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Please read this chapter in conjunction with -

JSNA Chapters:

[Warrington Joint Strategic Needs Assessment Index](#)

JSNA Data Baskets:

[Warrington Lifestyle Survey 2006](#)

[Warrington Mortality due to Accidental Injury](#)

[Warrington Deprivation \(Index of Multiple Deprivation 2010\)](#)

Contents

- [Warrington Joint Strategic Needs Assessment \(JSNA\) 2011 - Children and Young People - Accidental Injury Chapter](#)
- [Executive Summary](#)
- [1\) Who's At Risk and Why](#)
- [2\) The Level of Need in the Population](#)
- [3\) Current Services in Relation to Need](#)
- [4\) Projected Service Use and Outcomes in 3-5 Years and 5-10 Years](#)
- [5\) Evidence of What Works](#)
- [6\) \(Target\) Population/Service User Views](#)
- [7\) Unmet Needs and Service Gaps](#)
- [8\) Recommendations for Commissioning](#)
- [9\) Recommendations for Needs Assessment Work](#)
- [Key Contacts](#)
- [References](#)
- [Signed Off By](#)

Warrington Joint Strategic Needs Assessment (JSNA) 2011 - Children and Young People - Accidental Injury Chapter



The Joint Strategic Needs Assessment (JSNA) considers a wide range of factors that affect the health and wellbeing of the people of Warrington. The objective of the JSNA is to involve partner organisations, such as the local NHS, local authorities, Police, Fire and third sector organisations in order to provide a top level, holistic view of current and future need within the borough. The JSNA is used to agree key priorities to improve the health and wellbeing of all our communities at the same time as reducing health inequalities.

[Return to chapter contents](#)

Executive Summary

Introduction

The National Institute for Clinical Excellence (NICE) defines unintentional injuries as those injuries and their precipitating events that are predictable and preventable (NICE 2010a; NICE 2010b; NICE 2010c). There needs to be the right balance between managing risks and allowing children and young people to explore and develop resilience. Minor accidents are a part of growing up and learning how to manage risks, however, children cannot enjoy their childhoods or achieve their full potential unless they are safe.

Key Issues and Gaps

Warrington had significantly higher admission rates than England for admissions to hospital due to injury for ages 0 to 17 years.

Within Warrington, admission rates are significantly higher for males when compared to females.

Admissions were significantly higher for deprivation quintiles 1 and 2 (most deprived areas) when compared to deprivation quintiles 3, 4 and 5.

The inner wards of Warrington had significantly higher rates of admission when compared to Warrington overall.

Positively, the rate of admissions due to injury has been reducing over recent years.

A large proportion (63%) of admissions were due to *other external causes of accidental injury*, which includes falls, being hit with an object, accidental poisoning, and burns.

Currently, there is no co-ordinated, universal and targeted prevention approach to injury prevention for children and young people in Warrington.

There has been limited data on unintentional injuries to inform this work stream and future commissioning.

Recommendations for Commissioning

- There needs to be a review of Warrington's Child Accident Prevention Strategy and Action Plan (2007-10) in line with the NICE guidance 2010, the 3 self-assessment tools (implementing NICE guidance) and the NICE economic costings, to inform this work stream and commissioning.
- There is a need to further develop the injury surveillance data set, including mapping unintentional injuries with other health and social issues to inform further identification of which groups and settings to target.
- There is a need to work with a wide range of partners, such as road safety partnerships, planners, designers, environmental services, and within regeneration projects to make the most deprived neighbourhoods safer.
- There is a need to identify and target services for the following: males (secondary school age) for overall attendance at Accident and Emergency (A&E) and hospital, deprivation quintiles 1 and 2 (most deprived areas), falls prevention, cycling/road accidents, and households most at risk (to offer home assessments).
- Ensure that staff who work in children and young people settings have access to injury prevention training to provide quality and age appropriate injury prevention through the Healthy Child Programme.

[Return to chapter contents](#)

1) Who's At Risk and Why

Based on national figures, the evidence highlights four specific areas of need due to the numbers of children and young people killed or injured. These are: home safety, fire safety, road safety and water safety (DCSF, 2009).

