

# Preventing unintentional injury of children in the home: Strategy 2018-2023

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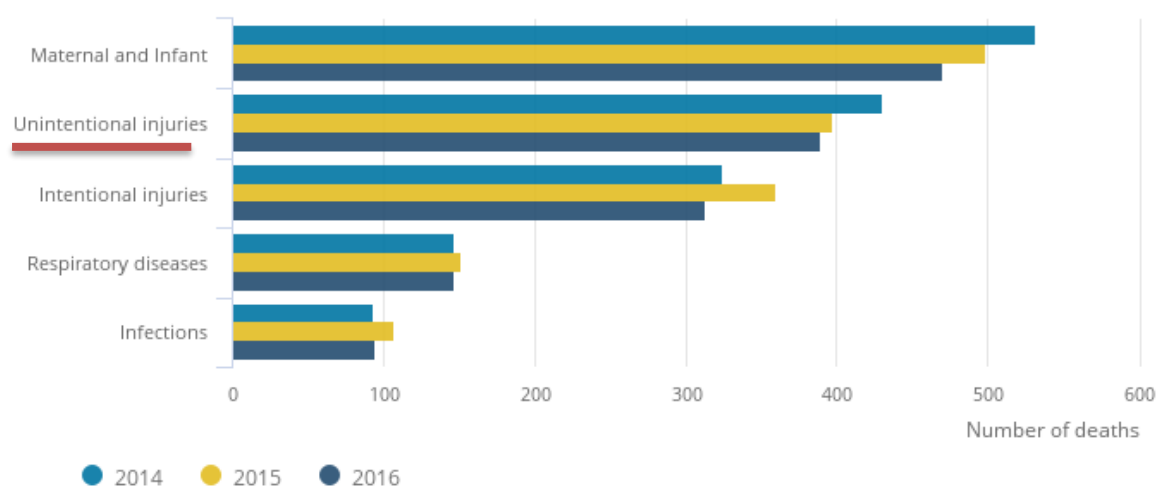
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# 1. Introduction

## 1.1 What is the problem?

Unintentional injury is a leading cause of death among children and young people aged between 0 and 15 years in the UK <sup>1,2</sup>

**Figure 1: Top 5 broad causes with the highest number of avoidable deaths in children and young people (aged 0 to 19 years)<sup>1</sup>**



Though unintentional injuries are commonly referred to as ‘accidents’, this is not preferred as it implies the incident may have been unavoidable, whereas most injuries and their precipitating events are predictable and preventable.

In the UK, like much of the developed world, around half of all unintentional injuries to children aged under 15 happen in the home<sup>2</sup>. The younger the child, the more likely the injury to have occurred at home.<sup>3</sup>

In the UK:

- Around 2 million children and young people visit Accident and Emergency departments (AED) each year as a result of an accidental injury<sup>2</sup>
- The short-term hospital costs of severe accidental injuries to children have been estimated at £15.5–87 million per year, with costs of £2,494–14,000 per child <sup>3</sup>
- Children and young people from lower socioeconomic groups and/or more deprived areas are more likely to be affected by unintentional injuries.<sup>4</sup> (Children whose parents have never worked (or are long-term unemployed) are

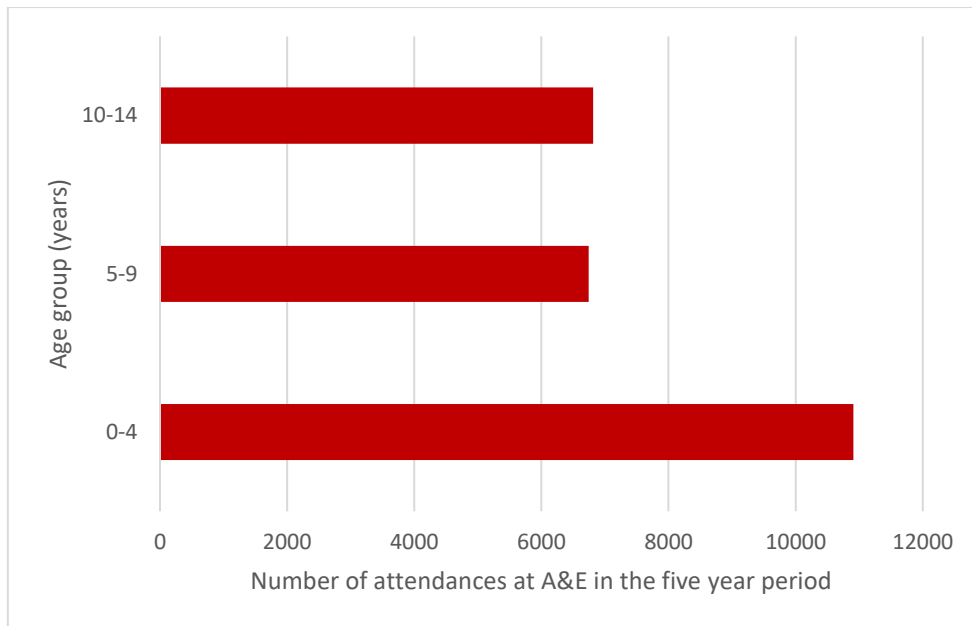
13 times more likely to die from an unintentional injury compared to children whose parents are in higher managerial or professional occupations.<sup>3)</sup>

