EVALUATION OF COPING WITH CRYING

FINAL REPORT

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NSPCC

EVERY CHILDHOOD IS WORTH FIGHTING FOR

Impact and Evidence series

This report is part of the NSPCC's Impact and Evidence series, which presents the findings of the society's research into its services and interventions. Many of the reports are produced by the NSPCC's Evaluation department, but some are written by other organisations commissioned by the society to carry out research on its behalf. The aim of the series is to contribute to the evidence base of what works in preventing cruelty to children and in reducing the harm it causes when abuse does happen.

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KEY FINDINGS

In 2012, the NSPCC began piloting the delivery of the Coping with Crying programme, a psycho-educational film designed to help all expectant and new parents cope with their babies crying, and to reduce the incidence of non-accidental head injuries (NAHI) in infants in the UK.

During the pilot, the film was shown to over 41,000 parents in hospitals after birth, to over 11,000 parents during the antenatal period, and to over 5,000 parents during the postnatal period after discharge from hospital. The pilot was evaluated using a mixed-method, quasi-experimental evaluation design.

The key findings include the following:

- The highest proportion of parents (as a percentage of parents giving birth) either saw the film when it was shown at routine clinic appointments or in the hospital after having given birth.
- Nearly all parents remembered seeing the film up to six months after they had watched it.
- Watching the film in hospital after birth led to a small improvement in parents' reported knowledge about infant crying and the dangers of shaking their baby, as well as their use of new coping strategies.
- Watching the film in the antenatal or postnatal period, after discharge from hospital, also had a positive impact on parents and it was much greater than in hospitals. When compared with parents who had not watched the film, or had watched it in hospital, parents had better knowledge about the impact of shaking their baby. They were more likely to agree that it was normal for babies to cry, and to pass the baby to someone else to give themselves a break. They felt more confident asking for help, and were more likely to talk to others about the frustrations they experienced when their baby was crying. They were also more inclined to put the baby down in a safe place when they were stressed and finding it hard to cope, and to use the recommended soothing strategies more often.
- Evidence from the qualitative evaluation and the quantitative survey encouragingly suggests that, during times of stress, parents were reacting in a positive way to their infant crying and were seeking help when it was necessary.
- The evaluation did not detect an impact on rates of injuries as a result of watching the film[1].

1 It is difficult to measure the impact on injuries because of the low prevalence in the population, which makes it difficult to identify statistically significant change unless the film is shown to very large numbers of parents. The evaluation asked parents to self-report incidence but no difference was found using this methodology.

EXECUTIVE SUMMARY

Background

In January 2012, the NSPCC launched the Coping with Crying programme, which aimed to help new parents cope with their infant's crying and reduce the incidence of non-accidental head injuries to babies in the UK.

The film was introduced in 24 hospitals and birthing units across England, Wales, Scotland and Northern Ireland. The first hospital started showing the film in January 2012 and each hospital agreed to show it for a period of at least two years. During this time period, over 41,000 parents saw the film.

The programme is very simple: a film is shown to parents[2] by a trained professional or volunteer that seeks to influence the way parents react to their baby's crying. The film aims to work on a number of different levels. Parents are given information about the dangers of shaking a baby or handling them roughly, and about appropriate coping strategies to use when their baby is crying. When parents use these strategies, it is hoped that they will be better able to deal with the frustration caused by a crying baby. By providing information and suggested solutions, it is hoped that parents' confidence will increase. Parents are also given information about typical crying behaviour, which aims to ensure that they have realistic expectations of how babies normally behave. Ultimately, we hypothesise that these changes in knowledge, attitudes and behaviour should lead to parents being better prepared and able to cope, which will lead to a better parenting experience and a reduction in non-accidental head injuries.

From May 2014, the NSPCC extended the programme to understand how the film could be used in community settings. The pilot period for this phase of the programme was 18 months, until September 2015. Agencies from five areas (London, South East England, Yorkshire and Humber, the North East and Jersey) showed the film, either during the antenatal period after the start of the second trimester of pregnancy or postnatally before the baby was six weeks old.

The film was shown to parents in groups or individually. Sometimes, it was shown as part of an existing antenatal or postnatal contact, while other times it was shown at a session to which the parent was invited specifically to watch the film. Venues where the film was shown included children's centres, clinics, hospitals and at the parent's home. It was shown by midwives, health visitors and children's centre

2 Note: The film is aimed at all primary carers, including non-biological partners, but for the sake of brevity they are referred to in this report as parents.

staff, as well as other professionals or volunteers working in health or children's services. During this period, over 16,000 parents saw the film.

The evaluation

The programme pilots were evaluated using a mixed-method, quasi-experimental evaluation design. The aims of the evaluation were to:

- Understand differences in the reach of the programme between different models of delivery.
- Understand the relative impact of showing the film at different times and in different ways on parents' knowledge, attitudes and self-reported behaviours, in comparison to not seeing the film at all.
- Understand the strengths and weaknesses of different delivery models through the views and experiences of parents who saw the film and practitioners who showed it.

Methodology

Output and administrative data was collected on the numbers and demographic characteristics of parents who watched the film and the numbers of parents who were giving birth in the areas where the film was shown.

A survey was completed with parents who had watched the film, as well as a matched comparison group who had not watched the film, to look at the impact the film was having on their attitudes, knowledge and self-reported behaviours.

Focus groups were held with staff and parents to explore their perceptions of how the programme was affecting them.

Key findings and implications

- The highest proportion of parents (as a percentage of parents giving birth) either saw the film when it was shown at routine clinic appointments or in the hospital after having given birth.
- Nearly all parents remembered seeing the film up to six months after they had watched it.
- Watching the film in hospital after birth led to a small improvement of parents' reported knowledge about infant crying and the dangers of shaking their baby, as well as their use of new coping strategies.

- Watching the film in the antenatal or postnatal period, after discharge from hospital, also had a positive impact on parents but it was much greater than in hospitals. When compared with parents who had not watched the film, or had watched it in hospital, parents had better knowledge about the impact of shaking their baby. They were more likely to agree that it was normal for babies to cry, and to pass the baby to someone else to give themselves a break. They felt more confident asking for help, and were more likely to talk to others about the frustrations they experienced when their baby was crying. They were also more inclined to put the baby down in a safe place when they were stressed and finding it hard to cope, and to use the recommended soothing strategies more often.
- Evidence from the qualitative evaluation and the quantitative survey encouragingly suggests that, during times of stress, parents were reacting in a positive way to their infant crying and were seeking help when it was necessary.
- The evaluation did not detect an impact on rates of injuries as a result of watching the film[3].

The study's findings show that the film is engaging to parents and there is a high degree of recall. There is evidence that it has a positive impact on knowledge, attitudes and behaviour, which suggests that Coping with Crying is an effective tool in educating parents about crying and non-accidental head injury. Most importantly, during subsequent stressful moments with their crying infant, some parents told us that they thought about the film and there is evidence that parents took actions that may have made their babies safer because of this – for example, putting their baby down in a safe place for five minutes.

While parents who watch the film in hospitals after birth receive some benefits, the greatest impacts seem to be for parents who watch the film during the antenatal or postnatal period, after they have left hospital.

3 It is difficult to measure the impact on injuries because of the low prevalence in the population, which makes it difficult to identify statistically significant change unless the film is shown to very large numbers of parents. The evaluation asked parents to self-report incidence but no difference was found using this methodology.

Recommendations

The film has the greatest impact when shown to parents in community settings during the perinatal period (after the start of the second trimester of pregnancy and before the baby is six weeks old). In order to reach the optimum number of parents, it is recommended that the film be shown at a routine appointment. The NSPCC has developed implementation guidance using findings from the evaluation to help agencies effectively show the film to as many parents as possible.

It is hoped that, in the future, enough parents might be shown the film so that further research can be conducted, which may allow an impact on non-accidental head injuries to be detected.

Chapter 1: Introduction

1.1 Background

The estimated annual incidence of non-accidental head injuries in babies is between 14 and 33.8 per 100,000 infants (Barlow & Minns, 2000; Bennett et al, 2011; Fanconi & Lips, 2010; Kelly & Farrant, 2008; Minns et al, 2008; Talvik et al, 2006). This is likely to be an underestimate because it is very difficult to identify non-accidental head injury when it does occur. Additionally, there is likely to be high levels of under-reporting, with some babies being injured but not taken to hospital, and others being seen by doctors but their injuries not being recognised as non-accidental (Keenan et al, 2003). These injuries are also known as abusive head trauma and are typically caused when a baby is shaken or thrown (although they can also result from other forms of abuse).

Abusive injury to a child's brain used to be called 'shaken baby syndrome', but this emotive term is now thought to be misleading because it does not encompass the range of ways that head injuries can occur. Damage may happen because of shaking, but injuries can also be inflicted in other ways, including an impact from being hit or thrown against a hard surface.

Non-accidental head injuries are the leading cause of death and long-term disability in babies who are maltreated. Around 25 per cent of children will die as a result of such injuries, and between 50 and 80 per cent of children who survive will suffer from severe and life-changing disabilities, including learning and behavioural issues, cerebral palsy, seizures and blindness (Karandikar et al, 2004; Chevignard & Lind, 2014).

Various risk factors have been identified for non-accidental head injuries including: a history of reported child abuse; domestic or criminal violence; mental illness, drug or alcohol abuse; lower socioeconomic status and mothers' age lower than the national average (Kemp & Coles, 2003).

Men commit between 68.5 per cent and 79 per cent of all infant child abuse (Schnitzer & Ewigman, 2005; Starling et al, 1995). Boys, babies born pre-term, and those with low birth weight are at increased risk (Cobley & Sanders, 2006; Spencer et al, 2006).

