

# The Trauma Prevention Foundation

## Objectives, Overview and Strategy.

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The Trauma Prevention Foundation

# **BACKGROUND**

# Trauma – What is the problem?

- The commonest cause of death in the UK from the ages of 1 to 40.
- For every death, there are 2 people who incur a permanent disability.

Age	External	Cancer	Circulatory	Respiratory	Other
	1st	2nd	3rd	4th	5th
1-4	Perinatal & congenital	Influenza and pneumonia	Brain cancer	Meningitis and meningococcal infection	Vaccine preventable disease
5-19	Suicide	Transport accidents	Homicide	Leukaemia and lymphomas	Brain cancer
20-34	Suicide	Accidental poisoning	Transport accidents	Homicide	Cirrhosis and other liver disease
35-49	Suicide	Heart disease	Accidental poisoning	Cirrhosis and other liver disease	Stroke
50-64	Heart disease	Lung cancer	Cirrhosis and other liver disease	Colorectal cancer	Chronic lower respiratory diseases
65-79	Heart disease	Lung cancer	Chronic lower respiratory diseases	Stroke	Prostate cancer
80+	Dementia and Alzheimer's disease	Heart disease	Influenza and pneumonia	Stroke	Chronic lower respiratory diseases

Public Health England.

<https://www.gov.uk/government/publications/health-profile-for-england>.

Age	External	Cancer	Circulatory	Respiratory	Other
	1st	2nd	3rd	4th	5th
1-4	Perinatal & congenital	Homicide	Influenza and pneumonia	Septicaemia	Other acute respiratory diseases
5-19	Suicide	Transport accidents	Perinatal & congenital	Leukaemia and lymphomas	Brain cancer
20-34	Suicide	Accidental poisoning	Transport accidents	Breast cancer	Cirrhosis and other liver disease
35-49	Breast cancer	Cirrhosis and other liver disease	Accidental poisoning	Suicide	Heart disease
50-64	Lung cancer	Breast cancer	Heart disease	Chronic lower respiratory diseases	Cirrhosis and other liver disease
65-79	Lung cancer	Chronic lower respiratory diseases	Heart disease	Dementia and Alzheimer's disease	Stroke
80+	Dementia and Alzheimer's disease	Heart disease	Stroke	Influenza and pneumonia	Chronic lower respiratory diseases

Public Health England.

<https://www.gov.uk/government/publications/health-profile-for-england>.

# The changing face of major trauma in the UK

A Kehoe,<sup>1,2</sup> J E Smith,<sup>1,2,3</sup> A Edwards,<sup>4</sup> D Yates,<sup>4</sup> F Lecky<sup>4,5</sup>

Year	Total	Age n (%)				Mean (SD)	Male n (%)	CT scan n (%)
		0–24	25–49	50–75	≥75			
1990	619	243 (39.3%)	208 (33.6%)	118 (19.1%)	50 (8.1%)	36.1 (22.2)	450 (72.7%)	208 (33.6%)
1991	1306	488 (37.4%)	450 (34.5%)	245 (18.8%)	123 (9.4%)	36.9 (23.1)	964 (73.8%)	458 (35.1%)
1992	1488	518 (34.8%)	513 (34.5%)	330 (22.2%)	127 (8.5%)	38.1 (22.6)	1080 (72.6%)	484 (32.5%)
1993	1494	491 (32.9%)	516 (34.5%)	328 (22%)	159 (10.6%)	39.9 (23.3)	1066 (71.4%)	438 (29.3%)
1994	2939	1071 (36.4%)	954 (32.5%)	631 (21.5%)	283 (9.6%)	38.3 (23.4)	2183 (74.3%)	851 (29%)
1995	3650	1259 (34.5%)	1335 (36.6%)	760 (20.8%)	296 (8.1%)	37.6 (22.4)	2688 (73.6%)	1180 (32.3%)
1996	3468	1373 (39.6%)	1138 (32.8%)	673 (19.4%)	284 (8.2%)	36.1 (22.7)	2592 (74.7%)	1144 (33%)
1997	2949	972 (33%)	1099 (37.3%)	624 (21.2%)	254 (8.6%)	38.3 (22.4)	2178 (73.9%)	1083 (36.7%)
1998	2753	900 (32.7%)	1059 (38.5%)	537 (19.5%)	257 (9.3%)	38.2 (22.5)	1998 (72.6%)	1127 (40.9%)
1999	3040	1004 (33%)	1111 (36.5%)	638 (21%)	287 (9.4%)	38.5 (23)	2220 (73%)	1455 (47.9%)
2000	3215	1009 (31.4%)	1220 (37.9%)	732 (22.8%)	254 (7.9%)	39 (22.1)	2406 (74.8%)	1709 (53.2%)
2001	3055	1047 (34.3%)	1138 (37.3%)	611 (20%)	259 (8.5%)	38.2 (22.1)	2306 (75.5%)	1717 (56.2%)
2002	3221	1047 (32.5%)	1205 (37.4%)	687 (21.3%)	282 (8.8%)	39 (22.2)	2389 (74.2%)	1844 (57.2%)
2003	3565	1164 (32.7%)	1354 (38%)	771 (21.6%)	276 (7.7%)	38.8 (21.6)	2640 (74.1%)	2031 (57%)
2004	3358	1077 (32.1%)	1265 (37.7%)	718 (21.4%)	298 (8.9%)	39.5 (22)	2489 (74.1%)	1973 (58.8%)
2005	3233	999 (30.9%)	1160 (35.9%)	765 (23.7%)	309 (9.6%)	40.6 (22.4)	2393 (74%)	1989 (61.5%)
2006	2976	912 (30.6%)	1142 (38.4%)	663 (22.3%)	259 (8.7%)	40.2 (21.7)	2249 (75.6%)	1970 (66.2%)
2007	4117	1143 (27.8%)	1573 (38.2%)	965 (23.4%)	436 (10.6%)	42 (22.3)	3061 (74.4%)	3024 (73.5%)
2008	4691	1288 (27.5%)	1652 (35.2%)	1161 (24.7%)	590 (12.6%)	43.4 (22.9)	3443 (73.4%)	3606 (76.9%)
2009	6701	1651 (24.6%)	2327 (34.7%)	1761 (26.3%)	962 (14.4%)	45.6 (23.1)	4922 (73.5%)	5415 (80.8%)
2010	9583	2162 (22.6%)	3065 (32%)	2651 (27.7%)	1705 (17.8%)	47.7 (24.4)	6773 (70.7%)	7975 (83.2%)
2011	12 719	2720 (21.4%)	4073 (32%)	3373 (26.5%)	2553 (20.1%)	48.9 (24.6)	8959 (70.4%)	10 790 (84.8%)
2012	15 089	2834 (18.8%)	4319 (28.6%)	4282 (28.4%)	3654 (24.2%)	51.8 (25)	10 347 (68.6%)	13 044 (86.4%)
2013	17 238	2933 (17%)	4665 (27.1%)	4999 (29%)	4641 (26.9%)	53.8 (25.2)	11 778 (68.3%)	14 963 (86.8%)

