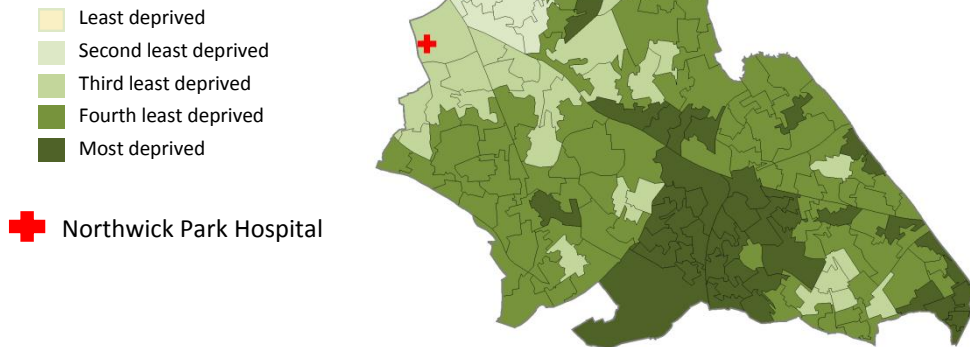


Violence profile: Brent

Use of NHS data in local violence prevention

This profile utilises four sources of NHS data to present a picture of violence in Brent 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 Brent.

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



* 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

- Whilst treatment for violent injuries has been decreasing in recent years, the number of police-recorded violent and sexual crimes has increased slightly. Levels of violence were higher than the England average for a number of indicators.
- Violence was most likely to occur on Saturdays and Sundays, and between the hours of 2pm and 4am, largely reflecting Friday and Saturday nights (ambulance and A&E data).
- Severe assaults were most likely to occur in a public area (TARN data; 90%).
- The majority of injuries from severe assaults were caused by a blow to the body (TARN data; 94%). Around 7% of ambulance call-outs for assault-related injuries reported involvement of a sharp object or gun.
- The majority of people treated for assault-related injuries were male (~70%) and aged 10-39 (~33% were aged 20-29, ~23% aged 30-39 and ~17% aged 10-19) (ambulance, A&E, HES and TARN data).
- There was a concentration of assaults occurring in Willesden, Harlesden, Wembley and Neasden (ambulance data).
- Areas of Brent 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. Mortality data and police data have been presented alongside the NHS data sources to provide a rounded picture of violence. TARN data is not included in the summary table since there are known problems with the level of reporting. For more information about the data sources see page 8.

Table 1: Indicators of violence for Brent local authority.

	Number	Rate per 1,000 pop	England rate per 1,000 pop	% Change from previous 2 years	Direction of change
Ambulance callouts for assault-related incidents (2012/13)¹	1759	5.59	na	-16.44	↓
A&E attendances for assault (2010/11)²	1376	5.36	3.60	na	na
Emergency hospital admissions for assault (2011/12)³	197	0.57	0.64	-0.51	↓
Deaths from assault (2011)⁴	<5*	nc	0.01	nc	nc
Police-recorded violent crime (2011/12)⁵	7287	28.40	13.60	3.83	↑
Police-recorded sexual crime (2011/12)⁵	341	1.33	0.96	8.95	↑

