Barriers to, and facilitators of, the prevention of unintentional injury in children in the home: a systematic review and synthesis of qualitative research

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ABSTRACT

Background This review considers barriers to, and facilitators of, success for interventions to reduce unintentional injury to children in the home through supply and/or installation of home safety equipment, and looks at risk assessments.
Methods A systematic review of qualitative research. Bibliographic databases were searched for studies on interventions to reduce unintentional child injury in the home, or on related attitudes and behaviours. Studies were quality appraised, findings extracted, and a conceptual framework was developed to assess factors affecting the success of interventions.
Results Nine peer-reviewed journal articles were included. Barriers and facilitators were highlighted at organisational, environmental and personal levels. Effective provision of safety equipment involves ongoing support with installation and maintenance. Take up and success of interventions depends on adjusting interventions according to practical limitations and parents' cultural expectations. A particular barrier was parents' inability to modify rented or shared accommodation.
Conclusions The review highlights ways in which health inequalities affect the take up and success of home safety interventions, and how health workers can use this knowledge to facilitate future interventions.

INTRODUCTION

Globally, unintentional injury is one of the top 15 causes of death across all age groups of children aged 0—19 years, with road traffic injuries, drowning, fire-related burns and falls being the most common.[1–3] It is known that higher levels of injury morbidity and mortality are found among those from more deprived backgrounds, although to date there has been little robust research about the impact of interventions on different socioeconomic groups.[2] In 2008, 208 deaths among children aged under 15 were recorded as 'accidental' by the UK Office of National Statistics; about half of those are likely to have been sustained at home.[3] [4] Data from recent UK reports (http://www.hassandlass.org.uk) show that on average, in 2000—2002, nearly three-quarters of a million children aged 0—15 years presented at hospital annually having been injured inside the home. Given variation in injury rates both between and within countries, it is clear that many such injuries are preventable. Previous systematic reviews of the effectiveness of interventions designed to reduce injuries to children in the home have been conducted. These reviews have reported mixed or statistically non-significant home safety equipment use outcomes for the prevention of thermal injuries[5] [6] and falls.[7] However, an improvement in poisoning prevention practices following safety education has been noted.[8]

Much of the published research in this field is quantitative and has focused on the nature and extent of child injuries in the home and on initiatives to prevent such injuries. In order for parents and initiative providers to be effectively engaged in any interventions, an understanding of the motivations and barriers to uptake is required. Qualitative studies that focus on attitudes towards, behaviours and understanding of safety and injury prevention can be vital in envisaging how interventions could be made more effective.

The research question posed by the Centre for Public Health Excellence (CPHE) which stimulated this review was 'What are the barriers to, and facilitators of, interventions involving the supply and/or installation of home safety equipment, and/or home risk assessments aimed at reducing unintentional injury to children in the home?' This review was conducted as part of a suite of reviews commissioned by the CPHE at the UK's National Institute for Health and Clinical Excellence (NICE) to inform policy-making processes around preventing unintentional injury to children in the home. The effectiveness evidence was also reviewed,[9] and showed a mixed picture regarding the effectiveness of interventions involving home safety education and the provision of free or discounted home safety equipment. The aim of this systematic review is to examine relevant qualitative research to illuminate these mixed findings by investigating possible factors that may facilitate or hinder the success of such interventions In particular, we looked at studies on interventions aimed at reducing unintentional injury to children in the home, as well as studies that explored parents' and health practitioners' attitudes to, and behaviour about, child safety in the home.

METHODS

This study systematically identified, critically appraised, summarised and synthesised qualitative evidence relating to contextual or other factors that may enhance or reduce the effectiveness of interventions aimed at preventing unintentional injury to children in the home through the supply and/or installation of home safety equipment and/or home

risk assessments, or which help or hinder their implementation. Our meta-analysis is based on meta-ethnography, an increasingly recognised method for synthesising qualitative research initiated by Noblit and Hare[10] and developed by others.[11–13] It involves several stages, including a systematic search for all relevant articles, and a rigorous process of data extraction to identify and draw similarities and differences between the key concepts from each article. As most papers in this synthesis provide a thematic analysis, as most papers included were mainly descriptive rather than explanatory or theoretical, the synthesis provides a thematic analysis of published qualitative research on this topic, rather than generating new theories.

Study identification and appraisal

The review used published evidence identified through searches in a series of 16 electronic bibliographic databases and websites (details in box 1) using subject terms and qualitative research filters, together with reference checklists.