# The changing face of major trauma in the UK

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Injury mechanism n (%)						
Year	Total	Road traffic collision	Fall <2 m	Fall >2 m	Shooting/ stabbing	Other
1990	619	366 (59.1%)	29 (4.7%)	115 (18.6%)	1 (0.2%)	108 (17.4%)
1991	1306	775 (59.3%)	118 (9%)	211 (16.2%)	1 (0.1%)	201 (15.4%)
1992	1488	900 (60.5%)	114 (7.7%)	229 (15.4%)	–	245 (16.5%)
1993	1494	889 (59.5%)	150 (10%)	223 (14.9%)	3 (0.2%)	229 (15.3%)
1994	2939	1691 (57.5%)	323 (11%)	405 (13.8%)	6 (0.2%)	514 (17.5%)
1995	3650	2080 (57%)	385 (10.5%)	523 (14.3%)	20 (0.5%)	642 (17.6%)
1996	3468	2012 (58%)	379 (10.9%)	514 (14.8%)	46 (1.3%)	517 (14.9%)
1997	2949	1615 (54.8%)	339 (11.5%)	443 (15%)	58 (2%)	494 (16.8%)
1998	2753	1507 (54.7%)	306 (11.1%)	432 (15.7%)	75 (2.7%)	433 (15.7%)
1999	3040	1630 (53.6%)	373 (12.3%)	477 (15.7%)	94 (3.1%)	466 (15.3%)
2000	3215	1666 (51.8%)	387 (12%)	537 (16.7%)	100 (3.1%)	525 (16.3%)
2001	3055	1609 (52.7%)	330 (10.8%)	507 (16.6%)	132 (4.3%)	477 (15.6%)
2002	3221	1738 (54%)	370 (11.5%)	513 (15.9%)	114 (3.5%)	486 (15.1%)
2003	3565	1877 (52.7%)	435 (12.2%)	566 (15.9%)	133 (3.7%)	554 (15.5%)
2004	3358	1710 (50.9%)	435 (13%)	558 (16.6%)	122 (3.6%)	533 (15.9%)
2005	3233	1535 (47.5%)	487 (15.1%)	611 (18.9%)	117 (3.6%)	483 (14.9%)
2006	2976	1440 (48.4%)	461 (15.5%)	538 (18.1%)	102 (3.4%)	435 (14.6%)
2007	4117	1852 (45%)	751 (18.2%)	772 (18.8%)	105 (2.6%)	637 (15.5%)
2008	4691	1937 (41.3%)	1002 (21.4%)	942 (20.1%)	138 (2.9%)	672 (14.3%)
2009	6701	2580 (38.5%)	1646 (24.6%)	1321 (19.7%)	203 (3%)	951 (14.2%)
2010	9583	3144 (32.8%)	2811 (29.3%)	2007 (20.9%)	248 (2.6%)	1373 (14.3%)
2011	12 719	4115 (32.4%)	4194 (33%)	2299 (18.1%)	323 (2.5%)	1788 (14.1%)
2012	15 089	4747 (31.5%)	5458 (36.2%)	2715 (18%)	342 (2.3%)	1827 (12.1%)
2013	17 238	5093 (29.5%)	6737 (39.1%)	3106 (18%)	328 (1.9%)	1974 (11.5%)

# Gun and Knife Trauma at A Major Trauma Centre: Recidivism and Creation of a Trauma Map

Authors: R Weatherburn, R McDonald, J Malone, J Smith, R Lawrence-Owen, RG Ward, N Misra

Unit: Emergency General Surgical Unit, University Hospital Aintree Consultant: Mr. N Misra Session: HST

## Introduction:

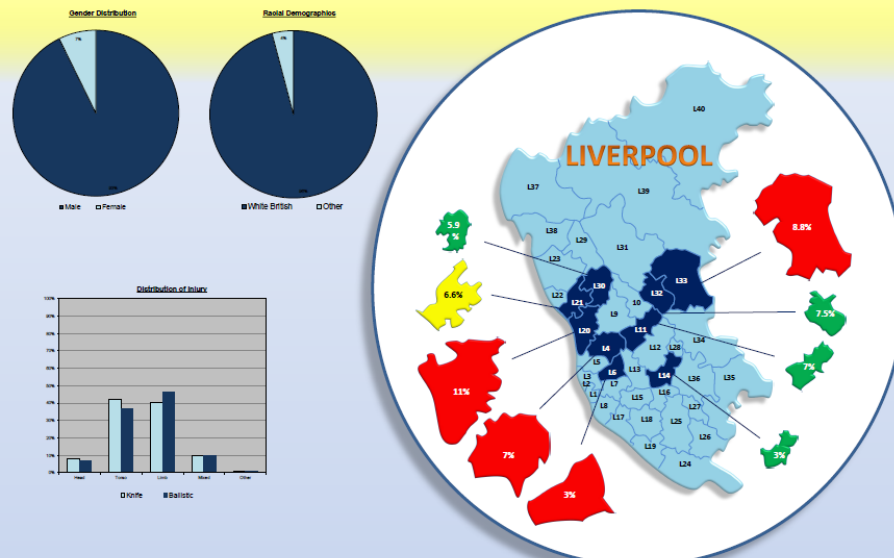
University Hospital Aintree is the appointed trauma centre for Mersey and North Cheshire. The sphere of influence embraces areas of Liverpool with high crime and deprivation rates. American studies have identified a correlation between recidivist rate, defined as repeated presentations to hospital with traumatic injuries, and local crime rates, providing a large burden on the provision of care<sup>1</sup>. These studies found that after the implementation of community based programs the recivist rate decreased<sup>2</sup> by more than 50%<sup>3</sup>. Currently no UK Trusts have released data on recidivist rates. This study focussed on the presentation of ballistic and knife injuries to UHA over a 5 year interval to determine the recidivist rate and whether the implementation of intervention programs would be of benefit.

## Method:

Retrospective observational study of patients who presented to UHA between 2009-2013. Clinical and demographic data was collected including registered postcodes of residence. The results were analysed to create a geographical representation of the incidence of trauma, and compared to council data on geographical incidence of social deprivation and crime.

## Results:

454 patient were identified, of these 362 sustained knife trauma and 93 sustained ballistic trauma. The average age was 28.6 and a 12½:1 male:female ratio was identified. The overall mortality rate was 0.4% and recidivist rate was 0.7%.