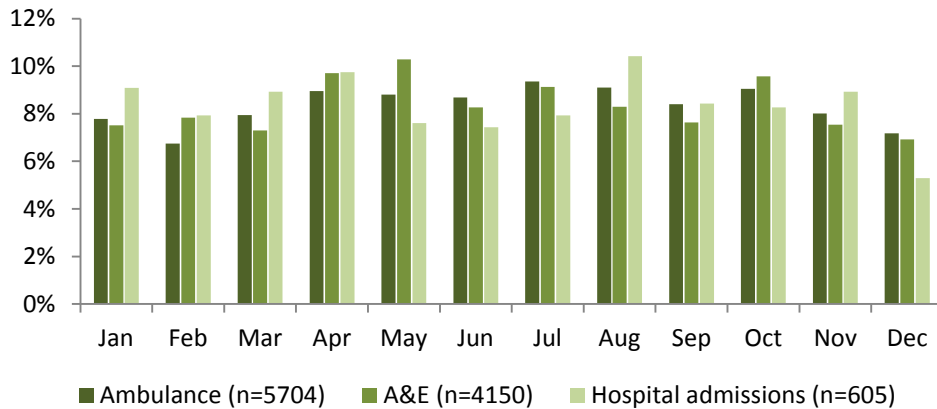
1. Data from the London Ambulance Service (LAS). Crude rate per 1,000 population (mid 2012 estimates, ONS), 2012/13.
2. Data based on Hospital Episode Statistics (HES) A&E experimental dataset; experimental data created by the former North West Public Health Observatory (www.evipr.org). First attendances for assault by residents of Brent 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 Brent 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; *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). The data sources show different trends, with ambulance and A&E data showing slightly higher levels of assault from April through to July/August, and a further rise in October. Levels of hospital admissions were highest in April and August.

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. However, at the time of analysis this information was not collected at Northwick Park Hospital A&E. The available data sources show that assaults took place most frequently between the hours of 2pm and 4am (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]).

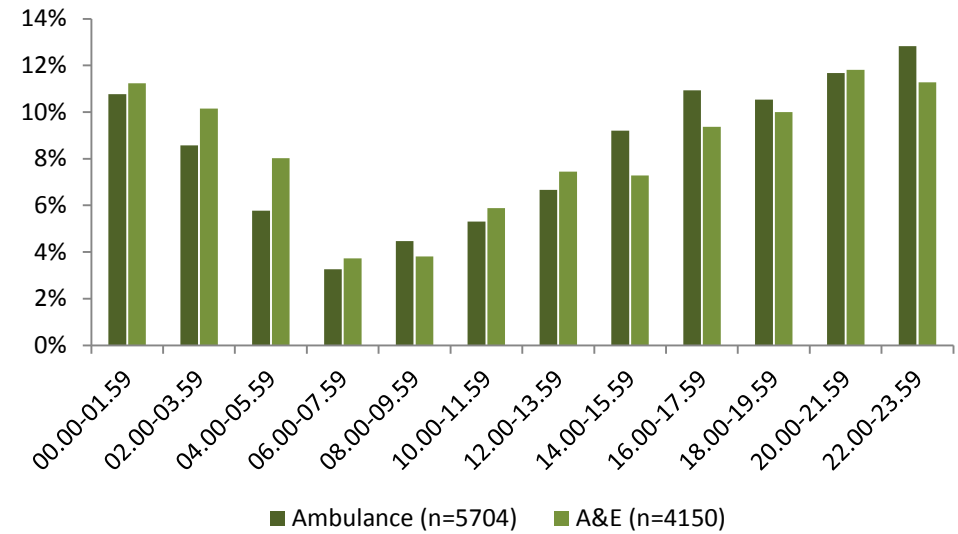
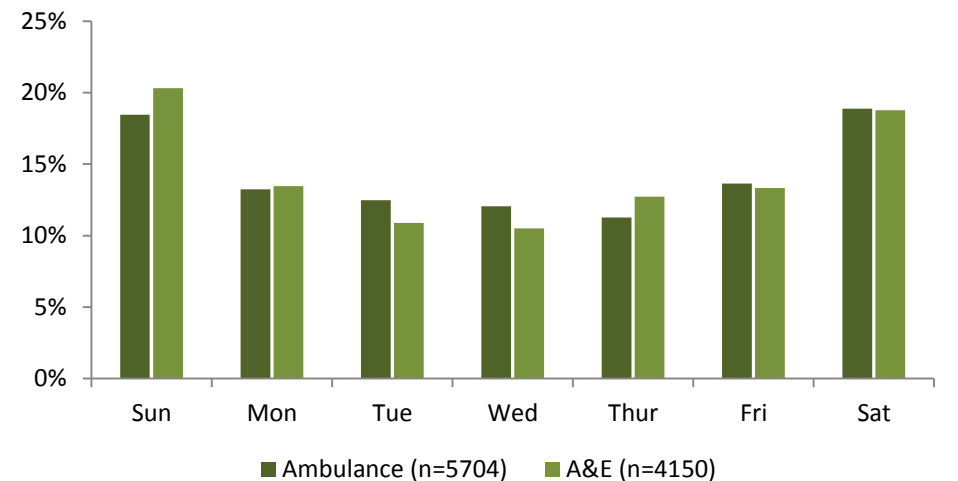