NICE guidance (NICE 2010a; NICE 2010b; NICE 2010c) highlights the following groups of children that are more vulnerable, in terms of having increased risk of injury:

1. under the age of 5 years (more vulnerable to unintentional injuries in the home)
2. over the age of 11 (more vulnerable to unintentional injuries on the road)
3. who have a disability or impairment (physical or learning)
4. from some minority ethnic groups
5. who live with a family on a low income
6. who live in accommodation which potentially puts them more at risk (e.g.; multiple-occupied housing and social/private rented housing)

NICE recommendations are:

1. Prioritising households at greatest risk
2. Working in partnership
3. Co-ordinated delivery
4. Follow-up on home safety assessments and interventions
5. Integrating home safety into other home visits

[Return to chapter contents](#)

2) The Level of Need in the Population

2.1) Hospital admissions: According to analysis performed by Child and Maternal Health Observatory (ChiMat), it has been reported in the child health profiles that Warrington had a significantly higher hospital admission rate due to injury, when compared to England during 2006 to 2009 for children aged 0 to 17 years (Child and Maternal Health Observatory, 2011). The following analysis has been performed using the same data definition as ChiMat at a local level in Warrington.

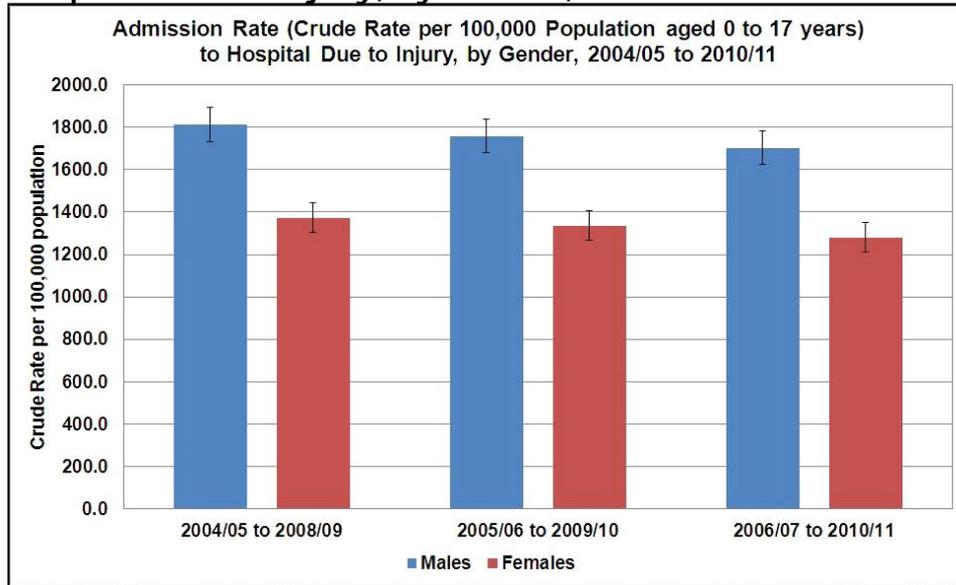
Admission to hospital due to injury for ages 0 to 17 years has been reducing year on year in Warrington. The number of admissions each year was higher for males, when compared to females, as Table 1 shows, for each of the time periods being analysed. Hospital admission rates have also been reducing, as illustrated in Chart 1. Admission rates for males were significantly higher when compared to the admission rates for females in each of the time periods being analysed.

