

# Unintentional and intentional injuries in Cumbria

## Introduction

Injuries place a large burden on individuals, families, communities and public services, including health and criminal justice agencies. In Cumbria there are approximately 200 deaths from injuries each year and over 7,500 hospital admissions (1). In order to reduce injuries across Cumbria and associated impacts, local agencies need to understand which injuries are most widespread across their communities and who is most at risk. Such evidence is crucial to ensuring appropriate injury prevention initiatives are implemented where they are needed most. Using data collected by the Trauma and Injury Intelligence Group<sup>1</sup> (TIIG) this report aims to: provide an overview of the incidence and demography of unintentional and intentional injuries in Cumbria; identify at risk groups and areas; and assess availability, accessibility and quality of injury data sources. This is the first in a series of injury factsheets, and provides an overview of unintentional and intentional injuries in Cumbria. Future factsheets will provide a more comprehensive understanding of the burden of specific injury types in Cumbria, including violence, road traffic injuries (RTIs) and childhood injuries.

## Box 1: Injury definition

The World Health Organization defines injuries as “the physical damage that results when a human body is suddenly subjected to energy in amounts that exceed the threshold of physiological tolerance – or else the result of a lack of one or more vital elements, such as oxygen” (2).

## Background

Injuries can be split into two distinct categories, those that are unintentional such as falls and those that are intentional such as assaults (Box 1).

Unintentional injuries accounted for around 12,000 deaths in England and Wales in 2007 (3). There were also over 600,000 hospital admissions in England for unintentional injuries in 2007/08 (4). Intentional injuries also make a large contribution to injury burden. There are over 2.1 million incidents of violence against adults each year (5) and over 4,000 deaths from self-harm in England and Wales (3). Self-harm and assaults were also responsible for around 100,000 and 43,000 hospital admissions in

<sup>1</sup> The Trauma and Injury Intelligence Group (TIIG) collects data from emergency services, including AEDs, across parts of the North West of England. This allows TIIG to analyse the extent of unintentional and intentional injuries, demography of patients and identify at risk groups, to support the development, implementation and evaluation of injury prevention initiatives.

England in 2007/08 respectively (4). However, hospital admissions only account for a share of medical treatment for injuries. There are many more attendances to walk-in-centres, general medical practitioners (GMPs) and accident and emergency departments (AEDs). For instance, there are an estimated quarter of a million attendances per year to AEDs in England for assaults alone (6).

Injuries can leave people with serious physical pain, disability and psychological trauma, which may require long-term care by families and health services. Consequently unintentional injuries place a significant economic burden on public services and society as a whole, with loss of work and school days impacting on businesses and individuals. In England and Wales the economic cost of all injuries is currently unknown. However, it was estimated that the cost of interpersonal violence (e.g. assault) alone was £24.4 billion in 2003, with health services incurring a cost of around £2.2 billion (7). Falls in older people have been estimated to cost the UK Government around £1 billion a year (8).

The risk factors for injury vary depending upon the type of injury. For example, the majority of people affected by falls are older people, where as the majority of assaults involve younger people (6). Furthermore, both children and older people experience higher rates of pedestrian RTIs than other age groups (9). The geographical region in which a person lives also influences the types of injury they are at risk of; for example assaults are more common in urban areas (5). Risks of both unintentional and intentional injury have been shown to be related to deprivation status, with those at the greatest risk living in the most deprived areas (6,9,10).

Cumbria is one of the least deprived areas in the North West but suffers from pockets of high deprivation (11). It also experiences some of the

highest rates of hospitalised admissions for self-harm and RTIs in the region (12). Therefore it is important to identify which specific groups and areas of Cumbria are most burdened by each type of unintentional or intentional injury. This will help to ensure that the resources of health services, criminal justice agencies and other agencies are directed towards those most at risk, and subsequently contribute to reducing health inequalities in Cumbria. This report provides evidence from secondary data sources which will help practitioners utilise policy and interventions towards preventing unintentional and intentional injuries optimally.

## Data sources

The Centre for Public Health (CPH) at Liverpool John Moores University hosts the TIIG injury surveillance system, which holds injury data from the following sources:

- North Cumbria University Hospitals NHS Trust (NCUHNT): Cumberland Infirmary AED and West Cumberland Hospital AED, April 2006 to March 2009.
- University Hospitals of Morecombe Bay NHS Trust (UHMBNT): Westmorland General Hospital AED, Furness General Hospital AED, and Royal Lancaster Infirmary AED, April 2006 to March 2009.

CPH also hosts the North West Public Health Observatory (NWPHO), which holds injury data from the following sources:

- Hospital Episode Statistics (HES). Hospital admissions for Cumbria Primary Care Trust (PCT) residents with ICD10 external cause code of V01-Y98, April 2005 to March 2008.
- Public Health Mortality Dataset. Cumbria PCT residents with ICD10 underlying cause codes V01-Y98, 2005 to 2007.

Data for Cumbria from these sources have been accessed for this report with a specific focus on:

- Assaults
- Self-harm
- All unintentional injuries
- RTIs
- Burns/fire-related injuries
- Sports injuries
- Falls
- Poisonings
- Injuries in children (those aged 0-17 years)

In addition, data was gathered from Cumbria Fire and Rescue Service (CFRS) covering fire-related injury data for the period April 2006 to March 2009.

## Intentional injury

### Assaults

#### *AED data*

Over a three year period (April 2006 to March 2009) there were 9,187 attendances to Cumbria AEDs due to assaults. Males (75%) and those aged between 15 and 29 years (59%) were most likely to attend AEDs with an assault-related injury. The location of assault was stated as primarily being a public place (65%), with 13% occurring in the home. Most assault attendances were discharged without requiring any follow-up care (50%). Attendances mainly occurred on Saturdays and Sundays (46%), and on these days 34% occurred between 12am and 6am. Out of all assault attendances, 6,871 were made by residents of Cumbria PCT at a crude rate of 461 per 100,000 population per year. Crude attendance rates to AED for assaults were greatest for Middle Super Output Area (MSOA) residents of E02003997 (1,527 per

100,000 population), E02003995 (1,336 per 100,000 population) and E02003996 (1,295 per 100,000 population).