A search strategy using text words and thesaurus headings relating to home safety devices, type of programme, and home risk assessments was used in a range of databases. Filters for publication year (from 1990 to date of search) and English language were applied. Websites and the citations of included studies were also searched. The full search strategy, which was also designed to locate studies for inclusion in a parallel effectiveness and cost-effectiveness review,[9] is shown in online supplementary file 1; exclusion criteria are shown in online supplementary file 2. Two reviewers (RG, MP) shared screening the titles and abstracts, and full text screening, using predefined criteria (search strategy flowchart shown in figure 1). When papers seemed likely to be eligible, full texts were obtained. These were assessed for inclusion independently by two reviewers (RG, MP), and disagreements were resolved by discussion. Papers were included if they reported in English on qualitative research focusing on interventions to reduce unintentional injury to children in the home, and/or on attitudes and behaviours relating to this.

Each included study was quality appraised by two researchers (JS, RG) using the criteria in *Methods for the Development of NICE Public Health Guidance*.[14] A quality appraisal sheet for each paper consisted of 10 sensitising questions about the aims, theoretical perspective, sampling, analysis and reflexivity

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Figure 1 Review flowchart.

(summary table in online supplementary file 3). Rather than weighting the answers to these questions, each study was also given an overarching quality grade of '++', '+' or '−'. Studies were appraised less favourably where there were no, or few, direct quotes from the participants, making validity difficult to assess, or where there was little evidence of theoretical or conceptual development by the study authors. However, in line with other qualitative syntheses, we did not use the scores as a criterion for exclusion. There is little consensus among qualitative researchers about how to measure quality in qualitative research.[15] Moreover, experience from previous synthesis studies suggests that poor quality papers with a few findings but little original analysis provide confirmatory evidence in support of the better articles.[12 16]

Included studies

Each included article was read by two researchers (RG, JS). One researcher (JS) extracted information about the population included, the type of intervention or programme, the research methods, findings and study limitations. The findings—themes, concepts and supporting quotations—were extracted, and details recorded in a structured evidence table for each study. These were read and discussed by two reviewers (RG, JS). Evidence tables for each included study were used to develop a conceptual framework for understanding the themes in relation to each other. This provided a way of assessing factors that might help or hinder interventions to reduce unintentional injury to children in the home.

Data analysis and synthesis

Once the findings from each included study had been extracted, they were read and reread by two reviewers (RG, JS). JS led the analysis, with regular discussion and collaboration at all stages with RG.

Three of the papers organised findings around a framework of barriers and facilitators to unintentional injury prevention, and this was used as the initial organising framework for the synthesis. JS developed a coding framework which grouped main themes emerging from the papers according to the level at which they operate as a barrier or facilitator: (i) external (legal, policy or organisational); (ii) physical or environmental; (iii) individual. Sub-themes within these broad areas were identified.

Second-order concepts are the interpretations or explanations of the findings made by the researcher(s). First-order concepts

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Box 1 Databases searched

1. Medline
2. PsycINFO
3. ISI Web of Knowledge Social Science Citation Index (SSCI)
4. Science Citation Index Expanded (SCI-EXPANDED)
5. Health Management Information Consortium (HMIC)
6. CINAHL
7. Applied Social Science Index and Abstracts (ASSIA)
8. The Cochrane Library database of systematic reviews
9. EconLit
10. SafetyLit
11. EPPI-Centre
12. TroPHI
13. DoPHER
14. Bibliomap
15. Centre for Reviews and Dissemination databases
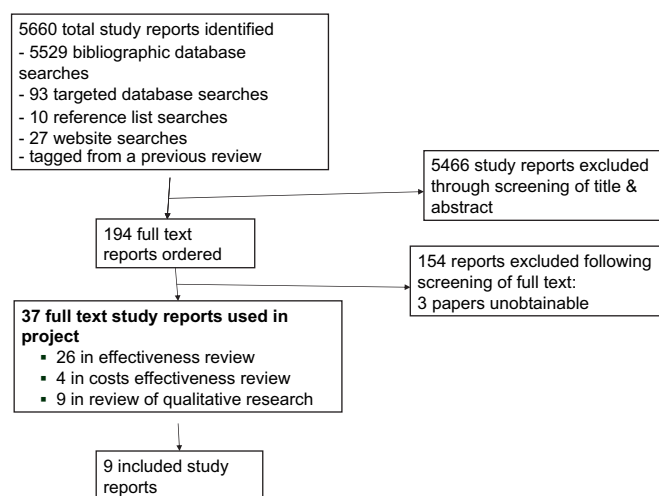16. Database of Abstracts of Reviews of Effects (DARE)

are the direct expressions of the participants, which show how they interpret their experiences.[10] Themes/codes and their allocation were developed through discussion and further refined during the writing up of the synthesis. Themes not introduced by participants or authors, but which draw on analysis by the reviewers, are noted as reviewer interpretations (third-order concepts).

