

**Title:**

**Barriers and facilitators to delivering injury prevention interventions in English children's centres**

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**Abstract*****Objective***

To understand barriers and facilitators to the delivery of injury prevention programmes in English children's centres (CCs). Unintentional injury is a major cause of disability and death in children aged 1-4 years; those living in poverty are at greatest risk. CCs are pivotal in English public health strategies to improve outcomes and reduce inequalities for disadvantaged children through health promotion and family support.

***Method***

This study is part of the NIHR funded 'Keeping Children Safe at home' programme which aims to develop a better understanding of how to prevent unintentional injuries in pre-school children. Thirty-three interviews with CC staff from 16 CCs across 4 study sites, Nottingham, Norwich, Newcastle and Bristol, explored practitioners' experience of factors that impact on their implementation of health promotion and injury prevention interventions.

***Results***

Using Framework Analysis, managed by NVivo, key facilitators and barriers were identified across all levels of CCs' operation. Facilitators included: knowledge of policies and strategies in injury prevention, partnership working and effective parent engagement. Barriers included: paucity of national and local injury data; difficulties reaching disengaged families and funding constraints.

***Conclusions***

The challenge is to learn from those who work in CCs the best ways to harness facilitators and to address barriers to child injury prevention activities, and to provide support, including practical advice, for further development of their essential work in injury prevention.

**225****Keywords**

Barriers and facilitators, injury prevention, children's centres, parents, young children.

**Word Count****3435**

## Introduction

Unintentional injuries remain a major cause of death and ill-health in 1-4 year olds (ONS 2009, Public Health England 2014) and ongoing concern for parents. Most injuries occur in the home environment (Towner and Ward, 1998) and children living in poverty are at greatest risk (Edwards et al., 2006). Injuries can have lasting impacts on the individual, families and societies (Public Health England 2014) Understanding effective means to reduce unintentional injuries in this age group; especially among high risk populations, is therefore imperative.

Introduction of children's centres (CCs) in the most disadvantaged areas in the UK had the core purpose of improving outcomes and reducing inequalities by: enhancing child development and school readiness, improving parenting aspirations and parenting skills, promoting child and family health and life chances; providing evidence-based targeted family support. (Department for Education, 2013). By 2013, 3116 CCs were in operation across the UK each with a key role in health promotion, including child safety (All Party Parliamentary Sure Start Group, 2013). Many changes in CCs' remit, organisation and funding have occurred since inception leading to local differences in management and resourcing. Understanding how home safety and injury prevention can best be framed within CCs' current ethos and context is essential to optimise the implementation and effectiveness of injury prevention interventions.

Recent systematic reviews identified factors affecting implementation of health promotion programmes, particularly the importance of multiple ecological factors, including innovation and delivery characteristics and support systems (Greenhalgh et al., 2004, Fixsen et al., 2005, Durlak and DuPre, 2008). Implementation of health promotion is also impacted by factors inherent in the intervention itself and the moderators that impact on their delivery (Carroll et al., 2007). Ingram et al. conclude that 'barriers and facilitators should be addressed when implementing injury prevention interventions and studies should explicitly explore factors that help or hinder the process' (Ingram et al., 2012, 258). Knowledge of barriers and facilitators to injury prevention activities within the CC context is limited.

This study is part of the NIHR 'Keeping Children Safe at home' (KCS) programme; a five year multi-centre research programme involving interlinked studies to improve understanding

of unintentional injury prevention in pre-school children. This article reports on semi-structured interviews with practitioners working in CCs in the four KCS study sites (Bristol, Newcastle, Norwich and Nottingham); it explores barriers and facilitators to injury prevention activities in this context. This qualitative component was explicitly chosen to add richness and depth and explore ‘attitudes towards, behaviours and understanding of safety and injury prevention [which] can be vital in envisaging how interventions could be made more effective’ (Smithson et al., 2011 119).

The findings presented here address gaps in the literature through exploring barriers and facilitators to health promotion, in particular injury prevention in the CC context.

