Avoidable Injuries in Children and Young People

Topic information	
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Executive summary

Introduction

Avoidable injuries in children and young people (CYP) are a serious public health issue and a leading cause of death and hospital admission for children in the United Kingdom. Injuries put more children in hospital than any other cause.

The impact and consequences of avoidable injuries are major contributors to health inequalities with children from the most disadvantaged backgrounds at significantly increased risk.

The long term effect of an injury can be significant, both physically and emotionally, for children. They may experience:

- Disability or impairment (short or long term)
- Scarring or disfigurement
- Ongoing hospital appointments and operations.

Avoidable childhood injuries carry significant costs to the economy, the NHS and children and families. Admitting a child to hospital following avoidable injury in the home is estimated to cost £16,900. The same source puts the cost of a road traffic injury at three times this, in excess of £50,000. The NHS spends an estimated £131 m per year on emergency hospital admissions because of childhood injuries.

There is a body of evidence to show that most injuries are preventable. Strategies to prevent injuries are usually relatively inexpensive to implement and are shown to have a beneficial return on investment.

Unmet need and gaps

There is a need for standardised evidence-based home safety advice to be provided to families with young children by practitioners who work with children and families (e.g. health visitors, children's centre staff, family support workers, Home Start etc.).

The home safety assessment and equipment scheme only covers 7 wards in Nottingham city. The scheme has the potential to prevent child injuries and reduce inequalities in child injuries. However, it has short term funding; so the scheme is at risk when the current funding ceases. In addition, other wards with high child injury rates and high levels of deprivation in Nottingham city and country do not have access to this service; hence injury rates and inequalities in these wards are likely to remain high.

The evidence-based injury minimisation programme for schools (IMPS) and its programme for parents of pre-school children (ELFS) should continue to be commissioned

DfT funding for the number of National Standards Bikeability for 2015 has been reduced and continuation funding is currently under review. Nottingham City Council currently partially fund delivery of Bikeability and the scheme is at risk because of a zero budget decision within the service area.

Nottingham City Council Lifecycle programme delivery is under threat when current funding ceases.

Both road safety schemes have the potential lower the risk of cycle injuries in children aged 5-11 and should continue to be commissioned.

Recommendations for consideration by commissioners

1. The home safety equipment scheme should continue after the pilot phase in order to roll out across all of Nottingham City.
2. The commissioning of health visiting services should include the provision of standardised evidence-based home safety advice for all parents of children aged 0-4 years by health visiting teams
3. The continuation of the Nottingham City and Nottinghamshire County Strategic Avoidable Injuries Group.
4. The continuation of the Home Safety and Road Safety subs groups of the Strategic Avoidable Injuries Group.
5. The evidence-based injury minimisation programme for schools (IMPS) and its programme for parents of pre-school children (ELFS) should continue to be commissioned
6. Continue to extend the implementation of 20mph zones throughout all areas of the city and county
7. Bikeability and Lifecycle schemes should continue/extended to offer the opportunity for all primary pupils to participate in cycle/road safety awareness training.
8. Discussions with schools to take place in order to prioritise and commission safety initiatives
9. Continue to lobby industry regarding the safety cleaning products

Full JSNA report

What do we know?

1) Who is at risk and why?

In England and Wales it is the second most common cause of childhood death (age 1–4) after cancer [1] and results in substantial long term disability. [2] Globally this health inequality is striking, with more than 95% of all injury-related child deaths around the world occurring in low and middle-income countries, [1]. However, health inequalities in injury persist within high income countries also. A recent study calculated the population attributable risk of injury and estimated that annually, there are an additional 9,395 medically-attended injuries in children under 5 that potentially, could be avoided if all children experienced the injury rates of those in the most affluent areas of the UK [3].
Avoidable injuries in CYP have been identified as a local priority for Nottinghamshire County and Nottingham City Public Health with a strategy developed and launched in 2014.

WHO IS AT INCREASED RISK OF EXPERIENCING AN AVOIDABLE INJURY?
NICE (2010) recognises that those who are at greater than average risk include; under 5's being more at risk of injuries in the home and over 11's being more vulnerable to road injuries. Other factors are as follows [4] .

- Children who have a disability or impairment (physical or learning).
- Children from some minority ethnic groups.
- Children from low income families.
- Children who live in accommodation which potentially puts them more at increased risk (this includes multiple occupied housing; social and privately rented housing; temporary accommodation and high rise

THE COST OF AVOIDABLE INJURY
Admitting a child to hospital following avoidable injury in the home is estimated to cost £16,900 [5]. The same source puts the cost of a road traffic injury at three times this, in excess of £50,000 [5] . These estimations include the costs of lost output, the amount a community is willing to pay to prevent and injury and health care costs. Healthcare costs are typically the smallest component of the overall costs, and for home injuries, comprise approximately 10% of the total cost.

Data from a recent multicentre study, which included Nottingham and which focussed on the most common home injuries in the under-fives (falls, poisonings and scalds) found the NHS costs of admissions for 2 or more days typically averaged between £2000-£3000. The NHS costs of admissions for 1 day or less typically averaged £700 - £1000 and for an ED attendance without admission typically averaged £100-£180. Scalds resulted in the highest healthcare costs, particularly for admissions for one day or less and for ED attendances. Importantly, the study also found home injuries in the under-fives incurred substantial costs to parents; average family costs were up to £400 for an injury requiring admission for 2 or more days, £200 for an injury requiring admission for one day or less and £70 for and ED attendance not requiring admission. These and mainly comprised costs for childcare and for time off work. Family costs varied across injury types, and were highest for scalds [6].

Avoidable injuries in children and young people follow a life course approach so early interventions and preventative strategies that target individuals, families, communities and society at large are important to stop this ripple effect.
The NHS spends an estimated £131 m per year on emergency hospital admissions because of childhood Injuries.
The approximate lifetime medical, educational and social costs for one child with a severe

traumatic brain injury is **£4.89 million.**

Most injuries are preventable and strategies to prevent injuries are usually relatively inexpensive to implement and are shown to have a beneficial return on investment [6].
Bath water scalds: Hot bath water is the leading cause of serious scalding injuries among young children and the annual cost of treatment for 0-14 year-olds can be £39.2 million. An economic evaluation of fitting thermostatic mixer valves to reduce bath hot tap water temperatures as part of refurbishment of social housing for families with young children, found for every £1 spent on fitting valves, £1.41 was saved [8] .

Hot drink scalds: Hot drink scalds are one of the most common childhood injuries and the leading cause of children being admitted to burns services.
The average cost of inpatient treatment for an uncomplicated minor scald from a hot drink is £1,850. Each year the NHS spends around £2.2 m on inpatient treatment for children and young people with hot drink scalds [7].

For a parent who is employed full-time, taking two weeks off work while their child is in hospital costs the economy £7,600 [7].

2) Size of the issue locally

The data presented in this section provides a local context of the impact and effects of avoidable injuries. The true figure of injuries and resulting morbidities in Nottingham are not reflected in this report as the figures exclude children who are treated at home, in primary care and walk in centres as this data is currently unavailable.

The statistics in this chapter have been compiled from a variety of sources including mortality statistics from ONS, road traffic accidents from STATS 19 data1, hospital Admissions data from Hospital Episode Statistics (HES) 2 and A&E attendance statistics.

