



WEST MIDLANDS
VIOLENCE
REDUCTION UNIT

Strategic Needs Assessment

Introduction

The West Midlands Violence Reduction Unit (VRU) is committed to taking a public health approach to violence reduction.

It will support and empower interventions that seek to address the risk factors associated with violence and take a preventative approach to addressing violence.

A public health approach means putting evidence at the heart of policy-making.

This needs assessment is therefore critical to the success of the West Midlands VRU. The data analysis and key findings will be crucial in determining the direction of the unit.

Aims and purpose

- To understand the nature, extent, patterns and trends of violence in the West Midlands
- To understand the nature, extent, patterns and trends of risk factors for violence in the West Midlands
- To identify, prioritise, capture and link relevant data in relation to violence and violence prevention
- To produce a clear, yet comprehensive, multi-sector “problem profile” of violence in the West Midlands, using a wide range of data sources and supporting information
- To provide an accessible and useful strategic needs assessment for organisations and communities, to inform and support decision-making and interventions to reduce violence

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List of Abbreviations

VRU - Violence Reduction Unit

IRIS – Identification and Referral to Improve Safety

MVP – Mentors in Violence Programme

WMP - West Midlands Police

YOI - Young Offenders' Institution

ISTV – Injury Surveillance to Tackle Violence

ONS – Office for National Statistics

MHCLG – Ministry of Housing, Communities and Local Government

CPS - Crown Prosecution Service

MoJ – Ministry of Justice

YJB – Youth Justice Board

YOT – Youth Offending Team

IDACI – Income Deprivation Affecting Children Index

IMD – Index of Multiple Deprivation

LSOA – Lower Super Output Area

MSEA – Middle Super Output Area

VWI – Violence with Injury

HMP – Her Majesty's Prison

SAC – Serious Acquisitive Crime

ASB – Antisocial Behaviour

WMAS – West Midlands Ambulance Service

HES – Hospital Episode Statistics

PHE – Public Health England

SEN – Special Educational Needs

DfE – Department for Education

The Black Country, where referenced, indicates the four local authority areas of Sandwell, Dudley, Walsall and Wolverhampton

Executive Summary

The West Midlands VRU is taking a public health approach to violence reduction. This needs assessment links demographic information with data from the criminal justice, health and education sectors to inform a holistic, multi-sector understanding of violence and the risks of violence in the West Midlands.

Violence of all types is high compared to other parts of the country and some kinds, such as knife crime, are showing worryingly steep increases in recent years. In 2019, the West Midlands experienced the biggest annual increase in knife crime of any area in England – up 17% on 2018.

Current work supported by West Midlands VRU, such as place-based locality hubs, IRIS referrals for domestic violence and MVP, are all focussed on areas with high need, as identified by the Impact Areas, with more detail in this document.

Some of the key findings in this needs assessment are summarised below.

Population, Demographics, Inequalities

The West Midlands is a geographically small, but densely populated region, home to three million people. It has a young and ethnically diverse population. 25% of Birmingham's resident population are under 16. 47% are non-White British.

It is a region with deep pockets of deprivation and poverty, which overlap strongly with areas of high ethnic diversity. Three of its seven local authorities - Birmingham, Sandwell and Wolverhampton - are in the top 20 most deprived in the country. All three are more deprived in 2019 than they were in 2004.

Criminal Justice

Crime deprivation has a similar pattern geographically to the Index of Multiple Deprivation, suggesting correlation with poverty. Violence against the person in the West Midlands is up from 50,000 incidents in 2017 to 80,000 in 2019 - a trend mirrored by the Violence with Injury offence type. Half of recorded Violence with Injury offences take place in the public realm.

Knife crime is rising, with the West Midlands experiencing the biggest increase nationally – up 17% in 2019 from the previous year. Nevertheless, domestic abuse is nine times more prevalent than violent knife crime.

YOI Brinsford has seen significant recent increases in the number of people imprisoned for "Possession of Weapons" offences. YOI Brinsford also has high rates of proven adjudications for violence.

For offenders subject to community sentences and on licence, reoffending rates for those convicted of "Violence against the Person" went up from 20% in 2007 to 25% in 2016.

Wolverhampton and Sandwell have bucked a national trend, seeing increases in the number of children sentenced for "Violence against the Person" offences in recent years.

Health

There is clear overlap between WMP Impact Areas and areas with the highest health deprivation. However, there are gaps, with several concentrations of health deprivation evident in Birmingham, Sandwell and Walsall.

Hospital admissions for violence in the West Midlands are falling, with the exception being admissions for “Assault with sharp object”, which has been rising since 2013. The rate for under 25s is increasing faster than for other age groups with admissions more than doubling in four years to 2018. The VRU has “Teachable Moments” interventions in hospitals with the highest rates of admissions for violence in areas of high violent crime.

Injury surveillance data, though incomplete, shows differences to police data that demonstrate the importance of using a variety of sources to understand the true picture of violence in the region. Work is under way between West Midlands VRU and partners to improve the availability and quality of injury surveillance and ambulance data in 2020/21.

Children’s services data shows that significant numbers of children are presenting to social services with exposure to domestic violence and mental health issues. In Birmingham a rate of 70% equates to than 6,000 children in 2018/19 from a total of 8,000 assessments

Education

The West Midlands has almost double the national average of areas in the top 10% most deprived areas for education, skills and training. There is significant education, skills and training deprivation in the Black Country, particularly in northwest Walsall.

Being excluded from school puts young people at greater risk of being involved in violence, as a victim or a perpetrator. There is evidence that some young people are at greater risk of being excluded in the first place, particularly those with special educational needs.

Permanent school exclusion rates are higher than the national average in the West Midlands and have been rising steadily since 2012. 12% of all schools in the West Midlands were responsible for almost 80% of permanent exclusions. Wolverhampton has the highest rates.

This document demonstrates that West Midlands VRU activities to date are focussed on areas with high need, but also highlights additional areas of for potential future focus.

Potential areas of additional focus in 2020/21 and going forward

Wolverhampton

- High rates of domestic violence
- Very high hospital admissions for young people with knife wounds
- Highest permanent school exclusion rates

Sandwell

- High hospital admissions for violence
- High rates of domestic violence recorded in children’s services assessments
- High rates of knife crime

Areas for further investigation

Some areas that would benefit from further investigation and analysis have been highlighted throughout the report. Work is under way in the West Midlands to identify and access data that would add value and insight to the work of West Midlands VRU.

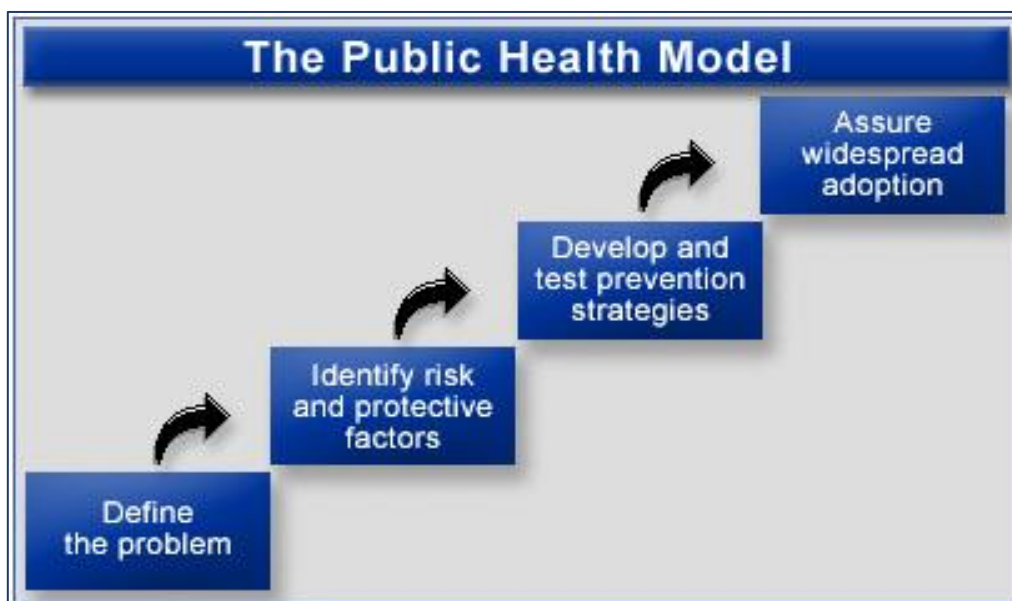
Definition of violence

West Midlands VRU is adopting the broad World Health Organisation definition of violence.

In 2002, the World Health Organisation defined violence as:

“The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in, or has a high likelihood of resulting in, injury, death, psychological harm, maldevelopment or deprivation”

Approach – The Public Health Model



A public health approach means putting evidence at the heart of policy-making.

West Midlands VRU is taking a public health approach to violence.

This means treating violence and episodes of violence in the way one would regard a disease. The most successful ways of dealing with disease have proven to be preventative.

A public health approach requires an understanding of the risk factors that increase the likelihood that a person will be involved in violence, as well as identifying protective factors.

This needs assessment will analyse the prevalence and landscape of violence in the West Midlands. It will incorporate geographical, demographic and temporal factors.

It will look at the bigger picture – the people of the West Midlands, where they live and when, how and why violence affects them. It will assess how that compares with other places and how it has changed over time.

A diverse range of people, communities and organisations will have experience of violence and may have different understandings of what it means.

Risk factors include (but are not limited to) deprivation, poverty, demographics, ethnicity, educational attainment, absenteeism, school exclusions and special educational needs including social, emotional and mental health.

This will not only help the West Midlands VRU to understand where and when to target and support secondary response interventions, but equally give a greater understanding of where the risk factors are prevalent, and thus inform a primary, or preventative approach.

Section 1: Context – Population, Demographics, Inequalities

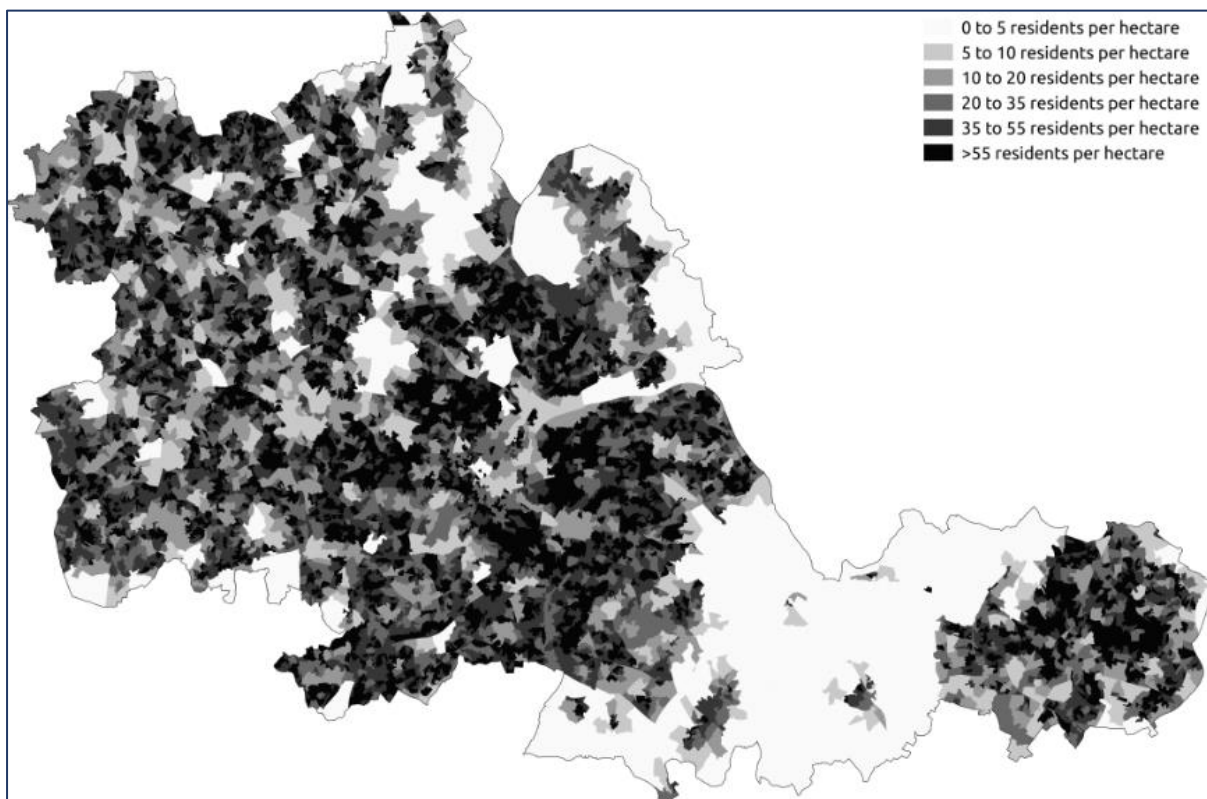
Themes and Data

Theme	Dataset(s)	Source	Availability	Importance	What does it tell us?
Population and Demographics	Population (general) Population (under 16) Ethnicity	ONS	Open	8/10	Distribution of populations with age and ethnic breakdowns
Inequalities	Index of Multiple Deprivation Income Deprivation Affecting Children	MHCLG	Open	9/10	Rates of deprivation and relative inequalities at regional, local authority and lower super output levels

Population and Demographics

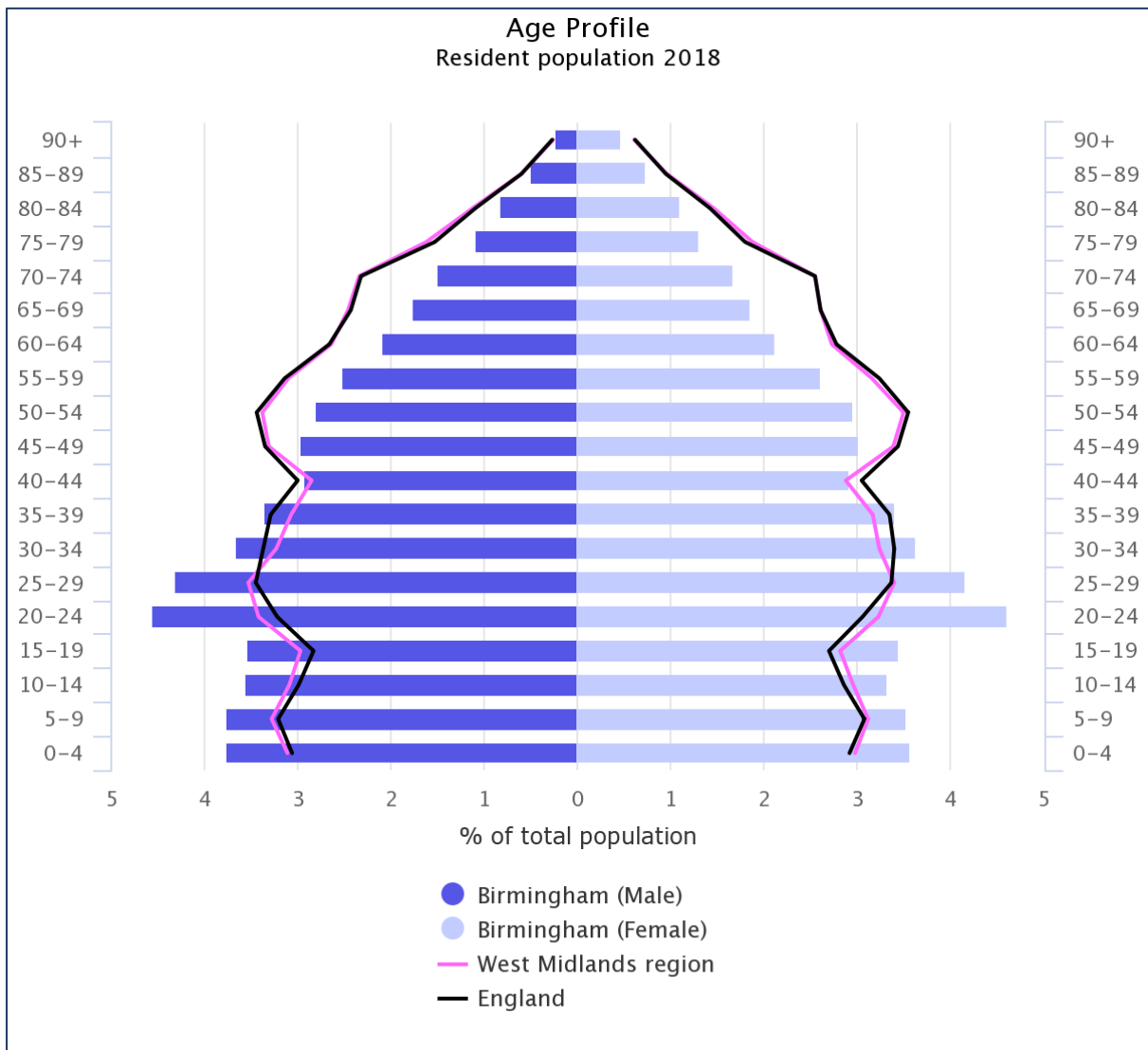
The West Midlands is geographically relatively small, but a densely populated region, home to three million people.

Distribution of population density in the West Midlands



The West Midlands is made up of seven local authority areas, the biggest of which is Birmingham, and includes two other cities, Coventry and Wolverhampton.

Age Profiles – Birmingham, the West Midlands and England

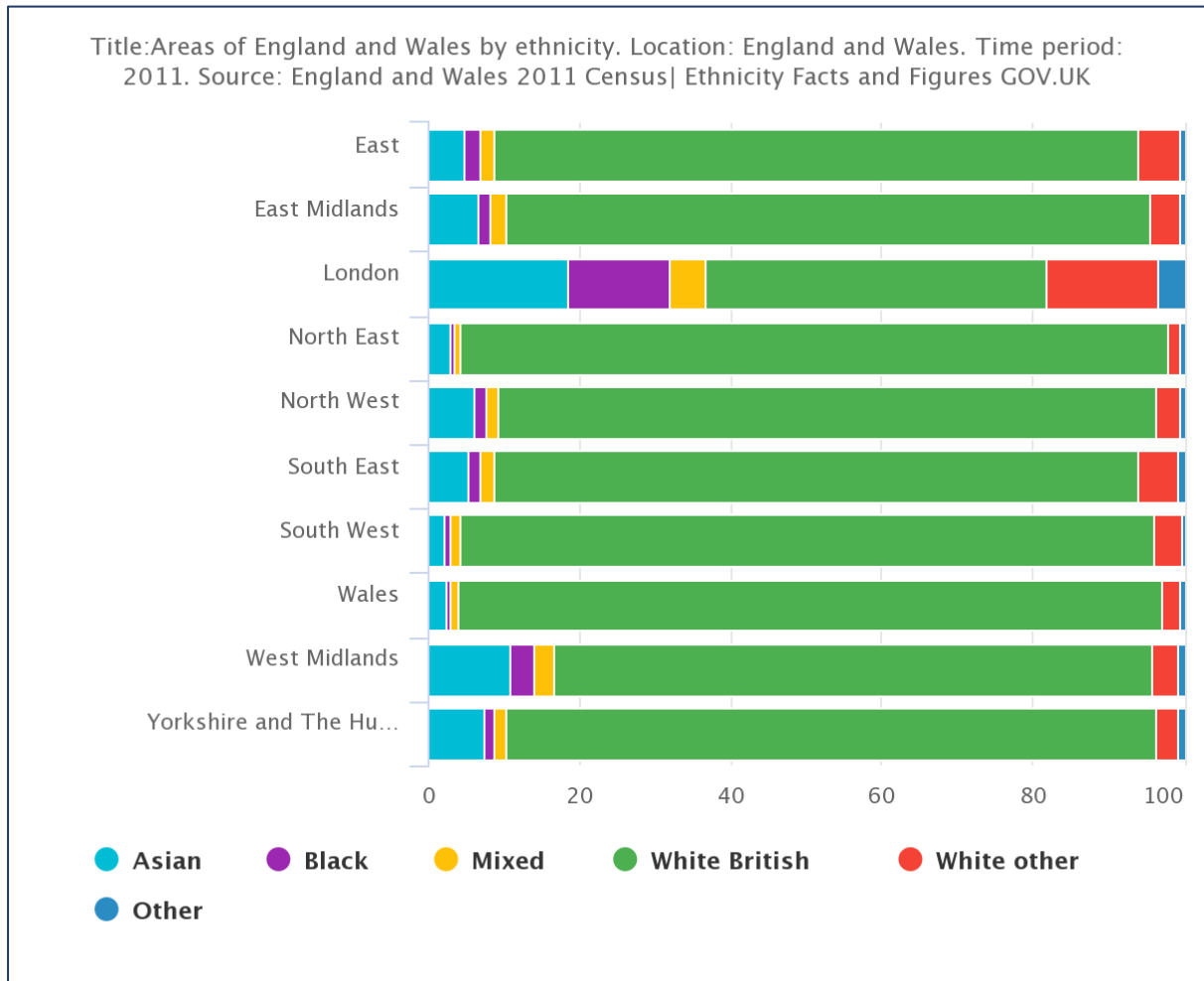


Key findings

- Birmingham has a young population compared to England
- About 25% of people in Birmingham are aged under 16
- The Black Country is generally less young, but 20% of residents are under 16

Ethnic Profiles – local authorities in West Midlands and England

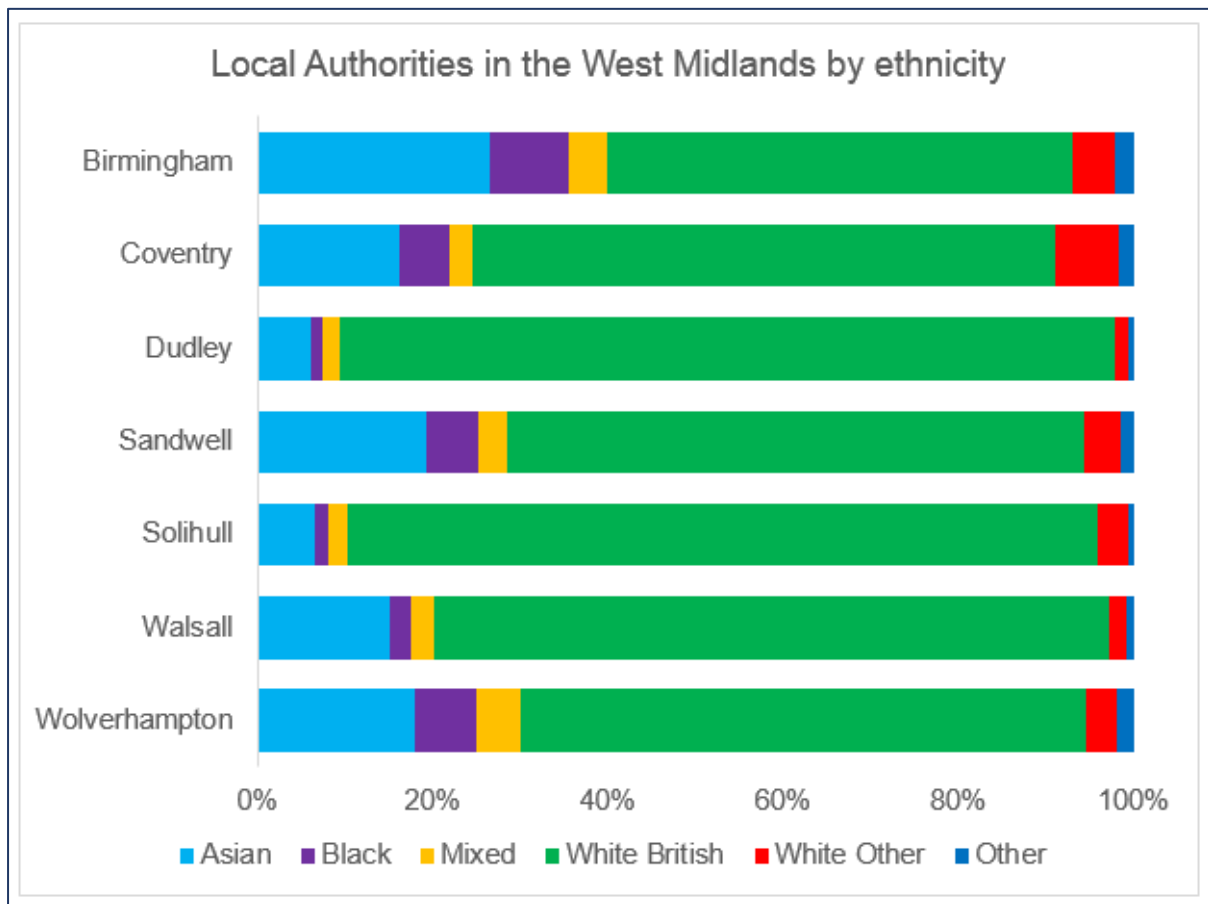
Apart from London, the West Midlands is the most ethnically diverse region in the country.



Key findings

- The West Midlands region has a relatively large Asian population (11%) in comparison to the rest of the country, with the exception of London
- 3.3% of the West Midlands region population were Black according to the 2011 census
- Less than four in five people identified as “White British”
- The West Midlands region, which is represented in this chart, includes predominantly rural counties such as Shropshire and Worcestershire, which are predominantly white
- The West Midlands VRU area – the more urban, ethnically diverse seven local authority areas including Birmingham, Coventry and Wolverhampton, is shown in detail below.

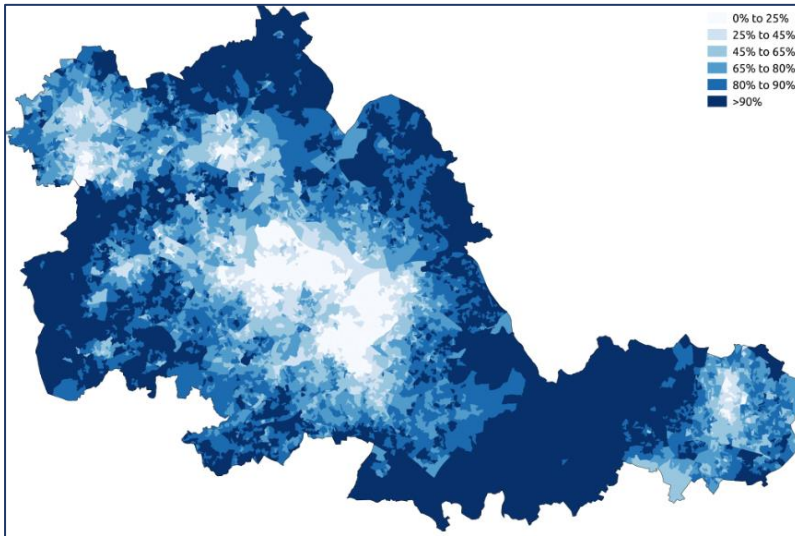
Breakdown by local authority



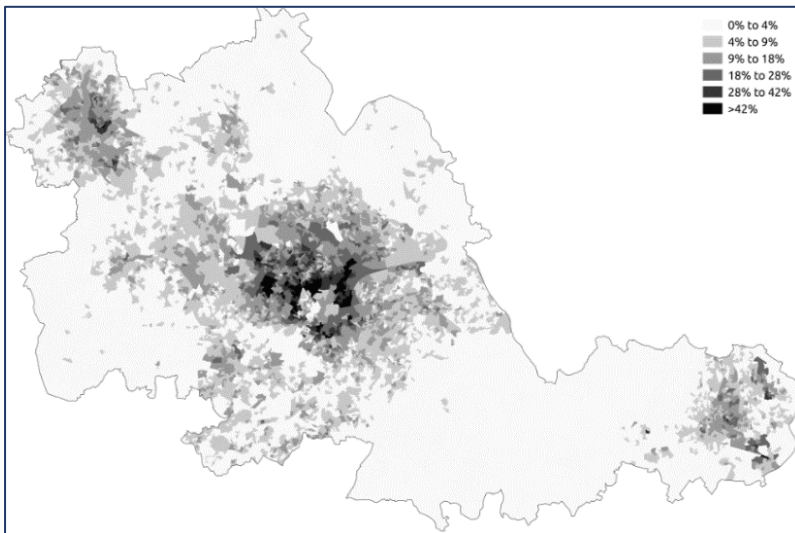
Key findings

- The greatest proportion of ethnic diversity is seen in the main cities – Birmingham, Coventry and Wolverhampton
- There are also significant Asian and Black populations in Sandwell
- Dudley and Solihull are the least diverse local authorities, in the sense that they have the largest proportion of white British populations
- 47% of Birmingham’s population identified as non-white British in the 2011 census – this is likely to have increased to a majority of the population in 2020

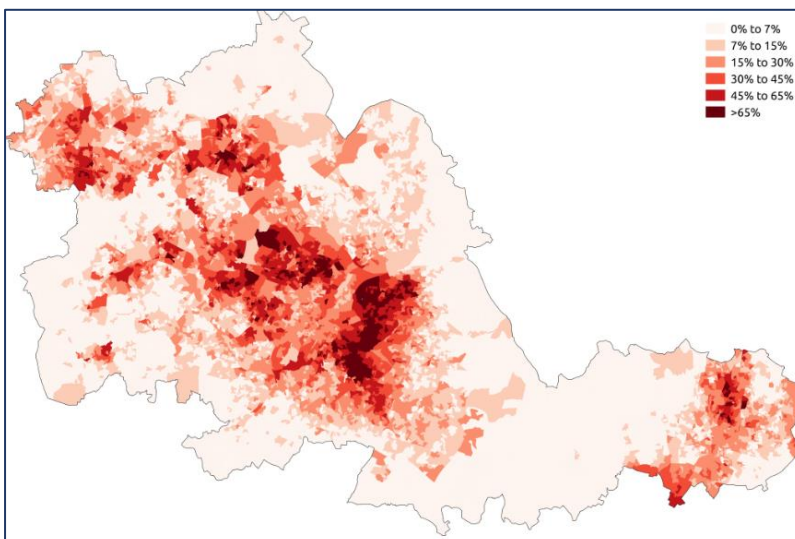
Distribution of population by White ethnicity



Distribution of population by Black ethnicity



Distribution of population by Asian ethnicity



Deprivation and Inequalities

The West Midlands is one of the most deprived regions in England.