RESULTS
Study details
Nine peer-reviewed journal articles were included in the review. Methodological details of the studies included can be seen in table 1. Details of the included studies' main research questions and samples can be seen in figure 2. Four described studies were based in the USA,[17–20] three were from the UK,[21–23] one was from Australia[24] and one was from Canada.[25] The methodological quality of the study reports was mixed—four were rated as poor, four as adequate, one as good. However, some of the weaker papers, in methodological terms, were more practice-based,[21 22] focusing on evaluation of interventions, so their findings were in some ways more directly relevant to this synthesis topic.

Barriers and facilitators framework
Three papers[21 23 24] explicitly organised their research themes around barriers and facilitators. This was used as an organising framework to synthesise the findings of the nine included studies; the categories within these were determined by our data analysis. Where possible, findings from several studies were used to build a picture of the main issues in terms of barriers and facilitators to the success of projects and interventions that aim to reduce injury in the home. Themes were developed and refined through discussion. The key findings from the nine studies included in this review are outlined in table 2, and synthesised in figure 3.

Main themes emerging
Barriers and facilitators due to legal/policy/health services
Legal and policy barriers
Five studies cited perceived legal or policy barriers to injury prevention programmes.[14 15 17–19 21 22 24] Weak legislation was a barrier to effective implementation of injury prevention programmes—for example, Brussoni et al[21] conducted a UK study of healthcare practitioners' views on a smoke alarm intervention, and found that an absence of legislation within the Fire Services led to lack of funding for smoke installation projects. Existing legislation was often poorly implemented. For example, rental landlords ignored recommendations to install or maintain alarms,[21 24] and some councils removed smoke alarms to limit liability if smoke alarms malfunctioned.[21]

Gibbs et al[24] found that limited legislation in Australia for child-resistant containers was a barrier to unintentional injury reduction in the home. Parents perceived society as over-protective, yet were surprised to find that products without warnings or child-resistant containers could be dangerous. Parents also understood 'child-resistant' as 'child-proof' so were more likely to store the container unsafely, suggesting that legislation on safety containers may actually reduce parents' tendency to think about danger.

Table 1 Methodological details of included studies

Author	Location	Aim	Theoretical approach	Sample/population	Sample size	Study design	Analytical process
Bennett Murphy (2001)[19]	USA	To identify to what extent adolescent mothers viewed injury prevention as an essential role of parenting. To examine beliefs about why injuries occur and how they can be prevented	Unspecified	Adolescent mothers. Many African-American	17	Focus group	Thematic analysis (RD)*
Brannen (1992)[18]	USA	What factors influence use of poison-prevention measures and poison control centre resources in a black, low income, inner-city community?	Health belief model	Mothers in black, low income, inner-city community	32	Interviews	Thematic analysis (RD)
Brussoni et al (2006)[21]	UK	To bring together scientific evidence of what works in injury prevention, using case study of smoke alarm installation in England	'Kelly et al's' multistep process†	Health practitioners	98	Focus groups/interviews	Thematic analysis (RD)
Carr (2005)[22]	UK	Evaluation of an innovative approach to tackling child injury prevention in the home	Unspecified	Low income mothers in multi-ethnic community	3	Focus groups/interviews	Thematic analysis
Gibbs et al (2005)[24]	Australia	To develop an understanding of factors acting as barriers and motivators to parental uptake of child poison safety strategies	Grounded theory	Parents of young children	65	Focus groups/interviews	Thematic analysis
Hendrickson (2008)[21]	USA	To explore the worries, safety behaviours, and perceived difficulties in keeping children safe at home in a purposive sample of low income mostly non-English-speaking mothers as a foundation for nursing interventions	Health belief model	Low income mothers, many Hispanic	82	Interviews	Qualitative Content analysis
Mull et al (2001)[17]	USA	Why is serious paediatric injury higher among Hispanic than non-Hispanic whites in the USA?	Focused ethnography	Low income mothers, many Hispanic.	110	Interviews, home observation	Thematic analysis
Olsen et al (2008)[25]	Canada	To explore the child safety practices of mothers living in low income situations	Ethnography	Low income mothers	17	Interviews, home observation	Thematic analysis (RD)
Roberts et al (2004)[23]	UK	To explore barriers and levers to the use of a specific public health intervention: installing smoke alarms	Unspecified	Parents in trial smoke alarm area	58	Focus groups/interviews	Thematic analysis (RD)

*RD, researcher-defined, not specified in paper.
†This process is not widely known; the paper refers to a webpage that no longer exists.

