Relevant to: Mayor Office for Policing And Crime

Purpose: To determine Accident and Emergency departments demand generated by young people victims of knife crimes

Summary: Analysis of LAS, A&E and MPS data to identify Emergency Departments with access to the highest volume of youth affected by knife injury.

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Executive summary

The purpose of this report is to determine Accident and Emergency departments demand generated by young people victims of knife crime. It follows the structure and rationale of a report produced in May 2018 whose purpose was to identify priority Accident and Emergency departments for the extension of the embedded youth workers' service.

A number of factors have been considered: volume of incidents in the borough where hospital is based as well as within a 5km radius, volume of department attendees as recorded by ED staff and LAS and proximity to Major Trauma Centres (MTCs) and other type 1 Emergency Departments. Social demographics (Index of Multiple Deprivation and percentage of young population) as well as the presence of active gangs in the ED's borough have also been taken into consideration. The analysis has been conducted on three independent datasets: London Ambulance Service, Accident & Emergency (A&E) data and Metropolitan Police Service. The data has been selected to reflect incidents where injury has been caused by knife or classified as such. Furthermore, only victims under the age of twenty-five have been selected (with exception of A&E data that do not include victims' demographics). Please see the main findings of the report: table by borough, table by A&E department.

Main Findings

Main findings of the study indicate that the Emergency Department sites that have been potentially dealing with the highest volume of victims of knife crime U25, between February 2021 and January 2022, are:

- **Newham**
- **Croydon**
- **North Middlesex**
- **Lewisham**
- **Northwick Park**
- **Queen Elizabeth**
- **Whipps Cross**
- **Homerton**
- **St Thomas'**
- **Whittington**

Summary of Content:

Introduction

The aim of this report is to determine Accident and Emergency departments demand generated by young people victims of knife crime over the period February 2021 – January 2022, and whether there has been any relevant changes from the findings of a similar analysis conducted in 2018, whose aim was to identify the most appropriate Emergency Departments for the extension of the youth provision already in place in the four Major Trauma Centres (MTCs) and in North Middlesex (Oasis), Homerton (Redthread), and St Thomas (Oasis).

Since then, five additional Accident and Emergency departments have implemented the service: Croydon University Hospital, University Hospital Lewisham, The Queen Elizabeth Hospital, Newham University Hospital and The Whittington.

A scale-down youth support service has also been introduced in 2020 in Northwick Park A&E, where Brent council has funded a dedicated post to signpost young people to services that can provide further support.

In order to compare the findings of the current analysis to those of 2018, Accident and Emergency departments attached to the four Major Trauma Centres (MTCs) have not been included. Nonetheless, it is important to emphasise that the above-mentioned are located close the centre of the city: Kings College Hospital (Lambeth/Southwark), St. Marys (Westminster), St. Georges (Wandsworth) and Royal London (Tower Hamlets). Consequently, MTCs may already cover some areas with high volume of incidents while other locations that are further and have comparably lower volume of incidents remain neglected.

Data and methodology

In order to identify A&Es that have the largest potential to deal with the topmost volume of knife crime victims the analysis has been conducted on three independent datasets. These datasets are the London Ambulance Service (LAS), the Accident and Emergency (A&E) and the Metropolitan Police Service (MPS) data.

The London Ambulance Service records the number of calls they have attended to assist victims of violent assaults, together with the age of the victims, the type of injury they sustained, the location of the incidents and the Emergency Department they have been taken to.

This information allows better understanding of the level of demand on EDs for treatments of knife injuries and provides spatial knowledge on what locations are in the highest demand for service. However, research and studies have revealed how often victims of violent crime, even if in serious condition, do not want to be assisted by the ambulance crew because of the risk of police involvement. This is particularly true for vulnerable victims such as youth involved in gangs.

These victims will seek medical attention directly walking into an EDs or walk in centre to be treated. EDs in London collects anonymised info on location of assaults, date and time of incidents and type of injury that can help understand not only the volume of people attending with knife injuries but also where this demand is coming from. Even though this dataset does not include the age of the victims, it provides further understanding of EDs demand when it comes to patient attending with knife injuries. This is especially useful as the noteworthy portion of victims of knife injuries are youth (Edes et al, 2007). Furthermore, there is some evidence for that emergency department provides information about entirely different demographics of victims than LAS (Maxwell et al, 2007).

EDs in London have joined the project at different time and they are at different stages of its implementation. However, the analysis on the number of attendances for knife injuries seems to confirm what already revealed by LAS data in term of spatial distribution.

For MPS data, records have been selected based on knife related codes in CRIS (for full list please see Appendix). Furthermore, only victims under twenty-five years of age that sustained serious or moderate injuries have been selected. Victims under twenty-five have also been selected for LAS and only those whose assault description was classified as knife injury (records with age "0" have been removed as this is the code assigned to victims whose age has not been disclosed). Finally, A&E data does not have information about the age of the victim but does have information about the method of injury. Records whose "Major Category" was "Knife/Sharp Injury" have been selected for this analysis.

Both Accident and Emergency data and London Ambulance Service have information about the hospital that admitted the victim. Therefore, the analysis by hospital admission is possible between these two datasets. An alternative way to estimate the amount of knife crime victims potentially assisted by the department is the comparison of incidents that occurred in the proximity of the A&E itself. To do so, the sum of incidents recorded by EDs, LAS and MPS within a 5km radius from each hospital has been divided by the number of EDs within this radius. This is because the distance between the incident and the ED plays a determinant role for both LAS crew (when deciding where to convey the patient) and the victim itself (when self-presenting to ED). For the latter, patients often decide to attend the ED they are most familiar with or closer to where they live but, because for the purpose of this analysis only incidents with serious or moderate knife injuries have been selected, the seriousness of the injury makes it more likely for the victim to attend the ED closer to the location of the assault. Hence the decision to consider the proximity of the incidents has a relevant variable in order to provide a guess estimate of the potential demand on local EDs.

Summarising, the three main variables considered to determine the EDs demand generated by young victims of knife crime (see Appendix 2 for point scoring method used) are:

- volume of knife victims under 25 conveyed by LAS
- volume of victims assisted as recorded by ED staff
- number of knife related incidents in wards within five km radius from the Emergency Department

Even though administrative boundaries have less of an impact in the decision of which EDs to attend, all the three datasets provide the borough of the incident and as such a standardised comparative measure that can still be useful as an additional guidance to better understand the distribution and variance of victimisation in the city.