Despite these risk factors being highlighted in the literature, in 30 per cent of cases there are no known social risk factors (Kemp & Coles, 2003) and non-accidental head injuries occur in all racial, ethnic, and socioeconomic groups (Riffenburgh & Sathyavagiswaran, 1991; Sinal et al, 2000).

In recent years, there has been a focus on crying as a serious yet modifiable risk factor. It is known that up to one in five infants cry for long periods without apparent reason (Barr et al, 2005; St James-Roberts & Halil, 1991) and the sound of infant crying can impact negatively on a parent. Research suggests that, in some cases, it can have an adverse impact on a parent's mental state, the quality of their partner relationship (Patrick et al, 2010) and the quality of the parent–infant relationship (Oldbury & Adams, 2015).

Parents can sometimes struggle to soothe their baby and may find this upsetting or frustrating, which may lead to aggressive thoughts and fantasies related to crying (Shepherd & Sampson, 2000). In extreme circumstances, this can lead to aggressive physical behaviour towards the infant, such as smothering, smacking or shaking (Patrick et al, 2010).

The relationship between crying and non-accidental head injuries is further supported when exploring age-specific incidence curves, which are found to closely follow that for crying levels in infancy (Lee et al, 2007). Morrill et al (2015) argue that infant crying is the only child-specific variable that has been consistently linked to the cycle of escalation that leads to injury.

Because of the link between crying and non-accidental head injuries, attempts to reduce incidence have focused on early intervention programmes that seek to educate parents about crying and the impact of shaking a baby (Barr et al, 2009). The American Academy of Paediatrics (Barr, 2011) and the Canadian Joint Statement on shaken Baby Syndrome (2001) recommended that programmes focusing on prevention of non-accidental head injury should recognise crying as an important risk factor and should educate parents about crying accordingly.

1.2 The intervention

The intervention was designed using the framework of the health belief model (Rosenstock, 1988), while also integrating the latest evidence base and understanding of public health interventions to prevent child abuse.[4] The intervention is designed around the delivery of a psycho-educational film, which aims to reduce the incidence of non-accidental head injuries to babies in the UK and help new parents cope with crying. The film, inspired by the American Buffalo project (Dias et al, 2005) sought to influence the way all parents of newborn babies react to their infants' crying and other times of stress with their baby. In the NSPCC film, parents are given information about the dangers of shaking a baby or handling them roughly, and about appropriate coping strategies to use when their baby is crying.

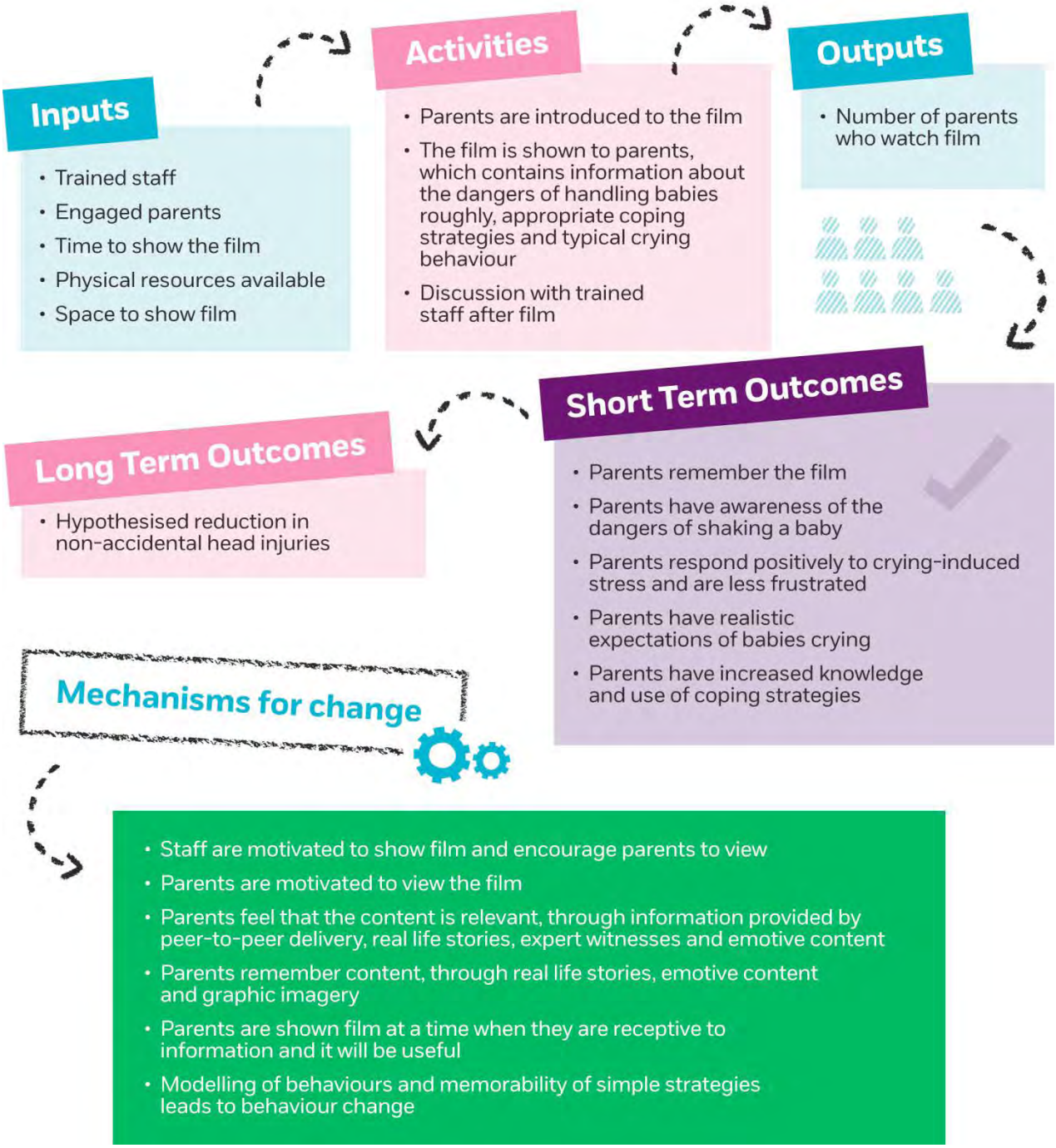
The film includes real-life testimonies from parents about how they coped at home with their babies and the struggles they had, with the aim of helping parents realise that the experience of getting frustrated by their baby's crying is normal. One mother talks about her child who was shaken by his father and the very serious impact it had. Experts explain how and why babies are vulnerable to head injuries and the film also includes computer-generated sequences to demonstrate what happens to a baby's brain when he or she is shaken.

Parents are also given information about typical crying behaviour, which aims to ensure that they have realistic expectations of how babies normally behave. Ultimately, we hypothesise these changes in knowledge, attitudes and behaviour should lead to parents being better prepared and able to cope, which will lead to a better parenting experience and a reduction in non-accidental head injuries. Sharing this kind of information with parents has been shown to be an effective way of changing behaviour (Dias, 2005).

Figure 1 below demonstrates how the film is delivered and links the intervention's inputs and activities to outputs and outcomes.

4 Note: The evaluation does not seek to demonstrate how far outcomes could meaningfully be attached to the use of the Health Belief Model.

Figure1: The intervention



1.3 Aims

The aims of the evaluation were to:

- Understand differences in the reach of the programme (the proportion of mothers and fathers who had seen the film) between different models of delivery and approaches to implementation.
- Understand the relative impact of showing the film at different times and in different ways on parents' knowledge, attitudes and self-reported behaviours, and in comparison to not seeing the film at all.
- Understand the strengths and weaknesses of different delivery models.

1.4 Programme delivery

During the two pilot phases, the film was shown at three different time points:

- Phase one: Postnatally in the first few days after birth, before discharge from hospital
- Phase two (1): Postnatally after discharge from hospital, before the baby was six weeks old
- Phase two (2): Antenatally during or after the second trimester of pregnancy

Phase one: January 2012–May 2015

Initially, the film was introduced in 24 hospitals or birthing units across England, Wales, Scotland and Northern Ireland. The first hospital started showing it in January 2012 and each hospital agreed to show it for a period of at least two years and participate in an evaluation. All parents of newborn babies in participating hospitals were invited by midwives or healthcare assistants, to watch the film shortly before they were discharged from hospital (Hogg & Coster, 2014). Hospitals had some flexibility in how they showed the film, with some showing the film to groups of parents and others showing the film to parents at their bedside. Based on insights from previous research in this field (Dias et al, 2005), this time was considered the optimum period to reach as many parents as possible, including fathers, and it was believed that parents might be particularly receptive to the message at this time.

Phase two: May 2015–September 2015

From May 2014, the NSPCC extended the programme to understand how the film could be used in community settings. The pilot period for this phase of the programme was 18 months, until September 2015. Agencies from London, South East England, Yorkshire and Humber, the North East and Jersey applied to the NSPCC to join the pilot and set out their proposals for delivering the film in a particular pilot area. This led to a variety of different delivery models, which were tailored to the resources and context of a particular partner agency. Pilot areas included: local authorities; the catchment area for a whole hospital trust; or the area covered by a particular community midwife team or cluster of children's centres.

Some areas showed the film during the antenatal period after the start of the second trimester of pregnancy. Other areas showed the film postnatally before the baby was six weeks old.

The film was shown to parents in groups or individually, sometimes as part of an existing antenatal or postnatal contact and sometimes at a session to which the parent was invited specifically to watch the film. Venues where the film was shown included children's centres, clinics, hospitals and at the parent's home. It was shown by midwives, health visitors and children's centre staff, as well as other professionals or volunteers working in health or children's services.