Table 1: Admissions to Hospital Due to Injury, 0-17 Years, Warrington Residents

	2004/05 to 2008/09	2005/06 to 2009/10	2006/07 to 2010/11
Males	2,018	1,946	1,880
Females	1,457	1,413	1,349

(Source: NHS Warrington, Oracle Data Warehouse, 2011)

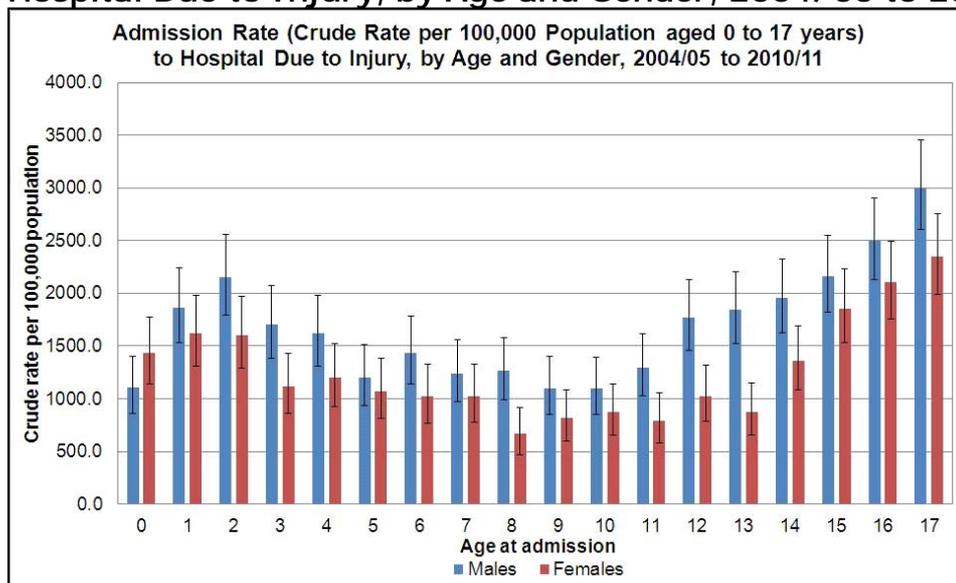
Chart 1: Admission Rate (Crude Rate per 100,000 Population aged 0 to 17 years) to Hospital Due to Injury, by Gender, 2004/05 to 2010/11



(Source: NHS Warrington, Oracle Data Warehouse, 2011)

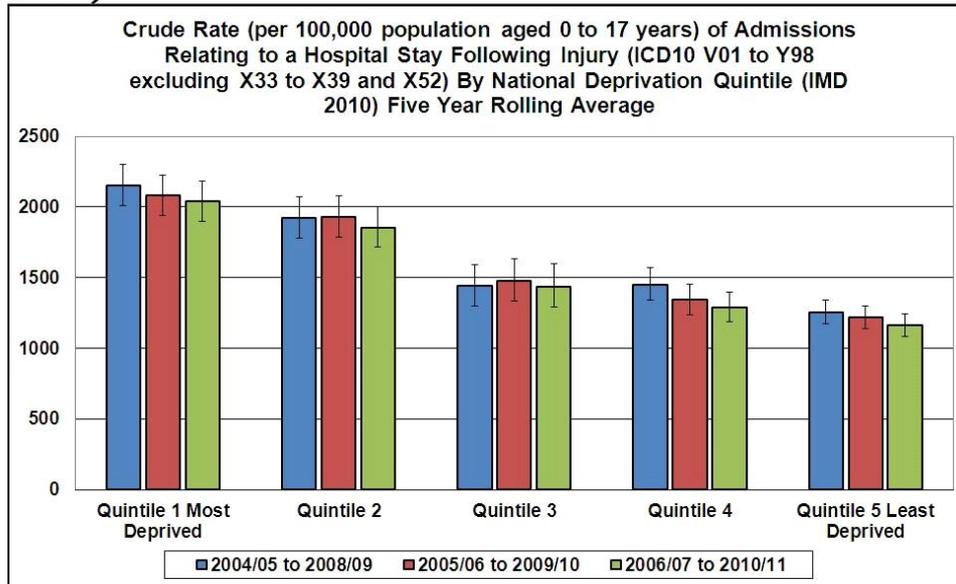
Chart 2 illustrates the rate of hospital admission by age and gender between the years 2004/05 to 2010/11. The chart shows that, for both males and females, the rate of admissions peaked at age 2 and then decreased for each of the ages. The rate of admission then started to increase from age 11 for males and age 14 for females. Admission rates for both males and females were highest for the age of 17. In each age category, males had a higher admission rate when compared to females, except for admissions where the child was aged less than one year. Males had a significantly higher admission rate when compared to females for ages 8, 12 and 13.

