Agenda Item No: 7
Safer Stockton Partnership
9 November 2010

NHS
Tees

Unintentional & Deliberate Injuries in Children

21/09/2010

UNINTENTIONAL AND DELIBERATE INJURIES IN CHILDREN

Dr Graham Brown
Specialty Registrar in Public Health, NHS Tees

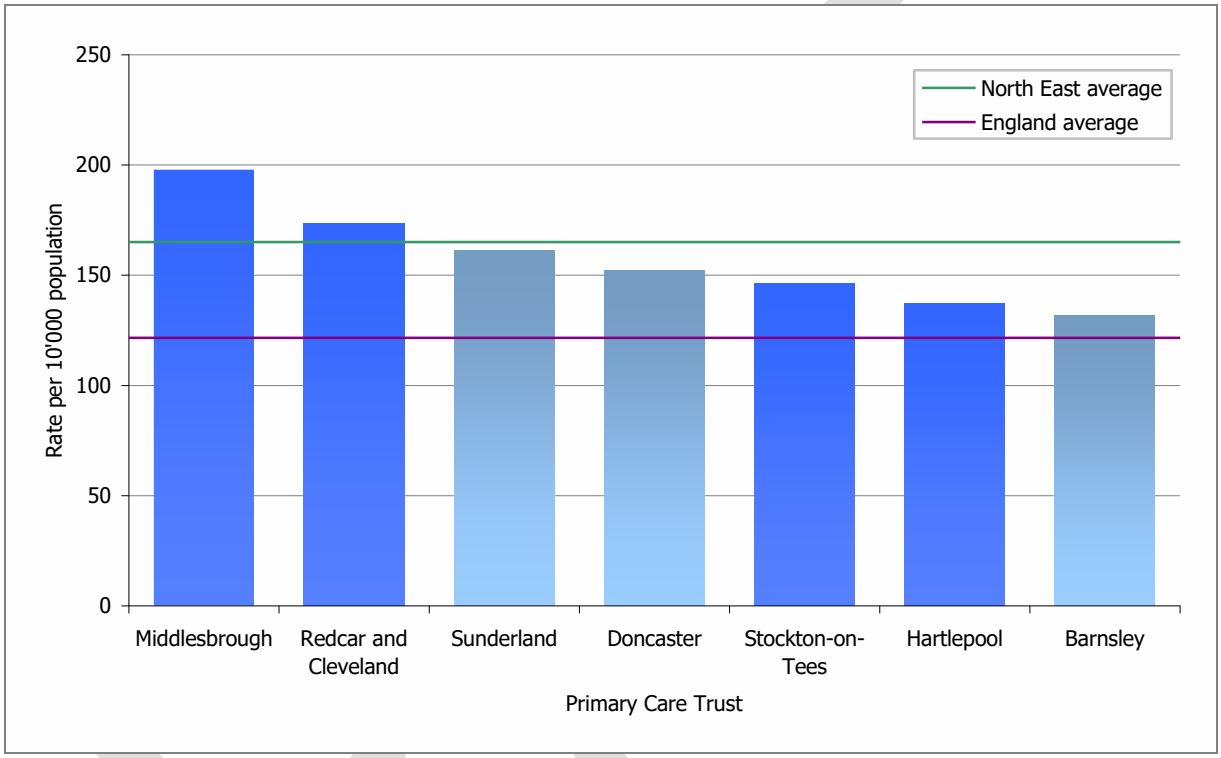
Emma Thomas
Children's Health Improvement Partnership Manager

CONTENTS

1.1. NI70 in the Tees region

The rate of admissions in children as a result of injury is markedly higher in the North East compared to the English average. In the Tees area, Middlesbrough in particular has a rate that is over 60% higher than that of England as a whole and is above the level seen in other similar districts (based on demographic profiling).

Figure 1: NI 70 rate by primary care trust 2007-08



1.1.1. Limitations of NI70

This particular indicator takes a somewhat arbitrary stance on an important and often misunderstood cause of morbidity and mortality in children. Viewed in isolation, the data that relates to this area of interest is of relatively limited use when describing the extent and impact of injury in general. Admission statistics alone offer little information with regard to the often complex and multifactoral influences that lead to childhood injury.