Through the analysis of the volume of knife crime by proximity and borough as recorded by EDs, MPS and LAS and the volume of victims assisted by EDs as shown in ISTV and LAS records, this report aims to provide a more holistic picture of the demand generated by young victims of knife crime.

Of note: *due to changes within the LAS dataset, the spatial proximity analysis has been based on incidents aggregated at Output Area geographical level instead of point data. This is not expected to have any impact on the reliability of this analysis since the same methodology has been applied to all sites. It is also not expected to have any relevant impact on the comparability of the current and previous analysis (2018). Also, due limitations in MPS data availability, the spatial proximity analysis has been based on incidents aggregated at Wards geographical level instead of point data. Other*

minor differences in the current datasets compared to those of 2018 will be acknowledged within the relevant sections of this report.

Analysis

Knife crime with young victims: most affected borough (LAS, A&E and MPS data)

The Metropolitan Police is the most prominent law enforcement agency in London. For this reason, the data gathered by MPS is one of the highest volume datasets available for knife crime incidents. Nonetheless, 77% of Accident and Emergency attendees do not report to the police post the violent assault (Florence, 2011). This means that consolidation of the MPS data with different datasets is necessary in order to address potential intelligence gaps and develop a full picture of violent crime.

Borough	LAS	EDs	MPS
Tower Hamlets	9.3	5.7	7.2
Croydon	5.9	10.5	6.4
Lambeth	6.4	12.7	6.4
Enfield	3.9	1.1	5.8
Newham	3.6	5.4	5.5
Southwark	4.9	12.7	5.3
Greenwich	4.6	3.2	4.6
Westminster	3.1	2.2	4.5
Camden	2.8	2.2	4.2
Ealing	4.6	3.5	4.0
Hackney	4.6	8.9	3.9
Lewisham	5.2	3.0	3.8
Brent	3.9	3.2	3.3
Barking and Dagenham	3.4	1.9	3.2
Waltham Forest	3.9	2.7	3.2
Haringey	2.9	2.7	2.9
Redbridge	2.0	1.4	2.6
Hammersmith and Fulham	1.8	1.4	2.5
Wandsworth	2.9	1.9	2.5
Hounslow	1.6	1.6	2.1
Harrow	1.1	0.8	2.0
Bromley	2.0	2.7	1.8
Barnet	1.6	1.1	1.7
Islington	1.8	2.2	1.7
Hillingdon	2.1	0.3	1.6
Havering	2.0	0.5	1.5
Bexley	1.6	0.8	1.4
Kensington and Chelsea	2.0	0.8	1.4
Kingston upon Thames	0.7	n/a	1.1
Sutton	1.1	0.8	1.0
Merton	1.1	1.4	0.5
Richmond upon Thames	1.1	0.3	0.3

According to the **MPS**, **Tower Hamlets, Croydon, Lambeth, Enfield,** and **Newham** are the highest volume boroughs for victims of serious/moderate knives injury under 25. Compared to 2018, Southwark Lewisham and Ealing are not amongst the top five anymore, though Southwark and Ealing are still within the top ten. Tower Hamlets, Enfield and Newham were not amongst the top five in 2018, though Enfield was within the top ten.

For **LAS**, **Tower Hamlets, Lambeth,** and **Croydon** are confirmed to be amongst the top 5 most affected boroughs together with **Lewisham** and **Southwark**. Compared to 2018, Newham and Enfield are not amongst the top five anymore, though still within the top ten. Lewisham and Croydon were not amongst the top five in 2018, though within the top ten.

Accident and Emergency data also identifies **Southwark, Lambeth**, **Tower Hamlets and Croydon** as the most dominant locations for knife injury, as well as **Newham** and **Hackney**. These boroughs, as well as **Lewisham** (LAS top 5), are all served by EDs whit embedded youth services. Croydon, Newham and Hackney were not amongst the top five boroughs in 2018, tough within the top ten. Waltham Forest is still within the top ten most affected borough, while Redbridge is not (it was amongst the top five is 2018).

Unfortunately, it is rather challenging to deduct top priority Emergency Departments based solely on boroughs with the highest count of incidents for each of the datasets discussed. This is because, datasets do not align well enough to make inferences with high degree of confidence. For instance, Lewisham is within the top five boroughs for volume of LAS call-outs but not within the top ten for EDs and Metropolitan Police. It is arguable that, intelligence provided by one dataset should not be

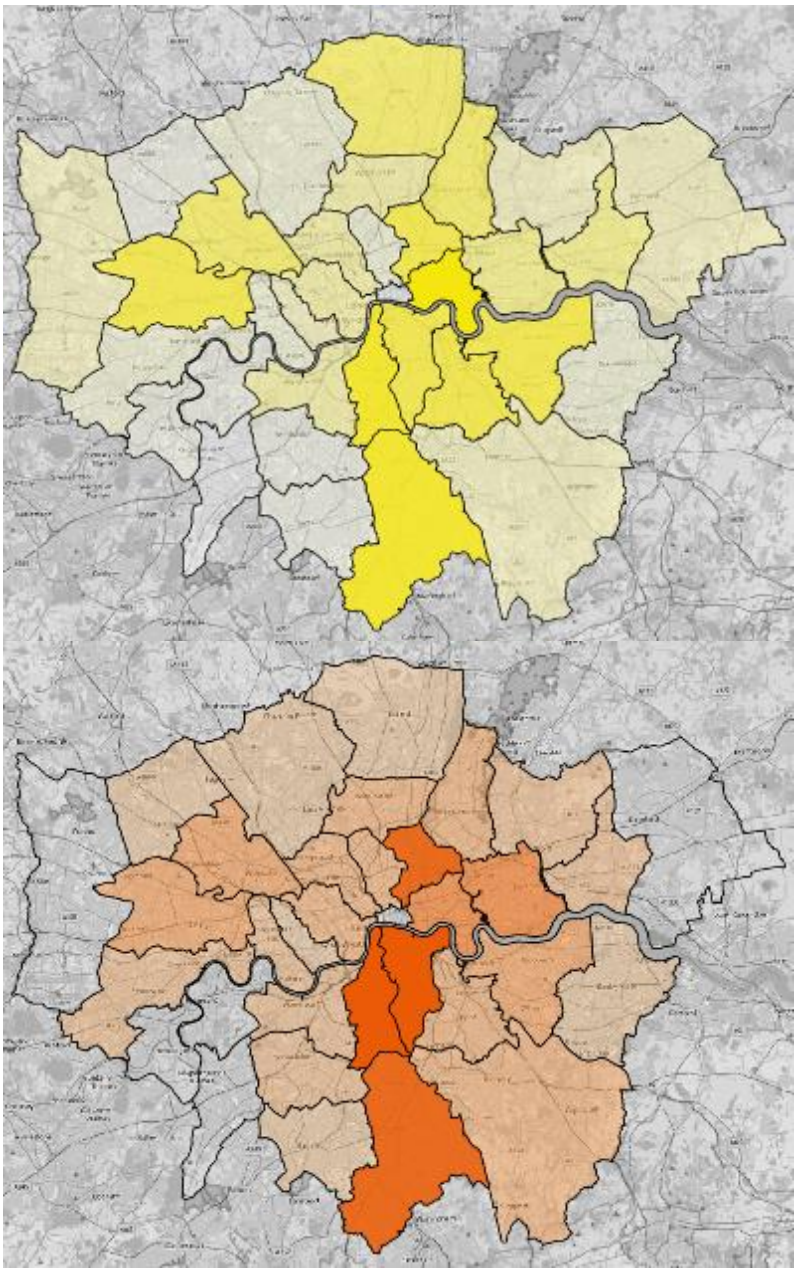
valued over another. Therefore, based on joint intelligence it would be difficult to assume that a hypothetic Emergency Department located in Lewisham, should be prioritised for the youth service over other hospitals.