The seven different delivery models across the two phases are summarised below:[5]

- **Antenatal course** – Antenatal classes where the film was shown ranged from one two-hour session to a full four-day course. In some cases, staff showed the film in a session alongside other similar material, for example in a session about what to expect with a new baby, postnatal depression and what support was available in the local community.
- **Antenatal clinic** – Parents were shown the film before or after their antenatal appointment. Some parents watched the film on their own and others watched with other parents. They were usually taken to a quiet space, for example the kitchen or an office, although some people were shown the film in the children's centre waiting area.

5 Note: the delivery models are grouped by the point the film was shown in the pregnancy, the type of contact and whether the film was shown in the parents' home or another venue. Other variables include who was showing the film, whether the parents viewed it individually or in a group, and the type of professional venue where the film was shown.

- **Antenatal at home** – In some areas, parents were visited at home during the antenatal period. The film was shown at these appointments. Some parents who engaged with Family Nurse Partnership also saw the film as part of their programme. Sometimes, staff sat with parents while the film was being shown but on other occasions staff left the film so parents could view it after staff had left.
- **Postnatal clinic** – Parents either watched the film with other parents or in a private room before or after their midwife appointment.
- **Postnatal group** – Parents were invited to attend a group that was arranged to show parents the film and sometimes share other information.
- **Postnatal at home** – Parents were shown the film by health visitors or midwives in their follow-up home visits after giving birth.
- **Hospital** – The film was shown after birth, prior to the parents returning home. The film was shown in a variety of ways: to parents in a communal room at scheduled times; to parents who shared a hospital bay; or at the bedside of the parent, prior to them being discharged.

1.5 Evaluation measures and analysis

The pilots were evaluated using a mixed-method, quasi-experimental evaluation design. Qualitative data was collected through focus groups to understand process and experience. Quantitative data was collected based on parents' behaviour, attitude and knowledge change, and matched for comparison to another group that did not see the intervention.

1.5.1 Qualitative data

Focus groups

Focus groups were used to allow parents and staff to identify the outcomes they thought were resulting from watching the film and also to identify factors that contribute to the success – or otherwise – of the film in achieving its aims.

Parents

A sample of parents who had consented to contact and had babies aged four to six months were approached first via email and then later by phone to ask if they were happy to participate in focus groups to explore how the programme was affecting them. A purposive sampling strategy was used in order to describe and understand the full range of views and experiences within the study population. The main

sample selection criterion was the way that parents had been shown the film.[6]

During the focus groups, parents were asked about their experience of watching the film and how, where, and when it was presented to them. They were also asked about how relevant they felt the messages were to them, how well they remembered them, and to reflect on their reactions to the film, both initially and after they had returned home. Finally, they were asked about the impact the film had on them.

During the first phase of the pilot, 12 focus groups were held in four different areas at local NSPCC centres and, in one area, in the hospital where the parents had their baby. In total, 40 parents attended the focus groups: 34 mothers and six fathers. During the second stage of the pilot, 20 focus groups were held in five areas that were selected to capture the range of experience across the delivery models. In total, over both phases, 82 mothers and eight fathers attended (see Appendix 4).

Staff

In the first stage of the pilot, 19 focus groups were held with 57 staff in 10 different hospitals. In the second stage, nine workshops were held with strategic leads to explore some of the issues they were experiencing in their areas. These were attended by approximately 72 staff (see Appendix 5). Staff discussed their experience of showing the film, how the film was shown and the impact on themselves and on parents.

Analysis of the focus groups and workshops was conducted using a 'Framework' approach (Ritchie & Lewis, 2003) in NVivo software. Themes of interest in the data were identified. A 'case by theme' coding matrix was then developed, with a case for each group into which the data was summarised. Associations between the themes were then identified and themes were refined until a 'bigger picture' emerged, developing more abstract concepts. Separate matrices were created to look at how the themes differed according to the different models of delivery.

6 This was the main characteristic that it was hypothesised would affect the experience and outcome of watching the film.

1.5.2 Quantitative data

Output data

In order to understand the differences in reach of the programme, output data was collected on the numbers and demographic characteristics of parents who watched the film. All parents were asked to complete a form that requested their consent to be contacted for future evaluation and asked simple demographic questions about the parents' ages, highest educational level, marital status, and the postcode of the infant's residence. If the parents chose not to complete the form, the professional who was showing the film was asked to tick a box indicating that the parents had watched the film. Data on birth rates for each area was also collected. The aim was to show the film to as many parents as possible in each area. The number of forms returned was used to calculate the number of people who had watched the film in each area. The reach of the film was calculated by working out the number of parents who saw the film in each area as a percentage of the birth rate. The reach was then compared across the seven identified models of delivery to explore which way of showing the film was most effective in achieving universal coverage.

Parent impact survey

A comparative survey was used to assess the impact of the film and to explore whether the impacts were different according to the time the film was shown, who was showing it, the venue, and whether the film was shown to individuals or groups of parents. The survey was completed with parents who had watched the film at the three different time points – antenatal, in hospital and postnatal – to look at the impact the film was having on their attitudes, knowledge and self-reported behaviours.

A series of questions and statements were developed to measure the impact of the film on the following outcomes:

- parents' recall of the film
- parents' awareness of appropriate coping strategies
- parents' use of appropriate coping strategies to combat frustration caused by crying babies
- parents' awareness of the dangers of shaking a baby
- parents' response to their baby crying
- number of injuries sustained by the baby that required the baby to see a doctor or nurse.

The statements were developed through cognitive testing with parents and were reviewed by the project delivery group (Hogg & Coster, 2014) (see Appendix 1).

The same survey was completed with a control group of parents who had not watched the film. Parents for the comparison group were selected from a telephone contact list purchased from the *Emma's Diary* website.[7] This website provides users with access to a variety of information and online resources, including forums. Parents who sign up to *Emma's Diary* give their consent for other organisations to contact them by post, telephone, SMS or email about selected products, services and research. The site collects around 650,000 records per year (there are around 800,000 births in the UK), which equates to 81 per cent of new parents.

All the parents who were contacted for the survey had babies in the age range of six to nine months. Parents were sent an email explaining the purpose and nature of the survey and offering them the opportunity to opt out of the research. If parents did not opt out they were telephoned and the research was explained verbally using a prepared script. Response rates for the survey are detailed in Appendix 2.The film groups and the comparison groups were self-selecting. Parents had opted to watch the film; gave their contact details; agreed to complete the survey and were from specific areas. This could mean that the parents in these groups could be quite different to each other. In order to ensure that differences between the groups were not causing any differences in responses to the survey, the groups were matched so that they were broadly equivalent on a wide range of baseline characteristics. Any differential impacts on parents could then be attributed to the film, and the time it was shown, rather than being due to differences between the groups. The matching method used was 'propensity score matching'. More detail on this is provided in Appendix 3.

To match individuals, demographic characteristics as well as characteristics identified from the literature as risk factors for non-accidental head injuries were used. These were:

- Personal characteristics: relationship of respondent to baby; age group; ethnic group; marital status; qualifications.
- Baby characteristics: gender; whether baby born early; whether or not first baby.
- Level of support: level of involvement of partner; whether parents have friends/family to ask for help and support.
- Reported problems with baby: colic; feeding problems; sleeping problems; allergies; other illnesses.

7 www.emmasdiary.co.uk

All four groups were matched so that, after matching, their profiles were very similar. Antenatal was taken as the 'reference group' on the grounds that it had the largest sample size. The other three groups (postnatal, hospital, and 'no film') were matched to the profile of this antenatal reference group.

After parents in the intervention and comparison groups were matched, the data was analysed to answer the following questions:

- Does the film have an impact on parents?
- Is there a differential impact depending on when the film is shown?
- When is the film most effective?

Parents in the second stage of the pilot were also asked about how they watched the film, who they were with and who showed it to them, in order to capture any differential impacts of showing the film in different ways during the antenatal and postnatal period. Further regression analysis was completed to understand if there was a difference in impacts according to whether the parent:

- was on their own, with their partner or in a group when they saw the film.
- was at an appointment or attending a group.
- saw the film in a health setting, in a children's centre or in their home.
- was shown the film by a midwife, a health visitor or a children's centre staff member.

1.6 Ethics

The evaluation was approved by the NSPCC Research Ethics Committee. Application through the National Research Ethics Service was not required, but agreements were reached with all local Research and Development offices in health and social care agencies as required.

1.7 Limitations

The hope was that as many parents as possible would be shown the film in every participating area, but uptake has varied across the areas and over time. In the hospital, the rates of viewing ranged from under 10 per cent of eligible parents up to 82 per cent. In the antenatal period, rates of viewing ranged from 2 per cent to 44 per cen. In the postnatal period, rates of viewing ranged from 3 per cent to 55 per cent. There is a potential bias that comes from a small proportion of parents in areas watching the film, as one factor that affects reach may

be that parents are more motivated or concerned about their baby's welfare than those who do not see it.

A potential limitation of the matching design used in the parent's survey is that parents are not randomly assigned to the film or comparison group. As described, parents have been matched using observable characteristics, but there may be unobservable characteristics that could not be controlled for. The most obvious example is parents having differential access to parenting information.

The survey used a self-report measure to assess rates of injury. However, there are limitations to this method because it is difficult to ask parents detailed questions about incidents of abuse through a telephone survey. It is also likely that some parents will be reluctant to provide honest answers. Given this sensitivity, parents were asked a single question about all injuries, rather than distinguishing between accidental and non-accidental injuries.