Figure 1: Inpatient Admissions per 100,000 population 0 -5 years in Nottingham City 2014/ 2015

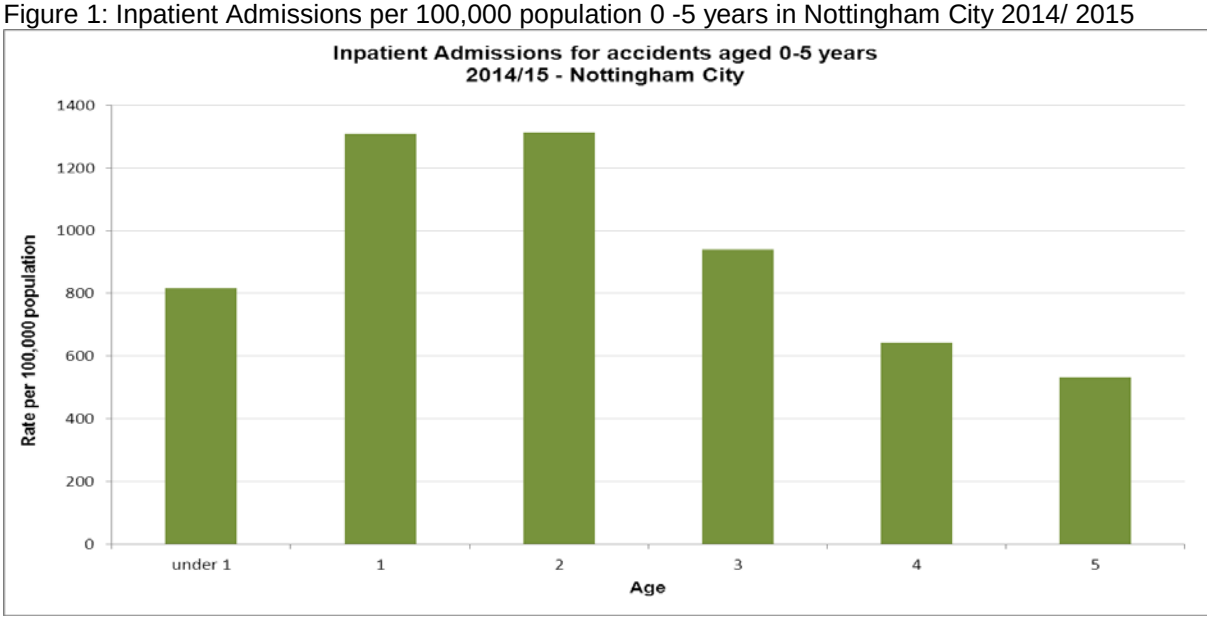
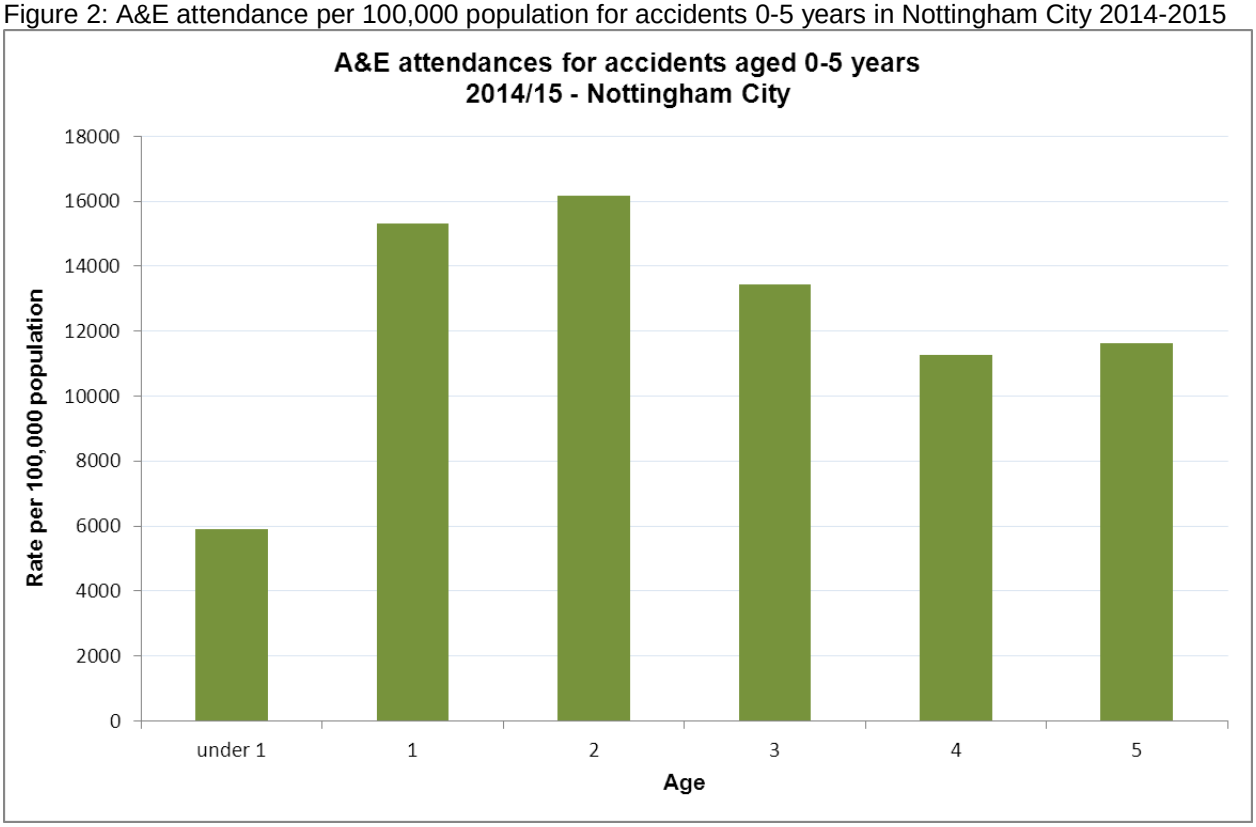


Figure 2: A&E attendance per 100,000 population for accidents 0-5 years in Nottingham City 2014-2015



The rate of A & E attendances in Nottingham City for 0- 4 years is 549.1 per 1,000 population this is significantly worse than the England average of 510.8 per 1,000 (2011-2012 data).

Figures 1 & 2 show the rate of A&E admissions and attendances per 100,000 population in the under 5's in Nottingham City. Both figures 1 and 2, identify that children aged between 1 and 2 years have the highest rates of attendances and admissions for injury. This is likely to reflect child development, with children becoming mobile, starting to walk and climb and starting to explore their home environment. The vast majority of injuries in the under-fives occur within the home.

Figure 3 below highlights the main reasons for attendance (rate per 100,000 populations) in the 0 – 5 age group. Lacerations, abrasions and dislocations/fractures are the main reasons for admissions however it is important to highlight that poisonings particularly in children aged 2 and 3 years are a significant issue. A recent clinical audit undertaken of A and E attendances from January 2014 to December 2014 at Nottingham University Hospitals reported 390 children attendances for ingestion of a poisonous substance which equates to 1.7% of the total admissions. The most common place where children ingested the poison was in the kitchen followed by upstairs.

Given the age distribution of injuries, it is clear that home safety interventions need to commence before the mandatory Healthy Visitor review at 1 year and should commence with home safety education in ante-natal programmes and continue with home safety education and referral for home safety assessments and safety equipment provision after birth. There are many opportunities to provide standardised evidence-based advice and support through the Healthy Child Programme and other contacts between parents and a range of practitioners who have contacts with families with young children including primary health care teams, children's centre staff, family support workers, voluntary agencies (e.g. Home Start), social housing providers, Fire and Rescue Services.