Chart 2: Admission Rate (Crude Rate per 100,000 Population aged 0 to 17 years) to Hospital Due to Injury, by Age and Gender, 2004/05 to 2010/11



(Source: NHS Warrington, Oracle Data Warehouse, 2011)

Chart 3: Crude Rate (per 100,000 Population aged 0 to 17 Years) of Admissions Relating to a Hospital Stay Following Injury, by National Deprivation Quintile (IMD 2010)



(Source: NHS Warrington, Oracle Data Warehouse, 2011)

Chart 3 illustrates that the rate of injury related hospital admissions per 100,000 population aged 0 to 17 years was significantly higher in Quintiles 1 and 2 (the most deprived quintiles) than in Quintiles 3, 4 and 5, for all of the time periods analysed. Positively, in Quintile 1 (the most deprived quintile) the rate of admissions had decreased year on year, and this was also seen in Quintiles 4 and 5 ([deprivation data, charts and maps available here](#)).

When analysing admissions at a lower geographical level, the ward of Bewsey and Whitecross consistently had the highest rate of hospital admissions. There could be a number of reasons for this, including the deprivation level of the area. However, the close proximity of the hospital to the local residents has been shown to contribute to the increase in the number of admissions (previous work conducted by NHS Warrington). The following map shows the wards which had significantly higher admission rates than Warrington (coloured red) and significantly lower admission rates (coloured green). The wards with significantly high admission rates are clustered in the town centre, which are also the more deprived wards in the borough.

Map 1: Admissions to Hospital Due to Injury, by Ward in Warrington, Children aged 0-17 years, 2006/07 to 2010/11

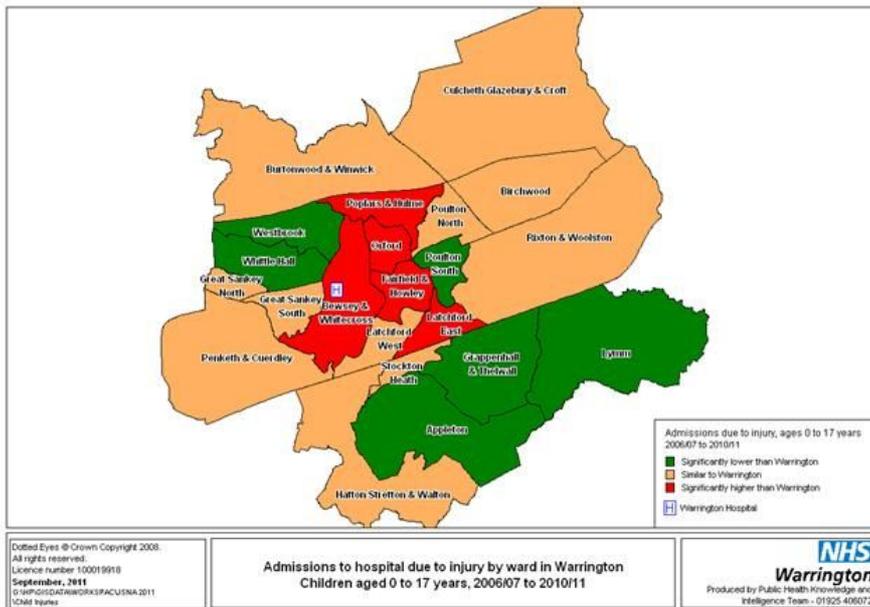
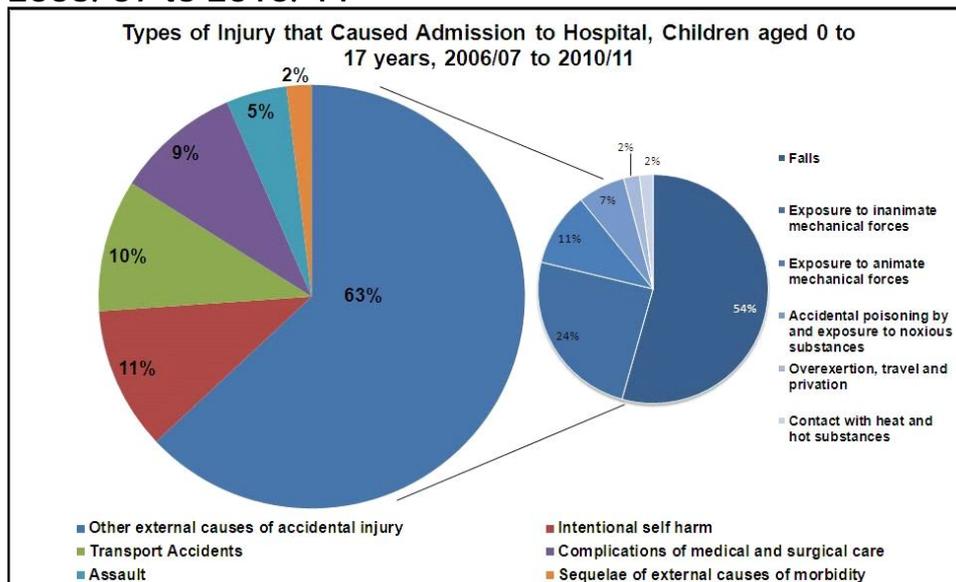