#### *Hospital Episode Statistics (ICD10 external cause code X85 to Y09)*

During the period April 2005 to March 2008 there were 925 hospital admissions for assaults by residents of Cumbria PCT, at a directly standardised rate (DSR) of 74 per 100,000 population per year. Assault admissions peaked at 347 in 2006/07 and were lowest in 2007/08 (268). Nearly all of the admissions were for males (85%). People aged 15-29 years (56%) were more likely than any other age group to be admitted to hospital due to an assault. Of all assault admissions, 73% had been admitted for an assault caused by bodily force and 7% for an assault by a sharp object. The local authority area of Copeland had the greatest DSR of 106 per 100,000 population and this was significantly higher than Cumbria PCT (Table 1). Residents of MSOAs E02004001 (DSR=198 per 100,000 population), E02004004 (DSR=171 per 100,000 population) and E02003998 (DSR=153 per 100,000 population) had the highest DSRs.

#### *Public Health Mortality Dataset (ICD10 underlying cause code X85 to Y09)*

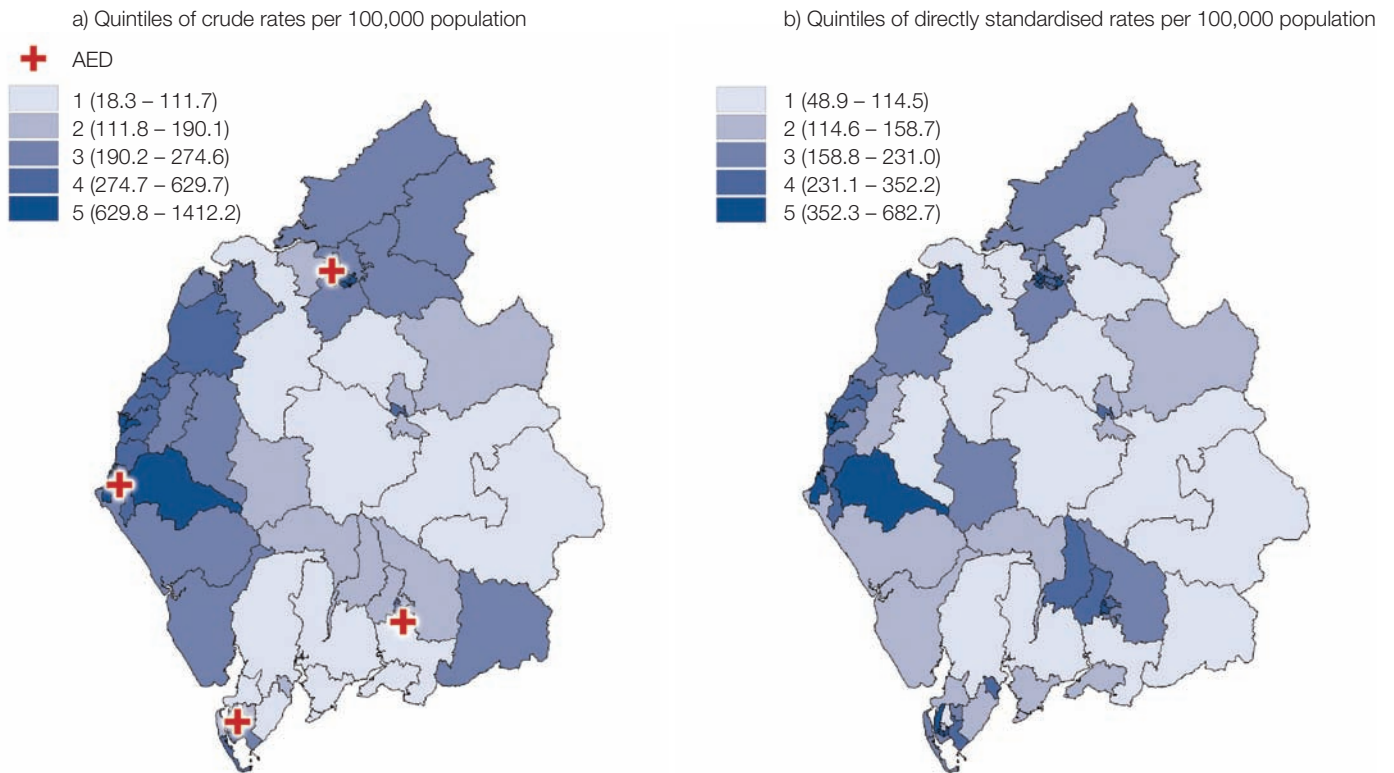
Because there were less than five deaths due to an assault for residents of Cumbria PCT between 2005 and 2007 no analysis of this data has been conducted.

### Self-harm

#### *AED data*

AED data shows that there were 6,615 self-harm attendances to Cumbria AEDs between April 2006 and March 2009. Over half (54%) of self-harm attendances were by females, and amongst these 38% were aged 15-24 years. The main incident location for those attending

**Figure 1: MSOA of residence for attendances to AEDs or admissions to hospital for self-harm, Cumbria PCT residents only: a) AED attendances, 2006/07 to 2008/09 combined; b) Hospital admissions, 2005/06 to 2007/08 combined**



AEDs for self-harm was the home (71%). Unlike most other injuries presenting at AEDs self-harm attendances had predominately been referred by the emergency services (65%) and 48% were later admitted to hospital. Cumbria PCT residents accounted for 5,260 self-harm AED attendances, at a crude rate of 353 per 100,000 population per year. Crude rates were greatest for residents of MSOAs E02004001 (1,412 per 100,000 population), E02003997 (1,129 per 100,000 population) and E02003973 (1,062 per 100,000 population) (Figure 1a).

*Hospital Episode Statistics (ICD10 external cause code X60 to X84 and Y10 to Y34)*

Between April 2005 and March 2008 there were 3,394 hospital admissions for self-harm by residents of Cumbria PCT, at a DSR of 254 per

100,000 population per year. HES data show a 16% decrease in hospital admissions from 1,240 in 2005/2006 to 1,040 in 2007/2008. More females (57%) were admitted to hospital for self-harm than males, with 31% of females aged 15-24 years and 28% of males aged 35-44 years. Intentional self-poisoning by exposure to non-opioid analgesics, anti-pyretics and anti-rheumatics (40%) and by exposure to anti-epileptic, sedative-hypnotic, anti-parkinson and psychotropic drugs not elsewhere classified (34%), were the two most common causes of self-harm. Residents of MSOAs E02004001 (DSR=683 per 100,000 population), E02003973 (DSR=677 per 100,000 population) and E02003997 (DSR=669 per 100,000 population) had the highest DSRs (Figure 1b).