## **Methods**

### ***Sampling***

#### *Children’s centres*

To explore the perspectives of a wide range of staff reflecting differing CC contexts in the four study sites, purposeful sampling identified four CCs from each site located in the most deprived 30% within each area (assessed by 2007 Indices of Multiple Deprivation for each region, (ONS, 2010)) and located in the two PCT areas closest to each study site. Centres with different sized catchments were chosen and, where possible, selected to represent variation in organisational management (NHS, local government/authority or charity).

#### *Interview participants*

Two staff members from four CCs in each of the study sites were invited to participate. Invitation was initially to managers or staff with management responsibilities. Each manager nominated another staff member with face-to-face contact with parents and responsibility for health promotion activities. Interviews took place at the CC, university or local NHS premises (participants’ choice). Recruitment and interviews occurred between June and November 2010. Signed consent was obtained prior to interview. Interviews were digitally recorded, anonymised and transcribed verbatim.

Interviews were conducted by researchers from each study site. To maintain consistency, the first two interviews from each site were assessed by the senior study researcher to identify discrepancies, and assess adequacy of the interview schedule; issues raised were discussed

and resolved in discussion with researchers from all study sites. To ensure reliability, discussion of matters relating to interview structure or content continued throughout the study via regular researcher teleconferences.

### ***Interviews***

The semi-structured interview topic guide built on initial findings in earlier KCS programme studies, particularly preliminary findings from systematic review of qualitative and quantitative evidence identifying facilitators and barriers for home injury prevention interventions (Ingram et al., 2012) and the national survey of CC injury prevention activities (Watson et al., 2012).

Questions focused on: what helped/hindered delivery of health promotion and injury prevention activities; recommendations to engage parents; staff training and child safety development work. Topic headings were sent in advance of the interviews, during which the emphasis was on participants talking freely from their own perspectives.

Ethical approval was granted by North Nottinghamshire Research Ethics Committee: 09/H0408/113 and University of the West of England, University Health and Social Care Ethics Sub Committee: HSC/10/05/40.

### **Analysis**

Initial analysis employed Framework Analysis (Ritchie and Spencer 2002, Ritchie et al., 2003) managed with Framework Analysis software package (Natcen, 2012). This methodology allowed structured analysis of a priori themes (derived from the semi-structured interview topic guide) and exploration of additional themes that arose within the data (Deave et al. 2014). Analysis was completed using NVivo 9.2 (QSR International 2011).

An initial coding framework was developed by two Nottingham researchers (JS and JA); independently coding six randomly selected transcripts (two staff members and two managers from study sites: Norwich, Newcastle and Nottingham). This framework was reviewed, discussed and agreed with the Bristol researchers (TG and BK). Two interviews were subsequently coded independently by TG and BK to check for consistency and raise queries. TG and BK developed and expanded these initial themes during analysis of the complete dataset (33 interviews) and refined the final thematic framework. Comments on emerging

themes were sought from researchers across the four study sites and the senior qualitative researcher (EP) at each stage. Where discrepancies occurred, discussion and appropriate alterations were made. The final framework was reviewed by the researchers who conducted the interviews, no changes were made at this stage. Once coding was complete, TG and BK reviewed each other's coding on four further interviews. Notes were taken, discussed, and necessary alterations made across all 33 interviews.

## **Results**

Thirty-three interviews were completed; eight each in Norwich, Newcastle and Bristol and nine in Nottingham. The additional Nottingham interview addressed initial difficulties finding managers with time to participate. Interviews lasted between 14 and 80 minutes; this variation reflected differences in the breadth of information shared, time available to participants and the number and duration of interruptions that occurred during interviews. Where it was known in advance that time was short, priority was given to exploration of child safety and injury prevention work.

### ***Children's centre and staff characteristics***

Demographic information for participating centres and interview participant characteristics are summarised in Tables 1 & 2. These tables demonstrate the wide variation of management organisation, focus, size, operational duration, role descriptions and service duration of CC staff.

