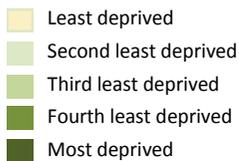


Violence profile: Westminster

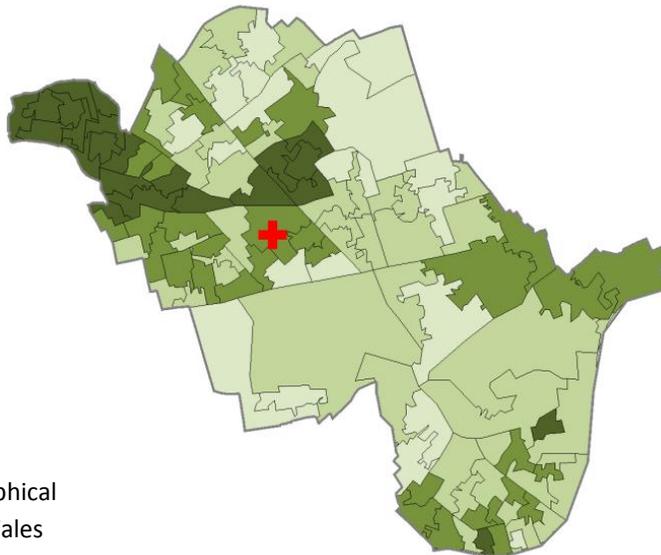
Use of NHS data in local violence prevention

This profile utilises four sources of NHS data to present a picture of violence in Westminster local authority (LA). The profile aims to provide health and other professionals involved in violence prevention with an understanding of NHS data sources and their potential for informing local violence prevention initiatives. The profiles examine the extent of violence, trends, at-risk groups and communities, and circumstances of assault. The profile focuses on NHS data and does not therefore provide a full picture of violence within Westminster.

Figure 1: Westminster LA by Lower Super Output Area (LSOA*) showing variation in deprivation.



St Mary's Hospital



* LSOAs are a set of geographical areas across England and Wales that are defined by population size (average population is 1,500).

Box 1: Key findings

- Levels of violent incidents were highest in May for hospital admissions and A&E presentations, and in May, July and August for ambulance call-outs.
- Violence was most likely to occur on Saturdays and Sundays and between the hours of 8pm and 6am, largely reflecting Friday and Saturday nights (ambulance and A&E data).
- Around 35% of severe assaults took place in a public area, 20% on the road, 16% at home and 29% in another (unspecified) location (TARN data).
- The majority of injuries from severe assaults were caused by a stabbing (53%) or a blow to the body (24%; TARN data). Around 5% of ambulance call-outs for assault-related injuries reported the use of a sharp object or gun in the incident notes.
- The majority of people treated for assault-related injuries were male (~75%) and aged 20-39 (~35% were aged 20-29 and ~20% aged 30-39) (ambulance, A&E, hospital admissions and TARN data).
- There was a concentration of ambulance call-outs for assaults occurring around Soho.
- Areas of Westminster with higher deprivation levels also had significantly higher rates of A&E presentations for assault and hospital admissions for assault.

The NHS data sources used are: 1) ambulance service call-outs; 2) Hospital Episode Statistics (HES) experimental Accident and Emergency Department (A&E) data; 3) HES hospital admissions; and 4) reports from the Trauma Audit and Research Network (TARN; clinical reports of severe trauma). For more information about the data sources used, see Table 2.

Summary of violence

A summary of violence is presented in Table 1. TARN data is not included in the summary table since there are known problems with the level of reporting. Mortality data and police data have been presented alongside the NHS data sources to provide a rounded picture of violence. For more information about the data sources see page 8.

Table 1: Indicators of violence for Westminster local authority.