*Public Health Mortality Dataset (ICD10 underlying cause code X60 to X84 and Y10 to Y34)*

Between 2005 and 2007, 176 deaths among residents of Cumbria PCT were caused by self-harm. The majority of these deaths occurred in males (72%). Nearly a third (30%) of males who died were aged 35-44 years.

## **Unintentional injuries**

### **All unintentional injuries**

#### *AED data*

AED data show that there were 230,134 unintentional injury attendances to AEDs between April 2006 and March 2009. Males (57%) and those aged 10-19 (22%) were the groups most likely to attend AEDs with unintentional injuries. The most common cause of injury was "other accident" (83%). Where an injury group was stated 11% were sport injuries and 6% RTIs. The majority of attendances were discharged without requiring any follow-up care (51%). Of all unintentional injury attendances, 151,460 were made by residents of Cumbria PCT, at a crude rate of 10,165 per 100,000 population per year. The crude rates of AED attendances for all unintentional injuries were greatest for residents of MSOAs E02004004 (19,987 per 100,000 population), E02004003 (17,124 per 100,000 population) and E02004001 (16,789 per 100,000 population).

#### *Hospital Episode Statistics (ICD10 external cause code V01 to X59)*

Between April 2005 and March 2008, there were 18,946 hospital admissions for unintentional injuries among residents of Cumbria PCT, at a DSR of 1,133 per 100,000 population per year. A similar number of males and females were

admitted to hospital for unintentional injuries, however, those over 75 years of age (32%) were most likely to be admitted. The majority of admissions were related to a fall (60%). Residents of MSOAs E02004001 (1,781 per 100,000 population), E02003973 (1,775 per 100,000 population) and E02004004 (1,656 per 100,000 population) had the greatest DSR for unintentional injury admissions.

#### *Public Health Mortality Dataset (ICD10 underlying cause code V01 to X59)*

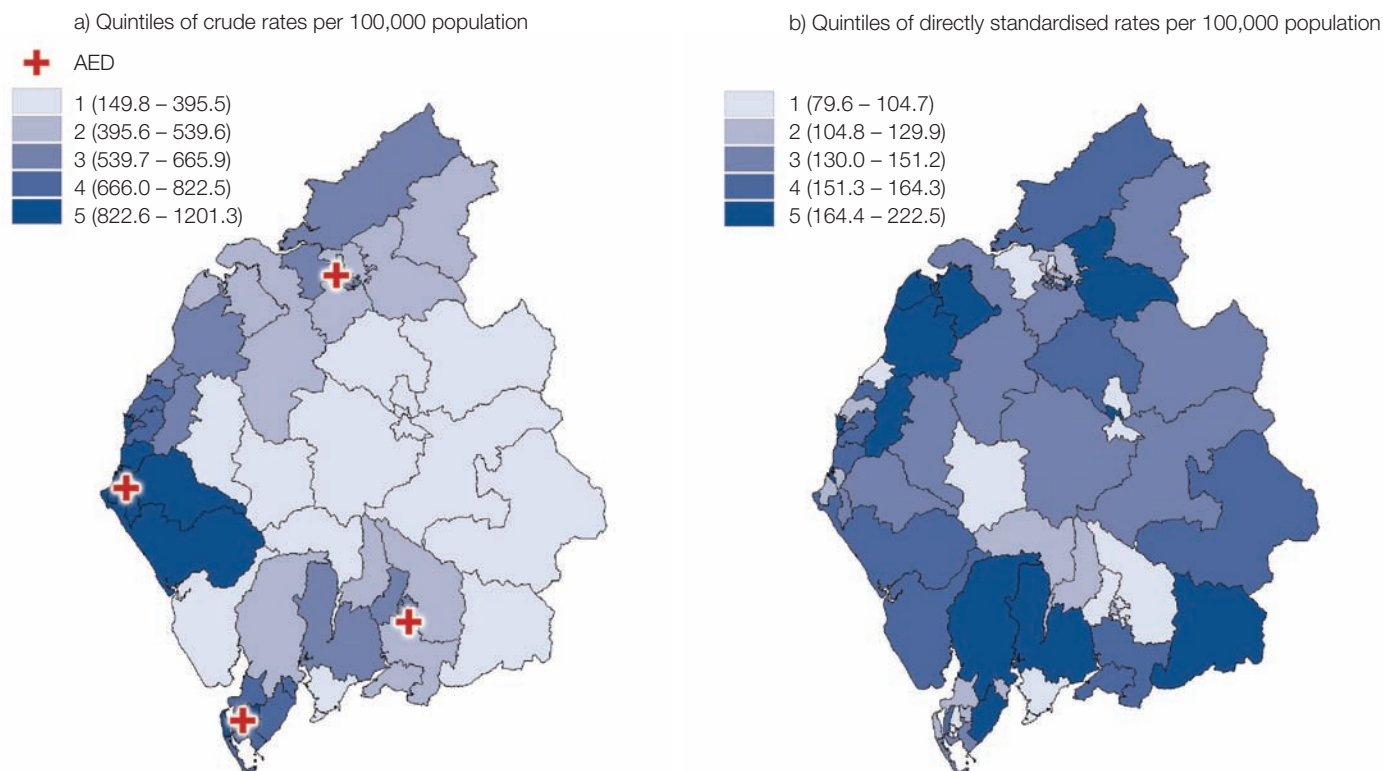
Between 2005 and 2007 there were 403 deaths caused by unintentional injury in residents of Cumbria PCT, at a DSR of 21 per 100,000 population. Unintentional injury deaths have increased year on year from 122 in 2005 to 157 in 2007, a 28% increase. The majority of deaths caused by unintentional injuries occurred in males (57%). A fifth of male deaths were aged 15-24 years and these were mainly caused by a RTI (80%). Over two thirds (67%) of females who died were over 75 years of age compared with 26% of males.

### **Road traffic injuries**

#### *AED data*

Between April 2006 and March 2009 there were 14,822 attendances to Cumbria AEDs for RTIs. The majority of attendances were by males (57%) and almost a third (32%) were aged 15-24 years. Most RTI attendances were discharged without requiring any follow-up care (62%). Residents of Cumbria PCT accounted for 9,048 RTI attendances (crude rate of 607 per 100,000 population per year). Crude AED attendance rates for RTIs were greatest for residents of MSOAs E02004004 (1,201 per 100,000 population), E02003980 (1,134 per 100,000 population) and E02004003 (1,093 per 100,000 population) (Figure 2a).

