Topic information	
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Topic owner	Nottingham and Nottinghamshire Children's Avoidable Injuries Strategy Group
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Executive Summary

Introduction

Avoidable injuries refer to injury that occurs as a result of 'accidents', whereby the injury is not deliberately caused and could have been avoided. Avoidable injuries tend to occur either in the home, on the roads, or during leisure activities. In children and young people (CYP), avoidable injuries are a serious public health issue and a leading cause of death and hospital admission in the United Kingdom[1]

Avoidable injuries in the home for under 5's are most commonly:

- Choking, suffocation and strangling
- Falls
- Poisoning
- Burns and scalds
- Drowning

These 5 causes account for 90% of unintentional injury hospital admissions.[1] In England and Wales avoidable injuries are the second most common cause of childhood death (age 1–4) after cancer [2] and results in substantial long term disability.

The impact and consequences of avoidable injuries are major contributors to health inequalities amongst children from the most disadvantaged backgrounds. These children are 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 appointments and operations.

There are long-term impacts associated with avoidable injuries, with data suggesting that those who have suffered injury in childhood are at greater risk of physical disability, psychological morbidity, cognitive or social impairment, lower educational achievement and poorer employment prospects.[3]

Avoidable childhood injuries carry significant costs to the economy, the NHS and children and families. The Department of Health (DH) calculated the average cost of A&E attendances for under 5's to be £124 per admission equating to a total cost of £140m per year, with the cost to society being £7.4 billion.[4] To the individual, avoidable injuries that occur in under 5s incur a short-term healthcare costs of £2494[5] and the long-term costs can be much greater. Families may also lose significant percentages of their income through childhood injuries.[1]

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.[1]

Unmet service needs and knowledge gaps

- Data regarding children who are treated at home, in primary care and walk in centres are currently unavailable and therefore the full extent to injuries in the home is not known.
- There is a lack of knowledge concerning the healthcare costs associated with drowning incidents, sports injuries or injuries obtained in playgrounds.
- Data relating to near misses in and around water is nor routinely collected and therefore there is a lack of knowledge within this theme.
- NHS Digital has identified a data quality issue affecting HES data for Nottingham University Hospitals Trust (NUH) in 2016/17. Over 30% of records from this trust did not have a valid geography of residence assigned. Therefore PHE have not published values for indicators including children's avoidable injuries admissions based on HES data for areas that had more than 20% of patients from that area treated at NUH in the previous year (2015/16). Areas where 10%-20% of the previous year's patients were treated at NUH have been flagged and should be treated with caution. Therefore 2015/16 data is used in this JSNA chapter.

Recommendations for consideration by commissioners

Recommendation	Lead(s)
General	
Ensure there is a mechanism for strategic leadership and coordination between agencies with responsibilities that contribute to preventing avoidable injuries in children in the home, on the roads and in leisure time.	Strategic group members
The approach to commissioning future avoidable injuries interventions must consider reducing inequalities.	Local Authority and NHS Commissioners
The approach to the commissioning and delivery of future interventions must consider a range or combination of interventions e.g. education, engineering, enforcement and empowerment.	Local Authority and NHS Commissioners
Consider how best to incorporate local views in future strategies.	Strategic group members
In the home	
Exploration of funding to continue the delivery of home safety equipment scheme in Nottinghamshire beyond 2020.	Nottinghamshire County Public Health
When commissioning home equipment safety schemes, standardised home safety advice should be provided to families alongside the home safety equipment.	Local Authority and NHS Commissioners
Implement evidence based, standardised, age appropriate home safety messages across the system.	Strategic group members
Re-establishment of home safety sub group of the Children's Avoidable Injury Strategic Group • To support delivery of and learning from the home safety equipment scheme. • Establish governance, process and accountability • Identify Chair and lead	Nottinghamshire County Public Health and identified Strategic group members
Partners to explore ways to improve ability to	Strategic group members

recognise risk and improve secondary prevention	
On the road	
Continue the programme of casualty reduction schemes on Nottinghamshire's roads.	Nottinghamshire Road Safety Partnership
Continue the provision and maintenance of safety cameras on Nottinghamshire's roads.	Nottinghamshire Road Safety Partnership
There should be consideration of the allocation of resources to reduce cyclist road casualties which are significantly higher in Nottinghamshire than the national average.	Nottinghamshire Road Safety Partnership
Continue to support the delivery of the evidence based, data led road safety education programme • Ensure delivery on ages/areas with greatest evidence for need, for example children ages 11-15 years • There should be a focus on geographical areas with higher rates of children aged 0-15 years killed or seriously injured on the roads	Nottinghamshire Road Safety Partnership
Leisure Activities	
The development of a Leisure Safety Action plan pulling together established and newly formed working groups including Nottinghamshire Safety Education Partnership (including Rail Safety) and the Nottinghamshire Water Safety Partnership.	Members of Strategic group and members of working groups