Furthermore, this method is also based on the simplistic assumption that, every hospital predominantly operates within the borough it is based. Needless-to-say, this is often not true as hospitals are rarely based in the geographical centre of the borough. Hence, there is a need to devise a method that would be hospital centric rather than borough centric in regard to strategic deployment of youth services. The main caveat about hospital centric method, based on the spatial proximity, would be that youth services based in the hospital would have a higher chance to reach victims assaulted in their immediate spatial proximity.

Spatial distribution of young victims of knife crime by borough

LAS

ED



LAS calls for young victims (U25) of knife injury are prominent in the following boroughs:

North of London:

- Tower Hamlets (Royal London MTC)
- Ealing (Ealing ED)
- Hackney (Homerton ED)
- Waltham Forest (Whipps Cross)
- Enfield (North Middlesex)
- Brent (Northwick Park)
- Newham (Newham ED)
- Barking (King George & Queen's)

South of London:

- Southwark and Lambeth (covered by MTC Kings)
- Lewisham (Lewisham ED)
- Greenwich (Queen Elizabeth ED)
- Croydon (Croydon ED)

According to data recorded by EDs, victims of knife crime are prominent in the following borough:

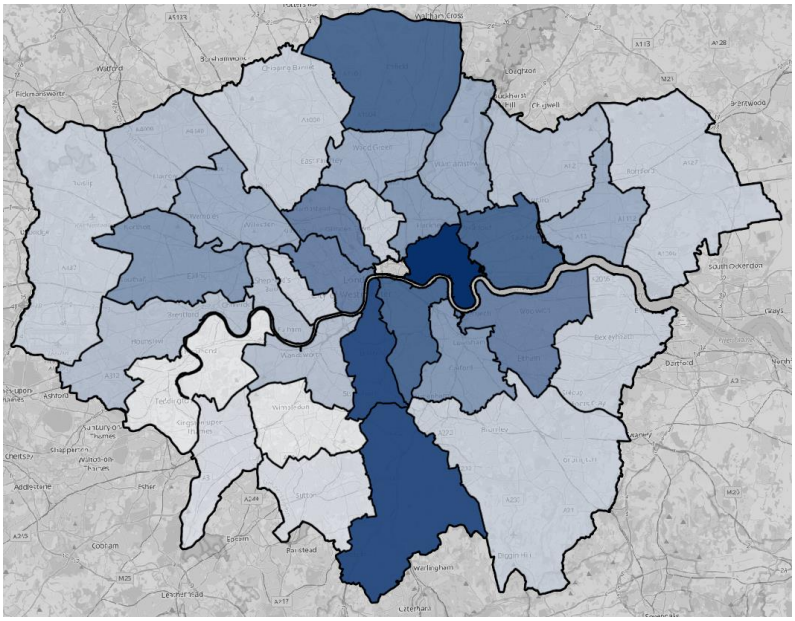
North of London:

- Hackney (Homerton ED)
- Tower H. (Royal London MTC)
- Newham (Newham ED)
- Ealing (Ealing ED
- Brent (Northwick Park ED)

South of London:

- Southwark & Lambeth (Kings MTC)
- Croydon (Croydon ED)
- Greenwich (Queen Elizabeth ED)

MPS



Knife crime reported to the police where a victim under 25 years has sustained moderate or serious injuries are prominent in:

North of London:

- Tower Hamlets (Royal London ED)
- Enfield (North Middlesex ED)
- Newham (Newham ED)
- Westminster (St Mary's ED)
- Camden (UCL ED & Royal Free ED)
- Ealing (Ealing ED)
- Hackney (Homerton ED)

South of London:

- Southwark and Lambeth (Kings MTC & Guy's & St Thomas' EDs)
- Croydon (Croydon ED)
- Greenwich (Queen Elizabeth ED)

Estimate of EDs demand for knife injuries treatment affecting young people: EDs prioritisation

The four Major Trauma Centres (Kings College, Royal London, St Marys and St Georges) are by far the Emergency Departments with the highest number of young victims treated for knife injuries. They receive 77% of ambulance patients with Royal London alone receiving 31% of them. They also shared 55% of all knife crime attendances to EDs in London. MTCs are excluded from the following analysis.

Prioritisation has mainly been informed by the following:

- Proximity to knife incidents with young victims (MPS, LAS, ED): n 5km radius
- EDs demand from LAS and ED attendances for knife injuries

And consideration has also been made in regard to the following:

- Proximity to MTCs
- Volume of young victims in the borough where they are placed (boroughs if they are closed to a border).
- Proximity to areas of high deprivation and clusters of under 25 (% 11-24 years old on LSOA total population)
- Gangs

ED	Sum of Individual Scoring
Newham	5
Croydon University Hospital	10.5
North Middlesex	11.5
Lewisham	12
Northwick Park	12.5
Queen Elizabeth II	14
Whipps Cross	14
Homerton	14.5
St Thomas	18
Whittington	22.5
Guy's	25.5
St Helier	28.5
Ealing Hospital	28.5
Queens, Romford	30
Princess Royal	30
University College	30.5
Chelsea & Westminster	32
King Georges	32
Charing Cross	32.5
West Middlesex	33
Hillingdon	34
Royal Free	35
Kingston	36.5
Barnet	39.5

1) Newham (Youth service introduced in 2019):

it has the highest number of knife crime victims within a 5km radius (same as in 2018) and 1.8% (third highest proportion) of LAS young knife victims are taken to Newham (it was 0.8% in 2018), it is second for number of knife victims attending their ED (5.8% of total, it was 1.8% in 2018). Newham borough is in the eighth position for number of LAS calls for young knife victims (it was third in 2018) and 5.4% of knife victims attending EDs have been victimised in Newham (it was 5.8% in 2018). It is the fifth highest borough for volume of young victims recorded by MPS (it wasn't amongst the top 10 worst boroughs in 2018). The borough has high level of deprivation and numerous clusters of under 25, as well as the presence of well-established gangs that may partially explain the high volume of U25 victimisation.

