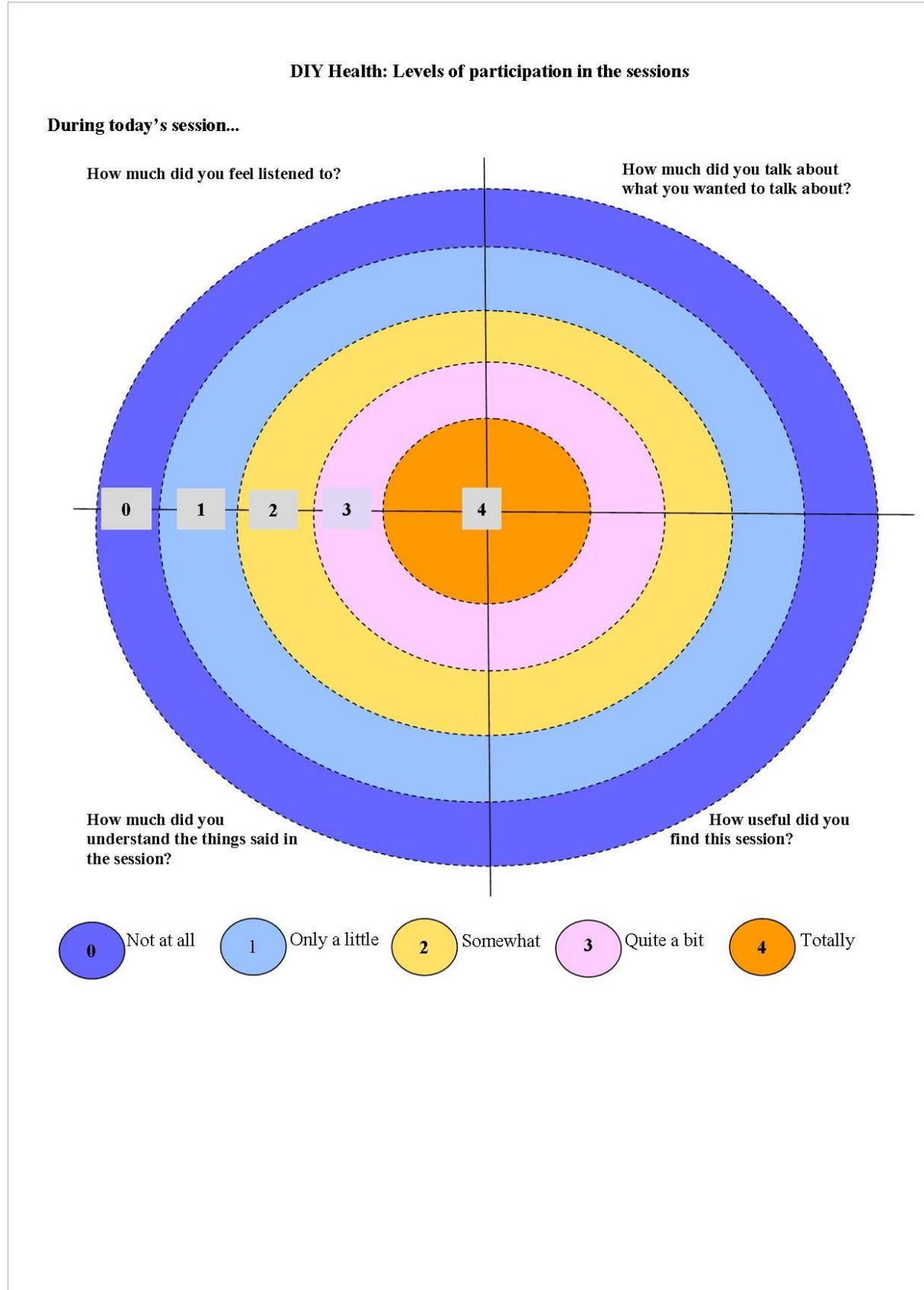
What one thing did you find most helpful in the session today?

What one thing did you find least helpful in the session today?

Would you recommend this session to a friend? YES NO

Why?