Figure 3: A&E attendances per 100,000 population for causes of accidents in 0-5 years to 2014-2015

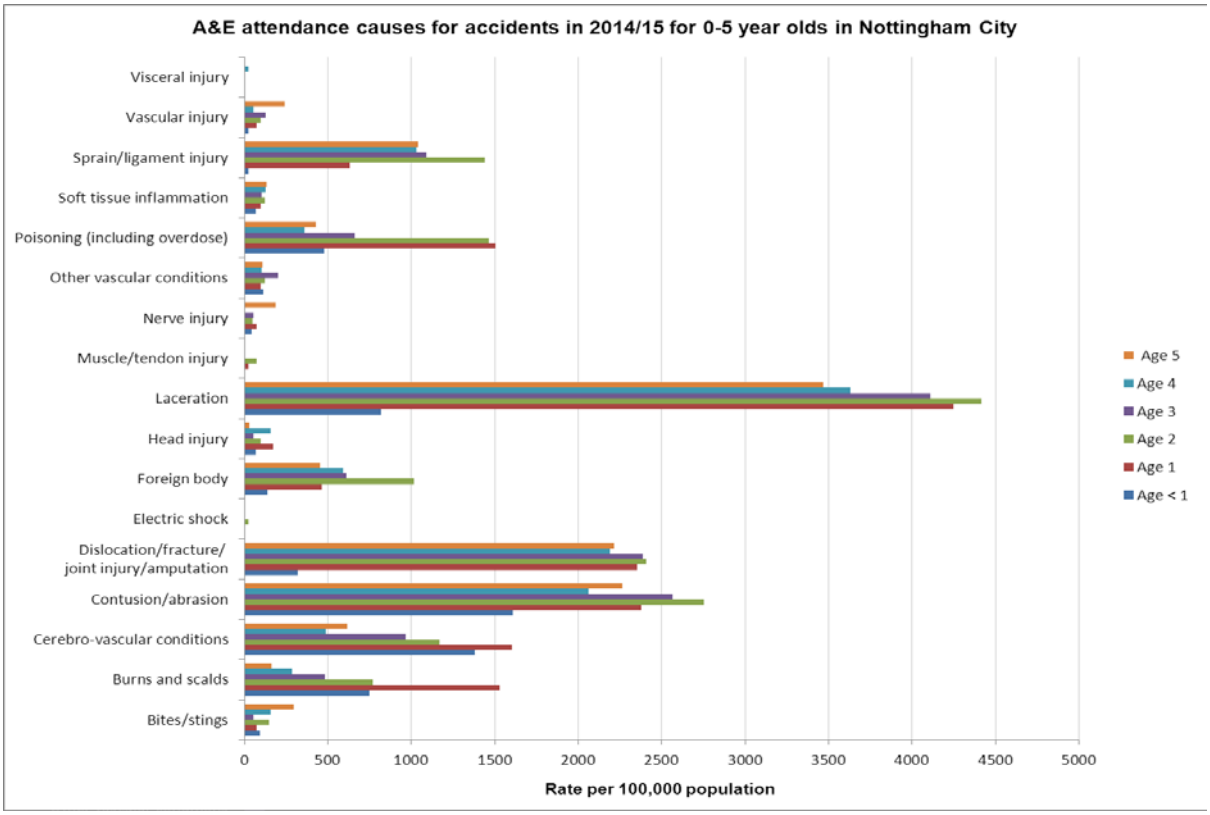


Table 1 shows ward level data for the rate of accidents (per 1,000 population) in the fewer than 5 age group. Rates of accidents/injury is particularly high in three wards; Dunkirk and Lenton, Clifton South and Aspley. The rates in these three wards a significantly higher than those in the other wards in Nottingham City.

Table 1: Accidents by wards using mid-year population estimates in the 0 – 5 age group

Ward	No. of households	No. of households with 0-4 years residing	0-5 years population	No. of accidents (0-5 years population)	Rates per 1,000 (0-5 years population	LCI	UCI
Dunkirk & Lenton	3,738	204	294	96	326.53	275.46	382.07
Clifton South	6,248	771	1187	367	309.18	283.54	336.05
Aspley	6,554	1,587	2450	721	294.29	276.57	312.64
Leen Valley	4,189	584	916	247	269.65	241.92	299.31
Bilborough	7,315	952	1478	375	253.72	232.20	276.52
Radford and Park	7,667	596	928	235	253.23	226.31	282.19
Bestwood	7,564	1,114	1663	412	247.75	227.59	269.06
St Ann's	8,445	899	1164	279	239.69	216.05	265.05
Berridge	7,591	1,163	1777	424	238.6	219.36	258.97

Basford	7,098	983	1514	344	227.21	206.81	248.99
Arboretum	4,915	457	729	165	226.34	197.44	258.10
Bridge	7,111	635	1004	220	219.12	194.63	245.75
Bulwell Forest	5,927	662	968	194	200.41	176.40	226.79
Dales	7,094	1,033	1663	330	198.44	179.97	218.29
Clifton North	5,272	541	835	164	196.41	170.88	224.72
Wollaton West	6,095	681	1079	202	187.21	165.06	211.58
Mapperley	7,372	738	1097	189	172.29	151.09	195.77
Sherwood	6,651	728	1355	221	163.1	144.39	183.72
Bulwell	7,113	1,073	1669	262	156.98	140.32	175.22
Wollaton East & Lenton Abbey	2,172	260	371	46	123.99	94.26	161.43

Figures 4 & 5 show the rate (per 100,000 population) of A&E attendances and admissions in the under 18 age group. When comparing the different age groups children ages 1 to 2 years have the highest rate of admissions and attendances. Admissions rates decline with increasing age however this is not the same with attendances where rates are more similar across all age groups above the age of 1 year. Comparing admission rates from 2010- 2015/2015 these appear to have reduced in all age groups over the five year period. However, there appears to have been an increase in attendance rates all age groups in 2013-2014. The attendance rates appear to have declined in 2014-15, but when all groups are combined (Figure 6, shows that the attendance rate in 2014/15 was similar to that for 2010/11; suggesting no overall decline over the 5 year period). Reducing children and young people's hospital admissions and attendances is a Nottingham City CCG priority, and considerable work is underway to further reduce attendances and admissions through the work of the Avoidable Injuries strategic group for Nottingham City and Nottinghamshire County and through a specific city reducing paediatric admissions group led by Nottingham City CCG.

Figure 4: Inpatient admissions for under 18 years per 100,000 population by year and by age band in Nottingham City

