

Taking pressure off A&E by investing in the prevention of unintentional injuries to under-5s

# action on accidents

## Summary

The Royal Society for the Prevention of Accidents (RoSPA) and the Royal College of Emergency Medicine (RCEM) are calling for a £2 million per year nationwide programme in Scotland to reduce unintentional (accidental) injuries to under-5s. Such a programme would be effective in reducing harm to our children, would save costs and take pressure off Scottish hospital Emergency Departments (A&E).

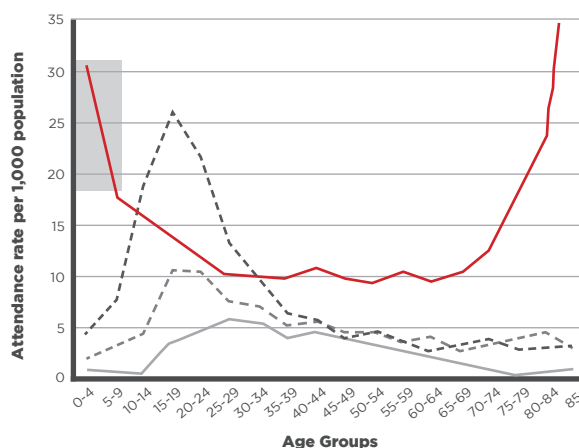
## What's the problem?

A&E departments treat a disproportionate number of unintentional injuries within three age and location groups: under-5s in the home, 10-24s at leisure and the over 70s in the home (see graph).

### Unintentional injury rates from Oxford University Hospitals NHS Trust Emergency Departments (A&E) John Radcliffe and Horton General

1<sup>st</sup> Jan 2012 - 31<sup>st</sup> Dec 2012

Home —  
Leisure - - -  
Road - - -  
Work —



Of these, **injury prevention programmes aimed at the under-5s in the home** offer the best opportunity to reduce harm, A&E attendances and hospital admissions because:

#### • Data

In 2013/14, more than 120,000 under-5s attended Scottish A&E departments<sup>1</sup>. At least a fifth<sup>2</sup> of these are estimated to have been due to an unintentional injury. The most severe injuries resulted in 3,260<sup>3</sup> hospital admissions.

#### • Receptiveness

Parents of 7 to 12 month old children 'begin to worry about safety in the home' and need information, advice, education and reassurance<sup>4</sup>. They are receptive to key messages and pass on the knowledge gained to friends and family. This can be part of life-long learning.

#### • Disability

Preventing harm to our children at the beginning of life prevents injuries

that would otherwise cause life-long impairment<sup>5</sup>. Very young children are particularly prone to falling and to suffering head injuries, with severe consequences.

#### • Impact

Injury prevention programmes which combine education for parents and professionals as well as some safety equipment for the most vulnerable families, are effective and inexpensive to deliver and have been shown to achieve a 29% reduction in hospital admissions<sup>6</sup>.

#### • Cost of treatment

According to NHS Scotland's R100 report for 2013/14<sup>7</sup>, the average cost of an A&E attendance was £107 and the average inpatient cost (hospital admission) was £2,691. 'Cost to Society' (which is calculated using the TRL method) is far higher. Based on these figures, the annual costs of emergency hospital treatment for unintentional injuries to under-5s in Scotland are:

NHS cost of treatment using NHS Scotland's R100 costs<sup>8</sup> for 2013/14

£11 million

Cost to society using TRL PPR483<sup>9</sup>

£360 million

## Location, causation and types of injuries to under-5s<sup>10</sup>

- 72% of unintentional injuries to under-5s occur in the home with another 9% in leisure (including gardens and playgrounds).
- 49% of total injuries are caused by falls from less than 1m. Head injuries are both the most common (30% of total injuries) and the most serious injuries, often

requiring admission to hospital. These falls cause relatively few limb fractures.

- 18% were in the more severe triage codes signifying at least a threat to life or limb and/or severe pain.
- 1-2 year olds account for just over half (51.8%) of all the unintentional injuries

within the under-5 age group.

- Under-5s also suffer life-changing injuries from scalds, burns, asphyxiation and poisoning. Just over 5% sustain fractures to the skull, shoulders, arms, wrists, legs, ankles and feet.

## What's the solution?

RoSPA's experience of nearly a century of injury prevention including the successful implementation of *Scotland's Home Safety Equipment Scheme* (2013-2016)<sup>11</sup> and its English predecessor, the *Safe At Home Scheme* (2008-2011) show that a combination of education, information and some safety equipment, targeted at the most vulnerable families in areas with the highest injury rates, can produce outstanding results<sup>12</sup>. A nationwide network of such partners as local authorities, housing associations and the Fire and Rescue Service showed what could be achieved.

The ideal intervention involves a home visit by a RoSPA-trained safety educator, explaining the individual hazards which each family faces, and arranging the fitting of safety equipment (e.g. stairgates, fireguards) in some cases. We see these people as 'buddies' to health visitors. The 'buddies' can concentrate on safety aspects to help prevent the most common causes of harm to under-5s (unintentional injuries) while leaving busy health visitors free to concentrate on child health and development.