Nottinghamshire Health & Wellbeing Board

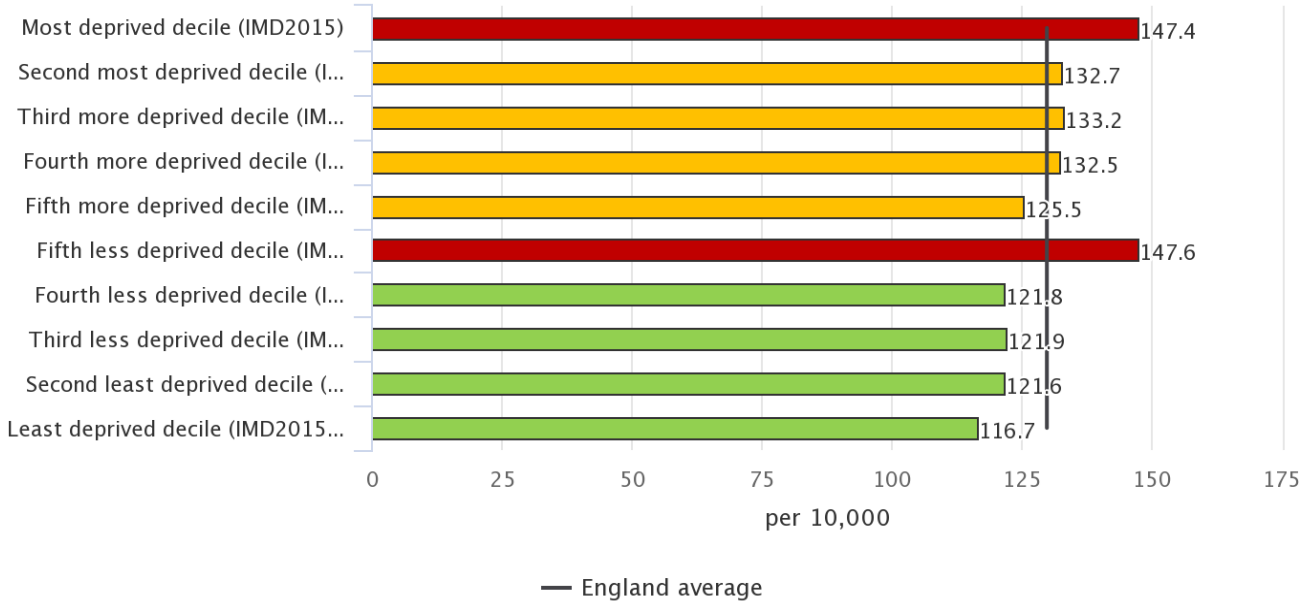
Full JSNA report

What do we know?

1) Who is at risk and why?

Epidemiological data shows a clear social gradient, with higher injury rates associated with increasing deprivation within high income counties (Figure 1).

Figure 1: Hospital admissions per 10,000 population caused by unintentional and deliberate injuries in Children broken down by level of deprivation in England 2016-2017



Source: *PHE, Finger tips 2017*

Significantly worse than the national average
Similar to the national average
Significantly better than the national average

Children and young people whose parents have never worked or are long-term unemployed have injury death rates 13 times higher than those whose parents are managers/professionals.[6] Research also shows inequalities in safety equipment possession and use, and that safety equipment schemes can reduce inequalities.[7]

NICE (2010) recognises that those who are at greater than average risk are: under 5's in the home and over 11's for road injuries. Other risk factors are as follows[8]:

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

2) Size of the issue locally

Nottinghamshire covers a wide area, both rural and urban with some areas of high deprivation. More about the demographics of the County can be found in the People of Nottinghamshire 2017 JSNA Chapter (*Source: Nottinghamshire County Council 2017)*. The County has a major road travel network with motorways and trunk roads presenting challenges for road safety. The River Trent and smaller waterways run through the County which present local challenges for water safety.

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 Nottinghamshire 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 not collected and so not available.

2.1) Hospital admissions for unavoidable and deliberate injuries

Hospital admissions are reported in the Public Health Outcomes Framework as unintentional and deliberate injuries in children and young people aged 0-4, 0-14, and 15-24 years. Due to the issues with the Nottingham University Hospital (NUH) HES statistics the latest data is for 2015/16.

Nottinghamshire has had significantly lower admissions rates than the England average for the 0-4 and 0-14 age bands since 2010/11. Rates for 15-24 year olds have been statistically similar or lower that the England average rate during this time period.

0-4 years age group

Figure 2 shows the number of hospital admissions of children aged **0-4** years for Nottinghamshire as a county and broken down by each district. Nottinghamshire and all districts except Mansfield has a significantly lower admission rate than the national average rate, Mansfield is similar to the national rate. Only Bassetlaw has seen a recent decrease in the rate and all other areas have seen no change.

Figure 2: Hospital admissions per 10,000 population broken down by age 0 -4 years in Nottinghamshire 2015/16

2.07i - Hospital admissions caused by unintentional and deliberate injuries in children (aged 0-4 years) 2015/16

Crude rate - per 10,000

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	↓	44,524	129.6	128.4	130.8
Nottinghamshire	→	420	90.9	82.4	100.0
Ashfield	→	73	95.4	74.8	119.9
Bassetlaw	↓	61	95.5	73.1	122.7
Broxtowe	→	46	72.1	52.8	96.2
Gedling	→	56	86.1	65.0	111.8
Mansfield	→	72	107.3	84.0	135.2
Newark and Sherwood	→	64	97.0	74.7	123.8
Rushcliffe	→	48	80.5	59.3	106.7

Source: Hospital Episode Statistics (HES)Statistics (ONS) - Mid Year Population Estimates

Source: *PHE, Fingertips 2016*

0-14 years age group

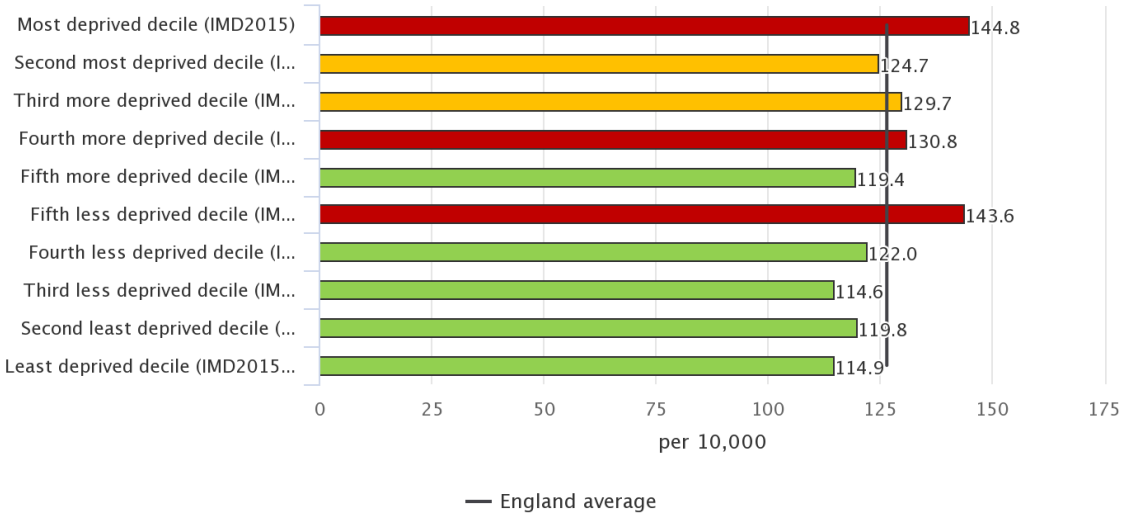
The **0-14** data for Nottinghamshire, show that in Ashfield, Mansfield and Bassetlaw districts there's no significant difference with England average rates. In all other areas the hospital admission rates are significantly lower. Trends for Mansfield have not shown any significant change since 2010-11, however in Bassetlaw there has been decreasing rates of hospital admissions during this time period. The data relating to this age group can found at:
PHE, Fingertips, 2017