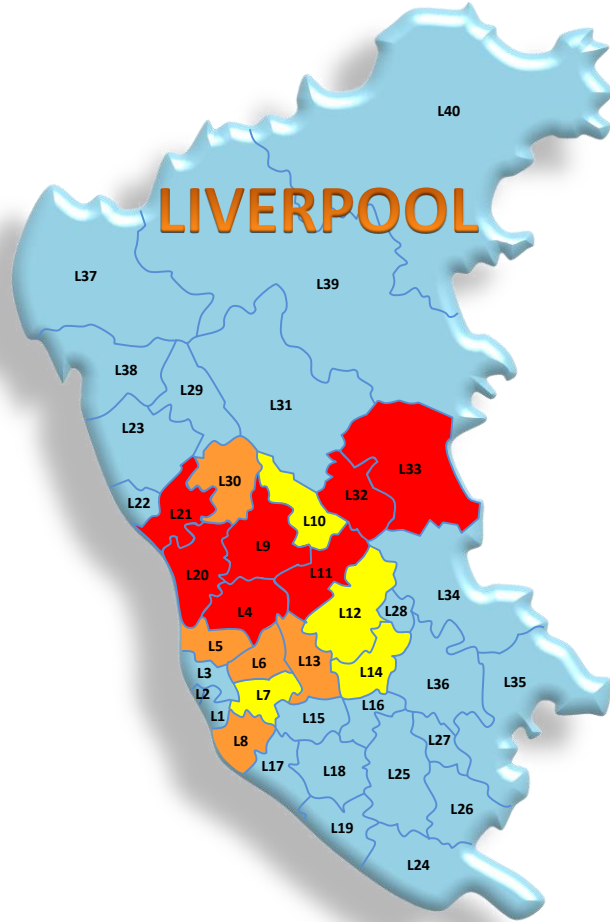


## Conclusion:

Mortality and recidivism rates are lower than American reports. Postcode specific trauma presentations correlate with areas of high crime. As in American studies<sup>4</sup> common demographic characteristics have been identified. These results support the development and implementation of community based programs to reduce trauma and crime rates.

1. J Trauma Acute Care Surg. 2013 Jul;75(1):116-21. A novel prospective approach to evaluate trauma recidivism: the concept of the past trauma history. McCoy AM, Como JJ, Greene G, Laskey SL, Claridge JA.  
 2. J Emerg Nurs. 2005 Aug;27(4):340-6. Characteristics of the trauma recidivist: an exploratory descriptive study. Keough V, Lanza D, Jenzrich J, Gulenick M, Holm K.  
 3. Am J Surg. 2010 Aug;200(2):223-6. Putting the torch: evaluating opportunity of a violence intervention program. Smith R, Evans A, Adams C, Cocconour C, Dickler R.  
 4. ED Manag. 2011 May;25(5):49-54. Take advantage of opportunities to reduce ED violence, recidivism among children and young adults.



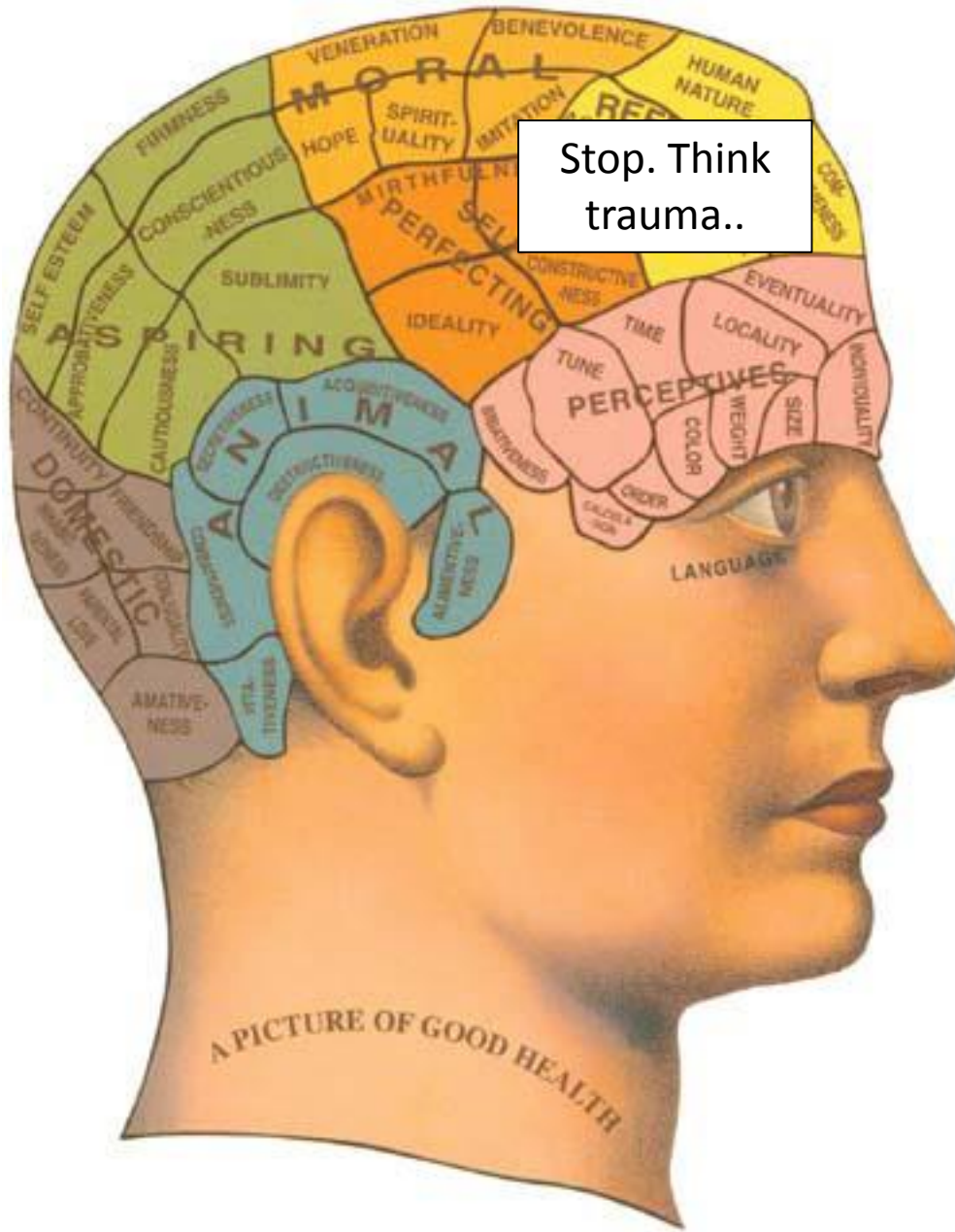




Without data, you're just another person with an opinion....

W. Edwards Demming



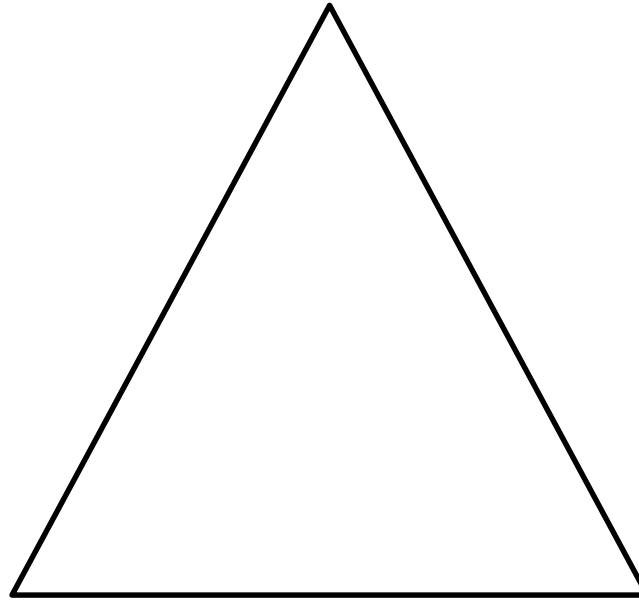


Stop. Think trauma..