➤ **Tables 1 & 2 here**

### ***Barriers and facilitators to health promotion (injury prevention) in the CC context***

Differences in organisation and context influenced the way CCs worked which was reflected in the perceived barriers and facilitators to health promotion and injury prevention. Planning and implementing injury prevention programmes required consideration of many complex and varied elements. Seven key themes were identified: national policies and local strategies; supporting data; injury prevention prioritisation; partnership working; funding; engagement with parents and families, including targeted provision and evaluation and staff training. The

following sections describe some of the main facilitators and barriers to effective implementation within these themes.

### ***National policies and local strategies***

Staff described the critical importance of national, local and CC specific policies when making the case for health promotion and injury prevention work:

*'I think what we'd look at is firstly what is the national indicators...what's the national strategy, then what is our city wide strategies .... then at what's our local factors, what is happening in terms of accidents being reported in local hospitals and A&E attendance....' (Newcastle1b)*

### ***Supporting data***

'Up-to-date' local data were also essential to assess accurately, prioritise need and evidence intervention impact against health promotion targets and objectives; difficulties arose when access to local information was absent or limited:

*'We're criticised by Ofsted for saying that we only have countywide data ...we showed we had a significant decrease in the accidents here, in the first two years that we were operating...data's key to show we need to do it in the first place, because if we're not having a lot of accidents round here, why would we do it?' (Norwich1a)*

*'It's what we're delivering....we've got case studies which would show on an individual basis what we're delivering is effective. But we haven't got quantitative data to show that.'* (Norwich1)

### ***Injury prevention prioritisation***

Staff sometimes felt beset by competing priorities and targets which were also frequently changed. As a result not all CCs prioritised child safety and injury prevention work; accounted for by emphasis on other programmes e.g. 'obesity' and 'breastfeeding'; more pressing issues affecting their parent population and/or work pressures on staff.



*'We do get ...overwhelmed with the sort of 'hard end stuff' ...and that can become very draining and then maybe some of the more preventative stuff is an area that we are not focussing on as much.'* (Bristol3b)

However priorities also changed and cycled back around:

*'Accident reduction, as opposed to safety, probably always been one of the targets that we've had to follow, and actually, it was as a Sure Start local programme. Then when we turned into a children's centre....it wasn't one of our key targets. But it's come back again as part of our Ofsted inspections and the framework, so that we're working again to that target.'* (Norwich1a)

### **Partnership working**

Successful partnerships could be beneficial in pushing the home safety agenda forwards in a positive and practical manner. Over 22 partnerships with key community organisations and individuals in child safety work were described and regarded as vitally important:

*'The fire service is probably the one with the best relationship...they come along to all sorts of things .... that real positive engagement with the fire service we are able to refer any family that didn't have a smoke alarm onto them for home safety assessment and for them to go and fit a free smoke alarm for families....they are a very visible presence....and regularly doing that preventative work.'* (Nottingham2b)

New home safety equipment schemes, such as the RoSPA Home Safety Scheme (2009), were regarded as important in improving child safety work, particularly for vulnerable families. Six centres were participating in this relatively new and time-limited scheme; others reported similar links with other charities and community organisations:

*'We have now the ability with regards to the issue of safety equipment through the RoSPA...which has really...helped reinforce the messages that we can give and the understanding that parents can have.'* (Norwich1b)

Partnerships with health professionals were also cited as crucial. Strong links with health visitors provided specialist skills and routes of referral. Where little systematic data about

vulnerable populations were available, local health professionals could be vital sources of additional information to help determining local needs.

*'Health visitors obviously, and midwives, they know the most vulnerable parents/children in this area, so we're very much asked them for information of who do you think needs this service the most.'* (Nottingham1)

Despite its potential, relying on collaborative working could also hinder health promotion. For example for one CC poor communication led to missed opportunities for shared activities.