Figure 4: Percentage of assault-related call-outs/attendances by data source, by day (three years combined data [see Table 2]).



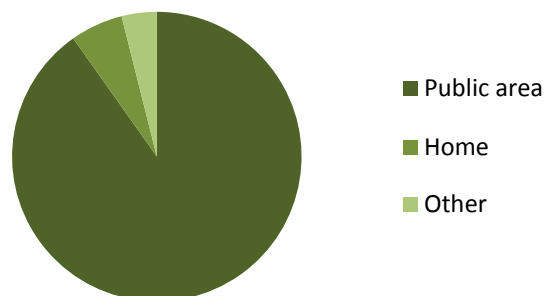
Circumstances around violence

At the time of analysis, information on the circumstances of violence could be obtained through data from the ambulance service and TARN. However, only 53 cases of severe assault were recorded through TARN at Northwick Park Hospital between 2010 and 2012. At the time of analysis, Northwick Park A&E were collecting, but not sharing, data on assaults as recommended by the CEM (see Box 2). When data sharing commences, more information will be known about the location of assaults and the weapons used.

Location of assaults

Figure 5 shows the location of severe assaults as reported by TARN. Where location was known (96%), the majority of cases (90%) occurred in a public area.

Figure 5: Location of assaults reported through TARN at Northwick Park Hospital (three years combined data; TARN, n=51 [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 7% of ambulance call-out incidents reported involvement of a sharp object or gun within the incident notes.

TARN data suggests that the vast majority of severe assaults were caused by a blow to the body (94%).

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, data from hospital admissions suggests that of assault victims whose ethnicity is known (88%), around 40% were of White background (18% White British, 22% other White background). Around 25% were Black/Black

Box 2: CEM-recommendations for 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. At the time of analysis, Northwick Park A&E was collecting the CEM-recommended fields, but the information was not being shared with local partners. Sharing these data fields would help partners identify hotspot locations for violence and inform the type of interventions needed.

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

British (10% Caribbean, 7% African and 8% other Black background), 12% Asian/Asian British (4% Indian, 1% Pakistani and 7% other Asian background) and 2% of mixed ethnicity. Around 21% were of another (unspecified) ethnic background.