A PICTURE OF GOOD HEALTH



Clinical



Data and Analysis

Local Authorities



# Liverpool Trauma Prevention Foundation

Overview, Objectives and Strategy

February 2018

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# Objectives

- Trauma Observatory
- Prevention via Education



# Overview

- Reduce incidence and mortality from major trauma in Merseyside.
  - Identify and analyse patterns and trends of major trauma.
  - Identify at risk groups for various traumatic injuries and inform novel and existing trauma prevention intervention.
  - Dashboards providing 'real-time' trauma data.
  - Identify emergence of new patterns of injury, and monitoring existing known patterns of trauma.
  - Findings distributed to the relevant agencies to inform trauma prevention initiatives.
  - Focus on knife related trauma, falls and RTCs initially.



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Jennifer Germain, Trauma and  
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Mark Whitfield,  
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Surveillance Lead, LJMU



Mike McFall, recently retired  
Inspector within Road Policing,  
Merseyside Police



**Prof. Denise Barrett-Baxendale**  
Deputy CEO Everton FC / Everton in the Community



**Chief Constable Andy Cooke**  
Chief Constable, Merseyside Police



Figure 2: Organisational and Governance Structure of The Foundation

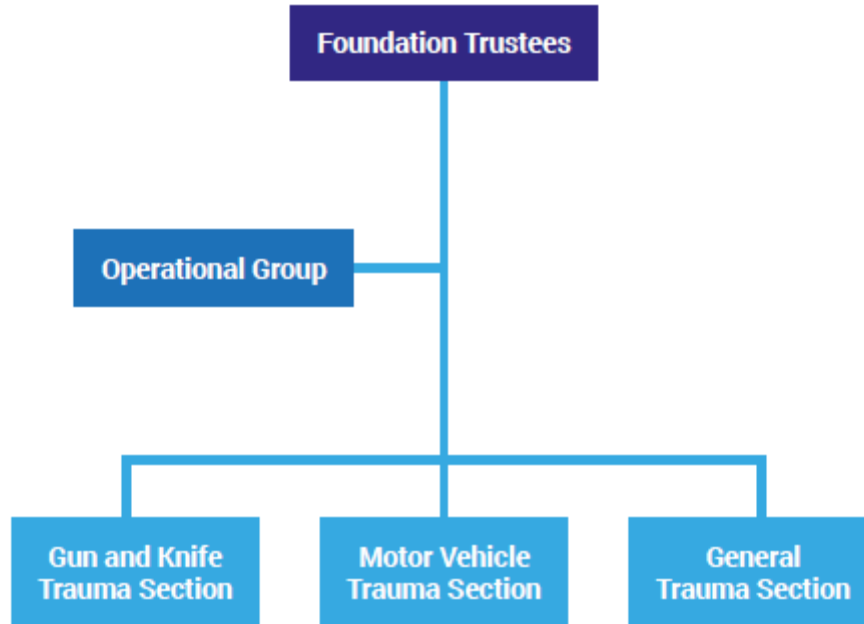
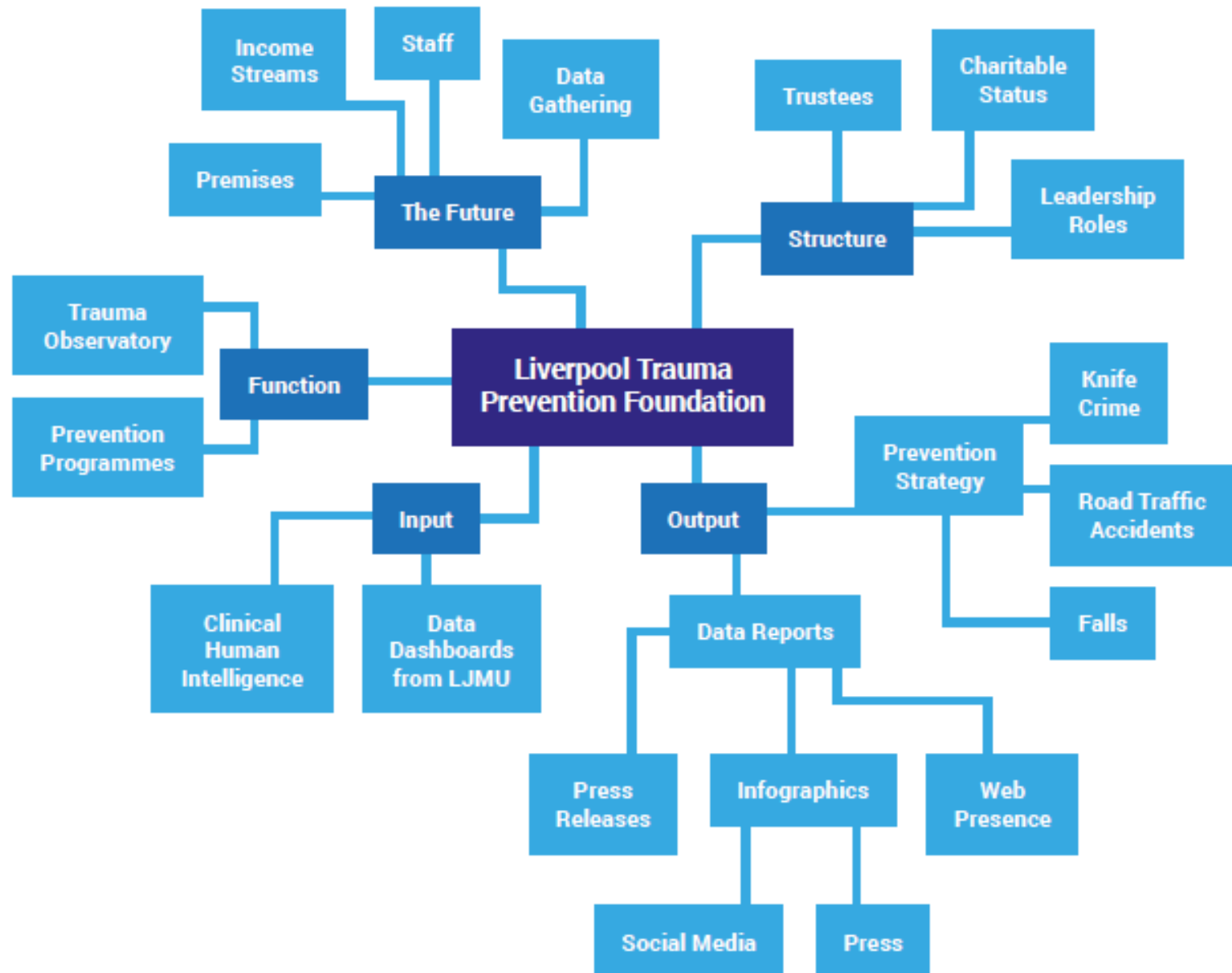
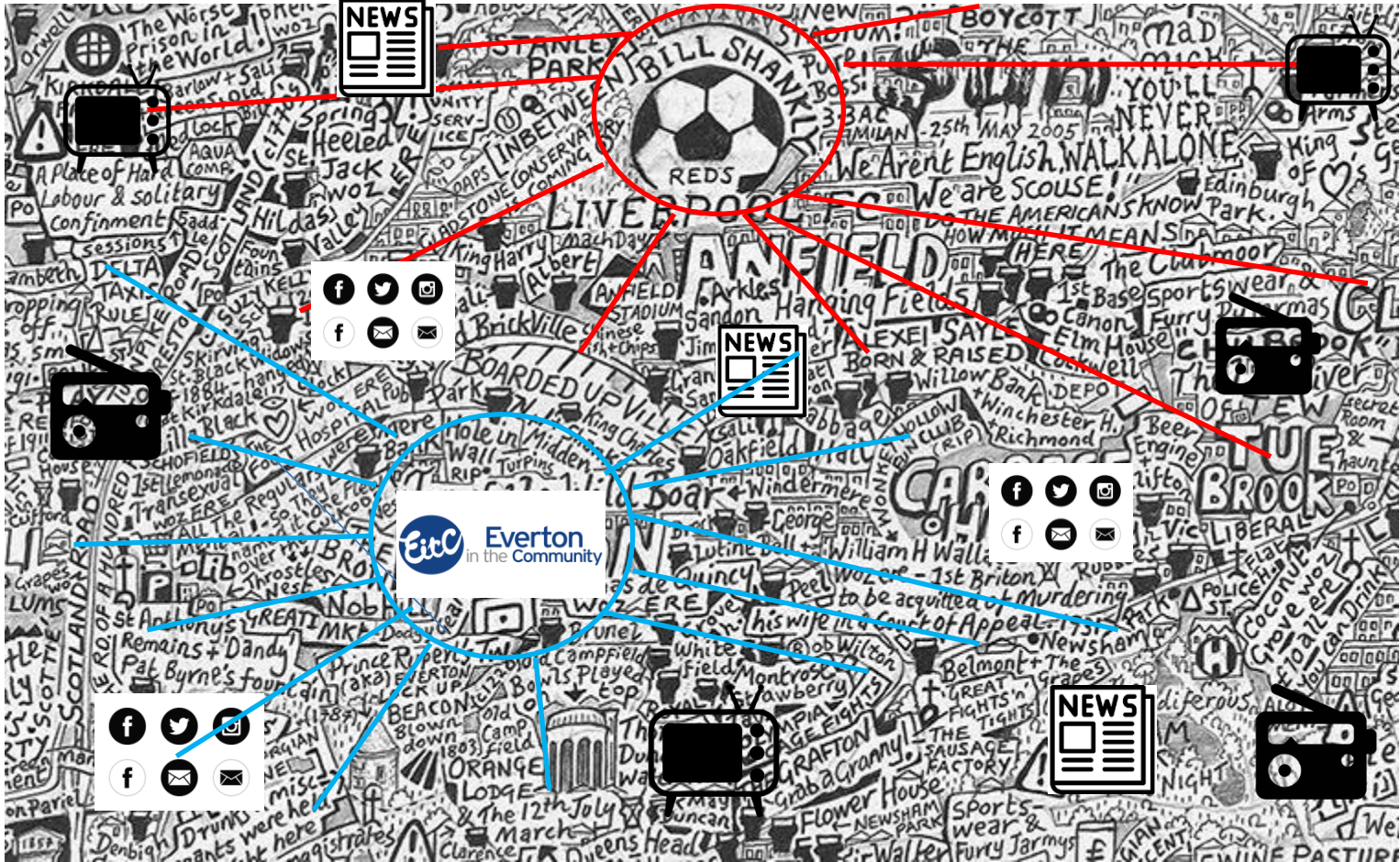