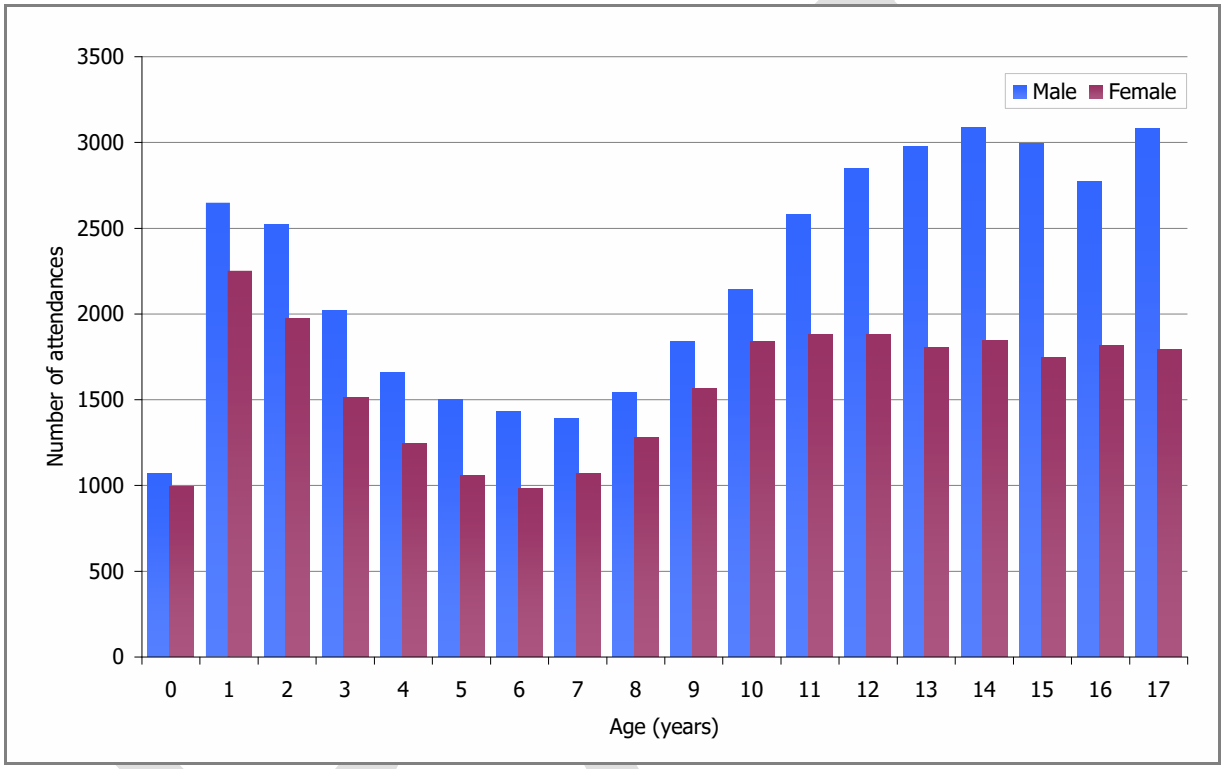
Indeed, many more children than those that are admitted are injured every year, however by avoiding admission they are not included by the statistics for NI70. As healthcare providers move towards managing more and more conditions in the community, there is a danger that relying on admission numbers to determine the extent of childhood injury could lead to under-estimation of the scale of the problem.

2. ACCIDENT & EMERGENCY ATTENDANCES

2.1. Attendances by age and sex

Over the three year period from April 2007 to March 2010 there were an estimated 68'629 attendances at accident & emergency departments in the Tees area as a result of injury (see section 4.1.1 for further information on estimation criteria). Figure 5 shows the distribution of these attendances by age and sex.

Figure 2: Accident & emergency attendances Teeswide, Apr '07- Mar '10



The number of attendances across all age ranges is higher for males; however this disparity between the sexes becomes more marked from age 10 years upwards where attendance figures for males continue to rise until age 14, whilst for females this plateaus off at around the 1800 attendances mark. This may be due to the propensity for young adult males to engage in more risk taking behaviour than females.