- The approximate lifetime medical, educational and social cost for one child with a severe traumatic brain injury is £4.89 million.<sup>3</sup>
- For a parent who is employed full-time, taking two weeks off work while their child is in hospital costs the economy £7,600
- There is a strong economic case for preventing unintentional injuries, by incorporating developmentally specific safety advice into universal child health contacts<sup>5</sup>

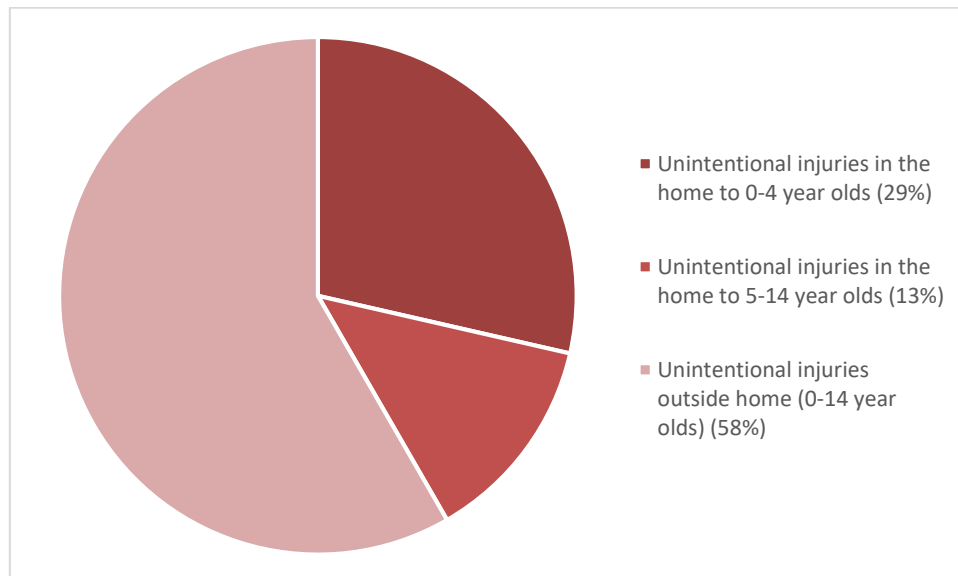
In Suffolk, local data analysis shows that in the past five years (2013-2018) there were (see also Appendix 1):

- 63,000 emergency attendances at West Suffolk Hospital (WSH) and Ipswich Hospital (IHT) among children aged 0-15 due to unintentional injuries. 24,500 (approximately 40%) of these injuries had occurred in the child's home. Nearly half (11,000) of those were to children aged under 5 (Figure 2).
- 4500 emergency hospital admissions to West Suffolk Hospital and Ipswich Hospital among children aged 0-15 due to unintentional injuries. 1830 (approximately 42%) of these injuries had occurred in the child's home. Two third of these injuries (1,200) involved children aged under 5 (Figure 3).
- In 0-4 year olds, 60% of emergency attendances and admissions for unintentional injury were due to injury that had occurred in the home
- Using the lower end of the Chief Medical Officer's estimate of £2,494 per child for hospital admission to treat an injury this would equate to approximately £900,000 per year spent in Suffolk treating unintentional injury occurring in the home (1830 admissions for injury occurring at home over 5 years averaging around 360 injuries a year)

**Figure 2: Number of CYP emergency attendances at IHT and WSH for unintentional injuries sustained in the home, by age group, 2013/14 - 2017/18**