Appendix B: Bull's eye levels of participation chart



Appendix C: Overall Goal progress Measure²⁰

My Name: _____

My Goal(s) for DIY Health (please provide a score for each goal when you first write it [start point] and then at the end of each session so that you can follow changes over the next 12 weeks)

1. My Goal is to.....

Session No.	Date	Today I would rate my progress to this goal as? (Please circle the appropriate number below)										
Remember a score of zero means no progress has been made towards a goal , a score of ten means a goal has been reached fully, and a score of five is exactly half way between the two												
Start Point		0	1	2	3	4	5	6	7	8	9	10
1	20/ 22 Jan	0	1	2	3	4	5	6	7	8	9	10
2	27/ 29 Jan	0	1	2	3	4	5	6	7	8	9	10
3	3/ 5 Feb	0	1	2	3	4	5	6	7	8	9	10
4	10/12 Feb	0	1	2	3	4	5	6	7	8	9	10
5	24/ 26 Feb	0	1	2	3	4	5	6	7	8	9	10
6	3/ 5 Mar	0	1	2	3	4	5	6	7	8	9	10
7	10/ 12 Mar	0	1	2	3	4	5	6	7	8	9	10
8	17/ 19Mar	0	1	2	3	4	5	6	7	8	9	10
9	24/ 26 Mar	0	1	2	3	4	5	6	7	8	9	10
10	7/ 9 April	0	1	2	3	4	5	6	7	8	9	10
11	14/ 16 April	0	1	2	3	4	5	6	7	8	9	10
12	21/ 23 April	0	1	2	3	4	5	6	7	8	9	10

Please add to this page at every session. If you have additional goals you would like to work towards over the course of the sessions please use an ADDITIONAL GOALS sheet

²⁰ Law D and Bradley J. Goal based outcomes (GBOs). In Law, D. and Wolpert M. (ed) Guide to Using Outcomes and Feedback Tools with Children, Young People and Families. Pp128-135

Appendix D: Parent interview topic guide (version 4) 28.10.14

Demographic characteristics	
Age	
Ethnicity	
Education	
Occupation	
Partnership/ marital status	
Number of children	
Sex & age	
Household composition	
Years at surgery	

1. How many DIY Sessions did you attend?
 - a. What topics did you cover during the sessions you attended?
2. What were your goals for attending the DIY Health sessions?
 - a. Did you achieve the goals you set at the start of the course?
 - b. Why/ How?
3. What has been your experience of DIY Health?
 - a. What did you like most?
 - b. What did you like least?
 - c. How useful did you find DIY Health?
4. What helped parents and facilitators design the sessions together and cover the topics important to you?
5. What made it difficult for parents and facilitators to design the sessions together and cover the topics important to you?
6. How much did you feel listened to?
 - a. How easy/ difficult was it to make sure the topics you were interested in were included in sessions?
 - b. How involved did you feel in the learning process for the group?
 - c. Were you given opportunities to share your experiences? Ask for examples.
7. How clear was the information talked about in the sessions?
 - a. What did you do when something was not clear?
8. Are you in contact with any of the other parents outside DIY Health sessions?
 - a. Why?/ Why not?
9. Have you found new people, groups or sources of information as a result of DIY Health?
 - a. Sources specific to help you manage your child's health?
 - b. Other support
10. Can you talk me through a typical occasion when your child was ill?
 - a. Think about the last occasion.
 - i. How did you identify there was a problem?
 - ii. What did you do? What were the signs and symptoms of concern?
 - iii. Who did you ask for help? / Where did you go?

11. How if at all has what you do to manage your child's health changed since you attended DIY Health?
 - a. Feeling able to manage minor health concerns?
 - b. Knowing when to seek advice and where to go?
 - c. Understanding of different services available?
 - d. Understanding which services to use for different problems?
 - e. Overall **skills, knowledge, confidence**?
12. What has remained the same about how you manage the health of your child?
13. Is there additional information you would have liked?
 - a. Are there any changes you expected that did not happen?
14. Which health problems do you feel *most* confident about? Why?
15. Which health problems do you feel *least* confident about? Why?
16. How could DIY Health be improved in the future?
17. Is there anything else you would like to add about your experience as a member of the DIY Health team that we haven't discussed?