Chapter 2: Findings

This chapter presents the findings of the evaluation in three sections. The first section looks at the number of parents who viewed the film, the relative reach of all the models and the factors that affected reach. The second section looks at parents' recall of the film and identifies what made the film memorable. The third section looks at the impact of the film on parents using findings from the comparative survey and parents' focus groups.[8]

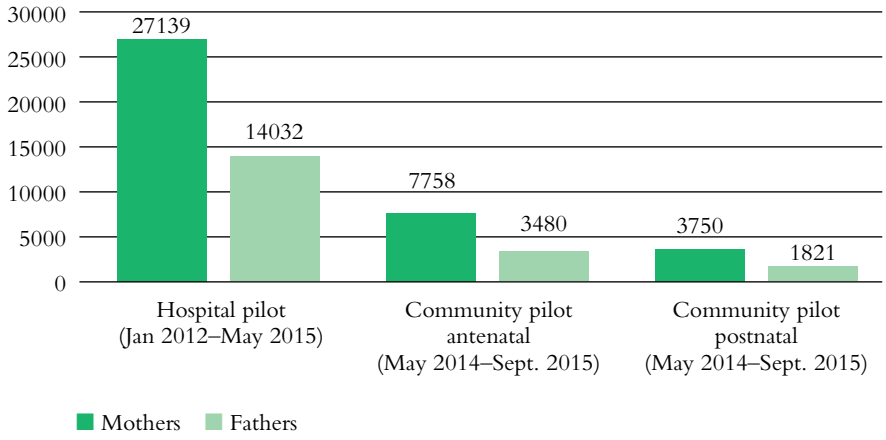
Figure 2 illustrates the relationship between reach, recall and impact, and demonstrates why it is important to consider all these factors when evaluating the overall effectiveness of the film.[9]

Figure 2: Factors affecting overall effectiveness of the film

2.1 Reach

Over 41,000 parents saw the film during the hospital pilot and over 16,000 in the community pilot.

Figure 3: Number of parents who saw the film (January 2012–September 2015)



8 The NSPCC has produced further implementation guidance that uses information from the evaluation to look at what works well for delivery.

9 The organisation of the evaluation findings is based on the RE-AIM framework (Glasgow et al, 1999)

As previously discussed, although parents saw the film at three different time points, these can be further divided into seven different generalised models, depending on the nature of the appointment where the film was shown, and whether the appointment was in the parent's home or another venue.

Table 1 below shows the average reach across the different delivery models. When the average reach for each of the seven delivery models is compared, the most successful methods of reaching parents are at antenatal or postnatal clinic appointments or in hospital. The least effective models are at antenatal and postnatal groups and in the home (see Appendix 6 for further details).

Table 1: Average reach across the different delivery models

Model	Average Reach	Range
Antenatal individual clinic	31%	18% to 44%
Postnatal clinic	29%	3% to 55%
Hospital	26%	10% to 82%
Antenatal individual home	15%	All 15%
Antenatal group	11%	2% to 30%
Postnatal individual home	9%	2% to 18%
Postnatal group	3%	All 3%

However, all models usually failed to reach a high proportion of the parents giving birth in any one area and in some areas even the most successful models did not reach a high proportion of parents. This suggests that factors other than the nature of the appointment may also play a part in how many parents see the film. Information from the focus groups and staff survey give some insight into the factors that affected reach and adoption across, and between, different models. These are discussed below.[10]

Factors affecting the reach of different models

Attendance of parents at contact where the film was being shown

Staff said that showing the film in hospitals or at routine appointments was an effective way to reach parents, as these are times when all parents who give birth in an area are expected to have contact with perinatal services. In contrast, antenatal and postnatal groups are generally voluntary and, consequently, less well attended.

10 It is also important to understand that, although the seven models differed in their reach, this is a separate issue to the impact the film had on parents, which is discussed in the next section.

Commitment from staff

An important factor in successful delivery was commitment from staff, both strategically and at the service delivery level. Staff felt that it was important that the film fitted in with key strategic priorities and the service delivery context. It also helped if showing the film was considered mandatory and best practice. Where it was left to staff with busy workloads to prioritise the showing of the film, they sometimes simply got out of the habit of showing it.

> "When we first started doing it we never missed any, but I think it has lapsed slightly and that's just because we've just got out of the habit, and you hear people saying things like, 'Are we still supposed to be doing this?'."

(Midwife, Cardiff)

Sometimes, staff felt that talking to parents about crying was not their responsibility, although others reflected that it was part of their job to think about the wider issues after the children had left the hospital.

> "Antenatal information is usually focused on practical information around birth, labour and looking after your baby. It doesn't always touch on more difficult aspects of looking after a baby so it might be a challenge for staff to incorporate this."

(Children's centre worker, East Riding)

Staff also worried about upsetting parents and were sometimes reluctant to show the film in case parents thought they were being singled out and accused of being potentially abusive.

Staff engagement was also affected by the time that the film was shown. Showing the film during the antenatal period was popular with staff as they felt that parents were receiving a lot of information about how to look after their babies and preparing for the arrival of their baby at that time, and that the messages from Coping with Crying could add to this.

> "Parents are preparing for the birth of their baby, and are receptive to all information given to them."

(Midwife, Tower Hamlets)

In contrast, staff did not always feel that the postnatal period was a good time to show the film as parents were too tired, hormonal, busy, and upset.

Additionally, the venue could be an important factor in motivation to show the film. For example, some staff said they felt uncomfortable showing the film to parents in their home as it felt like they were targeting parents.

> "I don't like showing this film to parents in their home at this time, I believe it would be much better received in a general setting as opposed to being personalised to the parent in their own home."
>
> (Health visitor, Jersey)

Engaged parents

It is not compulsory for parents to watch the film and some factors made parents less willing to watch it. Parents refused if they felt that the film was not relevant to them, either because they were already experienced parents, or because they were focusing on pregnancy rather than what happened when they got home.

> "Because you're at that pregnancy stage and, like, you're buying the baby things and it's all happy, happy and you don't think about the hard work that's going to come afterwards."
>
> (Mother, Grimsby)

Other parents, particularly in the postnatal period, felt that they were receptive to the knowledge, which felt very real to them once they had their baby – particularly if they had been going through periods of crying.

> "I think it's better to see it once you've got your baby than when you were pregnant. I think when you're pregnant you can be a bit blinkered and, like, 'I'll cope fine', but when you've got the baby here and it's real, I think then it is more appropriate."
>
> (Mother, East Riding)

Some parents felt that they were too busy and this was particularly an issue in the postnatal period or in hospital when parents were looking after a new baby.

"You've got so much going on after the baby is born and I don't think you would be receptive for it. I think it's something that you're more likely to take on board before the baby arrives because it gives you time to think about it. When the baby has arrived you've got a crying baby; you've got all the paperwork; you're worried about getting home – it's too much."

(Father, Tower Hamlets)

Parents who had just had a baby also felt that the emotional and physical impact of giving birth meant they were not 'in the right' place to receive the messages at that point. They talked about being 'shell-shocked', 'hormonal' or simply too tired to stay awake.

"I found it bad timing. I think because I was completely sleep deprived and hormonal. So I think it was just quite upsetting for me, because I was knackered! So tired. And I think probably before she was born would have been better for me, when I had a bit more head space to think about what was happening rather than just sitting thinking 'This is horrible!'."

(Mother, East Riding)

Some parents felt a bit like they were being assessed or singled out, which impacted on whether they wanted to watch the film.

"Even though, like you say, you know that you weren't singled out and it was for everybody to watch, it was almost like, 'Is she asking me to watch it because I'm quite emotional today?', and she's maybe thinking are you going to be all right kind of thing."

(Mother, East Riding)

Parents were more receptive when they were prepared and attending for another appointment, in hospital or at a class, and the information fitted with other information being given. Parents felt that they were motivated to receive information, and were expecting some input from health or social care professionals. Therefore, they saw viewing the film as part of a standard procedure, felt more committed to watching it and were less likely to refuse.

"I wasn't bothered, I was quite happy to watch it; I didn't know what it was going to be. There were quite a lot of other things that you had to do before you went home, so this was just another thing."

(Mother, Bristol)

The location in which parents saw the film also impacted on how motivated they felt to view it. Some parents felt more comfortable watching the film in their own home, rather than with others.

"I think for me I'd have preferred to have taken the film away and chosen a time when I could watch it. So at that time of just before you were about to give birth, you're at quite a vulnerable stage in terms of your emotions, and I think I would have preferred to have been able to take it away and then watched it – been warned about the content of it and watched it when I was feeling like I wanted to watch it, rather than watched it when – at that meeting with the health visitor."

(Mother, Newcastle)

However, other parents felt supported by watching the film with a group of other parents, whether in an antenatal class or in a group in hospital or at a clinic. They felt that they were not being singled out, and enjoyed the opportunity to discuss any issues that arose from the film.

Resource issues

One of the major barriers to showing the film was resource issues, whether these were not having enough copies of the film, technical issues or staff workloads, which mean that they did not have time to show the film and did not see it as a priority.

Resource issues were less of a factor in clinic and hospital delivery as only a small number of copies of the film were needed. These remained within the clinic or hospital as did the machine to play it, which meant that staff had copies of the film and equipment to play it readily available.

However, when the film was shown to parents in their homes as part of routine antenatal or postnatal care, the reach was often low. Some staff said they did not have the time within the appointment to show the film and they sometimes left it with parents and returned to pick up the film at a later date. When the film was left with parents, they did not always watch it as they were busy with older children, did not see it as a priority, or did not have the equipment.