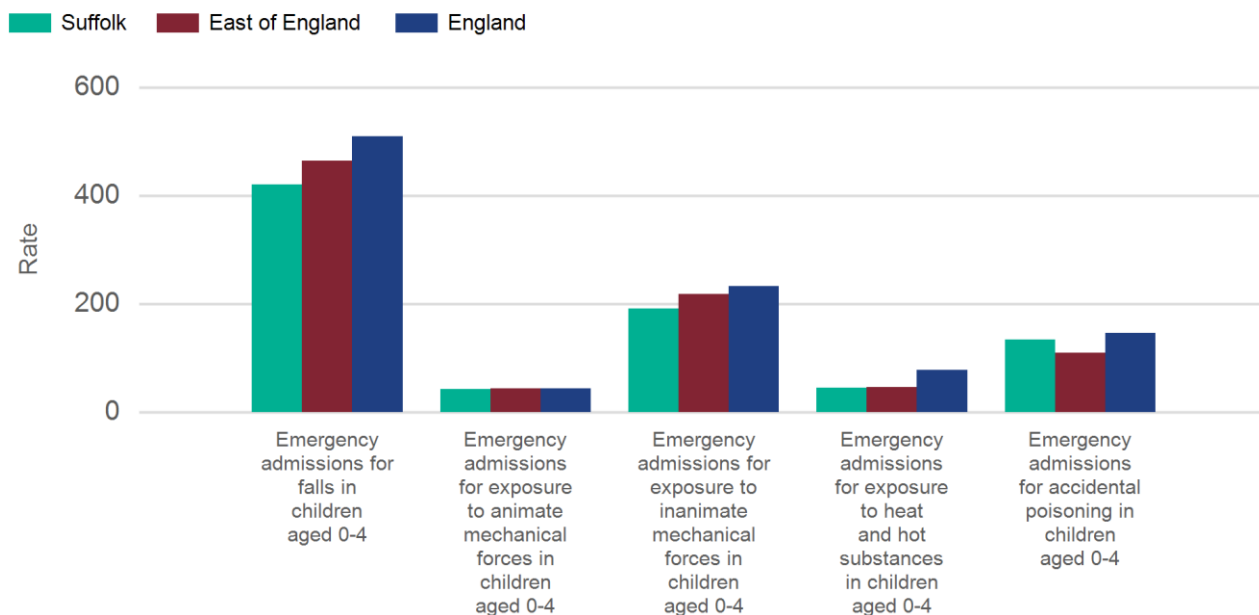


**Figure 3: Proportions of all unintentional injuries to young people age 0 – 14 years in Suffolk in 2013/14 - 2017/18 requiring emergency hospital admission at WSH and IHT, by location of incident**



A recent report from Public Health England (PHE) comparing local and national data, identifying the top five reasons for children in Suffolk to be admitted to hospital for injuries in the home.

**Figure 4: The main causes of emergency hospital admissions for under-fives following unintentional injuries in and around the home in 2014/15-2016/17 (rate per 100,000 resident population of children aged 0 to 4 years)**

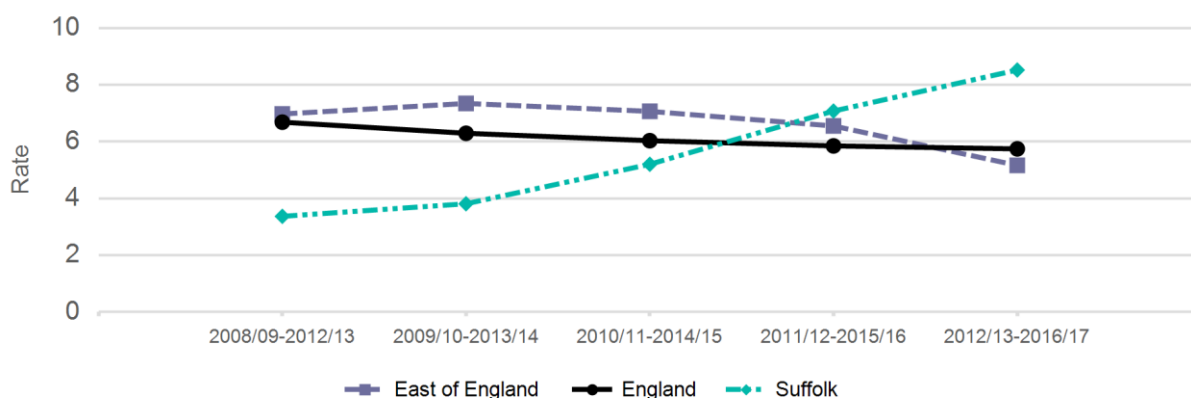


Looking at national trends, PHE has suggested prioritising the following types of injury in children aged 0-4:

- Choking caused by the inhalation of food or vomit
- Falls from furniture
- Tap water scalds
- Burns from foods and hot fluids
- Poisoning from medicines

In Suffolk, rates of these injuries are similar to or below national rates, with the exception of tap water scalds, which are both increasing and worse than the national average

**Figure 4: Trend in emergency hospital admissions due to hot tap water scalds (rate per 100,000 resident population of children aged 0 to 4 years)**



Avoidable injuries can have a significant impact upon a child's life both physically and emotionally in the short and long term this is also felt by the wider family. A child may be left with disability or impairment (short or long term), scarring or disfigurement and ongoing medical care.