*'what was missing was some of the health visitors just basically did their own thing anyway and midwifery because of different changeovers of staff, never really embraced it.....'* (Bristol4b)

### **Funding**

Finding funds and resources to deliver activities were a common barrier to instigating or continuing health education programmes. Funding restrictions impacted on the child safety/injury prevention resources that they could access:

*'it was in the old Shoe Factory and they had set it up as all different rooms and then the road area and it was fantastic.....And that didn't last very long...I think it was funded by LA, I think they just didn't have the money anymore.'* (Bristol4)

### **Engagement with parents and families**

Interviews illustrated that effective engagement with families was fundamental and multifaceted. Several key components were identified including time to build trusting relationships and skilled communication by trained and experienced staff:

*'The relation aspect is really important... it's about that embedding within what you do and I think part of the strength of Child Safety Week is that it's in June so it's at the end of the year when you have had a year to get to know people and build relationships.'* (Bristol3a)

Provision of facilities appropriate to parents' needs was also vital. Parents were more likely to attend when practicalities including: crèche provision; session times; content and structure of activities/sessions were tailored to meet their needs:

*'Crèche provision is absolutely essential... and the crèche to be within the venue as well.'* (Newcastle4b)

*'When we did Oral Health Week....when we did the little ... teeth, that bit of it I think was what made it so successful, all the hands on stuff, the real stuff.'* (Bristol 4a)

Successful parental engagement needed to be a two-way process: twelve CC staff described the importance of feedback from parents and children:

*'All sorts of things we do; graffiti boards, questionnaires, post-its, face to face, we sometimes do telephone contact....we use all different types of means .....So we try whatever we possibly can to get as much feedback from parents as possible and obviously children as well.'* (Nottingham1b)

### *Targeted Provision*

Particular challenges were highlighted for 'hard-to-reach' families, especially those with English as a second language, from transient populations and teenage/young parents. Diverse approaches were necessary to encourage these families to access services e.g. outreach work or targeted separate sessions.

*'It may be a case of going out to them and actually ... holding their hand, bringing them in.... and we've had quite a lot of success in the way of getting people in...'*  
(Newcastle4a)

Employing specialist workers helped to engage specific groups e.g. traveller communities, non-English speakers, and male workers to work with fathers. However, despite numerous strategies to enhance working with vulnerable families, lack of engagement was cited as one of the most difficult barriers to overcome:

*'So we don't always deliver things out of the centre because some people just won't come through the door so that way we'll go out to the community so people might access us more in the community rather than coming through the door because they think there might be a stigma attached to it.'* (Nottingham2b)

### *Evaluation*

While evaluation was considered an important means to monitor and reflect on the delivery of health promotion interventions, the ever changing CC population created difficulties utilising such feedback to develop practice:

*'I mean part of the problem with evaluation for us, is that we are getting different cohorts every year so you get the feedback from one kind of cohort and that might really work for them, and then we will get a new cohort coming in and its totally different.'* (Bristol3a)

### *Staff training*

Relevant and accessible training was considered vital in enabling staff to work effectively. Only ten centres recounted specific injury prevention training; topics included fire safety awareness; child/home safety; health and safety (including RoSPA Home Safety programme) and paediatric first-aid.

*'Our staff training is thought through and is quite planned and we try and make sure we get the right people in to deliver [we] have a broad range of people [staff] there and make sure that the training is applicable but also pitched at a level that everyone can get something out of it...[training] needs to actually have an impact upon people's practice ultimately.'* (Bristol3a)

The key facilitators and barriers identified are summarised in Tables 3 & 4

➤ **Tables 3 & 4 here**

### *Overview*

It is clear that while some barriers and facilitators were relatively universal, others were dependent on context. This resulted in approaches which worked well with one CC being perceived as a barrier in another. For example, in Nottingham<sup>1</sup>, parents under 20 enjoyed belonging to a ‘Young Parent’s Group’, whereas, in Bristol<sup>1</sup>, a similar named group clearly inhibited attendance. Factors that impacted on delivery of injury prevention interventions occurred at every level of CC operation and were often interlinked.