Figure 1: Map of the 5 domains of the Liverpool Trauma Prevention Foundation – Structure, Function, Input, Output and the Future.





NEWS

NEWS

NEWS

Etc Everton In the Community



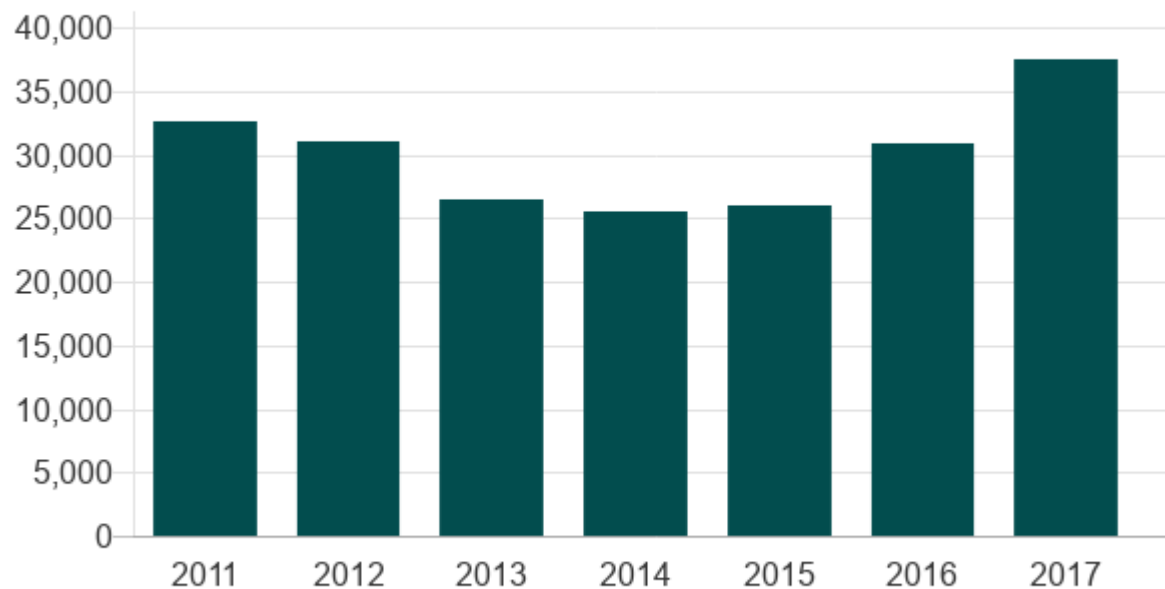
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# **KNIFE RELATED TRAUMA**