## 1.2 What works well?

Most injuries are preventable. Hazard surveillance and home safety schemes have been shown to have a significant impact on injury reduction in young children.<sup>3,6,7</sup> Strategies to prevent injuries are usually relatively inexpensive to implement and are shown to have a beneficial return on investment.<sup>3,2,5</sup>

The National Institute for Health and Care Research (NICE) produced a relevant guideline in 2010 (**Unintentional injuries in the home: interventions for under 15s, [PH:30]**)<sup>6</sup>. Reviews of this evidence indicate that home-based interventions are effective in reducing childhood injury (see Appendix 2). The Chief Medical Officer has called for a strong commitment to implementing the NICE guidance to prevent unintentional injuries to the under 15s as a key message for policy.<sup>3</sup> PHE have also called for local authorities to pursue these recommendations, noting that *'reducing unintentional injuries is not solely the remit of traditional public health services but requires a whole system approach'*<sup>5</sup>

NICE PH30 focuses on action that can be taken to address unintentional injuries in the home. This guidance focuses on home-safety assessments, locally agreed process, the supply and installation of home safety equipment where required. It is intended for all agencies:

- Commissioners and providers of health services;
- Environmental health services;
- Housing services and associations;
- Local authority children's services;
- Local authority health and wellbeing boards;
- Local authorities and their strategic partnerships;
- Local safeguarding children boards;
- Police, fire and rescue services;
- Sure Start and children's centres;
- Practitioners who visit families and carers with children and young people aged under 15 (including GPs, midwives, social workers and health visitors).

It provides a series of guidelines for action by all these agencies, working in partnership.

**Table 1: Recommendations identified by NICE in *Unintentional injuries in the home: interventions for under 15s* [PH:30]**<sup>6</sup>

<p><b>Recommendation 1: Prioritising households at greatest risk</b></p> <ul style="list-style-type: none"><li>• Determine the types of household where children and young people aged under 15 are at greatest risk of unintentional injury based on surveys, needs assessments and existing datasets</li></ul>
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- Prioritise the households identified above for home safety assessments and the supply and installation of home safety equipment
- Provide practitioners who visit children and young people at home with mechanisms for sharing information about households that might need a home safety assessment
- Ensure practitioners adhere to good practice on maintaining the confidentiality and security of personal information

**Recommendation 2: Working in partnership**

- Establish local partnerships to co-ordinate action

**Recommendation 3: Coordinated delivery**

- Offer home safety assessments to prioritised households (see 1 and 2) and where appropriate install home safety equipment
- Ensure the assessment, supply and installation of equipment is tailored to meet the household's specific needs and circumstances
- Ensure education, advice and information is given during a home safety assessment, and during the supply and installation of home safety equipment. This should emphasise the need to be vigilant about home safety and explain how to maintain and check home safety equipment. It should also explain why safety equipment has been installed – and the danger of disabling it.

**Recommendation 4: Follow-up on home safety assessments and interventions**

- Prevent duplication of effort by keeping a record of households that have been given safety advice or equipment
- Use the records to identify when maintenance and follow-up are required, to feed into strategic planning and to prioritise future interventions
- Contact homes identified as needing an equipment maintenance check or follow-up. Offer to revisit them to see if the equipment is still appropriate and functional

**Recommendation 5: Integrating home safety into other home visits**

- Practitioners who visit families and carers with children and young people aged under 15 should be able to provide home safety advice and refer for home safety assessment
- Encourage and empower households to complete their own home safety assessments using appropriate tools

This strategy is being developed to deliver implementation of this guideline locally and improve outcomes for children and families.

## 2. Aim and Objectives

## 2.1 Aim<sup>1</sup>

The aim of this strategy is to reduce unintentional injuries in children and young people aged up to 15 years old, in the home environment, to minimise inequalities and create safer environments for children.

## 2.2 Objectives

- Raise awareness of the importance of preventing unintentional injury in children and young people (aged up to 15), in the home environment among parents and professionals. Enable and empower parents, children and young people to be informed to make robust risk assessment judgements, be aware of hazards and methods to avoid injury
- Provide recommendations for a coordinated approach to reducing unintentional injuries in children and young people at home
- Increase the identification of households in which children and young people may be at greater risk of unintentional injury, leading to preventive action
- Agree and establish local arrangements for structured home safety assessments of households where greater risk has been identified
- Agree and establish local arrangements for delivering tailored advice or support to households where specific risks have been identified (via the assessment process or otherwise), to reduce the risks
- Contribute to improvements in the following outcomes in Suffolk:
  - Reduction in unintentional injuries in children and young people in the home
  - Reduction in preventable child deaths
  - Reduction in health service usage and cost, including A&E attendances and hospital admissions, by children and young people

## 2.3 Guiding principles

- Take proportionate universalism approach, ensuring that interventions are made universally available but increased effort will be targeted to those most disadvantaged, in line with the principles of Marmot
- As part of proportionate universalism, prioritise households with children aged 5 and under, being the group for whom unintentional injuries cause the greatest harm

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<sup>1</sup> This strategy operates in conjunction with other relevant strategies for children and young people in Suffolk, including Road Safety, Child and Adolescent Mental Health and Safeguarding



- To ensure prevention interventions are balanced with physical activity, learning and practicality
- To ensure intervention are evidence based, effective and value for money
- Partnership working, through a co-ordinated approach and common understanding. It will employ multi-agency partnership working, as recommended by the Child Accident Prevention Trust (CAPT) as a major driver for success in reducing death and serious injury from preventable childhood accidents. The Department of Health report “Better Safe Than Sorry”, found that “partnerships are the key to the delivery of strategies aimed at preventing unintentional injury and require cooperation at local level”.