15-24 years age group

The hospital admission data for the **15-24** age group show differences across the County. Broxtowe and Rushcliffe districts have a significantly lower admission rates, where as in Ashfield, Gedling, Newark and Sherwood and Bassetlaw, rates are similar to the England average rate. In Mansfield, hospital admission rates for this age group are significantly worse than the England average rate and there has been no change in this trend since 2010-11. In Bassetlaw the trend is decreasing. The data relating to this age group can found at:
PHE, Fingertips, 2017

Figure 3 shows the hospital admissions caused by unintentional and deliberate injuries, divided by deprivation deciles within Nottinghamshire. Similarly to the national level, there is an association between increasing deprivation and likelihood of hospital admissions for an avoidable injury.

Figure 3: Hospital admissions per 10,000 population for unintentional and deliberate injuries broken down by level of deprivation in Nottinghamshire 2016-2017



Source: *PHE, Fingertips, 2017*

2.2) In the home

Leading causes of avoidable injury in the home are falls, burns, scalds and poisoning. In this next section, data will be presented about each of these causes and a comparison made to the national rate of hospital admissions.

a) Falls

Figure 4 provides an insight into the rates of admissions to hospital due to falls in children aged 0-4. On average, England observes a rate of 509 hospital admission due to falls in children aged 0-4 per 100,000 population. In comparison Nottinghamshire observes a rate of 401 admissions per 100,000 which is comparable to the rest of the East Midlands region and significantly lower than the national rate.

Figure 4: Rates of admissions to hospital for falls in children aged 0-4 (2014-2017)

Emergency admissions for falls in children aged 0-4 2014/15 - 16/17 — Crude rate - per 100,000

Area	Count	Value	95% Lower CI	95% Upper CI
England	52,412	509	505	513
East Midlands region	3,512	421	407	435
Derby	143	269	226	316
Derbyshire	546	438	402	477
Leicester	197	255	220	293
Leicestershire	391	338*	306	373
Lincolnshire	691	572	530	616
Northamptonshire	735	519	482	558
Nottingham	254	401	353	454
Nottinghamshire	555	401	369	436
Rutland	-	*	-	-

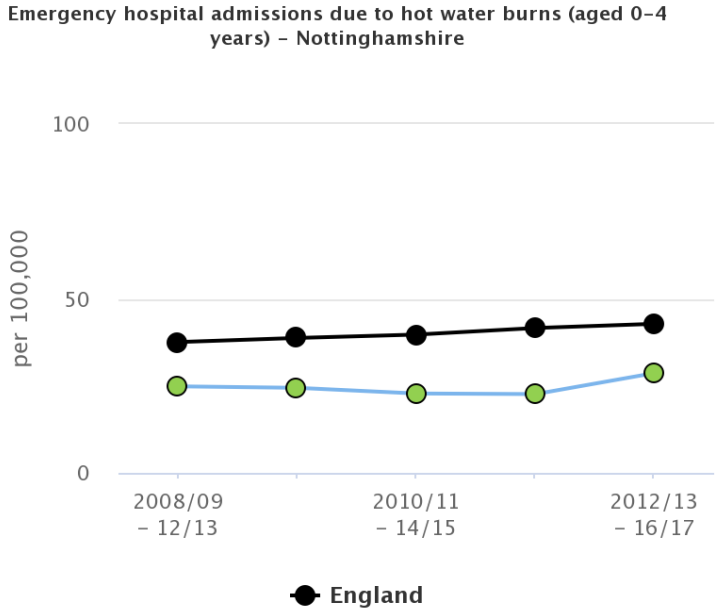
Source: PHE analysis of Hospital Episode Statistics (HES) data

Source: *PHE, Fingertips 2017*

b) Burns and scalds

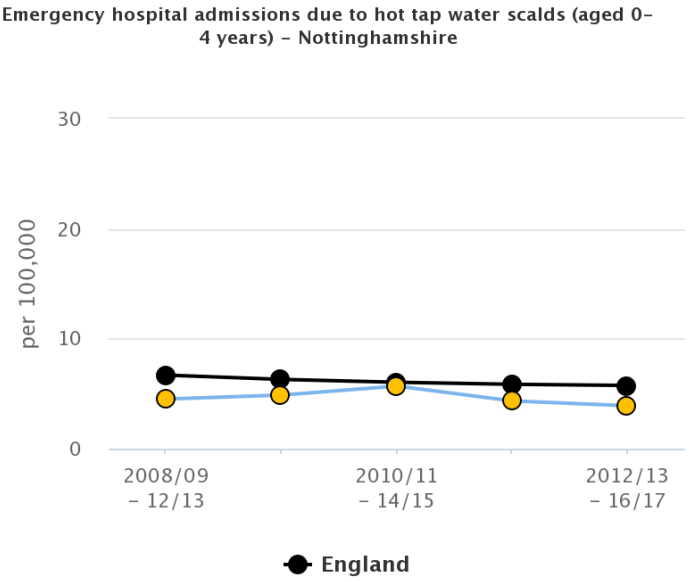
Figures 5 and 6 show that the rate of burns and scalds in recent years has remained relatively static within Nottinghamshire, and that there has been no decline in the rate of hospital admissions attributable to hot water burns in the period 2012-2017. When comparing this to the national level, the trend appears to be following a similar pattern.