	Number	Rate per 1,000 pop	England rate per 1,000 pop	% Change from previous 2 years	Direction of change
Ambulance call-outs for assault-related incidents (2012/13)¹	2281	10.19	na	-21.18	↓
A&E attendances for assault (2010/11)²	758	2.99	3.60	na	na
Emergency hospital admissions for assault (2011/12)³	137	0.61	0.64	0.74	↑
Deaths from assault (2011)⁴	<5	nc	0.01	nc	nc
Police-recorded violent crime (2011/12)⁵	8287	32.74	13.60	-6.16	↓
Police-recorded sexual crime (2011/12)⁵	607	2.40	0.96	18.32	↑

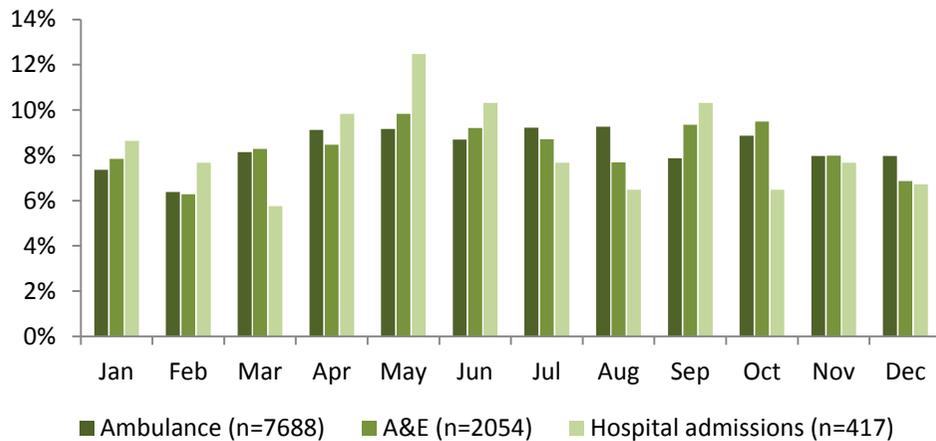
1. Data from the London Ambulance Service (LAS). Crude rate per 1,000 population (mid 2012 estimates, ONS), 2012/13
2. Data based on Hospital Episode Statistics (HES) A&E experimental dataset; experimental data created by the former North West Public Health Observatory (www.eviper.org). First attendances for assault by residents of Westminster local authority, 2010/11. Crude rate per 1,000 population (mid 2010 estimates, ONS). Percent change has not been calculated since the adjusted data is only available for the one year.
3. Data from HES admitted patient care. Emergency hospital admissions for assault (ICD-10 codes X85-Y09) by residents of Westminster local authority, 2011/12. Directly Standardised Rate per 1,000 population (mid 2011 estimates, ONS).
4. Data from ONS mortality database. Deaths from assault, 2011. Percent change has not been calculated due to very low numbers.
5. Data from police-recorded crimes, crude rate per 1,000 population (mid 2011 estimates, ONS), 2011/12.

Data in **red text** indicate that the value is significantly higher (statistically) than the England average; data in **green text** indicate that the value is significantly lower (statistically) than the England average; * low numbers have been suppressed; na = not available; nc = not calculated.

When is violence most likely to occur?

Figure 2 shows the percentage of assault-related incidents that fall within each month by data source. TARN data is not included due to problems with the level of reporting (see page 8). Trends differed by data source, with levels of violent incidents highest in May for hospital admissions and A&E presentations, and in May, July and August for ambulance call-outs.

Figure 2: Percentage of assault-related incidents by data source, by month (three years combined data [see Table 2]).



Information on assault timings can be generated from calls to ambulance services. However, the time of presentation to the A&E can also be a proxy for assault time. The College of Emergency Medicine (CEM) recommend collecting information on assault time and date at A&E presentation (see Box 2), which would allow a more accurate understanding of the timings of assault. Although some CEM-recommended fields are collected by St. Mary's A&E, at the time of analysis the data were not available. The available data sources show that assaults took place most frequently between the hours of 8pm and 6am (Figure 3). Assaults occurred most frequently on Saturdays and Sundays (Figure 4), which reflects Friday and Saturday nights.

Figure 3: Percentage of assault-related call-outs/attendances by data source, by hour (three years combined data [see Table 2]).