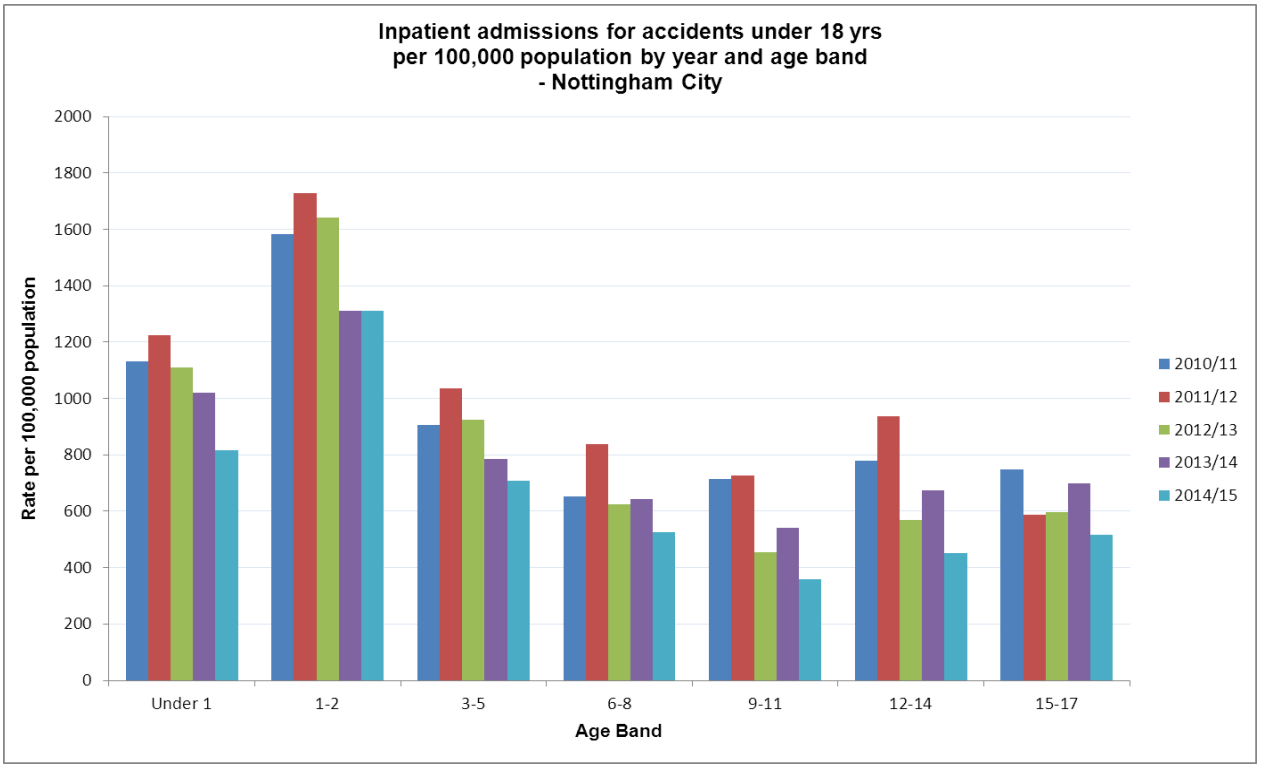


Figure 5: A&E attendances for accidents for under 18 years per 1000,000 population by year and by age band in Nottingham City

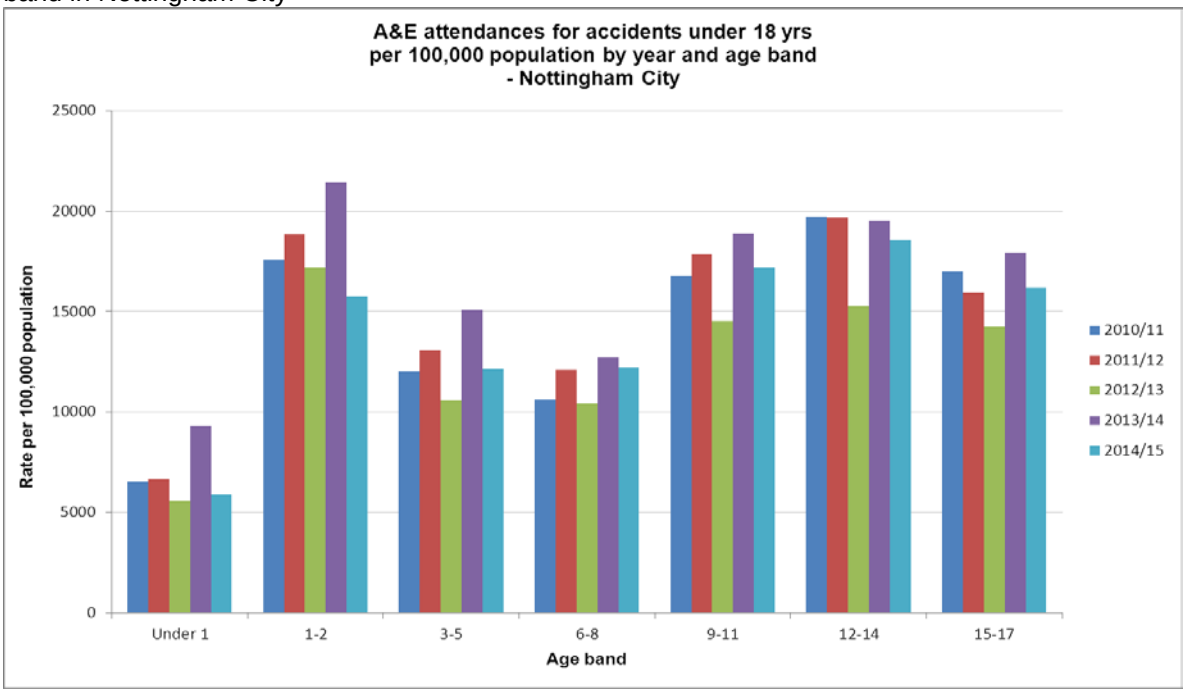


Figure 6: A&E attendances for accidents under 18 years per 100,000 population by year in Nottingham City