Figure 2 Main research questions and samples.
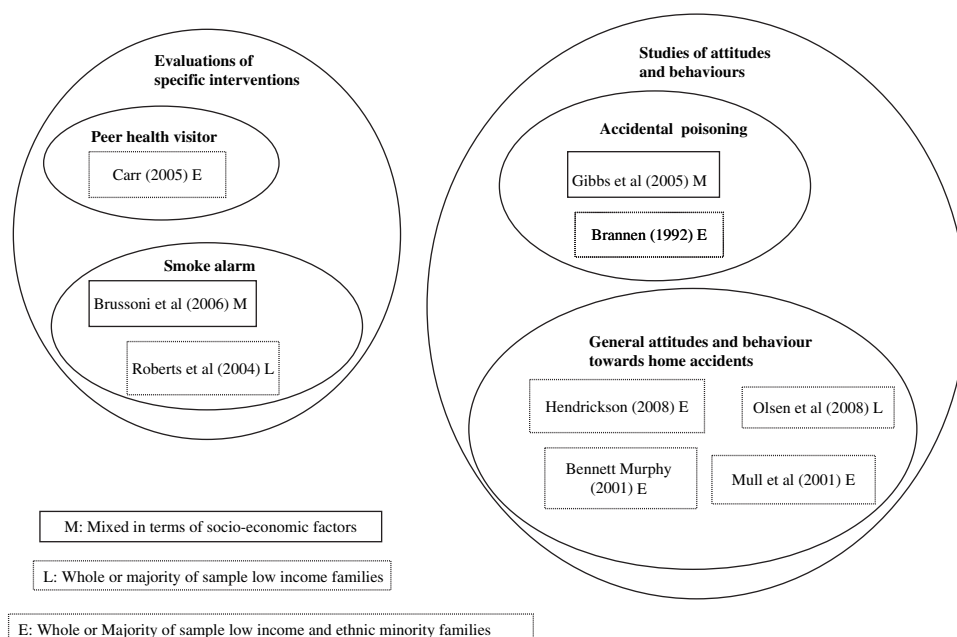
Provision and timing of information

Poor communication with households was another barrier identified in the synthesis. Three studies found that parents felt there was a lack of information or knowledge about existing policies or supports.[18 19 21] Timing of information was shown to be important. Brannen[18] found that parents given information in hospital at the time of a child's birth did not retain this, while information provided subsequently in a community or physician setting was better retained. Two studies[21 22] noted the importance of devising information and advice in ways (style, language, examples) that suit target communities, in these cases low income and ethnic minority populations.

Limitations on effectiveness due to living in rented or overcrowded living conditions

All nine papers in the synthesis found barriers due to socioeconomic circumstances (specifically, poverty, youth, immigrant status). Eight studies found that a major barrier to implementing safety equipment and childproofing a home was not living in a home one was free to modify because of living in rented accommodation and/or with extended family.[17 25]

'I am exhausted from telling the older children not to play near the pool where the baby will want to join them (a pool which could not be drained), not to flip on the kitchen lights (sparking electrical system)'. (Mother of four).[20]

Table 2 Main themes emerging in synthesis of nine articles on barriers to, and facilitators of, prevention of unintentional injury to children in the home