All local authorities in England ranked by deprivation decile (2019)

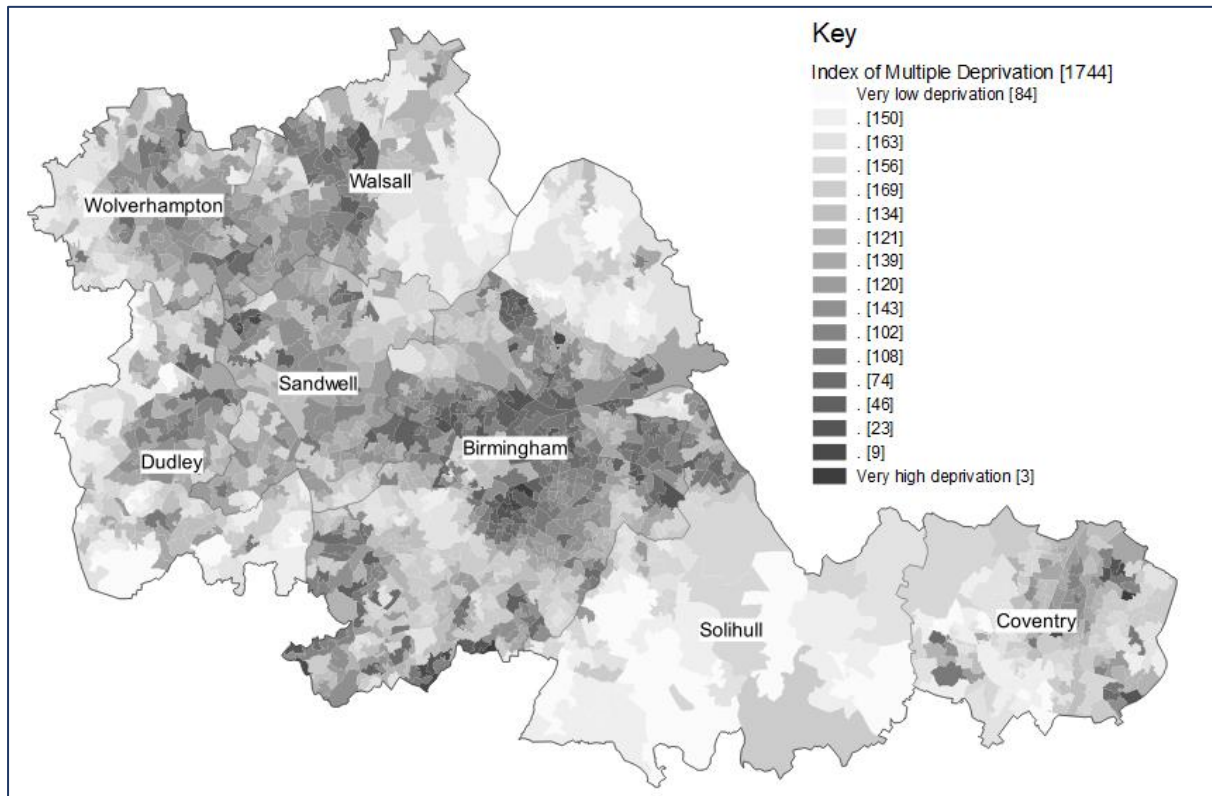
1st decile	2nd decile	3rd decile	4th decile	5th decile	6th decile	7th decile	8th decile	9th decile	10th decile
1 Blackpool	Sunderland	County Durham	Vigan	Southend-on-Sea	Kettering	Exeter	South Norfolk	Runnymede	Bromwood
2 Manchester	Thanet	North East Lincolnshire	Medway	Gosport	Mid Devon	Leves	East Northamptonshire	Broadland	Eastleigh
3 Knowsley	Lewissham	Torridge	Telford and Wrekin	Northumberland	South Somerset	Vatford	Sutton	Tandridge	West Berkshire
4 Liverpool	Pendle	Lincoln	Harlow	Camden	Aur	Rushmoor	Cheshire East	Stratford-on-Avon	Horsham
5 Barking and Dagenham	Haringey	Swale	Muneaton and Bedworth	Havant	Shropshire	Dorset	Mid Suffolk	Chelmsford	Three Rivers
6 Birmingham	Barnsley	Cooby	Croydon	Westminster	Bournemouth, Christchurch	Fylde	Bromley	Teckebury	South Bucks
7 Hackney	Haleson	Ipswich	Darlington	Robber	Amber Valley	Harrow	Wiltshire	Test Valley	Wandsworth
8 Sandwell	St. Helens	Plymouth	Durley	Crawley	Erewash	Epping Forest	Hindley and Bosworth	Warwick	Mole Valley
9 Kingston upon Hull, City of	Doncaster	Slough	Northampton	Herefordshire, County of	Eden	Spelthorne	Stafford	Central Bedfordshire	Uttlesford
10 Nottingham	Lambeth	Newcastle upon Tyne	Eastbourne	Gloucester	Mendip	High Peak	South East Devon	Derbyshire Dales	Guildford
11 Burnley	Southwark	Scarborough	Dover	West Devon	Swindon	Brantree	South Staffordshire	East Cambridgeshire	Pickmond upon Thames
12 Newham	Barrow-in-Furness	Calderdale	Bassetlaw	Brighton and Hove	Milton Keynes	Staffordshire Moorlands	Tonbridge and Malling	South Gloucestershire	Fareham
13 Hastings	Valkham Forest	Vital	Allerdale	Reading	Wandsworth	Cheltenham	Cheltenham	North Kepteven	Epsom and Ewell
14 Blackburn with Darwen	Preston	Copeland	Bury	Somerset West and Taunton	Worthing	Solihull	East Devon	North Hertfordshire	South Cambridgeshire
15 Stoke-on-Trent	Bolton	King's Lynn and West Norfolk	Basildon	Forest of Dean	Vairington	Gedling	Craven	Kingston upon Thames	West Oxfordshire
16 Middlesbrough	Torbay	Isle of Wight	Lancaster	South Holland	West Suffolk	City of London	Dacorum	Kingston upon Thames	South Oxfordshire
17 Rochdale	Brent	Coventry	Stockton-on-Tees	Dartford	North East Derbyshire	Traford	New Forest	Bromsgrove	South Oxfordshire
18 Huddersfield	Rotherham	Bristol, City of	Vigre Forest	West Lindsey	West Lancashire	South Ribble	South Lakeland	Cotswold	Rutland
19 Wolverhampton	Fenland	Cornwall	Carlisle	Vigre	Halving	Maldon	Davertry	Tunbridge Wells	Windsor and Maidenhead
20 Salford	Luton	Folkestone and Hythe	Thurrock	Newark and Sherwood	Ryedale	Charnwood	Charnwood	Bath and North East Somerset	Yale of White Horse
21 Bradford	Peterborough	Boston	Stewage	Anun	Colchester	Chichester	Isles of Scilly	York	St Albans
22 Leicester	Gateshead	Chesterfield	Redditch	Newcastle-under-Lyme	Castle Point	Merton	Basingstoke and Deane	East Hertfordshire	Harborough
23 Tameside	Southampton	Kirklees	Gravesham	Hillingdon	Cheshire West and Chester	Velvyn Hatfield	Huntingdonshire	Stroud	Surrey Heath
24 Great Yarmouth	Mansfield	Ealing	North Lincolnshire	Ashford	Barnet	North West Leicestershire	Melton	Stroud	Elmbridge
25 Hartlepool	Portsmouth	Sekon	Sedgemoor	Bromboone	Canterbury	East Riding of Yorkshire	Oadby and Wigston	Stroud	Mid Sussex
26 South Tyneside	Bolsover	Darby	Kensington and Chelsea	Stockport	Teignbridge	South Derbyshire	Lichfield	Stroud	South Northamptonshire
27 Tower Hamlets	Enfield	Rossendale	North Devon	North Warwickshire	Malvern Hills	South Hams	Richmondshire	Stroud	Vale of White Horse
28 Islington	Greenwich	Leeds	Vellingborough	Bedford	Maldstone	Cherwell	Selby	Stroud	Fluscliffe
29 Oldham	Norwich	Sheffield	Tamworth	East Staffordshire	Orford	North Somerset	Sevenoaks	Stroud	Chiltern
30 East Lindsey	Pleocar and Cleveland	North Norfolk	Canook Chase	East Suffolk	Blety	Rugby	Valden	East Hampshire	Vokingham
31 Walsall	Ashfield	Hounslow	Breckland	Worcester	Wyghavon	Broxtowe	Hambleton	Rochford	Hart
32 Tendring	Makfield	Hammermith and Fulham	North Tyneside	Redbridge	Chorley	Hertsmere			

Source: Index of multiple deprivation (2019)

Key findings

- Three local authorities in the West Midlands are in the top 20 most deprived in the country
- Birmingham is the sixth most deprived local authority in England, Sandwell is eighth and Wolverhampton the 19th most deprived
- Coventry has areas, especially in the north and west of the city, of deep inequalities

A heat map of deprivation in the West Midlands

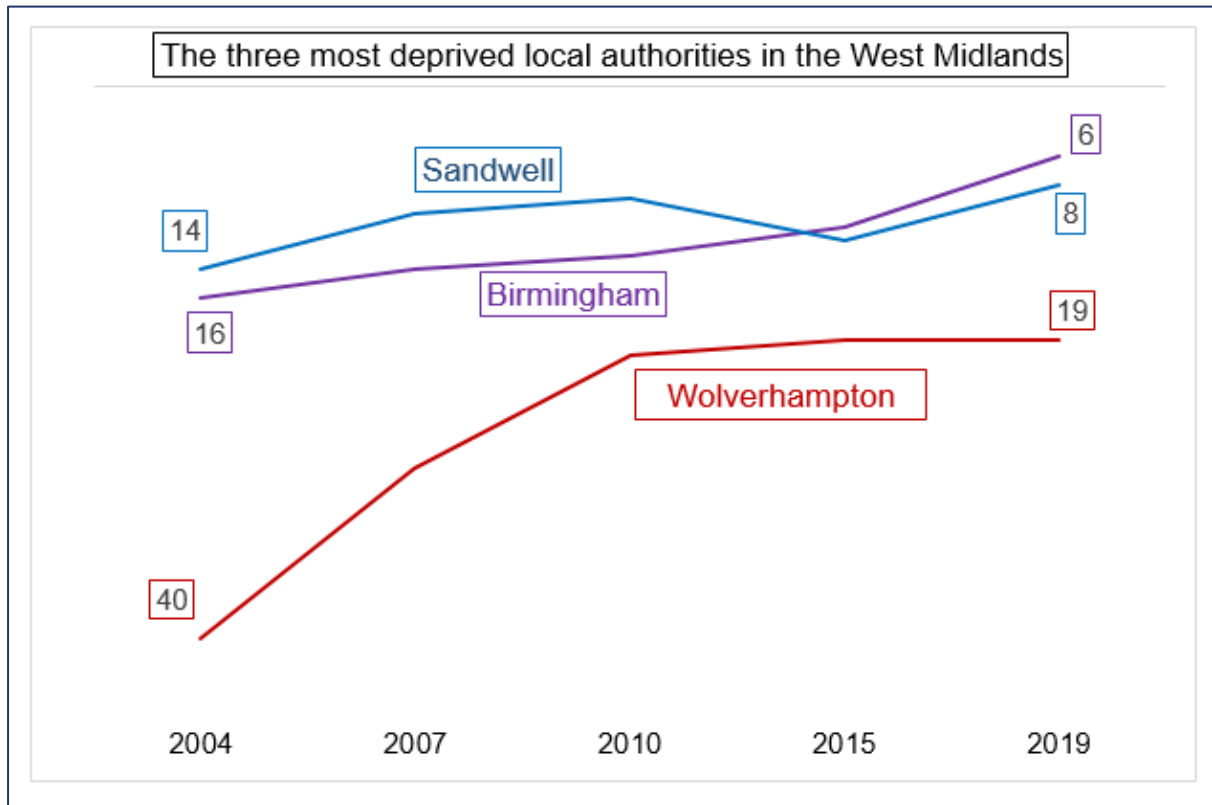


Key findings

- Four of the seven local authorities - Birmingham, Sandwell, Wolverhampton and Walsall - are in the top 10% most deprived local authorities in England
- The areas with the highest deprivation are concentrated in densely populated urban centres, particularly inner-city Birmingham, Wolverhampton and Coventry
- Much of Sandwell, south Birmingham, Dudley and Walsall have pockets of deep deprivation

Trends in rank of deprivation of local authorities (2004 to 2019)

Top three most deprived local authorities in the West Midlands



Key findings

- Trends in deprivation over time suggest that the most deprived local authorities in the West Midlands are getting poorer
- Birmingham, Sandwell and Wolverhampton are all relatively more deprived according to rank over time (2004 to 2019)
- Birmingham, which was the 16th most deprived local authority in 2004, was ranked sixth most deprived in 2019, overtaking Sandwell as the most deprived local authority in the West Midlands in 2015

Summary of key findings

Section 1: Context – Population, Demographics, Inequalities

- The West Midlands is a geographically relatively small, but densely populated region, home to three million people.
- Its people are young and ethnically diverse
- 25% of people in Birmingham are under 16; 47% are non-White British
- It is a region with deep pockets of deprivation and poverty, which overlap strongly with areas of higher ethnic diversity
- Three of its seven local authorities (Birmingham, Sandwell and Wolverhampton) are in the top 20 most deprived in the country
- Those local authorities are also more deprived in 2019 than they were in 2004

Section 2: The Criminal Justice Sector

Table: CJS data to inform violence reduction

	Organisation	Dataset(s)	Availability	Access	Quality	Importance	What does it tell us?
1	Ministry of Housing, Communities and Local Government	Index of Deprivation, Crime sub-domain	Open	Yes	Good	7/10	A general description of crime deprivation and inequalities in the region
2	Office for National Statistics	National and regional crime statistics	Open	Yes	Good	8/10	National picture, regional comparison, trends
3	West Midlands Police	Recorded crime types (including perpetrator and victim statistics)	Restricted	Yes	Good	9/10	Reported, detected and recorded violent crime (type, geography, trends) affords good level of detail
4	Crown Prosecution Service	CPS data – case outcomes, domestic abuse prosecutions	Open	Yes	Good	6/10	Informs understanding of scale of domestic abuse, comparison with regions, national
5	Ministry of Justice	Prisons and Probation data – caseloads, prisoner offence types, prison violence	Open	Yes	Good	7/10	Indicators of serious violence, trends in incarceration and community sentencing, violence in prisons
6	Ministry of Justice /Youth Offending Teams	Youth Offending data on children, sentencing, crime and outcomes	Open	Yes	Good	8/10	Young people already engaged in offending, trends and patterns of youth violence
7	Office for National Statistics	Crime Survey (England & Wales)	Open	Yes	Good	8/10	Qualitative crime data including unreported crime or crime not recorded by police

Crime deprivation and inequalities

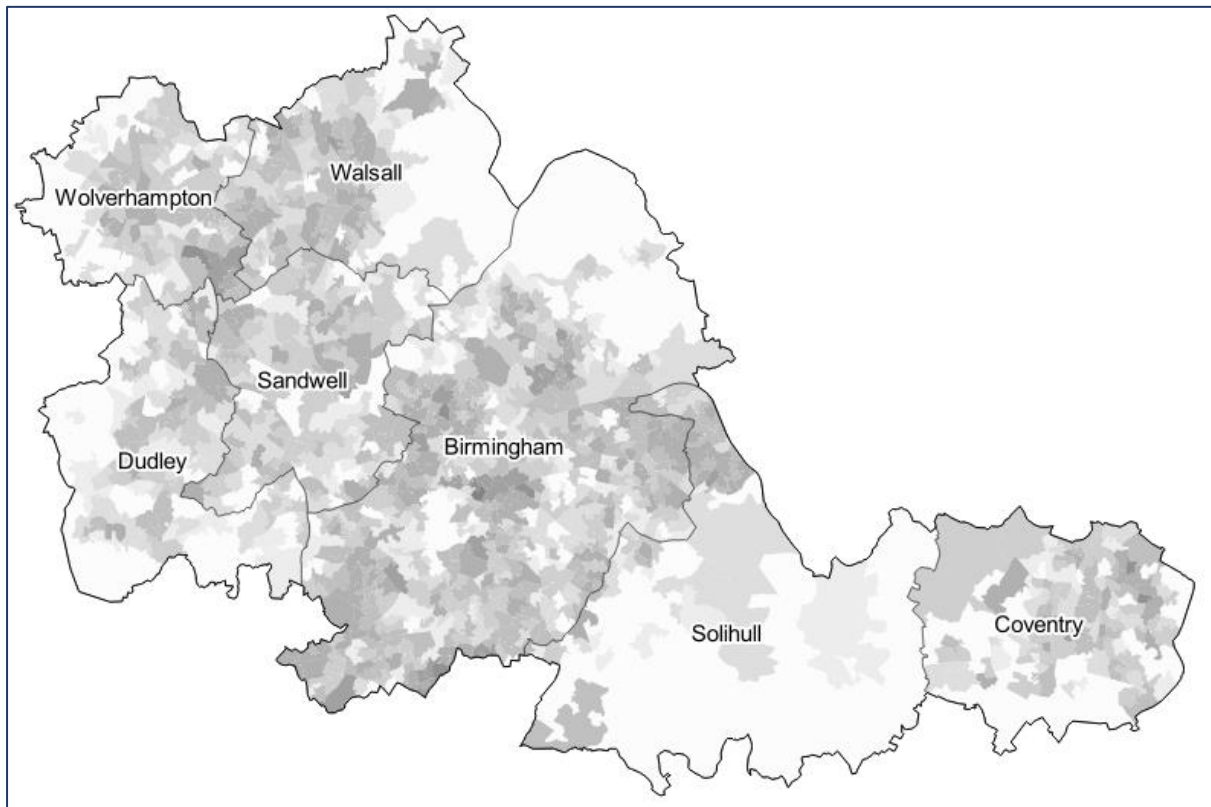
Summary

Crime deprivation is a sub-domain of IMD data, last updated in November 2019. Measured at LSOA granularity, it is made up of the following indicators:

- Violence
- Burglary
- Theft
- Criminal damage

It is useful in assessing relative crime inequalities in both small areas (approximately 1,500 populations) and in analysing regional disparities.

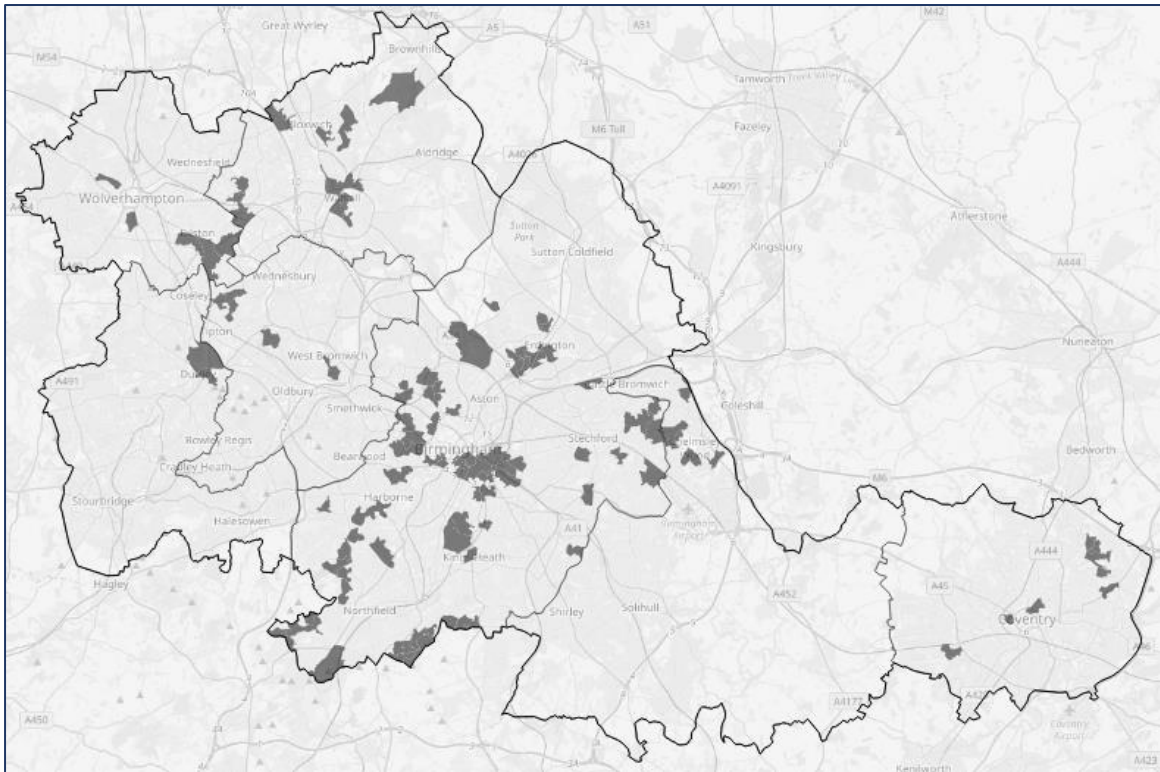
Crime deprivation in the West Midlands



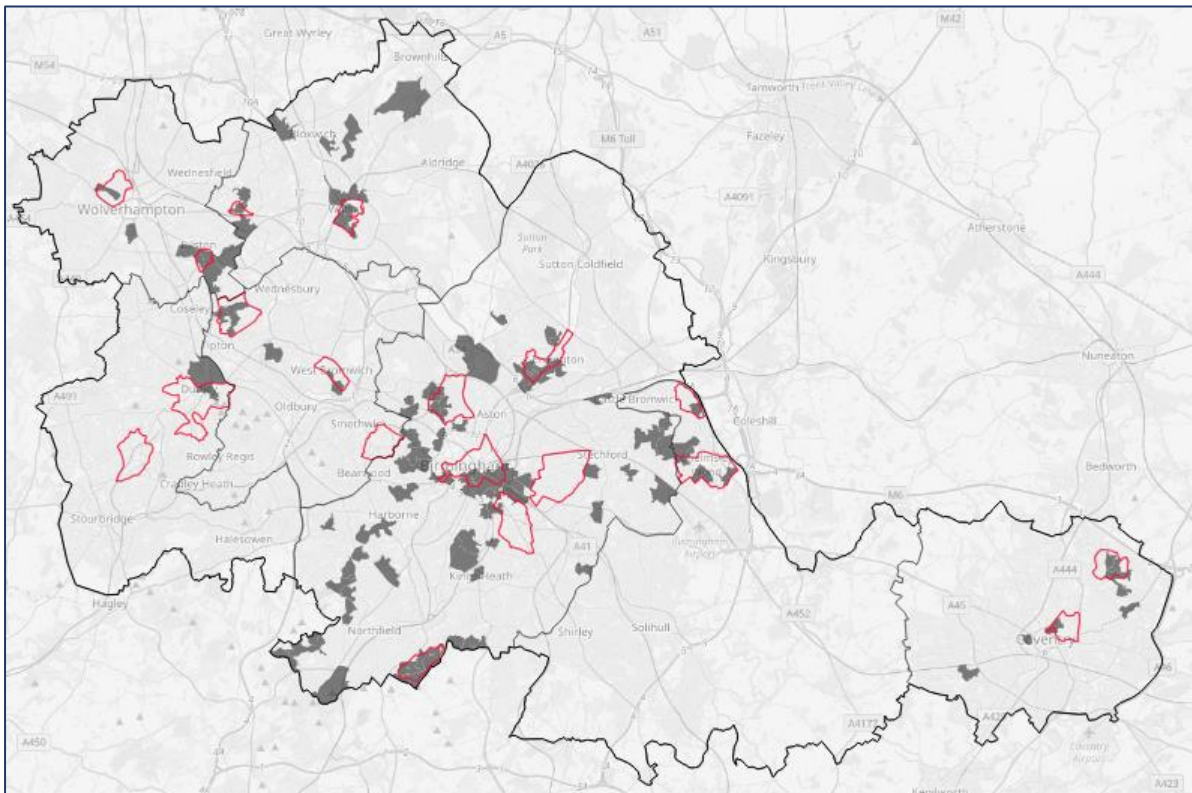
- The crime deprivation sub-domain has a very similar pattern geographically to the general index of multiple deprivation, suggesting correlation with poverty
- Areas tend to be urban inner city ones and poorer, more ethnically diverse communities
- There is strong correlation with areas of high unemployment and with health inequalities, but also in city centres which often see high levels of crime
- There are similarities, but also differences, in the places that crime occurs and where victims and perpetrators live

The shaded areas are in the top 10% crime deprivation nationally

This map shows more specifically the areas (LSOAs) which are in the top decile nationally for crime deprivation.



Shaded areas in top 10% crime deprivation nationally, shown alongside WMP Impact Areas (red boundaries)



Key findings

- There is some overlap between WMP Impact Areas (see appendices for further description of methodology) and areas with the greatest crime deprivation
- However, there are several concentrations of high crime deprivation outside Impact Areas, particularly in Walsall and southwest Birmingham

Police recorded crime

What can police recorded crime data tell us? What are its limitations?

Strengths

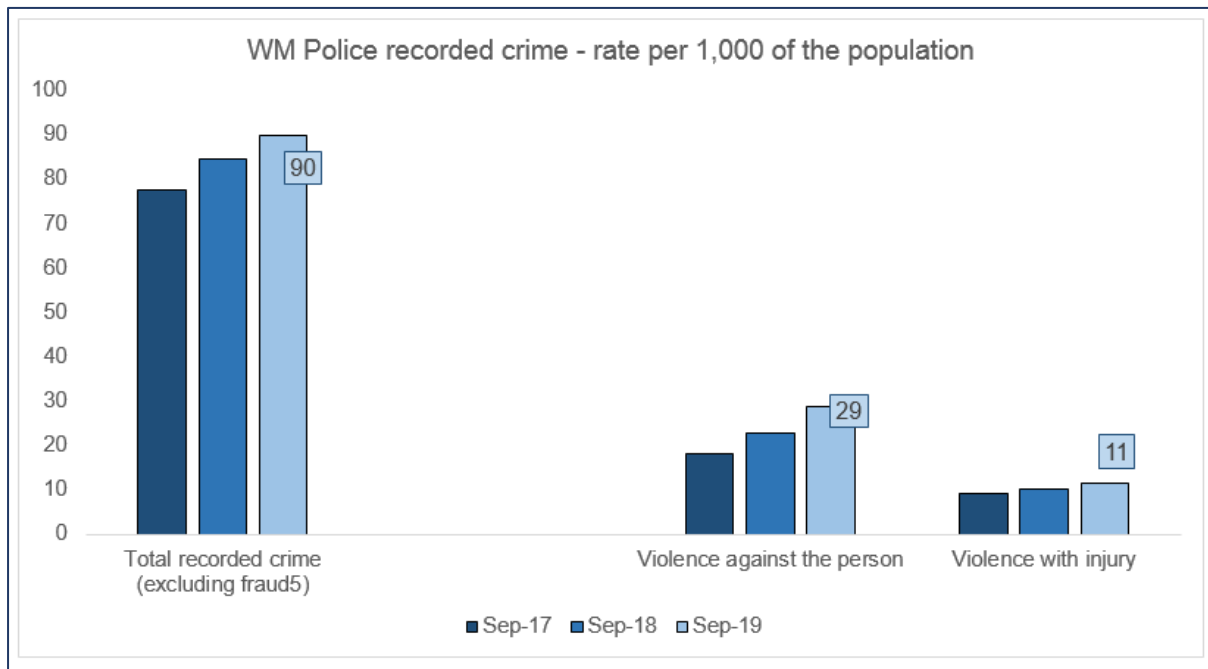
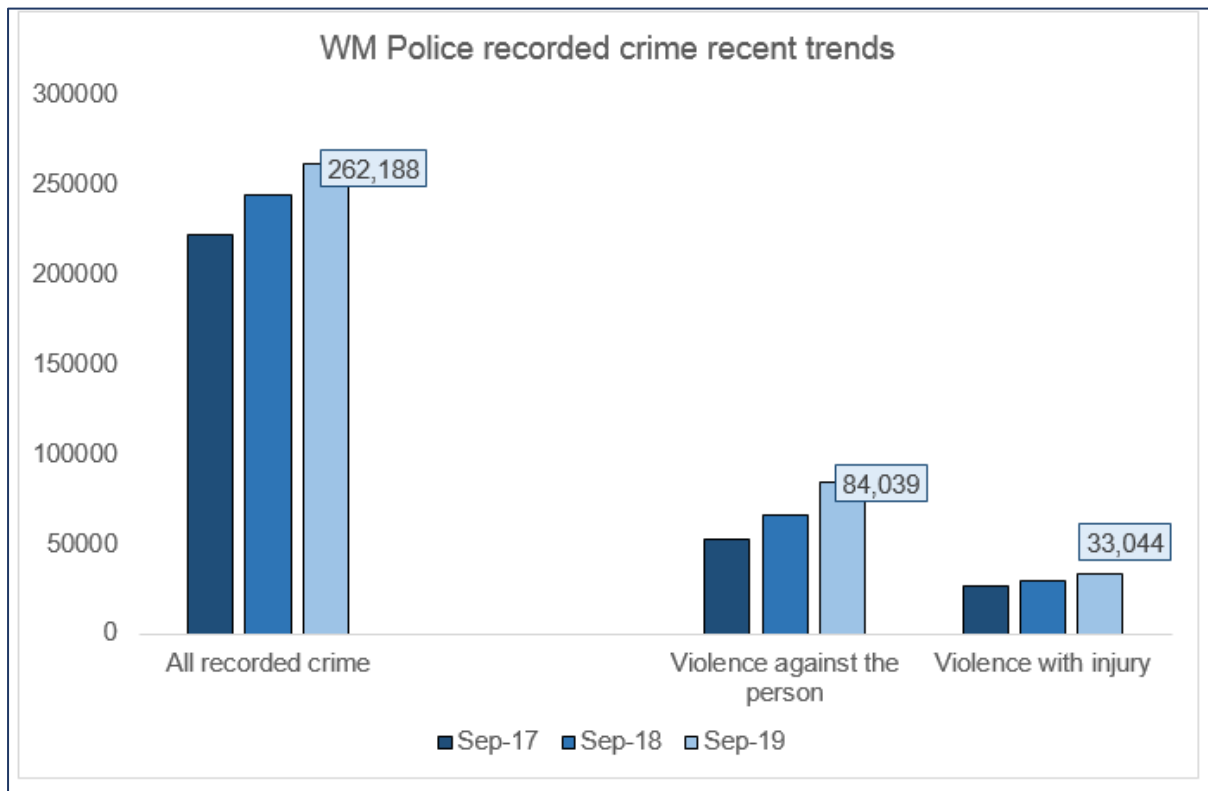
- Police data is the primary source of local crime statistics
- Police recorded crime data has wide offence and population coverage
- Police data is the best measure of high-harm, but less common types of violence, such as those involving a knife or sharp instrument, or homicide

Limitations

- Data excludes offences that are not reported to, or recorded by, the police
- Trends can be influenced by changes in recording practices or police activity as well as public reporting of crime, making long-term comparisons unreliable
- There are concerns about the quality of recording and that crime is not recorded consistently across forces
- For these reasons the ONS does not classify police recorded crime as a national statistic

All recorded crime in the West Midlands

Recent trends in violent crime - numbers and rates

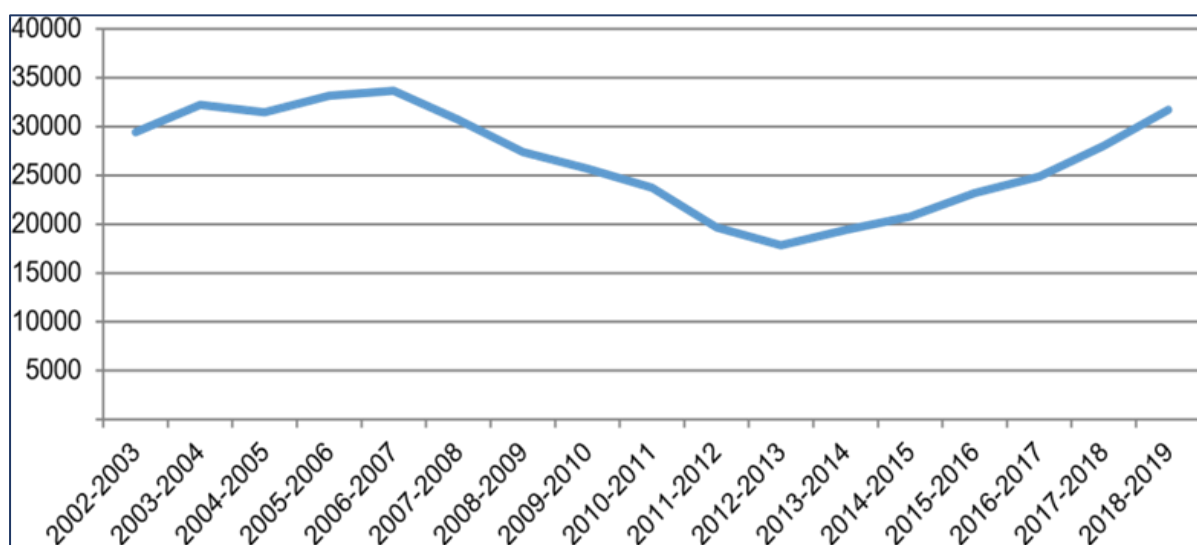


Source: ONS national recorded crime tables

Key findings

- Recorded crime (all types) in the West Midlands is up, both in absolute numbers and as a rate per 1,000 members of the population
- Violence against the person is also up - from 50,000 in 2017 to 80,000 incidents in 2019 - a trend mirrored by Violence with Injury offence type
- A notable rise in violent crime rates, from 18 to 29, should nevertheless be put in perspective. It equates to 29 incidents per 1,000 people in the West Midlands