When copies of the film were left with parents they sometimes went missing, which impacted on the ability of staff to show the film to other parents at later appointments.

"Lack of supply has hindered progress. It is mostly left with parents and when we arrive at 11 days, most have still not watched it. Then it is difficult to get them back."

(Midwife, Northumbria)

Staff also felt less committed when they had to give parents a lot of other information at appointments and sometimes felt they were just too busy to show the film. They also felt that they should be concentrating on supporting parents rather than worrying or upsetting them, and should be giving them practical information about caring for babies.

"I feel that we don't have enough time to explain the film properly and that women don't have adequate support after – we just don't have the time. I think they are emotional enough early postnatal and often (not always) have good support and so can't imagine struggling with a baby crying."

(Midwife, Northumbria)

2.2 Recall

Nearly all parents remembered the film approximately six months after viewing it. Ninety-nine per cent of parents who watched it in hospital and 100 per cent of those who watched it in the antenatal and postnatal groups remembered at least some of the messages from the film.

In the focus groups, parents reported what made the film memorable. The content felt very relevant and they liked the clear, practical information, and that the information was provided by real parents.

"It was good to hear people's experiences. I don't know why I'm saying good, it wasn't good, but you hear about it but it was nice to hear someone's actual story where it happened to them and how it made them feel".

(Mother, Newcastle)

The emotive nature of the content also made the film memorable. Parents recalled the story told by the mother and the graphic imagery of the baby being shaken.

"I think as well it's an image, I will remember that, the brain image. I'll remember that forever. And I've told other mums and my friends that have had babies at the same time and they haven't seen the film. And I'm like, 'God it's awful'. And it will be something that I'll remember forever and I'll remember seeing that little brain going forwards and hitting the back and the front of the skull just through, like you said, the tiniest motion. And I think that's a good thing though because I think it will always stick with me."

(Mother, Grimsby)

The content made the film stick in their minds. They remembered the film at key points when they were struggling with their babies. At these times, the messages of the film had been put into context and became more relevant.

"I think that was really good, though. I mean, because my child, she doesn't cry, thankfully, not too much, anyway. She only cries when she wants a feed. But at one time she did cry a lot, and the first thing I thought about was that story. Not that I would have done anything, obviously, but you just – it just – it just comes to your mind."

(Mother, Tower Hamlets)

A film was felt to be much more effective than a leaflet, as the messages were more powerful and memorable.

"But again I think doing it that way (showing a film) makes it stick; makes you remember…Especially because there's so much to remember when the baby does come along…rather than just giving a leaflet and reading it and then forgetting about it."

(Mother, Newcastle)

2.3 Impact

This section looks at the range of impacts that parents experienced as a result of watching the film and how these differed according to the time the parents viewed it. The key findings are presented in Tables 2 to 12, with the responses given by the antenatal group in the first column, the responses given by the postnatal group who had left hospital in the second column, the responses given by those parents seeing the film in hospital in the third column, and the responses given by parents who did not see the film in the final column (the

comparison group). The parents in the second, third and fourth columns have been matched to the parents in the first column so that all four groups are comparable in terms of their profile.

The differences between the columns have been tested for statistical significance. Where there is a statistically significant difference between groups this is indicated with:

a = Difference between antenatal and comparison group is significant

b = Difference between antenatal and hospital group is significant

c = Difference between hospital and comparison group is significant

d = Difference between antenatal and postnatal group[11] is significant[12]

This section also considers whether the venue that the film was shown in, the professional who delivered it or if it was shown to individuals or groups affected the impact.

Overall impact in relation to time shown

The impact of the film was greater when parents watched the film antenatally, as compared both with hospital parents and comparison parents. For most outcomes, there was no significant difference between watching the film antenatally as compared with postnatally, demonstrating that the impact on parents at these times is broadly the same. A summary of the range of impacts is provided in Appendix 7 and more detail on the findings is presented below.

Attitudes and knowledge about shaking

Parents who watched the film, at any time, had better knowledge about the fragility of babies and how to correctly handle a baby than parents who had not watched the film. At all time points, they were significantly more likely to strongly agree with the statement; "You should never handle your baby roughly" than parents who had not watched the film.

The impacts were stronger for parents who watched the film during the antenatal or postnatal period. These parents were more likely than parents who had not watched the film to strongly agree with three statements designed to measure their knowledge in this area – see Table 2.

11 Throughout the findings section, 'postnatal group' refers to those who had watched the film postnatally after discharge from hospital.

12 If no significant difference is found between these two groups, then it is reasonable to conclude that postnatal delivery is just as effective as antenatal delivery.

Table 2: Parents who 'strongly agree' with statements relating to knowledge about the fragility of a baby's head (Figures in percentages)

	Antenatal group (%)	Matched postnatal group (%)	Matched hospital group (%)	Matched comparison group (%)
You should never handle your baby roughly	77[a]	76	73[c]	67[ac]
If you shake a baby, you can really hurt them	84[ab]	84	68[b]	66[a]
Babies heads are very delicate and can be easily damaged	81[ab]	81	62[b]	63[a]
N	*493*	*253*	*423*	*1,151*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant
c = Difference between hospital and comparison group is significant

Parents in the focus groups also talked about this improved knowledge about the fragility of babies. Parents said that they were aware, prior to watching the film, that babies heads were delicate; however, they also said that, after watching the film, their understanding was improved and they had increased knowledge about what to do to protect their babies.

"Just how easy it is to cause brain damage to babies. They are robust to a certain degree, but actually shaking them how fragile their brains and their heads are. I think that's a very useful message for people to understand."

(Mother, Tower Hamlets)

Parents talked about how babies necks were weak, how their heads had to be supported, and spoke about taking extra care. Parents described thinking about the information at times when their baby's head was vulnerable, such as when a younger child was bouncing on a bed near the baby or when they were bouncing the baby to soothe them. Parents referred to the graphic imagery in the film, which very clearly showed what the impact of shaking could be.

"I think it had a bit of everything, because I found it very informative the way the brain is damaged when it's shaken. I wouldn't say that that shocked me, I just never actually thought about it in that way."

(Mother, Newcastle)

It was clear that the imagery from the film that showed the impact on a baby's brain of being shaken, along with the story from the parents, was a key factor in improving parents' knowledge.

Understanding of typical crying behaviour

Parents who watched the film during the antenatal and postnatal period had a better understanding of typical crying behaviour.

The film gives parents information about typical crying behaviour, which is designed to result in realistic expectations of how babies may behave. Parents were asked for their level of agreement with two statements to test their understanding; "It is normal for babies to cry" and "It is normal to feel stressed when your baby cries". Parents in the antenatal and postnatal group were significantly more likely to strongly agree with both of these statements than parents who had watched the film in hospital or who had not watched the film at all.[13] (See Table 3)

Table 3: Percentage of parents that strongly agree with statements relating to the normality of a baby crying (Figures in percentages)

	Antenatal group (%)	**Matched postnatal group (%)**	**Matched hospital group (%)**	**Matched comparison group (%)[a]**
It is normal for babies to cry	68[ab]	65	42[b]	47[a]
It is normal to feel stressed when your baby cries	25[ab]	27	14[b]	14[a]
N	*491*	*253*	*410*	*1,091*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant

The focus groups provide further evidence that the film helped parents to feel that it was normal for babies to cry.

> "So watching a video with different types of people talking about it and telling you what they do, it does make you feel better. I'd go out shopping and he would just cry. I'd walk the dog, everything you could possibly think of we tried and nothing worked. So I think seeing that video does help you realise that there's a lot of people out there that go through that."
>
> (Mother, Grimsby)

Parents also seemed to recognise that it was normal to feel stressed when a baby cries.

13 When the antenatal group was compared with the postnatal group, there was no significant difference, indicating that the impact was similar for parents who watched the film postnatally.

"You could feel guilty that you got stressed out and you might shout or something, and say, 'Oh I got stressed', but then you can understand that people get worse than that, in that state, and it might make you think, 'Oh I wasn't that bad' and then it could take away a bit of the guilt that you'd shouted. So I do think it's the right level."

(Mother, Tower Hamlets)

Parents also understood that the purpose of a baby's crying was not to annoy them.

"Something that was said during our session was that the baby will never cry to annoy you, and that really helped both of us, particularly my husband, because I do a lot of the feeding and a lot of the nappy changing and he gets frustrated when he doesn't know why, and then he remembers, 'Oh yeah, she's not doing it to annoy us."

(Mother, Liverpool)

A key theme was that parents felt they were not alone in experiencing challenges and said that as a result they felt less isolated. Any shame they felt at not being able to cope was mitigated by the realisation that their experience was 'just part of being a parent' and that they were not failing.

"To be fair, I thought about the film a few times. I thought 'You know what, every parent goes through this. It's not just me', and that makes a big difference, to know you're not just the only one."

(Mother, Leicester)

Knowledge and use of coping strategies

The film also aims to provide parents with coping strategies to use when they are struggling with a crying baby. Three different kinds of coping strategies are presented in the film:

- getting space/taking a break
- seeking help
- soothing strategies

Parents who viewed the film had better knowledge of, and had used, these coping strategies more often than parents who had not watched the film. Parents who had viewed the film antenatally and postnatally were more likely to strongly agree and had used more strategies.[14]

Getting space, taking a break

Parents who had watched the film, at any time, had a better knowledge of a particular coping strategy – leaving your baby in a safe place to cry for a few minutes if you are reaching the end of your tether – than parents who had not watched the film. This strategy is designed to combat frustration and give parents time to 'de-stress', which reduces the possibility that they might lose their temper with their baby. Eighty-three per cent of parents who had watched the film in hospital agreed that "It is OK to leave your baby to cry for a few minutes if you are stressed" (see Table 4). For parents who watched the film during the antenatal period or the postnatal period, the impact was even greater, with 87 per cent of parents who watched the film in the antenatal period and 93 per cent of parents who had watched the film in the postnatal period agreeing.