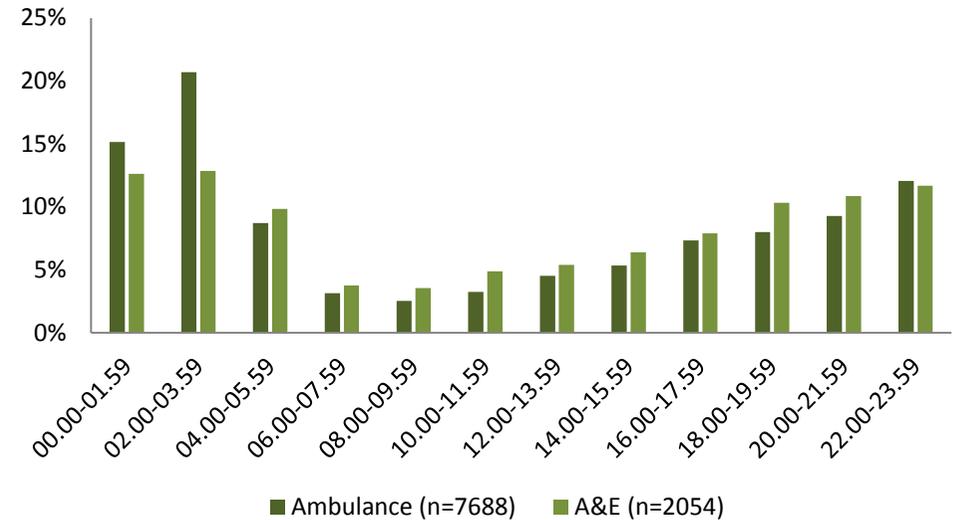
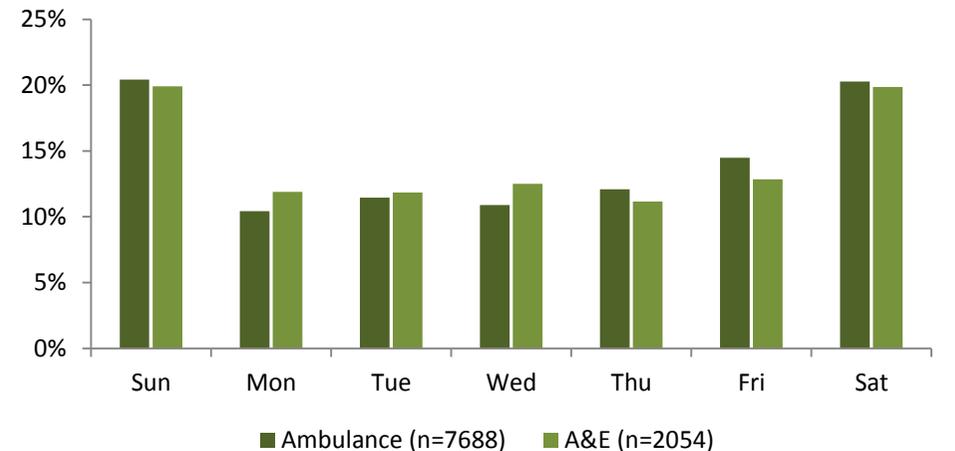


Figure 4: Percentage of assault-related call-outs/attendances by data source, by day (three years combined data [see Table 2]).



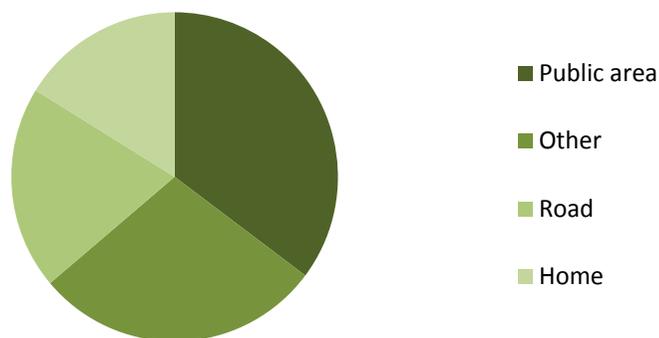
Circumstances around violence

At the time of analysis, information on the circumstances of violence could be obtained through data from the ambulance service and TARN. St. Mary's A&E were collecting, but not sharing, CEM-recommended data on assaults (see Box 2). When this commences, more information will be known about the circumstances of assault.

Location of assaults

Figure 5 shows the location of severe assaults as reported by TARN. Around 35% of assaults where the location was known (75%) took place in a public area, 20% on the road, 16% at home and 29% in another (unspecified) location.