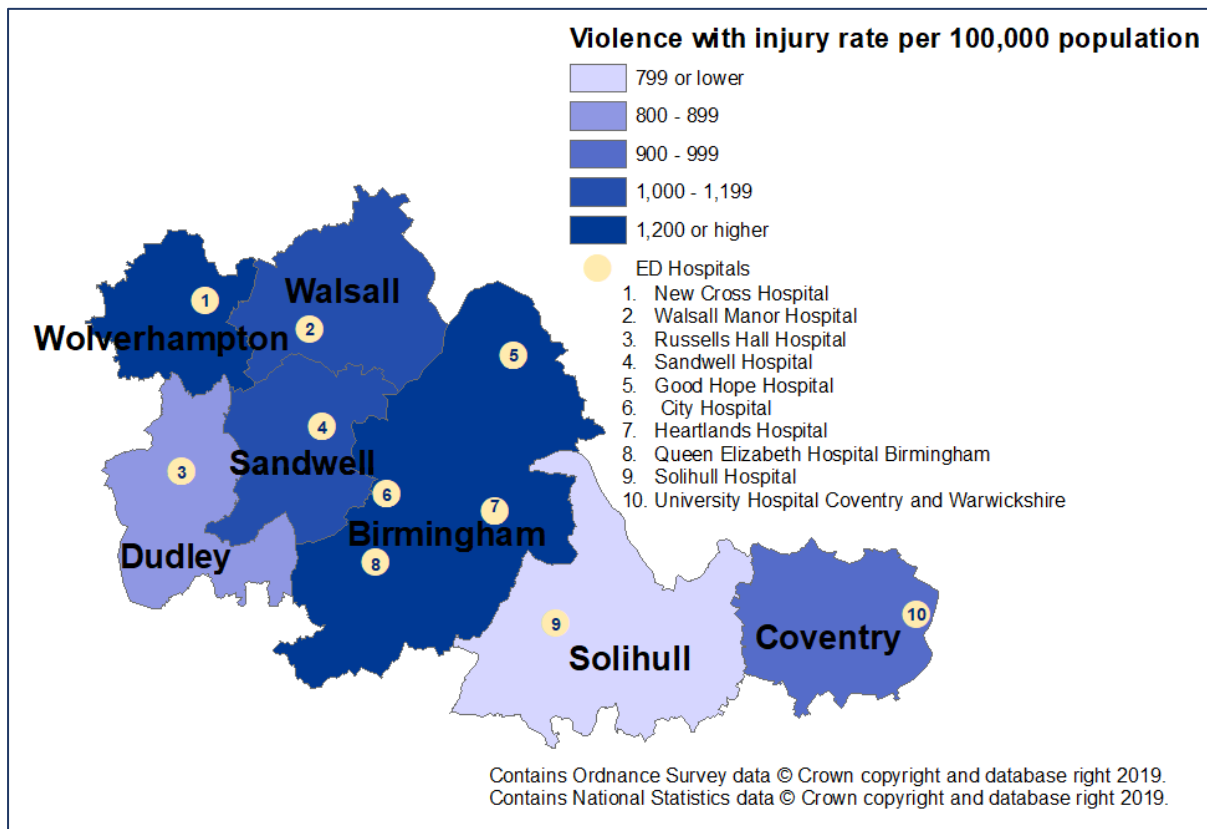
Violence with Injury in the West Midlands – long-term trends



Key findings

- The West Midlands has seen a consistent rise in recorded Violence with Injury offences from 2012/13, following seven years of reductions
- This has resulted in the total number of Violence with Injury offences doubling, from 17,000 to 33,000 between 2013 and 2019
- Over the same time period, the total number of Violence with Injury offences in England and Wales has also risen, from 312,000 to 549,000 (a 76% rise)

Violence with Injury - Rates by local authority area

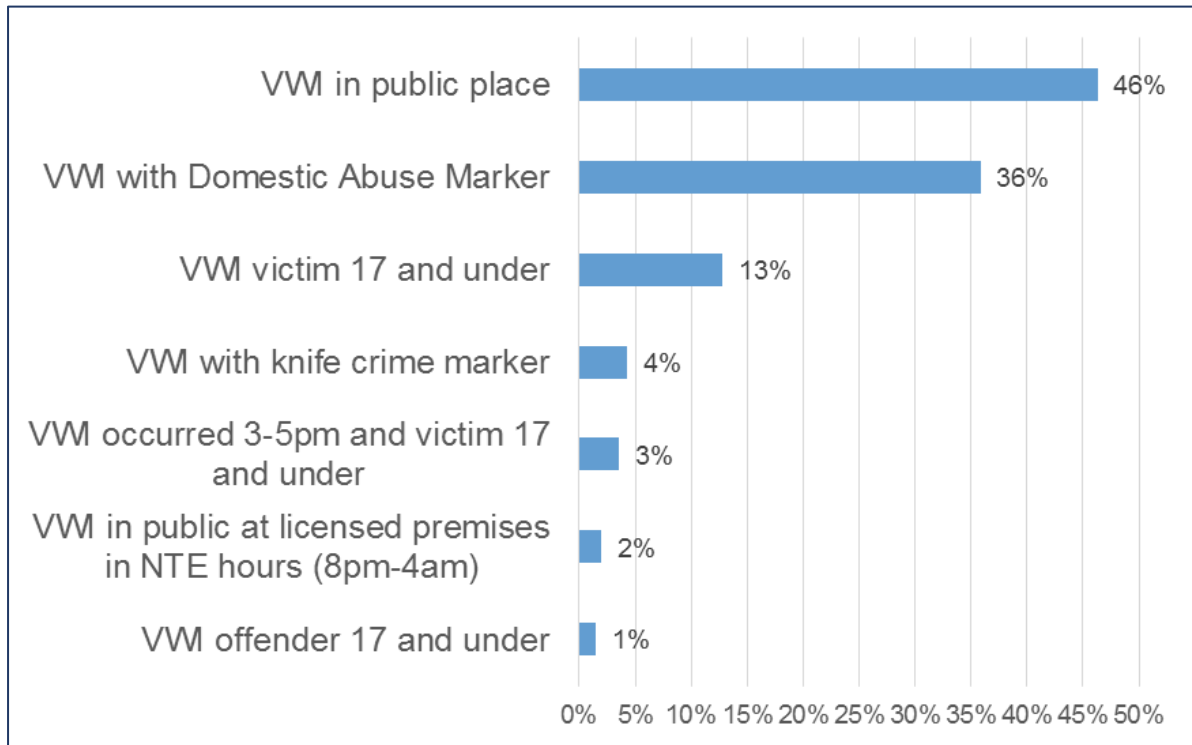


Key findings

- Inner-city Birmingham is more densely populated than Solihull, so it is often more appropriate to look at rates of crime per population
- The average in the West Midlands in 2019 was 1,084 per 100,000 population
- The rate of violent crime with injury in Birmingham is 1,229 per 100,000
- Birmingham and Wolverhampton have the highest rate per capita – more than 1,200 per 100,000 of the population
- The rate of violent crime with injury in Coventry, Dudley and Solihull is lower than the West Midlands average
- This is interesting to compare to Injury Surveillance data (see health section) which shows rates of violent injury at approximately 70 per 100,000 of the population

Violence with Injury

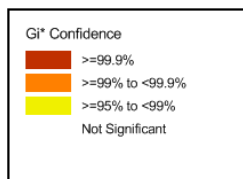
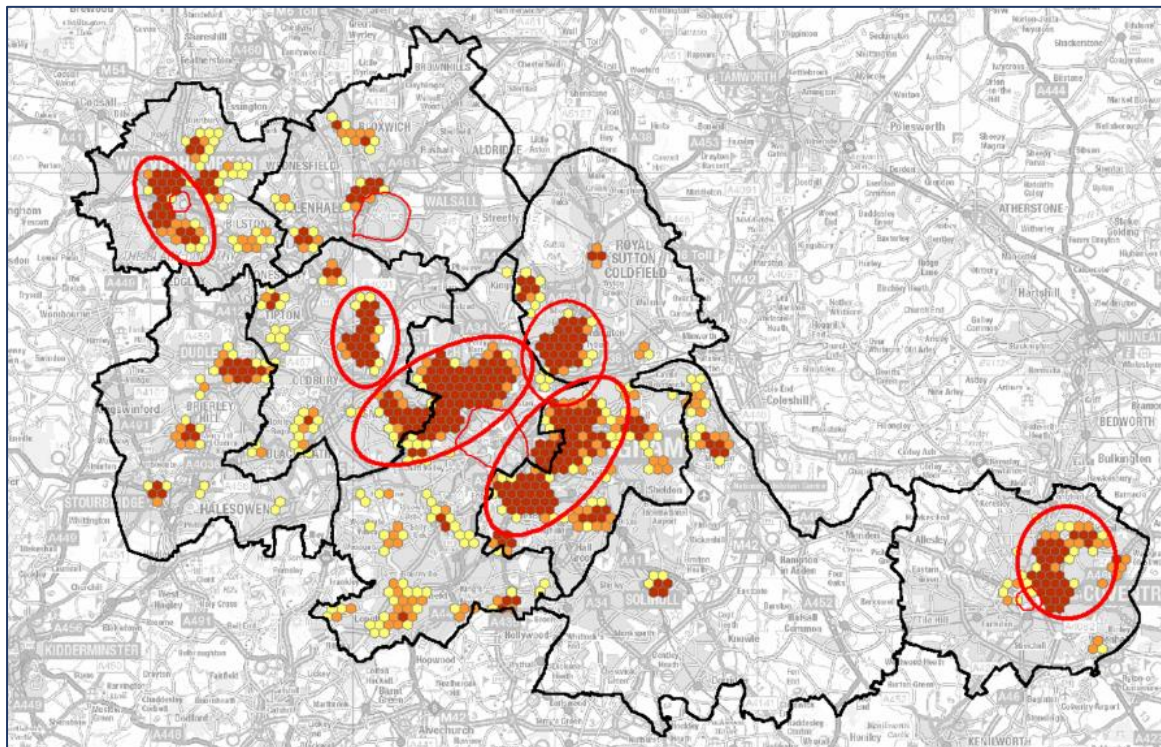
Patterns in recent Violence with Injury data (WMP data April 2018 to March 2019)



Key findings

- Almost half of West Midlands Police recorded Vwi offences take place in the public realm
- This is often in city centres, but also happens in residential areas
- It is linked to several factors, including violence associated with the night-time economy, but also robbery on streets or in parks, for example
- Youth crime is important (particularly where the victim was 17 years old or under) but numbers are dwarfed by other public place and domestic violence
- Domestic abuse is nine times more prevalent than violent knife crime, even without taking into account domestic abuse that goes unreported to police

Hex map of hotspots of Violence with Injury



What is the hex map?

- West Midlands Police has developed a set of priority grids, which are hexagon-shaped smaller areas, often within identified “Impact Areas”
- Impact Areas are geographical areas comprising a few neighbourhoods where there is a disproportionate amount of crime, demand, deprivation and harm
- Ratings are decided according to the combined score in each small area as well as how many neighbours also score high
- A total of 39 Impact Areas have been identified by WMP and 19 have been adopted for targeted police activity from 2018/19

Knife Crime

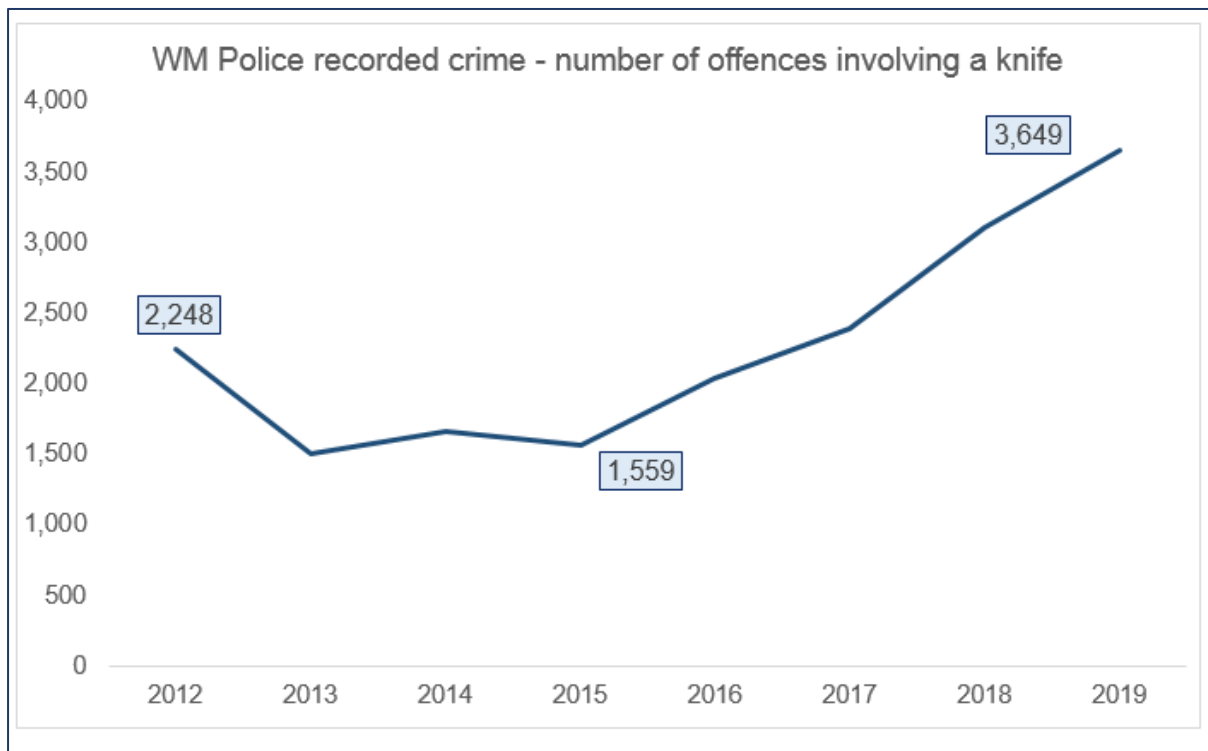
How does the West Midlands fare in relation to other high crime areas?

Key findings

- September 2019 saw a 7% rise nationally in offences involving knives or sharp instruments recorded by the police (up to a total of 44,771 offences)
- That's 46% higher than in 2011 and the highest on record
- There is a lot of variation across police force areas
- The three police force areas with the highest rates are London, the West Midlands and West Yorkshire
- London saw little change in 2019 – up 2% on 2018 levels
- West Yorkshire saw a decrease of 8%
- **West Midlands experienced the biggest increase – up 17% on 2018**

Source: ONS

WM Police recorded crime involving a knife or bladed article

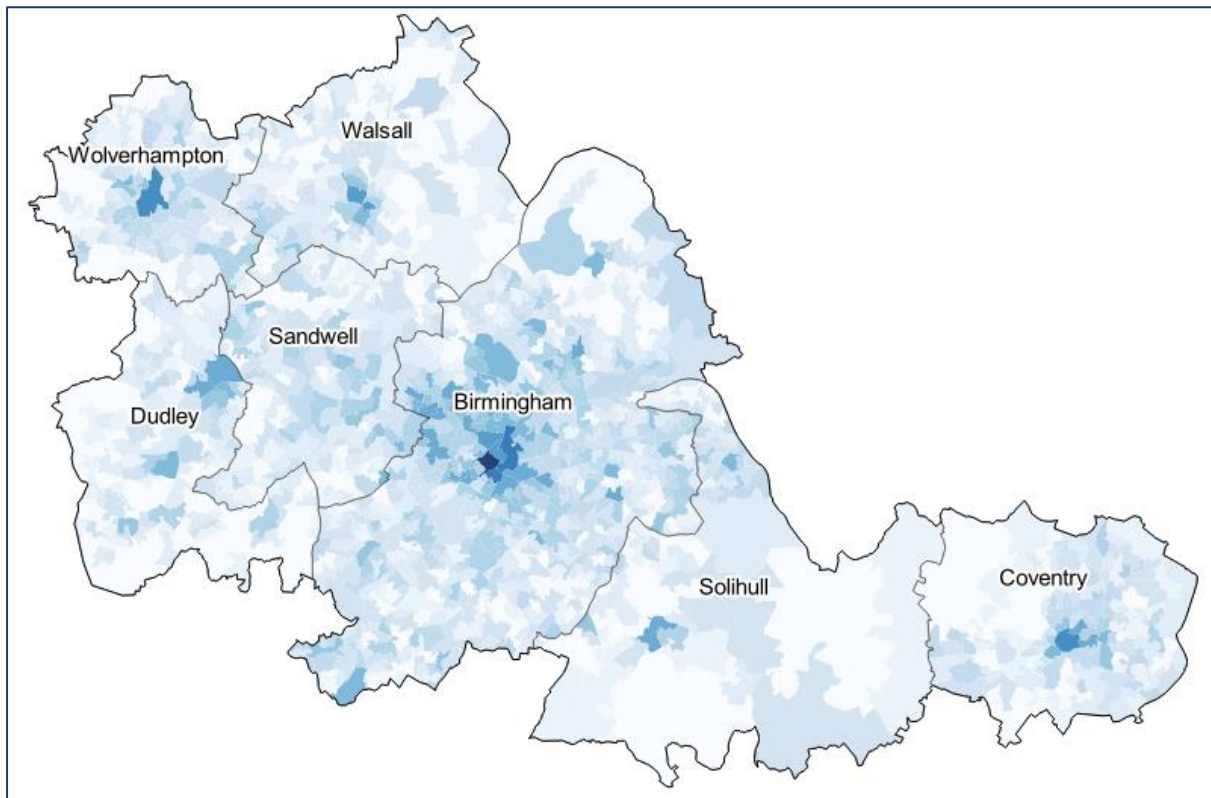


Key findings

- As with many other violent crime rates, knife crime has risen sharply in the West Midlands since a brief two-year plateau at around 1,500 offences per year from 2013 to 2015
- Since then, knife crime has more than doubled to 3,649 cases in 2019

Where is it happening?

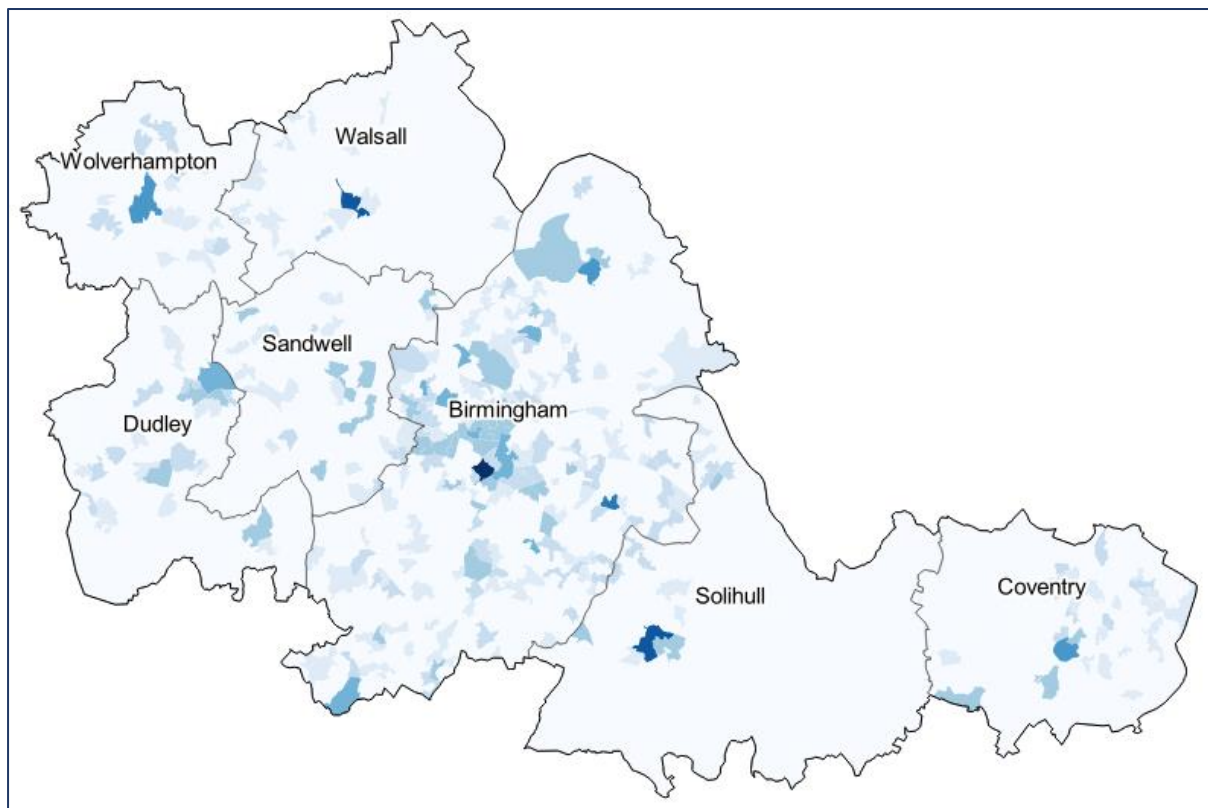
All recorded knife crime in the West Midlands (2017 to 2019)



Key findings

- Darker blue areas are LSOAs with higher numbers of recorded offences
- Town centres are represented, particularly the three city centres in Wolverhampton, Coventry and Birmingham
- Other areas with higher than average knife crime include those residential areas that correlate strongly to areas with the highest deprivation
- For example, north Coventry, north central and west Birmingham
- Also of note are areas in the public realm, including those in areas with less deprivation, such as Sutton Park in north Birmingham

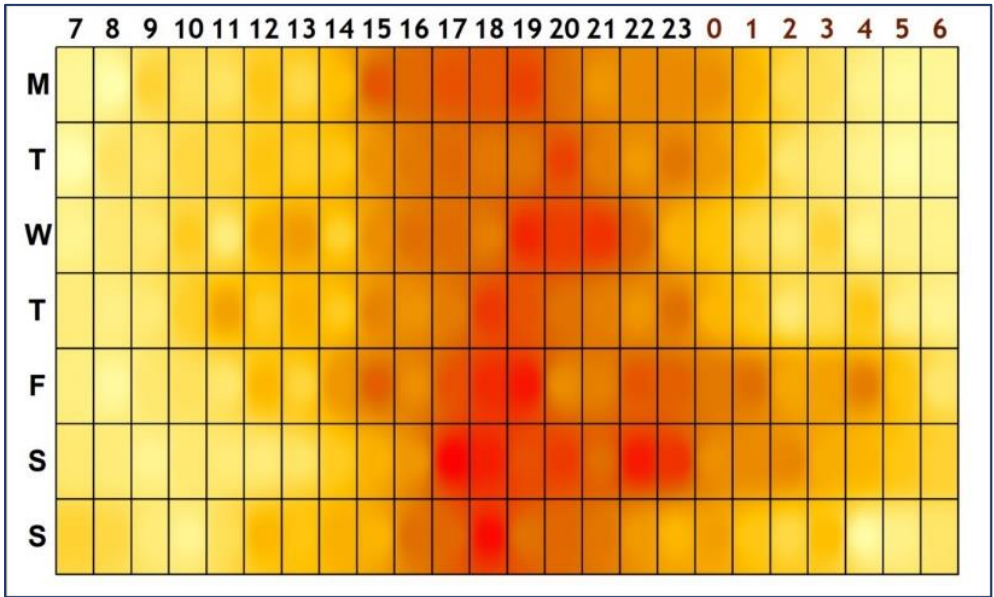
All recorded knife crime in the West Midlands where victim was 16 years old or younger (2017 to 2019)



Key findings

- The hotspots for knife crime where the victim was 16 years old or less are predominantly the same as for all age groups
- Many incidents are robbery, many of which happen in public places
- There is a particular hot spot in Solihull, which is the area in and near to Tudor Grange Park, which has seen high numbers of knife crime in this age group

Knife crime – time of day and day of week (all age groups)

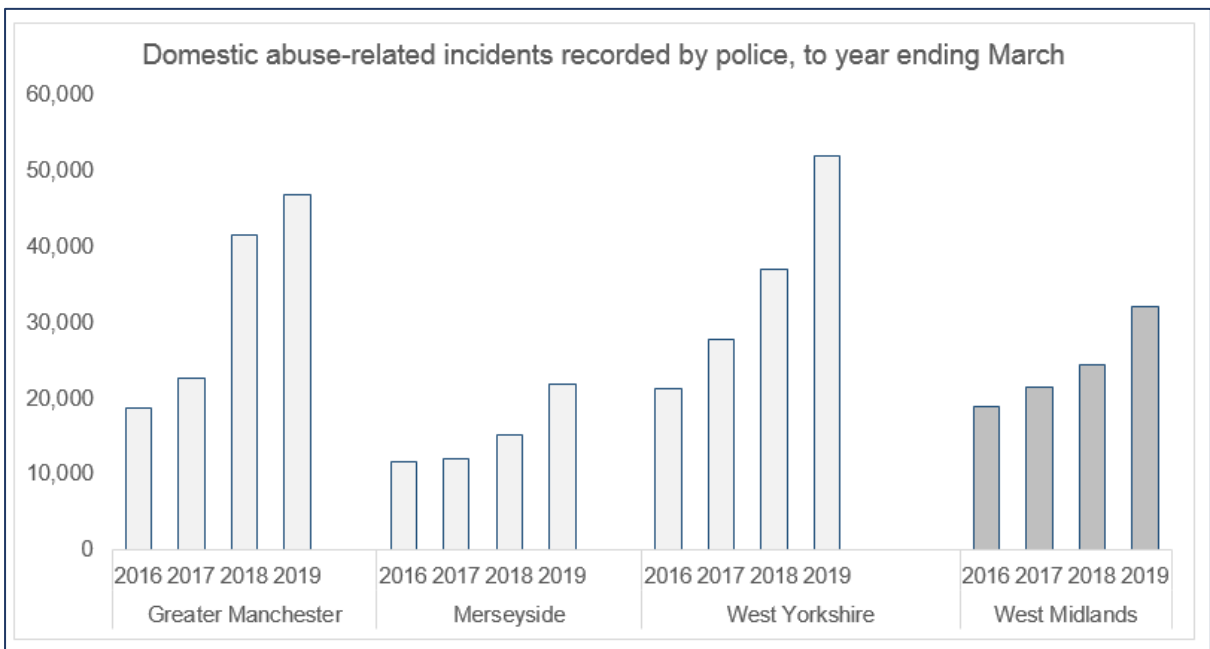


Key findings

- Knife crime mostly takes place between the hours of 5.00pm and 11.00pm, but can happen on any day of the week, though Saturday night is most common

Domestic Abuse and Violence

Violence with Injury with a domestic abuse marker comprises 36% of WMP Vwl incidents. The Crime Survey in 2019 estimated that 2.4 million adults in England and Wales experienced domestic abuse in the preceding year (5.7% of the adult population). Police recorded 1.3 million domestic abuse-related incidents and crimes in the same period.