## **3. Monitoring**

### **3.1 Oversight**

The LSCB have oversight of the development and ratification of this strategy. The LSCB will receive a report annually from the strategy leads on relevant outcome measures (specific outcome measures proposed for the evaluation framework for this strategy can be viewed in Appendix 3)

### **3.2 Outcomes**

- Reduction in unintentional injuries in children and young people in the home
- Reduction in preventable child deaths
- Reduction in health service usage and cost, including A&E attendances and hospital admissions, by children and young people
- Improved awareness of CYP and parents/carers about potential hazards to children at home and around home
- Improved awareness about quality home assessment and practice among frontline professionals

## **4. Review**

This is a five-year strategy, to be reviewed in 2020.

## Appendix 1: Data Analysis

### Background

To inform the Suffolk strategy '*Preventing unintentional injury of children in the home*', it was necessary to study the current data for unintentional injuries to children and young people sustained in the home.

### Method

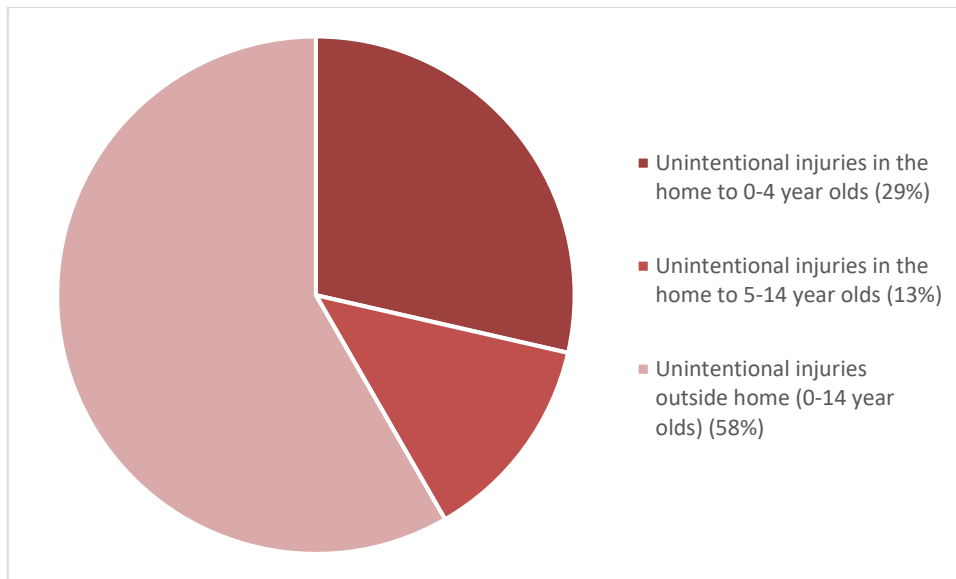
A&E data and hospital episode statistics were analysed for the period between financial year 2013/14 to financial year 2017/18 (five years). Data were examined for all relevant diagnoses, and by diagnostic categories, and by the place where the injury occurred (dichotomised to 'at home' or 'not at home'). Data were examined by quinary age band, and by CCG.

### Results

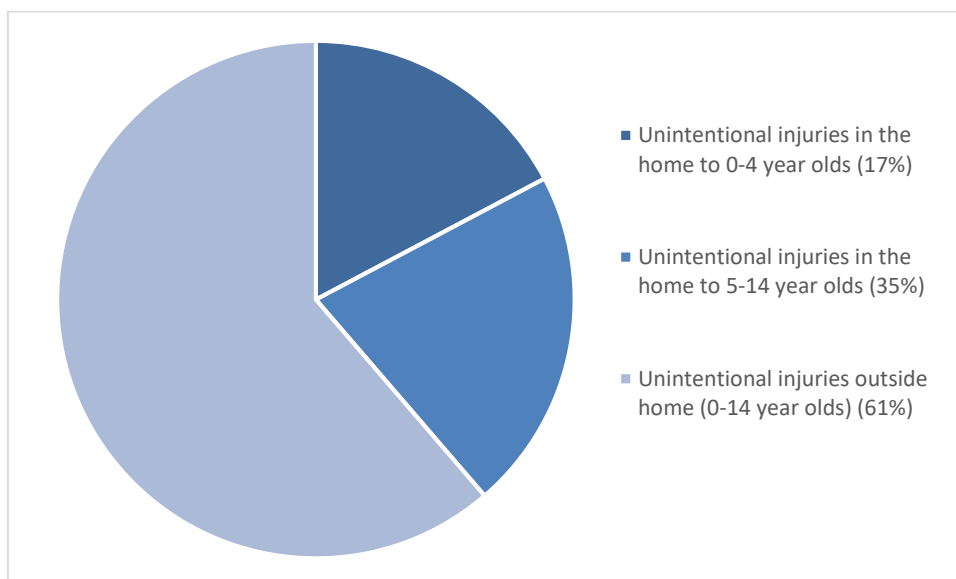
For young people aged up to 15 years in Suffolk County, over the past 5 years, there were 63 000 A&E attendances and 4 500 emergency hospital admissions with unintentional injuries. In 39% of the A&E attendances (24 500 attendance) and 42% of the hospital admissions (1 800 admissions), the injuries had been sustained at the young person's home.