Appendix E: Parent focus group topic guide (version 3) 28.10.14

Demographic characteristics	
Age	
Ethnicity	
Education	
Occupation	
Partnership/ marital status	
Number of children	
Sex & age	
Household composition	
Years at surgery	

1. Why did you decide to attend DIY Health sessions?
2. What were you expecting to gain from attending DIY Health?
3. What made you come back after the first session?
 - What made you keep coming to sessions?
4. How well do you feel parents were able to influence the topics you covered in sessions?
 - Too much/ too little involvement?
 - How could this be improved?
5. How do you think DIY Health helps parents manage their children's health?
 - Information
 - Skills
 - Confidence
 - Local support
6. How were parents encouraged to learn from each other?
7. What helped parents and facilitators to design the sessions together in a way that involved everyone and covered the topics important to you?
8. What could be improved about DIY health?
 - Content
 - Delivery
 - Other
9. What did you think about the evaluation questions and forms?
 - Clarity
 - Collecting information about important aspects of sessions
 - How could it be better?
10. Who would DIY Health be most helpful for?
11. Who would it work less well for

Appendix F: DIY Health delivery team Interview topic guide (version 4) 28.10.14

1. Why do we need DIY Health?
2. What is your role as a member of the DIY Health team?
3. How do you think the DIY Health project improves parents' ability to manage their child's health?
4. What changes do you expect to see as a result of DIY Health?
5. What are the key elements of DIY Health (e.g. environment, participant, facilitator characteristics, co-production etc.) that help achieve the desired outcomes?
 - a. Which elements are most/ least challenging?
6. What has been your experience of implementing DIY Health?
 - a. What has worked well (facilitators)?
 - b. What has been difficult (barriers)?
 - c. Are there certain participants for whom DIY Health works most/ least?
 - d. Were there any unexpected outcomes? Consequences?
7. What has been your experience of the second and third cohort?
 - a. How did they compare to the first feasibility study cohort?
 - b. How does the new delivery site Bromley by Bow, compare to St Andrews?
 - c. What is easier/ harder?
8. How has attendance to DIY Health helped increase the confidence of parents (ask for examples)
9. How has attendance to DIY Health helped increase the knowledge of parents (ask for examples)
10. How has attendance to DIY Health helped increase the skills of parents (ask for examples)
11. How has attendance to DIY Health helped parents manage their children's health (ask for examples e.g. use of evidence based practice)
12. What helped participants and facilitators to design the sessions together in a way that involved everyone and covered both the core 6 topics and the topics important to participants?
13. What made the co-production process difficult?
14. How much were participants listened to?
 - a. How easy/ difficult was it to make sure the topics you were interested in were included in sessions?
 - b. How involved were participants in the learning process for the group?
 - c. How were participants given opportunities to share their experiences?
15. How well do you think participants understood the things said in the sessions?
 - a. What did participants do when something was not clear to them?
16. To what extent are you aware of parents being in contact outside DIY Health sessions?
 - a. What helped parents to start and continue to be in contact outside sessions?
 - b. What made it difficult for parents to be in contact outside sessions?
17. How could DIY health be improved in the future?
18. What are some of the key suggestions you would like included in the manual to help those in your role when DIY Health is rolled out in other settings?
 - a. What do you think are important training needs for your role?

- b. Do you have suggestions about any aspects of the DIY Health roll out?
19. Is there anything else you would like to add about your experience as a member of the DIY Health team that we haven't discussed?

Appendix G: Revised pre/ post session DIY Health evaluation form

WEEK.....

TOPIC.....

The statements listed below refer to knowledge or activities about managing your child's health.

Thinking about the topic of this week please rate your degree of confidence in your knowledge of or ability to do each activity on a scale from 0 to 10. If you feel you know nothing or cannot do it at all, circle 0; if you feel you know everything you need to know or can definitely do it, circle 10; if you feel your knowledge is moderate or you can moderately do the activity, circle 5.

Understand the causes of today's minor health concern and prevention strategies where relevant

		Cannot do at all				Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10	
End of session		0	1	2	3	4	5	6	7	8	9	10	

Identify symptoms or problems related to today's minor health concern

		Cannot do at all				Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10	
End of session		0	1	2	3	4	5	6	7	8	9	10	

Manage and treat symptoms at home

		Cannot do at all				Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10	
End of session		0	1	2	3	4	5	6	7	8	9	10	

Make decisions about when it is necessary to take my child to a doctor

		Cannot do at all				Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10	
End of session		0	1	2	3	4	5	6	7	8	9	10	

Maintain contact with parents in the group to help each other support our children's health

		Cannot do at all				Moderately can do				Definitely can do			
Start point		0	1	2	3	4	5	6	7	8	9	10	
End of session		0	1	2	3	4	5	6	7	8	9	10	

Please continue on reverse