Figure 5: The rate of hospital admissions from 2008-2017 due to burns from food and hot fluids in children aged 0-4 in Nottinghamshire (per 100,000)



Source: *PHE, Fingertips, 2017*

Figure 6: The rate of hospital admissions from 2008-2017 due to hot water scalds in children aged 0-4 in Nottinghamshire



Source: *PHE, Fingertips, 2017*

c) Poisoning

Figure 7 highlights an admission rate associated with poisoning in the home in Nottinghamshire which is similar to the national rate, yet higher than some neighbouring counties.

Figure 7: Emergency hospital admissions due to poisoning from medicines aged 0-4 2012-2017

Emergency hospital admissions due to poisoning from medicines (aged 0-4 years) 2012/13 - 16/17 Crude rate - per 100,000

Area	Count	Value	95% Lower CI	95% Upper CI
England	17,365	101.5	100.0	103.1
East Midlands region	1,299	93.6	88.6	98.8
Derby	35	39.2	27.3	54.5
Derbyshire	217	104.0	90.6	118.8
Leicester	20	15.7	9.6	24.2
Leicestershire	101	52.5*	42.8	63.8
Lincolnshire	226	113.6	99.2	129.4
Northamptonshire	337	142.9	128.0	159.0
Nottingham	117	112.1	92.7	134.4
Nottinghamshire	246	106.6	93.7	120.8
Rutland	-	*	-	-

Source: Hospital Episode Statistics (HES), Copyright © 2017, Re-used with the permission of NHS Digital. All rights reserved

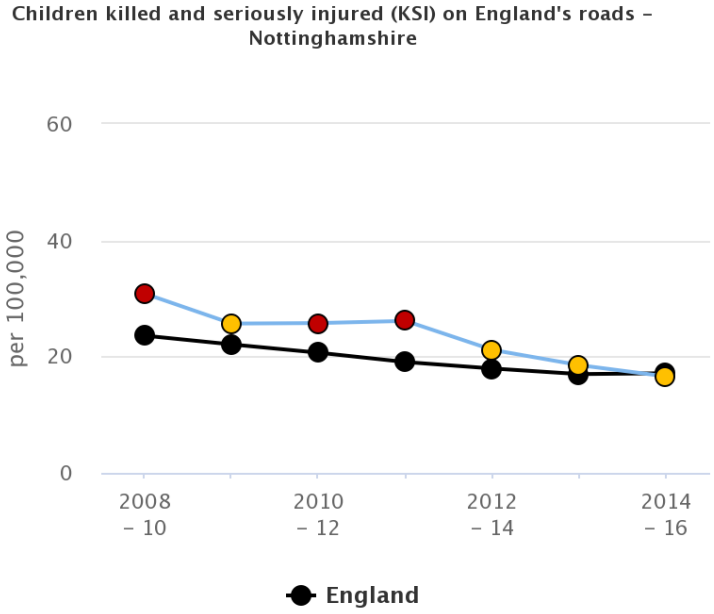
Source: *PHE, Fingertips, 2017*

The data presented relating to unintentional and deliberate injuries in the home show that Nottinghamshire rates are either significantly lower or comparable to national rates for each of the different injury mechanisms. There are some geographical differences in the county when considering admission rates to hospital in differing ages groups, with north of the County having higher rates of admission to hospital. It is worth noting that when considering deprivation and hospital admission rates, Nottinghamshire follows a similar association between increasing deprivation and increasing hospital admission, as seen on a national level.

2.3) Injuries on the road

In this section data will be presented about incidents on the road, and in particular those children and young people who are killed or seriously injured (KSI). Figure 8 below shows the trend in the number of 0-15 year olds killed or seriously injured on the roads in Nottinghamshire during the time period of 2009-16. The most recent rate of 17 per 100,000 follows the pattern of reduction from the previous years and is statistically similar to the national rate.

Figure 8: 0-15 year olds killed or seriously injured (KSI) in Nottinghamshire from 2008-2016