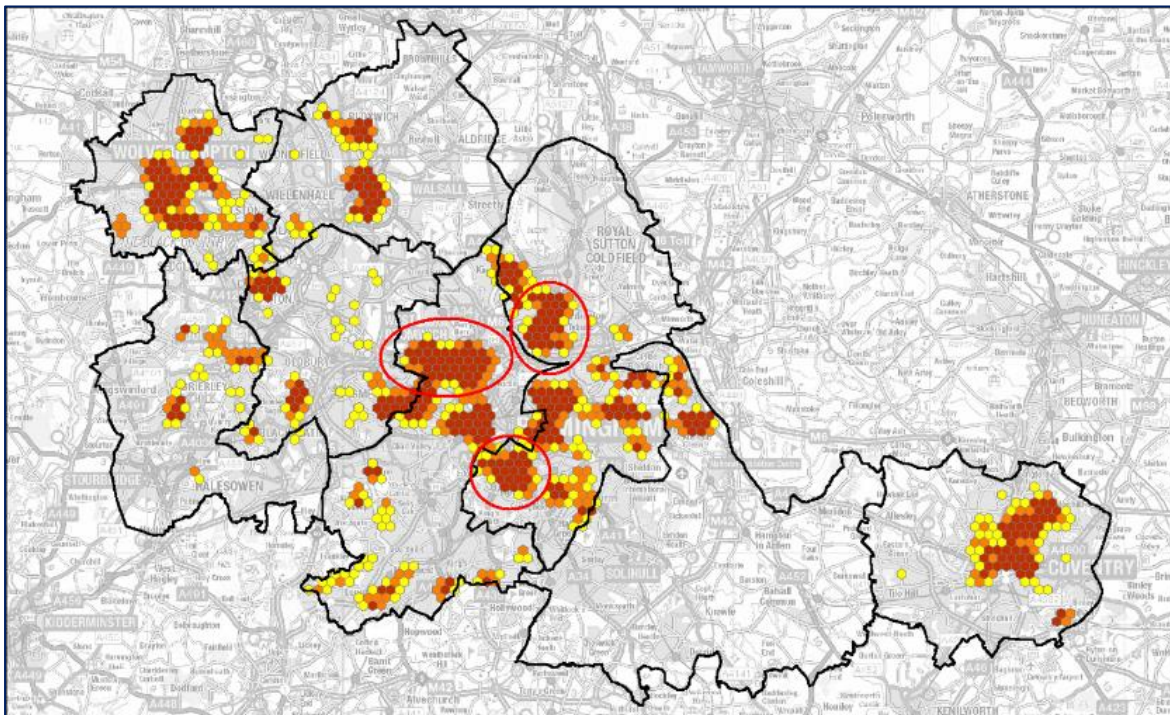


Key findings

- Across England and Wales police recorded crime has shown steep increases in domestic abuse-related incidents in the last few years
- This may to some extent reflect a change in the number of people reporting domestic abuse and police recording practices
- Crime survey data suggests no significant change in the number of people who say they have experienced domestic abuse
- The West Midlands has more overall offences than Merseyside, but substantially fewer than Greater Manchester and West Yorkshire

West Midlands Police recorded domestic abuse-related offences

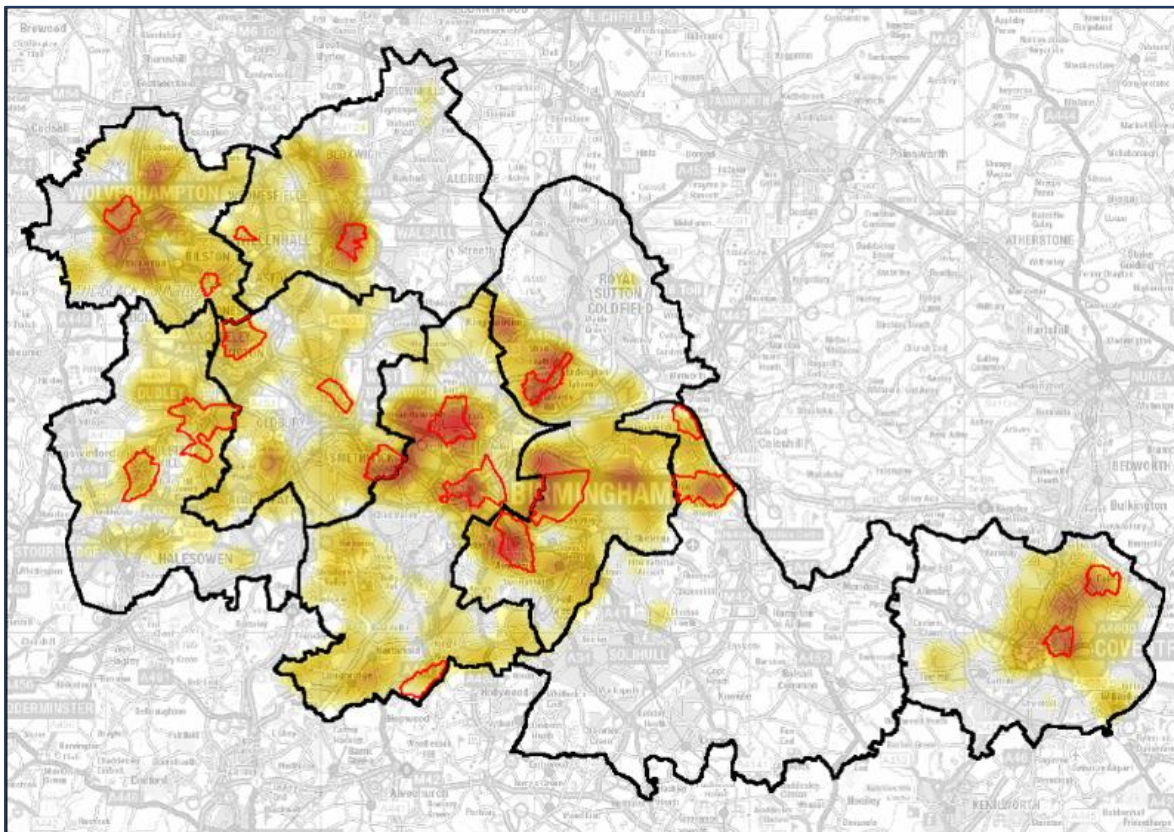
Domestic abuse concentrations shown as hex map



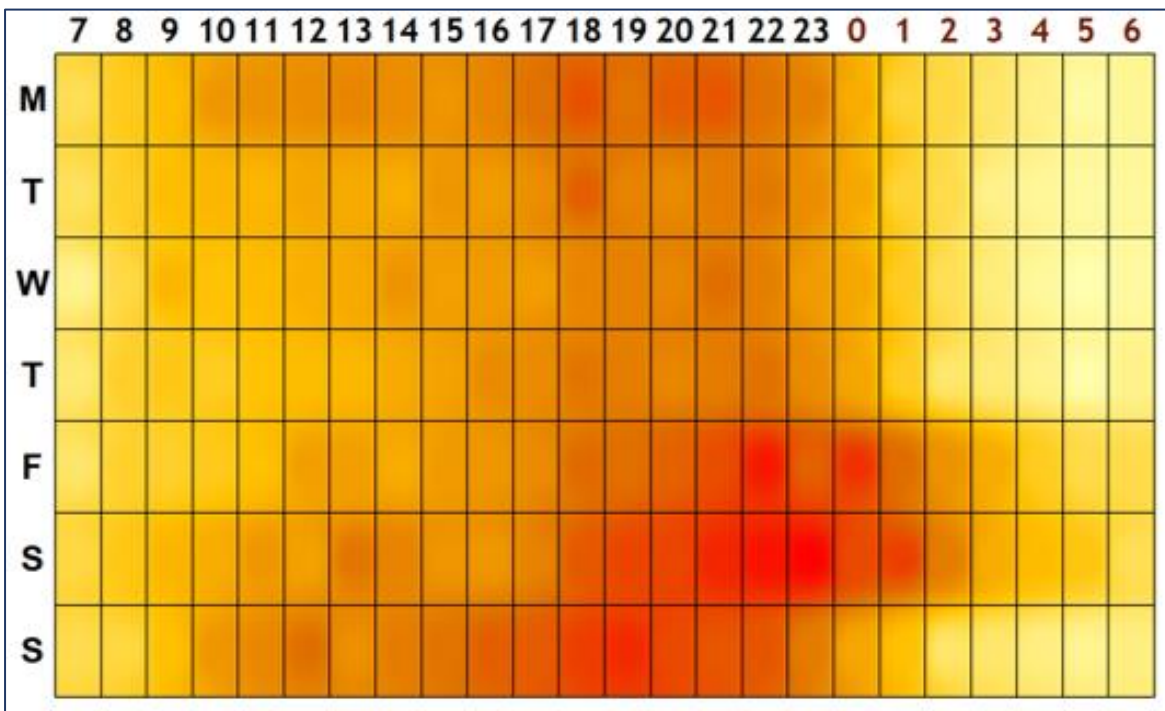
Key findings

- Three areas have been defined on the map, shown as red circles
- The map shows large areas which may not allow for targeted interventions
- When compared to a hotspot map, the three selected areas were identified as high in volume as well as statistically significant

Violence with Injury with a domestic abuse marker - heat map with Impact Areas



Domestic Abuse incidents by time of day and day of week

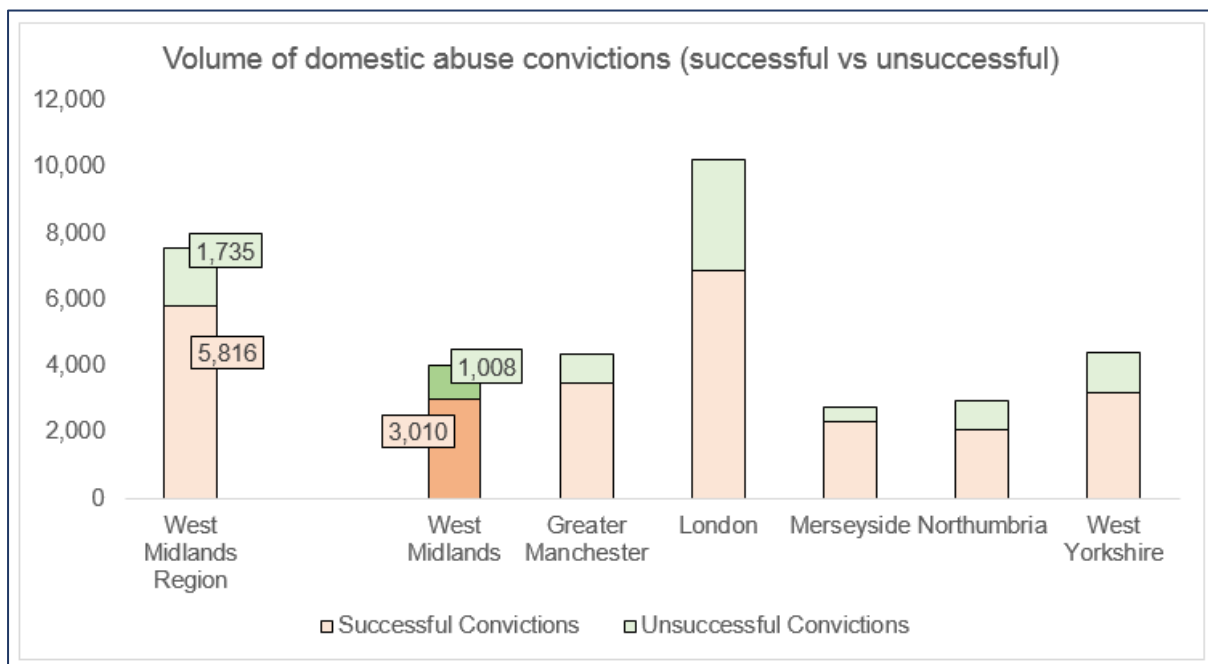


Key findings

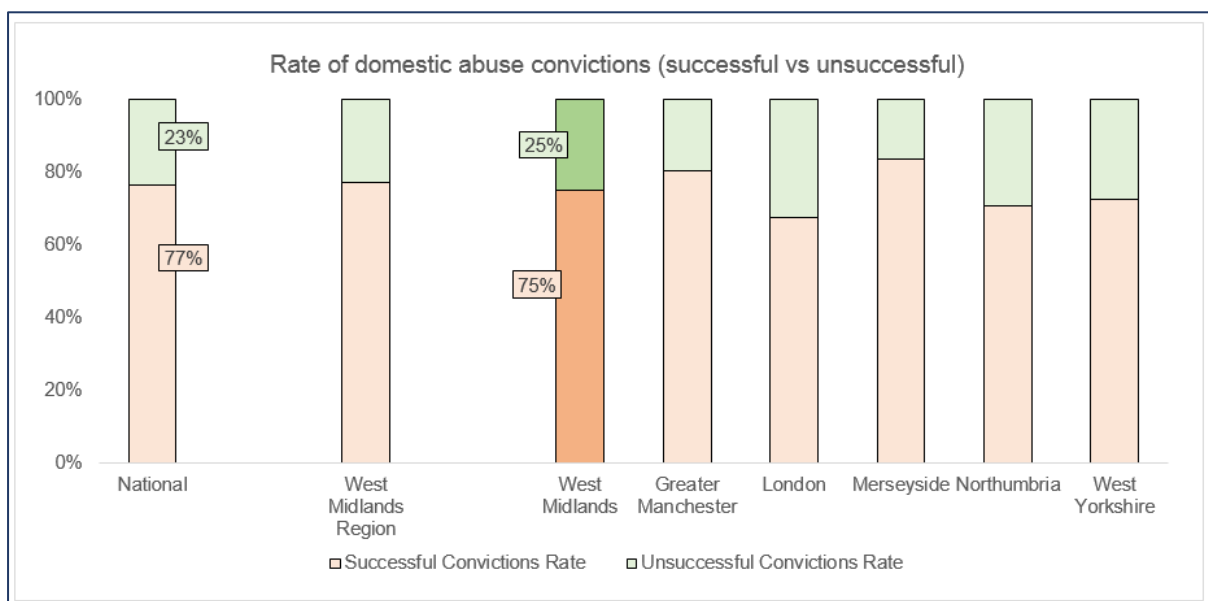
- The greatest volume of offences were reported between 6.00pm and 1.00am
- Offences occur throughout the week, but there is a clear increase in volume over the weekend

Courts and Sentencing – Crown Prosecution Service data

Domestic abuse prosecutions



Domestic abuse prosecutions – rates



Key findings

- Only domestic abuse cases prosecuted by the CPS are shown, with a breakdown of volumes and rate of successful and unsuccessful prosecutions
- The wider West Midlands Region is shown for context
- Volumes in the West Midlands VRU area are similar to those in Greater Manchester and West Yorkshire
- Successful prosecution rates are comparable to the national average

Source: <https://www.cps.gov.uk/violence-against-women-and-girls-data>

Offender Management – Prison data

Violence and Prisons in the West Midlands region.

This section will look at data on the number of prisoners who have been incarcerated for violent offences in West Midlands' prisons and episodes of violence in the prisons themselves.

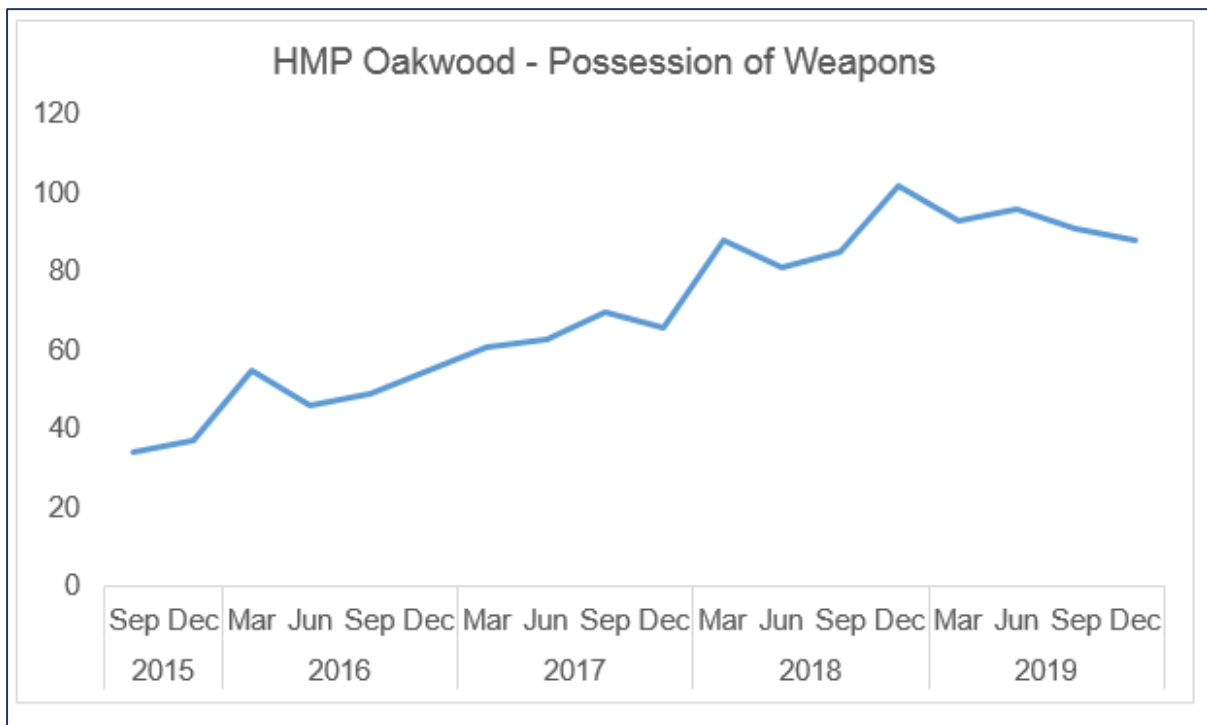
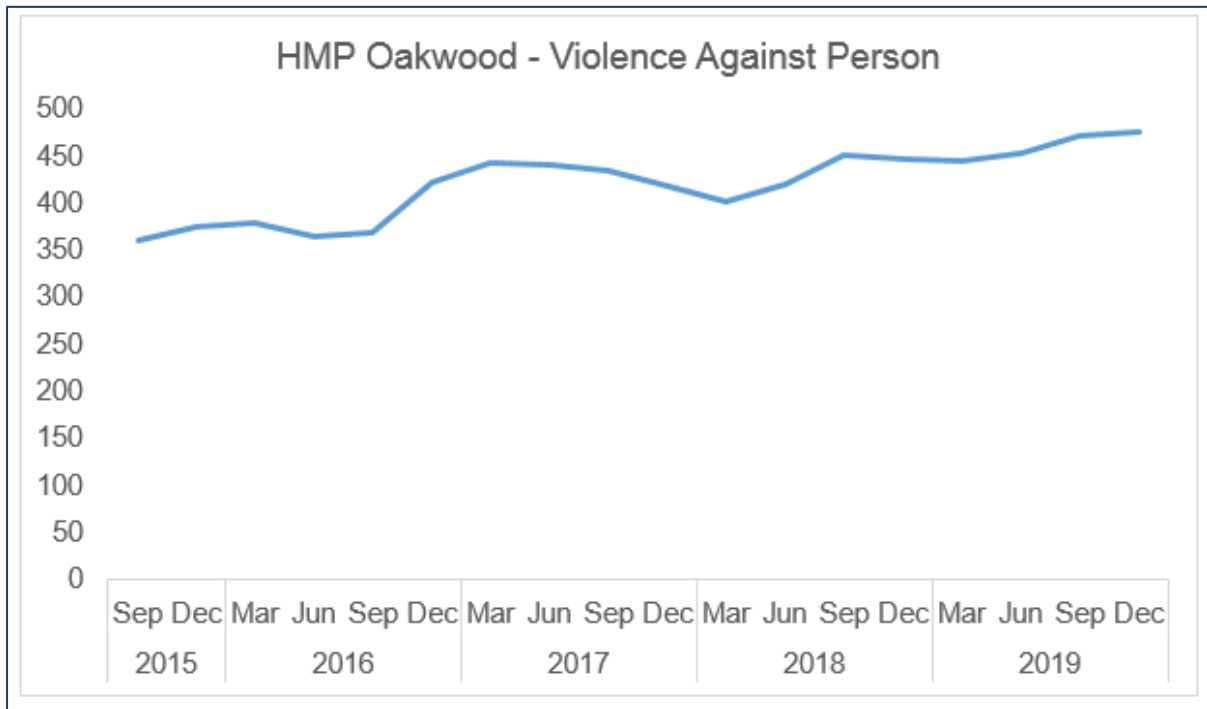
Types of prison

- Prisons are categorised as (A) high security, (B) and (C) local and/or training and (D) open plus young offender institutions, which house prisoners between 18-21
- The West Midlands region has twelve prisons – HMP Long Lartin (Cat A), Birmingham, Hewell, Featherstone, Dovegate, Oakwood, Stafford, Swinfen Hall, Drake Hall (women), Brinsford (YOI), Werrington (YOI) and Stoke Heath (YOI)

Examples of prison population trends by indicator offence type at prisons in the West Midlands region

The following sequence of maps show changes over time in the numbers of prisoners sentenced for Violence against the Person and Possession of Weapons offences in three key prisons in the West Midlands – HMP Birmingham, HMP Oakwood and YOI Brinsford.

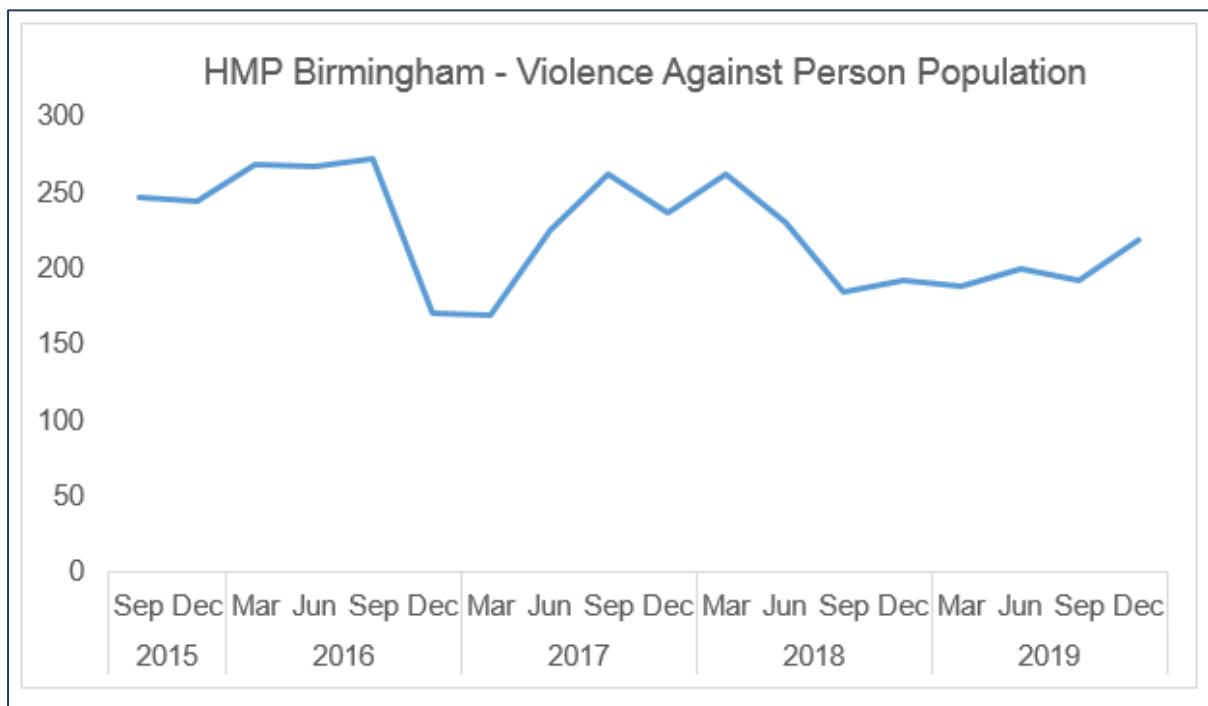
HMP Oakwood

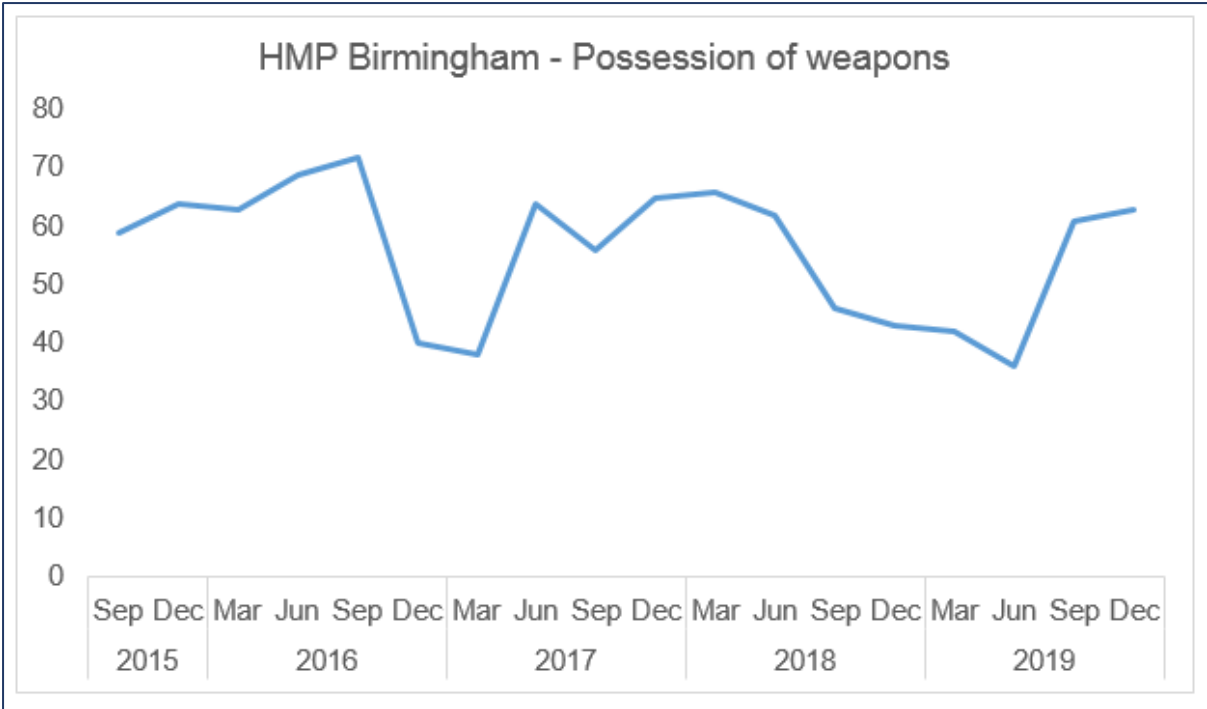


Key findings

- HMP Oakwood is a Cat C training prison located just north of Wolverhampton operated by G4S, with capacity for more than 2,000 prisoners
- About 25% of its prisoners in December 2019 were sentenced for violence against the person offences – this number has been rising steadily since 2015
- Fewer prisoners were sentenced for possession of weapons offences, but this number is also rising, hitting a peak of almost 100 in December 2018

HMP Birmingham

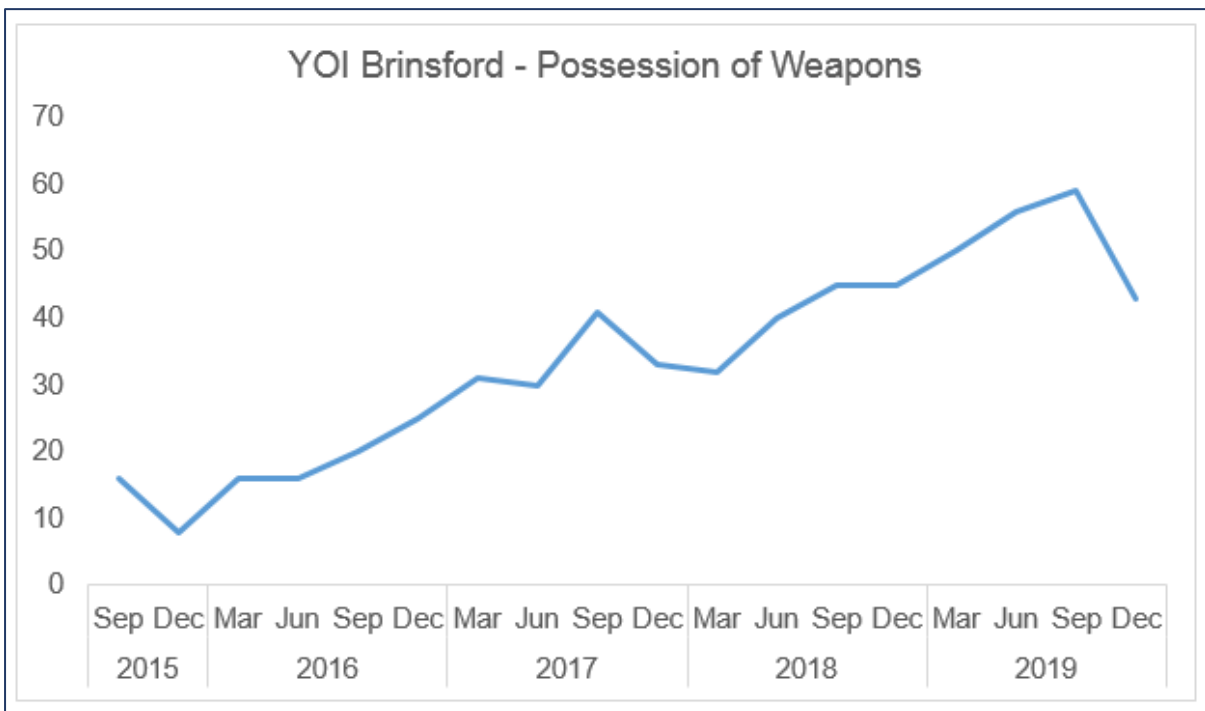
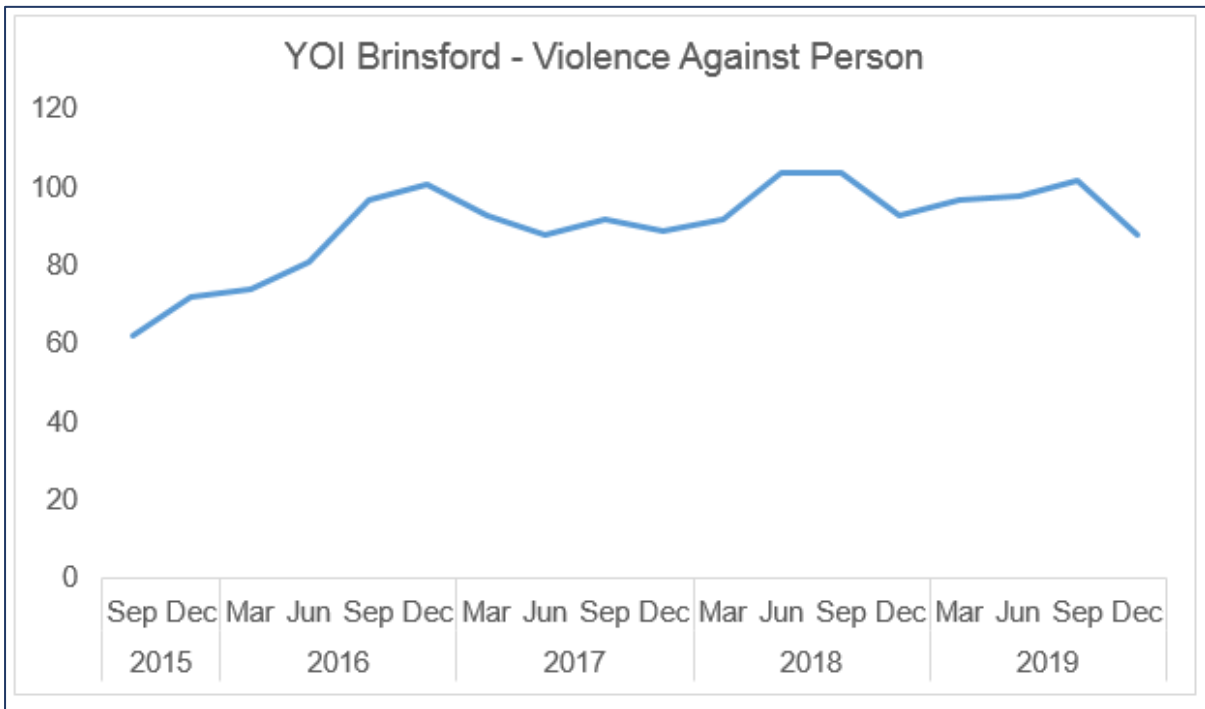




Key findings

- HMP Birmingham is a Cat B local prison holding mainly prisoners from Birmingham and the West Midlands
- Numbers of prisoners sentenced for both violence against the person and possession of weapons offences have fluctuated over the last four years, but remain at similar levels to four years ago

HMP / YOI Brinsford – Young Offenders Institution

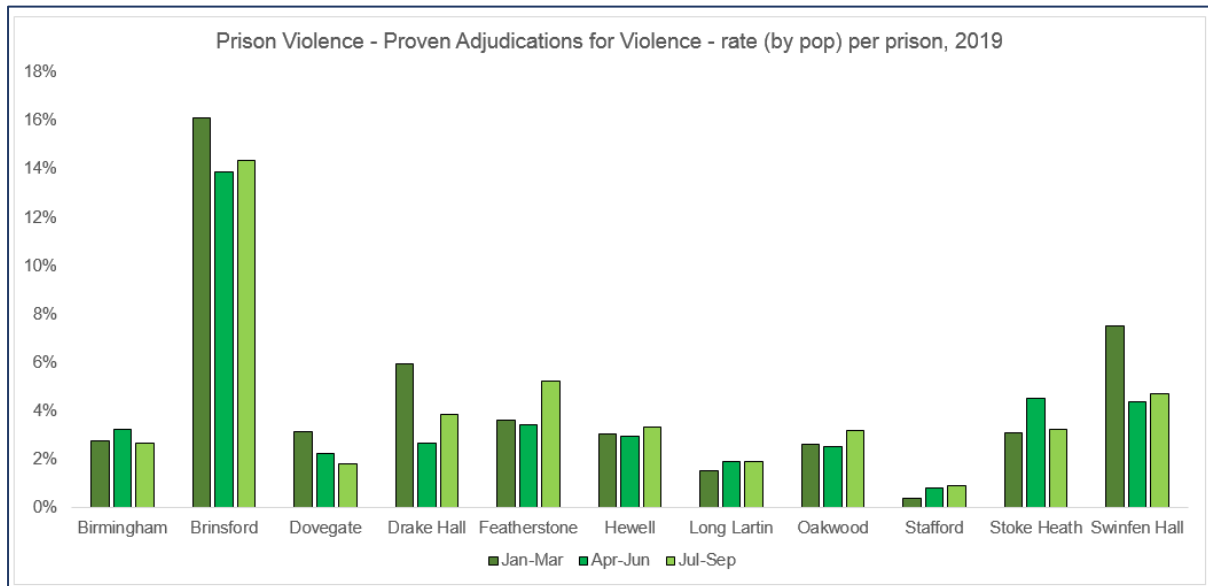


Key findings

- HMP YOI Brinsford is a prison and young offenders institution in Staffordshire
- Brinsford has seen significant increases in the number of people imprisoned for possession of weapons offences