Chart 4 displays the types of injury that caused admission to hospital between the years 2006/07 to 2010/11. 63% of all admissions were due to *other external causes of accidental injury*. This includes falls, being hit by an object, accidental poisoning, and burns. From these causes of injury, *falls* accounted for over half of all admissions relating to *other external causes of accidental injury*. This local pattern is reflected nationally as falls are the most common cause of accidental injury (Child Accident Prevention Trust, 2011). It is not known where these falls would have occurred, however it is important to ensure that the local environment in which children play and learn is kept free of tripping hazards.

Chart 4: Types of Injury that Caused Admission to Hospital, Children aged 0-17 years, 2006/07 to 2010/11



(Source: NHS Warrington, Oracle Data Warehouse, 2011)

10% of all injury admissions were due to *transport accidents*. More specifically, *accidents involving a pedal bike* accounted for over half of all transport accidents, followed by a *pedestrian injured in a transport accident* (1 in 5 transport accidents). These figures illustrate the need to promote road safety messages to children. Positively, Warrington had a similar rate of hospital admissions relating to road traffic accidents when compared to England (Child and Maternal Health Observatory, 2011).

2.2) Mortality: Death amongst children and young people is a rare event. On average, there are approximately 18 deaths amongst children and young people aged 0-19 each year in Warrington. A high proportion of these deaths (68%) occur in babies aged under 1 year, and are predominantly stillbirths or deaths occurring in the peri-natal period. Amongst children aged over 1, accidental death is the most significant cause of death, accounting for approximately 29% of deaths in children aged 1 to 19 (PCT Public Health Mortality File for years 2007 to 2009). ([Data, charts and maps for mortality due to accidental injury are available here.](#))

[Return to chapter contents](#)

3) Current Services in Relation to Need

The following areas of work have been undertaken, mainly under the umbrella of Healthy Schools. 100% of schools in Warrington have achieved the National Healthy Schools Status, which includes the requirement for all schools to have an up to date school travel plan.

3.1) Safety in Schools: Safety awareness is promoted in schools through national campaigns, such as Child Accident Week, which was recently run during June 2011. There are opportunities to deliver child accident and safety knowledge and skills through the Personal Social Health and Economic (PSHE) Education curriculum. The schools in Warrington also perform regular risk assessments to ensure the school environment is a safe place for children to play and learn.

In addition, safer travel to school is promoted by Warrington Council through the Local Transport Plan's school travel advice and safer routes to school programmes. Schools are offered a range of lessons and assemblies for all age groups, which include sustainable travel and road safety themes. Bikeability cycle training is offered to every 10 year old in the borough funded by the government's grant scheme. Delivered at school, children are taught road positioning, awareness and safety by enthusiastic and fully qualified instructors, making them more confident and competent to cycle short distances on quiet roads. All schools in Warrington also have a School Travel Plan in place to ensure that pupils, parents and teachers continue to work towards promoting safe, healthy and sustainable travel to and from school. A Safer Routes to School programme ensures that highway infrastructure, such as zebra and pelican crossings, cycle lanes, and footways, are built where necessary.