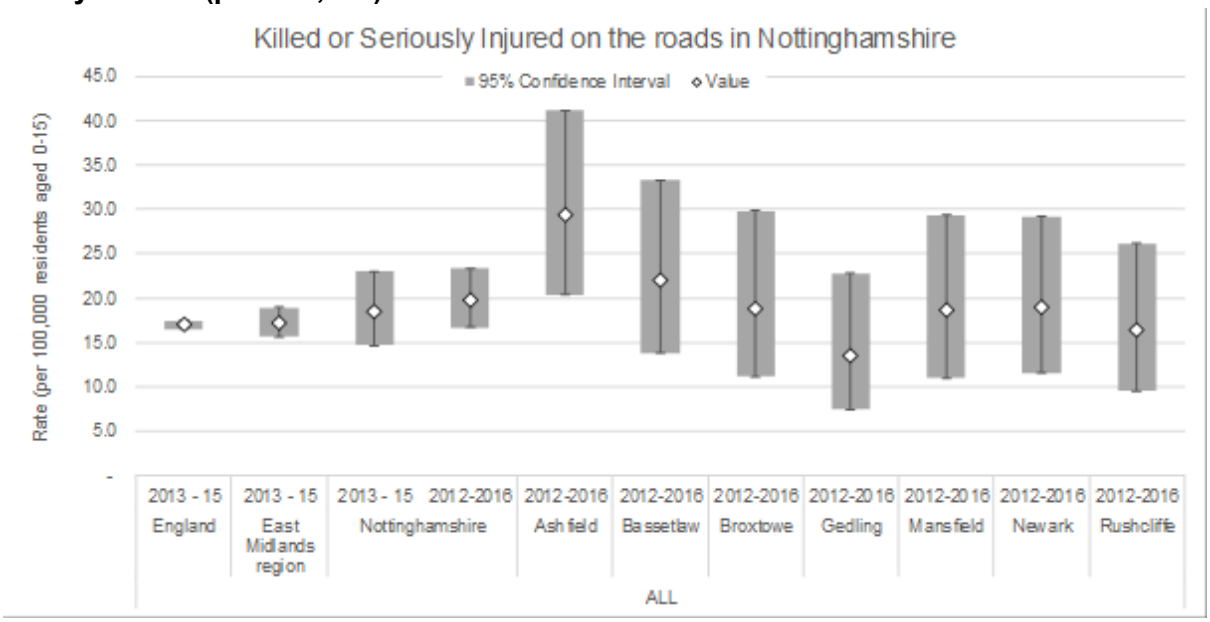
Source: *PHE, Fingertips, 2016*

It is important, however, to consider the data in different age groups. The most recent data (2014-16) shows a rate of 4.2/100,000 for under 5's and for 6-10 year olds the rate is 11.6/100,000, both rates similar to the national rates. The highest rate for Nottinghamshire is with the age group 11-15 years where the rate is 38.1/100,000 for the same time period. All of these rates are statistically similar to the national rates and show decline since 2008. This decreasing trend is not mirrored on the national

level, whereby the trend has not decreased significantly since 2014. The data relating to the different age groups described above can be found at:
Under 5's *(Source: PHE, Fingertips, 2016)*
6-10 year olds *(Source: PHE, Fingertips, 2016)*
11-15 year olds *(Source: PHE, Fingertips, 2016)*

Figure 9 below further demonstrates differences in rates dependant on district/borough. The Ashfield district in Nottinghamshire has the highest rates within the County, and significantly higher rates than the East Midlands region and Country. Other district/boroughs in Nottinghamshire are significantly similar to the region and Country.

Figure 9: Rates of 0-15 Killed or seriously injured (KSI) on the roads of Nottinghamshire 2012-2016 by district (per 100,000)

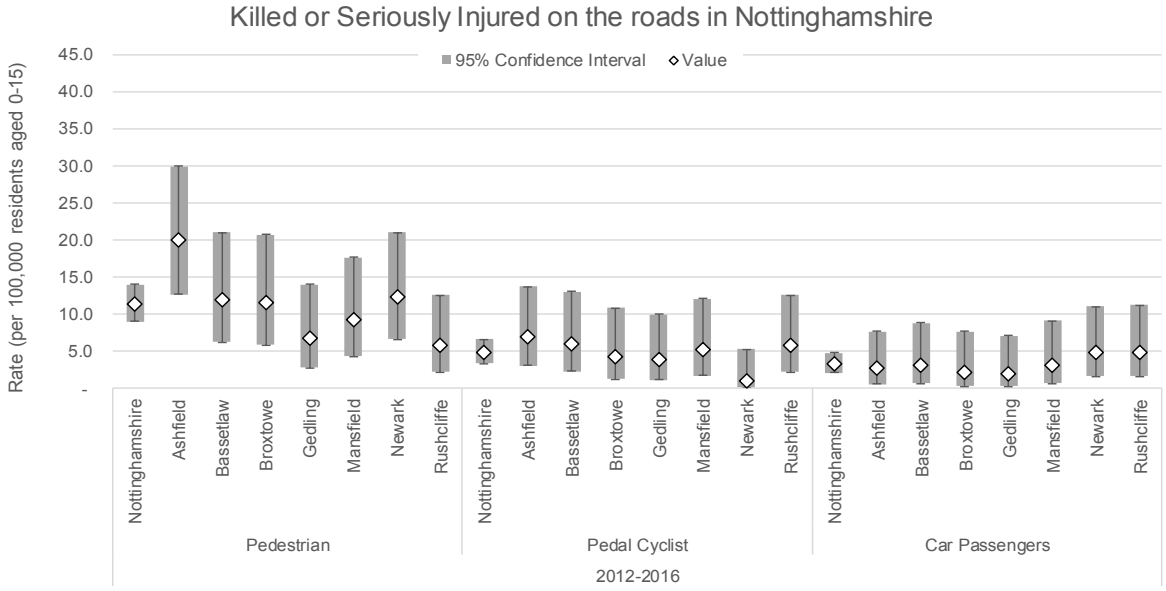


Source: *Local Stats19 Extract, 0-15 year olds, by Casualty severity and Casualty Category, Nottinghamshire, 2012 to 2016 inclusive (five years)*
Local Stats19 Extract, 0-15 year olds, KSI, 3-year periods, (accessed via PHE fingertips)

Some other data to consider is mode of transport and KSI. For pedestrians aged 0-24 in the time period of 2012-16, there is no significant difference to the national rate and observes a rate of 10.2 per 100,000. For pedal cyclists aged 0-24, the rate for Nottinghamshire is significantly worse than the national rate at 6.3 per 100,000. This is the same for both motorcyclist and car occupants in the 15-24 age bracket where both rates are significantly worse than the national rates. The data relating to this can be found at: *PHE, Fingertips, 2016.*

Further analysis in figure 10 below, shows district/borough rates for 0-15 year olds KSI by mode of transport, i.e. pedestrian, pedal cyclist and car passenger. Nottinghamshire KSI rates for pedestrians are significantly higher than for other modes of transport. The only other significant difference to note when considering pedestrians is that pedestrian KSI rate for Ashfield is statistically significantly higher than in Rushcliffe.