2) Croydon: (Youth service introduced in 2019):

it has the fourth highest number of knife crime victims within a 5km radius (same as in 2018) and 1.4% of LAS young knife victims are taken to Croydon, fifth position (it was 0.3% in 2018, and this may be due to the fact that victims' injuries have become less severe hence can be treated at Croydon ED instead of a MTC), this ED is in third position for number of knife victims treated at the ED (5.4% of total, it was second in 2018 with 5.9%). Croydon is the second most affected borough for knife victims EDs attendances and third for LAS call-outs (it was in the top 10 for ED attendances and LAS calls in 2018). It is the second most affected borough for number of young knife victim recorded by MPS (it was fourth in 2018). It is placed in a quite deprived area with clusters of under 25 in its proximity as well as gangs.

3) North Middlesex (Oasis youth service already in place):

it has the fifth highest number of knife crime victims within a 5km r (it was second in 2018) and it is the ED with the fourth highest percentage of young knife victims taken in by LAS (1.6% - it was 2.5% in 2018). It also scored high in number of knife victims recorded by ED staff (3.5% of the total, fifth position – it was 5%, fourth position in 2018). It is far from MTCs and on the border of two boroughs, Haringey and Enfield, the latter in the fourth position for number of knife victims under 25. 6.9% of all calls for young knife victims attended by LAS come from Enfield and Haringey (it was 10.8% in 2018). Haringey is also in the top 10 boroughs for EDs presentations (it wasn't in 2018), not Enfield (that was in 2018) but this could be due to lack of recording at EDs or unwillingness to disclose the location of the assaults. North Middx ED is in proximity to areas with high concentration of under 25 as well as high level of deprivation (east side of Enfield and Haringey boroughs). The boroughs covered by the ED are also known for the presence of well-established gangs.

4) Lewisham: (Youth service introduced in 2019):

it has the second highest number of knife crime victims within a 5km radius and it is second for number of young people taken to ED by LAS (1.9%, it was 0.5% in 2018). Recording issues have been identified in this ED and as such data about the number of people attending the ED cannot be considered reliable for the purposes of this analysis (it was in the top 10 for number of victims attending the ED for knife injuries in 2018). Lewisham boroughs is fourth for number of young knife victims LAS call-outs while 3% of all victims attending an ED in London and disclosing the location of the assault have been victimised in this borough, eighth position (1.9% in 2018). Even though the ED is not immediately surrounded by clusters of under 25, high percentages are present in the northern side of the borough as well as highly deprived areas towards the south and gangs.

5) Northwick Park:

it has the sixth highest number of knife crime victims within a 5km radius (same as in 2018) and it is in the fourth position for number of victims taken in by LAS (1.8%, it was fifth in 2018 - 1.1%). 2.4% of victims of knife injuries who have attended EDs in London disclosing the location of the assault had been attacked in Brent (seventh highest, this info was not available in 2018 due to a lack of recording procedures). Brent borough is in the top 10 as a location of incidents for both LAS and ED attendances (seventh and ninth respectively). The ED is far from MTCs and it is not surrounded by areas of high deprivation (that are mainly in the central south part of Brent) but clusters with high percentage of

under 25 are located in its close proximity. Well-established gangs are also operating in the borough. The ED also cover the borough of Harrow which does not appear to be amongst those badly affected by youth knife violence.

6) Queen Elizabeth (Youth service introduced in 2019):

it has the third highest number of knife crime victims within a 5km radius (it was fifth in 2018), and the ED is in the fourth position for number of young knife victims taken by LAS (it was third in 2018). Recording issues have been identified in this ED and as such data in regard to the number of people attending the ED cannot be considered reliable for the purposes of this analysis. It is located far from MTCs and Greenwich borough is sixth for number of young victims taken to EDs by LAS after being attacked within its border and seventh for both the volume of victims U25 recorded by the MPS and the number of knife victims that attended an ED after being victimised in the borough (3.2%, it was 4% in 2018). The borough has fairly high level of deprivation and gangs operating within its borders.

7) Whipps Cross:

this ED is eighth for number of knife crime victims within 5km radius (it was tenth in 2018) and fourth for number of victims taken there by LAS (1.6%, it was 0.8% in 2018). It sees 3.6% of victims of knife injuries who have attended EDs in London disclosing the location of the assault (fourth highest, it was in third position with 5.2% in 2018). According to ED data, Waltham Forest is the ninth most affected borough for number of people stabbed within its perimeter (it was fourth in 2018). The number of LAS call-outs to assist young victims of knife crimes place the borough in the seventh position (3.9%) though Waltham Forest is not amongst the top ten most affected borough according to the MPS. There are not major clusters of under 25 nearby but it is placed far from a MTC and in a fairly deprived area with the presence of gangs.

8) Homerton (Redthread youth service already in place):

the ED scored high in regard to the number of knife crime victims within a 5km radius (seventh, same as in 2018). It is amongst the top 10 EDs for number of young knife victims taken in by LAS (it wasn't in 2018) and this is despite its proximity to Royal London MTC. It has the highest number of ED attendances for knife crime as in 2018 (5.9%, it was 6% in 2018) and 8.9% (it was 5.8% in 2018) of all knife crime victims presenting themselves in a London ED and that have disclosed the location of the assault have been assaulted in Hackney (third highest). According to LAS the borough is 6th for number of young knife victims recorded (it wasn't amongst the top 10 in 2018) and in the tenth position according to MPS data. The hospital is not positioned within clusters of under 25 but it is in a highly deprived area at risk of violence due to the presence of numerous gangs.