Table 4: Responses to the statement "It is OK to leave your baby to cry for five minutes when you are stressed and finding it hard to cope" (Figures in percentages)

	Antenatal group (%)[abd]	**Matched postnatal group (%)[d]**	**Matched hospital group (%)[bc]**	**Matched comparison group (%)[ac]**
Yes, strongly agree	22	26	15	9
Yes, agree	65	67	68	67
No, disagree	11	5	15	22
No, disagree strongly	2	2	2	3
N	*485*	*249*	*421*	*1,123*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant
c = Difference between hospital and comparison group is significant
d = Difference between antenatal and postnatal group is significant

In the focus groups, parents talked about the strategy of taking five minutes leaving the room.

14 Parents were also asked a simple question about whether they had used any tips from the film: 81 per cent of all parents in the hospital group said they had used the tips in the film at some point, with 86 per cent in the antenatal and postnatal group. Similarly, 14 per cent of parents in the hospital group said they had used them "a lot". This was higher in the antenatal and postnatal group (22 per cent and 25 per cent respectively).

"And then the practical thing about walking away from the baby, it's actually a practical thing we can do to help cope. You can actually see it happening though as well, it's not just like somebody's there going, 'If your baby cries a lot, put them down and walk away', you can actually see a baby crying, and somebody putting him down and somebody walking away."

(Mother, Bristol)

Parents also reflected on how they felt they had permission to do this.

"You can't leave them crying, you have to be beside them all the time. So, there's something about it's all right to do that: if you get to a point where you're a bit stressed out you just put them in a room and they can cry for a little bit and they'll be all right as long as they're in a safe place. It's good to hear other people saying that."

(Mother, East Riding)

Parents in the antenatal and postnatal groups also seemed to have used this strategy more often than parents who had not watched the film (see Table 5). Parents in the hospital group were also more likely to have done this but the difference was not significant.

Table 5: Responses to the question "How often have you put your baby down in a safe place and walked away?" (Figures in percentages)

	Antenatal group (%)[ab]	**Matched postnatal group (%)**	**Matched hospital group (%)[a]**	**Matched comparison group (%)[b]**
Very Often	2	3	0	0
Often	10	14	3	3
Occasionally	47	44	44	39
Never	41	38	53	58
N	*491*	*253*	*423*	*1,158*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant

Parents in the focus groups talked vividly of times when they had been at the end of their tether, had thought about the film and had used this particular strategy.

"I remember watching the film and thinking, 'Oh I'd never be able to do that'. And then it got to, like, week seven, week eight and he's still not sleeping, I was sleep deprived, you're not running off the adrenaline anymore. And I did, in my head, think, 'Think back to that film. What did the girl…? Right I'll go and lock myself in the bathroom'. And I literally sat against the bathroom door with the bathroom door locked and I was just crying in the bathroom. And I thought if I didn't get that time away though, I can see how somebody would get to that stage."

(Mother, Grimsby)

It was striking that parents who had not thought about the film up to this point used this strategy at times of stress.

"If I'm honest because I was eight months pregnant and I watched it and I kind of thought, oh I will never have to worry about this and this is all obvious. So I kind of put it to the back of my mind and then when we'd had him I kept thinking, oh that film – so something must have stuck. I thought of it late at night!, the early hours of the morning. I mean because he was hard work at first so a lot of times I did have to put him down and walk away for ten minutes and kind of get my breath together but I think from that you kind of remember bits that you've seen and that some people do horrible things to their children."

(Mother, Tower Hamlets)

Parents in the antenatal and postnatal groups were also more likely than parents in the comparison group to have passed the baby to someone else to give themselves a break (see Table 6). This was not true for the hospital group.

Table 6: Responses to the question "How often have you passed the baby to someone else to give yourself a break?" (Figures in percentages)

	Antenatal group (%)[ab]	**Matched postnatal group (%)**	**Matched hospital group (%)[a]**	**Matched comparison group (%)[b]**
Very Often	5	6	4	3
Often	33	35	22	24
Occasionally	54	50	59	60
Never	8	9	16	12
N	*493*	*253*	*423*	*1,158*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant

Parents talked about the importance of seeking help from family and friends when they felt like they could not cope.

> "My partner had a time when he was trying to put her down and she was crying and crying and crying, and he was like, 'Right, okay'. And he came out and he said to me, 'Look, okay, I'm just going to have five minutes. Would you be able to take over?'. He was a bit shocked that he felt so wound up and stressed out by it. So it reminded him of the film and he thought 'That's a good time for me to go away from the baby'. And then I went in after. And actually since then that's – it's worked that actually if one of us is finding it really stressful or upsetting, if she's really, really crying. So, you know, we'll kind of do a tag team and I'll swap with him."
>
> (Mother, Tower Hamlets)

Seeking help

Parents who had watched the film in the antenatal or postnatal period were significantly more likely to know who to ask for help than parents who had seen the film in hospital or not seen it at all (see Table 7), and to have talked to other people about their babies crying (see Table 8).

Table 7: Responses to the statement "I know who to ask for help when my baby is crying" (Figures in percentages)

	Antenatal group (%)[ab]	**Matched postnatal group (%)**	**Matched hospital group (%)[b]**	**Matched comparison group (%)[a]**
Yes, strongly agree	53	49	41	46
Yes, agree	43	47	52	52
No, disagree	4	3	7	2
No, disagree strongly	0	0	0	0
N	*489*	*251*	*421*	*1,123*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant

Table 8: Responses to the question "How often have you talked to other people about any worries or frustrations you had about your baby crying?" (Figures in percentages)

	Antenatal group (%)[ab]	**Matched postnatal group (%)**	**Matched hospital group (%)[a]**	**Matched comparison group (%)[b]**
Very Often	8	11	4	5
Often	24	28	17	17
Occasionally	45	39	38	43
Never	23	22	41	36
N	*493*	*253*	*423*	*1,158*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant

The focus groups also provide evidence that parents were asking for help both from professionals and from their partners.

"With me having a C-section I think my hormones went completely haywire. He was crying and I picked the phone up to the health visitor and asked for help. Within 10 minutes she was stood on the doorstep. I would never have done that, but I think seeing that video you get to a point where you need help and it just makes you stop and ask for help."

(Mother, Grimsby)

In some cases, parents and staff agreed that discussing crying and seeking help before crying had even happened was important. The film gave parents opportunities to prepare and discuss strategies for coping.

"It did prompt us to talk, like you said, about you're going to share looking after the baby and how it can make it manageable for both of us, especially in the first couple of weeks when we were both at home, so it was a good talking point for us."

(Mother, East Riding)

Soothing strategies

Some parents who viewed the film in the antenatal or postnatal period felt better informed about how to calm their babies when they were crying than parents in the comparison group and the hospital group (see Table 9).

Table 9: Responses to the statement "I know what to do to calm my baby when they are crying" (Figures in percentages)

	Antenatal group (%)[a]	**Matched postnatal group (%)**	**Matched hospital group (%)**	**Matched comparison group (%)[a]**
Yes, strongly agree	58	56	51	51
Yes, agree	41	44	49	49
No, disagree	1	0	0	0
No, disagree strongly	0	0	0	0
N	*493*	*252*	*423*	*1,163*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant

Parents who watched the film in hospital were more likely to have used two soothing strategies than parents who had not seen the film. Parents who had watched the film in the antenatal and postnatal periods were more likely to have used all the soothing strategies from the film than parents who had not seen the film, and more likely to have used three of the strategies than parents who had watched in hospital (see Table 10).

Table 10: Percentage of parents that use soothing strategies very often

	Antenatal group (%)	**Matched postnatal group (%)**	**Matched hospital group (%)**	**Matched comparison group (%)**
Walked around with your baby to soothe them	38[ab]	40	30[b]	30[a]
Taken the baby out for a walk or drive	38[a]	44	40[c]	30[ac]
Rocked them in a pram or cradle	21[ab]	20	23[bc]	18[ac]
Tried to comfort them using different sounds[15]	31[ab]	25	27[b]	25[a]
N	*493*	*253*	*423*	*1,158*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant
c = Difference between hospital and comparison group is significant

15 Fifty-five per cent of parents in the postnatal group did this *often* compared with 41 per cent in the comparison group, which explains the finding that postnatal parents are more likely to use this strategy than comparison parents. For simplicity, this table only shows parents who used this strategy very often.

From the focus groups, parents mentioned various strategies that they had used to try and soothe their baby.

> "Oh yes, I think the first week she cried quite a lot and we tried to remember what they talked about on the film and we tried to use the methods to comfort her. So I think the information is really useful".
>
> (Mother, Grimsby)

Other impacts on parents

A small number of parents who had watched the film during the antenatal period and in the hospital were more likely to report that they did not feel confident looking after their baby when they cried compared with parents who had not watched the film (see Table 11). This was not true for parents who watched the film postnatally.

Table 11: Responses to the statement "I don't feel confident looking after my baby when they cry" (Figures in percentages)

	Antenatal group (%)[ab]	**Matched postnatal group (%)**	**Matched hospital group (%)[bc]**	**Matched comparison group (%)[ac]**
Yes, strongly agree	1	0	1	0
Yes, agree	3	2	4	2
No, disagree	28	30	40	43
No, disagree strongly	68	68	56	55
N	*493*	*252*	*427*	*1,163*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
b = Difference between antenatal and hospital group is significant
c = Difference between hospital and comparison group is significant

In addition, parents who had watched the film during the antenatal period or in the hospital were significantly more likely to report that they occasionally worried about harming their baby in frustration than parents who had not watched the film (see Table 12).