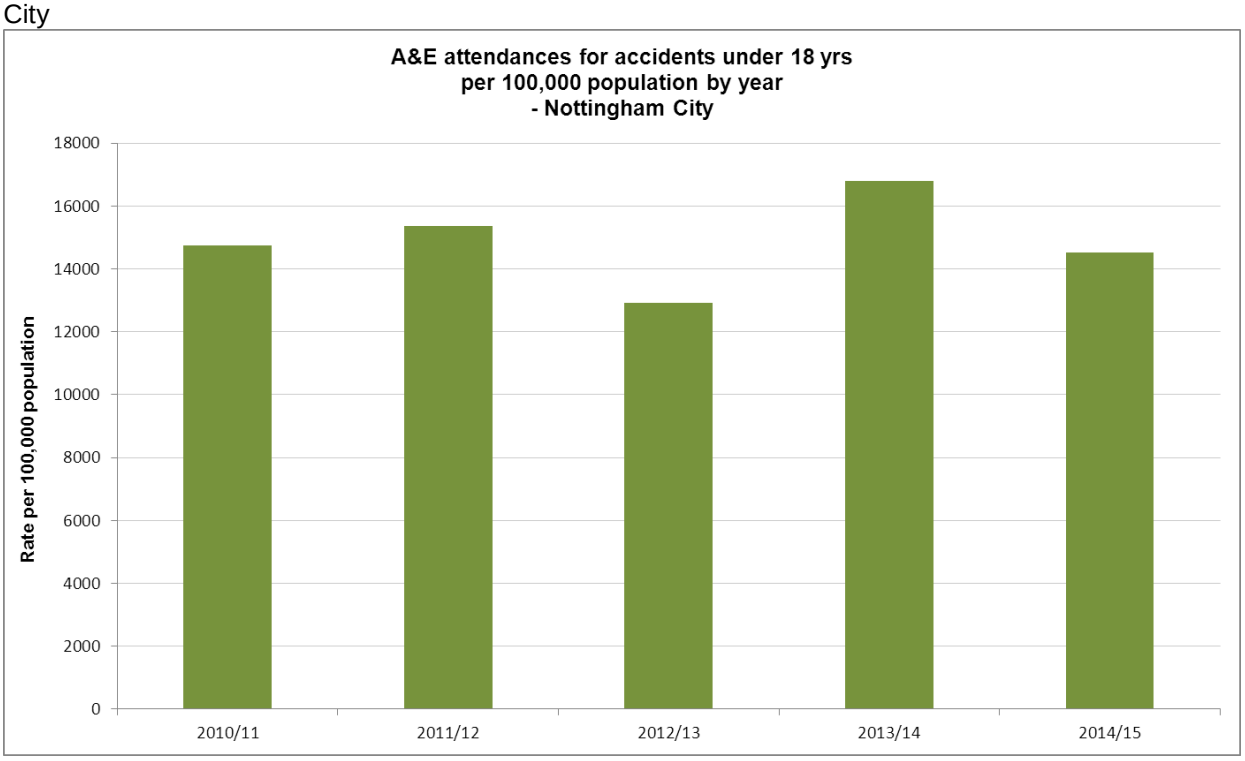
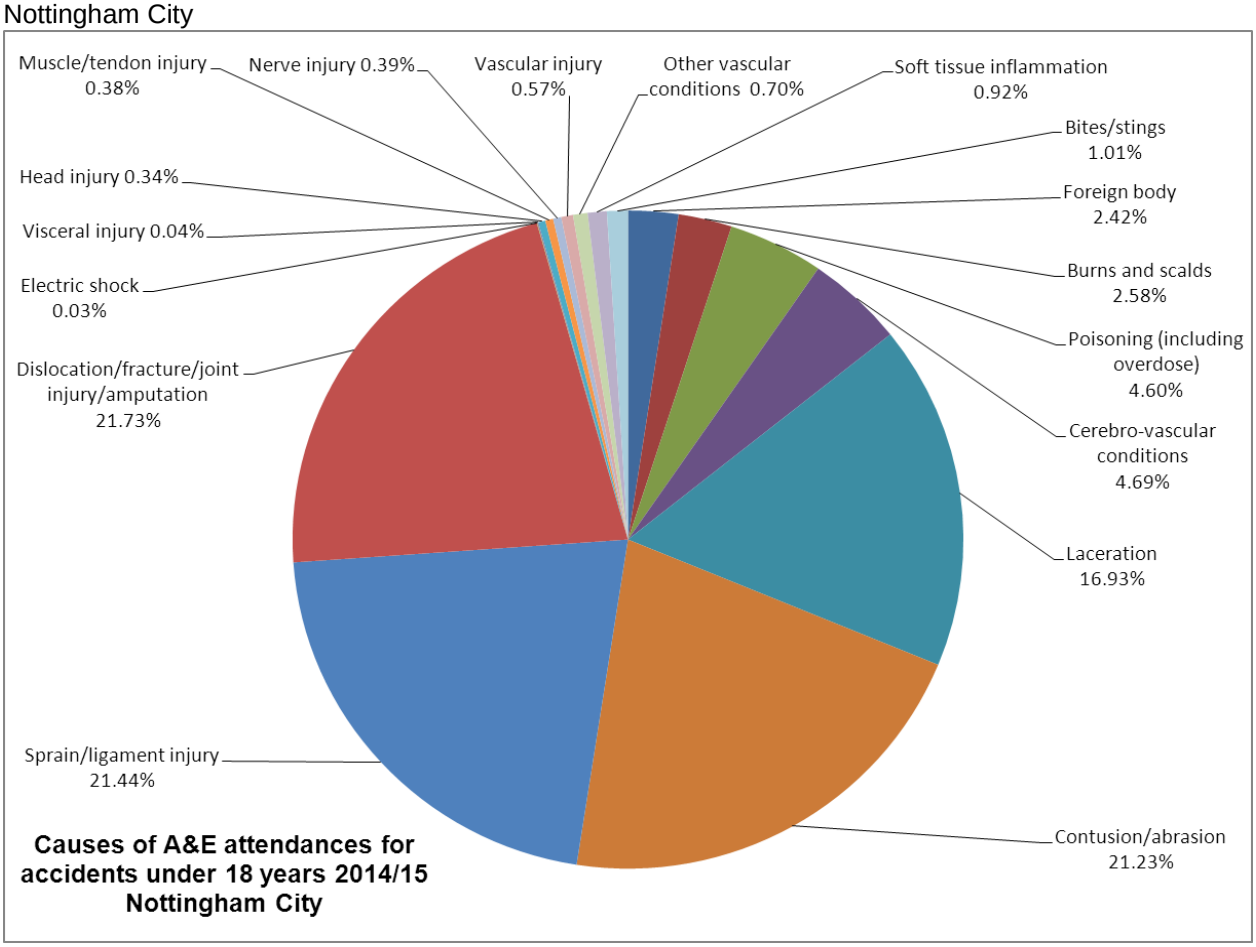


Figure 7 show the types of injuries resulting in A&E attendance in Nottingham city in the under 18s in 2014/15. Contusions/abrasions (21.2%) and, dislocations/fractures/joint injury/amputations (21.7%) were the main causes for attendances followed by lacerations (16.9%)([10]). Many of these injuries will be avoidable. For example, a recent study of falls on stairs in the under-fives found 45% of these could be prevented if parents used safety gates on stairs and kept them closed Hot water at 60^0C can scald a child in 1 second. Fitting thermostatic mixing valves is effective in reducing hot tap water temperatures to 46^0C and at this temperature it takes 9 minutes to scald a child, allowing time for a child to be removed from or escape from the hot water and so preventing a scald. [(11)]. An alternative to fitting thermostatic mixer valves to individual households is thermostatic control of communal housing estate boilers. This has also been shown to significantly reduce the temperature of the water supplied to homes with 33% fewer having temperatures above 60^0C and 28% fewer having temperature from 55-60^0C [(12).]

Figure 7: Percentage causes of A&E attendances for accidents in under 18 year in 2014-2015 in Nottingham City



Injuries on the Road

NICE recommends introducing engineering measures to reduce speed in streets that are primarily residential or where pedestrian and cyclist movements are high. These measures could include:

- speed reduction features (for example, traffic-calming measures on single streets, or
- 20 mph zones across wider areas)
- changes to the speed limit with signing only (20 mph limits) where current average speeds are low enough, in line with Department for Transport guidelines.
- Implement city or town-wide 20 mph limits and zones on appropriate roads. Use factors such as traffic volume, speed and function to determine which roads are appropriate.
- Consider changes to speed limits and appropriate engineering measures on rural roads where the risk of injury is relatively high, in line with Department for Transport guidance

Nationally: mobile phones and other smart devices have been attributed to increased Unintentional injuries. The AXA Roadsafe report [9] states that: "Texting, tweeting, checking Facebook, surfing the internet and playing games on mobile phones could be responsible for a rise in the number of 11-12 year old children suffering road traffic accidents. 32% of all pedestrians seriously injured or killed during school run time are 11-12 years old and an 11 year old pedestrian is three times more likely to be killed or seriously injured during the school run than a 10 year old."

Nottingham City road safety data for 2014 show that for 0-15yrs group there were 0 fatalities, 11 serious injuries and 105 slight injuries. 0-5 yrs pedestrians there were 3 serious injuries and 5 slight injuries

Nottinghamshire County road safety data for 2014 show that for 0-15yrs group there were 0 fatalities, 20 serious injuries and 157 slight injuries. 0-5yrs pedestrians there was 1 serious injury and 10 slight injuries.

3) Targets and performance

NHS Nottingham City CCG has a target for a 5% reduction in avoidable emergency admissions for children and young people by 2015/16.

The Institute of Health Promotion and Education have released a **Safety Education: Priorities for children and young people – A Manifesto for Action** [14] have identified the following priorities which they urge the Government to adopt and ensure that Departments with responsibility for children and young people work more closely together to improve outcomes for their health and wellbeing in order to realise their ambition *to save lives and reduce injuries*.

1. Give children and young people the skills to be safe

Introduce a statutory and comprehensive Personal, Social, Health and Economic education (PSHE) programme in all early years settings, primary and secondary schools including special schools – however, funded organised and arranged – in which safety education is an essential component. To this end we endorse the report of the Education Select Committee Life Lessons: PSHE and SRE in Schools.

2. Children and young people should learn about safety by experiencing risk

Learning about Safety by Experiencing Risk (LASER) is an approach used by schemes such as Crucial Crew and Junior Citizen. We endorse RoSPA's call for all children at Key Stages 2 and 3 to participate in a LASER experience as part of their broader PSHE curriculum.

3. Ensure that teaching safety and teaching safely are central to a school's activities

All those with responsibility for the health, safety and wellbeing of children and young people in schools must ensure that safe practices and the safety of children and young people are a priority across and beyond the curriculum, classroom and school.