Nearly a third of all the emergency hospital admissions for unintentional injuries in the whole group were due to children 0-4 years old getting injured at home (1 200 admissions). Children this age getting injured at home also accounted for nearly a fifth of all A&E attendances for unintentional injury in any location for those up to 15 years (11 000 attendances).

**Figure 1: Proportions of all unintentional injuries to young people age 0 – 14 years in Suffolk in FY 2013/14 to 2017/18 requiring emergency hospital admission, by location of incident**



**Figure 2: Proportions of all unintentional injuries to young people age 0 – 14 years in Suffolk in FY 2013/14 to 2017/18 requiring A&E attendance, by location of incident**



For children 0-4 years old, 60% of unintentional injuries requiring emergency hospital admission and 57% of those requiring A&E attendance happened at home. In those 5-9 years old this becomes 31% and 38%, respectively. In those age 10-14 years it is 17% and 26%.

Hospital admissions in those age 0-14 years, for an unintentional injury at home, were most commonly (48%) due to a fall, with the next most common another kind of mechanical injury. 16% were due to accidental poisoning (approximately 300 admissions in the five year period) and most of these were in 0-4 year olds.

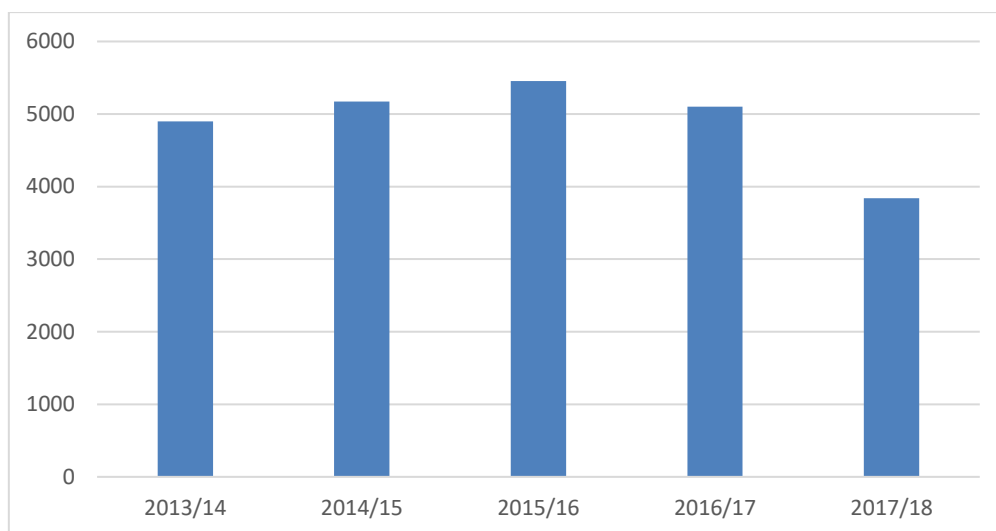
For incidents requiring hospital admission in Suffolk children, around half of near drownings and all electrocutions had happened at home. 90% of fire and burn injuries and around 70% of poisonings had happened at home.

In the five-year period, there were 966 admissions to hospital for unintentional injury at home in children in Ipswich and East Suffolk CCG, and 623 in West Suffolk CCG.