3.2) Early Years and the 0-5 years Healthy Child Programme: The Public Health Nursing Team (Health Visiting and School Health staff) are delivering elements of the Healthy Child Programme. However, robust arrangements are not currently in place across agencies to ensure that this programme is delivered according to the guidelines. The 0-5 years Healthy Child Programme recommends that injury prevention should be discussed at birth to 1 week and six months to one year, and should include injury and accident prevention relating to mobility, safety in cars and skin cancer prevention (Department of Health, 2009a). The Health Visiting and School Health Review in 2011 will investigate whether all of the Healthy Child Schedule is being delivered and make recommendations.

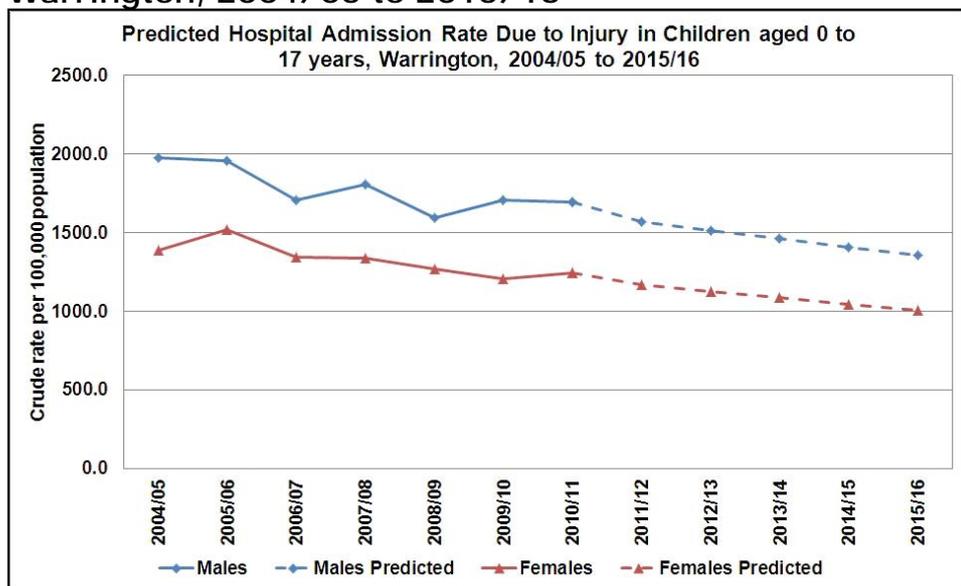
Warrington's Sure Start has a 'Safebuy Scheme,' to promote child safety products for the home, offered at a reduced cost from the high street. The products are promoted at home visiting sessions which are conducted by Children Centre staff.

[Return to chapter contents](#)

4) Projected Service Use and Outcomes in 3-5 Years and 5-10 Years

By analysing the rate of historical hospital admissions due to injury, it has been possible to predict the future trend in the rate of admissions through the use of linear regression. Chart 5 illustrates that, if current trends were to continue, the rate of admissions to hospital will continue to decrease year on year for both males and females.

Chart 5: Predicted Hospital Admission Rate Due to Injury in Children aged 0-17 years, Warrington, 2004/05 to 2015/16



(Source: NHS Warrington, Oracle Data Warehouse, 2011)

The overall aim for this area of work will be to reduce the numbers of unintentional injuries and the associated impact on services and resources of a number of agencies, including the police, fire service, local authorities and the NHS.

Unintentional injuries to children and young people is one of the indicators put forward in the proposals for a Public Health Outcomes Framework, published by the Department of Health (DoH) in *Healthy Lives, Healthy People: Transparency in Outcomes* (Department of Health, 2010).