The largest number of attendances occur in the upper age groups (males more so than females) and lower age groups - with the exception of those less than 1 year of age.

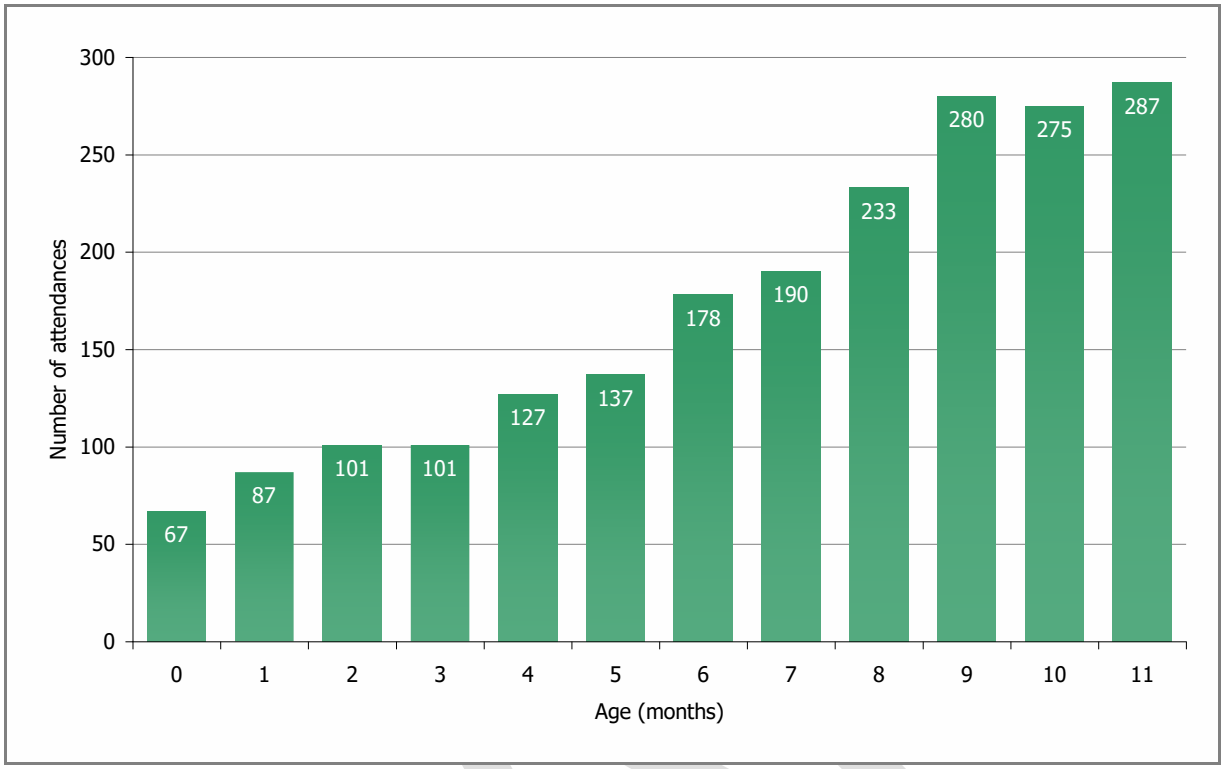
2.1.1. Attendances under 12 months of age

One concerning area that deserves special attention is the number of infants less than 1 year old that present to accident & emergency as a result of injury. Over the same three year period as above there were a total of 2065 attendances by individuals less than 1 year old – this equates to almost 2 attendances daily.

The reasons for these attendances are unclear; however it is concerning that such a young and vulnerable age group are the source of so many visits to A&E. Indeed in those aged less than 6 months there were 620 attendances over the three year period – this in a group who are virtually helpless. Towards the age of 12 months it is possibly easier to rationalise that an infant who has begun to crawl could sustain an injury, however for those less than 6 months in particular, it is more

difficult for the child to injure themselves. This raises issues around child protection and education for parents.