**Figure 2: MSOA of residence for attendances to AEDs or admissions to hospital for RTIs, Cumbria PCT residents only: a) AED attendances, 2006/07 to 2008/09 combined; b) Hospital admissions, 2005/06 to 2007/08 combined**



*Hospital Episode Statistics (ICD10 external cause code V01 to V89)*

During the period April 2005 to March 2008 there were 1,900 hospital admissions for RTIs for residents of Cumbria PCT (DSR=137 per 100,000 population per year). RTI admissions peaked at 677 in 2005/06 but decreased by 15% to 578 in 2007/08. The majority of admissions were for males (66%). People aged 10-19 years (27%) were more likely than any other age group to be admitted to hospital due to a RTI. Of those admitted, 30% were car occupants and 24% were pedal cyclists. Residents of MSOAs E02004023 (DSR=222 per 100,000 population), E02004001 (DSR=212 per 100,000 population) and E02004021 (DSR=212 per 100,000 population) had the greatest DSR for RTI admissions (Figure 2b).

*Public Health Mortality Dataset (ICD10 underlying cause code V01 to V89)*

There were 125 deaths caused by RTIs in Cumbria PCT residents between 2005 and 2007. RTI deaths have increased year on year from 37 in 2005 to 50 in 2007. The majority of RTI deaths were male (71%). Four in ten (40%) male RTI deaths were aged 15-24.

**Sport injuries**

*AED data*

During the period April 2006 to March 2009 there were 24,990 attendances to Cumbria AEDs for sports injuries. Nearly all attendances were for males (80%). Those aged 10-19 years of age were most likely to attend AEDs (48%) with a sports injury. Over half (53%) of

attendances did not require any follow-up treatment and were discharged. The location of incident for sport injuries was primarily stated as being in a public place (68%). Of all sports injury attendances, 18,070 were residents of Cumbria PCT (crude rate of 1,213 per 100,000 population per year). Crude rates were greatest for residents of MSOAs E02004003 (2,007 per 100,000 population), E02004004 (1,958 per 100,000 population) and E02004002 (1,920 per 100,000 population).

#### *Hospital Episode Statistics (ICD10 external cause code W21 and W51)*

Between April 2005 and March 2008 there were 219 hospital admissions for sports injuries for residents of Cumbria PCT (DSR=18 per 100,000 population per year). Males (87%) and people aged 10-19 years (42%) were most likely to be admitted to hospital due to sport injuries. Because of low numbers, DSRs for MSOAs have not been included for sports injuries. However, the local authority area of Barrow-in-Furness had the greatest DSR of 34 per 100,000 population. This was significantly higher than Cumbria PCT and all other local authorities in Cumbria (Table 1).

#### *Public Health Mortality Dataset (ICD10 underlying cause code W21 and W51)*

There were no deaths due to sports injuries in residents of Cumbria PCT between 2005 and 2007.

### **Falls**

#### *AED data (NCUHNT)*

Electronic information on falls is currently only collected by NCUHNT AEDs, and therefore data does not fully represent the burden of falls on AEDs across Cumbria. Consequently no geographical analysis has been carried out on this data.

Between April 2006 and March 2009 there were 37,406 fall attendances to NCUHNT AEDs. The number of attendances rose by 9% from 11,797 in 2006/07 to 12,833 in 2008/09. The majority of attendances were made by females (56%) and almost a third were aged over 60 (31%). The location of incident was predominately in the home (44%), and this figure increased with age (62% in the over 60s and 72% in the over 75s). The over 75s were more likely than any other age group to have been admitted to hospital following their attendance (40%).

#### *Hospital Episode Statistics (ICD10 external cause code W00 to W19)*

During the period April 2005 to March 2008 there were 11,211 hospital admissions for falls for residents of Cumbria PCT (DSR=565 per 100,000 population). HES data show that the number of admissions has remained relatively consistent year on year. More females (59%) were admitted for a fall than males. People aged over 60 (64%) were more likely than any other age group to be admitted to hospital due to a fall. Residents of MSOAs E02003973 (DSR=829 per 100,000 population), E02004004 (DSR=819 per 100,000 population) and E02003997 (DSR=806 per 100,000 population) had the highest DSR (Figure 3b).

#### *Public Health Mortality Dataset (ICD10 underlying cause code W00 to W19)*

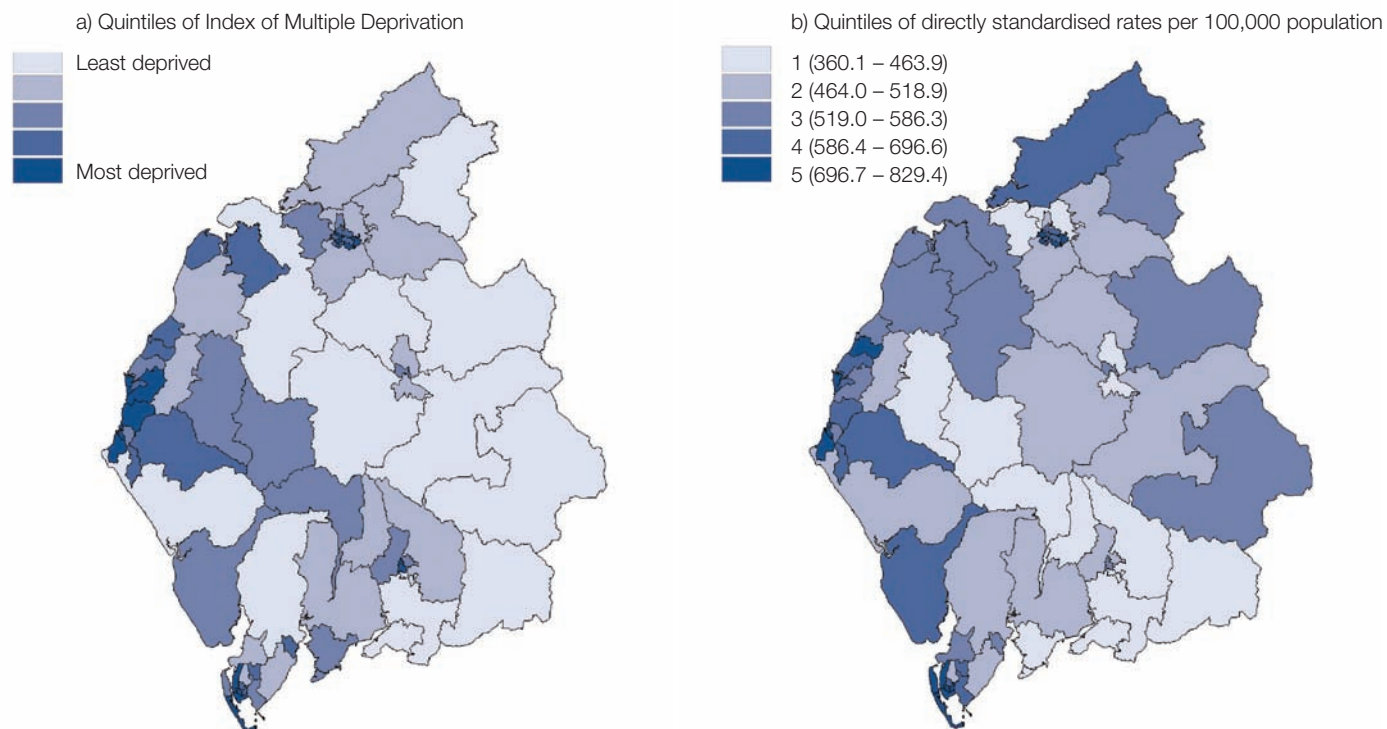
Between 2005 and 2007 there were 122 deaths caused by falls in residents of Cumbria PCT. The number of male and female deaths for falls was relatively equal. Nearly all (85%) of the females who died from a fall were over 75 years of age, compared with 37% of males.