9) Guy's & St Thomas (Oasis youth service already in place):

these two EDs are in a really close proximity and part of the same trust. Guy's is within the top ten for number of knife crime victims within 5km radius (ninth, it was eighth in 2018). No LAS patients appear to have been taken to Guy's while St Thomas is the ED with the highest number of young victims conveyed by LAS (2.3%, it was the 6th highest in 2018). Data collected by ED staff for people attending

with knife injuries are joint together and as such it is not possible to distinguish the level of individual attendances though equally splitting the combined totals, the two sites are amongst the top ten EDs, assisting between them about 4.3% of victims of knife injuries. They are placed in Lambeth and Southwark that are amongst the top ten for volume of knife victims U25 recorded by the MPS, the most affected boroughs for knife/sharp related violence according to EDs attendances data and in 2nd and 5th positions for number of LAS call-outs. They are in an area with fairly high deprivation level clusters of under 25 and prolific gangs.

10) Whittington: (Youth service introduced in 2019)

this ED is within the top ten for number of knife crime victims within 5km (tenth, it was ninth in 2018). It is in the seventh position for number of victims taken in by LAS, 1% (it was fifth in 2018, 1.1%) and it is not amongst the top 10 EDs for number of victims attending with knife injuries (it was in 2018). The ED is in the north of Islington closed to Camden and Haringey's border. Islington and Haringey are not amongst the 10 most affected borough for number of victims recorded by the MPS and the two boroughs together are responsible of 4.7% of calls attended by LAS (it was 8.2% in 2018), while also being amongst the top 10 boroughs for victims of knife crimes attending EDs. It is placed closed to a fairly deprived area that also has cluster of under 25 (south). Camden, Haringey and Islington are also well known for their gangs' activities and on-going tensions amongst them.

Areas of unreported youth violence

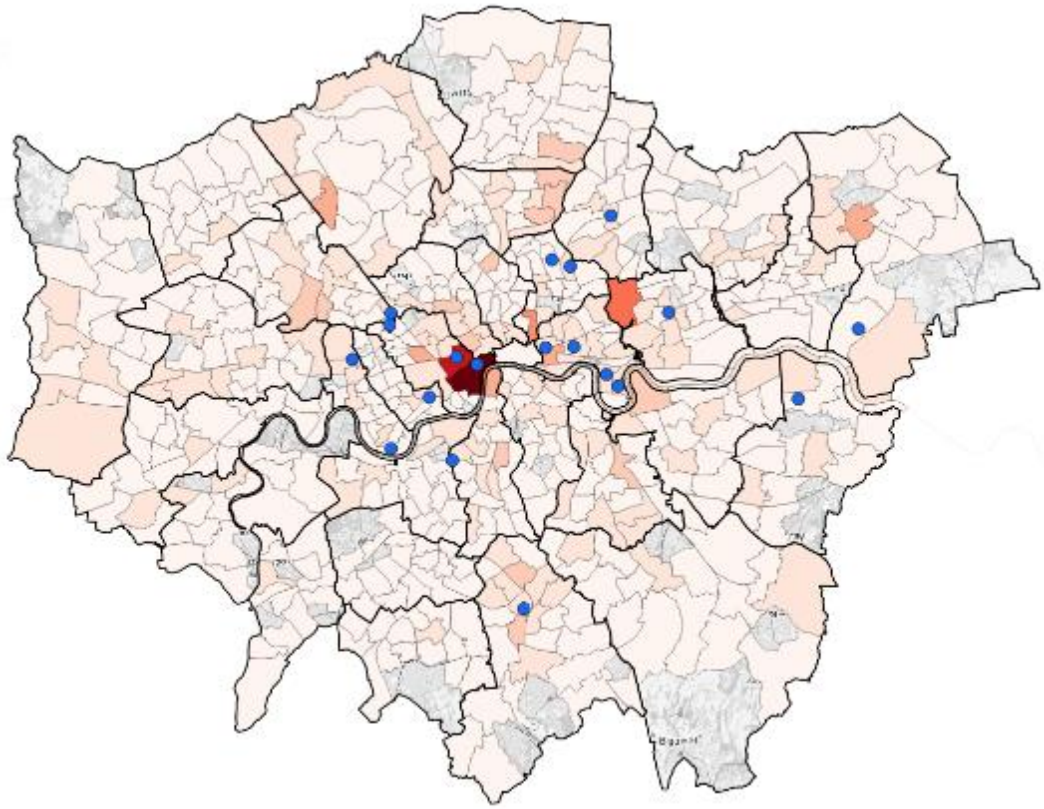
LAS: "No patient"

The LAS also records all the incidents where victims could not be located - "no patient". People might not be present on the scene or refuse to be assisted for various reasons: amongst others, victims of domestic violence for example might refused to be assisted because they are worried of any police involvement and the same might be for young victims of knife crime involved in gangs activities. A better understanding of where these places of potentially high volume of unreported serious violent crimes are, is also important when estimating the EDs demand generated by young people victims of knife crime, in particualr due to the fact that EDs are not currently sharing any information about the age of those assisted.

For comparative purposes, it should be noticed that in 2018, this section was based on the analysis of incidents where victims "declined aid against advice" or there was "no trace". Incidents were also available at a point level hence a hotspot map could be produced.

Below is a ward map of LAS call-outs where victim was under 25. Overlaid are blue points of call-outs for knife injuries (under 25, points correspond to the centrepoint of Output Areas). In both cases, the victim was not present (No patient). For all types of injuries, the majority of them are concentrated in central London (Westminster), Stratford area in Newham and Shoreditch area in Hackney. Wards with high volume are also identified in Whitechapel area in Tower Hamlets, Romford in Havering, West Hendon/Colindale area in Barnet, Paddington in Westminster and in the north of Lambeth borough.

Knife crime victims under 25 that could not be located by the ambulance are mainly in the north of the river with small clusters in Tower Hamlets, Westminster and the south of Brent.



Conclusion

The analysis of MPS, LAS and EDs data about the spatial distribution of knife crime (where victims are under 25 for MPS and LAS data, any age for EDs data) in different boroughs of London and the volume of attendances for knife injuries in 29 Emergency Departments in the capital has identified the following EDs as the sites that are potentially dealing with the highest volume of young victims of knife crime:

- **Newham**
- **Croydon**
- **North Middlesex**
- **Lewisham**
- **Northwick Park**
- **Queen Elizabeth**
- **Whipps Cross**
- **Homerton**
- **St Thomas'**
- **Whittington**

Reference:

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Appendix:

Appendix 1: List of codes for the MPS data regarding knife crimes

Codes used to select knife crime incidents:

- XI – knife or sharp instrument
- XT – Any knife or other sharp instrument used as a threat or in attempt to injure
- XP – knife or other sharp instrument intimated
- WK – knife or bladed instrument
- WS Sharp or pointed instrument

Only incident that match moderate or serious injury in VIW injury description field were used. Furthermore, age of victims was based on the '**VIW Apparent Age From'** field.