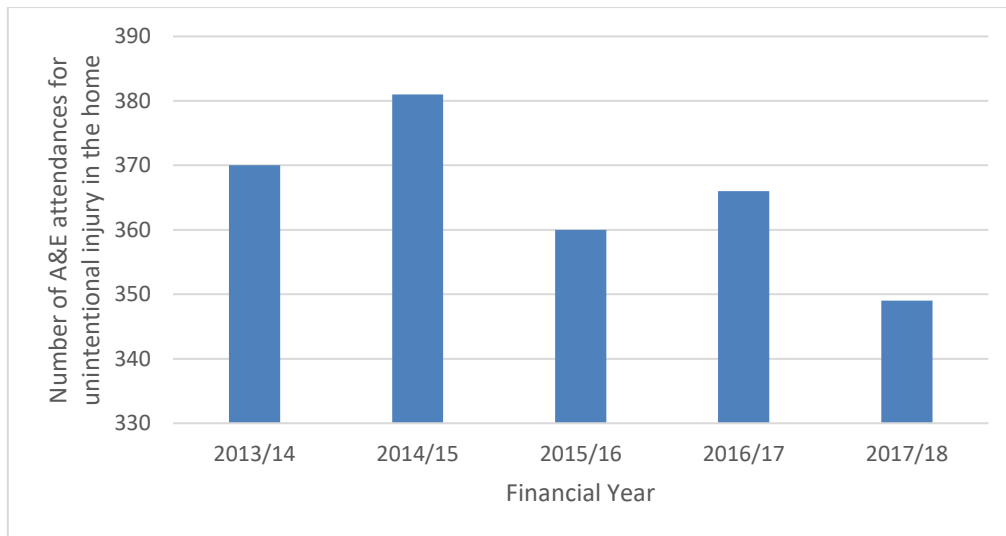
A&E attendances in those age 0-14 years, for an unintentional injury at home, were most commonly lacerations, contusions, dislocations or head injuries. Burns, electrocutions and poisonings each singly counted for less than 5% of attendances but did represent 1 300 events, more than half of which had happened at home.

In the five-year period, there were 14 000 A&E attendances for unintentional injury at home in children in Ipswich and East Suffolk CCG, and 10 000 in West Suffolk CCG.

**Figure 3: Number of A&E attendances for unintentional injury in the home, in children aged 0-14 years, in Suffolk County, by financial year**



**Figure 4: Number of emergency hospital admissions for unintentional injury in the home, in children aged 0-14 years, in Suffolk County, by financial year**



## Discussion

These data demonstrate the large proportion of the burden on emergency care represented by unintentional injuries to children in the home, especially in those aged 0-4 years. It is apparent the reducing the incidence of such injuries, besides the benefit to the health and wellbeing of Suffolk children, has the potential to avoid thousands of healthcare episodes every year.

These data are limited by the accuracy of the original coding process. This includes incomplete returns from the Great Yarmouth and Waveney CCG, so that all these numbers are likely to be an underestimate for Suffolk as a whole.

## Conclusions

A strategy to reduce childhood injury in the home in Suffolk has the potential to avoid thousands of injuries and subsequent healthcare episodes every year. Such a strategy might benefit from particular focus on children under 4 years old, and in the area of falls and other mechanical injuries.

## **Evidence Review: Preventing unintentional injury of children in the home**

### **Background**

This rapid review of evidence was undertaken to update the NICE guidance PH 30 (Unintentional injuries in the home: interventions for under 15s) from 2010, to inform the creation of a Suffolk strategy to prevent unintentional injury of children in the home

### **Methods**

A Pub Med search was undertaken in June 2018 using the search term: ((child\*) AND ("unintentional injury") OR accident)) AND prevent\*.

### **Results**

The search returned 12083 items. These were limited to review papers within the last 5 years, identifying 218 papers which were abstract reviewed for relevance. Papers were excluded if they dealt exclusively with childhood injury in the school environment or on the roads. There were 8 relevant papers found (Table 1)

NICE had undertaken its own review of PH:30 in 2014 and 2015. On both occasions the recommendation (taken up) was that the guideline did not need updating, as no emerging evidence indicated that the guidance as it stood should be altered. They reviewed 20 single papers.<sup>8</sup>

Emerging themes from the review of the literature included the paucity of the evidence base around injury outcomes, as opposed to changes in parental knowledge, skills or behaviour.

### **Conclusion**

NICE guidance PH:30 is still suitable for use as the basis for the Suffolk Injury Prevention Strategy. In determining the delivery of the strategy objectives, due attention should be paid to the evidence around what may work most effectively.

Author (date)	Title	Key recommendations	Comments
Barcelos et al (2017) <sup>9</sup>	Interventions to reduce accidents in childhood	<p>Traumatic injuries in childhood are amenable to primary prevention through strategies that consider the child's age and level of development, as well as structural aspects of the environment</p> <p>In most of the reviewed studies, educational interventions to reduce risk factors and behaviours for childhood traumatic injuries were effective</p>	Family counselling, changes in the home environment, and identification of risk factors, according to the stage of the child development and behavioural habits common to the age period, were important factors for devising effective interventions in the prevention of childhood accidents.
Brussoni et al (2014) <sup>10</sup>	Can child injury prevention include healthy risk promotion?	Lacking in the research literature on child development and risky play are studies using gold standard research methods, such as randomised controlled trials.	Optimal child development necessitates exposure to competence-appropriate risky play in a hazard-free play space
Kendrick et al (2017) <sup>11</sup>	Keeping Children Safe: a multicentre programme of research to increase the evidence base for preventing unintentional injuries in the home in the under-fives	Meta-analyses and decision analyses found that home safety interventions (Injury Prevention Briefings at Children's Centres) increased the use of smoke alarms and stair gates, promoted safe hot	Children's centres can increase some fire safety behaviours in families with young children if they are provided with evidence based resources