## Knife crime dropped, but is rising again

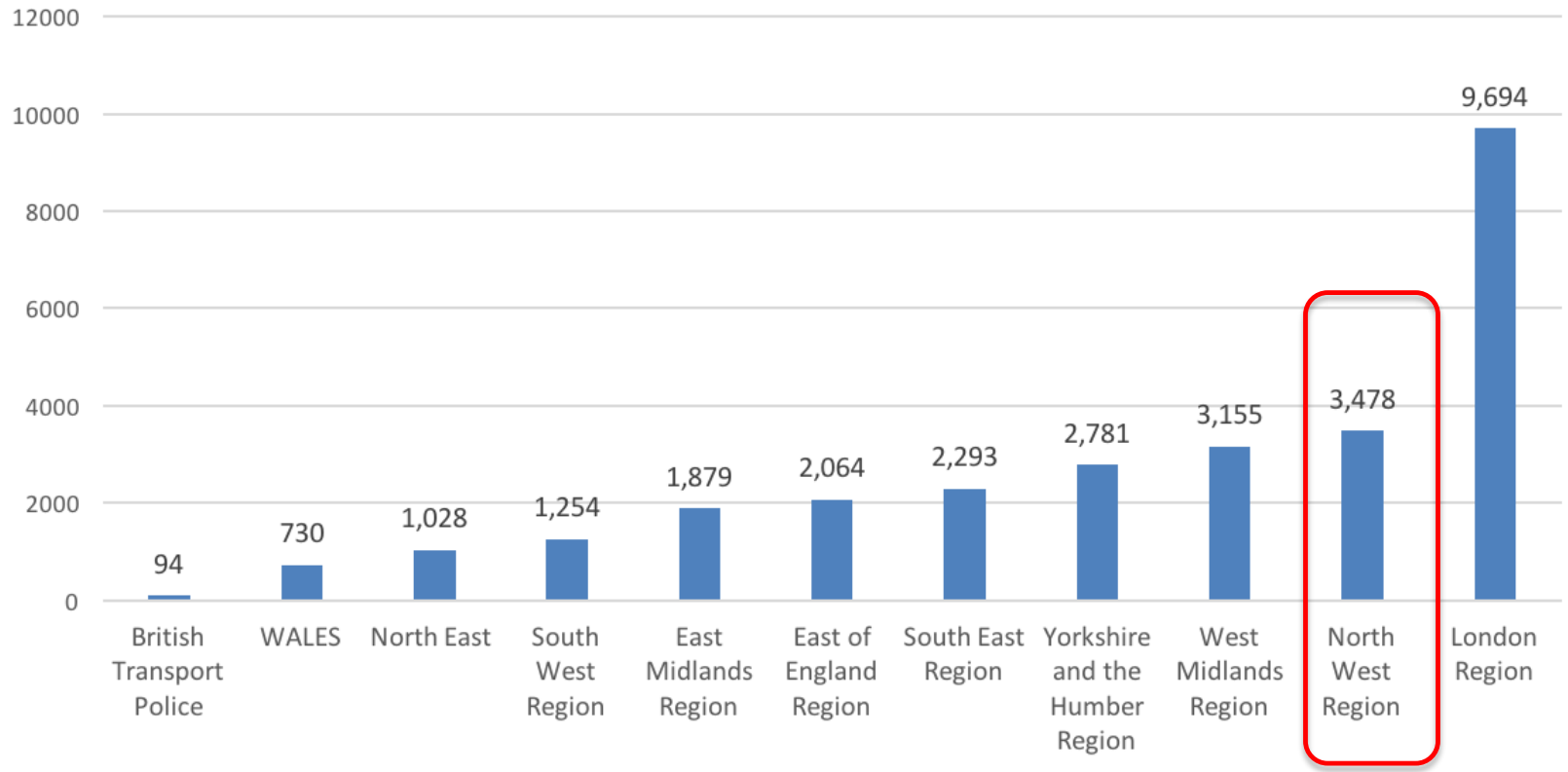
Offences involving a knife or sharp instrument, England and Wales



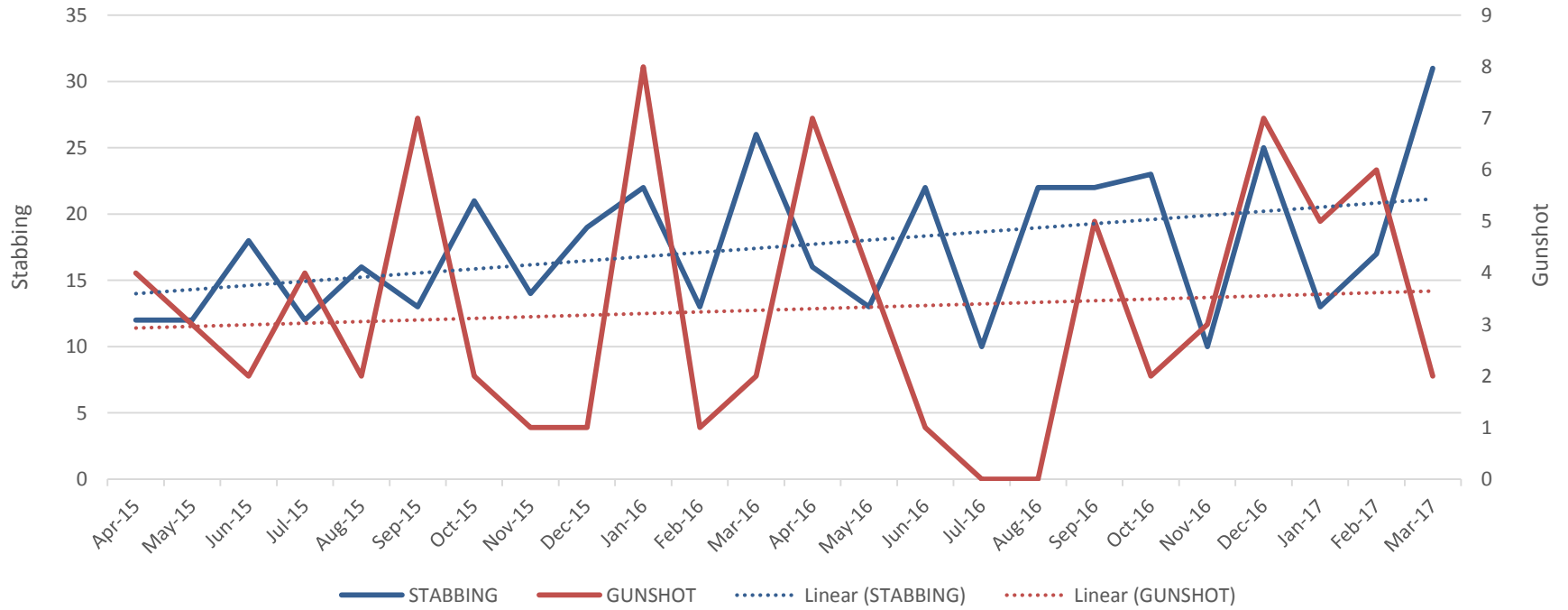
Note: 2011-2015 year ending March, 2016-2017 year ending September. Source: Police recorded crime, Home Office