Figure 10: Rates of 0-15 year olds killed or seriously injured (KSI) by mode of transport and district 2012-2016 (per 100,000)



Source: *Local Stats19 Extract, 0-15 year olds, by Casualty severity and Casualty Category, Nottinghamshire, 2012 to 2016 inclusive (five years)*
Local Stats19 Extract, 0-15 year olds, KSI, 3-year periods, (accessed via PHE fingertips)

2.4) Leisure activities

Data regarding the number of avoidable injuries occurring during leisure activities are limited. RoSPA provides details concerning drowning incidents on the national level yet there is little on the local level. RoSPA reports that there were 592 drowning incidents in 2017, and around 10% of these were in the 0-19 age groups. The Water Incidents Database (WAID) reports that 3 incidents attributable to drowning occurred in the Nottinghamshire region in 2017.[9]

Sports injuries can also occur during leisure activities. In 2002, the Home and Leisure Accident Surveillance System (HASS/LASS) reported that the figure may have been over 15,500 in 0-14 year olds with a further 1637 accidents happening on playgrounds in England between 0-14 year olds.[10] However, since this time LASS have ceased to collect data. In England in 2016-17, just over 300,000 A&E attendances were attributed to sports injuries.[11]

3) Targets and performance

The Nottingham City and Nottinghamshire County Avoidable Injuries Strategy for children and young people has set out to tackle the three main settings of avoidable injuries; at home, on the road and during leisure activities. The strategy is available here.

The Public Health Outcomes Framework (PHOF) monitors and reports avoidable injuries and contains indicators for CYP. Indicators include and available here:

- Hospital admissions caused by unintentional and deliberate injuries in children and young people aged 0-14
- Hospital admissions caused by unintentional and deliberate injuries in children and young people aged 15-24 years
- Killed and Seriously Injured casualties on England's roads aged 0-5, 6-10, 11-15 years

3.1) In the home

- The planned Nottinghamshire Home Safety Scheme aims to reach 600 at-risk families within one year across the county

3.2) On the road

Local casualty reduction ambitions:

- A 40% reduction in the 2005-2009 average for child Killed or Seriously Injured (KSI) by 2020

Progress made on the target to reduce the number of child KSI casualties by 40% has been successfully achieved for the last six years.

3.3) Leisure activities

These targets were obtained from the National Water Safety Forum[12]

- To reduce the number of accidental drowning fatalities in the UK by 50% by 2026
- Every child should have the opportunity to learn to swim and receive water safety education at primary school and where required at Key Stage 3
- Every community with water risks should have a community-level risk assessment and water safety plan to better understand water-related self-harm
- Increase awareness of everyday risks in, on and around water
- All recreational activity organisations should have a clear strategic risk assessment and plans that address key risks

4) Current activity, service provision and assets

Avoidable Injuries Strategy for Nottingham City and Nottinghamshire
The strategic group developed a strategy published in 2014 and was widely consulted upon prior to the Health and Wellbeing Board's approval (both City and County). The Reducing Avoidable Injuries in Children and Young People: A Strategy for Nottingham and Nottinghamshire 2014-2020 is available here: This group has proved beneficial in bringing together leads from different agencies working to prevent avoidable injuries to meet identified needs and ensure organisation plans are coordinated to address avoidable injuries due to different causes and in different settings.

A range of partners are involved in the delivery of the strategy across Nottingham City and Nottinghamshire. Each partner plays a pivotal role in ensuring the delivery of the targets. Partners include: Nottinghamshire Fire and Rescue Service, Nottingham University Hospital NHS Trust, Nottinghamshire County Council (Public Health), Nottingham City Council (Public Health), University of Nottingham, Nottinghamshire Police, VIA East Midlands Ltd, ROSPA, Nottinghamshire Healthcare Trust.

4.1) In the home

Mansfield Child Home Safety Equipment Scheme
Operational since November 2017, the Mansfield Home Safety Scheme has provided families with a range of safety equipment, designed for children aged 6-24 months. At the last team meeting, feedback from participants was very positive concerning the quality of the equipment and the service provided by the fitters. In the first 6 months, nearly 70 families received home safety equipment, referrals into the scheme had been received from Children Centre's staff, District Council Housing Officers, Healthy Family team, Family Nurse Partnership and Homestart Mansfield.

Nottinghamshire Child Home Safety Equipment Scheme
Funding for this scheme has been approved. The scheme hopes to reach 600 families within one year upon its initiation. It is intended to start in 2019.

4.2) On the road

Nottinghamshire Road Safety Partnership – Road Safety Education (Via East Midlands Ltd)
Road Safety Education (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, Cool Kids, seat belt safety, R U Paying Attention, Choices, Room for 1 More, Ready to Ride, Consequences and BTEC level 2: Driving and Driver Education.

Pre–Driver Training – Via East Midlands Ltd on behalf of Nottinghamshire County Council
VIA East Midlands deliver training to give 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. This type of pre-driver training is recommended by NICE. BTEC Level 2 Driving and Driver Education is available to 16 year olds and above, the BTEC can be run in schools, colleges and businesses as an additional qualification. It is designed to decrease young and new driver risk, consisting of 40 hours of in-class education and 20 hours of practical in-car coaching with peer review. Three schools across Nottinghamshire have so far made the BTEC available to their students.

Targeted Safety Education and Campaigns - Via East Midlands Ltd on behalf of Nottinghamshire County Council
Specific educational interventions aimed at year 5 and 6 children. Topics covered include seat belt safety and crossing the road.

Bikeability Cycle Training – Via East Midlands Ltd on behalf of Nottinghamshire County Council
The Cycling team deliver the Bikeability Scheme to Nottinghamshire's county schools, academies, independents and clubs and associations. Instruction on Level 1, 2 and Level 3 for year 6 students and secondary schools mostly during term time. Additional modules include Learn to ride, balance bikes, safari and maintenance. Funding of the Bikeability scheme has been renewed for the period 2016-2020. Bikeability is the only government-recognised cycle training scheme and has engaged over 2 million people with better cycle safety. It is underpinned by the national standard for cycle training and funded by the Department for Transport. The programme prepares people to cycle, helping more people cycle safely and more often. It contributes to delivering the transport, environmental, health and economic benefits that more people cycling promises. There is considerable scope and evidence that the service Via East Midlands provide has the opportunity to grow, hence providing more cycle training to all.

Tram Awareness – Via East Midlands Ltd on behalf of 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 and pedestrian awareness of crossing tram lines.

School Crossing Patrol Service – Via East Midlands Ltd on behalf of Nottinghamshire County Council and Nottingham City Council
Provide a safe crossing facility specifically for 5 - 11 year old children on their journeys to and from school.