In-prison violence

Number of proven adjudications for violence in prisons in the West Midlands



Key findings

- Data for the first three quarters of 2019 shows variation across the prison estate
- **YOI Brinsford** stands out with the highest proportion of adjudications for violence
- In 2019, **Brinsford** became a Cat B/C prison due to a rise in violence, self-harm and drug abuse
- **HMP and YOI Swinfen Hall**, with an operational capacity of 624, holds young adults serving sentences of between four years up to life imprisonment

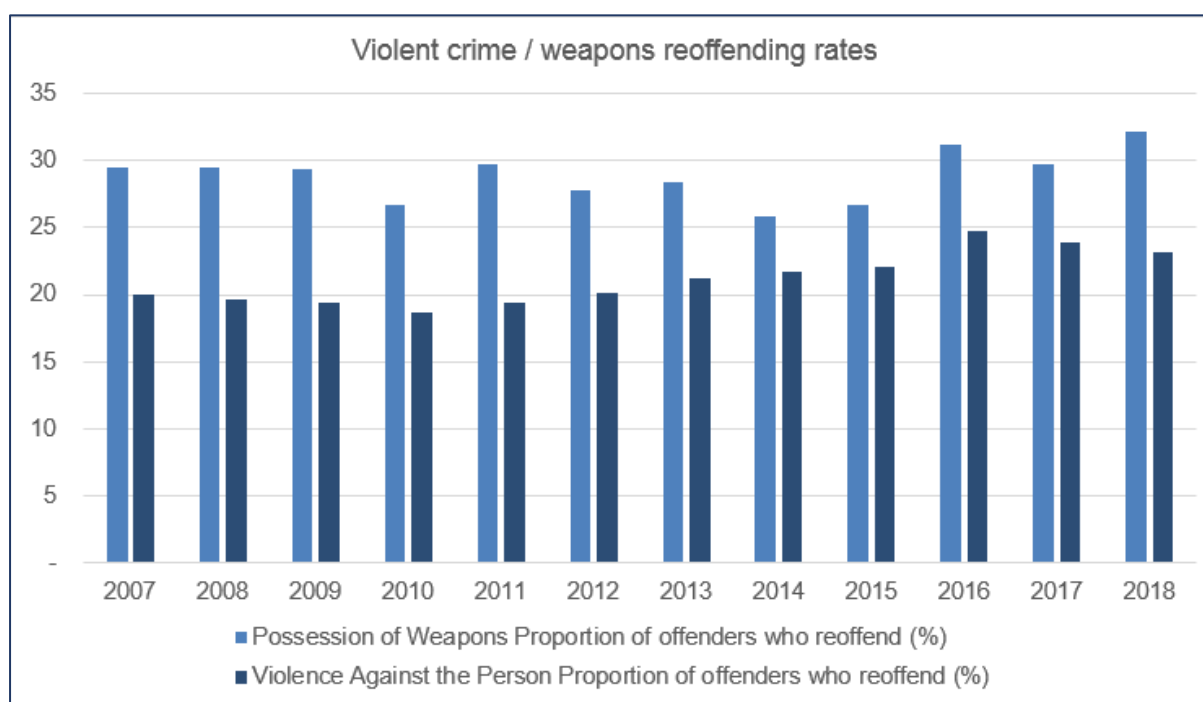
Further investigation

- The Prison Population Data Tool (published by the MoJ) provides quarterly breakdowns by individual prison
- It includes data on offence type (including violence against the person, robbery, possession of weapons and public order offences)
- It includes demographic information such as gender, age group and ethnicity

Probation Service and Community Rehabilitation Companies

Reoffending rates of offenders on probation orders

Violent Crime and Possession of Weapons Offence categories



Key findings

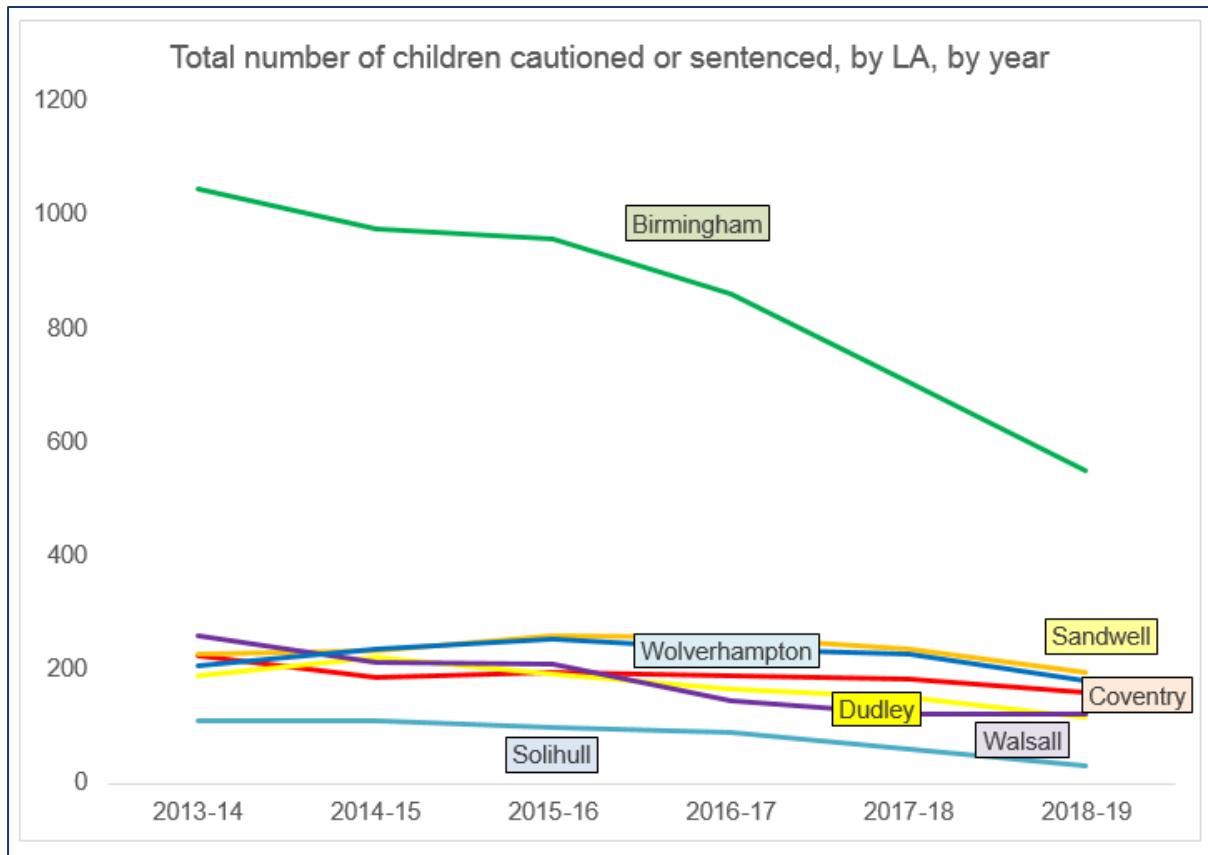
- 12-month reoffending rates for those convicted of violence against the person in the West Midlands went up from 20% in 2007 to 25% in 2016
- Since 2016, there have been slight reductions and the figure for 2018 is 23%
- Those convicted of possession of weapons have higher reoffending rates
- These rates tend to fluctuate, but have increased from 30% in 2007 to an 11-year high in 2018 of 35%.

Further investigation

- The MoJ publishes data on the number of community orders and sentences by types, number of starts and successful completions
- Demographic information is available, such as gender, age and ethnicity, and geographically, by local authority area
- Reoffending rates are available by area, gender, ethnicity, crime type, which should be analysed and included in the needs assessment

Young People involved in criminal behaviour and Youth Offending Teams

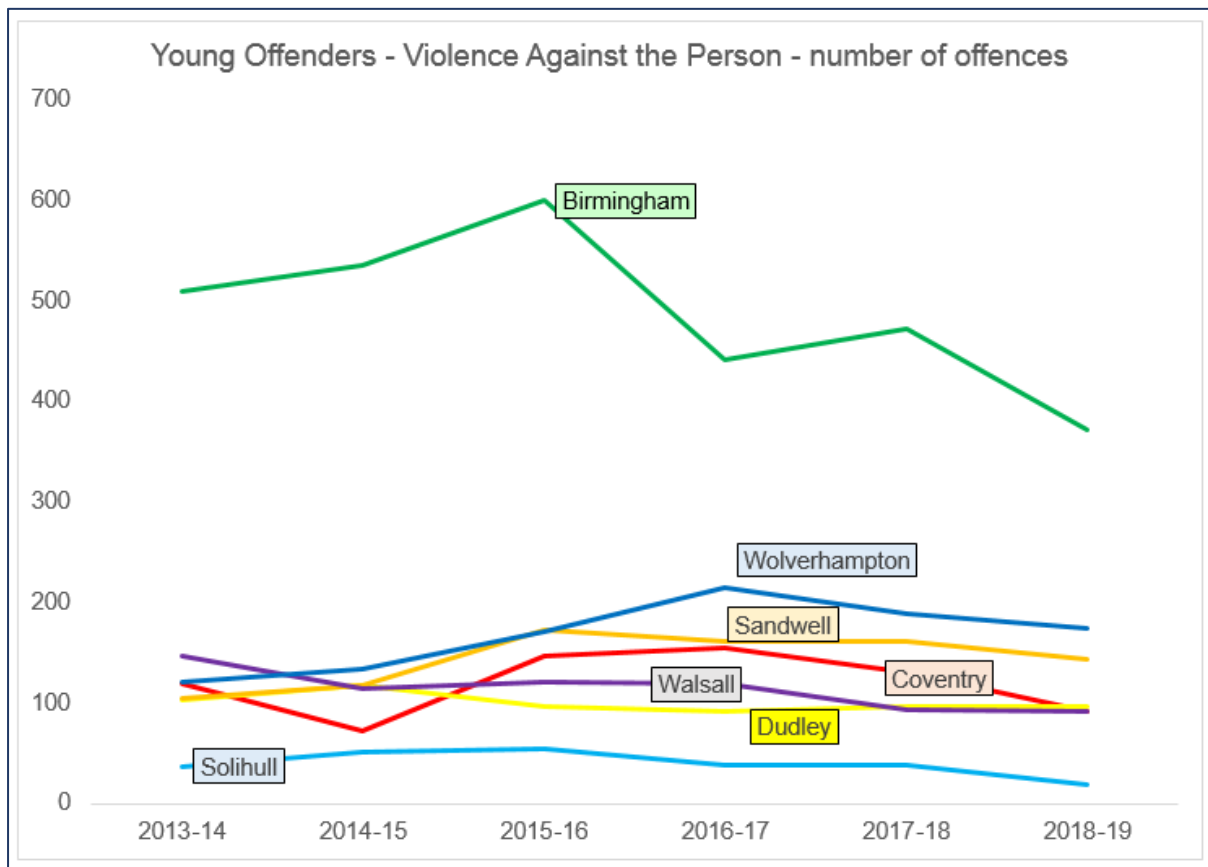
General trends in young people being sentenced or cautioned (for any offence) in the West Midlands, by local authority area



Key findings

- All local authorities in the West Midlands have seen reductions in the number of young people being sentenced or cautioned over the last six years
- Birmingham looks most dramatic, but has the greatest volume, though is down 47% on 2013/14 levels, which is comparable to the reduction in England at 48%
- Solihull is down 72%, but volumes are relatively small (from 109 in 2013/14 to 31 in 2018/19); Walsall is also down more than 50%
- Wolverhampton and Sandwell have also seen reductions, but far less significant than other West Midlands local authorities at 13% and 14% respectively

Young people and violence



Key findings

- The chart shows the total number of children sentenced for Violence Against the Person offence type, annually by local authority, from 2013/14 to 2018/19
- Five of the seven authorities have seen reductions in this period, ranging from Solihull (49% drop) to Birmingham (27% drop) and Dudley with a 7% reduction
- The average reduction in England for the same period was down 12%.
- In contrast, Wolverhampton and Sandwell have seen increases in the number of children sentenced for Violence Against the Person offences in this time
- Wolverhampton is up 46% from 120 to 175
- Sandwell is up 36% from 105 to 143

Further investigation

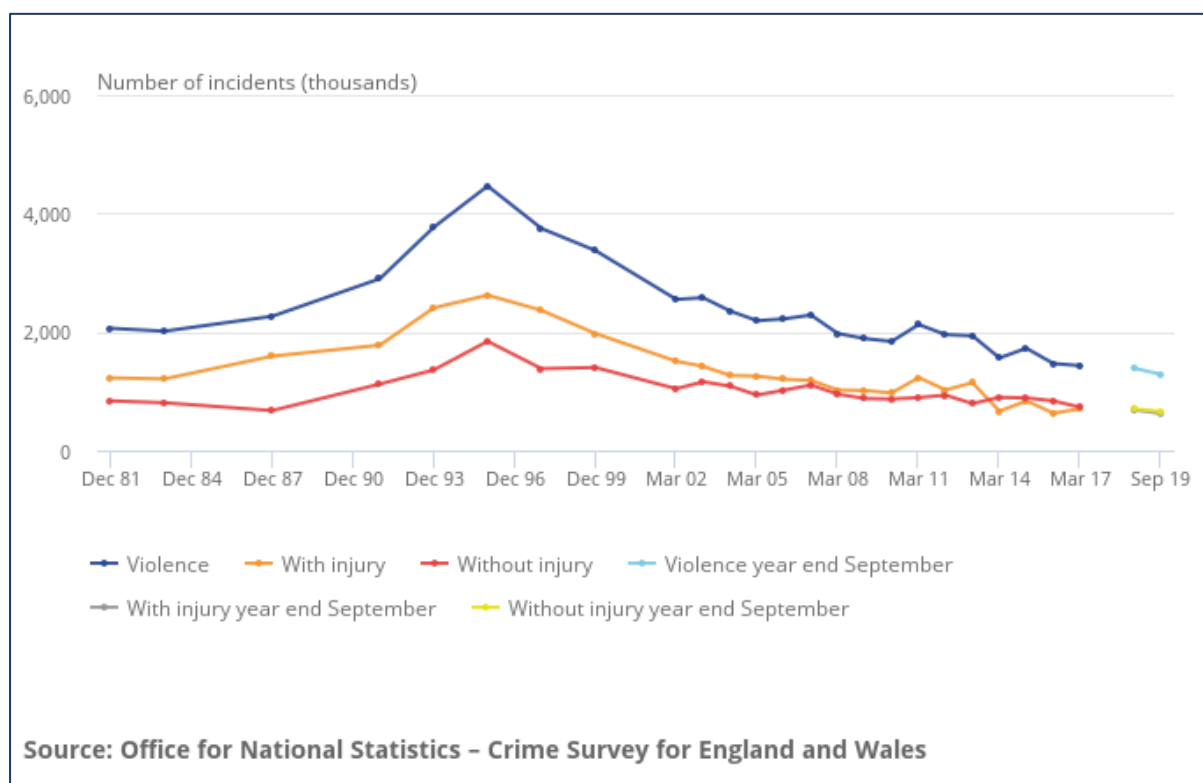
- Volumes of young people in custody or subject to community orders and managed by Youth Offending Teams is important to understand the scale of the issue and changes over time
- However, it is important to look at rates as well (as a proportion of the population) to fully understand the picture at local authority level
- YOT data (published by the MoJ) as well as more granular, restricted data held by local authorities on youth offending will provide further detail in relation to demographics and more localised insight

The Crime Survey of England and Wales

How does the Crime Survey data differ from recorded police data?

- The Crime Survey of England and Wales is a qualitative victim study commissioned annually by the Office for National Statistics
- The survey seeks to measure volumes of crime by questioning a sample of approximately 50,000 people aged 16 and over about the crimes they have experienced in the last year
- In that sense, it is likely to include crimes that go unreported to police, which may make it a more useful indicator of high-frequency, low-severity crimes
- In terms of violent crime, the ONS says it “provides the best measure of trends for overall violent crime, particularly the more common but less harmful offences, such as assault with minor injury”

Long-term trends in violent crime suggested by Crime Survey data



Key findings

- Violent crime peaked in 1996 according to Crime Survey data
- Since then, it has been decreasing steadily until, in September 2019, reaching the lowest levels for 40 years
- This includes violence with injury, though the decline has been less dramatic
- This is in contrast to recorded police data (and some hospital admissions data) which suggest an increase in recent years in more serious violent episodes
- This could be explained in two ways
- In terms of relatively low-volume but high harm offences, such as serious knife crime, robbery or gang-related crime, police recorded crime data is more reliable. It is more likely to be reported or detected, but less likely to be experienced by the public
- In terms of higher volume violence, including some domestic abuse-related offences, the Crime Survey may be a more useful indicator, particularly as rising numbers in recorded police data over recent years may to a large extent be a reflection of changing police priorities, or trust in victims reporting incidents, rather than an increase in actual incidents

Summary of key findings

Section 2: The Criminal Justice Sector

- The crime deprivation sub-domain has a similar pattern geographically to the index of multiple deprivation, suggesting correlation with poverty
- Violence against the person in the West Midlands is up from 50,000 incidents in 2017 to 80,000 in 2019 - a trend mirrored by the Violence with Injury offence type
- Half of recorded Violence with Injury offences take place in the public realm
- Knife crime is rising, with the West Midlands experiencing the biggest increase nationally – up 17% in 2019 from 2018
- However, domestic abuse is nine times more prevalent than violent knife crime
- The Young Offenders' Institution YOI Brinsford has seen significant recent increases in the number of people imprisoned for possession of weapons offences
- YOI Brinsford also has very high rates of proven adjudications for violence
- For offenders subject to community sentences and on licence, 12-month reoffending rates for those convicted of violence against the person went up from 20% in 2007 to 25% in 2016
- Wolverhampton and Sandwell have seen increases in the number of children sentenced for Violence Against the Person offences in this time
- The focus of VRU interventions in 2019/20 has been informed to some extent by WMP Impact areas, which take into account violent crime rates, victim locations and areas of deprivation

Section 3: The Health Sector

Health data to inform violence reduction

Dataset	Availability	Access	Quality	Importance	What does it tell us?
Health deprivation	Open	Yes	Good	7/10	Risk - Population level health inequalities
Hospital admissions	Restricted - PHE	Yes	Good	9/10	Overnight hospital admissions for violence
Injury Surveillance	Restricted – NHSE	Yes	Good	9/10	All Emergency dep't admissions for violence
Ambulance callouts	Restricted – WMAS	No	Unknown	9/10	All ambulance callouts for violence
GP / drop-in centres	Restricted	No	Unknown	7/10	Broader view of prevalence of violence in communities
IRIS referrals	Unknown	TBC	Unknown	8/10	Indicator of DV
Children's services	Open	Yes	Unknown	7/10	Early indicator of exposure to risk

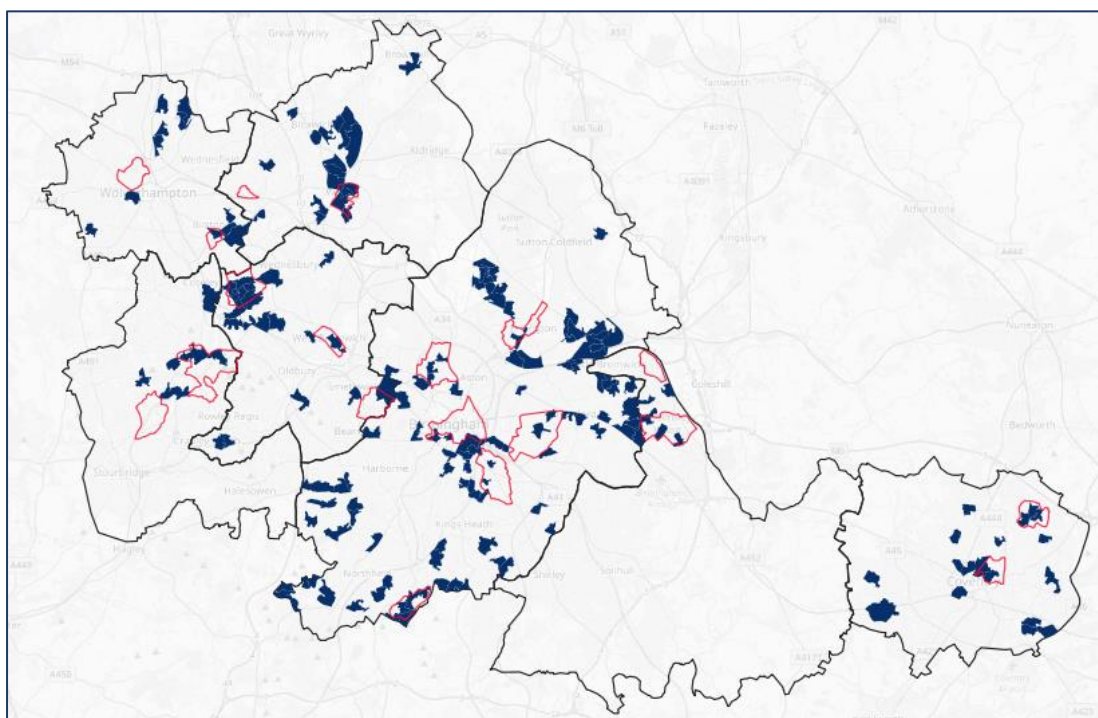
Health deprivation and inequalities

Health deprivation is a subset of the Index of Multiple Deprivation data, last updated in November 2019. Measured at lower super output area (LSOA) granularity, it is made up of the following indicators:

- Years of potential life lost
- Comparative illness and disability
- Acute morbidity
- Mood and anxiety disorders

It is useful in assessing relative health inequalities in both small areas (approximately 1,500 populations) and regional disparities.

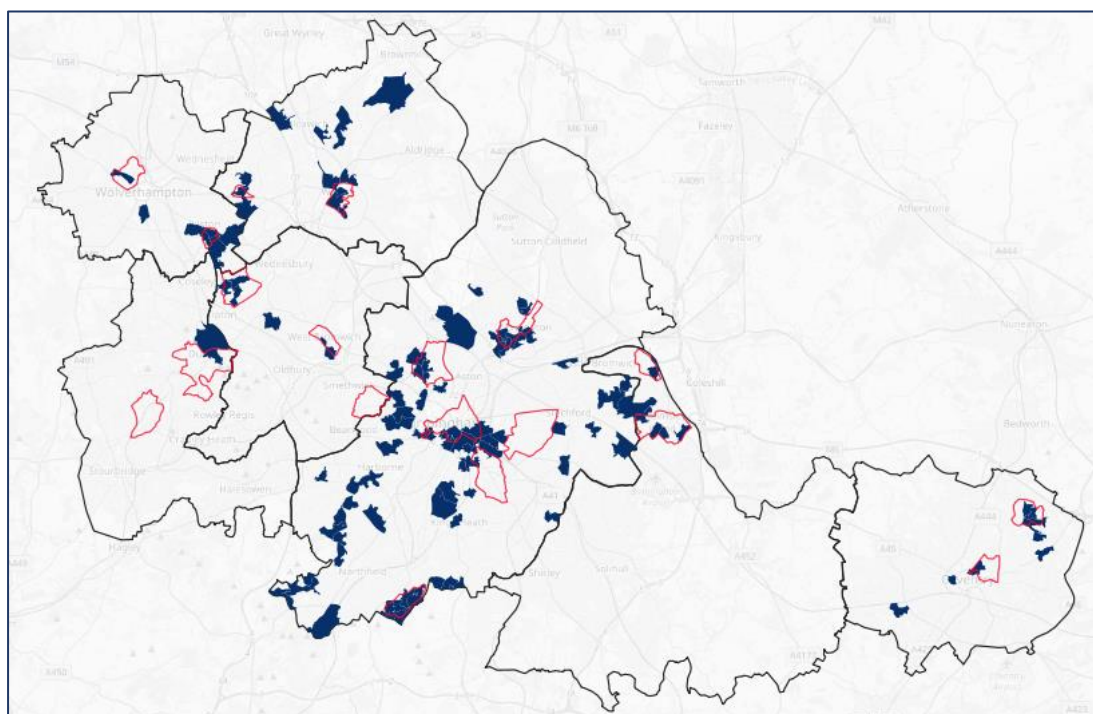
The 10% most deprived areas for health in the West Midlands, shown alongside West Midlands Police Impact Areas



Key findings

- There is clear overlap between the Impact Areas (hotspots for violent crime) and the areas with the most health deprivation
- Impact Areas with less deprivation tend to be city centres where crime rates tend to be higher, but fewer people live
- There are several concentrations of health deprivation outside Impact Areas, such as southwest and northeast Birmingham, Sandwell and Walsall

The 10% most deprived areas for crime in the West Midlands, shown alongside West Midlands Police Impact Areas



By way of comparison, the map shows the top decile for crime deprivation. Crime deprivation is another subset of the IMD. Its indicators are violence, burglary, theft and criminal damage.

Hospital Episode Statistics (HES)

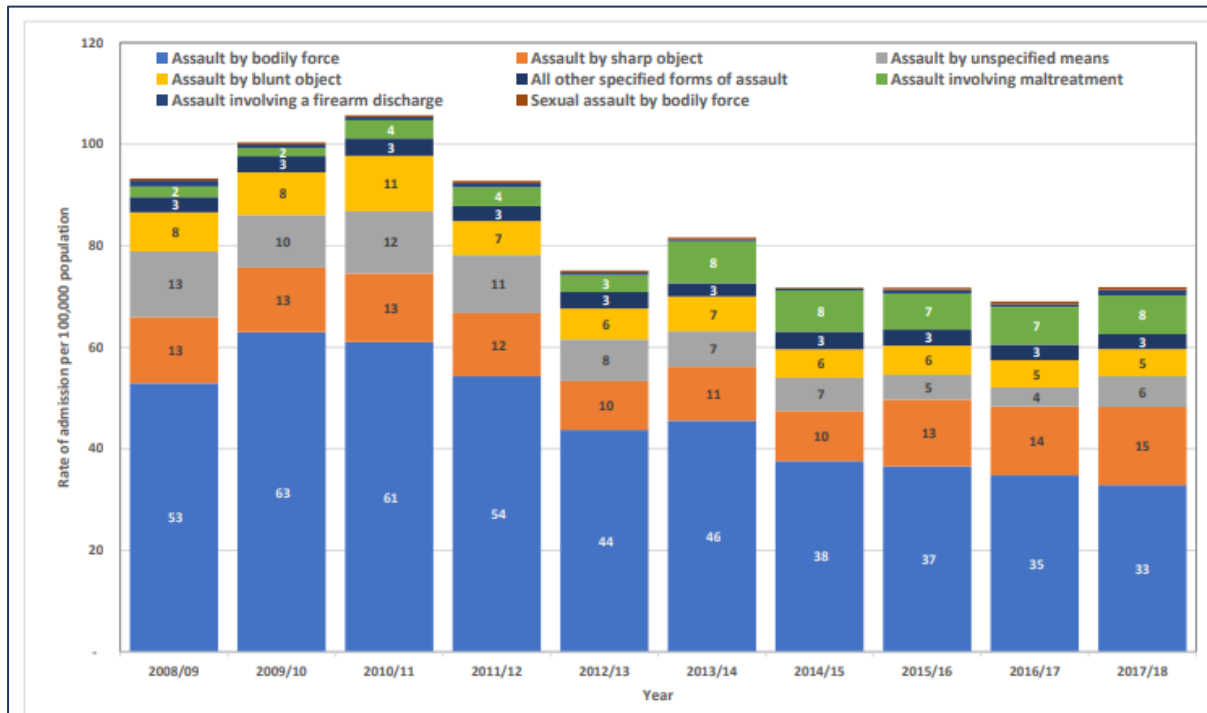
Hospital Episode Statistics contain details of all admissions, A&E attendances and outpatient appointments at NHS hospitals in England.

It is important to consider hospital episode statistics in relation to understanding the scale of (serious) violence as it includes information on incidents that go unreported to police.

Hospital admissions data (with an overnight stay of at least one night) is the best quality subset of data within HES and the following analysis and charts are based only on those hospital episodes for violence which required overnight stays.