Figure 3: A&E attendances for children less than 1 year of age (Apr '07 - Mar '10)



2.2. Attendances by ward

Attendance numbers at accident and emergency departments vary by the ward of residence of attendees. There are many possible factors that influence an individual's decision whether to attend A&E or not, these include proximity to the department, severity of injury and availability of other healthcare facilities. The data in table 6 summarises the twenty wards in the Tees area that have the highest number of attendances per population aged under 18.

Ward	Attendances	Population (0-17 yrs)	Rate
Beechwood	1433	1512	0.948
Park End	1716	1860	0.923
Clairville	1219	1370	0.890
Pallister	1520	1725	0.881
Thorntree	1734	2007	0.864
Ladgate	1023	1186	0.863
Ayresome	1339	1662	0.806
North Ormesby and Brambles Farm	1326	1679	0.790
Coulby Newham	1412	1812	0.779
Hardwick	1273	1695	0.751
Hemlington	1124	1501	0.749
Stainton and Thornton	425	584	0.728
South Bank	1138	1588	0.717
Dyke House	931	1310	0.711
Grangetown	1135	1603	0.708
Beckfield	666	951	0.700
Rift House	824	1383	0.696
Brus	1151	1729	0.666

Eston	923	1407	0.656
Marton	602	918	0.656
Totals	**22914**	**29482**	**0.777**

Table 1: A&E attendances ranked by rate of attendance per population (age 0-17)

2.3. Admissions by ward

The following table lists the top twenty wards in the Tees area based on the actual number of admissions (left side) and the number of admissions as a percent of the population aged 0-17 years (right side).

This comparison demonstrates that although some wards may have a relatively low number of actual admissions, when this is considered in the context of the population at risk, individuals in these wards may be at higher risk than may at first appear. Eston for example does not appear in the top 20 based on the actual number of admissions, but when these are taken as a percentage of the at risk population the ward is ranked number 7. It is also worth noting that some wards appear in similar positions on both scales having both a high number of admissions and a high number of admissions as a percentage of the population at risk.

Ward (ranked by total number of admissions)		RANK	Ward (ranked by admissions as % of population)	
Thorntree	135	**1**	8.22%	Coatham
Park End	131	**2**	7.93%	South Bank
Gresham	120	**3**	7.16%	Ayresome
Ayresome	119	**4**	7.13%	Pallister
Mandale and Victoria	117	**5**	7.08%	Clairville
Newtown	116	**6**	7.04%	Park End
Pallister	116	**7**	7.04%	Eston
South Bank	111	**8**	6.74%	Grangetown
Hardwick	110	**9**	6.73%	Thorntree
North Ormesby and Brambles Farm	103	**10**	6.70%	Kirkleatham
Owton	102	**11**	6.68%	Beechwood
Beechwood	101	**12**	6.49%	North Ormesby and Brambles Farm
Coulby Newham	101	**13**	6.49%	Stockton Town Centre
Grangetown	99	**14**	6.49%	Hardwick
Clairville	97	**15**	6.30%	Owton
Ingleby Barwick West	95	**16**	6.20%	Newcomen
Kirkleatham	95	**17**	6.07%	Norton South
Linthorpe	94	**18**	5.97%	Norton North
Norton North	93	**19**	5.94%	Middlehaven
Stockton Town Centre	93	**20**	5.90%	Ladgate

Table 2: Top 20 Tees wards based on admission numbers and admissions as % of population at risk

3. DISCUSSION

3.1. Injury trends

The data collected and analysed here is consistent with findings from other areas. Injuries tend to occur more in males than in females and individuals living in deprived areas are much more likely to be injured than their counterparts in more affluent areas. Injury in the Tees area is most likely to be as a result of a fall or being struck/colliding with an inanimate object, although there are an alarmingly high number of individuals who sustain an injury as a result of deliberate self harm.

Children in the 2-5 year and 10+ age ranges are more likely to require attention from hospital and/or emergency services.

3.2. Availability & sharing of data

During the process of data gathering for this health needs assessment, a number of barriers were encountered. Although data is collected by a number of organisations, there appears to be no forum for sharing or assimilating this information to guide policy formation through local partnerships.