Safer Routes to School Programme – Via East Midlands Ltd on behalf of Nottinghamshire County Council
Virtually all Nottinghamshire's schools have a 'Safer Routes to School scheme that were implemented from 2004-2014. A Road Safety scheme to apply Traffic Regulation Orders to the School Zig-zag markings was implemented outside virtually all of the Counties schools. An additional enforcement vehicle has recently been deployed to help with the enforcement of this.

Casualty Reduction Schemes
An annual programme of engineering schemes specifically to target locations where reported injury accidents have occurred, especially those involving vulnerable road users and serious or fatal injury. The measures include a range of measures including simple signing schemes, upgraded street lighting, improvements to road surfacing and drainage, new traffic signals installations, traffic calming and speed cameras.

Road Safety Audit
Highway improvement schemes of any type are subjected to an audit process in order to identify solutions to potential safety problems that might otherwise lead to road accidents. Monitoring of accidents occurs for a minimum of three years after completion; the achieved reductions vary by size of investment and the type of scheme, but typically the schemes achieve 40% reduction in treatable accidents. Underperforming schemes are reconsidered for further action.

Nottinghamshire Safety Camera Partnership
The provision of speed and red-light cameras to assist Nottinghamshire Police with enforcement at sites with previously high numbers of road casualties. The presence of the equipment on the highway contributes greatly to casualty reduction, using 2015-17 accident data, speed camera installations generally achieve casualty reductions of around 50% and red-light cameras nearly 40%.

Road Safety Performance – Via East Midlands Ltd
Via East Midlands Ltd monitor accident rates after the completion of engineering schemes that have been recommended and come under Nottinghamshire County Council's funding allocation for casualty reduction. Monitoring occurs for up to three years after completion.

4.3) Leisure activities

Nottinghamshire Water Safety Partnership meets quarterly and oversees the delivery of the partnership action plan. Key priorities in the action plan include, education, profiling the risk from the water across Nottinghamshire and communication of key messages. Membership of the group include: District and Borough Councils, Nottinghamshire County Council, Nottingham City Council, Nottinghamshire Fire and Rescue Service, RNLI, Canal and River Trust, RLSS, Nottinghamshire Police and Owens Trust charity.

Nottinghamshire Safety Education Partnership meets to plan various multi-agency events across different age ranges and support the work of the individual agencies within the group, such as agency input on mini-police, development of Road Traffic Collision awareness days and joint road safety delivery. The partnership plans and delivers the **Safety Zone** programme, which is a multi-agency programme of safety activities held in venues in Rushcliffe, Ashfield and Bassetlaw for all year 6 children in Nottinghamshire (ages 10-11). Agencies include the Police, Fire and Rescue Service, St Johns Ambulance, EMAS, Nottingham City Transport, Via East Midlands, the Royal National Lifeboat Institution and Nottingham City Transport. Students are presented with scenarios that challenge and educate in developing safe behaviour.

Membership of the partnership group includes; Nottinghamshire Police, Nottinghamshire Fire and Rescue Service, East Midlands Ambulance Service, St John, Local Authority road safety teams, PDSA, RNLI, Western Power and National Rail. Development of a strategic partnership to target delivery is underway and this will feed into the Children's Avoidable Injury Strategic Group.

Schools Swimming Service
The school swimming service is dedicated to providing the opportunity for all children in Nottinghamshire to access swimming lessons. The service is available to all pre-school, special, primary and secondary school children of all abilities.

4.4) Assets

The University of Nottingham
The University of Nottingham has a world-leading injury epidemiology and prevention group in the Division of Primary Care. There is representation from the department, at the Nottingham City and Nottinghamshire County Strategic Children Avoidable Injuries Group.

Road Accident Investigation
Via East Midlands Ltd undertakes Road Accident Investigation on Nottinghamshire's roads (excluding trunk). A database of reported injury accidents is maintained, and this is monitored continuously in order to identify patterns of accidents on the road network. Where patterns are identified, detailed accident investigations are undertaken to identify remedial measures for Nottinghamshire County Council's programme of Casualty Reduction Schemes.

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, the provision of home safety assessments and provision of fitting home safety equipment, improved infrastructure 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 show that educational interventions can produce behavioural change but are less successful in achieving reductions in injuries than interventions which also use engineering approaches such as those that alter the home, road or leisure environments, or those that use enforcement through standards, regulation or legislation.

In November 2010 NICE published 3 guidance documents on preventing injuries in the under 15s. (8) These are:
Guidance 29 - Strategies to prevent unintentional injuries among under-15s
Guidance 30 - Unintentional injuries in the home: interventions for under-15s
Guidance 31 – Unintentional injuries on the road: Interventions for under-15s

Furthermore in In January 2016, NICE published Quality Standard (QS107) Preventing Unintentional Injuries among under-15s.

In October 2018, ROPSA published a national, all age accident prevention strategy. 'Safe and Active at all ages' quantifies and addresses the different safety challenges faced across the whole life course, advocating a Public Health approach to accident prevention. The strategy sets out 25 recommendations to ensure a step-change in the delivery of evidence based accident prevention programmes.[13]

In the home:
Cochrane systematic review[14] shows home safety equipment provision and education significantly improves home safety in families with young children. Home safety assessment and equipment schemes are recommended by NICE.

On the road:
The PHE report 'Reducing unintentional injuries on the roads among children and young people under 25 years'[15], recommends focusing 3 key areas where evidence suggest would provide the biggest opportunity for prevention. These are:

1. Improve safety for children travelling to and from school
2. Introduce 20mph limits and zones in priority areas as part of a safe system approach to road safety
3. Action to prevent traffic injury and improve health works best when it is coordinated

In November 2018 the Department of Transport (DfT) published a 20mph limit evaluation report.[16] The study found insufficient evidence to conclude that in residential areas the introduction of 20mph limits had led to a significant change in collisions and casualties. The

findings of the study support the advice already set out, that there are important benefits of 20mph schemes, including quality of life and encouragement of healthier and more sustainable transport modes such as walking and cycling.