Table 12: Responses to the question "How often have you got worried you would harm your baby in frustration?" (Figures in percentages)

	Antenatal group (%)[a]	**Matched postnatal group (%)**	**Matched hospital group (%)[c]**	**Matched comparison group (%)[ac]**
Very Often	1	0	0	0
Often	0	1	0	0
Occasionally	5	4	5	3
Never	94	94	95	97
N	*491*	*251*	*423*	*1,157*

Source: NAHI survey 2013 & Coping with Crying Survey 2015
a = Difference between antenatal and comparison group is significant
c = Difference between hospital and comparison group is significant

Focus group evidence also indicated that some parents worried about how they might cope when they returned home after watching the film.

"She's my first and when I watched it I just thought 'Oh it's going to get worse, am I going to feel like that? Is that going to happen to me?' and I was kind of looking out for it and I thought, 'God what if that happens?'."

(Mother, East Riding)

Parents reporting of worry and lack of confidence, however, did not seem to impact on their ability to cope, as demonstrated by the wide range of positive outcomes that were found in respect of improved attitudes, knowledge and behaviour. It may be that the worries that parents expressed led to them taking positive actions. Over half of parents who saw the film antenatally (55 per cent) and postnatally (52 per cent) reported that they were more careful with their babies after they watched the film, and parents in the focus groups also spoke about being more careful.

"It's always in the back of my mind. You know? To be a bit more careful. Like he likes bouncing. Do you know what I mean? But I'm like – it's just making me think, 'Have I got proper hold of him? Is he okay?' You know? It's just them [sic] type of things. It just makes you think, really."

(Mother, East Riding)

It may also be that parents who have watched the film are more likely to report negative feelings. The evaluation evidence shows that the film normalises parents' experience of frustration and stress, and may mean that they talk about their struggles openly and honestly.

> "Nothing can prepare you for your situation, but I think knowing that it's alright to feel like that. That you're not losing the plot because you want to scream at your baby. You're not this monstrous person because 99.9 per cent of people will have that point where they just want to scream at the top of their voice."
>
> (Mother, Grimsby)

Sometimes, parents talked quite openly about when they reacted inappropriately to their babies.

> "It does make you aware, doesn't it? When you're getting a bit angry and you start to feel yourself getting stronger with them and you think, 'Oh'. There's a reality check on just how fragile they are really at that point. I think as well it's an image, I will remember that, the brain image. I'll remember that forever. And I think that's a good thing though because I think it will always stick with me. Like there's times when I've gone to go, 'Come on, shut up'. And you kind of go, 'Oh no'. Because you remember what that image looks like. You remember the film don't you?"
>
> (Mother, Grimsby)

Setting effects

The evaluation also considered whether the impacts differed according to the venue that the film was shown in, the professional who delivered it or if it was shown to individuals or groups of parents. While these factors impact on reach of the film, there is no evidence from the comparative surveys that impact on parents is affected by any of these factors (see Appendix 8). The time the film is shown seems to be the crucial factor in determining the impact of the film.

Chapter 3: Discussion

Coping with Crying is the first preventative programme for non-accidental head injury that has been evaluated in the UK. The findings from the evaluation suggest that it is an effective programme in supporting parents and changing their response to their infant's crying.

The need for such a programme is clear. During the evaluation of the Coping with Crying programme, parents described feelings of anger and despair, and even the most prepared parents were shocked at times by how badly their babies' crying had affected them and how frustrated they felt. Other research on new parents confirms the finding that crying is a major issue for new parents (Oldbury & Adams, 2015).

Crying can affect all parents, so the film was designed to be seen by all parents in the areas where the programme was introduced. However, the numbers of parents who were shown the film varied greatly, both over time and between areas. The best way of reaching the most parents was to show the film as part of a routine appointment or in hospital. Although local factors, such as staff commitment, parental engagement and resource issues, could also affect how many parents viewed the film. These barriers to delivery are not unique to the Coping with Crying intervention. Simpson (2002) describes the underlying organisational characteristics that need to be in place (readiness to change, resources and culture) in order for evidence-based interventions to be implemented successfully. To help organisations overcome these challenges, the NSPCC has produced guidance using learning from the evaluation to set out best practice in showing the film.

When parents did see the film, they remembered it very well, with nearly all recalling the majority of the messages. This finding supports other research, which advocates the delivery of essential information through a film format (Barr et al, 2009; Deyo et al, 2008; Tolliday et al, 2010; Tasar et al, 2015).

The content of the film also made it memorable. Parents thought that the messages were delivered in a way that was clear and easy to understand. Additionally, the real life stories and graphic imagery evoked strong emotions in parents. While the emotive content was a key factor in engaging parents and aiding recall, it did cause a small number of parents to worry about the potential of their babies crying and how they would react. This worry in itself may have been a motivating factor in parents being more careful with their babies. Research (Robertson, 2008) has shown that when parents are emotionally affected by information, they are more likely to act on it.

There was evidence from the evaluation that parents were acting on the messages from the film and that *when* they watched the film affected how much their knowledge, attitudes and behaviour were influenced.

In order to achieve the maximum impact on parents, the best time to show the film was in the antenatal period, after the start of the second trimester of pregnancy, or in the postnatal period after parents had left hospital. In their evaluation of a prevention programme in Turkey, Tasar et al (2015) similarly found that education given prior to birth and three to seven days after birth was found to be more useful than during the immediate postnatal period. Goulet et al (2009) found that the understanding of parents was shown to be lower during the immediate postnatal period. In the NSPCC evaluation, parents indicated that the stresses of just having given birth and coping with tiredness, as well as being preoccupied with their new babies, meant that they did not remember the detail from the film and, therefore, the impact was reduced.

Showing the film in hospital does have some impacts on parents and they were better informed about the dangers of treating their babies roughly, and had a better knowledge of coping strategies. However, parents who watched the film outside of hospital, either before or after birth, also had a better understanding that it was normal for babies to cry. These findings are in line with the findings from other recent programme evaluations, which also saw improvements in knowledge and attitudes towards crying. (Tasar et al, 20154,; Tolliday et al., 2010;, Russell et al, 2008;, Barr et al, 2009).

This evaluation also found that parents who had watched the film outside of hospital were *behaving differently* because they had watched the film. They were more likely to ask for help, to pass the baby to someone else, to talk to others and to use more soothing strategies to calm their babies. This is really important as it seems the knowledge that parents had picked up had translated into them taking positive actions to help them cope.

Coping with Crying aims to support parents with their infant's crying and, as a result, reduce the risk that their babies would suffer a non-accidental head injury. This evaluation, however, was not able to assess whether the programme had an impact on injuries. The difficulties in measuring a reduction in incidence of non-accidental head injuries are well documented (Tasar et al, 2015).[16] The low incidence of non-accidental head injuries in the population makes it difficult to identify a statistically significant change unless the

16 Dias et al (2005) did find a reduction in non-accidental head injury in the state that showed a preventative education film to parents but other studies have found it hard to replicate this finding.

programme is delivered to a large number of parents (Shanahan et al, 2013). This problem is not isolated to measuring the impact of child abuse prevention programmes. Hornik (2007) identified in a review of public health interventions that many public health campaigns do not reach enough people for improvements in health at a population level, while they nonetheless change individual behaviour. Even if the intervention has a very large impact at an individual level, the change can be swamped at a population level if the coverage is low.

In the NSPCC study, parents were asked to self-report the number of injuries their babies had sustained. However, there are also difficulties with this methodology. First, because injuries inflicted on babies is an emotive and sensitive issue, and asking parents about it in a survey risks causing upset and distress. Second, it is likely that some parents would be reticent about providing accurate information about their behaviour due to embarrassment or fear of the consequences if they were honest. Consequently, parents were asked a single question about *all* injuries rather than non-accidental injuries, but the evaluation did not find any evidence that the babies of parents who watched the film had fewer injuries than the babies of parents who had not watch it.[17]

However, the evaluation did provide compelling evidence from the qualitative evaluation about what parents did at times of stress as a result of watching the film. Parents talked vividly of times when their babies were crying and not sleeping, and when they were struggling to feed them. Even when they had not thought of the film before that moment, some parents described recalling it at these times. As a result, they said that they were able to realise that their baby's crying was normal and could respond appropriately by trying to keep calm and use the particular strategy of leaving the baby for five minutes.

Quantitative findings also demonstrated that many more parents who had watched the film took steps to manage their reactions to their babies' crying. Nearly 20 per cent more parents, in the groups who watched outside the hospital, reported having, at some point, put their babies down in a safe place and walking away when they were finding it hard to cope, when compared with parents who had not watched the film.

While this evidence is compelling, it is hoped that in the future enough parents might be shown the film to allow the impact on non-accidental head injuries to be identified.[18]

17 In the first pilot (Hogg and Coster, 2014) babies with sleeping, crying or feeding problems, and whose parents had watched the film, did have fewer reported injuries when compared with parents who had not watch it, but this finding was not replicated in the second pilot.

18 A suitable methodology would be an interrupted time series analysis design (Kontopantelis et al, 2015).

Conclusion

The evaluation adds to a growing body of research that suggests that parents are supported with their baby's crying through the provision of an educative programme. The film is a useful tool in helping parents to think about the reality of having a baby, how they will cope with their baby's crying and, most importantly, providing them with strategies for managing at these times of stress when their babies are crying uncontrollably. There is also evidence that it may make babies safer by helping parents to respond appropriately when their babies are crying.