Many organisations have no method in place to provide routine information on childhood injuries, other than that that is used to assess performance. Indeed, data extraction from accident and emergency departments – an area where invaluable information could be collected and stored with regard to the topic in question – was problematic and overly complicated.

Other bodies raised issues of data governance, similarity with requests from other sources, and limited capacity as issues that prevented the timely sharing of data.

There were also issues with obtaining data within specified timeframes. For example, one organisation required almost 16 weeks to provide data. Requests for this sort of information often fall outside of contracting arrangements and therefore are considered a low priority resulting in long and frustrating waiting times for data extraction.

These are by no means new or local problems. The Audit Commission's Better Safe than Sorry report published in 2007 highlighted the lack of data sharing as a key issue in the lack of progress towards effective strategies for reducing injury. They commented that 'sharing of good-quality, compatible data is crucial to create targeted, effective strategies to prevent unintentional injury across a local area.' This is an issue that needs clear partnership work to progress.

3.3. Coding issues

Problems highlighted by the differences in how injuries are logged and recorded has been discussed a number of times in this report. Whilst hospital admissions are fairly consistently coded (albeit not without shortcomings), this is not the case for other clinical areas.

Data from primary care was initially considered to be included as part of the dataset that would guide this report. However, further discussion revealed that coding of injury, and perhaps more importantly, extraction of this data was considered a laborious and overly complex undertaking.

Extracting data relating to injuries from datasets where this subset is not clearly defined is an arduous and imperfect task. Due to the sheer numbers of attendances at A&E departments every day, it is vital that getting to grips with the way in which this data is stored for later auditing is done sooner rather than later. Relying on a best-guess approach to determining levels of injury in children

is inadequate to say the least. Developing a systematic approach to monitoring the numbers of children that attend due to injury (not limited to deliberate injury) should be a priority.

3.4. Limitations of NI 70

Hospital admission statistics alone offer relatively little information about the extent of the problem with relation to childhood injuries. For every child that is admitted there will be countless others that sustain an unintentional or deliberate injury and are never accounted for by this indicator. Perhaps it is fair to assume the more severe cases will be highlighted, but by focussing efforts on reducing only these there is danger of failing to tackle the root cause of all injuries in general and missing the point.

It is of course imperative that the need for action to reduce the number of children affected by this issue is highlighted, and to this end the indicator has achieved this. However limiting the scoping and management of childhood injury to this indicator alone would be narrow minded and potentially damaging for the future of children in the Teeswide area.

To this end we hope that this report will flesh out the issues thrown into stark contrast by NI70, but will also go some way to safeguarding the health and wellbeing of our young and often vulnerable population.

4. RECOMMENDATIONS

4.1. Standardised data collection

- Data collection – in particular routine data collection that relates to childhood injuries should form part of commissioning contracts.
- Organisations need to work on developing methods of data collection that are more standardised and enable effective sharing within and out with of the organisation.
- Coding issues require urgent review so that injuries can be identified, traced and analysed more easily and comprehensively.

4.2. Timely sharing of information

- Sharing of information with other partners and organisations needs review. Long delays in information being passed along, particularly where this involves follow-up with regard to an injury, attendance, and/or admission only serves to hamper effective intervention.
- Requests for sharing of data also requires further consideration as these requests often fall outside of contractual obligations and are considered 'low-priority' which inevitably leads to delays in gathering useful data for analysis.

4.3. Clear lines of responsibility

- Providers and commissioners alike need to have clear standard working guidelines for identification, management and follow-up of childhood injuries so that there is obvious accountability at each stage.
- Agreement between partners is needed to ensure vulnerable children are flagged up early and managed appropriately.

4.4. Partnership working

- Existing partnerships need to be reviewed and strengthened to ensure initiatives continue to offer the best practice based on the current evidence-base.
- New partnerships should be sought to enable a comprehensive management strategy of childhood injuries in the Tees area.

4.5. Wider focus

- Work should continue to look beyond and not be restricted by preventing admission alone and aim to tackle the wider influences of childhood injury.