Figure 5: Location of severe assaults reported through TARN at St. Mary's Hospital (three years combined data; n=210 [see Table 2]).



Weapons used in assaults

Basic information on the weapon used in the assault can be extracted from the ambulance service and TARN data. For instance, around 5% of ambulance call-out incidents reported involvement of a sharp object or gun within the incident notes. TARN data suggests that the majority of severe assaults were caused by a stabbing (53%) or a blow to the body (24%; Figure 6).

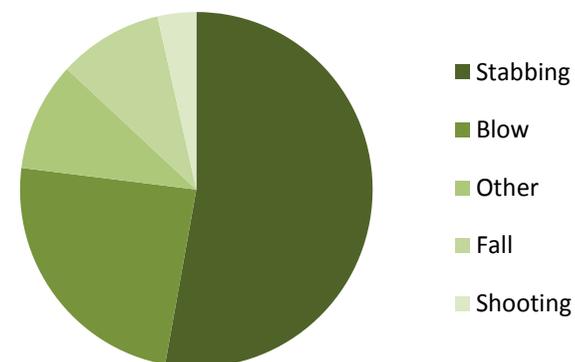
Box 2: CEM-recommendations for A&E data collection

In 2009, the College of Emergency Medicine (CEM) published guidance for information sharing to reduce violence. This document recommends that:

1. A&Es should routinely collect data on assault victims at patient registration (by A&E receptionists), including: the **date and time** of assault, the assault **location** (e.g. name of pub, school), and the **weapon used** (e.g. fist).
2. There is no need for a formal information sharing agreement between the A&E and the Community Safety Partnership (CSP).
3. The data should be shared with the CSP and crime analysts in an anonymous and aggregate form.
4. Senior emergency physicians should be supported to participate in CSP meetings.

In September 2014, the Health and Social Care Information Centre developed an information standard on A&E information sharing to tackle violence¹, including the CEM-recommended questions, along with the time and date of the A&E attendance. Collection and sharing of these data fields would help identify when and where assaults are most likely to take place.

Figure 6: Mechanism of severe assault reported through TARN at St. Mary's Hospital (three years combined data; n=282 [see Table 2]).



¹Available from: <http://www.isb.nhs.uk/documents/isb-1594/amd-31-2012/1594312012spec.pdf>

At-risk groups

Health data can be used alongside police data on victims and offenders (Box 3) to better understand which groups of the community are most affected by violence. Figures 6 and 7 show that the majority of people treated for assault-related injuries were male. The majority of assault victims were aged between 10 and 39 years of age, with the highest frequency of cases seen in the 20-29 age group. In terms of ethnicity, hospital admission data suggests that among assault patients with a known ethnicity (87%), around 58% were White (41% White British; 17% other White background). Around 13% were Black or Black British (2% Caribbean, 6% African and 5% other Black background), 5% were Asian or Asian British and 4% were of mixed ethnicity. Around 20% were of another ethnic background.

Figure 6: Percentage of assault-related incidents by data source, by sex (three years combined data [see Table 2]).