Level	Type of barrier	Main barriers identified	Main facilitators identified
1. External: legal, policy or organisational	Legal/policy/health services	Weak legislation. Absence of policy drivers influencing resources	Policy drivers and legislation. Multi-agency partnerships, linking with other health messages or initiatives
	Information and communication with households	Lack of appropriate information to parents/households about legislation and policies	Good communication between organisations and target audiences. Involving local people (eg, mothers) to be trained in health initiatives. Targeting of population (eg, schoolchildren) to share information
	Socioeconomic circumstances	Disempowering effects of living in rented or overcrowded living conditions	
2. Physical or environmental	Housing	Practical barriers due to poor quality (often rented) housing	Stable and child-friendly accommodation. Control/ownership of home environment
	Equipment and maintenance	Lack of maintenance of smoke alarms	Landlords' attention to safety issues. Provision of appropriate and durable equipment. Maintenance of and confidence in other safety devices
	Training		Training in installation and equipment use/replacement
	Cost	Cost of installing safety devices. Costs of accessing treatment	
3. Individual	Understanding of risk	Lack of awareness of risk. Fatalism about nature of injuries	Awareness of risk
	Mothers' safeguarding work		Mothers' work in safeguarding children. Mothers' commitment to vigilance. Teaching children about safety
	Cultural background	Cultural differences in experiences and expectations. Cultural practices in different cultural context. Language barriers	Culturally sensitive information and advice systems
	Social/relational	Relationship with partner. Mistrust of officials. Fear of being accused of abuse or neglect. Not trusting neighbours/non-family to look after child	Social connectedness rather than isolation. Building trust in officials via peer education
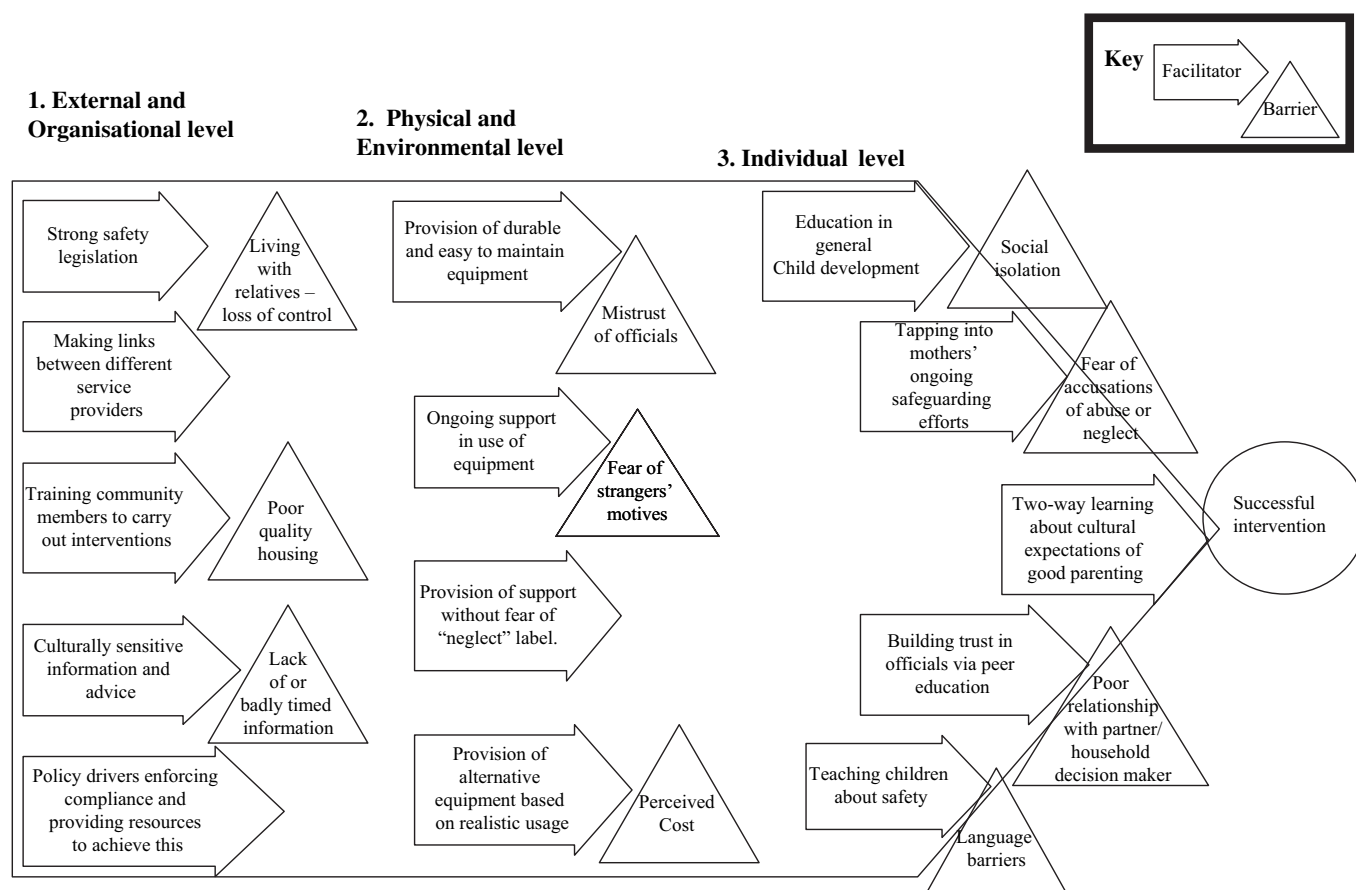
Figure 3 Synthesis model: What facilitates an intervention to prevent injuries to children in the home?

Physical and environmental barriers and facilitators

This middle level of the conceptual framework deals with themes emerging in the studies that were still outside the individual's control but were an outcome of their environment or circumstances.

Provision of appropriate and durable equipment

Four studies found that faulty equipment was a barrier to interventions.[19 21 23 24] For example, mothers taped over electric sockets when safety plugs did not work.

> 'Them socket protectors don't work. My son takes 'em out and then sticks his finger in.'[19]

Facilitators recommended in these studies included tamper-proof smoke alarms with longer lasting batteries, help for fitting alarms, or simpler systems, more systematic provision of child-resistant containers, and training in installation, equipment use and replacement, all of which reduced the incidence of unintentional injury to children in the home.

Weighing up of risks against inconvenience

Suspicion of strangers coming into their homes to assess or install property, and of 'free' offers, needs to be mitigated in successful interventions.[23] The two studies on smoke alarm installation[21 23] both found that people balance immediate and longer-term risks to health and well-being when they disable alarms, weighing the safety aspect against the inconvenience and stress of malfunctioning alarms.