## **Discussion**

This study explored the barriers and facilitators to implementing health promotion and injury prevention interventions in English CCs. The 33 interviews provided rich insights into the complex interplay of factors that impacted on centres’ delivery of activities and added detail to the findings of systematic reviews about issues implementation of health promotion programmes in CCs (Durlak and DuPre 2006, Ingram et al., 2012). They also highlight barriers to meeting the government’s vision of the ‘core purpose’ of CCs in ‘improving outcomes and reducing inequalities, promoting child and family health and life chances and evidence based targeted family support.’ (Department for Education, 2013).

Our findings add breadth and context to a recent survey of 384 CC staff (Watson et al., 2013), in particular confirming issues presented by lack of injury data and ‘hard-to-reach’ families and benefits of trained, knowledgeable and dedicated staff; good relationships with families and partnership working with other agencies. This study also emphasises the importance of the advantages of free provision and fitting of safety equipment; community involvement and awareness; problems relating to low literacy, low income, ethnicity; problems with communication, time and resources (Ingram et al., 2012).

## **Limitations of study**

The study took place during a period of organisational and staff changes for many centres. These changes affected the conduct of the study and resulted in some difficulties identifying staff with time to participate. Staff who agreed to participate were either approached directly by the research team or nominated as participants by their manager. Managers provided comprehensive information about the role and work of their centre in injury prevention and child safety. Some of the nominated staff initially expressed uncertainty about these aspects of their work, although they were able to report detailed individual experiences of working with parents across many aspects of injury prevention.

### **Strengths of the study**

The semi-structured interview format allowed staff to discuss the topics freely. Their experiences encompassed a wide range of roles and backgrounds providing breadth and depth to the interview responses. CCs were situated in England across diverse geographical areas but the results indicate broadly common experiences across all study sites.

### **Implications for practice and further research**

This study found that injury prevention work was not prioritised by all centres or routinely offered to all families. CCs continually managed competing demands and constraints from, and changes within, local and national governments, the NHS and their own organisation. This resulted in injury prevention not always being seen as a primary focus, despite continued recognition that unintentional injuries in and around the home remain a leading cause of preventable death in the under-fives. (Public Health England, 2014)

Guidance on strategies to prevent childhood unintentional injuries stresses the importance of local coordination of injury prevention activities, partnership working and networks (NICE 2010, 2013). Recent work published by Public Health England underlines the unique position of CCs; as ‘well-placed to provide information and support to families around child accident prevention’ (Public Health England, 2014 16). To provide effective injury prevention programmes and child safety information, centres required access to up-to-date national and local unintentional injury statistics. In addition, ring-fenced financial and practical resources would promote effective implementation of health prevention programmes by enabling long-term planning. This should include development of centre staff capacity and training.

External organisations working with centres on injury prevention, provide networks for sharing good practice, resources and expertise. This is particularly relevant when external initiatives, such as the RoSPA Safe at Home scheme (RoSPA 2009), have limited life-spans. Centre staff emphasised that: providing information with a clear evidence-base was important; that staff had the enthusiasm and expertise to engage and involve parents and that effective child injury prevention required evidence, creativity, skill and local experience; a combination of ‘art and science’. (Brussoni et al.’ 2006).

Our findings improve understanding of how interventions, the context and delivery interrelate; this could inform development of more effective, targetted interventions (Durlak

and DuPre, 2008). Another study within the KCS programme found that while interventions designed specifically to provide child safety resources for CCs can improve implementation of injury prevention external facilitation is an important adjunct to overcome specific barriers occurring in the CC context (Beckett et al., 2014).

### **Conclusion**

This study supports evidence that emphasises CCs potential role in injury prevention even within the context of continual change. The challenge is to learn from CCs staff how best to harness facilitators and address barriers to child injury prevention activities to; offer appropriate support and practical advice, to inform intervention design and to enable further development of their essential work in injury prevention.