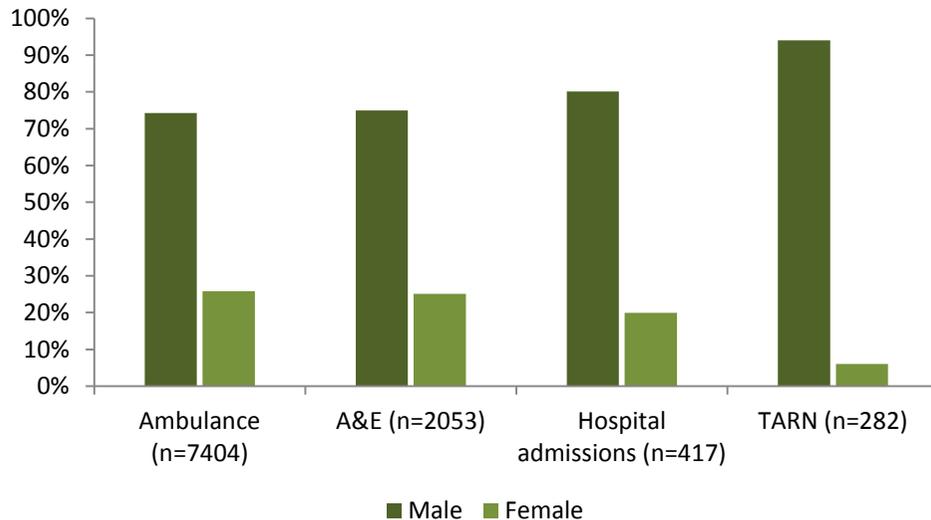
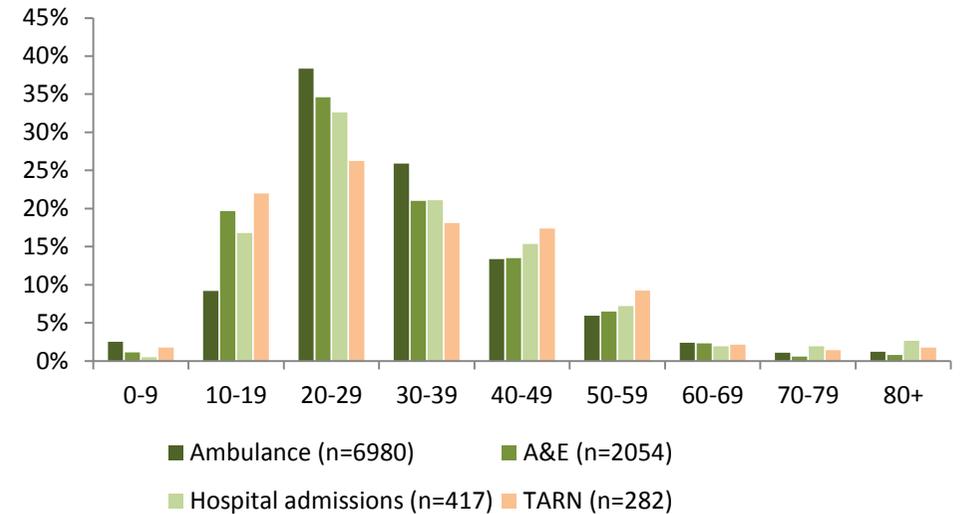


Figure 7: Percentage of assault-related incidents by data source, by age-group (three years combined data [see Table 2]).