		tap water temperatures, fire escape planning and storage of medicines and household products, and reduced baby walker use. Generally, more intensive interventions were the most effective, but these were not always the most cost-effective interventions	
Salam et al (2016) <sup>12</sup>	Interventions to Prevent Unintentional Injuries Among Adolescents: A Systematic Review and Meta-Analysis	Training +/- education and the use of safety equipment had significant impacts on reducing the incidence of injuries	Effective interventions were delivered in either school community settings. Did not find any study that evaluated interventions to prevent suffocation, drowning, poisoning, burns, or falls among the adolescent age group.
Whitehead et al (2016) <sup>13</sup>	School-based education programmes for the prevention of unintentional injuries in children and young people	There is insufficient evidence to determine whether school-based educational programmes can prevent unintentional injuries. More high-quality studies are needed to evaluate the impact of educational programmes on injury occurrence. There is some weak evidence that such programmes improve safety	Two studies report an improvement in safety skills in the intervention group. Likewise, the four studies measuring observed safety behaviour reported an improvement in the intervention group relative to the control. Thirteen out of 19 studies describing self-reported behaviour and safety



		skills, behaviour/practices and knowledge, although the evidence was of low or very low quality certainty.	practices showed improvements, and of the 21 studies assessing changes in safety knowledge, 19 reported an improvement in at least one question domain in the intervention compared to the control group
Wynn et al (2016) <sup>14</sup>	Prevention of childhood poisoning in the home: overview of systematic reviews and a systematic review of primary studies	The interventions most commonly comprised education, provision of cupboard/drawer locks, and poison control centre (PCC) number stickers. Meta-analyses and primary studies provided evidence that interventions improved poison prevention practices.  Parents should be provided with poison prevention education, cupboard/drawer locks and emergency contact numbers to use in the event of a poisoning	Thirteen systematic reviews, two meta-analyses and 47 primary studies were identified.  There was a lack of evidence that interventions reduced poisoning rates
Young et al (2013) <sup>15</sup>	An overview of reviews of home safety interventions (HSI) targeting childhood falls.	HSI effective at increasing possession and use of limited range of safety equipment.	Most interventions to prevent childhood falls at home have not been evaluated in terms of their effect on reducing falls

		<p>HSI increases some safety practices to prevent childhood falls in the home.</p> <p>Sparse evidence that HSI are effective at reducing falls or injuries</p>	(but rather on the uptake of the practices and use of equipment)
Zou et al (2015) <sup>16</sup>	Preventing childhood scalds within the home: Overview of systematic reviews and a systematic review of primary studies	More evidence was found that inventions are effective in promoting safe hot tap water temperature, especially when home safety education, home safety checks and discounted or free safety equipment including thermometers and thermostatic mixing valves were provided.	Fourteen systematic reviews and 39 primary studies were included. There is a lack of evidence that interventions are effective in reducing the incidence of scalds in children.

### Appendix 3: Proposed outcome measures for evaluation framework

Evaluation indicator	Data source	Example Targets
Reduction in hospital admissions caused by unintentional injuries in children in the home (aged 0-14)	Hospital Episode Statistics	10% reduction over the 5 years of the strategy
Reduction in A&E attendances caused by unintentional injuries in children in the home (aged 0-14)	A&E data	10% reduction over the 5 years of the strategy
Reduction in child deaths caused by unintentional injuries in children in the home (aged 0-14)	CDOP	25% reduction over the 5 years of the strategy
Evidence of identifying households in which children and young people (under 15) may be at greater risk of unintentional injury  The number of children identified at risk	Partner agencies – named leads deliver quarterly report to LSCB	Each partner agency can demonstrate a process for identifying households at greater risk of having unintentional child injury
Evidence that households in which children and young people (under 15) have been identified as being at greater risk of unintentional injury in the home have had a structured home safety assessment.	Partner agencies – named leads deliver quarterly report to LSCB	Each partner agency can demonstrate a process for referring identified families for home safety assessments  Aim for 4,000 assessments in the first year of the strategy  Year on year increase of number of assessments carried out
Evidence of an agreed multi-agency tool for conducting home safety assessments and county-wide reporting process	Partner agencies – named leads deliver quarterly report to LSCB	
Evidence that households with children and young people (under 15) that have had a structured home safety assessment at which risks have been identified receive tailored advice or support to reduce the risks.	Partner agencies – named leads deliver quarterly report to LSCB	In capturing home assessment data, aim to see that assessments are followed up by advice or support in over 90% of cases

<p>Evidence that local authority departments, local NHS organisations and other local agencies work in collaboration with strategy leads to prevent unintentional injuries in children and young people (under 15) in the home.</p>	<p>Partner agencies – named leads deliver quarterly report to LSCB</p>	<p>This may require a qualitative study e.g. survey, focus group</p>
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