All hospital stays for violence, by assault type, 2008 to 2018

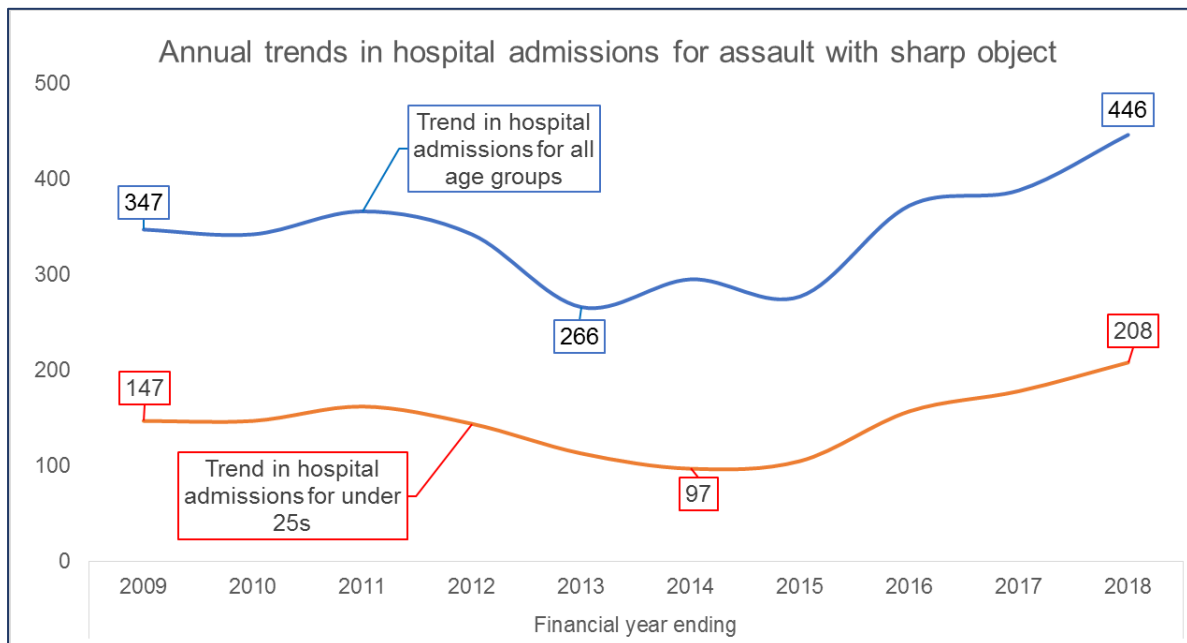
All figures are rates per 100,000 population



Key findings

- Hospital admissions for all assault types in the WM fell from a high of more than 100 per 100,000 population in 2010/11 then fell and has stabilised
- The most common assault type is “by bodily force” but this is declining
- There is an increase in “Assault with Sharp Object” which has seen a rising trend since 2013

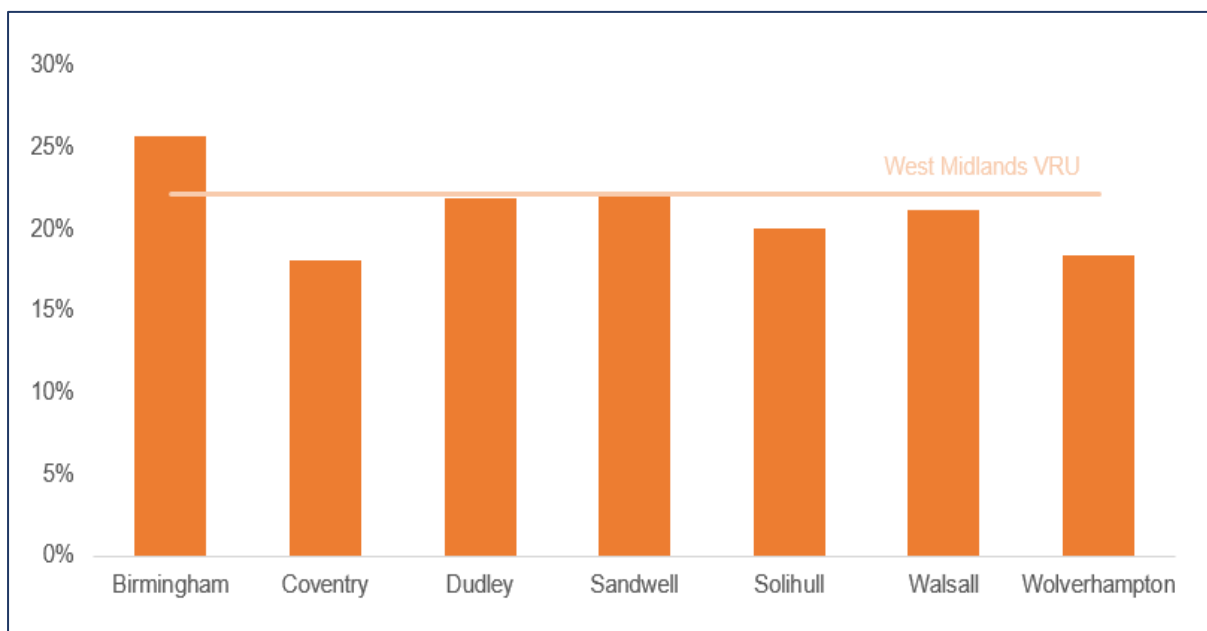
Trends in hospital admissions for “Assault with sharp object”



Key findings

- Trends mirror police data, showing rises after 2013 following a steady fall.
- In the under 25 age group, we see significant rises from 2014, with admissions more than doubling in four years

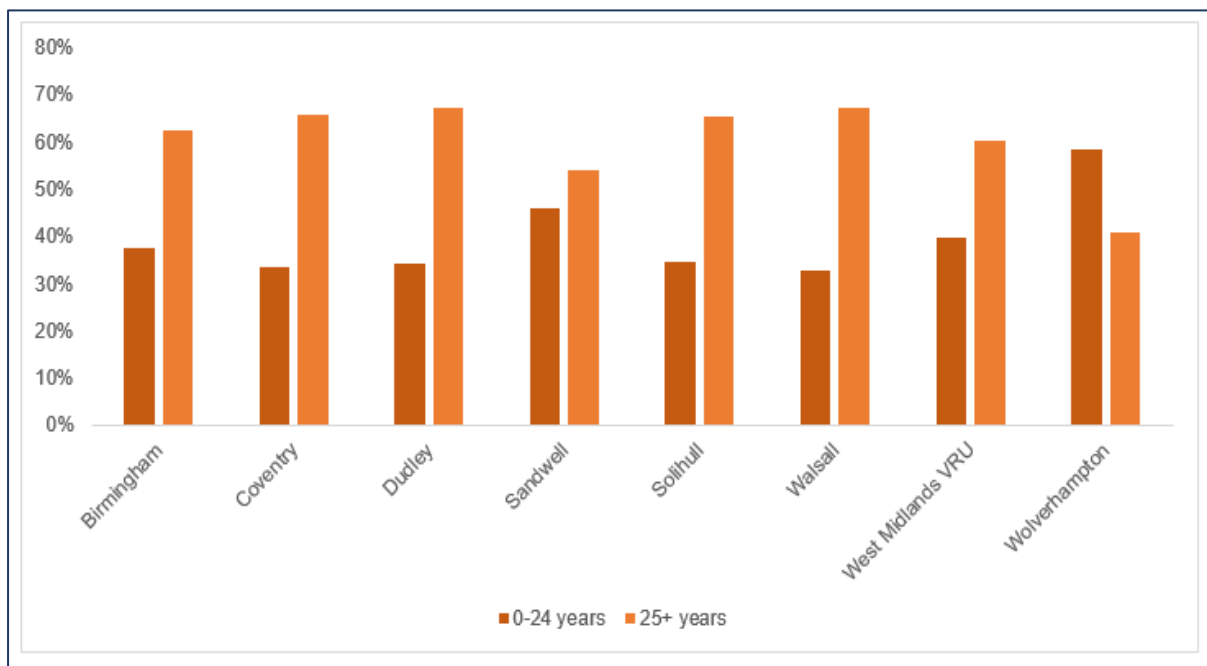
Proportion of emergency inpatient admission episodes, where assault by sharp object is the first recorded code



Key findings

- Assault with sharp object makes up between 17% and 25% of all hospital admissions for violence in the West Midlands
- Birmingham has the highest proportion and pulls the West Midlands average up
- Coventry and Wolverhampton have the lowest relative rates.

Proportion of emergency inpatient admission episodes, where assault by sharp object is the first recorded code, by age group

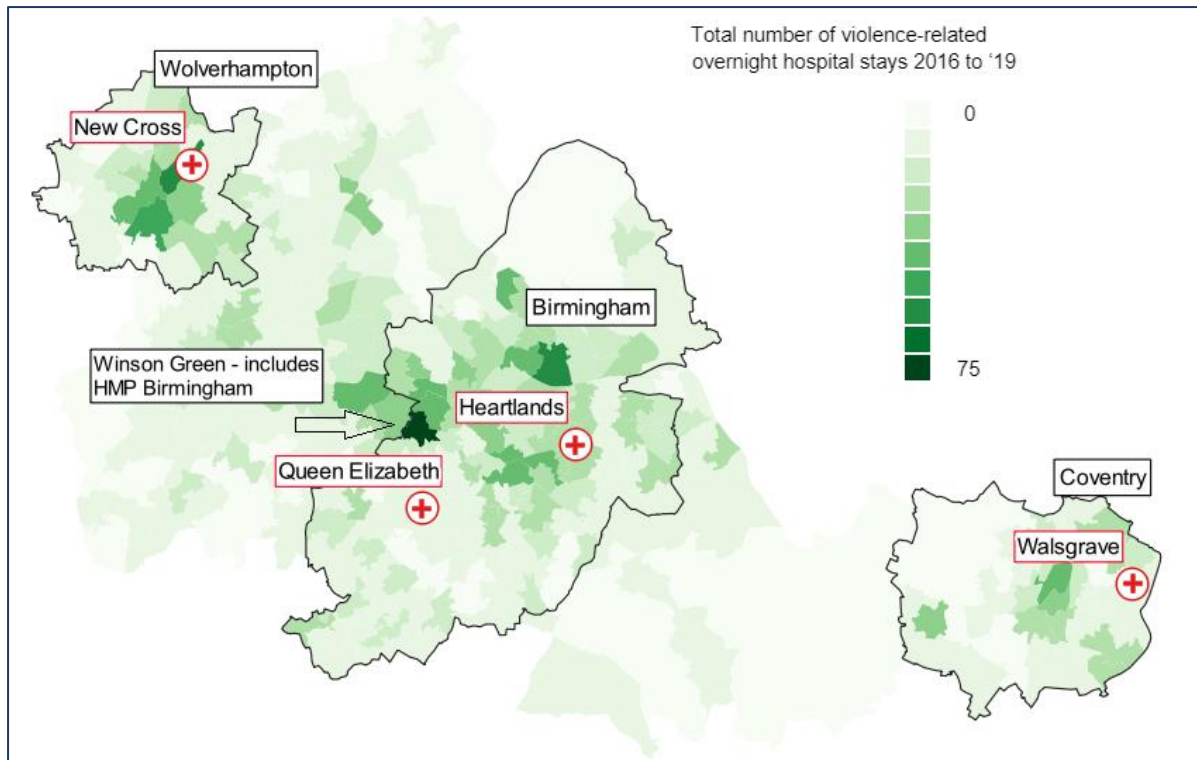


Key findings

- Under 25s make up about a third of hospital admissions for assault with a sharp object in the West Midlands but there are some noticeable differences across local authority areas
- Sandwell and Wolverhampton have higher rates for under 25s
- Wolverhampton has the highest proportion at about 60%

Map showing hospital admissions for violence by location of patient's home address

This map shows hospital admissions for violence over three years to 2019, where patient at least one-night stay and from MSOA, numbers suppressed below 7 and rounded.



Key findings

- Hospital admissions for violence in the West Midlands (2017 to 2019) show the highest concentrations in the main city regions
- There are notable hotspots in inner city and west Birmingham along the border with Sandwell
- There are also hotspots in Coventry and Wolverhampton

West Midlands VRU interventions

- Hospitals with emergency departments on the map are the ones where West Midlands VRU has “Teachable Moments” interventions in place, delivered by St Giles Trust and Red Threads

Potential gaps

- One hospital not shown on the map is City hospital in Sandwell, near Winson Green. Only hospitals engaged in Teachable Moments are shown.
- Hospital admissions data reveals a clear area of need around this area of the West Midlands (west Birmingham and east Sandwell)

Injury Surveillance to Tackle Violence data

Information Sharing to Tackle Violence (ISTV) data comes from the nine tier 1 Emergency Departments in the West Midlands and provides information on people attending emergency departments (or A&E departments) where a cause code of violence has been identified.

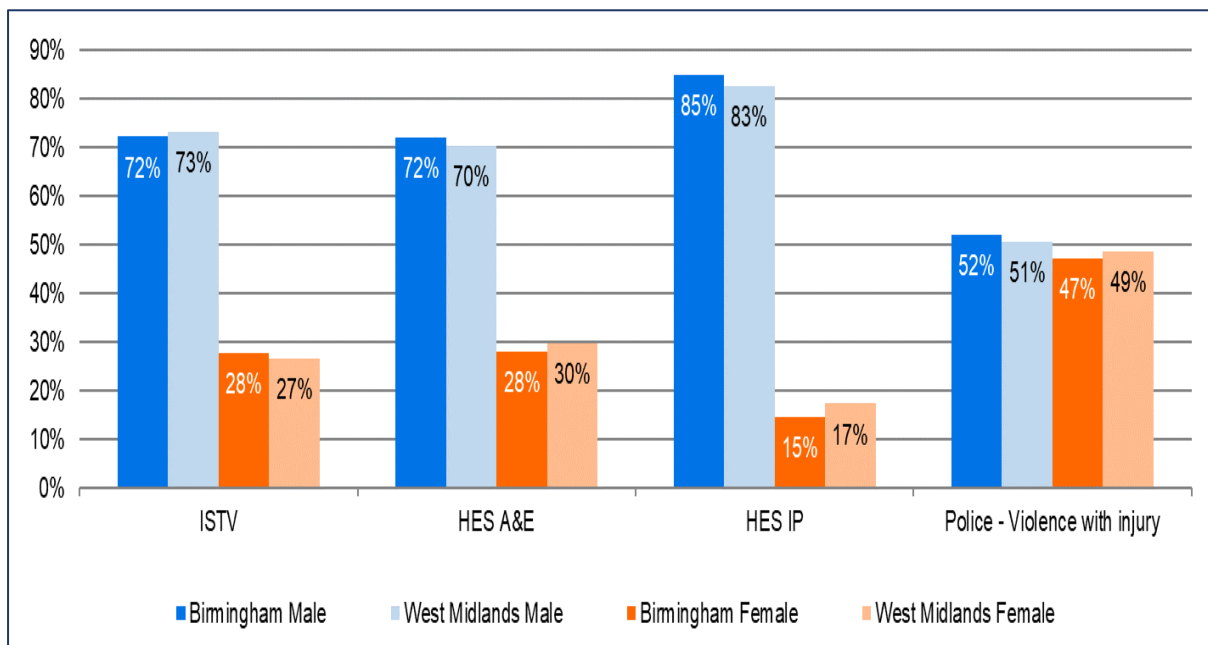
This data includes all those reporting to hospital as a result of violent assault, not limited to those who are admitted for overnight stays.

The quality of this data in the West Midlands is patchy, as some of the EDs do not provide reliable data on a regular basis. For example, just 55% of incident location records could be assigned to a local authority. Data has not been provided from one of the key EDs in the West Midlands, in one of the most deprived areas, near two of the police impact areas.

Nevertheless, ISTV data is informative and thus valuable in understanding the patterns, trends and demographics of violence in the West Midlands.

It reveals parallels but also some differences with recorded police data.

Gender differences in violence

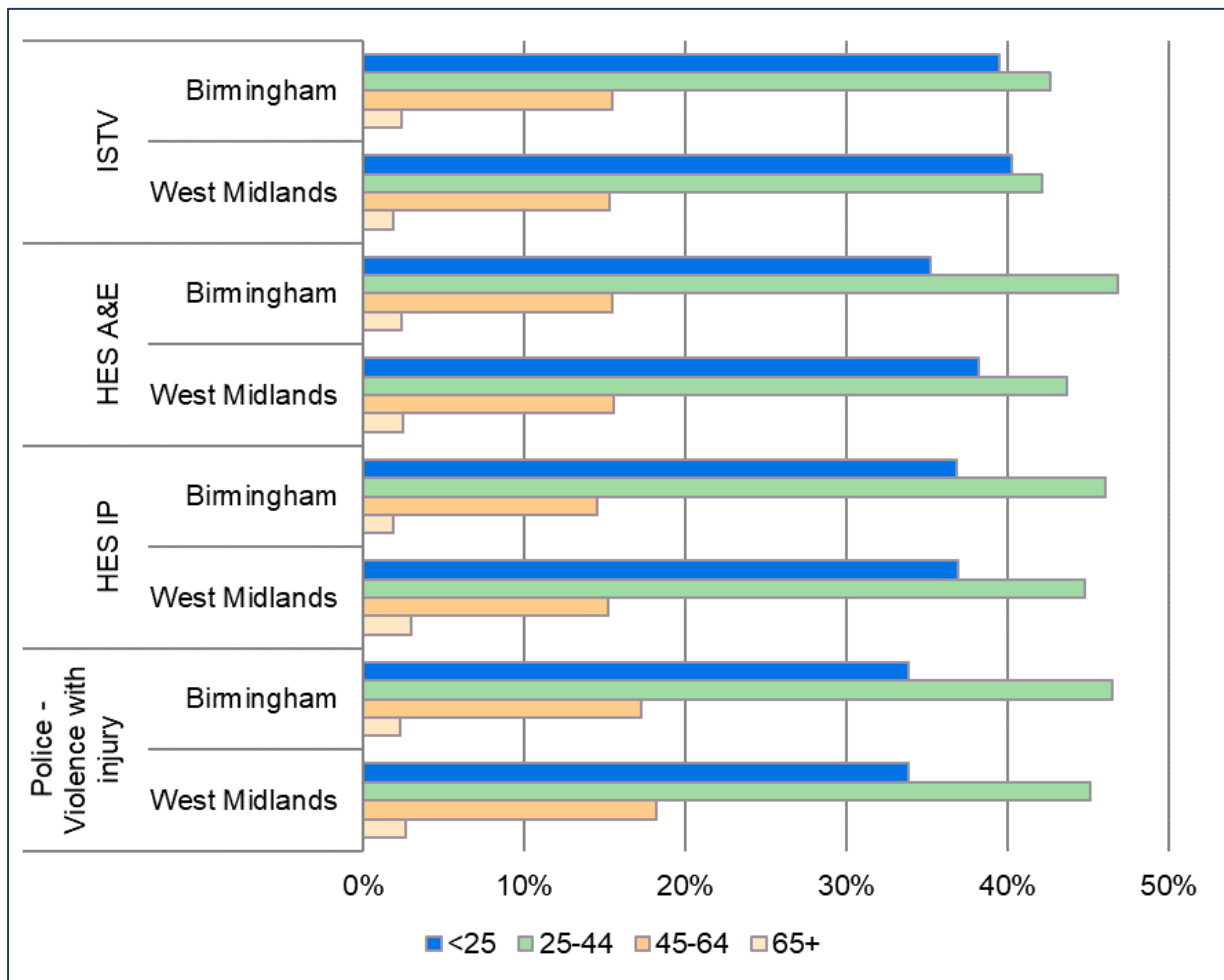


Key findings

- ISTV data shows marked differences in gender split with West Midlands Police violence with injury data
- This may be because police data includes recorded incidents of violence (such as domestic violence) that do not appear in hospital admissions data

In other categories, such as the breakdown of violence by age groupings, West Midlands Police data shows more similarities with ISTV data.

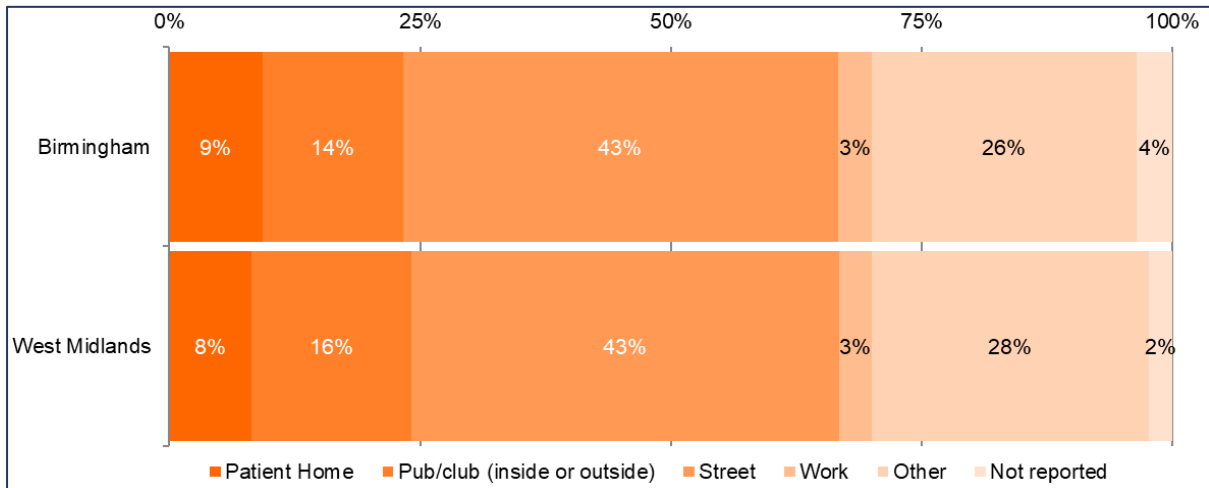
Proportion of assault-related injuries and violence split by age group



Key findings

- The age group most affected by violence is 25-44
- This is true in Hospital Statistics, Injury Surveillance and Police data
- Under 25s make up a significant proportion of violence records in health and police data
- In Birmingham this is up to 40%
- In the West Midlands, up to 80% of assaults and violence incidents involve a victim under 44 years of age

Analysis by place – location of assault

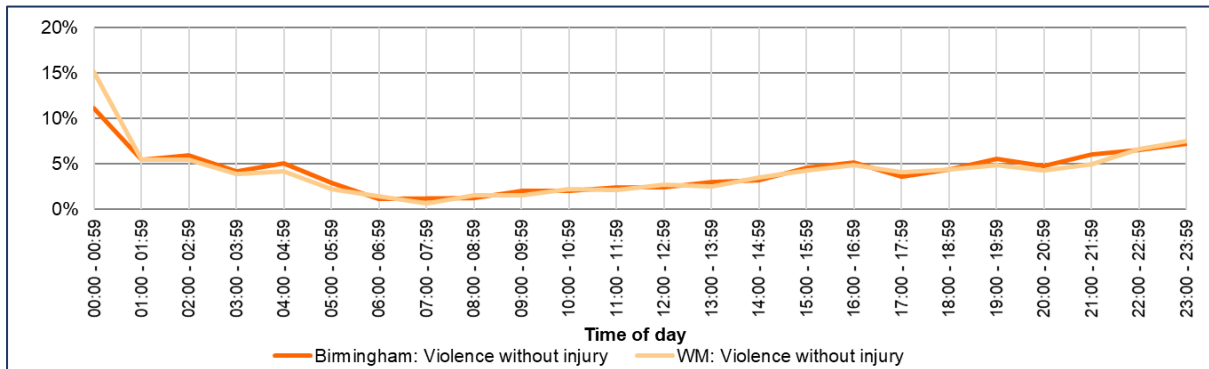


Key findings

- ISTV data shows almost half of reported admissions for violence were reported as taking place on the street. Less than one in ten took place in the home
- Caveats: Almost 30% were recorded “other” and data is missing

Time of day (ISTV data)

Injury surveillance data records the time that the patient arrived at the emergency department. The following chart shows this broken down by hour of day.



Time of day (police recorded violence with injury data)

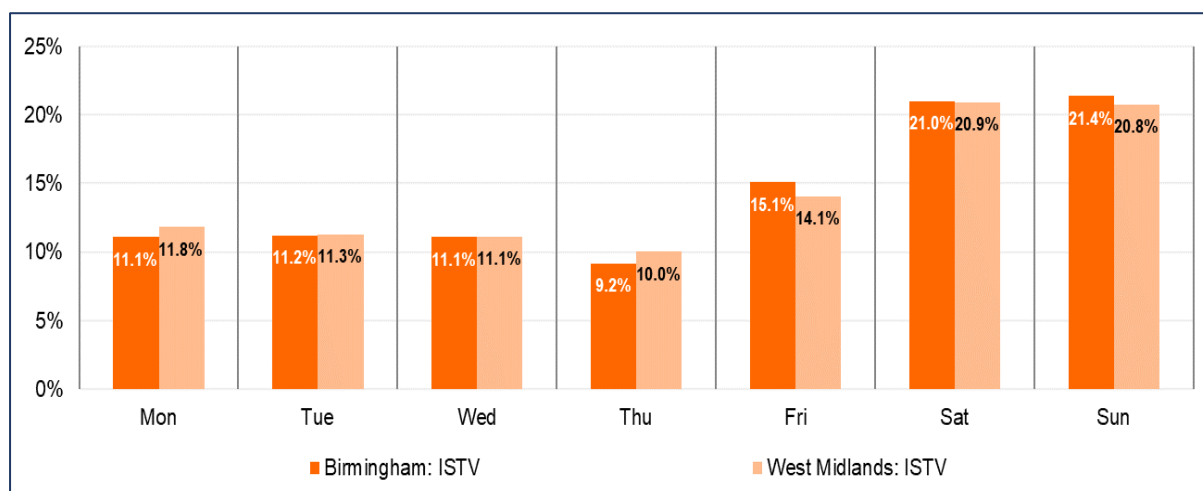
	Time of day																							
	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Monday	4.8	3.7	1.9	2.1	1.7	1.1	1.3	2.7	3.3	4.1	4.6	5.5	6.0	6.1	6.1	9.5	7.7	8.6	9.4	8.4	9.3	8.0	7.6	5.8
Tuesday	5.3	3.9	3.2	2.5	1.1	0.9	1.3	1.5	3.1	4.1	4.0	5.1	5.4	5.9	6.5	10.7	10.0	8.1	9.2	7.4	7.1	8.1	6.1	5.3
Wednesday	4.5	2.5	2.1	2.0	1.5	1.1	1.0	1.2	2.9	3.8	4.8	4.9	6.1	5.4	6.5	11.3	7.9	9.0	7.9	8.0	6.8	8.1	7.4	4.9
Thursday	4.3	3.0	2.4	2.6	1.5	0.9	1.2	2.6	3.0	3.4	3.2	4.8	4.9	5.6	6.0	10.7	8.0	8.8	8.6	9.0	7.6	6.9	7.8	5.0
Friday	5.2	3.3	2.6	2.2	1.8	1.4	1.5	1.8	3.0	3.2	3.9	4.6	6.6	6.3	6.6	11.3	8.4	9.4	9.6	8.9	10.6	9.6	11.5	10.2
Saturday	12.0	10.1	7.9	7.4	5.1	3.2	2.0	2.2	2.9	3.7	3.5	4.6	4.9	6.0	6.5	7.5	7.6	8.2	10.1	10.0	9.7	11.9	12.9	14.0
Sunday	14.3	12.2	11.5	8.2	5.6	4.4	2.7	2.1	2.2	2.6	3.7	5.3	6.6	5.4	6.6	6.1	8.5	9.0	9.9	10.5	9.0	8.3	8.5	6.9

Key: Lower Higher

Key findings

- Hospital attendances in the West Midlands and Birmingham are highest in the night into the early hours of the morning, between 9.00pm and 2.00am
- This matches WMP data, which uses “time first committed”
- Some lag might be expected between time of incident and time recorded by the emergency department

Day of week (ISTV data)



Key findings

- Weekends are clearly the busiest times for emergency departments
- Sundays have unexpectedly high numbers of admissions when compared to WMP Violence with Injury data (see previous chart)

Other fields available in ISTV data include data on weapon used (if any), relationship with assailant and involvement of alcohol, but data quality is patchy and unreliable.

Better quality and more comprehensive ISTV data is expected to be forthcoming in 2020/21 with the recruitment of a dedicated ISTV analyst working within Public Health England

Ambulance Callouts

Ambulance callout data is essential to fully understand the picture of violence in the West Midlands. In March 2020, a data-sharing agreement between West Midlands Ambulance Service (WMAS) and Public Health England (PHE) was close to being formally agreed.

The value of ambulance data to inform the VRU’s understanding of violence in the West Midlands was articulated in a report by RAND Europe in 2017.

In early 2015, West Midlands Police (WMP) received a grant from the Police Innovation Fund to bring together key partners relevant to accessing, understanding and making the best use of ambulance data to aid with the prevention of violence.

Key findings from the RAND report

“The study found that ambulance records contain substantial new information on violence, with between 66% and 90% of ambulance incidents not found in police data”

This clearly demonstrates the additional value of ambulance data.

Relying on police data alone risks ignoring a substantial proportion of violent incidents.

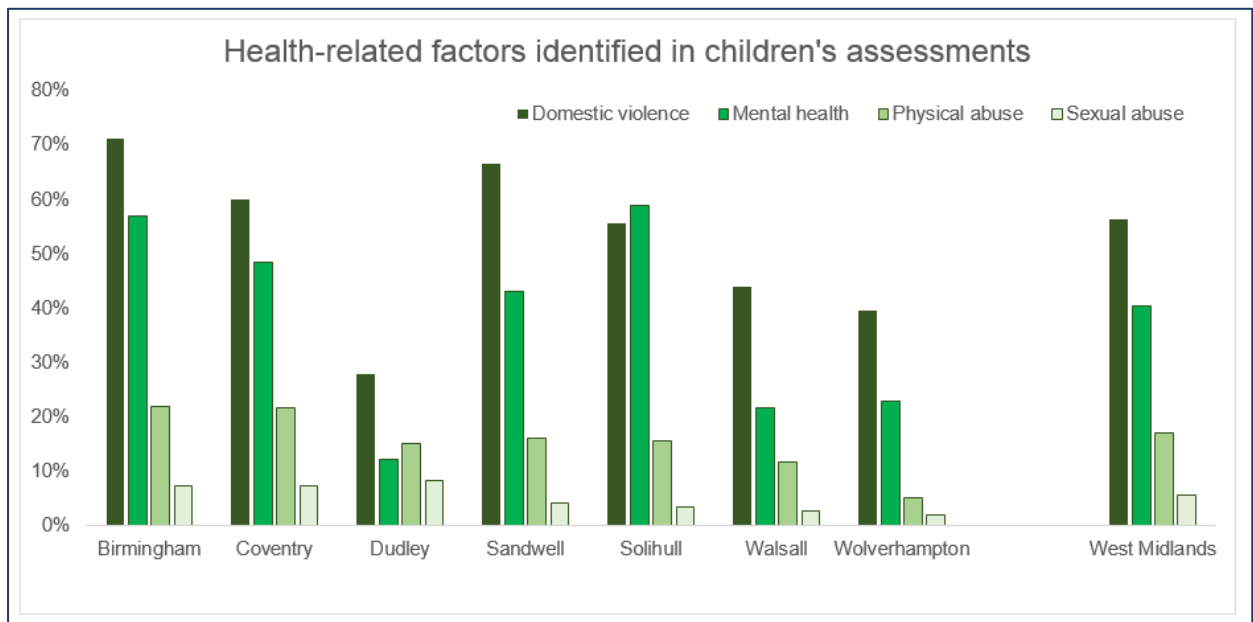
“The volume of ambulance callouts for public violence averages 16 per day in the West Midlands, meaning that ambulance data can offer high volume data that is not typically recorded by the police or ED”

Children’s Services

Characteristics of children in Need data is published by the DfE annually. The following analysis is based on the most recent available data from the financial year 2018/19.

Assessments completed by children's social care services by local authority identify factors pertinent to each assessed child’s circumstances.

Health-related factors identified in children’s assessments in the West Midlands



Key findings

- There are some big variations between local authorities
- One reason for this may be the different interpretation of data requirements
- Some local authorities only record the single most important factor; others record all relevant factors
- Even so, there is evidence that significant numbers of children are presenting to social services with exposure to domestic violence and mental health issues
- In Birmingham, a rate of 70% equates to than 6,000 children in 2018/19 from a total of 8,000 assessments

Summary of key findings

Section 3: The Health Sector

- There is clear overlap between West Midlands Police Impact Areas and areas with the highest health deprivation
- There are gaps - several concentrations of health deprivation are evident in Birmingham, Sandwell and Walsall
- Hospital admissions for violence in the West Midlands are falling, with an exception for There is an increase in “Assault with sharp object” - rising since 2013
- The rate for under 25s is increasing faster than for other age groups with admissions more than doubling in four years to 2018
- The VRU has “Teachable Moments” interventions in hospitals with the highest rates of admissions for violence in areas of high violent crime
- Injury surveillance data, though incomplete, shows differences with police data that demonstrate the importance of using a variety of information sources to understand the true picture of violence
- Work is under way between West Midlands VRU and partners to improve the availability and quality of injury surveillance and ambulance data in 2020/21
- Children’s services data shows that significant numbers of children are presenting to social services with exposure to domestic violence and mental health issues
- In Birmingham, a rate of 70% equates to than 6,000 children in 2018/19 from a total of 8,000 assessments

Section 3: The Education Sector

Introduction

There is a significant body of research that links poor pupil attainment, absenteeism, special educational needs (particularly social, emotional and mental health) and deprivation to being at increased risk of being excluded from school.

There is no evidence that permanent school exclusion directly causes violent behaviour or involvement in crime, but statistics show there are strong correlations.

The Timpson Review (2019) highlighted that “23% of young offenders sentenced to less than 12 months in custody (in 2014) had been permanently excluded from school”.

That’s almost one in four young people, in a year when the permanent exclusion rate in England was 0.06%, or one in every 1,700 pupils.