### **Burns/fire-related injuries**

#### *AED data*

AEDs in Cumbria do not collect information on burns/fire-related injuries electronically.

**Figure 3: a) Population weighted MSOA quintiles of Index of Multiple Deprivation for Cumbria PCT only, 2007, b) and MSOA of residence for patients admitted to hospital for a fall, Cumbria PCT residents only, 2005/06 to 2007/08 combined**



*Cumbria Fire and Rescue Service (CFRS) data*

There were 399 fire-related injuries recorded by CFRS during the period April 2006 to March 2009; 5% of these were fatal. Fire-related injuries peaked in 2006/07 at 158, then decreased by 39% to 97 in 2008/09. Of all casualties, 5% were fire-fighters and the remainder were civilians. The majority of the fires causing injuries were accidental (88%). Fire-related casualties were more likely to be males (59%), and a quarter (25%) of all casualties were aged 35-49 years. Over a fifth of fire-related injuries were sustained in a fire caused by a chip/fat pan (21%). The most common ignition method for fires that resulted in injury was a hob/hot plate (21%), or smoking materials (11%). The majority of recorded fire-related injuries just involved the individual receiving a precautionary check-up (56%). The most common injury group was

burns or scolds (15%). Fires were most frequent in MSOAs E02003973 (22); E02003996 (21); and E02003997 (15).

*Hospital Episode Statistics (ICD10 external cause code X00 to X19, diagnosis codes T20 to T32)*

Between April 2005 and March 2008 there were 309 hospital admissions for burns for residents of Cumbria PCT at a DSR of 28 per 100,000 population per year. HES data shows a 25% decrease in hospital admissions from 131 in 2005/2006 to 98 in 2007/2008. More males (60%) were admitted to hospital for burns than females. Children under five (49%) were more likely than any other age group to be admitted to hospital due to burns and nearly all were admitted because of contact with heat or hot surfaces (97%). Because of low numbers, DSRs



for MSOAs have not been included for burns. However, the local authority areas of Allerdale (49 per 100,000 population) and Copeland (47 per 100,000 population) had the greatest DSRs and these were significantly higher than Cumbria PCT and all other local authorities in Cumbria (Table 1).

*Public Health Mortality Dataset (ICD10 underlying cause code X00 to X19, diagnosis code T20 to T32)*

Between 2005 and 2007 there were seven deaths due to burns in residents of Cumbria PCT. Because of the small numbers no further analysis has been conducted.

## Poisonings

*AED data*

AEDs in Cumbria do not collect information on attendances for poisoning electronically.

*Hospital Episode Statistics (ICD10 external cause code X40 to X49)*

Between April 2005 and March 2008 there were 999 hospital admissions for poisonings for residents of Cumbria PCT, at a DSR of 79 per 100,000 population per year. HES data show a 10% increase in hospital admissions for poisonings from 321 in 2005/2006 to 352 in 2007/2008. A similar number of females (486) and males (513) were admitted to hospital for poisoning. People aged under five (17%) and between 15 and 24 years of age (23%) were more likely than any other age group to be admitted due to a poisoning. Of those admitted 74% were due to unintentional poisoning caused by prescription or over the counter drugs and 11% were for unintentional poisoning with narcotics. The local authority area of Copeland had the greatest DSR of 162 per 100,000 population. This was significantly higher than Cumbria PCT and all other local authorities in Cumbria (Table 1). Residents of MSOAs

E02003973 (DSR=350 per 100,000 population), E02004001 (DSR=309 per 100,000 population) and E02004004 (DSR=267 per 100,000 population) had the highest DSRs.

*Public Health Mortality Dataset (ICD10 underlying cause code X40 to X49)*

During the period 2005 and 2007 there were 29 deaths due to poisonings in residents of Cumbria PCT. Because of the small numbers no further analysis has been conducted.

