

# Appendix A2: Summary of evidence from surveillance

2019 surveillance of <u>unintentional injuries in the home:</u> interventions for under 15s (2010) NICE guideline PH30

#### Contents:

- Evidence considered in surveillance
- Intelligence gathered during surveillance
- Summary of evidence from surveillance

#### Evidence considered in surveillance

## Search and selection strategy

We searched for new evidence related to the whole guideline.

We found 4 studies in a search for randomised controlled trials, systematic reviews and other comparative studies published between 1 January 2014 and 28 May 2019.

We also included 2 studies identified by topic experts and 10 studies identified during the previous surveillance reviews in 2014 and 2015.

From all sources, we considered 16 studies to be relevant to the guideline.

See <u>summary of evidence from surveillance</u> below for details of all evidence considered and references.

## Selecting relevant studies

The inclusion and exclusion criteria from the original guideline were applied during study selection.

# Ongoing research

We checked for relevant ongoing research; of the ongoing studies identified, one study was assessed as having the potential to change recommendations; therefore we plan to check the publication status regularly, and evaluate the impact of the results on current recommendations as quickly as possible. This study is:

• Evaluation of the impact of the national 'Safe At Home' scheme on injury rates in children under 5 using secondary care data

# Intelligence gathered during surveillance

## Views of topic experts

Topic expert views have been considered in this surveillance review. Several topic experts highlighted evidence on new hazards that have emerged since the guideline was originally published. These included window blind cords, cot bumpers, microwaves, trampolines, laundry capsules, e-cigarettes, reed diffusers and hair straighteners. No evidence was identified on interventions to reduce unintentional injury from the new hazards. Therefore, until there is evidence in this area, the guideline will not be affected.

One expert suggested that the recommendations on provision of home safety equipment should be strengthened, given the new evidence in support of this intervention.

Recommendation 3 in the guideline already states "Where appropriate, supply and install suitable, high quality home safety equipment". This is a direct instruction, signifying a 'strong recommendation', as described in <a href="mailto:chapter 9">chapter 9</a> of <a href="Developing NICE guidelines: the manual">Developing NICE guidelines: the manual</a>. Therefore, it is unlikely that the guideline will be affected by evidence corroborating the existing recommendation.

Concerns were also raised around implementation barriers and age groups considered across all guidelines in the unintentional injury suite (<u>PH29</u>, <u>PH30</u> and <u>PH31</u>). Further details can be found in the consultation document as well as the <u>summary of evidence from</u> surveillance below.

# Summary of evidence from previous and 2019 surveillance

Studies identified in searches are summarised from the information presented in their abstracts.

Feedback from topic experts who advised us on the approach to this surveillance review, was considered alongside the evidence to reach a view on the need to update each section of the guideline.

Evidence from an evidence update for this topic was also considered. Evidence updates were produced by NICE to highlight new evidence relating to published NICE guidelines.

Surveillance evidence summary	Intelligence gathering	Impact statement
General guideline surveillance issues		
No relevant evidence was identified.	Implementation  Several topic experts raised the concern that home injury prevention is a much-neglected area within public health, local authorities and the health service. They highlighted that cuts to public health budgets since 2010 have only served to exacerbate this problem. One expert noted the lack of a national injury surveillance system, which makes it difficult to focus preventative efforts.  One expert highlighted a recent survey (1) of UK local authorities and health and wellbeing boards on their child injury prevention programmes.  Results of the survey suggest that only a small proportion had injury prevention programmes in place, with many of these being small scale.	Implementation  Topic experts raised concerns around the lack of resources available to implement the guideline recommendation, with one highlighting survey evidence which suggests a large proportion of local authorities do not carry out home safety assessments or provide equipment. It is acknowledged that recommendations across the guideline will be interpreted in a context of budgetary constraints and that will have an impact on implementation. The guideline website has dedicated tools and resources which are designed to help put the guidance into practice, this includes a NICE endorsed resource, the Injury Prevention Briefing, which was added to the website following feedback from the last surveillance review. Also,