If being excluded from school puts young people at greater risk of being involved in violence or crime, as a victim or a perpetrator, there is evidence that some young people are at greater risk of being excluded in the first place.

Walsall data science approach to exclusions

A study by Walsall Council Public Health, Birmingham City University and the Big Data Corridor (see appendices) found that a special needs diagnosis was a key predictor in increased likelihood of exclusion, particularly Social, Emotional and Mental Health needs.

16% of children permanently excluded in Walsall within the scope of the study had identified SEMH needs, which compares to 2% in the general school population.

This section will examine those risk factors in the context of the West Midlands, look at trends, compare to the national picture and focus on school exclusions at regional, local authority and school level.

Table: Education data to inform violence reduction

	Organisation	Dataset(s)	Availability	Access	Quality	Importance	What does it tell us?
1	Ministry of Housing, Communities and Local Government	Index of Deprivation - Education, Skills and Training sub-domain	Open	Yes	Good	8/10	General deprivation and inequalities affecting the education sector and engagement and attainment of children
2	Department for Education	Early Years Providers - numbers and Ofsted ratings	Open	Yes	Good	7/10	Quality of early years childcare provision in West Midlands, linked to school readiness
3	Department for Education	School readiness – rates by local authority	Open	Yes	Good	7/10	Early indication of risk - children with social, cognitive, emotional development issues
4	Department for Education	Pupil performance - Attainment 8 scores	Open	Yes	Good	6/10	Regional and local authority performance of children in key exams
5	Department for Education	School Census - pupil absence	Open	Yes	Good	6/10	Indication of risk of disengagement with education
6	Department for Education	School Census - Special educational Needs	Open	Yes	Good	8/10	Key risk factor linked to higher school exclusion rates
7	Department for Education	School Exclusions Statistics	Open	Yes	Good	9/10	Regional, local authority and school-level data on exclusions, with reasons for exclusions
8	Department for Education	NEET and Participation data	Open	Yes	Good	7/10	Numbers and rates of 16-17 year-olds not in education, employment or training

Education, skills and training deprivation and inequalities

Summary

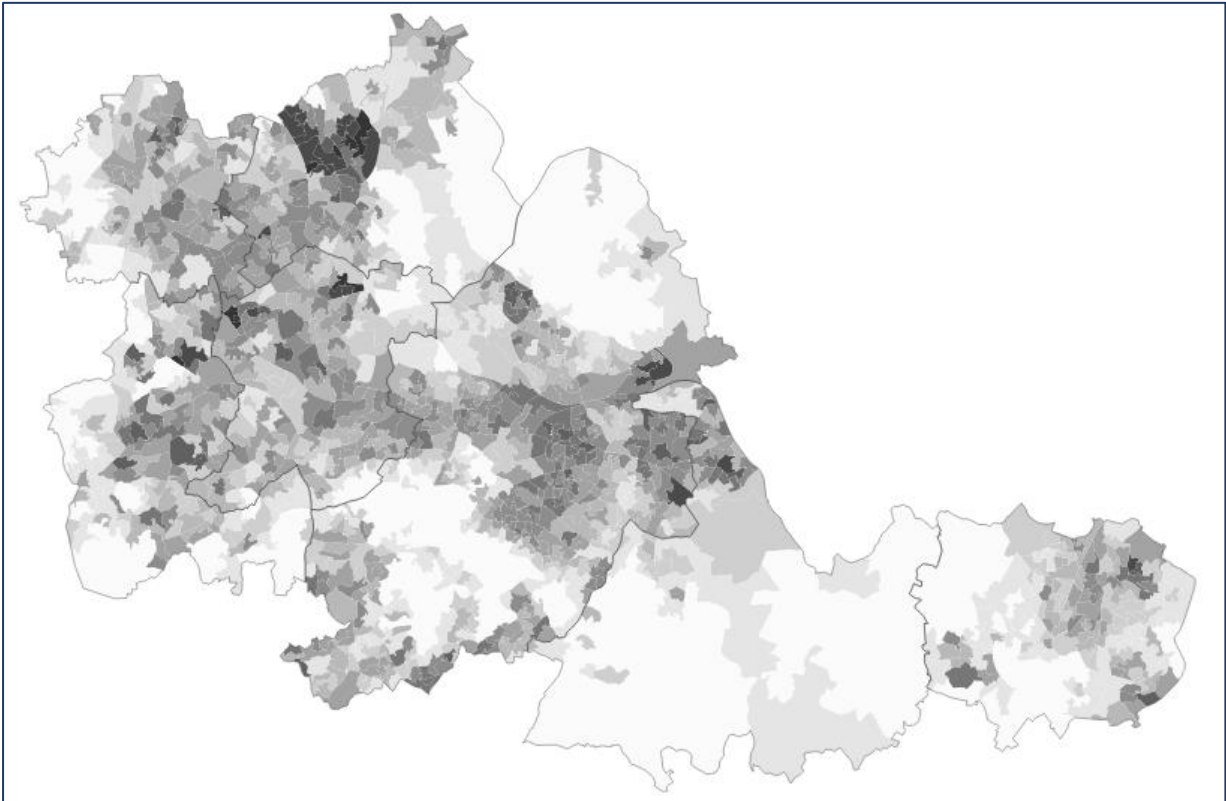
Education, skills and training deprivation is a sub-domain of the Index of Multiple Deprivation, making up 13.5% of the overall score. Generally speaking, it measures the lack of attainment and skills in the local population of an area.

It was last updated in November 2019. Measured at LSOA granularity, it is made up of the following indicators:

- Key Stage 2 attainment
- Key Stage 4 attainment
- Secondary school absence
- Staying in education post-16
- Entry to higher education
- Working age adults without qualifications
- English language proficiency

It is useful in assessing relative inequalities in both small areas (approximately 1,500 population and 400 households) and in analysing regional disparities.

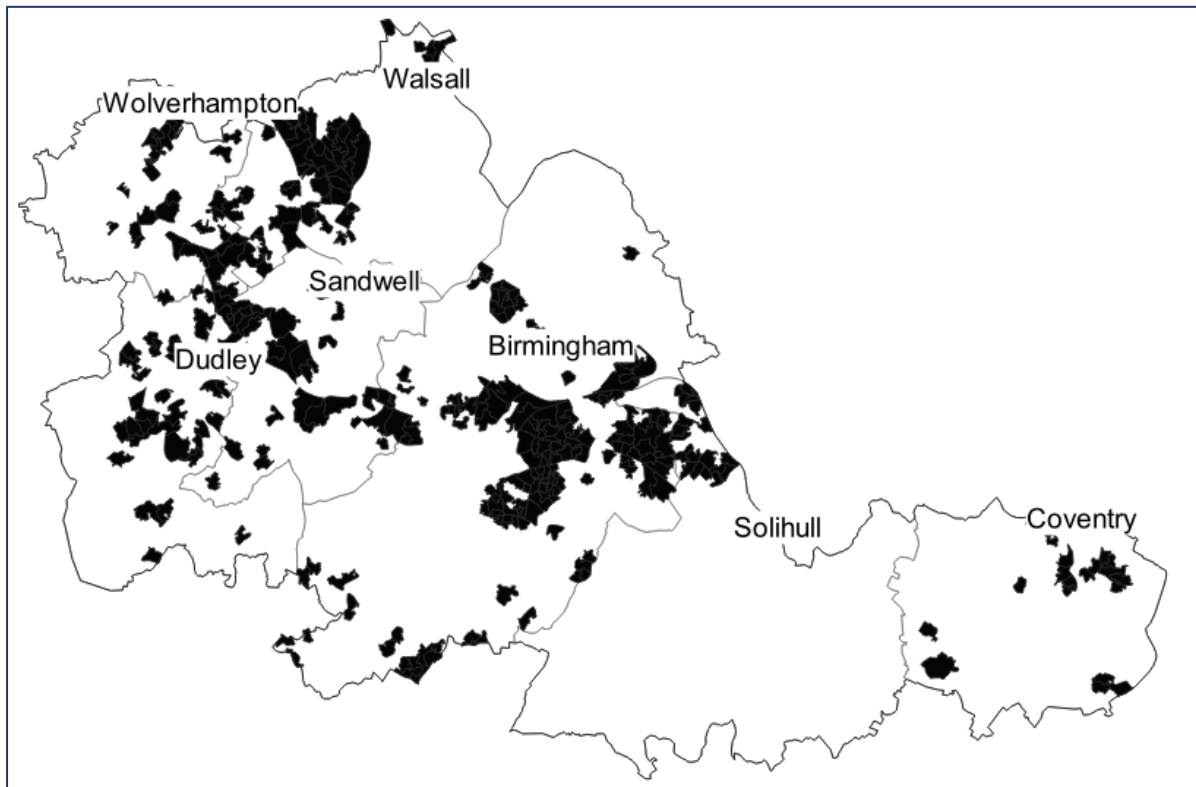
Education, skills and training deprivation in the West Midlands



Key findings

- Significant challenges in the West Midlands are presented by education, skills and training deprivation levels stretching right across the region
- Only the suburbs of south Birmingham, Sutton, east Walsall, Solihull and the western fringes of the Black Country are protected from deep inequalities
- Central and south Birmingham, Coventry and north Solihull show large swathes of education deprivation
- It is also striking how much deprivation there is in the Black Country, particularly a large concentration of deep deprivation in northwest Walsall

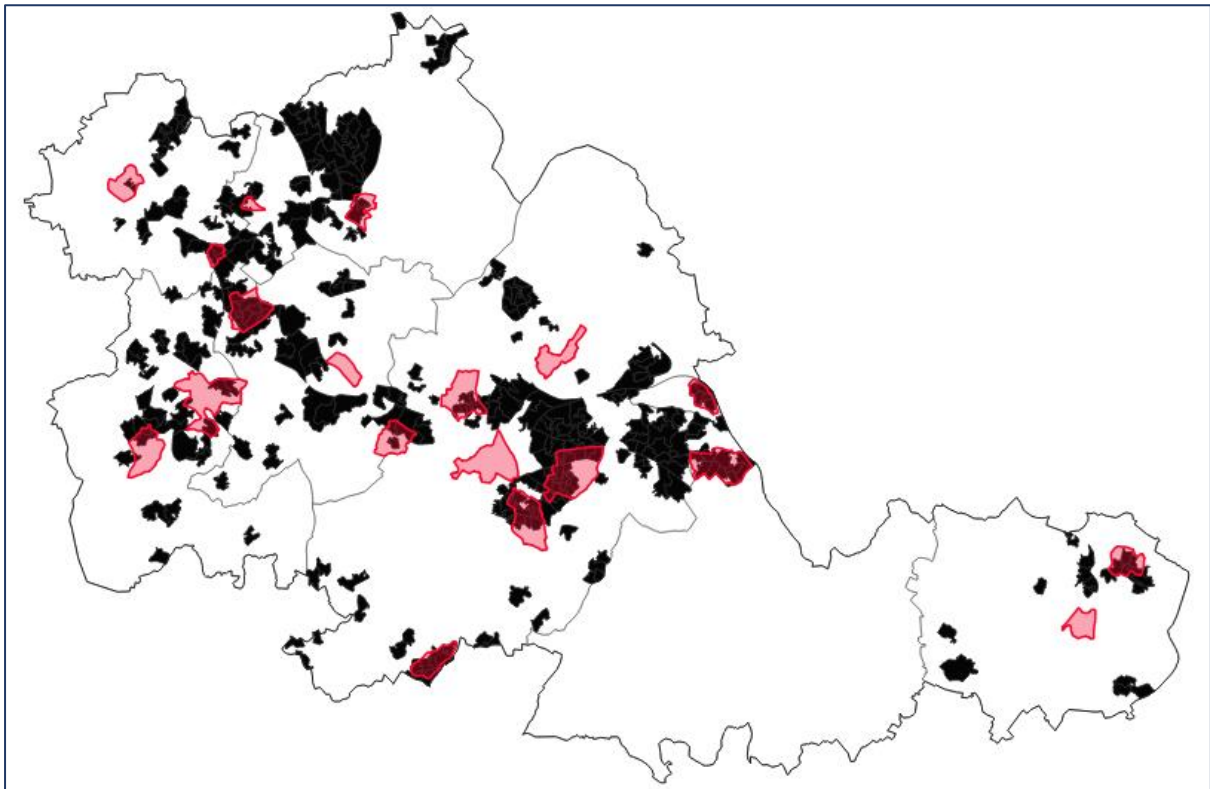
LSOAs in the top decile nationally for education, skills and training deprivation



Key findings

- The scale of the challenge is demonstrated by focussing only on areas in the top decile nationally for education, skills and training deprivation
- This highlights some of the areas outlined above as the most deprived in terms of education, skills and training, particularly central and east Birmingham, north Solihull and large parts of Sandwell and Walsall
- In total, 331 (19%) of the 1,744 Lower Super Output Areas in the West Midlands are in the top decile nationally
- Indicating that the West Midlands has almost double the national average of areas in the top 10% most deprived areas in terms of education, skills and training

LSOAs in the top decile nationally for education, skills and training deprivation, shown alongside West Midlands Police Impact Areas



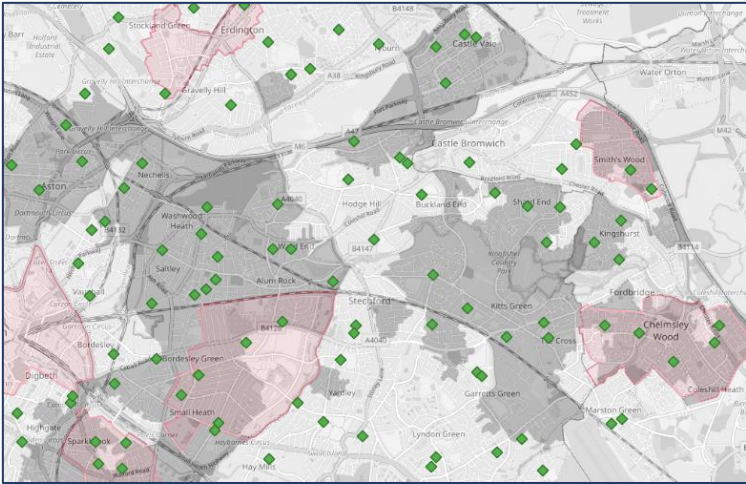
Key findings

- This map, which includes WMP Impact Areas (shown as red polygons) indicates that the Impact Areas are largely in or near to areas of deprivation for education, skills and training
- Exceptions, which tend to be the town centres of Birmingham, Wolverhampton and Coventry, typically have higher crime levels but lower residential populations
- However, there are clearly areas of significant education deprivation outside the Impact Areas, especially in parts of Birmingham and the Black Country
- The following sequence of maps shoes some of the key areas in more detail

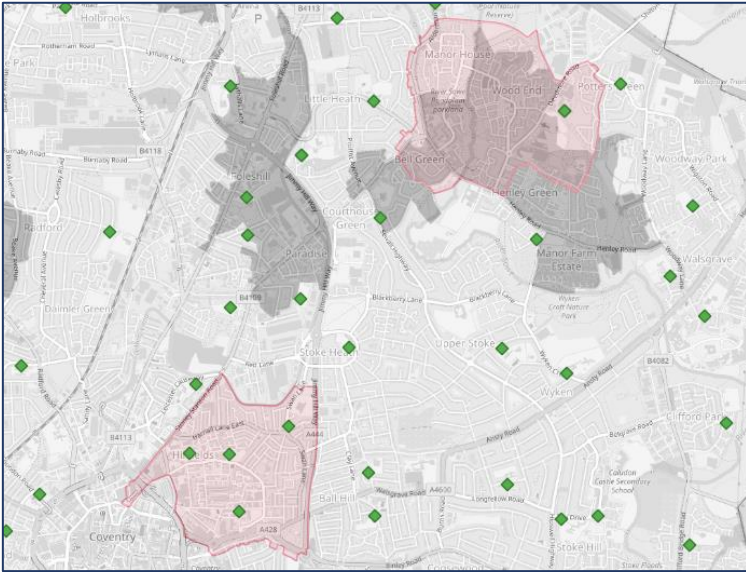
Education deprivation, Impact Areas and primary schools in the Black Country



Education deprivation, WMP Impact Areas and primary schools in east Birmingham



Education deprivation, WMP Impact Areas and primary schools in Coventry



Key findings

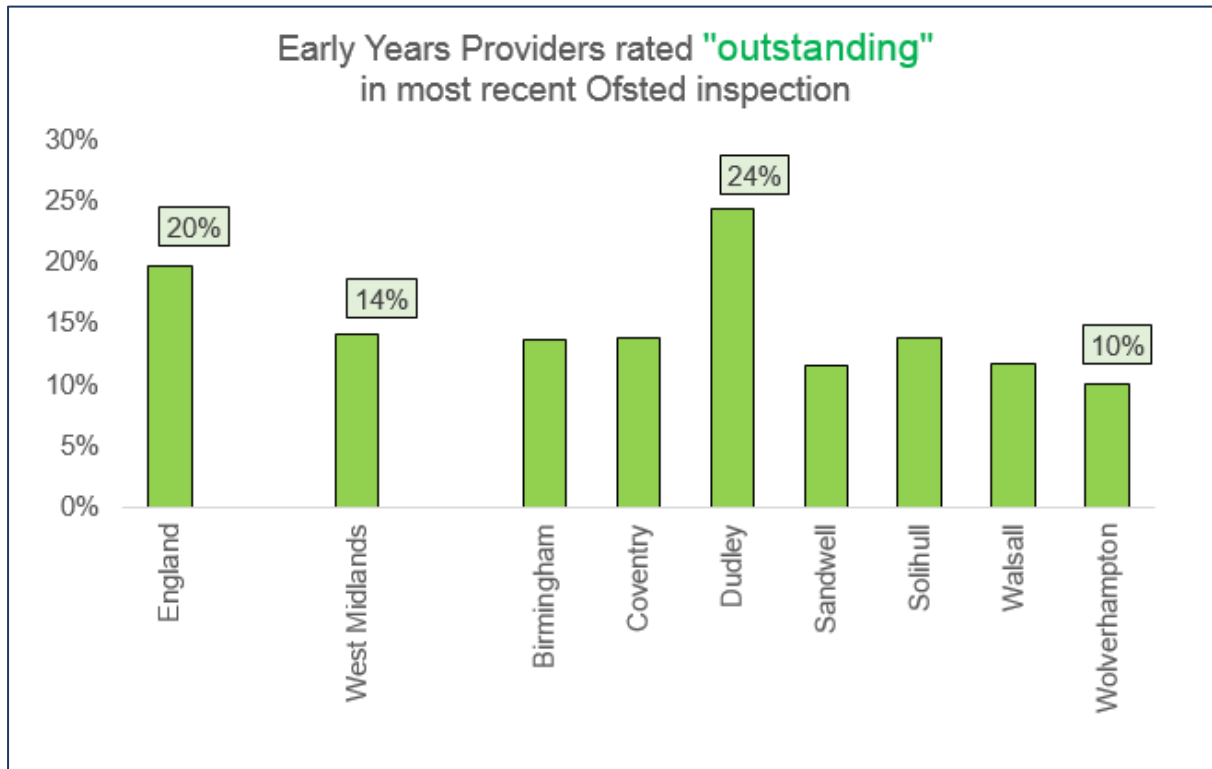
- The three examples above show large areas of education deprivation not included within West Midlands Police Impact Areas
- Primary schools are shown as green dots
- There are many primary schools in the most deprived areas, such as Blakenhall and Bloxwich in Walsall, Kitts Green and Washwood Heath in Birmingham and Foleshill in Coventry, outside existing WMP Impact Areas

Further analysis and investigation

- West Midlands VRU will investigate in more detail schools in areas of greatest deprivation that have particularly high rates of pupils with special needs, free school meal eligibility, low attainment and high exclusion rates
- This will help to identify further opportunities for targeted support and interventions in upstream preventative activity
- It would also be useful to analyse deprivation levels, demographic factors and schools rates over time to identify worsening trends
- Linking this additional data with other important factors such as areas with lowest early years provider Ofsted ratings, to continuously assess and refine the analysis
- The aim is to identify long-term trends, emerging issues and opportunities for supporting and delivering early interventions that will have the most impact

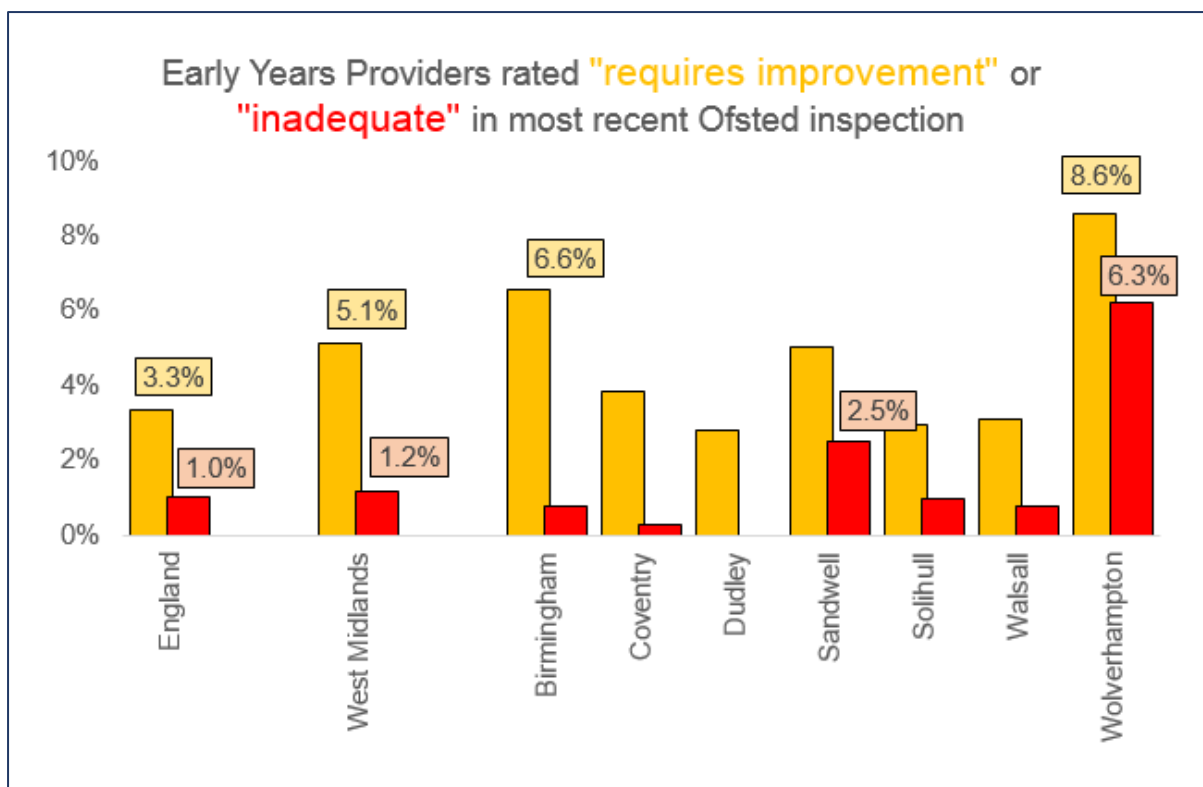
Early Years

Childcare providers in the West Midlands and Ofsted inspections



Key findings

- The proportion of early years childcare providers that perform well, or badly, in Ofsted inspections, may give some indication of the number of children who are ready for primary school and more likely to do well
- In England one in five Early Years providers was rated outstanding in its most recent Ofsted inspection. The ratio in the West Midlands is more like one in seven.
- There are some differences at local authority level, with Dudley best at 24% and Wolverhampton the lowest rate with just one in ten (half national rate)



Key findings

- At the other end of the performance scale, 1% of Early Years providers rated “inadequate” in England in their last Ofsted inspection
- The rate was only marginally higher in the West Midlands, though Sandwell (2.5%) and especially Wolverhampton (6.3%) were much higher than the national average
- Wolverhampton also had the highest proportion of Early Years providers “requiring improvement”, meaning 15% of providers in total failed their inspection

Source: <https://www.gov.uk/government/statistics/childcare-providers-and-inspections-as-at-31-august-2019>

School readiness

B02a - School readiness: percentage of children achieving a good level of development at the end of Reception

New data 2018/19 Proportion - %

[Export table as image](#) [Export table as CSV file](#)

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	↑	458,847	71.8	71.7	71.9
CA-West Midlands	-	-	-	-	-
Solihull	↑	1,956	72.6	70.9	74.2
Wolverhampton	↑	2,422	69.5	67.9	71.0
Coventry	↑	3,004	69.0	67.6	70.4
Birmingham	↑	10,736	68.0	67.3	68.7
Walsall	↑	2,614	67.5	66.1	69.0
Dudley	↑	2,611	67.1	65.6	68.6
Sandwell	↑	3,128	66.8	65.4	68.1

Source: Department for Education (DfE), EYFS Profile: EYFS Profile statistical series

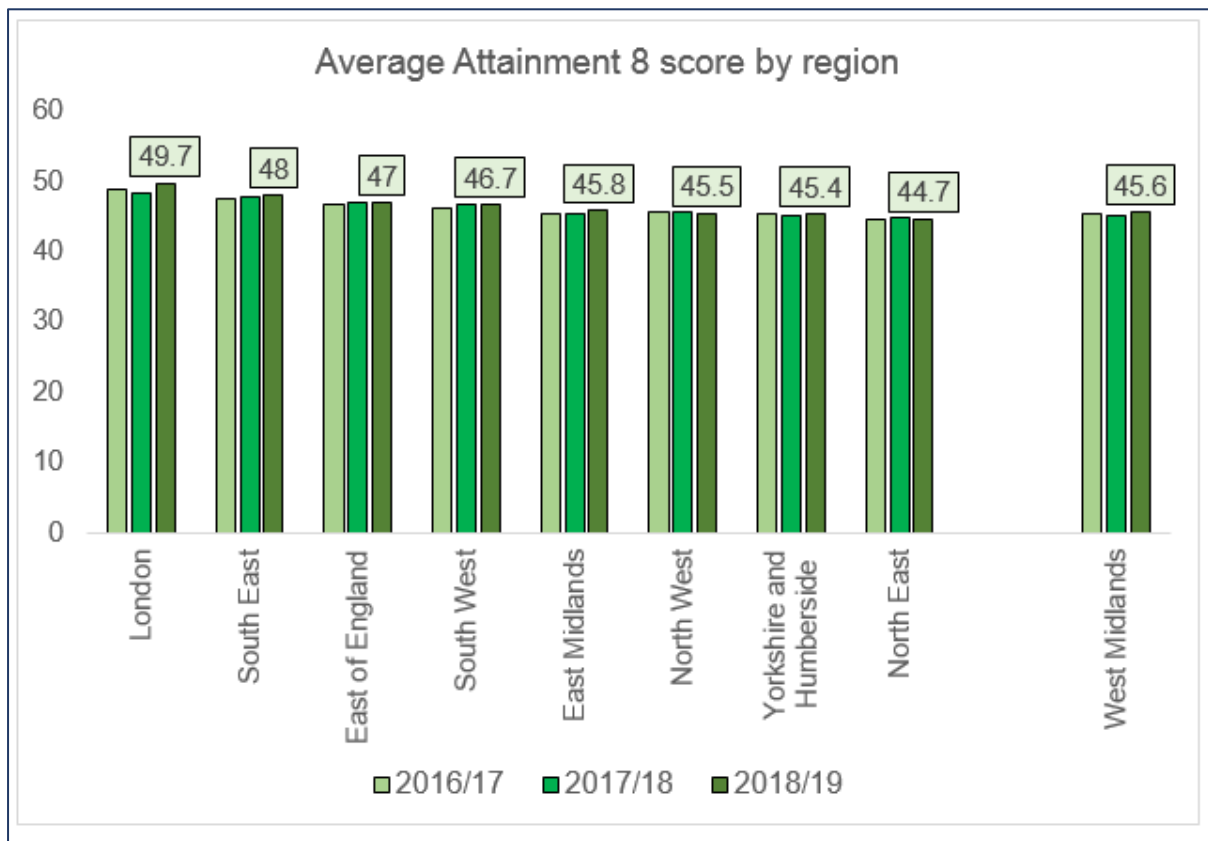
Key findings

- Only Solihull is above the national average in the school readiness indicator
- All six other local authorities in the West Midlands rank between 67% and 70%.
- Sandwell is five percentage points below England in terms of school readiness

Pupil attainment and performance

The average Attainment 8 score gives an indication of GCSE performance across a range of subjects including English and maths.

Regional comparison



Key findings

- GCSE performance is generally better in the London and the south of the country, where there is also less deprivation
- Attainment 8 scores in the West Midlands are comparable to East Midlands, the North West and Yorkshire & Humberside

Average Attainment 8 scores by local authority

Average Attainment 8 score New data 2018/19					Mean - Score	
Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI	
England	–	25,225,530	46.9	46.8	47.0	
CA-West Midlands	–	–	–	–	–	
Solihull	–	112,956	50.9	50.0	51.7	
Birmingham	–	613,874	45.5	45.1	45.8	
Wolverhampton	–	130,874	45.1	44.5	45.9	
Dudley	–	151,435	44.6	44.0	45.3	
Sandwell	–	169,385	44.0	43.5	44.7	
Coventry	–	155,906	44.0	43.4	44.7	
Walsall	–	140,532	43.5	43.0	44.3	

Source: Department for Education

Key findings

- As with school readiness, only Solihull is above the national average in terms of average Attainment 8 scores in the West Midlands
- All six other local authorities are performing below the national average, with Coventry and Walsall having the lowest average scores in the West Midlands
- Walsall also has some of the most deprived concentrations of education deprivation in the West Midlands, as highlighted earlier

Pupil absence

B03 - Pupil absence 2017/18					Proportion - %	
Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI	
England	↑	118,236,069	4.81	4.80	4.83	
CA-West Midlands	–	7,306,605	4.97	4.90	5.03	
Birmingham	↑	3,061,233	5.13	5.03	5.24	
Dudley	→	728,902	5.02	4.81	5.23	
Walsall	→	728,552	4.99	4.78	5.20	
Solihull	→	566,418	4.88	4.65	5.12	
Coventry	→	802,050	4.86	4.67	5.05	
Sandwell	→	827,968	4.75	4.56	4.94	
Wolverhampton	→	591,482	4.62	4.41	4.84	

Source: The School Census. Location: <https://www.gov.uk/government/collections/statistics-pupil-absence>. Pupil absence in schools in England for the appropriate academic year; the full-year release version. Select the 'underlying data' zip file link and the data will be within the 'Absence_3term_201718_nat_reg_la_sch_5to15.csv Absence_3term_201718_school_location.csv' files

Key findings

- The national average is 4.8%. Birmingham schools are 5.1% and getting worse
- The higher numbers in Birmingham skew the regional picture to some extent
- Only Sandwell and Wolverhampton perform well relative to national average

Special Educational Needs and learning difficulties

A study by Walsall Council Public Health, Birmingham City University and the Big Data Corridor (see Appendix 1) found that a special needs diagnosis was a key predictor in increased likelihood of exclusion, particularly Social, Emotional and Mental Health needs.

16% of children permanently excluded in Walsall within the scope of the study had identified SEMH needs, which compares to 2% in the general school population.