4. Reinstate annual Ofsted surveys of PSHE

Ofsted should reinstate annual surveys of PSHE in schools and address how schools are

implementing the teaching of safety education and risk. The Inspection Framework should be revised to include those aspects of safety education previously included but now omitted.

5. Introduce the teaching of First Aid/Emergency Aid in schools

Almost three million people go to hospital each year in the UK, with injuries that could have been helped by first aid. First aid skills can save lives and reduce injury. All children and young people must be taught basic life-saving and emergency skills.

6. **Introduce consistent combined road safety/cycling scheme provision**

There were around 3,300 cyclists killed or seriously injured on our roads in 2013. However, although mainly involving adults, children and young people are not immune from such events. Introducing cycle schemes in schools would do much to encourage safer cycling and road safety awareness.

7. Promote safe routes to school

As well as reducing accidents and serious injuries, improved safety awareness when 'out and about' and during journeys to and from school each day can support public health efforts to improve physical activity and reduce obesity. Safer routes to school should be incorporated in school travel plans.

8. Introduce 20mph zones in urban areas and around schools

We support the argument that a 20mph speed limit in built up areas, urban and rural, would reduce pedestrian and cycle accidents.

9. Introduce Graduated Licensing Schemes for novice drivers

The high number of preventable deaths or serious injuries to young drivers is of great concern. Between 2008 and 2012, across England, there were 2,316 deaths and 35,783 serious injuries among road users under the age of 25 years. The economic case for action is also considerable. Besides the costs to individuals and families there are also considerable costs for the NHS, police and local authorities. The graduated Licensing Scheme for novice drivers should be introduced as a priority.

10. Ensure a whole school approach

Schools are an important setting for health promotion and education and should be encouraged to take this role seriously in promoting positive health, wellbeing and safety outcomes for children, young people, teachers, and ancillary and support staff.

Nottingham City and Nottinghamshire County Avoidable Injuries Strategy for children and young people (2014) sets out the three priority areas in which to reduced avoidable injuries; at home, on the road and during leisure time

The Chief Medical Officer (CMO) Report: Prevention Pays; Our Children Deserve Better October 2013 [9] highlights childhood accidents as a leading cause of death and disability.

The Public Health Outcomes Framework (PHOF) contains an injury indicator for CYP [10]: 'Hospital admissions caused by unintentional and deliberate injuries in children and young people

aged 0-14 and 15-24 years'.

The Marmot Report, "Fair society, Healthy Lives [5] highlights the impact of inequalities when looking at accidental deaths among children.
• The single major avoidable cause of death in childhood in England is unintentional injury – death in the home for under-5s and on the roads for 5-17year olds.

National Casualty Reduction Targets for Road Safety:
• A 40% reduction in the 2005-2009 average for those Killed or Seriously Injured (KSI) by 2020.
• A 40% reduction in the 2005-2009 average for child KSI by 2020.State the relevant PHOF, NHSOF and ASCOF outcomes.

4) Current activity, service provision and assets

Given the link between deprivation and avoidable injury, it is important that interventions are focused on populations living in the most deprived communities. Also interventions need to be appropriate for different age groups, targeting the homes for 0-4 year olds and schools and public places for those ages 5-14.

Avoidable Injuries Strategy for Nottingham City and Nottinghamshire

The strategy was developed in partnership by the strategic group and was widely consulted upon prior to the Health and Wellbeing Board's approval (both City and County).

The Nottinghamshire County and City Avoidable Injuries Steering Group and the Health & Wellbeing Implementation Groups will monitor delivery of the strategy on behalf of the Nottinghamshire and Nottingham Health and Well-being Groups.
Each organization involved in the delivery of the strategy will have a mechanism to ensure delivery of the strategy. The main partners involved within the strategy group are:

- Nottingham City Council
- Nottinghamshire County Council
- The University of Nottingham
- Nottingham University Hospital Trust
- Royal Society for the Prevention of Accidents (ROSPA), Childhood Accident Prevention Trust (CAPT)
- East Midlands Ambulance Service,
- Notts Fire and Rescue,
- Home Start,
- NHS Nottinghamshire County Clinical Commissioning Groups, Nottingham City Clinical Commissioning Group,
- Nottinghamshire Police,
- Nottingham Safeguarding board, Sure Start Children's Centres, Notts City Care and
- Nottinghamshire Healthcare Trust.

Home Safety Sub group of the Avoidable Injuries Strategic Group

This sub group of the strategic avoidable injuries group is responsible for the oversight and developments of home safety across Nottingham City and Nottinghamshire County.

Road Safety sub group of the Avoidable Injuries Strategic Group

This sub group of the strategic avoidable injuries group is responsible for the oversight and

developments of Road Safety across Nottingham City and Nottinghamshire County.

The Avoidable Injuries strategy group have achieved the followings within the first year of the strategy:

- Effective partnership working and production of the strategy. The excellent work of the avoidable injuries group was highlighted by the Child accident prevention Trust in a case study for their Making the Link (project (http://www.makingthelink.net/case-study/nottingham-and-nottinghamshire-avoidable-injuries-strategy-children-and-young-people)
- Obtaining funding via the City CCG for the home safety equipment scheme, including ELFs
- The RoSPA funded training for staff working with parents and families in the County
- The production of leaflets on poisoning, burns and scalds by the group
- The launch of RoSPA's poison prevention campaign in Nottingham

CCG Funded Home Safety Equipment Scheme

Since the development of the last JSNA, NHS Nottingham City Clinical Commissioning Group (CCG) have commissioned Nottingham City Care and Cresta to deliver a home safety equipment scheme. The objective of the scheme is to cover at least 60% of homes within the 5 highest wards of A and E attendances initially (Aspley, Bestwood, Bulwell, Clifton North and South) with home safety equipment in order to prevent avoidable injuries within the home. Health Visitors administer the scheme and undertake a home injury assessment with the family and then refer onto CRESTA who then fit the equipment.

In addition there is an extensive injury education programme provided by the Nottingham University Hospitals Trust (NUH), the ELFs programme focus on education within children centres and pre-school aged children and their parents.

Home Safety checks- Nottingham Fire and Rescue Service (NFRS)

This is free service provided by NFRS. This service provides free fitted smoke alarms, discusses escape routes in the event of a fire and provides advice and support to people regarding how to keep the home as safe as possible. This service is not restricted to households with children. This service is only targeted to people who are either living in a fire 'hot spot' location or who are at higher risk of injury in the event of a fire (e.g. people with mobility problems).

Small Steps Big Change – Big Lottery Funded Programme

As part of the Small Steps Big Changes programme, a home safety equipment scheme, staff training and parent education programme is due to be developed commencing in July 2016 within the 4 wards of the programme (Aspley, Bulwell, Arboretum and St. Anns). This project will be evaluated, so its findings can inform future commissioning of services.

School-based programmes

Injury Minimisation Programme in Schools (I.M.P.S) – NHS Nottingham City

I.M.P.S is an evidence-based education programme that targets 10-11 year olds (Year 6). It is a partnership between Nottingham City Council, Nottingham City Primary schools and the

Emergency Department at the Nottingham University Hospitals Queen's campus. The programme aims to provide children with the knowledge that enables them to minimise injury by recognizing potentially dangerous situations, provide basic life support, administer first aid and call the emergency services appropriately.

Nottinghamshire Road Safety Partnership – RSE
RSE is delivered to reception, KS1, KS2, KS3, KS4 and V1 through a series of educational activities for city and county schools which include the following:
Street Feet, Your Move, Stop n Go, Cool Kids cross carefully, Speed Up – Slow Down, R U Paying Attention, Choices, Chain Reaction, Room for 1 More, Ready to Ride, Consequences and BTEC level 2: Driving and Driver Education.