> 'So I grabbed a broom and I thought, I've got to hit that thing up there. So I started banging it with the broom, and it broke and

smashed around me… and that was the end of the smoke alarm.' (Mother)[23]

Actual and perceived cost of safety equipment

Cost emerged as a theme in five of the studies, always as a barrier to reducing unintentional injury to children in the home, or of obtaining help if a child had had an injury.[17–19 23 25] Three studies found that the perceived cost of installing safety devices or making repairs was a major barrier in the correct use of smoke alarms[23] and in general for safety equipment.[19 25]

Individual barriers and facilitators
Difficulties experienced by young or poorly educated parents in understanding child development

The barriers and facilitators due to individual factors are often linked to experience and upbringing. Four studies[17 19 20 24] found that young or poorly educated mothers found it hard to anticipate the child's rate of development in terms of ability to climb, open containers or locks, light fires. Parents overestimated children's ability to remember instructions and underestimated rapid developmental changes.

> 'Ben's 8 months so he's not into any of that stuff. I don't think to move anything until he's been in it.' (Mother of 3-year-old and 8–month-old)[24]

Fatalism about the nature of injuries

Bennett Murphy[19] found that young mothers found it hard to deal with issues of blame—in a focus group the mothers debated between ideas of the 'accident-prone child' who would injure themselves whatever you did ('Some kids are accident prone'),

and the 'negligent adult' who was responsible for their child's injuries ('People are too lazy to watch their kids'). Young mothers oscillated between the two concepts, unsure whether injuries were due to children or adults, but tending to think that there was little to be done to prevent them. Moreover, many young mothers saw unintentional injury and maltreatment as related, and found it difficult to view unintentional injury as separate from neglect or abuse.

Mistrust of officials, especially regarding accusations of neglect or abuse

Five studies on low income, adolescent and/or immigrant mothers found that mothers worried that asking about injury prevention or taking an unintentionally hurt child to hospital would result in accusations of abuse or neglect.[17–20 25]

> 'It seems like other people basically don't see that teenaged moms are well enough to take care of our child. Because they see a bruise or a bump or whatever, they think we're just not taking care of them right'[19]

Mothers' safeguarding work

The variety of safeguarding work that mothers put into preventing unintentional injury in the home—commonsense safeguarding, constant vigilance, and teaching children about safety—was a theme in five papers.[17–20 25] Mothers routinely took their safety efforts for granted—'common sense'.

> 'Not leaving things hanging… handles on your stove, making sure they're in. Just little things…. There's things that you automatically do.'[25]

Four studies had as a major theme mothers' commitment to constant vigilance and sacrifices to achieve this.

> 'No, nothing is difficult because I don't do anything but run behind her and when I take her outside I go with her.'[20]

Two studies[20 25] noted mothers' tensions between teaching children about limiting injuries and removing threats to safety. Three studies noted immigrant mothers' isolation and lack of family to help with childcare.[17 20 25]

> 'I have no family here to help with the children. In this country they will take your children away if you leave them alone. I never do it but other women in the trailer park do.'[20]

These studies noted practices that were seen as adequate safety measures in the parents' country of origin, but were risky in a new cultural context. Authors noted lack of experience of the particular risks of a host context, and lack of understanding by health officials about different child safety norms and expectations in immigrants' cultures. For example, Mexican-born mothers in a US study often kept their children inside, believing women would be criticised for spending time outside supervising children rather than doing housework and cooking for the family.[17]

DISCUSSION
Principal findings

The synthesis found barriers and facilitators to the success of interventions to reduce child injuries in the home at organisational, physical and individual levels. Figure 3 provides a summary of the main barriers and facilitators, at each of these three levels, to the success of projects and interventions that aim to reduce injury in the home.

At the organisational level, the study demonstrates that effective provision of safety equipment includes support with installation, ongoing support for usage, maintenance of equipment, and safety checks. At the physical or environmental level, the difficulties for parents living in rented or extended family accommodation, with limited possibilities for modifying their environment, were a major barrier to successful uptake of home safety interventions.

At the individual level, health inequalities stemming from parents' cultural and socioeconomic background, age and experience affected take up or longer-term success of interventions in a variety of ways. Cultural background, especially for immigrant parents with experience of different parenting contexts, led to conflicting understanding of child safety between parents and health workers. A particular tension was noted between the belief that a good parent constantly monitors, or implements physical boundaries, and the belief that a good parent teaches children appropriate behaviour. There is a strong socioeconomic aspect to this—containing a baby in a playpen is less acceptable than containing a child in a private, secure garden. This review highlights how possibilities for appropriate actions depend on factors such as owning one's own home, not being overcrowded, or access to safe outdoor space.

The synthesis thus draws attention to ways in which policy needs to consider health inequalities in the design and implementation of interventions to reduce unintentional injuries to children in the home.