Appendix 2: EDs demand for young victims with knife injuries, process of prioritisation

The three datasets provide some conflicting results when looking at EDs with highest volume of incidents in their proximity as well as the number of patients taken by LAS or seen at ED.

This is due to a high number of variables that play a role in determining which ED is best placed to assist the victim. A few examples are:

- Victims with life threatening condition or complex needs are most likely taken to the closer MTCs and this is independently for the proximity of any other non-MTC ED. For this reason, high volume of incidents in proximity of an ED does not necessarily mean that the ED will see all of the victims. Nonetheless, this measure can still be used as a guidance to estimate an increased demand on the ED in its proximity;

- LAS number of patients conveyed to a certain ED is an accurate figure but the fact that an ED is receiving more LAS patients does not mean that the amount of people they are assisting within their department is higher than the one is receiving less LAS patients. In some cases, lack of resources could lead to a patient to be conveyed to a less busy EDs.

- ISTV data: recording processes and level of staff engagement with the project can lead to under recording which means that some of the figures provided could be lower than the actual volume seen at ED. The following EDs have been identified for recording issues and/or missing submissions: Hillingdon ED (no data), West Middlesex and Chelsea and Westminster (no knife/sharp injury data), Barnet, Royal Free and Charing Cross (missing submissions).

- MPS and ISTV: for the ISTV dataset, location data are also dependent on the willingness of the victim to disclose the location. High deprived area are more likely to be affected by lack of reporting that has an impact on both MPS and EDs data.

Because the three variables considered to determine the EDs demand for youth services are all important when deciding which ED should be prioritised, a standardised scoring exercise has been carried out on each of them individually.

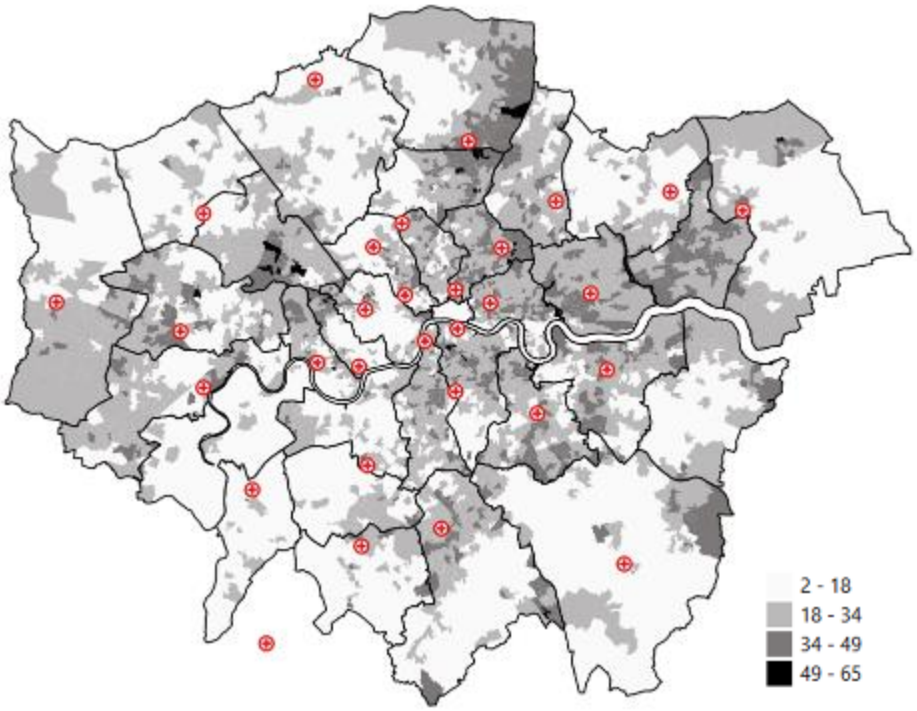
EDs have been sorted by volume of incidents within 5km radius (high to low). 1-point score has been assigned to the ED with the highest volume and a progressive score (increasing of 1 point) to the following EDs. The same has been done sorting the data by number of LAS conveyed to EDs and then number of knife victims seen. Because EDs data do not include the age of the victim, rather than progressive score of 1 point, 0.5 point has been assigned. This is due to the fact that ISTV data are slightly less accurate not providing the age of the victim and some EDs are experiencing recording/data sharing issues, as such its impact on the analysis and prioritisation should be diminished.

The sum of the individual score has help in identifying the top priorities sites.

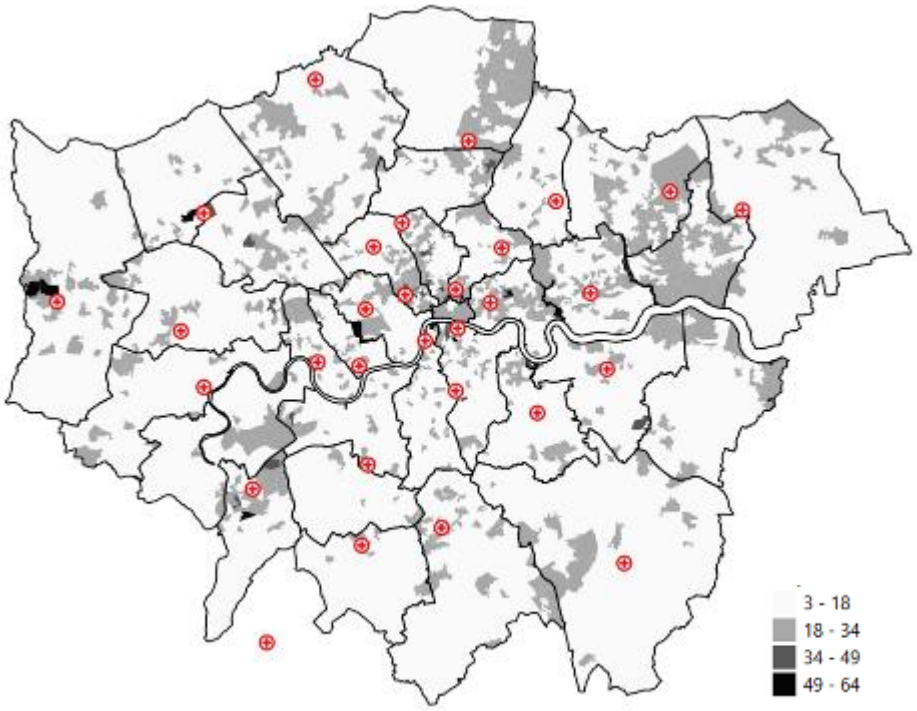
ED	Volume Incidents (5km Radius)	LAS % Victims Conveyed	ED % Victims Assisted	Volume Incidents Score	LAS Victims Conveyed Score	ED Victims Assisted Score	Sum of Individual Scoring
Newham	10.6	1.8	5.8	1	3	1	5
Croydon University Hospital	7.1	1.4	5.4	4	5	1.5	10.5
North Middlesex	6.5	1.6	3.5	5	4	2.5	11.5
Lewisham	7.9	1.9	0.3	2	2	8	12
Northwick Park	3.9	1.8	2.4	6	3	3.5	12.5
Queen Elizabeth II	7.4	1.6	1.1	3	4	7	14
Whipps Cross	3.6	1.6	3.6	8	4	2	14
Homerton	3.7	1.0	5.9	7	7	0.5	14.5
St Thomas	2.3	2.3	2.2	13	1	4	18
Whittington	2.6	1.0	1.9	10	7	5.5	22.5
Guy's	3.3	0.0	2.1	9	12	4.5	25.5
St Helier	2.5	0.6	0.2	11	9	8.5	28.5
Ealing Hospital	2.3	0.4	1.9	13	10	5.5	28.5
Queens, Romford	1.6	0.8	2.0	17	8	5	30
Princess Royal	0.9	0.8	3.3	19	8	3	30
University College	2.2	0.6	0.6	14	9	7.5	30.5
Chelsea & Westminster	2.4	0.4	0.0	12	10	10	32
King Georges	1.7	0.4	1.3	16	10	6	32
Charing Cross	2.4	0.0	0.2	12	12	8.5	32.5
West Middlesex	1.7	1.0	0.0	16	7	10	33
Hillingdon	1.2	1.2	0.0	18	6	10	34
Royal Free	2.0	0.2	0.1	15	11	9	35
Kingston	0.9	0.2	1.2	19	11	6.5	36.5
Barnet	0.6	0.2	0.2	20	11	8.5	39.5