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

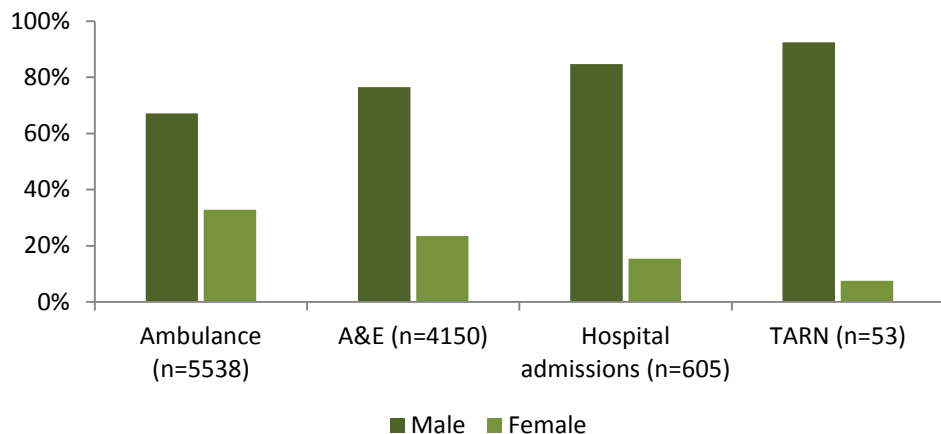
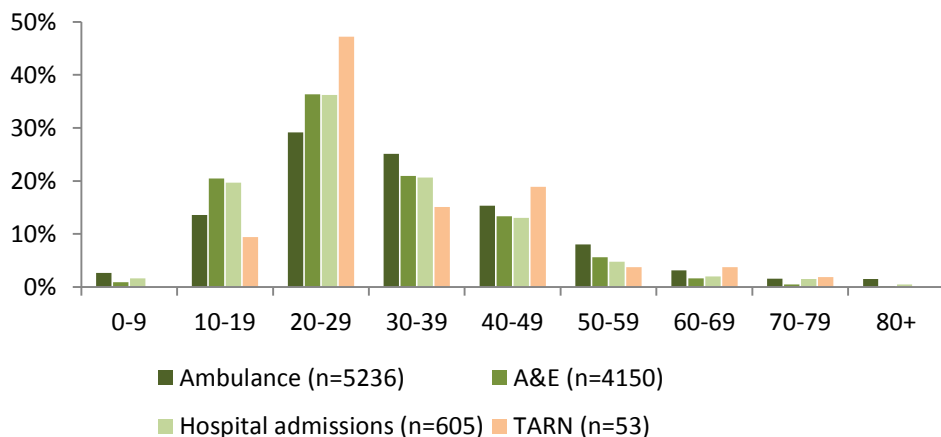


Figure 7: Percentage of assault-related incidents by data source, by age-group (three years combined data [see Table 2]).



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 includes the location of call-outs for assault-related incidents. Figure 8 presents a map of the location of assaults for 2012/13 and shows a concentration of assaults occurring in Willesden, Harlesden, Wembley and Neasden.

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 Brent with higher deprivation levels (Figure 1) also had significantly higher* rates of A&E presentations for assault and hospital admissions for assault.

Box 3: Police data for perpetrators and victims

Data from London Metropolitan Police show that the majority of assault perpetrators and victims were aged 10-39 (75% and 69% of cases respectively), with the most frequent age group being 20-29 years (30% and 29% of cases respectively). Although the ethnicity of victims was unknown in about half of cases, the ethnicity of offenders was largely complete (96%). Here, 41% of perpetrators were Black/Black British (19% Caribbean, 13% African, 9% other Black background), 32% were White (12% British, 5% Irish, 15% other White background), 18% were Asian/Asian British (6% Indian, 3% Pakistani, 9% other Asian background), 5% were of mixed race and 4% were of another (unspecified) ethnic group.

* Using Analysis of Variance (ANOVA). F=32.32 (p<0.01) for A&E presentations and F=15.09 (p<0.01) for hospital admissions.