In addition to this extensive programme the respective councils deliver the following;

Pre–Driver Training – Nottinghamshire County Council
A days training event giving 15 to 17 year olds their first experience of driving. Driving instructors offer tuition in a safe and controlled environment. Accompanying workshop sessions focus on forming safe driving attitudes within this at-risk group.

Junior Road Safety Officer JRSO-Nottinghamshire County Council
Year 5 and 6 pupils act as Road Safety Officers within their school. Supported by road safety education staff the JRSOs spread road safety messages among their fellow pupils.

Bikeability Cycle Training – Nottinghamshire County Council
The Cycling team from Nottinghamshire County Council deliver the Bikeability Scheme, using qualified instructors delivering to Nottinghamshire's County Schools, Academies, and Independents, Clubs and Associations. Instruction on Level 1,2 (KS2) and Level 3 for year 6 students and secondary schools during term time.

Child Car Seat Awareness -Nottinghamshire County Council and Nottingham City Council
Road safety staff offer advice to parents and carers about the fitting and use of child car seats. Ensuring that a child is restrained in a properly fitted and suitable seat is vital to reduce injury severity in any accident; experience suggests that many people use them incorrectly.

Tram Awareness -Nottinghamshire County Council and Nottingham City Council
Education to schools located near the new Tram Lines. Covering specific hazards concerning Trams and Tram infrastructure such as cycle interaction with rails, pedestrian awareness of crossing Tram lines.

Road Safety Education – Nottingham City Council
The Nottingham Road Safety Quiz is delivered in schools in KS2 to over 12,000 students per annum. Bespoke road safety training is also delivered for children excluded from school and children with special educational needs on an ad-hoc basis.

Cycle Training – Nottingham City Council
National cycle training scheme Bikeability level one and two delivered to key stage 2 year 6 students. Nottingham City Councils Lifecycle scheme delivers cycle/road safety training to key stage 1 & 2 students.

Safer Routes to School – Nottingham City Council
This project is the legacy of a central government initiative to make safer, healthier journeys into school for children and staff. The road safety team support schools in the development of their travel plans and implementation of for example engineering solutions such as pedestrian

crossings.

Safety Zone - Multiagency

This is a multi-agency programme of safety activities held at Holme Pierrepoint for year 6 children. Agencies include the Police, Fire and Rescue Service, Health, Electrical Safety experts and Road safety partners.

Assets

The University of Nottingham has a world-leading injury epidemiology and prevention group in the Division of Primary Care, led by Professor Denise Kendrick. Denise is a member of the Nottingham City and Nottinghamshire County Strategic Avoidable Injuries Group. Michael Watson is Associate Professor in Public Health, Faculty of Medicine and Health Sciences and specialised in avoidable injury prevention, Michael is also a member of strategic avoidable injuries group

The Avoidable Injuries Strategic Group have produced a poisoning leaflet and burns and scalds leaflet which is not only going to distributed locally but nationally through ROSPA.

Since the last JSNA for avoidable injuries in Children and Young People, the Home Safety Equipment Scheme is in the process of being piloted throughout Nottingham City.

5) Evidence of what works

Different approaches may be used in the prevention of avoidable injuries and it is likely that a combination of all approaches will be most effective. These include educational interventions aimed at parents and children, engineering interventions such as road traffic calming measures and enforcement approaches e.g. seatbelt legislation, traffic speed limits and so on.
Evidence from systematic reviews on childhood injury shows that educational interventions can produce behavioural change but are less successful in achieving reductions in injuries.
Engineering and enforcement approaches have been more successful in achieving injury reduction.
In November 2010 NICE published 3 guidance documents on preventing injuries in the under 15s. These are:
Guidance 29 - Strategies to prevent unintentional injuries among under-15s
Guidance 30 - Preventing unintentional injuries among under-15s in the home
Guidance 31 - Preventing unintentional road injuries among under-15s: local highways authorities

NICE Guidance recommends the following:

1) A co-ordinated approach is needed

For the prevention of all injuries, NICE recommends that local partnerships nominate or employ, as necessary an individual to perform a children and young people injury prevention co-ordinating role. This person should work to ensure that a co-ordinated injury prevention strategy exists locally and that activities undertaken are done so in partnership across agencies/departments.

2) Identification of at risk families

The guidance outlines ways in which children from families at higher risk of having injuries are identified. This may be done through professionals who already access family homes or by using existing data from surveys, needs assessments and databases.
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3) Provision of home safety assessments

Prioritise the households identified above for home safety assessments and the supply and installation of home safety equipment. ‘Priority households’ could include those with children aged under 5, families living in rented or overcrowded conditions or families living on a low

income. It could also include those living in a property where there is a lack of appropriately installed safety equipment or one where hazards have been identified through the Housing Health and Safety Rating System (HHSRS).

4) Provision of home safety equipment and advice with appropriate follow up

Where appropriate, supply and install suitable, high quality home safety equipment. Where resources are limited, it may be necessary to narrow down further the households being prioritised (for example, to those with children under the age of 5 years). Ensure education, advice and information is given during a home safety assessment, and during the supply and installation of home safety equipment. Contact homes identified as being in need of an equipment maintenance check or follow-up.

5) Ensure appropriate workforce development

Staff working with families with young children should have access to appropriate training on avoidable injury prevention.

6) Ensure appropriate road safety measures are implemented

A local road safety partnership or equivalent should be responsible for developing policies and strategies relating to road safety measures. They should promote and ensure the enforcement of speed reduction programmes and evaluate road safety interventions adopted.

7) Ensure appropriate outdoor play and leisure facilities are available locally

Children should have access to appropriate outdoor play facilities where the benefits of physical activity outweigh the risks of injury. The wearing of cycle helmets should be promoted and there should be seasonally appropriate advice to parents/carers on the dangers of water. Firework safety campaigns should be run at targeted points in the year

The Centre for Disease Control details 5 actions that need to be addressed to have the greatest impact to reduce and prevent serious unintentional injuries:

- **Environment**: Improvement in planning and design which results in safer homes, routes to school, leisure areas and roads. Adaptations to the environment such as fireguards, stair gates and cupboard locks help to make the home safer. Cycle lanes, speed limits and pedestrian crossings may make roads safer.
- **Education**: Increased awareness of the risk of accidents in a variety of settings for children, parents and carers and providing information on ways of minimising these risks.
- **Empowerment**: Local consultation and community involvement can generate a strong sense of commitment and ownership. Avoidable injury prevention initiatives that involve the community, have been influenced by a community and that are owned by a community have been shown to result in better outcomes and commitment.
- **Enforcement**: There is legislation which relates to child safety e.g. child car seats. These regulations ensure that the products we buy meet a reasonable level of safety performance, that road regulations are adhered to and that new dwellings meet an acceptable level of safety
- **Engineering**: This relates to the design and development of products, housing etc., taking safety into account.

These five approaches should not be considered in isolation. Successful strategies will consider all of them in the planning and development stages. A combination of approaches may be needed.

The Healthy Child Programme

The Healthy Child Programme (HCP) is the key universal public health service for improving the health and wellbeing of children through health and development reviews, health promotion, parenting support, screening and immunisation programmes. The current programme for 0-5 year-olds is based on the evidence available at the time of the last update of the HCP 0-5 years in 2009. As local authorities take on the commissioning of the HCP 0-5 years and its delivery via the universal health visiting service, it is important that it

is underpinned by the latest evidence.