D3.6 Hospital admissions caused by unintentional and deliberate injuries to 5-18s

D4.1 Hospital admissions caused by unintentional and deliberate injuries (1-5 years)

There will be significant cost benefits and health and wellbeing benefits from the implementation of the NICE guidance documents (NICE 2010a, NICE 2010b, and NICE 2010c) in Warrington. These will include:

- Improved outcomes for children and young people, such as improved health, quality-of-life, school attendance and attainment.
- Increased productivity for families and employers, by reducing the time that parents or carers have to take off work to look after children and young people who have been injured.
- Preventing short-term and permanent disabilities and death from unintentional injury.
- Improved safety for all occupants of the home.
- Reducing the emotional impact and trauma of unintentional injuries for children and young people and their families. Improved road design will mean safety for the wider community.
- Engineering measures to improve road safety may have other positive outcomes for the wider community, such as increasing walking or cycling and lowering levels of air pollution.

5) Evidence of What Works

Unintentional injury is a complex, cross-cutting (linking many policies and agencies) field with a small evidence base. NICE guidance on preventing unintentional injuries among children and young people under 15 is based on the best available evidence of what works and what gives best value for money. The recommendations made in the three pieces of NICE guidance focus on broad strategic prevention activities (NICE 2010a), home safety assessments and the supply and instillation of safety equipment (NICE 2010b), and making routes safer through speed limits and engineering measures (NICE 2010c). The main recommendations are: planning and co-ordination, home safety, outdoor play and leisure, and road safety.

The Healthy Child Programme for 0 to 5 years and 5 to 19 years set out a good practice evidenced based framework for prevention and early intervention services (Department of Health, 2009a). It recommends that health and education partners can work together across a range of settings to significantly enhance a child/young person's life chances. The 5 to 19 years schedule suggests that all pupils receive a comprehensive, age-appropriate programme of PSHE, which should include accident and injury prevention (including road accidents). PSHE contributes to staying safe and the statutory safeguarding duty on schools (Department of Health, 2009b).

A 10% reduction in injuries per 150,000 population would save over £80,000 by reducing emergency department visits and hospital admissions in Warrington each year (APHO and NICE, 2011). There would also be corresponding reductions in the cost of other services, such as the ambulance service, the police and GPs (NICE, 2009d).

5.1) Home Safety / Deprivation: Evidence, from a recently published systematic review (Pearson et al., 2011) of the effectiveness of programmes in decreasing unintentional injury rates to children aged up to 15 years in the home, suggests that, for children under the age of five, the majority of unintentional injuries occur in the home, with higher levels of injury morbidity and mortality being found among those from more deprived backgrounds. The effectiveness of the provision of home safety equipment with or without installation, safety education or a home risk assessment was examined by outcome (i.e. injury rates, installation of smoke alarms, and installation of other home safety equipment). Analysis of the statistically significant evidence suggests that few programmes reduce injury rates in children, except where home safety equipment is supplied in conjunction with a home risk assessment, although this effect was only evident in households where a child had previously suffered an unintentional injury.

The distribution of smoke alarms alone is insufficient for improving installation rates, whereas programmes containing an education component showed more success. Interventions integrated into wider health programmes, where trusting relationships with householders were cultivated and/or where specific safety issues identified by a community were responded to, also demonstrate greater success in increasing smoke alarm installation rates. The evidence of effectiveness on installation rates of other home safety equipment is highly mixed, although there is some evidence to suggest that installation rates always decrease after 6 months. Where stair gates are both supplied and installed, inequalities in rates of use may be reduced.

5.2) Road Safety / Deprivation: It is understood that socio-economic inequalities in serious injury exist across the whole of England, particularly for child pedestrians. A recent study (Edwards et al., 2008) looked at hospital admission rates for serious injury to children aged 0-15 years in lower super output areas in England during a 5-year period (1 April 1999 to 31 March 2004). The study found that rates of serious injury in children were higher in the most deprived areas compared to the least deprived. For pedestrians, the rate ratio (RR) was 4.1 (CI¹ 2.8 to 6.0) and, for cyclists, was 3.0 (CI 1.9 to 4.7). Rates of serious pedestrian injury were lower in towns and fringe areas (RR² 0.67; CI 0.53 to 0.86), and in village areas (RR 0.64; CI 0.50 to 0.83) than in urban areas. The rate of serious injury to car occupants was higher in village areas than urban areas (RR 1.51; CI 1.05 to 2.17). Rates of serious injury caused by falls were higher in London (RR 1.60; CI 1.47 to 1.75) and lower in villages (RR 0.76; CI 0.66 to 0.88) than in urban areas.