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

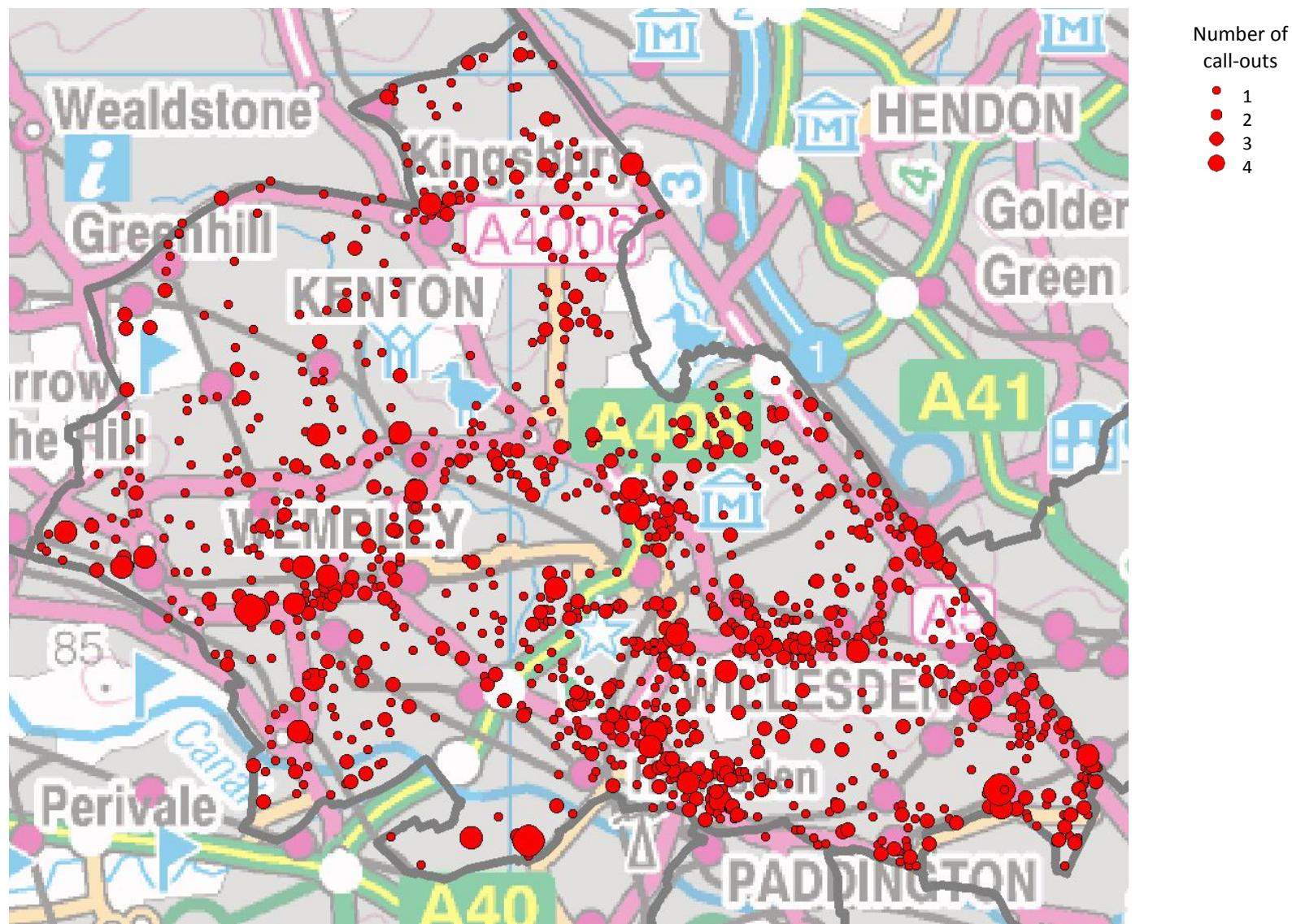


Figure 9: Crude rate of A&E attendances for assault by LSOA of patient residence within Brent LA, 2009/10-2011/12.