Surveillance evidence summary	Intelligence gathering	Impact statement
	Some experts noted that the organisation of public health and preventative services has changed considerably since the guideline was published, and that the wording of the recommendations should be updated to reflect this.  Age groups  One topic expert felt that the age group considered in this guideline may need to be subdivided, given that the risks and interventions may be very different for early years and teenagers. Similarly, another expert called for the age range in the guideline to be extended to under 20 years, to be in line with other guidance from the World Health Organisation and other evidence globally.  Hazards  Several topic experts highlighted evidence on new hazards that have emerged since the guideline was originally published. These included window blind cords, cot bumpers, microwaves, trampolines, laundry capsules, e-cigarettes, reed diffusers and hair straighteners. One expert also noted the following document published since the development of NICE guideline PH30:  - Undetected button and coin cell battery ingestion in children (June 2019), Healthcare Safety Investigation Branch	the NICE website includes shared learning resources that provide examples of how NICE guideline PH30 has been used in practice.  Some experts noted that the wording of the recommendations may need to be updated to reflect the changes in organisation of public health services since the guideline was published. These have been accounted for in the editorial amendments described below.  New evidence is unlikely to change guideline recommendations.  Age groups  One topic expert called for the guideline to be subdivided by age group, given that the risks of injury and interventions may differ for early years compared to older children. Similar feedback was obtained during the fieldwork data collection on the draft recommendations. Here, practitioners highlighted that different interventions might be required, and different barriers and facilitators to implementation exist, for children of different ages. The committee took these considerations into account during guideline development by producing recommendations that cover overarching interventions around prioritisation, risk assessment

Surveillance evidence summary	Intelligence gathering	Impact statement
		and installing safety equipment that apply to all children under 15 years.  Experts also called for the age range in the guideline to be extended to cover people under 20 years to be in line with other guidance and global evidence. The original referral from the Department for Health outlined a focus on unintentional injuries among under 15s in the home. We identified several other sources of guidance and evidence on prevention of unintentional injury throughout this surveillance review and did not find the age range to be consistent. Some reports focused on ages 0-19, whilst others on under 5s and between 10-19. Due to this inconsistency and considering the original referral from the Department of Health, we do not propose any changes to the guideline at this time.
		New evidence is unlikely to change guideline recommendations.
		Hazards Several topic experts highlighted new hazards that have emerged since the guideline was published. However, no evidence was identified on interventions to reduce unintentional injury from the new hazards. This relates to research recommendation 1 in the guideline. Until there is

Surveillance evidence summary	Intelligence gathering	Impact statement
		evidence in this area, the guideline will not be affected.
		New evidence is unlikely to change guideline recommendations.
Recommendation 1 Prioritising house	eholds at greatest risk	
2014 evidence update  Evidence was identified on interventions which prioritised families from disadvantaged areas to help reduce inequalities in home safety (2,3). The intervention included a safety consultation by a health visitor followed by an offer of free or low cost safety equipment. The results indicated that the intervention appeared to reduce inequalities in stair gate use for the socioeconomic markers of housing tenure and receipt of benefits, but it showed no significant effect on any markers for working smoke alarms.	No intelligence was identified for this recommendation.	Evidence was identified to support the use of a health visitor-led intervention which prioritised families from disadvantaged areas to reduce inequalities in unintentional injuries. This is in line with recommendation 1, which states that households should be prioritised if they include: "those with children aged under 5, families living in rented or overcrowded conditions or families living on a low income".  New evidence is unlikely to change guideline recommendations.
2015 surveillance  No relevant evidence was identified.		

Surveillance evidence summary	Intelligence gathering	Impact statement
2019 surveillance  No relevant evidence was identified.		
Recommendation 2 Working in part	nership	
No relevant evidence was identified.	No intelligence was identified for this	No new evidence identified to change the
	recommendation.	recommendation.

#### 2014 evidence update

#### General injury prevention

Evidence was identified to support the installation of safety equipment (4) as well as the provision of home safety education alongside installation of safety equipment (5) to prevent unintentional injury in homes with young children. Evidence was also identified to support the installation and maintenance of smoke alarms (6) and thermostatic mixing valves (7–9) in social and rented housing.