Appendix 3: IMD 2019 and % of under 25 (11-24 years old) by LSOA (Mid-2020 Population Estimates)

Index of Multiple deprivation (darker shades for high levels)

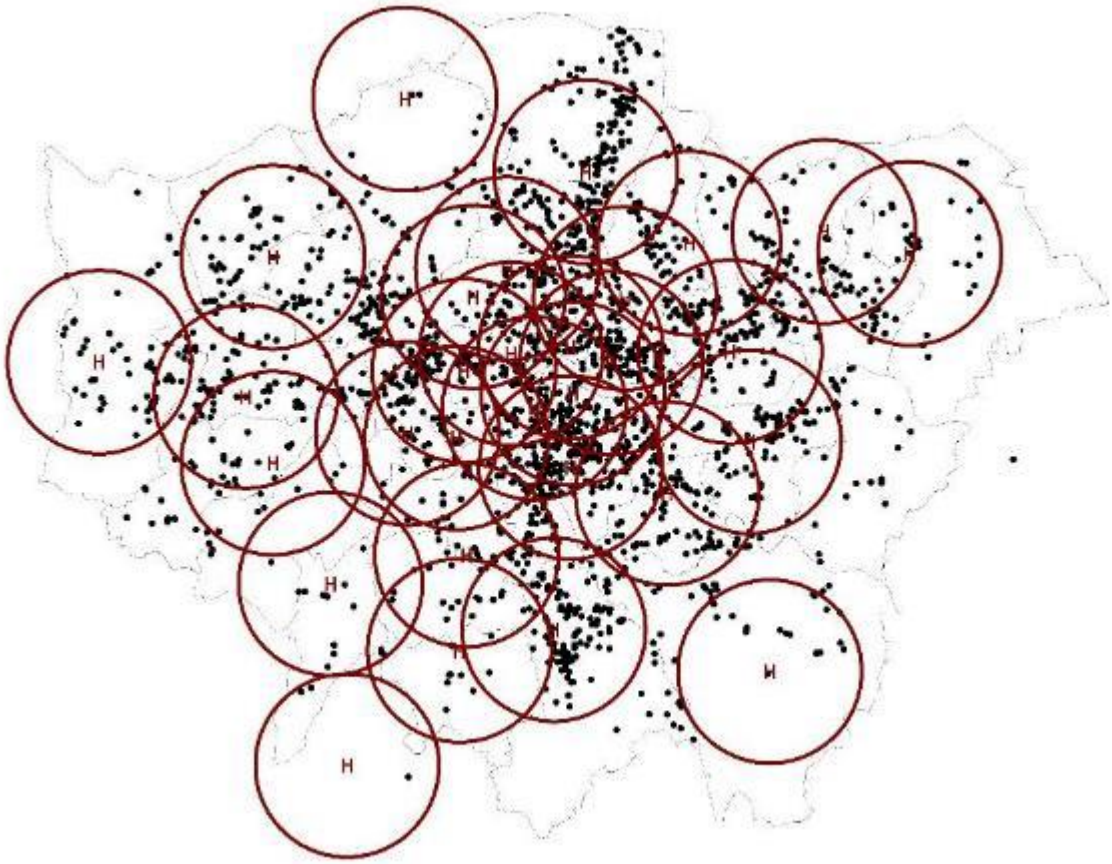


% of 11-24 years old on the total LSOA population



Appendix 4: Calculating number of incidents within spatial proximity of each Emergency Department.

In order to establish which Emergency Department has the highest number of incidents within its spatial proximity for each dataset, buffer zone for each hospital coordinate had to be created. The radius for buffer zones has been chosen based on the subjective assumption that five-kilometres radius would well represent effective operational range of an Emergency Department in London. Then, number of incidents within each of the buffer zones was counted for each dataset and each hospital. Please find below visual representation of the calculation that took place. Red H represent each hospital, while red circles represent five kilometres radius around them. Knife related incidents (black dots) were then counted within each sphere (image taken from previous report).