## Injuries in children (unintentional and intentional)

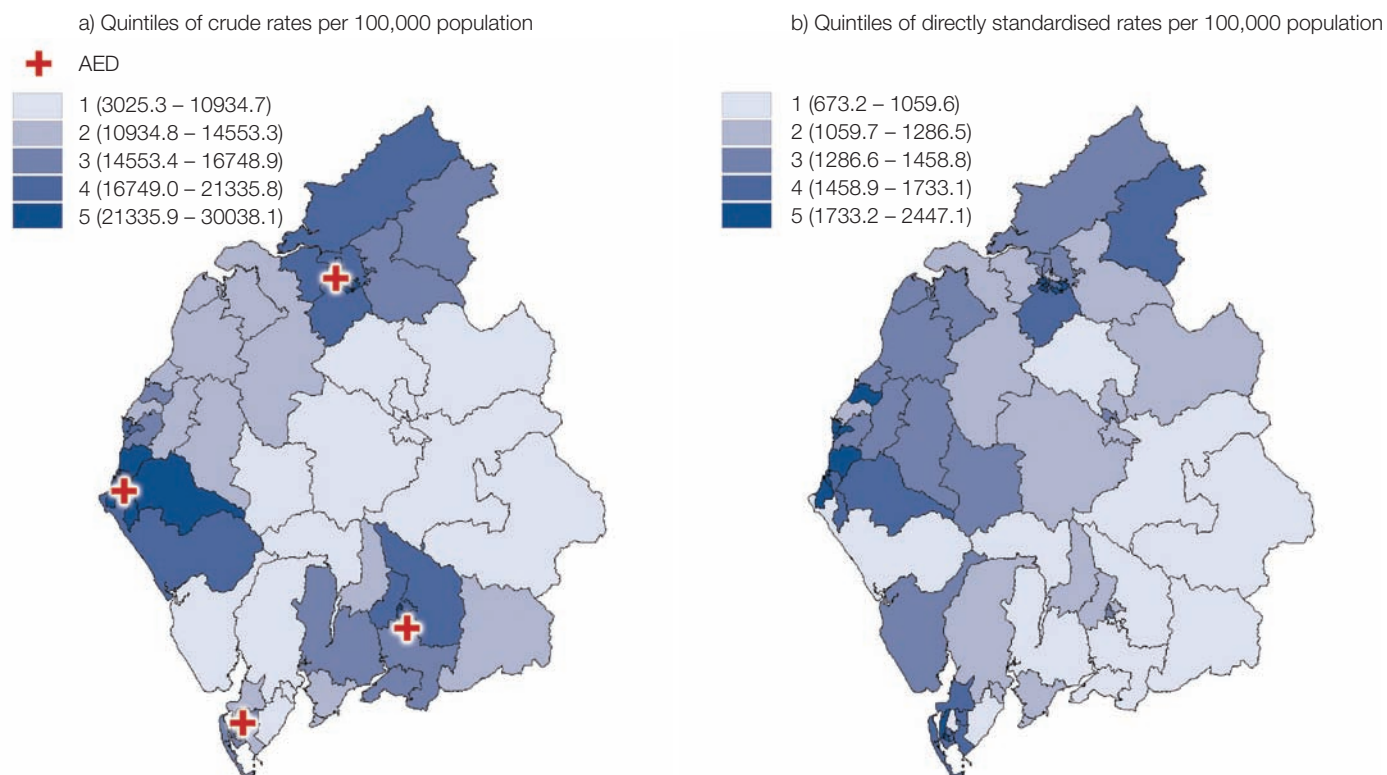
*AED data*

There were 72,991 attendances made by children aged 0-17 years for unintentional and intentional injuries between April 2006 and March 2009. The majority of these attendances were male (59%). The most common cause of injury in children was "other accident" (78%), however, where an injury group was stated, 16% were sport injuries. Most incidents occurred in public places (36%) or the home (31%). Over half (58%) of attendances did not require any follow-up treatment and were discharged. Residents of Cumbria PCT accounted for 49,524 of all child attendances to AEDs for injuries (crude rate of 16,405 per 100,000 population per year). Crude AED attendance rates for child injuries were highest for residents of MSOAs E02004004 (30,038 per 100,000 population), E02003995 (28,563 per 100,000 population) and E02004002 (27,633 per 100,000 population) (Figure 4a).

*Hospital Episode Statistics (ICD 10 external cause code V01 to Y98 excluding X33 to X39 and X52)*

During the period April 2005 to March 2008 there were 4,353 admissions to hospital for injuries in children resident in Cumbria PCT, at a

**Figure 4: MSOA of residence for children 0-17 years attending AEDs or admitted to hospital for unintentional and intentional injuries, Cumbria PCT residents only: a) AED attendances, 2006/07 to 2008/09 combined; b) Hospital admissions, 2005/06 to 2007/08 combined**



crude rate of 1,433 per 100,000 population per year. Over the three year period there has been an 8% decrease in these hospital admissions, from 1,512 in 2005/06 to 1,394 in 2007/08. The majority of hospital admissions were made by males (59%). The most common causes of admittance were falls (35%) and RTIs (13%). Children resident in MSOAs E02004001 (2,447 per 100,000 population), E02003984 (2,185 per 100,000 population) and E02003973 (2,104 per 100,000 population) had the highest crude rates of admittance (Figure 4b).

*Public Health Mortality Dataset (ICD 10 underlying cause code V01 to Y98 excluding X33 to X39 and X52)*

Between 2005 and 2007 there were 15 deaths in children aged 0-17 years resident in Cumbria

PCT due to unintentional and intentional injuries. Because of the small numbers no further analysis has been conducted.

### Deprivation

MSOA areas of Cumbria PCT were assigned to a quintile of the Index of Multiple Deprivation 2007<sup>2</sup> (11) (see Figure 3a). HES data show that, for assaults, self-harm, burns, falls, poisonings, child injuries and all unintentional injuries, the burden of injury is significantly greater in the most deprived quintiles when compared to all other quintiles. Across each dataset, analyses identified the MSOAs of E02004004, E02004001, E02009373 and E02003997 as at risk areas. These MSOAs are among the most deprived in Cumbria PCT.

<sup>2</sup> This was calculated using Lower Super Output Area population weighted average scores. Quintile one represents the least deprived MSOAs and quintile five the most deprived.

The geodemographic ecological classification People and Places 2 (P2) (13) was also used to identify what types of communities are at risk of unintentional and intentional injury. Analyses showed that in general, across the majority of injury types, Disadvantaged Households and Urban Challenge areas had the highest crude rates of hospital admission for unintentional and intentional injuries. However, confidence intervals were extremely wide due to the lack of Lower Super Output Areas (LSOAs) in these two classifications (Table 2).

### **Availability, accessibility and quality of data**

TIIG identified six data sources<sup>3</sup> to be used for this report. Five of these were accessible within the time frame of the report, and access to one (North West Ambulance Service [NWAS]) is still under discussion. TIIG was able to gain access to Minor Injury Unit (MIU) data. However after close examination of the data it was decided that the type of information recorded was not conducive to reporting on intentional and unintentional injuries at this time. This was because injury type and cause is recorded within one field and therefore it is not currently possible to get an accurate figure for causation. Penrith MIU receives around 20,000 patients per year; therefore it could potentially be a source of valuable information on injuries. Further work needs to be carried out to explore the potential of changing the way injury type and cause is collected (e.g. two separate fields). For the purposes of this report it was decided that the use of general medical practitioner (GMP) would not be pursued. This was because identification of the cause of a patient's injuries is often difficult and inaccurate.