#### 2015 surveillance

The surveillance review identified the following document published since the development of NICE guideline PH30:

 Reducing unintentional injuries in and around the home among children under 5 years (March 2018), Public Health England

One topic expert highlighted further evidence to strengthen the recommendations on provision of home safety assessments and safety equipment schemes. They noted the publication of new evidence-based tools to support practitioners and commissioners in the prevention of home injuries, such as the <a href="Injury Prevention Briefing">Injury Prevention Briefing</a>.

#### General injury prevention

Across all surveillance time points, the majority of evidence identified supported the installation and provision of safety devices, with and without education, videos and checklists, to prevent general unintentional injuries in the home.

This is consistent with <u>recommendation 3</u>, which recommends supplying and installing home safety equipment as well as offering education, advice and information during a home safety assessment.

#### Prevention of falls

Previous surveillance identified evidence on different types of interventions to prevent falls in children up to 5 years of age. Education, low cost/free home safety equipment and installation

#### Prevention of falls

A network meta-analysis (NMA) (10) of 29 studies (of which 16 were included in at least 1 of 4 NMAs; n not reported) examined the effectiveness of a range of interventions to increase possession of safety equipment or change behaviours to prevent falls in households with children under 5 years of age at home. The 4 NMAs focussed on interventions that covered the following areas: 1. increasing possession of a stair gate; 2. reducing possession of baby walker; 3. increasing possession of window locks; and 4. not leaving a child alone on a high surface. Results indicated that for analysis 1, the most effective interventions were education, low cost/free home safety equipment and fitting, compared to usual care (no details of usual care reported in the abstract). For analysis 2, education only was found to be most effective compared to usual care. For analyses 3 and 4, there was no significant difference between any intervention compared to usual care.

#### Prevention of scalds

A pragmatic parallel arm randomised trial (7) (n = 124 families with at least 1 child under 5 years) examined the effectiveness of thermostatic mixing valves (TMVs) in reducing bath hot tap water temperature across households from a social housing organisation. The study also assessed the acceptability of TMVs to families and impact on bath time safety practices. Results indicated that

An ongoing trial was highlighted which is relevant to this section of the guideline: Evaluation of the impact of the national 'Safe At Home' scheme on injury rates in children under 5 using secondary care data. This trial will be monitored and the impact will be assessed when the results are available.

were found to be most effective in increasing possession of a stairgate. Education only was found to be most effective in reducing possession of a baby walker, whilst there was no effect of any intervention to increase possession of window locks or to prevent leaving a child on a high surface. This is broadly consistent with recommendation 3, which advises supplying and installing home safety equipment as well as offering education, advice and information during a home safety assessment. Evidence on interventions for window locks and leaving a child on a high surface showed little benefit, however, without any further evidence on what interventions may be effective in these areas, the recommendation is unlikely to change.

New evidence is unlikely to change guideline recommendations.

#### Prevention of scalds

In the 2015 surveillance review, evidence was identified to support the installation and maintenance of TMVs (7–9)in social and rented housing. Further evidence supports the use of education, home safety checks along with provision of free or discounted thermometers or TMVs to reduce incidence of scalds in children. This is in line with recommendation 3 in the guideline, which advises supplying and installing home safety equipment (including thermostatic mixing valves)