There is clearly mixed evidence with regards to 20mph limit zones, with evidence for casualty/collision reduction being weak, yet evidence for broader Public Health opportunities, such as active travel, and the perception of safety, being stronger. Recommendations with regards to the expansion of 20mph limit zones, therefore, shall not feature in this JSNA where the focus is on avoidable injuries. However, recommendations regarding 20mph limit zones may feature in other JSNA chapters relating to healthy lifestyles or air quality.

Leisure safety:
A recent meta-analysis[17] reported that formal swimming lessons have saved over 25,000 lives across 84 countries.

6) What is on the horizon?

6.1) In the home

Delivery of the Nottinghamshire home safety equipment scheme should provide data that can inform future commissioning.

Development of consistent evidence based home safety messages for parents with children under 5 years by consulting with partners in Children's Centres, Social Care, Fostering and Adoption, 0-19 services and Children and Young People's Services. Nottingham City Council has initiated this process by developing a standard set of key safety messages relative to a child's age, for use in Children's Centres, which could be replicated in the County.

6.2) On the road

Extension of Safety Zone delivery venue in Retford as a response to fire safety and seat belt issues in the Bassetlaw district.

6.3) Leisure activities

In addition to the current schools' swimming service, year 6 students will soon be taught essential water-based survival skills.

A New Emergency Care Data Set (ECDS) was rolled out in October 2017. This dataset has the potential to give a clearer picture of the causal factors that result in accidental injury, whether it be during leisure activities, on the road or in the home.

7) Local views

It is imperative that local people feel they have a suitable platform in which to share their opinions and matters that are important to them and their safety. It is acknowledged that engaging with local people and incorporating views in plans relating to avoidable injuries has been poor. There is opportunity to plan how and when local views are incorporated, through the strategic group and understanding current method of engagement and how these could be built upon. This will form one of the recommendations from this JSNA.

What does this tell us?

8) Unmet needs and service gaps

8.1) In the home

Initiation and subsequent sustainability of the home safety scheme is crucial for the improved safety of children and young people in the near future. This can help tackle the inequalities experienced with regards to social class and the risk of avoidable injuries.

As repeat injuries are common in childhood, 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 Nottingham found fewer than half the notifications were acted upon.[18] There is likely to be scope to increase secondary prevention of child injuries through the health visiting commissioning process.

There is a need for standardised home safety advice to be provided to families with young children. In addition to standardised home safety advice, safety equipment needs to be provided to families at greater risk of injury.

8.2) On the road

Continue to provide a data led approach to casualty reduction for both engineering and educational interventions

8.3) Leisure activities

There is clearly a lack of meaningful data surrounding leisure activities, namely that helps identify the burden within Nottinghamshire or that identifies the costs associated with it. It is very difficult to design interventions or make recommendations without knowing the burden to the NHS or society associated with leisure activities.

9) Knowledge gaps

9.1) In the home

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.

Consistent monitoring and evaluation is required for all interventions to provide transparent information on their effectiveness and sustainability. Future evaluations need to focus on consistent outcome measures. This would be advantageous for schemes such as those pertaining to home safety and school education. This would allow for greater tailoring of interventions to a population's needs.

The extent to which children's centres are providing injury prevention advice and support to parents of young children is unknown.

Data regarding children who are treated at home, in primary care and walk in centres are currently unavailable.

9.2) On the road

There are 2 data sets relating to accidents, hospital data and accident data. The 2 data sets currently do not align to enable a bigger picture with regards to accidents. This is on a national basis and so there is little influence locally to change this.

9.3) Leisure activities

Data associated with near misses in the water and sports injuries are not routinely collected.

What should we do next?

10) Recommendations for consideration by commissioners

Recommendation	Lead(s)
General	
Ensure there is a mechanism for strategic leadership and coordination between agencies with responsibilities that contribute to preventing avoidable injuries in children in the home, on the roads and in leisure time.	Strategic group members
The approach to commissioning future avoidable injuries interventions must consider reducing inequalities.	Local Authority and NHS Commissioners
The approach to the commissioning and delivery of future interventions must consider a range or combination of interventions e.g. education, engineering, enforcement and empowerment.	Local Authority and NHS Commissioners
Consider how best to incorporate local views in future strategies.	Strategic group members
In the home	
Exploration of funding to continue the delivery of home safety equipment scheme in Nottinghamshire beyond 2020.	Nottinghamshire County Public Health
When commissioning home equipment safety schemes, standardised home safety advice should be provided to families alongside the home safety equipment.	Local Authority and NHS Commissioners
Implement evidence based, standardised, age appropriate home safety messages across the system.	Strategic group members
Re-establishment of home safety sub group of the Children's Avoidable Injury Strategic Group • To support delivery of and learning from the home safety equipment scheme. • Establish governance, process and accountability • Identify Chair and lead	Nottinghamshire County Public Health and identified Strategic group members

Partners to explore ways to improve ability to recognise risk and improve secondary prevention.	Strategic group members
On the road	
Continue the programme of casualty reduction schemes on Nottinghamshire's roads.	Nottinghamshire Road Safety Partnership
Continue the provision and maintenance of safety cameras on Nottinghamshire's roads.	Nottinghamshire Road Safety Partnership
There should be consideration of the allocation of resources to reduce cyclist road casualties which are significantly higher in Nottinghamshire than the national average.	Nottinghamshire Road Safety Partnership
Continue to support the delivery of the evidence based, data led road safety education programme • Ensure delivery on ages/areas with greatest evidence for need, for example children ages 11-15 years • There should be a focus on geographical areas with higher rates of children aged 0-15 years killed or seriously injured on the roads	Nottinghamshire Road Safety Partnership
Leisure Activities	
The development of a Leisure Safety Action plan pulling together established and newly formed working groups including Nottinghamshire Safety Education Partnership (including Rail Safety) and the Nottinghamshire Water Safety Partnership.	Members of Strategic group and members of working groups

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