Previous UK studies that have been established to determine whether traffic calming is associated with changes in childhood pedestrian injury rates have shown that area wide traffic calming is associated with absolute reductions in child pedestrian injury rates, as well as reductions in relative inequalities in child pedestrian injury rates (Jones et al., 2005). However, it is clear from other UK studies that other deprivation factors, such as cycle helmet ownership, where children in deprived areas were found to be less likely to own a helmet (Kendrick and Royal, 2003), may be linked with poorer road safety outcomes. This study concluded that programmes aimed at preventing head injury among child cyclists would need to address the inequality in helmet ownership that exists between children residing in areas with higher and lower levels of deprivation. Strategies to increase family encouragement to wear a helmet may be useful, as may those recognising the importance of the attitudes and behaviours of peers.

Footnotes

¹ Confidence Interval (CI) - Shows the range within which it is confident that the true result from a population will lie 95% of the time. The narrower the interval, the more precise the estimate. This is necessary as studies are conducted on samples and not entire populations.

² The ratio of risk in one group compared to the risk in another group (in this case between urban and suburban areas).

[Return to chapter contents](#)

6) (Target) Population/Service User Views

Evaluation quotes from the recent Warrington Bikeability Courses in 2011 included:

'To have more days doing sessions'.

'They gave you lots of confidence'.

'I like BikeRight because it was fun and safe'.

[Return to chapter contents](#)

7) Unmet Needs and Service Gaps

The data within this chapter has shown that Warrington has a significantly higher rate of admissions due to injury when compared to England in children and young people. Within Warrington, the rate of admission is significantly higher in the more deprived areas. Currently, there are no services in place to target safety awareness messages to deprived areas within Warrington.

The rate of admissions due to injury were higher for males and so it may be of benefit for safety awareness projects within schools to include a focus towards males and how they could reduce their injury risk. Also, the rates of admission seem to increase from ages 11 and above and so it could be a recommendation to promote safety awareness in the final years of Primary School and reinforce in Secondary School.

There has not been a co-ordinated, universal, and targeted prevention approach to injury prevention for children and young people.

There has been limited data on unintentional injuries to inform this work stream and future commissioning.

[Return to chapter contents](#)

8) Recommendations for Commissioning

- There needs to be a review of Warrington's Child Accident Prevention Strategy and Action Plan (2007-10) in line with the NICE guidance 2010, the 3 self-assessment tools (implementing NICE guidance) and the NICE economic costings, to inform this work stream and commissioning.
- There is a need to further develop the injury surveillance data set, including mapping unintentional injuries with other health and social issues to inform further identification of which groups and settings to target.
- There is a need to work with a wide range of partners, such as road safety partnerships, planners, designers, environmental services, and within regeneration projects to make the most deprived neighbourhoods safer.
- There is a need to identify and target services for the following: males (secondary school age) for overall attendance at Accident and Emergency (A&E) and hospital, deprivation quintiles 1 and 2 (most deprived areas), falls prevention, cycling/road accidents, and households most at risk (to offer home assessments).
- Ensure that staff who work with children and young people settings have access to injury prevention training to provide quality and age appropriate injury prevention through the Healthy Child Programme.

[Return to chapter contents](#)

9) Recommendations for Needs Assessment Work

There needs to be further needs assessment around accidental injury, as Warrington has a significantly high rate of injury related admissions when compared to England.

[Return to chapter contents](#)

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[Return to chapter contents](#)

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APHO and NICE see Association of Public Health Observatories and National Institute for Health and Clinical Excellence

DCSF see Department of Children and Family Services

[Return to chapter contents](#)

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[Return to chapter contents](#)