Strengths and weaknesses of the study
Review limitations

A study reviewing published research is necessarily determined by the articles published, in topic range and in scope of analysis. Areas not covered by the articles published include suffocation, burn and scald prevention. Fathers were rarely included in the research in these articles. Most papers reviewed had little description of the theoretical approach. Several were stronger on practitioner relevance than on theory. Analysis sections were mostly short, with themes stated but not always evidenced by relevant first-order quotations. Space restrictions in journals limit the extent to which evaluations of public health programmes can include rigorous data about the contextual factors that affect a programme's effectiveness, but such data are crucial for informing recommendations about effective programmes.[27]

As mentioned above, it is standard practice in synthesis studies[12 15 16] not to exclude papers on appraised quality. Recent debates on quality of evidence in public health suggest that syntheses focus on 'maximising the conceptual yield of included papers'[16]—lower quality papers, with poorly developed concepts and less theorising may support concepts and theories developed in the stronger papers. In this study the key concepts were based on the 'stronger' studies, but papers rated as methodologically weaker (often based on practitioner viewpoints or a particular intervention) added to the overall picture.

Review strengths

A qualitative synthesis is an efficient summary of the strengths and limitations of a particular research area, and provides directions for further research. The synthesis included general attitudes, experiences and behaviours, as well as specific barriers and facilitators, which together provide a robust framework of barriers to, and facilitators of, home safety interventions. This method provides a systematic way of accumulating consistent evidence on the current state of knowledge from

published qualitative research on child injury prevention in the home.[26]

Implications for health professionals and policy makers

The synthesis highlighted cultural differences (in particular, national culture and ethnic group differences) in definitions of risk, leading to health and social professionals' perceptions of risky behaviour by immigrant parents. Health practitioners devising and carrying out interventions need to distinguish between different notions of risk and lack of awareness of risk in a new context. Interventions need to provide realistic ways for parents to keep children safe—for example, in poor quality accommodation with limited outdoor space, without necessarily curtailing children's freedom to play and develop.

Information providers need to recognise the reasons people fail to comply. Notable here is the intrusive nature of malfunctioning smoke alarms: residents weighed up the safety of having an alarm against the noise and stress of it going off too often. Mistrust of officials and interventions in some communities is a barrier to effective implementation in a variety of ways—including a suspicion of free equipment.

Greater generic advice and support on child development might facilitate the prevention of injury in the home for mothers struggling with notions of blame, accident-proneness and negligence.[19] Other studies have suggested that people living in deprived communities may be passive about uptake and involvement in safety interventions.[9] The findings of this synthesis suggest that, in contrast, mothers in difficult socioeconomic circumstances often work extremely hard to safeguard their children and are highly prone to worrying about unintentional injury and considering risk. The challenge for intervention providers is how to harness the safeguarding efforts of mothers in the most appropriate and realistic ways. This review highlights the complexity of injury prevention and the need to consider multi-level interventions to increase chances of success, particularly for vulnerable populations.

Future research

Synthesis studies are particularly useful in identifying further research needs. Future studies could consider how to tie interventions in with parental efforts to keep children safe, rather than viewing participants in deprived communities as passive in terms of safety interventions. While most studies reviewed here, and hence the emerging themes in this paper, focused on mothers, the role of fathers in safeguarding work should be included.

Further research could explore ways of addressing the complex reasons why targeted participants, often in deprived socioeconomic areas and often including immigrant or ethnic minority populations, might not take up available safety interventions, including misunderstanding of cultural expectations from health professionals and mistrust of officialdom and neighbours.