To be effective, we need a **sustained national programme** which builds on this experience and delivers year-on-year improvements in the way we educate and

inform parents on accident prevention, empowering them to take responsibility for themselves and their loved ones. They need to understand that **accidents don't have to happen** and their capacity to avoid unintentional injury is significant.

RoSPA calculates that an annual £2 million programme in Scotland would address this problem at sufficient scale to make a huge difference to our children and to the NHS in Scotland. Here are the key metrics:

- A 30% reduction in emergency treatment for under-5s would reduce A&E attendances by more than 7,000<sup>13</sup> - a very good place to start - before we turn our attention to the other peaks in the graph. This is a realistic aspiration.
- The break-even point for this programme, measured in costs to the NHS, would be an 18% reduction in emergency treatment for the under-5s<sup>14</sup>.
- The break-even point for this programme, measured in costs to the state (including long term care, rehabilitation and disability benefits) is estimated to be a 5-10% reduction in accidents for the under-5s.
- The break-even point for this programme, measured in Cost to Society, would be a 0.5% reduction in accidents for the under-5s.

## There is simply no better way to achieve such a measurable impact on our children, our NHS and our society, within this scale of resources.

### Contacts

**RoSPA** Errol Taylor, Deputy CEO,  
etaylor@rospa.com

**RCEM** Gordon Miles, CEO,  
Gordon.Miles@rcem.ac.uk

### Acknowledgments:

This factsheet has been written thanks to the work of Dr Tom Hughes and his colleagues at the Oxford University Hospitals NHS Foundation Trust, Oxfordshire, Graham Kirkwood and Professor Allyson Pollock of the Global Public Health Unit at Queen Mary, University of London, Dr Simon Howes at the Royal College of Emergency Medicine and Errol Taylor at RoSPA.

**1** Data from NHS Scotland's Information Services Division (ISD Scotland) shows that in 2013/14, under-5s accounted for 120,370 of the total of 1.362 million A&E attendances (all ages).

**2** Injury causation data for Scotland's A&E departments is incomplete. However, detailed data is available from the Oxford University Hospitals NHS Foundation Trust which received 78% of all Oxfordshire hospitals A&E attendances from January 2012 to March 2014. Based on recent analysis of this data by Queen Mary University of London (QMUL), RoSPA and RCEM, 24.7% of all the attendances among under-5s were due to unintentional injury. This may be slightly overstated because while the proportion of unintentional injuries in Oxfordshire for all age groups was 31.0%, the NHS HSCIC reports the equivalent proportion for all English A&E attendances in 2013/14 as 24.1%. It therefore makes sense to pro-rata the Oxfordshire proportion to give a more conservative national estimate of 20% of attendances by under-5s being due to an unintentional injury. Assuming that this profile applies in similar Scottish A&E departments, 20% of 120,370 = an estimated 24,000 under-5s attended A&E as a result of an unintentional injury.

**3** ISD Scotland: Unintentional Injuries - Hospital Admissions: Year ending 31 March 2014. <http://www.isdscotland.org/Health-Topics/Emergency-Care/Publications/data-tables.asp?id=1483#1483>

**4** Department of Health research "Parents' views on the maternity journey and early parenthood"

**5** Preventing injuries to under 5s offers the best potential in terms of reducing premature mortality and morbidity measured by Preventable Years of Life Lost (PYLLs) and Disability Adjusted Life Years (DALYs)

**6** E.g. the Safe At Home programme, described in RoSPA's Big Book of Accident Prevention <http://www.rospa.com/RoSPAWeb/docs/public-health/big-book/index.html>

**7** ISD Scotland "Cost book" R100 executive summary report for 2013/14 <http://www.isdscotland.org/Health-Topics/Finance/Costs/File-Listings-2014.asp>

**8** Estimated cost of A&E attendances = 24,000 x £107 = £2.6 million. Cost of hospital admissions = 3,260 x £2,691 = £8.8 million. Total cost = 2.6 + 8.8 = £11.4 million.

**9** See table 11 of the Transport and Road Laboratory's report "PPR483, Re-valuation of Home Accidents". Cost to Society of injuries to under 5 year olds. Serious injuries are assumed to require a hospital admission and are valued by TRL

at £33,200. Less serious injuries assumed to be treated in A&E are valued by TRL at £10,600. Hence, 24,000 x £10,600 + 3,260 x £33,200 = £363 million.

**10** Based on the analysis of Oxfordshire A&E data.

**11** The first phase of Scotland's Home Safety Equipment Scheme (SHSES) ran from April 2013 to June 2014. During this period, SHSES targeted 900 families and reached 1,752 vulnerable children under 5. In parallel, 165 members of staff were trained in home safety/installation. Based on this success, a second phase of SHSES was then commissioned to run from March 2015 until March 2016.

**12** Safe At Home was instrumental in delivering a 52% reduction in Liverpool's hospital admissions among under-5s who had suffered an unintentional injury.

**13** A 30% reduction of Scotland's 24,000 A&E attendances by under-5s for unintentional injuries is 7,200. This is 0.53% of Scotland's total A&E attendances of 1.362 million and 2.7% of the 265,000 A&E attendances that are estimated to be due to unintentional injuries.

**14** An 18% reduction would mean 4,300 fewer attendances and 650 fewer hospital admissions. Together, these reductions would save NHS Scotland £2 million per year.