The findings from both phases of the pilot will inform plans for the national roll out of the programme across the UK. The service will be made available to relevant health, children's and social care organisations who wish to deliver the film in their area, and implementation guidance will detail best practice for showing the film. Ultimately, the NSPCC's ambition is to make the service widely available so that every new parent in the UK has the opportunity to see the film.

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Appendices

Appendix 1: Survey questions matched to outcomes

The table below shows the outcomes associated with knowledge and the questions or statements that were used to measure them.

Outcome	Question or statement	Response categories
Parents recall of the film	*How well did you remember what was in the film?*	From "very well" to "not very well at all"
Parents feel confident because of their improved knowledge and feel in control	*I don't feel confident about looking after my baby when they cry.* *When my baby cries, I can usually soothe them easily.*	Level of agreement from "strongly agree" to "strongly disagree"
Knowledge of the dangers of shaking a baby and handling your baby roughly	*You should never handle your baby roughly.* *If you shake a baby, you can really hurt them.* *Babies heads are very delicate and can be easily damaged.*	
Knowledge of coping strategies to use when their babies are crying	*It's OK to leave your baby to cry for a few minutes if you are stressed.* *I don't think it's right to leave a baby to cry even for a short while.* *I know who to ask for help when my baby is crying.* *I know what to do to calm my baby when they are crying.*	
Knowledge about what is normal baby crying behaviour and that it can be stressful to have a new baby	*It is normal for babies to cry.* *It is normal to feel stressed when your baby cries.*	

The film also provides information about coping strategies to help parents when their babies are crying. In order to assess which coping strategies parents were using, and whether there was any difference between the groups, parents were presented with a series of strategies they might use when their baby was crying and asked how often they used them, ranging from "very often" to "never".

The use of coping strategies can be divided into three groups: Getting space/taking a break; seeking help, and use of soothing strategies. The table below presents the coping strategies parents were asked about.

Outcome	Question or statement	Response categories
Getting space/ taking a break	*Put your baby down in a safe place and walked away.*	From "very often" to "never"
	Passed the baby to someone else to give yourself a break.	
Seeking help	*Felt alone and that there was no one to help you.*	
	Talked to other people about any worries or frustrations you had about your baby crying.	
Soothing strategies	*Rocked them in a pram or cradle.*	
	Taken your baby out for a walk or drive.	
	Held them close to soothe them.	
	Tried to comfort them using different sounds.	
	Walked around with your baby to soothe them.	
Use of tips	*How much have you used the tips suggested in the film?*	"A lot" to "not at all"

It was hoped that viewing the film would lead to a reduction in harmful behaviours. Parents were asked how often they had worried about harming their baby, or had engaged in any of the harmful behaviours listed below. As a measure of how often babies had been injured, parents were also asked to say if their baby had sustained any injuries that had resulted in them seeing a doctor or nurse.

Outcome	Question or statement	Response categories
Worries about harmful behaviour or engaged in harmful behaviour	*Got worried that you would harm your baby in frustration.*	From "very often" to "never"
	Shouted at your baby in frustration.	
	Handled your baby roughly.	
Reported rate of injuries	*Has your baby ever had any injuries that resulted in them seeing a doctor or nurse?*	"Yes" or "No"

Appendix 2: Number of parents contacted and response rates

	Parents contacted	Parents interviewed	Response rate
Hospital	1,353	428	32%
Antenatal	1,706	479	28%
Postnatal	852	252	29%
Comparison group	8,000	1,165	15%

The most common reason for interviews not being carried out with parents in either group was because the telephone numbers listed were incorrect or because there was no answer, rather than that parents had declined to participate in the survey. This suggests that response rates were affected by the quality of the contact data rather than the characteristics of the parents, which is reassuring, as it should reduce the likelihood of systematic bias in the survey results.

Appendix 3: Technical appendix: matching of the postnatal, hospital and non-film groups to the antenatal group

The four survey sample groups of parents in the impact study (the antenatal group, the postnatal group, the hospital group, and the *Emma's Diary* comparison group) were matched prior to the analysis so as to ensure the four groups were broadly equivalent on a wide range of baseline characteristics. The matching method used was 'propensity score matching', with the matching being repeated three times: first, to match the postnatal group to the antenatal group, and then for the hospital group and *Emma's Diary* group in turn.

Each time, the main steps were as follows:

- The probability (or propensity) of an individual being in the antenatal group (rather than the group to be matched) was estimated from a logistic regression model of the data. The binary outcome variable in the model was the group (1=film; 0=group to be matched), and the predictors were all the available profiling variables (see below).
- The group to be matched was then weighted so as to give the same profile of propensity scores as the antenatal group.

The technical details of the matching undertaken are as follows:

- The logistic regression model was fitted within SPSS with forward stepwise selection of variables; the p-value for inclusion was 0.1; the p-value for exclusion was 0.2.
- The matching used a kernel weighting algorithm, with a bandwidth of 0.6 (the default within the Stata psmatch macro).

The matching variables included in the propensity score models were:

- Personal characteristics: relationship of respondent to baby; age group; ethnic group; marital status; qualifications.
- Baby characteristics: gender; whether baby born early; whether or not first baby.
- Level of support: level of involvement of partner; whether have friends/family to ask for help and support.
- Reported problems with baby: colic; feeding problems; sleeping problems; allergies; other illnesses.

Appendix 4: Parents' focus groups

Area	How the film was shown	Number of focus groups
Barnsley	Antenatal clinic	4
Newcastle	Antenatal in the home	3
North East Lincs	Antenatal clinic	3
East Riding	Postnatal clinic	3
Tower Hamlets	Antenatal clinic	5
Glasgow	Hospital	3
Bristol	Hospital	3
Leicester	Hospital	3
Liverpool	Hospital	3

Appendix 5: Staff focus groups

Area	How the film was shown	Number of focus groups/workshops
Bristol Southmead	In hospital	3
Cardiff Prince Charles	In hospital	3
Cardiff Royal Glamorgan	In hospital	3
Glasgow Wishaw	In hospital	3
Leicester Royal	In hospital	1
Leicester Melton Mowbray	In hospital	1
Prestatyn – Bangor	In hospital	2
Tayside – Montrose	In hospital	1
Tayside – Ninewells	In hospital	1
Tayside – Perth	In hospital	1
Leeds	Range of models	4
South East	Range of models	4
North East	Range of models	1

Appendix 6: Average reach of delivery models

Model	Average reach	Range	Number of areas using model	Standard deviation
Antenatal individual clinic	31%	18% to 44%	2	18.3
Postnatal clinic	29%	3% to 55%	2	36.7
Hospital	26%	10% to 82%	24	26.2
Antenatal group	11%	2% to 30%	9	8.9
Antenatal individual home	15%	All 15%	1	-
Postnatal individual home	9%	2% to 18%	4	7.5
Postnatal group	3%	All 3%	3	-

Appendix 7: Summary of significant findings

Outcome	Ante vs post	Ante vs hospital	Ante vs comparison	Hospital vs comparison
Antenatal better than the counterfactual except where otherwise stated p=.000				
Knowledge and attitudes about shaking				
You should never handle your baby roughly	-	-	Sig	Sig
If you shake a baby, then you can really hurt them	-	Sig	Sig	
Babies heads are very delicate and can be easily damaged	-	Sig	Sig	
Understanding of typical crying behaviour				
Is it normal for babies to cry	-	Sig	Sig	
Is it normal to feel stressed when your baby(s) cries	-	Sig	Sig	
Knowledge and use of coping strategies – Getting space and taking a break				
It is ok to leave your baby(s) to cry for a few minutes if you are stressed	Sig (antenatal worse)	Sig	Sig	
Put your baby(s) down in a safe place and walked away for a while if you felt stressed	-	Sig	Sig	
Passed the baby(s) to someone else for a while to give yourself a break	-	Sig	Sig	
Help seeking				
I know who to ask for help when my baby(s) crying	-	Sig	Sig	
Talked to other people about any worries or frustrations you had about your baby(s) crying	-	Sig	Sig	
Soothing				
I know what to do to calm my baby(s) when they are crying	-	-	Sig	
Walked around with your baby(s) to soothe them	-	Sig	Sig	
Taken your baby(s) out for a walk or a drive	-	-	Sig	Sig
Rocked them in a pram or cradle	-	Sig	Sig	Sig
Tried to comfort them using different sounds	-	Sig	Sig	
Other impacts				
I don't feel confident about looking after my baby(s) when they cry	-	Sig	Sig	sig
Got worried that you would harm your baby(s) in frustration	-	-	Sig (antenatal worse)	sig

Outcome	Ante vs post	Ante vs hospital	Ante vs comparison	Hospital vs comparison
Maltreatment behaviours				
Shouted at your baby(s) in frustration	-	-	-	-
Handled your baby(s) roughly	-	-	-	-
Has your baby(s) had any injuries that have resulted in them seeing a doctor or nurse?	-	Sig (antenatal worse)	-	-

Appendix 8: Regression analysis conducted to look at setting effects

The outcome variables were divided into binaries, to make the regression stage easier.

The setting variables were also divided into a series of binaries, listed below:

- With partner or not
- On own or not
- In a group or not
- Postnatal or antenatal group
- At appointment or not
- On a course or not
- In hospital or not
- In health setting or not
- In children's centre or not
- At home or not
- By midwife or not
- By health visitor or not
- By health worker (midwife or health visitor) or not
- By children centre worker or not

Regressions were run to test which of the differences across any of the setting variables are significant after controlling for differences in the profiles of participants (for example, controlling for age or gender). There were very few significant findings.

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