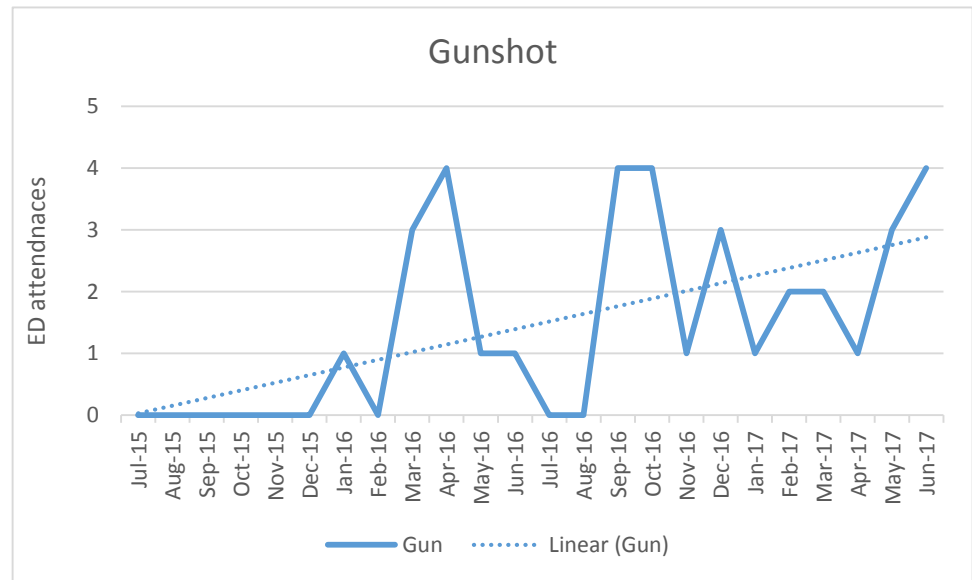
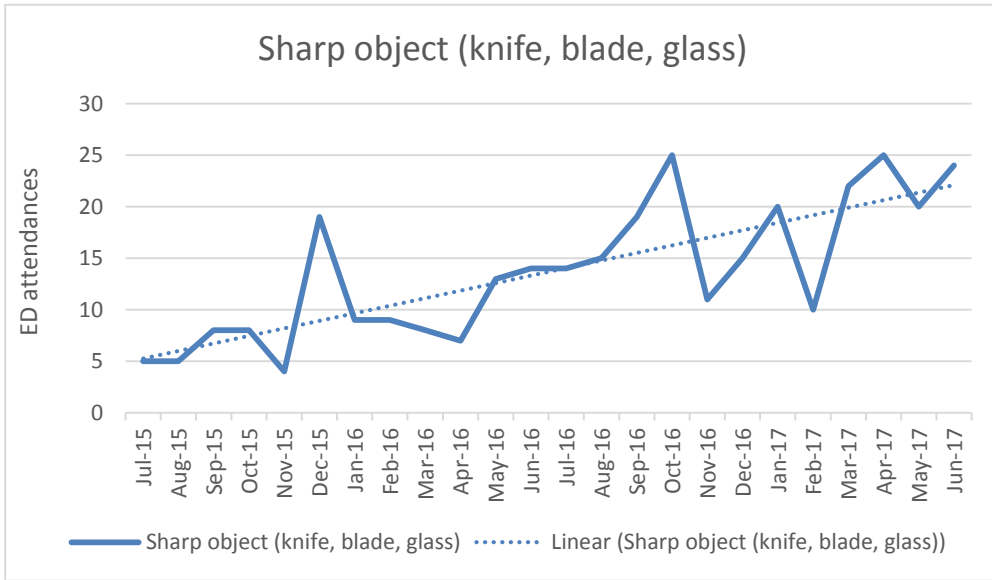