Box 3: Police data for perpetrators and victims

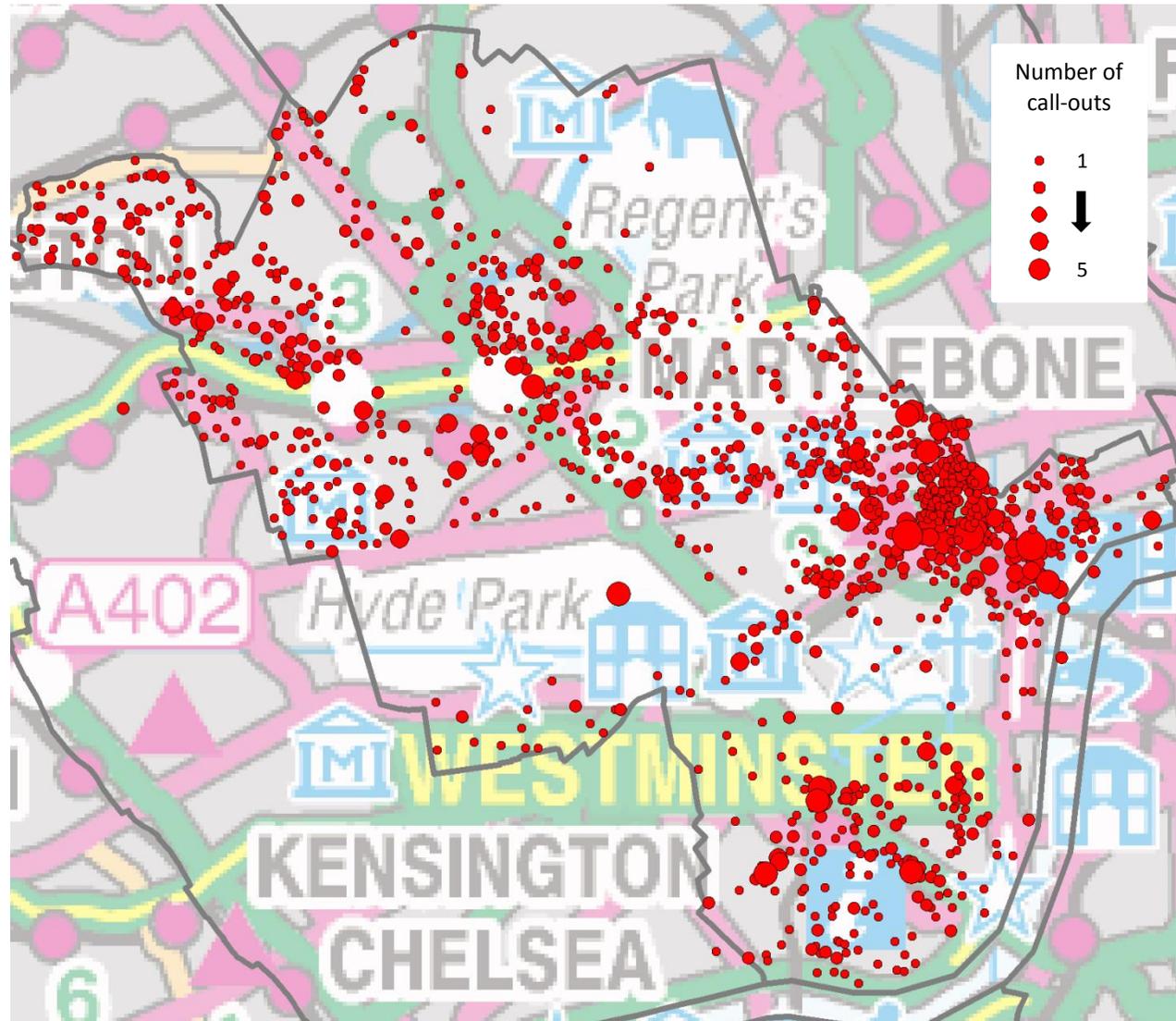
Data from London Metropolitan Police show that the majority of assault perpetrators were aged 10 to 39 years of age (71%), whilst the majority of assault victims were aged 20 to 39 (62%). For both victims and perpetrators, the most frequent age category was 20-29 years of age (37% and 28% of cases respectively). Although the ethnicity of victims was unknown in about half of cases, the ethnicity of perpetrators was largely complete (94%). Here, 49% of perpetrators were White (30% White British, 19% other White background). Around 21% were Black or Black British (6% Caribbean, 8% African and 7% other Black background), 11% were Asian or Asian British (1% Indian, 1% Pakistani, 3% Bangladeshi and 6% other Asian background), 6% of mixed ethnicity and 13% of another ethnic group.

At-risk locations and communities

Health data can be used to identify where assaults take place and which communities are most at risk. Data from the ambulance service records the location of call-outs for assault-related incidents. Figure 8 presents a map of the assault locations for 2012/13, showing a concentration of assaults occurring around Soho.

Figures 9 and 10 show the rate of A&E presentations for assault and the rate of hospital admissions for assault by Lower Super Output Area (LSOA) of residence. These maps can help identify geographical areas to target violence prevention initiatives. Areas of Westminster with higher deprivation levels (Figure 1) also had significantly higher* rates of A&E presentations for assault and hospital admissions for assault.

Figure 8: Location of ambulance call-outs for assault related incidents within Westminster LA, 2012/13.



* Using Analysis of Variance (ANOVA). $F=47.92$ ($p<0.01$) for A&E presentations and $F=30.89$ ($p<0.01$) for hospital admissions.

Figure 9: Crude rate of A&E attendances for assault by LSOA of patient residence within Westminster LA, 2009/10-2011/12.