Appendix 5: Weekly distribution of knife/sharp related injuries attendances at Emergency Departments with funded embedded youth services and LAS weekly distribution of violence related call-outs where victim is U25, any type of injury (conveyed to sites with funded embedded youth services)

Croydon

Croydon (ED attendaces)							
Day\Hour	**8:00-11:59**	**12:00-15:59**	**16:00-19:59**	**20:00-23:59**	**00:00-03:59**	**4:00-07:59**	**Grand Total**
Mon							15.5%
Tue							14.1%
Wed							16.9%
Thu							14.1%
Fri							19.7%
Sat							7.0%
Sun							12.7%
Grand Total	**5.6%**	**9.9%**	**21.1%**	**35.2%**	**18.3%**	**9.9%**	**100.0%**

Croydon (LAS calls-out)							
Day\Hour	**8:00-11:59**	**12:00-15:59**	**16:00-19:59**	**20:00-23:59**	**00:00-03:59**	**4:00-07:59**	**Grand Total**
Mon							11.1%
Tue							16.7%
Wed							19.4%
Thu							0.0%
Fri							22.2%
Sat							22.2%
Sun							8.3%
Grand Total	**11.1%**	**27.8%**	**19.4%**	**13.9%**	**16.7%**	**11.1%**	**100.0%**

Guy's & ST Thomas'

Guy's & St Thomas' (ED attendaces)							
Day\Hour	**8:00-11:59**	**12:00-15:59**	**16:00-19:59**	**20:00-23:59**	**00:00-03:59**	**4:00-07:59**	**Grand Total**
Mon							10.5%
Tue							7.0%
Wed							14.0%
Thu							7.0%
Fri							15.8%
Sat							17.5%
Sun							28.1%
Grand Total	**15.8%**	**8.8%**	**8.8%**	**31.6%**	**24.6%**	**10.5%**	**100.0%**

St Thomas' (LAS calls-out)							
Day\Hour	**8:00-11:59**	**12:00-15:59**	**16:00-19:59**	**20:00-23:59**	**00:00-03:59**	**4:00-07:59**	**Grand Total**
Mon							20.0%
Tue							6.7%
Wed							11.7%
Thu							8.3%
Fri							11.7%
Sat							28.3%
Sun							13.3%
Grand Total	**5.0%**	**10.0%**	**20.0%**	**23.3%**	**36.7%**	**5.0%**	**100.0%**

Homerton

Homerton (ED attendaces)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							7.8%
Tue							20.8%
Wed							13.0%
Thu							10.4%
Fri							7.8%
Sat							20.8%
Sun							19.5%
Grand Total	10.4%	9.1%	18.2%	23.4%	27.3%	11.7%	100.0%

Homerton (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							6.3%
Tue							25.0%
Wed							25.0%
Thu							12.5%
Fri							12.5%
Sat							6.3%
Sun							12.5%
Grand Total	6.3%	25.0%	31.3%	18.8%	6.3%	12.5%	100.0%

King's College

King's College (ED attendaces)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							11.1%
Tue							11.4%
Wed							14.1%
Thu							12.2%
Fri							14.1%
Sat							17.3%
Sun							20.0%
Grand Total	6.5%	9.2%	18.6%	26.2%	26.5%	13.0%	100.0%

King's College (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							11.7%
Tue							11.7%
Wed							15.6%
Thu							11.7%
Fri							15.6%
Sat							14.8%
Sun							18.8%
Grand Total	4.7%	16.4%	28.1%	27.3%	15.6%	7.8%	100.0%

Lewisham

Lewisham (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							17.1%
Tue							14.3%
Wed							20.0%
Thu							22.9%
Fri							2.9%
Sat							11.4%
Sun							11.4%
Grand Total	2.9%	22.9%	31.4%	17.1%	20.0%	5.7%	100.0%

North Middlesex

North Middlesex (ED attendaces)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							6.5%
Tue							17.4%
Wed							19.6%
Thu							13.0%
Fri							6.5%
Sat							17.4%
Sun							19.6%
Grand Total	**8.7%**	**26.1%**	**17.4%**	**15.2%**	**26.1%**	**6.5%**	**100.0%**

North Middlesex (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							10.5%
Tue							13.2%
Wed							13.2%
Thu							26.3%
Fri							5.3%
Sat							7.9%
Sun							23.7%
Grand Total	**10.5%**	**21.1%**	**31.6%**	**18.4%**	**13.2%**	**5.3%**	**100.0%**

Newham

Newham (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							10.2%
Tue							10.2%
Wed							13.6%
Thu							10.2%
Fri							13.6%
Sat							25.4%
Sun							16.9%
Grand Total	**3.4%**	**13.6%**	**33.9%**	**30.5%**	**15.3%**	**3.4%**	**100.0%**

Royal London

Royal London (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							17.1%
Tue							11.3%
Wed							21.2%
Thu							10.4%
Fri							12.2%
Sat							13.1%
Sun							14.9%
Grand Total	**5.4%**	**14.4%**	**29.3%**	**26.6%**	**19.4%**	**5.0%**	**100.0%**

Queen Elizabeth

Queen Elizabeth (ED attendaces)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							13.3%
Tue							0.0%
Wed							0.0%
Thu							0.0%
Fri							46.7%
Sat							20.0%
Sun							20.0%
Grand Total	**0.0%**	**0.0%**	**0.0%**	**53.3%**	**20.0%**	**26.7%**	**100.0%**

Queen Elizabeth (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							22.9%
Tue							17.1%
Wed							8.6%
Thu							11.4%
Fri							14.3%
Sat							14.3%
Sun							11.4%
Grand Total	**5.7%**	**5.7%**	**25.7%**	**37.1%**	**14.3%**	**11.4%**	**100.0%**

St George's

St George's (ED attendaces)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							10.5%
Tue							5.3%
Wed							17.5%
Thu							14.0%
Fri							21.1%
Sat							14.0%
Sun							17.5%
Grand Total	**5.3%**	**14.0%**	**26.3%**	**22.8%**	**22.8%**	**8.8%**	**100.0%**

St George's (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							11.3%
Tue							13.8%
Wed							13.8%
Thu							13.8%
Fri							11.3%
Sat							15.0%
Sun							21.3%
Grand Total	**2.5%**	**35.0%**	**25.0%**	**22.5%**	**8.8%**	**6.3%**	**100.0%**

Whittington

Whittington (ED attendaces)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							24.0%
Tue							20.0%
Wed							8.0%
Thu							12.0%
Fri							8.0%
Sat							24.0%
Sun							4.0%
Grand Total	**16.0%**	**16.0%**	**20.0%**	**12.0%**	**32.0%**	**4.0%**	**100.0%**

Whittington (LAS calls-out)							
Day\Hour	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	00:00-03:59	4:00-07:59	Grand Total
Mon							12.5%
Tue							18.8%
Wed							18.8%
Thu							0.0%
Fri							25.0%
Sat							12.5%
Sun							12.5%
Grand Total	**12.5%**	**18.8%**	**25.0%**	**25.0%**	**18.8%**	**0.0%**	**100.0%**