A rapid review of the HCP was undertaken to update the evidence. Specifically, the aim was to synthesise relevant systematic review level evidence about 'what works' in key area for example of injury in the home. The review sought to draw out key messages in relation to the universal evidence update (for all children aged 0 – 5), and families who require additional support. The following recommendations and evidence updates were produced in relation to avoidable injuries:

Universal Evidence Update:

- Parenting interventions, most commonly provided within the home, are effective in reducing child injury and improving home safety.

- Home safety education increases the use of home safety practices and there is some evidence that it can reduce overall injury rates. There is conflicting evidence regarding the provision of home safety equipment in terms of its impact on safety practices and injury rates.
- There is evidence that interventions to promote the prevalence of smoke alarms or the use/maintenance of fire alarms in households with children that include education, the provision of equipment, and home inspection are effective in increasing the household possession of a functioning smoke alarm. More intensive interventions that include the fitting of equipment in addition to education, the provision of equipment, and home inspection are most effective.
- Home safety interventions improve poison-prevention practices such as the safe storage of medicines and cleaning products, the possession of syrup of ipecac, and having poison control centre numbers accessible, but the impact on poisoning rates is unclear.
- Home-safety interventions are effective in increasing stair-gate use and reducing baby-walker use. However, the evidence does not show an increase in the possession of window guards.

Families who require additional support

- NICE guidance on preventing unintentional injuries in the home among under-15s (NICE 2010d, guideline PH30) recommends that local authorities, safeguarding children services, and health and wellbeing boards should prioritise households at greatest risk, through the assessment of local needs, priority delivery, and equipping professionals with relevant materials/knowledge.
- NICE (2010d) recommends that home safety is integrated into home visits (including by health visitors). Specifically, those undertaking the home visits should provide home safety advice and, if the family or carers agree, refer them to agencies that can undertake a home safety assessment and can supply and install home safety equipment that complies with recognised standards. Parents/carers should be encouraged to conduct their own home safety assessment using an appropriate tool. High-risk families regarding child safety include, among others, those in rented or overcrowded accommodation with high levels of turnover.

Evidence Update

The evidence update supported the existing recommendations and therefore the recommendations in the w2010 guidance have not changed as a result of the evidence update

6) What is on the horizon?

Data from the evaluation of the pilot home safety equipment scheme will be available to inform future commissioning of the home safety equipment scheme

As childhood injuries are strongly associated with disadvantage, the current economic down turn suggests that the number of children and young people experiencing injuries may increase. In addition the there has been a steady increase in the number of migrant/asylum seekers coming into Nottingham City and being placed in houses of multiple occupation, which is associated with higher risk of injuries. However, the local emphasis on early intervention and the Healthy Child Programme and Nottingham City CCG having a specific focus on reducing avoidable attendances and admissions into hospital will mean additional support over and above the current provision will be required.

7) Local Views

Give voice to service users', community and providers views.

Hyperlinks to the full reports will be useful along with a short paragraph giving some summary information about service users views of a service, the level of need in the population, any perceived gaps in services etc.

What does this tell us?

8) Unmet needs and service gaps

Child hood poverty is high in Nottingham City with 33.7% of children living in poverty compared to the England average of 19.2%. Many of the wards in Nottingham City have high level of deprivation with Aspley ward ranking is ranked 74 out of 7589 compared to Wollaton West which is 5026 out of 7589. In addition A & E attendances in the 0 – 4 age group are significantly worse than the England average. As previously stated there is a strong social gradient in childhood avoidable injuries, with children in poorer families and in more disadvantaged areas suffering disproportionately more injuries than their more affluent counterparts... A recent study calculated the population attributable risk of injury and estimated that annually, there are an additional 9,395 medically-attended injuries in children under 5 that potentially, could be avoided if all children experienced the injury rates of those in the most affluent areas of the UK [(3)].

The clinical audit undertaken at Queens Medical Centre on the number of attendances in the 0-5 age group for poisoning identified 390 in an 11 month period. 17% of the attendances were for ingestions of medications, followed by ingestion of, coins, bleach and liquitabs. As a result of his audit ROSPA has chosen Nottingham City to take part in a national campaign to education parents and carers about the dangers of household substances which can cause poisoning in children. Communication messages and promotional fridge magnets will be distributed across Nottingham City by health professionals. Therefore poisoning remains an important issue within the home and the increasing problem of new hazards should be highlighted to parents.

The pilot home safety equipment scheme in Nottingham City is only currently rolled out

universally in 7 wards in the city therefore only a small proportion of families have the opportunity to utilise the scheme. Once the home safety equipment scheme has been evaluated and if outcomes demonstrate a clear increase in safety practices in the home and a self-reported reduction in attending A & E, walk in centres and GP practices it is advocated that the scheme be rolled out across the city in all areas of high rates of injuries in the 0 – 4 age group. This action would be funding dependent and ensuring there is a long term commitment to funding will be a priority,

The IMPs project works with all primary schools in Nottingham City however only 50% of the funding is covered by the public health grant allocation and the remainder of the funding is provided through charity grant applications. This service is an excellent example of value for money.

As repeat injuries are common in childhood (approximately one in five children who attend an ED department each year will re-attend with a further injury), secondary prevention is important. The paediatric liaison health visiting service provides information on attendances to community health visiting teams to enable advice and support to be provided to families. Previous research in the Nottingham area found fewer than half the notifications were acted upon. There is likely to be scope to increase secondary prevention of child injuries through the health visiting commissioning process. In addition, there is a role for the provision of injury prevention advice in the Emergency Department (ED) for families attending with an injured child, as there is evidence that provision of advice in the ED setting can improve home safety practices [(15)]. This could be addressed through commissioning of ED services [(16) (17)].

9) Knowledge gaps

The provision of injury prevention advice and support for parents and the evaluation of its impact is severely hindered by a lack of data on the prevalence of home safety practices amongst families with children under five. Regular (for example, two-yearly) surveys of parents in disadvantaged areas should be undertaken to measure safety practices and inform provision and evaluation of injury prevention services.

It is important that injury prevention services are evaluated and that these evaluations inform future commissioning decisions. This applies to current services including the home safety equipment scheme, ELFs and IMPS. It should also apply to services that will be commissioned in the future, such as health visiting services. Service specifications should include requirements to collect data on provision of evidence-based injury prevention advice and support by health visiting teams as part of the Healthy Child Programme and in response to notifications of child attendances at ED or admissions to hospital.

The extent to which children's centres are providing injury prevention advice and support to parents of young children across Nottingham city and county is unknown. This should be audited.

The provision of home fire risk assessments and the provision and fitting of smoke alarms by the Fire and Rescue Service to households with children and young people should be monitored.

Note and prioritise gaps in the information available in the area covered by the chapter.

Where possible identify clear tasks to be undertaken in order to improve the quality of needs analysis in future JSNAs
What should we do next?
10) Recommendations for consideration by commissioners
1. The home safety equipment scheme should continue after the pilot phase in order to roll out across all of Nottingham City. 2. The commissioning of health visiting services should include the provision of standardised evidence-based home safety advice for all parents of children aged 0-4 years by health visiting teams 3. The continuation of the Nottingham City and Nottinghamshire County Strategic Avoidable Injuries Group. 4. The continuation of the Home Safety and Road Safety subs groups of the Strategic Avoidable Injuries Group. 5. The evidence-based injury minimisation programme for schools (IMPS) and its programme for parents of pre-school children (ELFS) should continue to be commissioned 6. Continue to deliver the current road safety provision and extend when emerging collision/injury trends indicate a potential problem. Evaluate new schemes and safeguard funding for road safety initatives.
Key contacts
Key commissioning groups Leads within local authority and CCGs or AT, with email addresses.

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Please add your references below, using the Harvard style. Refer to an existing JSNA chapter to see how to do this, or the support notes.

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