## Number of offences involving a knife, England and Wales, Crime Survey March 2016



Ambulance call outs for Stabbing / Gunshot - April 15 to March 17



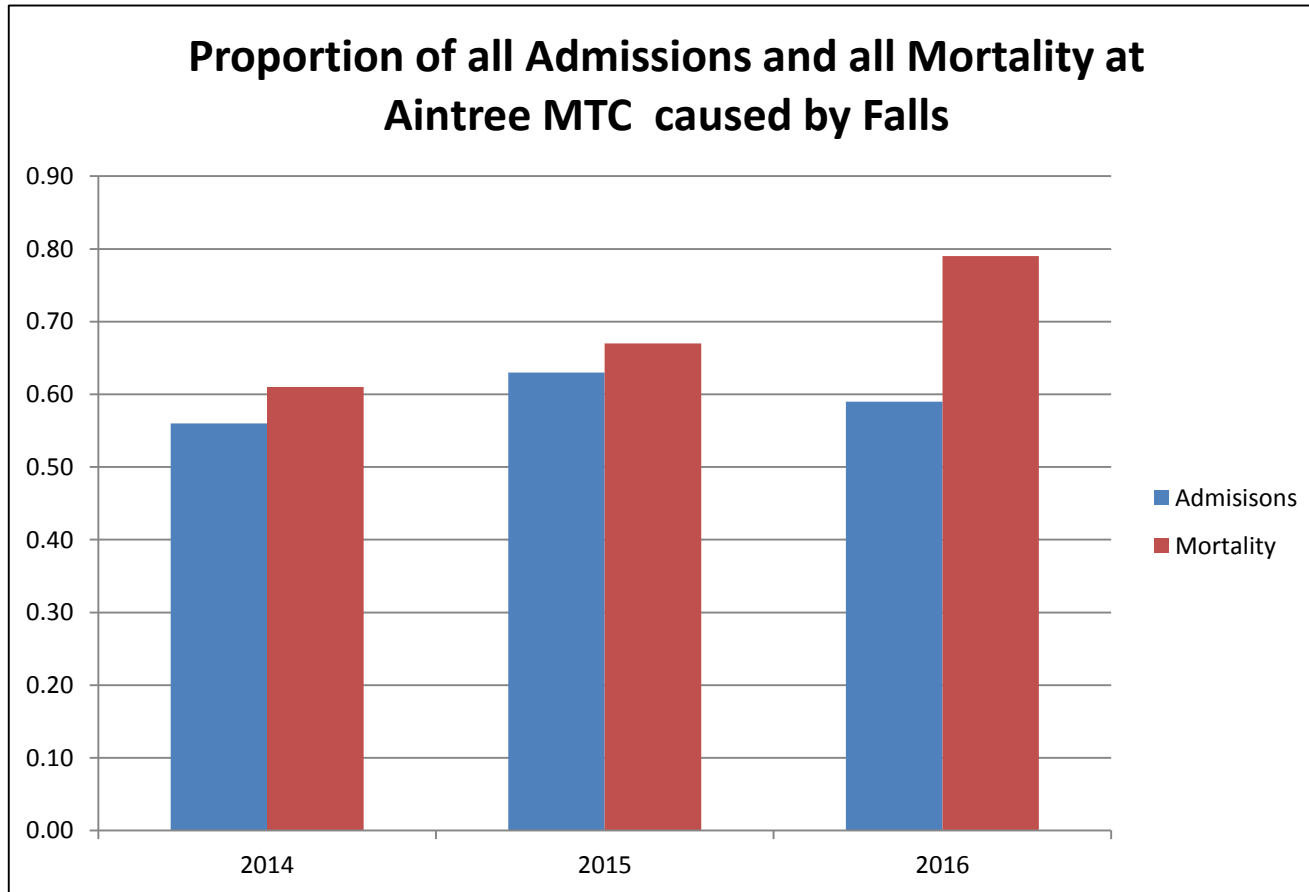




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**FALLS**

# Falls



# Falls

Case Fatality Rate of Falls<2m

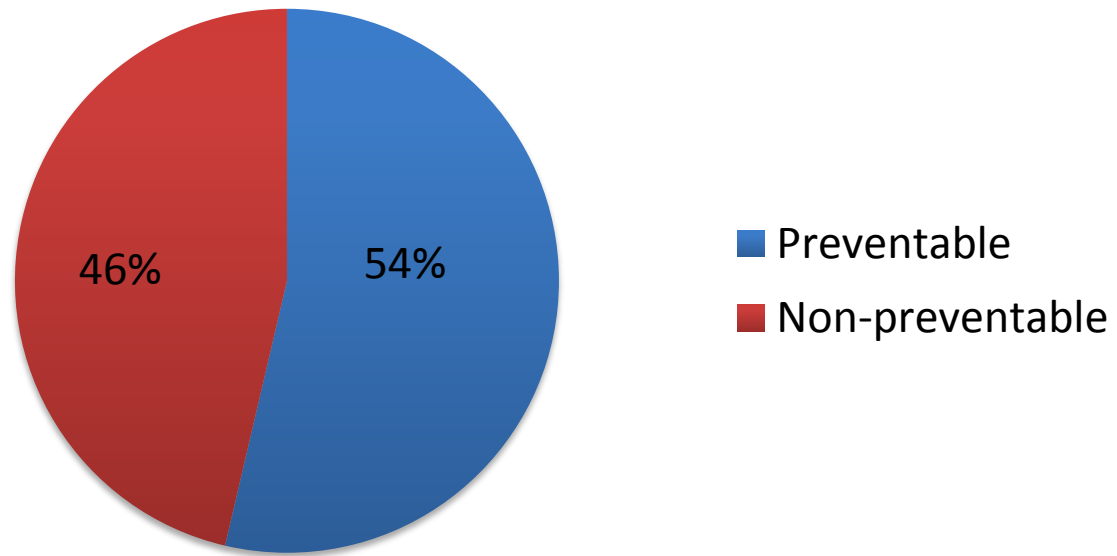
**9.1%**

Case Fatality Rate of RTCs

**4.8 %**



## Causes of Falls causing Major Traumatic Injuries at Aintree MTC



Lighting as a factor

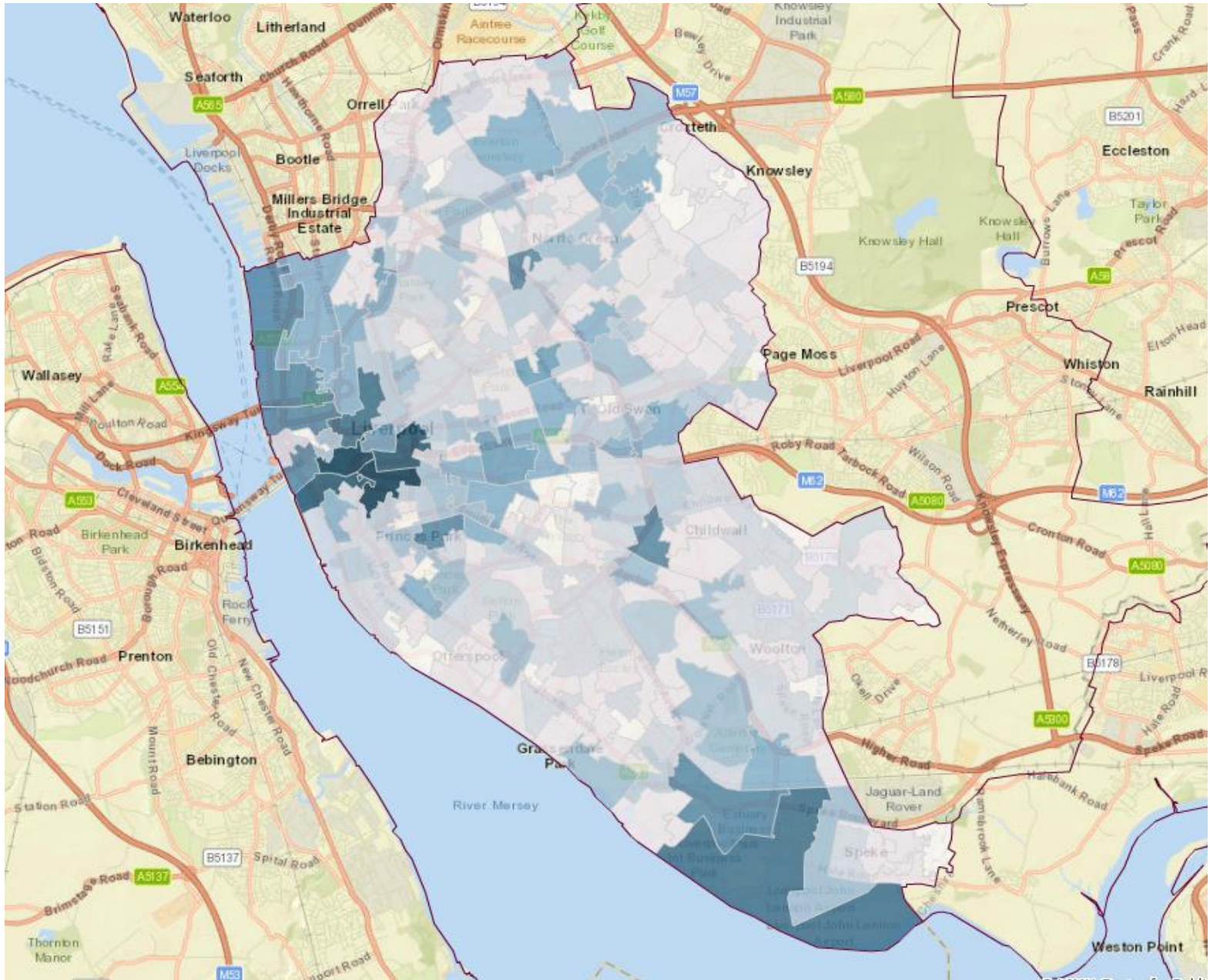
**22%**

Alcohol as a factor

**32%**

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# **ROAD TRAFFIC COLLISIONS**



## Road traffic accidents kill, and the number of incidents is rising in Merseyside....

2010



467  
Incidents

2016



599  
Incidents

A study was conducted by the Trauma Prevention Foundation and Merseyside Police looking at all the factors involved in fatal road traffic incidents between 2013 and 2016 in Merseyside.....



78% of fatal incidents occurred in fair weather conditions.



Only 1% Fatal incidents occurred in dark conditions with no lighting.



Only 12.5% Incidents involved alcohol

### But also.....

30%

30% deaths due to speeding

34%

34% deaths due to driver error.

36%

36% deaths were due to dangerous driving

**These factors were preventable.**

**It takes just one moment to stop and think.....  
And that will help prevent people dying on our roads.**

Just One Moment...



# Thank You.

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