Surveillance evidence summary	Intelligence gathering	Impact statement
families with TMVs had a significantly lower bath hot water temperature at 3-month and 12-month follow-up than families in the control arm. They		as well as offering education, advice and information during a home safety assessment.
were also significantly more likely to be happy or very happy with their bath hot water temperature, significantly less likely to report the temperature as		New evidence is unlikely to change guideline recommendations.
being too hot and significantly less likely to report checking the temperature of every bath. No injury		Prevention of poisoning
outcomes were measured.		Evidence was identified to support the use of interventions combining education, low cost/free
Prevention of fires		equipment, home safety inspection and fitting
A cost-effectiveness study (11) used a model- based probabilistic approach to assess		components to promote safe storage practices in the prevention of accidental poisoning. This is in
interventions for increasing the possession of		line with recommendation 3 in the guideline, which
functioning smoke alarms in households with pre- school children. Education with free/low cost		advises supplying and installing home safety equipment as well as performing a home safety
equipment was the most cost-effective intervention		assessment. Evidence on interventions for safe
with an estimated incremental cost-effectiveness ratio of £34,200 per QALY gained compared to		storage of poisonous plants was less certain, however, without any further evidence on what
usual care. This was reduced to approximately £4,500 per QALY gained when 1.8 children under		interventions may be effective in this area, the
the age of 5 were assumed per household.		recommendation is unlikely to change.
2019 surveillance		New evidence is unlikely to change guideline recommendations.
General injury prevention		
A retrospective, quasi-experimental study (12) (n = 5458) examined the effectiveness of home visiting on the risk for medically attended unintentional injury in children aged 0-3 years. Who is making		Prevention of fires  Evidence from previous surveillance indicated that the provision of free or low-cost equipment alongside education was also found to be cost

Surveillance evidence summary	Intelligence gathering	Impact statement
the home visits is not reported in the abstract. The intervention group was retrospectively compared to a propensity score-matched comparison group of mothers and children. Results indicated that the risk for medically attended unintentional injury from aged 0 to 2 and 0 to 3 years was significantly higher in the home-visited group relative to the comparison group. Authors add that the findings		effective (£4,500 per QALY) in households with pre-school children (when 1.8 children per household was assumed). This supports recommendation 3 in the guideline, which advises supplying and installing home safety equipment as well as performing a home safety assessment and ensuring education and advice is given.
may be attributed to better home visitor surveillance of injuries or greater health careseeking behaviour in this group.		New evidence is unlikely to change guideline recommendations.
A before and after study (13) (n = 207 homes) evaluated the impact of a community-based volunteer-implemented home safety intervention for families of children aged between 1 and 5 years. The intervention involved volunteers delivering a 'safety bundle' which included the installing of evidence-based safety equipment. Families were compared to those in homes who did not receive		Resources  An evidence-based tool, the Injury Prevention Briefing, was highlighted by a topic expert. This was assessed in the last surveillance review and has since been added as a NICE endorsed resource found on the tools and resources page of the guideline.
the intervention (further details and n not reported in the abstract). Results indicated that compared to baseline, emergency room attended injury rates within the community was significantly lower for homes receiving the intervention compared to homes not receiving the intervention.  A before and after study (14) (n = 3458) evaluated the effect of the London Health Sciences Home Safety Programme (HSP) for the prevention of		Public Health England have published Reducing unintentional injuries in and around the home among children under 5 years (March 2018) which describes the latest trends in unintentional injuries among children under 5 years and gives details of an action plan to reduce injury rates. This document cross-refers to NICE guideline PH30 and recommends providing home safety engineering for free or at low cost to tackle health inequalities. This is in line with recommendation 3 which advises

Surveillance evidence summary	Intelligence gathering	Impact statement
programme included provision of safety devices, education, a safety video, and home safety checklist to all first time parents. Emergency department visits for home injuries were compared 5 years before and 2 years after the programme was implemented and differences in		supplying and installing home safety equipment, particularly in prioritised households. Therefore, no impact on the guideline is expected.  New evidence is unlikely to change guideline
socioeconomic area were adjusted for in the analysis. Results indicated that there was a significant decline in emergency department visits for home injuries after HSP implementation.		recommendations.
Prevention of scalds		
An overview of reviews and a combined systematic review (15) was identified on the effectiveness of interventions to prevent scalds in children (n = 14 systematic reviews and 39 primary studies). Results indicated that education, home safety checks along with provision of free or discounted thermometers or TMVs were effective in reducing incidence of scalds. There was no consistent evidence on the effectiveness of interventions on the safe handling of hot food or drinks or improving kitchen safety practices.		
Prevention of poisoning An NMA (16) of 28 studies (n not reported) evaluated the effectiveness of different interventions to increase prevalence of safe storage of: i) medicines only; ii) other household products only, iii) poisons (both medicines and non-		