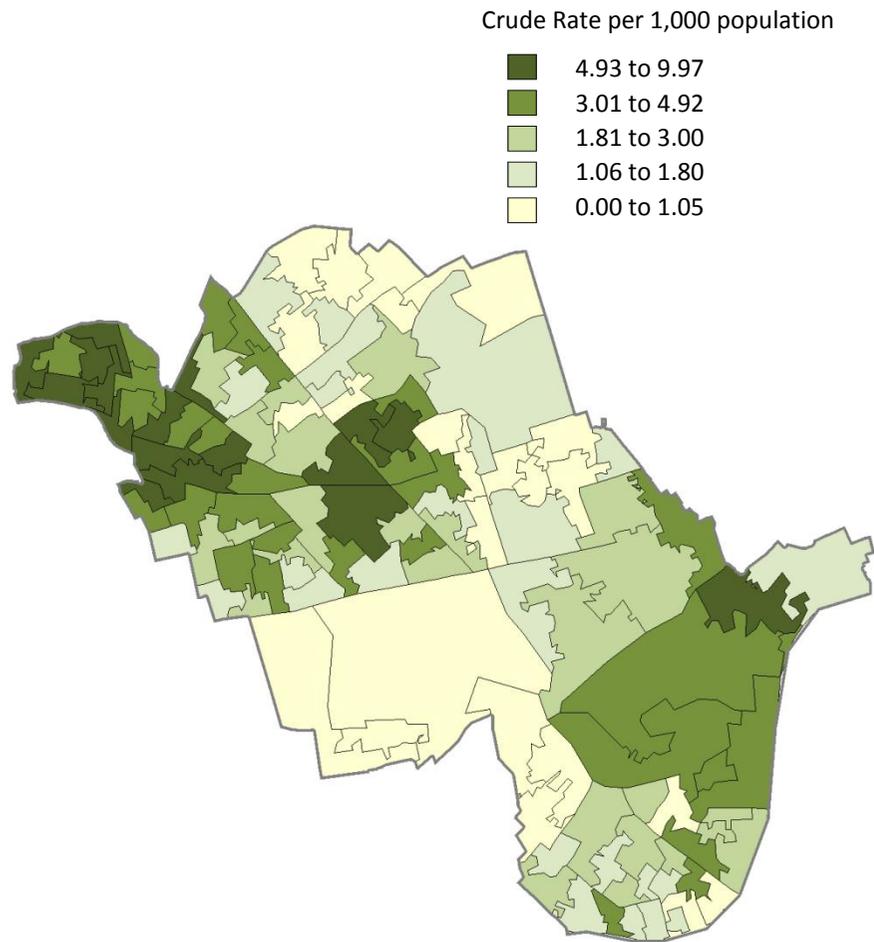
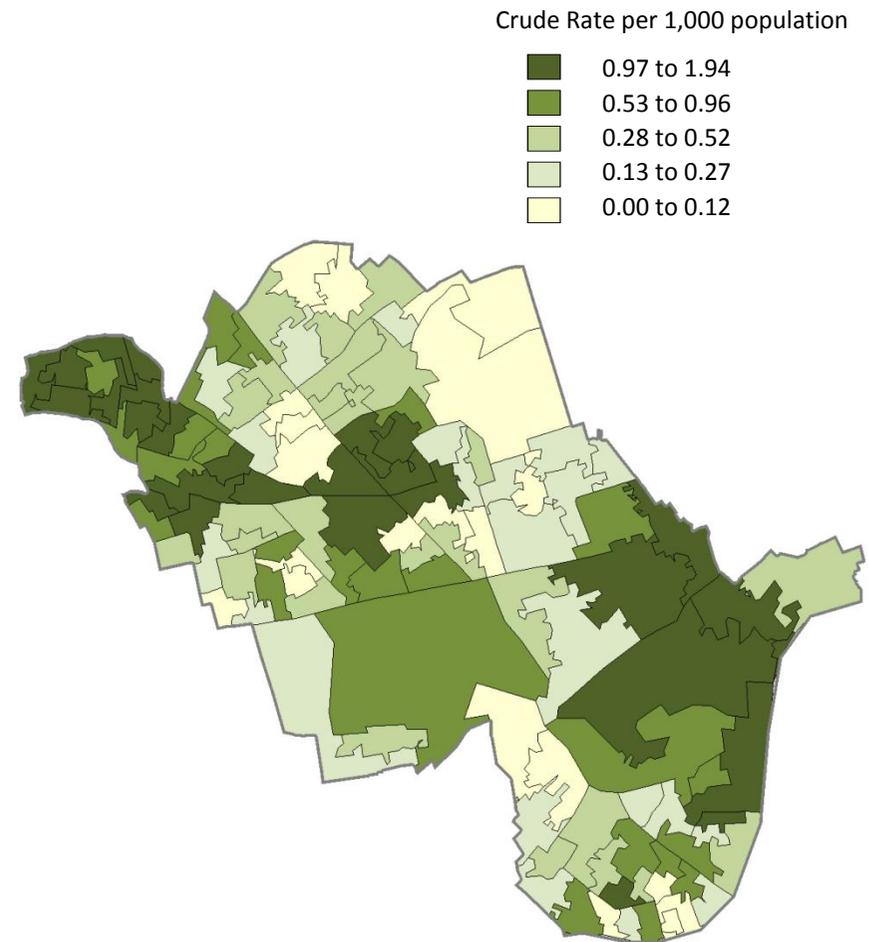