AED data sources accessed for this report varied significantly in the range of injury types

classified, with more complete and detailed information being available for RTIs, self-harm and assaults than any other injury classifications. Falls is one of the most prominent injury causes, yet analysis is limited by the fact that only NCUHNT AEDs collect falls data electronically. This prevents a full Cumbria analysis on AED fall attendances and therefore leaves a gap in knowledge on the burden of falls. AED data also poses a problem for area of residence analysis because attendance is influenced by the locality/proximity of the AED department to a patient. Without consistent data coverage across all AEDs in England there will remain an element of bias in area of residence analysis.

Information on the location of incidents across all datasets, excluding CFRS, is very limited. AED data does provide some information, although the location categories are extremely broad (e.g. public place). An improvement in this area of data collection, across all datasets, would provide an important opportunity to establish the most effective locations for injury prevention programmes. If the specific location of incidents within the home were known (e.g. home-stairs) this information would be valuable to services such as Sure Start for providing home safety equipment.

### **Summary**

This report has shown the burden of unintentional and intentional injuries in Cumbria. For example, mortality data show that unintentional injury deaths have been increasing on a yearly basis, while almost half (47%) of all attendances to Cumbria's AEDs are caused by injury. Analysis has allowed the identification of the principal injury types and the groups and areas they affect. Falls have been identified as the leading injury type, accounting for 60% of all unintentional injury hospital admissions and

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<sup>3</sup> AED, HES, Public Health Mortality Dataset, CFRS, MIU and NWAS

affecting mainly those over the age of 60. Self-harm and RTIs were also recognised as leading injury groups, especially in young people aged 10-24 years. The burden of these injuries is greatest for residents of some of the most deprived areas of Cumbria, specifically the areas of E02004004, E02004001, E02003973 and E02003997. Therefore targeting prevention strategies for falls in older people, and self-harm and RTIs in younger people, in the most deprived areas will reach those most at risk. Consequently this should help reduce inequalities in injury burden in Cumbria.

Gaps and potential improvements in data collection methods across Cumbria have also been identified in this report. In particular, AED datasets require improvement to the range of injury groups collected and specificity of incident location. There is also a need to work with colleagues at MIU and the PCT to assess any possible improvements in the way MIU data is coded and collected. Key findings and next steps for helping to prevent unintentional and intentional injuries in Cumbria are provided (Box 2). This report provides an introduction to, and summary of, the burden of injuries in Cumbria. Future factsheets will provide more comprehensive information on the major injury groups identified here.

## Box 2: Summary and next steps

- This report has identified the burden of unintentional and intentional injuries in Cumbria PCT and highlighted falls, RTIs and self-harm as priority areas for prevention.
- Bringing data from all Cumbria AEDs together with HES, CFRS and mortality has enabled the identification of at risk groups and communities across injury types. Promoting the consistent sharing and use of AED and other injury data sources among partner agencies will facilitate the targeting of appropriate interventions where they are needed most.
- TIIG, Cumbria PCT and AEDs in Cumbria should work together to expand AED datasets to collect more detailed information on intentional and unintentional injuries to inform prevention. This includes improvements to the consistency and range of injury types recorded across Cumbria AEDs, and the collection of detailed incident location data (e.g. home-stairs).
- There are a number of other available data sources currently available that could help inform injury prevention further, including MIU and GMP datasets. A needs assessment and audit exercise would be beneficial in assessing the potential utility of accessing and developing such sources for inclusion in the TIIG injury surveillance system.



**Table 1: Crude and directly standardised rates per 100,000 population for hospital admissions, for residents of Cumbria PCT, by injury type and local authority of residence, 2005/06 to 2007/08 combined**

Injury type	Rate per, 100,000 population (CI) and frequency (N)						Cumbria PCT
	Local authority of residence						
	Allerdale	Barrow-in-Furness	Carlisle	Copeland	Eden	South Lakeland	
<b>Assaults</b>							
<b>DSR</b>	68.3 (57.4 - 79.1)	83.1 (70.2 - 95.9)	89.2 (78.1 - 100.4)	105.5 (90.6 - 120.4)	38.4 (26.8 - 50.0)	49.0 (39.6 - 58.4)	74.1 (69.3 - 79.0)
<b>N</b>	157	165	248	197	44	114	925
<b>Self-harm</b>							
<b>DSR</b>	269.6 (248.6 - 290.6)	283.3 (259.9 - 306.7)	276.5 (257.4 - 295.6)	330.3 (304.6 - 356.0)	131.2 (111.1 - 151.3)	199.5 (181.5 - 217.6)	253.6 (244.9 - 262.3)
<b>N</b>	661	573	818	650	179	513	3394
<b>Falls</b>							
<b>DSR</b>	590.5 (563.4 - 617.6)	613.3 (581.5 - 645.1)	589.5 (563.7 - 615.3)	646.4 (613.3 - 679.4)	422.4 (390.6 - 454.2)	499.8 (476.0 - 523.6)	564.9 (553.3 - 576.5)
<b>N</b>	2244	1643	2381	1684	875	2384	11211
<b>RTI</b>							
<b>DSR</b>	148.7 (133.3 - 164.1)	116.5 (101.5 - 131.6)	136.5 (122.7 - 150.2)	151.6 (134.2 - 169.1)	134.9 (114.6 - 155.2)	134.5 (120.1 - 148.9)	136.9 (130.5 - 143.2)
<b>N</b>	386	242	394	303	185	390	1900
<b>Burns</b>							
<b>DSR</b>	49.0 (39.1 - 59.0)	15.9 (9.7 - 22.0)	24.9 (18.6 - 31.2)	46.7 (35.6 - 57.8)	25.0 (15.8 - 34.2)	5.7 (2.7 - 8.7)	27.6 (24.4 - 30.8)
<b>N</b>	98	25	47	87	14	38	309
<b>Sports injuries</b>							
<b>DSR</b>	13.6 (8.7 - 18.5)	34.0 (25.6 - 42.4)	16.5 (11.6 - 21.4)	14.4 (8.8 - 19.9)	9.8 (4.4 - 15.2)	15.5 (10.5 - 20.4)	17.5 (15.2 - 19.9)
<b>N</b>	31	65	44	26	13	40	219
<b>Poisonings</b>							
<b>DSR</b>	119.3 (104.8 - 133.7)	53.6 (42.4 - 64.9)	62.0 (52.4 - 71.5)	162 (143.4 - 180.6)	31.2 (21.1 - 41.2)	39.7 (31.4 - 47.9)	78.5 (73.5 - 83.6)
<b>N</b>	280	93	173	303	43	107	999
<b>Unintentional injuries</b>							
<b>DSR</b>	1228.6 (1186.5 - 1270.7)	1109.8 (1065.0 - 1154.6)	1207.4 (1168.4 - 1246.4)	1345.3 (1294.7 - 1395.9)	935.5 (885.1 - 986.0)	935.4 (900.1 - 970.7)	1133.4 (1115.8 - 1150.9)
<b>N</b>	3865	2635	4178	3014	1618	3636	18946
<b>Injuries in children</b>							
<b>Crude rate</b>	1504.4 (1406.2 - 1607.7)	1634.7 (1521.5 - 1754.1)	1615.2 (1517.2 - 1717.8)	1614.8 (1498.2 - 1738.0)	1041.5 (930.4 - 1162.3)	1088.0 (1006.8 - 1173.9)	1433.1 (1390.8 - 1476.3)
<b>N</b>	872	773	1013	711	319	665	4353