Surveillance evidence summary	Intelligence gathering	Impact statement
medicines), iv) poisonous plants; and v) possession of poison control centre (PCC) telephone number in households with children. Results indicated that compared to usual care, interventions with both education and low cost/free equipment elements were most effective in promoting safe storage of medicines. Interventions with combined education, low cost/free equipment, home safety inspection and fitting components were most effective in promoting safe storage of other household products, safe storage of poisons and possession of PCC number. For the safe storage of poisonous plants, there was no significant difference between interventions.		
Recommendation 4 Follow-up on hor	ne safety assessments and intervention	ons
No relevant evidence was identified.	No intelligence was identified for this recommendation.	No new evidence identified to change the recommendation.
Recommendation 5 Integrating home	safety into other home visits	
No relevant evidence was identified.	The surveillance review identified the following document published since the development of NICE guideline PH30:	Public Health England have published Early years high impact area 5: managing minor illness and reducing accidents (November 2018) which focusses on managing minor illness and preventing

Surveillance evidence summary	Intelligence gathering	Impact statement
	Early years high impact area 5: managing minor illness and reducing accidents     (November 2018), Public Health England	hospital admissions. This document cross-refers to NICE guideline PH30. It covers the role of the health visitor in reducing accidents, working in partnerships with local authorities and home services, inter-agency training. This is in line with recommendation 2 in the guideline, which recommends local authorities, children's services and other organisations should work in partnership to prevent unintentional injury. Therefore, no impact on the guideline is expected.
		New evidence is unlikely to change guideline recommendations.

## Research recommendation 1\*

How effective and cost effective are home safety interventions (including combined interventions) in preventing unintentional injuries among different population groups? For example, how effective are they in relation to participants' gender, age, race/ethnicity, socioeconomic status, disability, or other characteristics? To what extent does effectiveness and cost effectiveness vary according to the type of injury being prevented?

	No intelligence was identified for this	Further evidence is required on the effectiveness of
New evidence was identified on the new hazards	recommendation.	interventions to prevent injuries caused by new
that have emerged in the home setting since the		hazards before impact on the guideline can be
guideline was published.		assessed.

Surveillance evidence summary	Intelligence gathering	Impact statement
Research recommendation 2*		
	r information, advice and education during a hexample, does it reduce the number – and sev	•
No relevant evidence was identified.	No intelligence was identified for this recommendation.	No new evidence identified to change the recommendation.
Research recommendation 3*		

		No new evidence identified to change the recommendation.
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<sup>\*</sup>The original guideline committee developed some provisional research recommendations, based on the evidence and expert advice from cooptees. These were passed to the NICE committee that developed related guidance on <u>'Strategies to prevent unintentional injuries among under-15s'</u>, for them to develop a comprehensive set of research recommendations covering all types of unintentional injuries. This section contains the research recommendations from NICE guideline PH29 that relate specifically to prevention of unintentional injury in the home.

#### Editorial amendments

During surveillance of the guideline we identified the following points in the recommendations that should be amended:

- Recommendation 2: The cross referral to NICE guideline PH9 needs updating. This guideline has been updated and replaced by the NICE guideline on <u>Community engagement: improving health and wellbeing and reducing health inequalities</u> (NG44).
- Footnote 3: The link to the Housing Health and Safety Rating System (HHSRS) should be replaced with the following link:
   https://www.gov.uk/government/publications/housing-health-and-safety-rating-system-guidance-for-landlords-and-property-related-professionals
- Footnote 4: the "Common Assessment Framework" has been replaced by the "Early Help Assessment". The footnote should be amended to reflect this change.
- Footnote 5: This should be replaced with a link to recent information sharing advice for safeguarding practitioners: https://www.gov.uk/government/publications/safeguarding-practitioners-information-sharing-advice

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