Figure 10: Crude rate of hospital admissions for assault by LSOA of patient residence within Westminster LA, 2009/10-2011/12.



NHS data sources

A summary of the data sources used in this report is shown in Table 2, based on information from: Quigg et al. *Health data for violence prevention manual: A manual for community safety partnerships and other violence prevention partners, 2013.*

Table 2: Summary of NHS data sources.

Data source	Availability and access	Data fields available	Notes
1. Ambulance call-outs	Data available via the London Ambulance Service.	Variables include patient demographics, reason for the call-out, call-out time and date, and call-out location.	Years 2010/11 to 2012/13. Analysis was restricted to all ambulance call-outs within Westminster local authority for assault.
2. HES experimental A&E data	Local authority level data are available via the Violence Indicator Profiles for England Resource (VIPER) www.eviper.org.uk . Bespoke data extracts/analyses are available via the Health & Social Care Information Centre (HSCIC) www.hscic.gov.uk/hes .	Variables include patient demographics, incident type, date and time of presentation and LSOA of residence.	Years 2009/10 to 2011/12. This dataset is published as experimental since although coverage was improving year on year, some data quality and coverage issues still remained. The data includes all Westminster local authority residents presenting to an A&E in England regardless of which hospital they attended. Analysis was restricted to all patients presenting with an injury caused by "assault".
3. HES Hospital admissions	Local authority level data are available via the Violence Indicator Profiles for England Resource (VIPER) www.eviper.org.uk . Bespoke data extracts/analyses are available via the Health & Social Care Information Centre (HSCIC). www.hscic.gov.uk/hes .	Variables include patient demographics, admission date and method and cause of hospital admission.	Years 2009/10 to 2011/12. This dataset includes information on all hospital admissions to NHS hospitals including private patients and admissions of NHS patients who are treated elsewhere. The data includes all Westminster residents presenting to a hospital in England regardless of which hospital they attended. Analysis was restricted to ICD-10 codes X85-Y09 and emergency admissions.
4. Trauma Audit and Research Network (TARN)	Bespoke data extracts are available from TARN www.tarn.ac.uk .	Variables include patient demographics, type of injury (blunt or penetrating), injury mechanism (e.g. stabbing, shooting) and injury location (e.g. home, office).	Years 2010 to 2012. This dataset records clinical records of severe trauma (e.g. a length of stay in hospital of 72 hours or more). Analysis was restricted to patients where the cause of injury was assault or intent inconclusive. There were issues with data coverage: the number of cases recorded for St. Mary's Hospital was lower than expected (65% of expected cases).

About the profiles

Recognising the valuable role that NHS data can play in addressing the growing problem of gang and youth violence in some English cities, the Coalition Government has prioritised work to improve data sharing on violence within hospitals, and particularly A&Es. The Department of Health is currently running a programme to support A&Es with collecting a minimum data set (see Box 2) and sharing this with Community Safety Partnerships.

This violence profile forms part of a wider, three-year project funded by the Department of Health that aims to identify and support the optimum use of NHS data in local violence prevention, and to identify the impacts of local NHS data sharing on levels of violence. Nine local authorities in the North West and London are participating in the project. For more information visit: <http://www.cph.org.uk/optimising-the-use-of-nhs-intelligence-in-local-violence-prevention-and-measuring-its-impact-on-violence/>

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