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**Table 1: Study CCs (N= 16) demographic information**

<b>Children's Centre</b>	<b>Organisational setting</b>	<b>Focus</b>	<b>Catchment Size (number of children) at time of interview</b>	<b>Length of time in operation at interview</b>
Nottingham1	NHS	health/education, attached to school	large: 921 - 2635	4 years
Nottingham2	NHS	health led/focus	small: $\leq 537$	6 years
Nottingham3	LA	multi access centre- health links	large: 921 - 2635	5 years
Nottingham4	NHS	Health led/focus	medium: 538-920	No information
Newcastle1	LA	core business is health promotion (multiple sites)	large: 928 - 1336	9 years
Newcastle2	LA	linked with school, shared head teacher	medium: 554-927	2 years
Newcastle3	Charity Barnardo's	children's centre hub	large: 928 - 1336	No information
Newcastle4	LA	children's centre	large: 928 - 1336	4 years
Bristol1	LA	merging with education to become a specialist children's centre	large: 978 - 1132	9 years
Bristol2	LA	early years centre, education focussed	large: 978 - 1132	7 years

Bristol3	LA	nursery school and children's centre	medium: 651-977	3 years
Bristol4	LA	social, holistic	small: $\leq 650$	3 years
Norwich1	NHS	health led and focus	medium: 657-845	8 years
Norwich2	LA	education focussed	medium: 657-845	3 years
Norwich3	LA	health and special needs, part of larger community trust for all ages	large:846 - 1410	10 years
Norwich4	LA	education/health	small: $\leq 656$	3 years

**Table 2: Interview participant characteristics**

<b>Table 2: Interview participant characteristics (N=33)</b>		
	<b>Managerial</b>	<b>Non-managerial</b>
<b>Number</b>	17	16 (2: some managerial responsibilities)
<b>Service duration: Mean (range)</b>	4.5 years (7months -9 years)	3.5 years (1-7 years)
<b>Role description</b>	Managerial	Family support services (9); children's workers (2); frontline workers (2); nursery nurse (1); project worker (1) and 'early years' practitioner (1)
<b>Other</b>	Described previous employment in other CC roles and/or related disciplines, including teaching and specialist community public health nurse (health visitor)	Described additional current responsibility for leading on specific areas e.g. health lead, Royal Society for the Protection of Accidents (RoSPA) lead and family support team leader

**Table 3: Key facilitators to health promotion and injury prevention work**

<b>Key facilitators to health promotion and injury prevention work</b>
<ul style="list-style-type: none"> <li>• Knowledge and understanding national policies/local strategies applied to health promotion and injury prevention work</li> <li>• Availability of up-to-date local data on childhood injuries</li> <li>• Assessment of local need, including consultation with parents</li> <li>• Successful partnerships with key community organisations/individuals, including RoSPA, injury prevention specialists; health professionals, Fire and Rescue Service; Child Accident Prevention Trust (CAPT)</li> <li>• Adequate funding</li> <li>• Successful engagement with parents and families including: <ul style="list-style-type: none"> <li>♦ Clear understanding of community needs, strong trust based relationships with parents /families</li> <li>♦ Appropriate facilities</li> <li>♦ Effective communication by trained and experienced staff; enthusiastic and passionate about their work with families</li> <li>♦ Access to practical support for parents, to back up and facilitate safety messages including home safety equipment schemes</li> <li>♦ Regular parental interactive feedback and evaluation</li> <li>♦ Evaluation and staff reflective practice</li> </ul> </li> <li>• Relevant and accessible training for all staff.</li> </ul>

**Table 4: Key Barriers to health promotion and injury prevention work**

<b>Key Barriers to health promotion and injury prevention work</b>
<ul style="list-style-type: none"><li>• Lack of data, both national and local, on injuries in particular</li><li>• Poor communication/lack of understanding between services &amp; disciplines</li><li>• Lack of funding or facilities for particular aspects of health promotion including injury prevention programmes</li><li>• Lack of engagement of targeted 'hard to reach' families, including families with English as a second language; transient populations, teenage/young parents</li><li>• Lack of long term, universally accessible initiatives e.g. Home Safety Equipment schemes</li></ul>