REFERENCES

1. **Peden M,** Oyegbite K, Ozanne-Smith J, et al. World Report on Child Injury Prevention. Geneva: WHO, 2008.
2. **Dowswell T,** Towner E. Social deprivation and the prevention of unintentional injury in childhood: a systematic review. Health Educ Res 2002;**17**:221—37.
3. Healthcare Commission and Audit Commission. Better safe than sorry: Preventing unintentional injury to children. London: Audit Commission, 2007.
4. **Walsh S,** Jarvis SN, Towner EN, et al. Annual incidence of unintentional injury among 54,000 children. Inj Prev 1996;**2**:16—20.
5. **DiGuiseppi C,** Goss CW, Higgins-Julian PT. Interventions for promoting smoke alarm ownership and function, Interventions for promoting smoke alarm ownership and function. Cochrane Database Syst Rev 2001;(2):CD002246.
6. **Kendrick D,** Smith S, Sutton AJ, et al. The effect of education and home safety equipment on childhood thermal injury prevention: meta-analysis and meta-regression. Inj Prev 2009;**15**:197—204.
7. **Kendrick D,** Watson MC, Mulvaney CA, et al. Preventing Childhood Falls at Home Meta-Analysis and Meta-Regression. Am J Prev Med 2008;**4**:370—9.
8. **Kendrick D,** Smith S, Sutton A, et al. Effect of education and safety equipment on poisoning-prevention practices and poisoning: systematic review, meta-analysis and meta-regression. Arch Dis Child 2008;**93**:599—608.
9. **Pearson M,** Garside R, Moxham T, et al. Preventing unintentional injuries to children in the home: A systematic review of the effectiveness of programmes supplying and/or installing home safety equipment. Health Promotion International. 3 Dec 2010. PMID: 21131627.
10. **Noblit GW,** Hare RD. Meta-Ethnography: Synthesising Qualitative Studies. Los Angeles, CA: SAGE, 1988.
11. **Britten N,** Campbell R, Pope C, et al. Using Meta-Ethnography to Synthesise Qualitative Research: A Worked Example. J Health Serv Res Policy 2002;**7**:209—15.
12. **Campbell R,** Pound P, Pope C, et al. Evaluating meta-ethnography: a synthesis of qualitative research on lay experiences of diabetes and diabetes care. Soc Sci Med 2003;**56**:671—84.
13. **Malpass A,** Shaw A, Sharp D, et al. 'Medication Career' or 'Moral Career'? The two sides of managing antidepressants: a meta-ethnography of patients' experience of antidepressants. Soc Sci Med 2009;**68**:154—68.
14. National Institute for Health and Clinical Excellence. Methods for Development of NICE Public Health Guidance. London: National Institute for Health and Clinical Excellence, 2006.
15. **Dixon-Woods M,** Booth A, Sutton AJ. Synthesizing qualitative research: a review of published reports. Qual Res 2007;**7**:375—422.
16. **Atkins S,** Lewin S, Smith H, et al. Conducting a meta-ethnography of qualitative literature: lessons learnt. BMC Med Res Methodol 2008;**8**:21.
17. **Mull DS,** Agraan PF, Winn DG, et al. Injury in children of low-income Mexican, Mexican American and non-Hispanic white mothers in the USA: a focused ethnography. Soc Sci Med 2001;**52**:1081—91.
18. **Brannen JE.** Accidental poisoning of children: Barriers to resource use in a black, low-income community. Public Health Nurs 1992;**9**:81—6.

What is already known on this subject

▸ Unintentional injury to children is a major concern. Many such injuries, particularly among younger children, occur in the home.

▸ Evaluations of interventions aimed at preventing such injury have demonstrated mixed success, and it is not clear what factors may contribute to their effectiveness.

What this study adds

▸ This study provides a systematic review of recently published qualitative research on barriers to, and facilitators of, interventions involving the supply and/or installation of home safety equipment, and/or home risk assessments in a range of national and ethnic settings. Barriers and facilitators are found at organisational, environmental and personal levels.

▸ Effective provision of safety equipment involves ongoing support with installation and maintenance.

▸ Take up and success of interventions depends on adjusting interventions according to practical limitations and parents' cultural expectations. A particular barrier was parents' inability to modify rented or shared accommodation.

19. **Bennett Murphy LM.** Adolescent mothers' beliefs about parenting and injury prevention: results of a focus group. *J Pediatr Health Care* 2001;**15**:194—9.
20. **Hendrickson SG.** Maternal worries, home safety behaviors, and perceived difficulties. *J Nurs Scholarsh* 2008;**40**:137—43.
21. **Brussoni M,** Towner E, Hayes M. Evidence into practice: combining the art and science of injury prevention. *Inj Prev* 2006;**12**:373—7.
22. **Carr S.** Peer educators—contributing to child accident prevention. *Community Pract* 2005;**78**:174—7.
23. **Roberts H,** Curtis K, Liabo K, *et al*. Putting public health evidence into practice: increasing the prevalence of working smoke alarms in disadvantaged inner city housing. *J Epidemiol Community Health* 2004;**58**:280—5.

24. **Gibbs L,** Waters E, Sherrard J, *et al*. Understanding parental motivators and barriers to uptake of child poison safety strategies: a qualitative study. *Inj Prev* 2005;**11**:373—7.
25. **Olsen L,** Bottorff JL, Raina P, *et al*. An ethnography of low-income mothers' safeguarding efforts. *J Safety Res* 2008;**39**:609—16.
26. **Petticrew M,** Whitehead M, Macintyre SJ, *et al*. Evidence for public health policy on inequalities: 1: The reality according to policymakers. *J Epidemiol Community Health* 2004;**58**:811—16.
27. **Rychetnik L,** Frommer M, Hawe P, *et al*. Criteria for evaluating evidence on public health interventions. *J Epidemiol Community Health* 2002;**56**:119—27.

New poisons helpline launched in Dublin

The National Poisons Information Centre at Dublin's Beaumont Hospital has launched a new telephone service to advise the public, and parents in particular, on how to deal with accidents involving poisons. Previously, advice was only given to professionals.

Ed note: This helpline appears to replicate a service that has been in place in North America and parts of Europe for decades, but, clearly, better late than never.

Collected and edited by Barry Pless