DSR=directly standardised rate  
CI=+95% confidence intervals

**Table 2: The crude rate per 100,000 population for hospital admissions for residents of Cumbria PCT only, by injury type and People and Places geodemographic classifications, 2005/06 to 2007/08 combined**

People and Places geodemographic classifications: Tree Classification (Number of LSOAs)	Injury type: crude rate/100,000 population (-+ 95% confidence intervals [CI])								
	Assaults	Self-harm	RTI	Burns	Poisonings	Sport injuries	Falls	Injuries in children	Unintentional injuries
<b>Mature Oaks (20)</b>	24.0 (15.0 - 36.4)	76.4 (59.6 - 96.6)	108.1 (87.8 - 131.6)	12.0 (6.0 - 21.5)	28.4 (18.5 - 41.6)	10.9 (5.2 - 20.1)	702 (648.8 - 758.4)	208.5 (180.0 - 240.3)	1105.9 (1038.9 - 1176.2)
<b>Blossoming Families (2)</b>	0	87.5 (37.7 - 172.4)	76.6 (30.7 - 157.8)	32.8 (6.6 - 95.9)	43.7 (11.8 - 112.0)	10.9 (0.1 - 60.9)	525 (387.1 - 696.1)	229.7 (142.1 - 351.1)	962.5 (771.9 - 1185.8)
<b>Country Orchards (70)</b>	25.4 (20.4 - 31.4)	96.5 (86.4 - 107.5)	149.1 (136.5 - 162.7)	14.6 (10.9 - 19.3)	29.5 (24.1 - 35.9)	10.8 (7.6 - 14.9)	559.4 (534.6 - 585.0)	228.1 (212.4 - 244.7)	1047.2 (1013.1 - 1082.0)
<b>Rooted Households (44)</b>	35.9 (28.3 - 45.0)	119.6 (105.4 - 135.3)	100.3 (87.2 - 114.7)	17.5 (12.3 - 24.1)	43.5 (35.1 - 53.4)	13.7 (9.2 - 19.7)	645.5 (611.7 - 680.7)	227.9 (208.0 - 249.2)	1042.3 (999.2 - 1086.7)
<b>Senior Neighbourhoods (24)</b>	38.9 (28.3 - 52.2)	168.8 (145.7 - 194.5)	110.5 (92.0 - 131.6)	11.5 (6.1 - 19.7)	47.7 (35.9 - 62.3)	15.9 (9.4 - 25.1)	1028.0 (969.8 - 1088.8)	185.6 (161.4 - 212.5)	1471.7 (1401.9 - 1544.2)
<b>Qualified Metropolitans (0)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Suburban Stability (54)</b>	60.6 (51.3 - 71.1)	223.2 (205.1 - 242.6)	117.6 (104.6 - 131.9)	18.9 (13.9 - 25.1)	68.3 (58.4 - 79.3)	14.9 (10.5 - 20.5)	760.1 (726.2 - 795.1)	299.1 (278.0 - 321.4)	1235.9 (1192.6 - 1280.3)
<b>New Starters (2)</b>	231.8 (137.3 - 366.4)	476.6 (335.5 - 656.9)	128.8 (61.7 - 236.9)	38.6 (7.8 - 112.9)	115.9 (52.9 - 220.1)	0	837.2 (646.1 - 1067.1)	128.8 (61.7 - 236.9)	1391 (1141.1 - 1679.5)
<b>Urban Producers (64)</b>	106.1 (94.5 - 118.7)	348.8 (327.4 - 371.1)	138.7 (125.3 - 153.0)	31.2 (25.0 - 38.4)	93.5 (82.6 - 105.4)	21.4 (16.3 - 27.4)	808.5 (775.9 - 842.2)	421.2 (397.8 - 445.7)	1438.8 (1395.1 - 1483.5)
<b>Weathered Communities (31)</b>	104 (87.4 - 122.9)	480.2 (443.6 - 518.9)	137.9 (118.7 - 159.4)	29.4 (20.9 - 40.2)	156 (135.5 - 178.8)	8.3 (4.1 - 14.8)	1035.7 (981.6 - 1091.9)	366.3 (334.5 - 400.4)	1757.1 (1686.4 - 1829.9)
<b>Multicultural Centres (0)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Disadvantaged Households (5)</b>	217.2 (158.4 - 290.6)	642.0 (537.5 - 760.8)	164.1 (113.6 - 229.3)	29.0 (10.6 - 63.0)	144.8 (97.7 - 206.7)	24.1 (7.8 - 56.3)	767.4 (652.8 - 896.4)	540.6 (445.1 - 650.5)	1501.1 (1338.9 - 1677.6)
<b>Urban Challenge (6)</b>	159.9 (114.8 - 217.0)	713.8 (614.1 - 825.1)	120.9 (82.1 - 171.6)	42.9 (21.4 - 76.8)	152.1 (108.2 - 208.0)	39.0 (18.7 - 71.7)	1088.3 (964.3 - 1223.8)	440.8 (363.2 - 529.9)	1786.5 (1626.6 - 1957.8)
<b>Cumbria PCT (322)</b>	62.1 (58.2 - 66.3)	228.0 (220.4 - 235.8)	127.6 (122 - 133.5)	20.8 (18.5 - 23.2)	67.1 (63.0 - 71.4)	14.7 (12.8 - 16.8)	753.1 (739.2 - 767.1)	292.4 (283.8 - 301.2)	1272.6 (1254.6 - 1290.9)

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