Crude Rate per 1,000 population

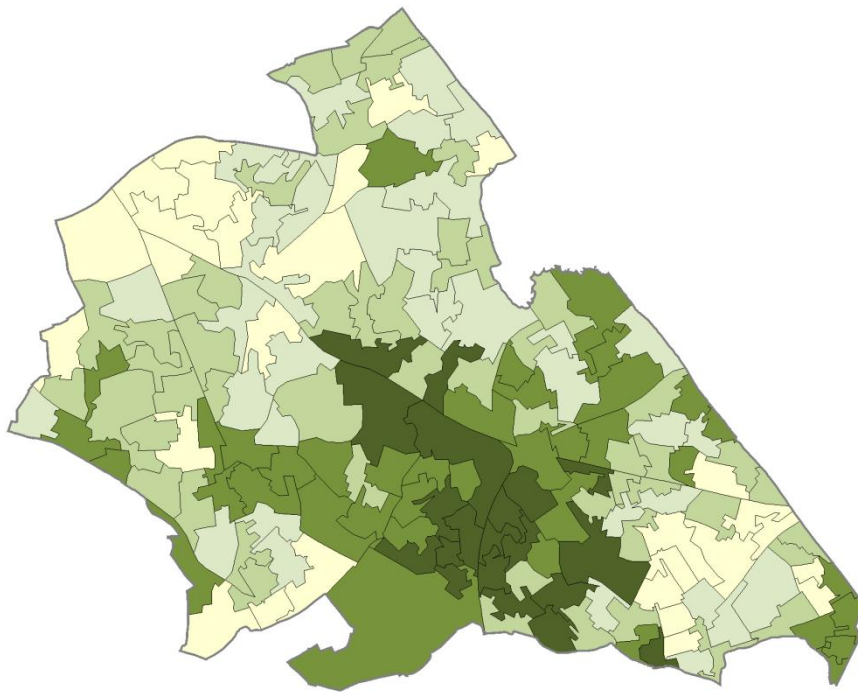
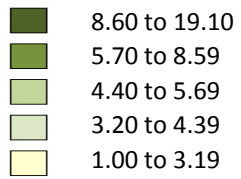
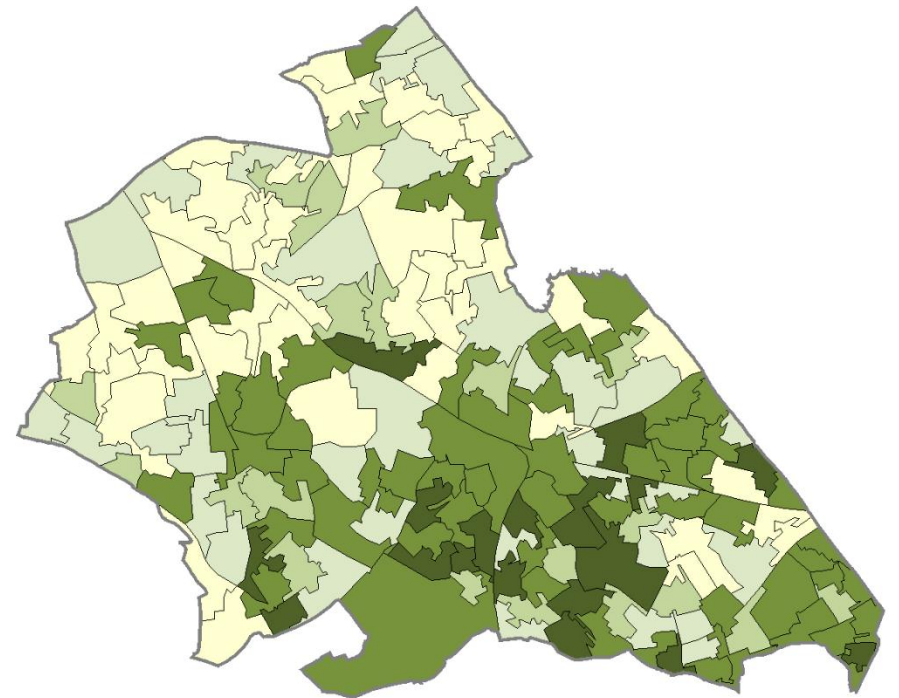
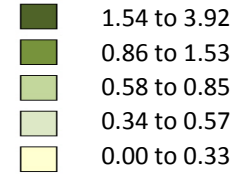


Figure 10: Crude rate of hospital admissions for assault by LSOA of patient residence within Brent LA, 2009/10-2011/12.

Crude Rate per 1,000 population



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 Brent 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.evipер.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 Brent 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.evipер.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 Brent 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 is assault or intent inconclusive. There were issues with data coverage: the number of cases recorded for Northwick Park Hospital was lower than expected (55% of expected numbers).

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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