Rates of children with learning difficulties by local authority

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	–	296,080	33.9	33.8	34.0
CA-West Midlands	–	28,982	55.8*	–	–
Wolverhampton	–	3,487	75.3	73.0	77.8
Birmingham	–	12,951	60.9	59.9	61.9
Dudley	–	2,696	56.4	54.4	58.5
Walsall	–	2,856	54.0	52.1	56.0
Coventry	–	2,940	50.2	48.4	52.0
Sandwell	–	2,784	46.6	44.9	48.3
Solihull	–	1,268	30.6	28.9	32.3

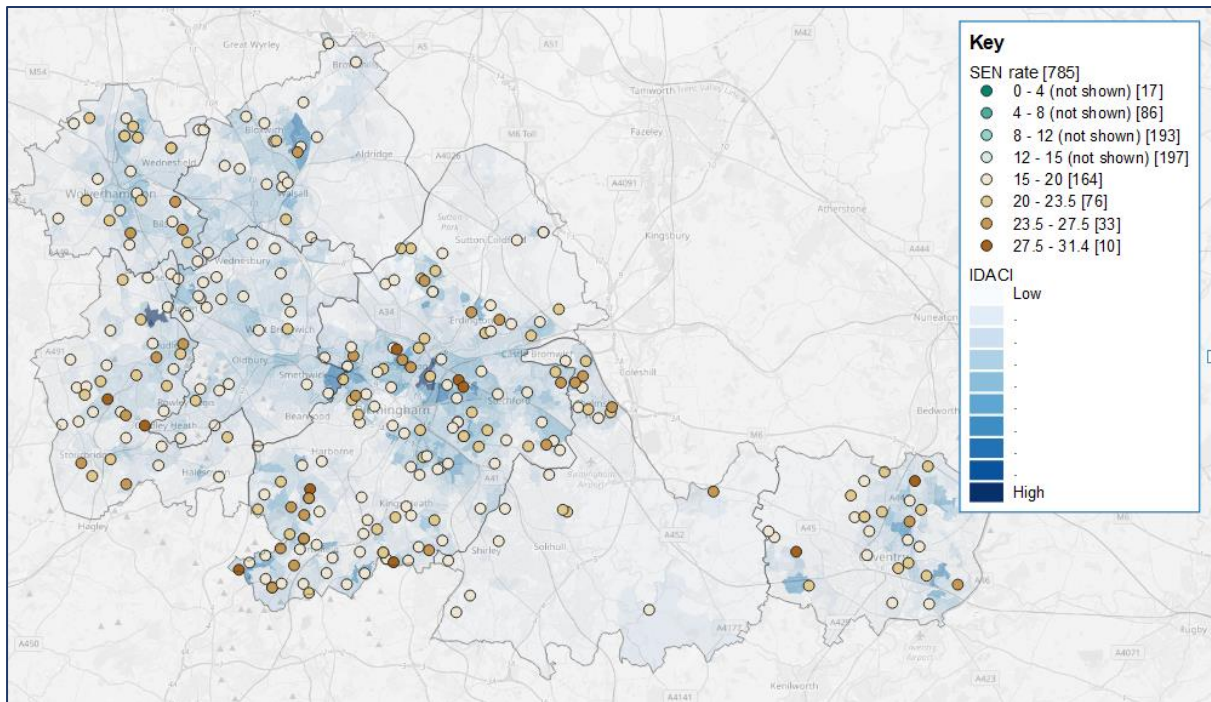
Source: Department for Education statistical collections: Special Educational Needs, local authority tables <https://www.gov.uk/government/collections/statistics-special-educational-needs-sen>

Key findings

- Only Solihull has lower than average rates in the West Midlands
- There are significant differences between local authorities
- Wolverhampton, with the highest rate in the West Midlands of 75 per 1,000 children, is more than double that of Solihull, with a rate of 30 per 1,000 pupils

Special Needs Rate in state-funded primary schools with Income Deprivation Affecting Children Index

Only primary schools with rates higher than 15% are shown

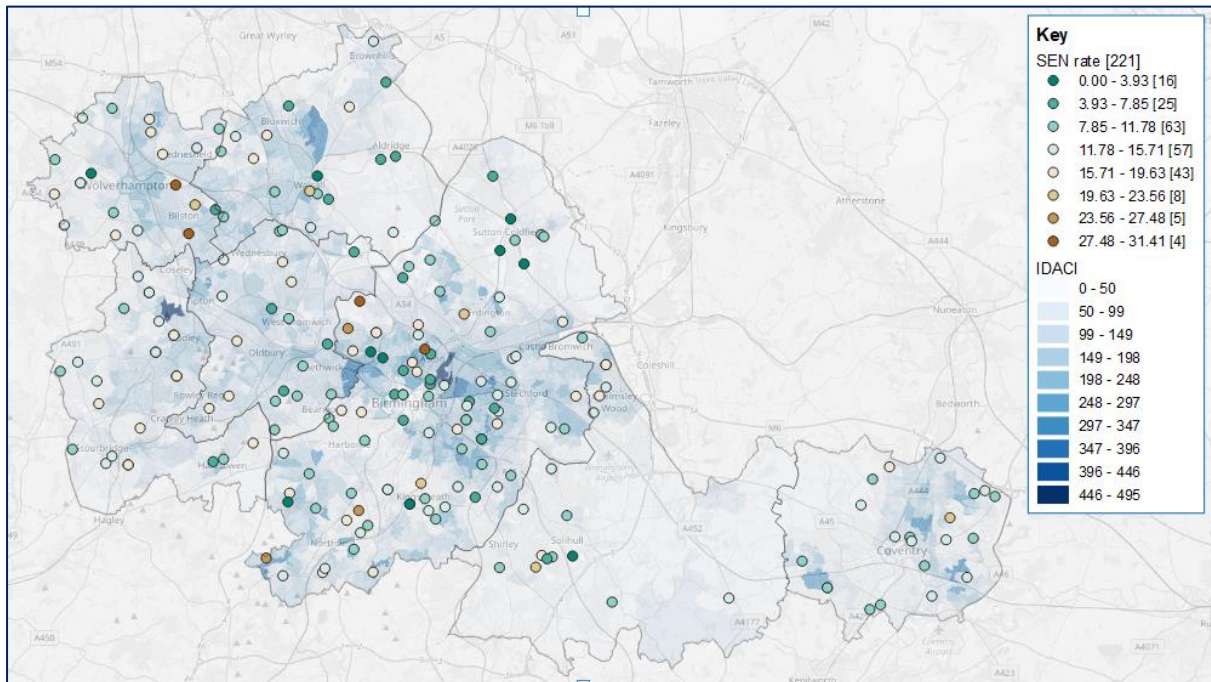


Key findings

- Primary schools in the West Midlands are represented by dots
- Only schools with the highest rates of pupils with SEN are shown (15% or more)
- Areas with darker blue shading represent greater income deprivation affecting children (associated index of the Index of Multiple Deprivation)
- There is some correlation between areas of Income Deprivation Affecting Children and the primary schools with the highest rates of pupils with special needs
- There are particular clusters in north Solihull, central and south Birmingham, Coventry and Walsall

Special Needs Rate in state-funded secondary schools with IDAC1

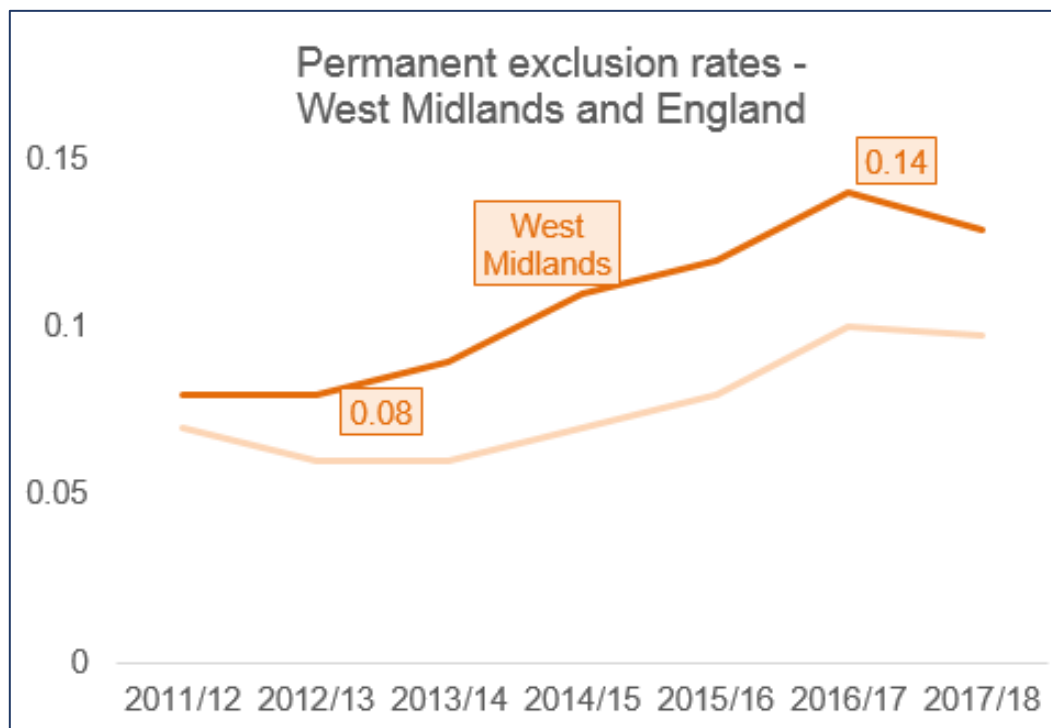
All state-funded secondary schools are shown



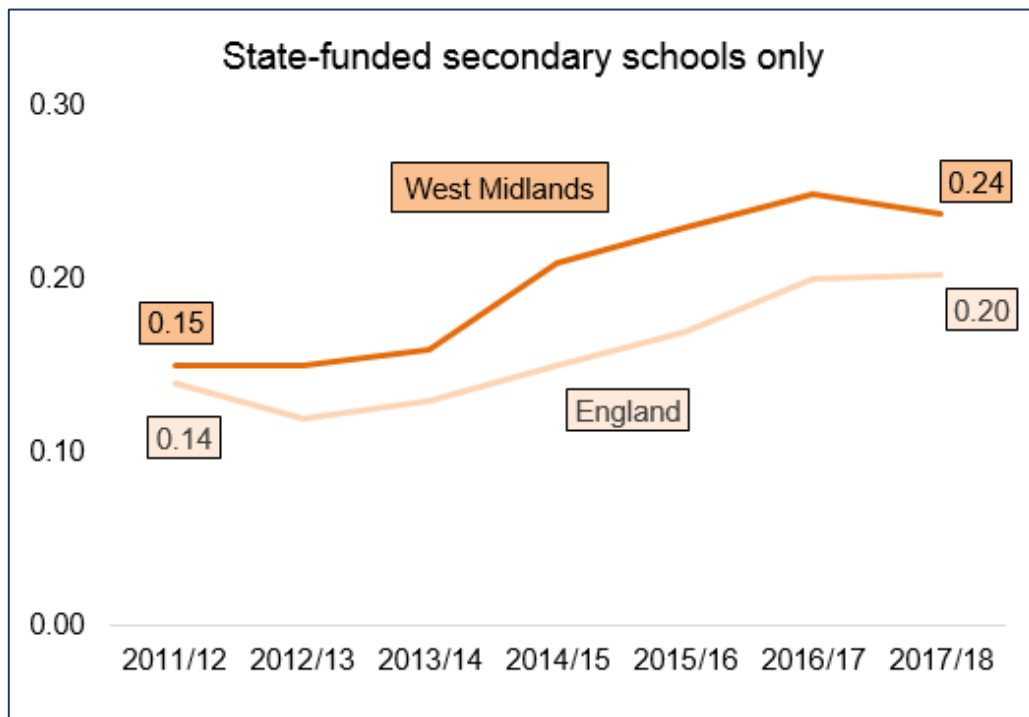
School exclusions

The focus of the following section is on permanent school exclusions

Trends since 2011/12 – rates in the West Midlands and England



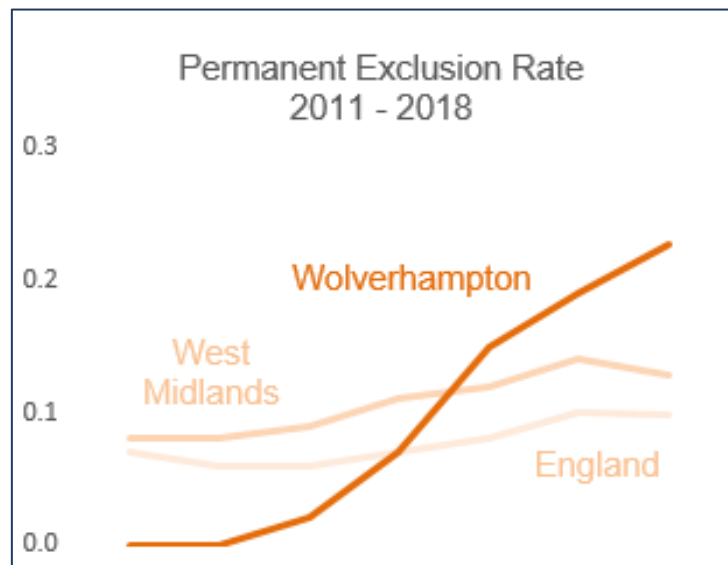
Trends since 2011/12 – rates in the West Midlands and England



Key findings

- Permanent school exclusion rates are higher than the national average in the West Midlands and have been rising steadily since 2012, although there was a slight drop in 2017/18
- The overall rate of permanent exclusions is highest in secondary schools
- In relation to secondary schools, the West Midlands is again higher than the national average and has risen from 0.15% in 2011/12 to 0.24% in 2017/18

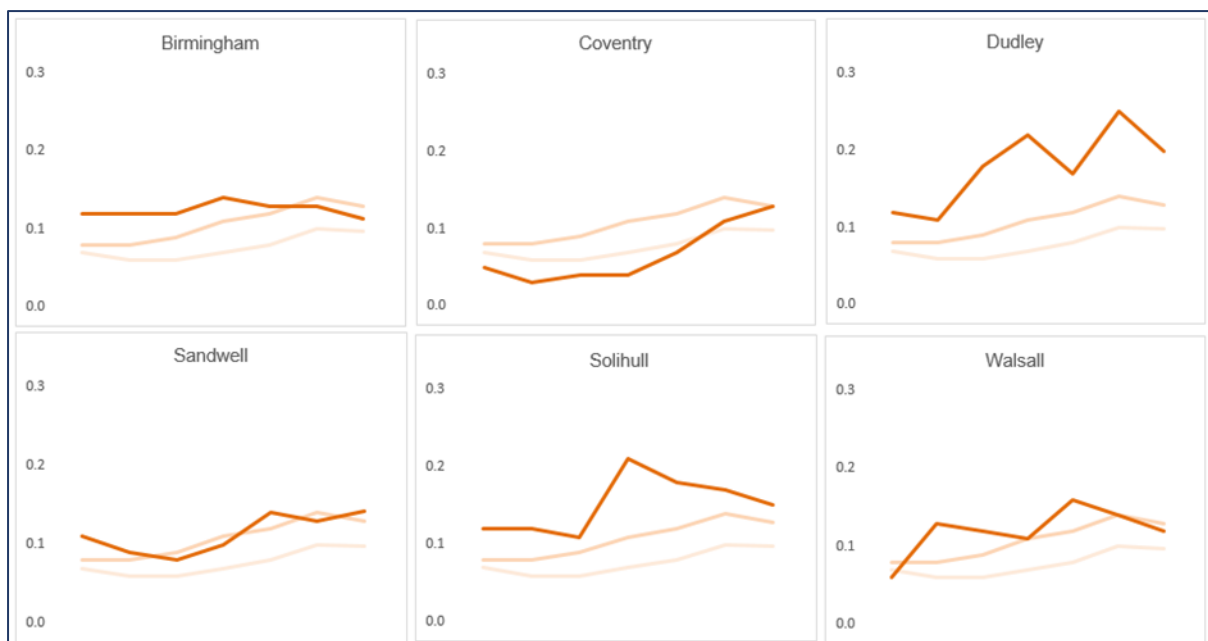
Trends since 2011/12 – permanent exclusion rates by local authority



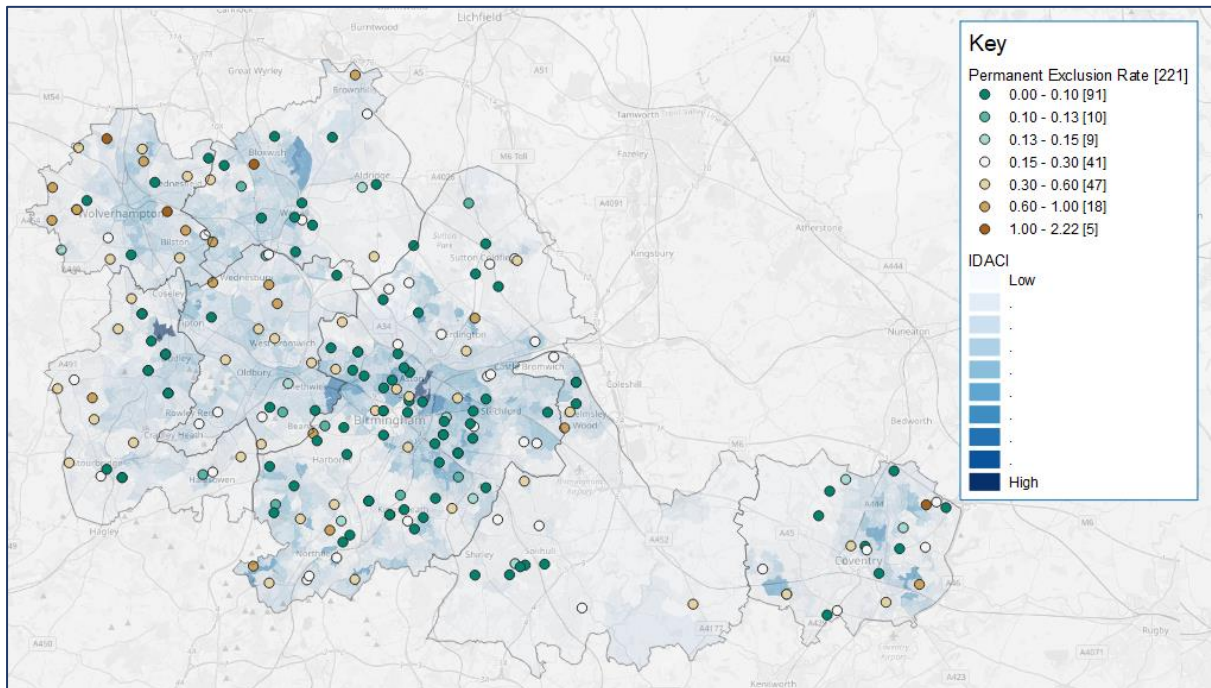
Key findings

- Wolverhampton has the highest exclusion rates in the West Midlands
- Wolverhampton had a zero exclusion policy until 2013 and has seen rising school exclusions since that time
- Caveat that dealing with behaviour and removing children from schools may have been managed moves and off-rolling – not showing in recorded statistics

Permanent exclusion rates in other local authority areas in the West Midlands



Permanent exclusion rates in state-funded secondary schools shown with IDACI

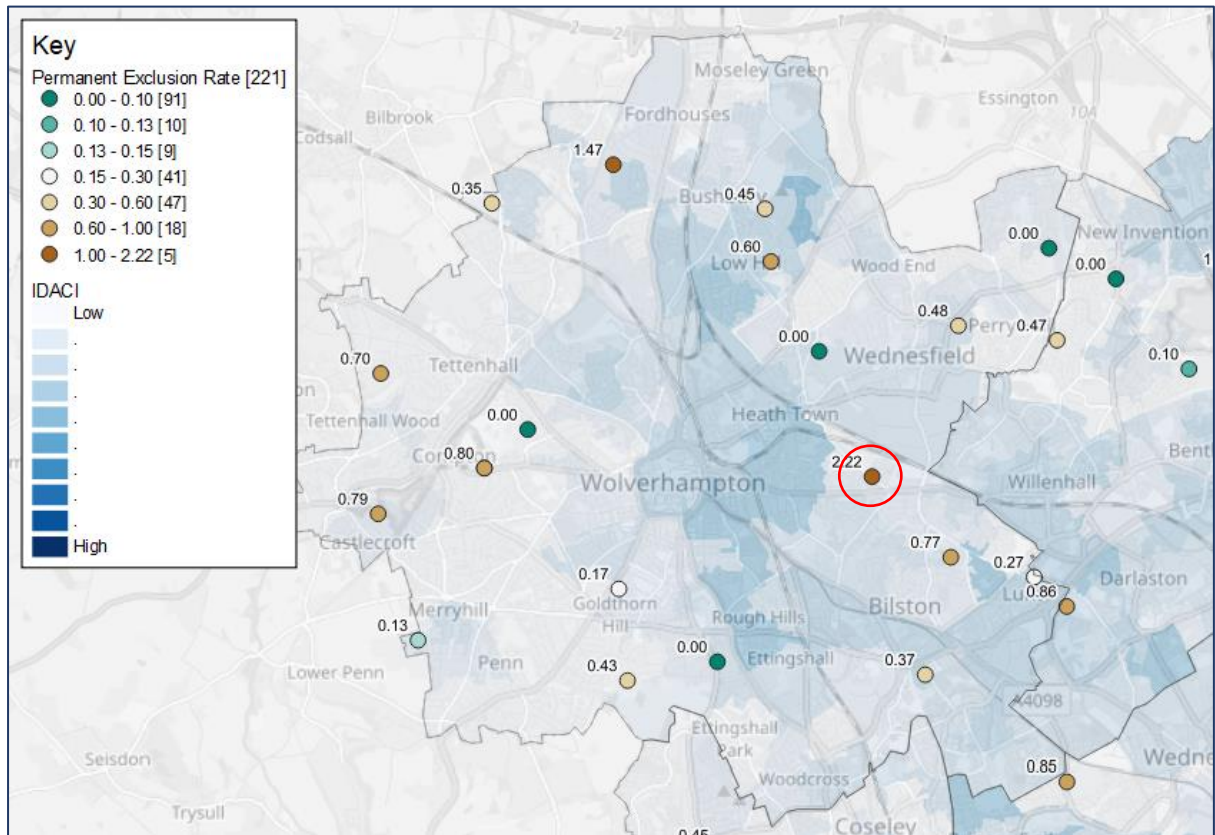


Key findings

- 221 state-funded secondary schools in the West Midlands are shown on the map
- Dark green dots show schools with lower than average permanent exclusion rates in the West Midlands
- Many are in areas of high income deprivation affecting children, demonstrating that individual schools vary significantly in how they approach behaviour
- Some of the schools with the highest rates of permanent exclusions are in areas of the least deprivation, particularly in west Dudley and Wolverhampton

Permanent exclusion rates in state-funded secondary schools

Focus on Wolverhampton

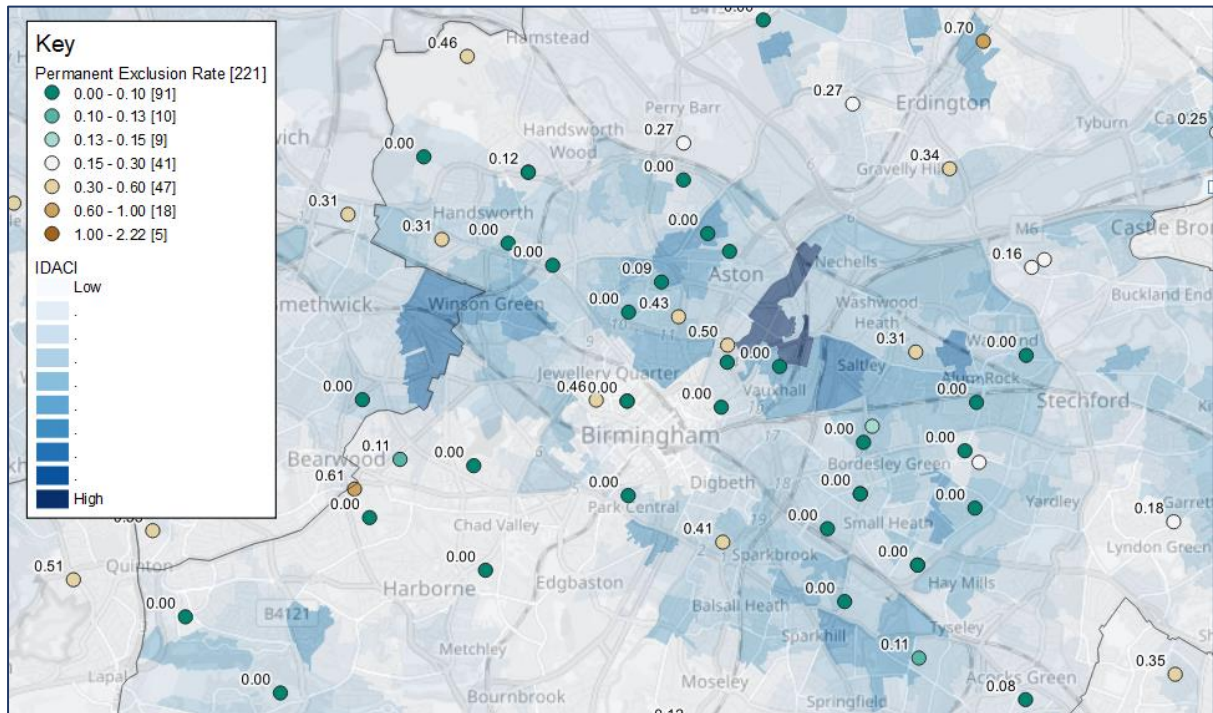


Key findings

- There is no clear pattern to schools with higher exclusion rates in terms of deprivation (affecting children)
- The schools in west Wolverhampton with the highest rates are in some of the least deprived parts of the city
- St Matthias school (highlighted by red circle) had highest permanent exclusion rate in the West Midlands (2.2%, 14 exclusions in 2017/18)

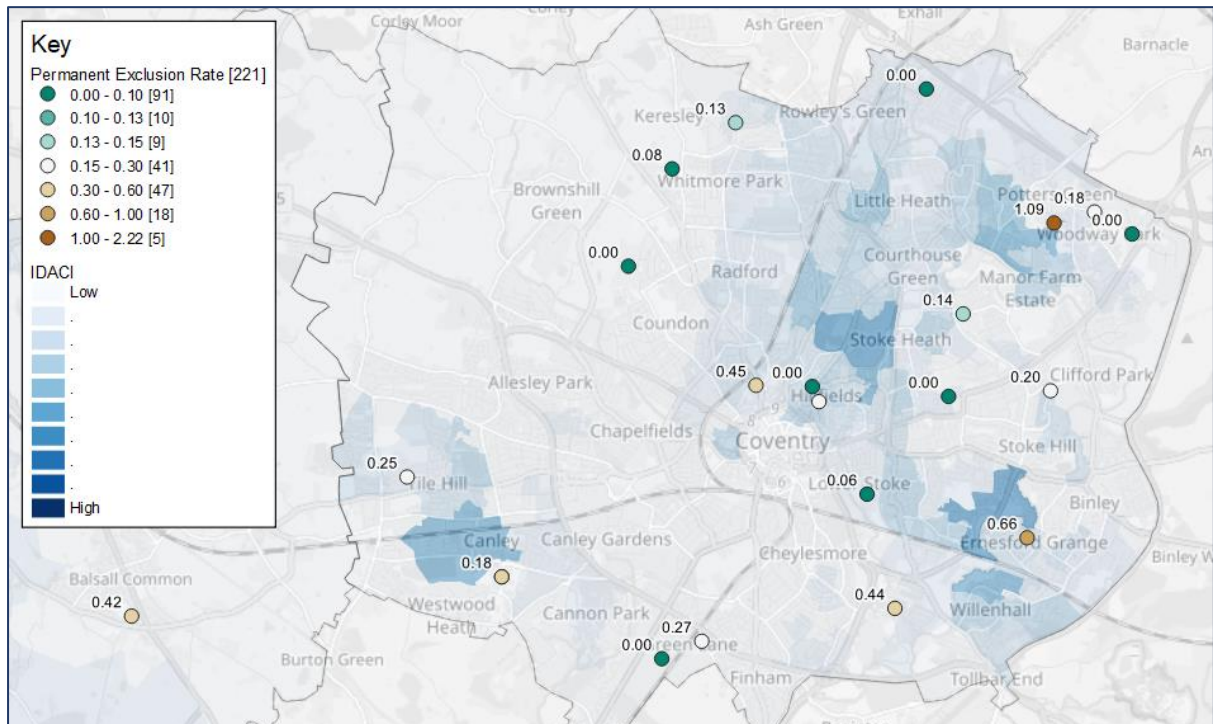
Permanent Exclusion Rate in state-funded secondary schools

Focus on inner-city Birmingham



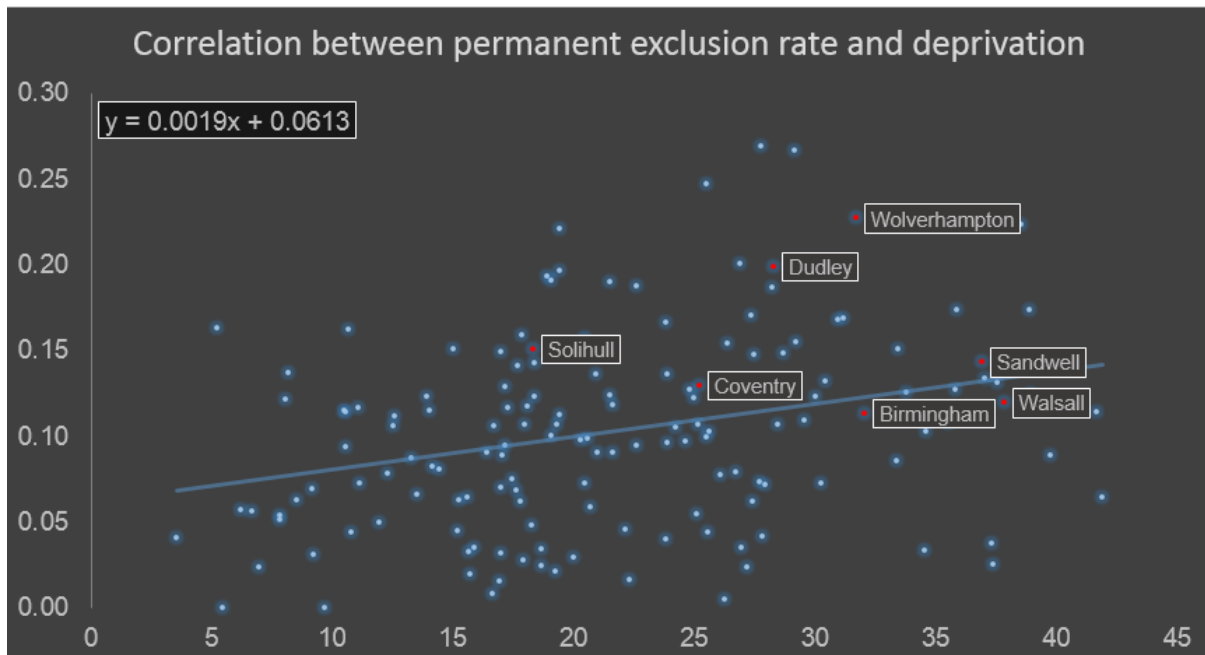
Permanent Exclusion Rate in state-funded secondary schools

Focus on Coventry



What are the links between a local authority's education, training and skills deprivation score and its rate of permanent exclusions?

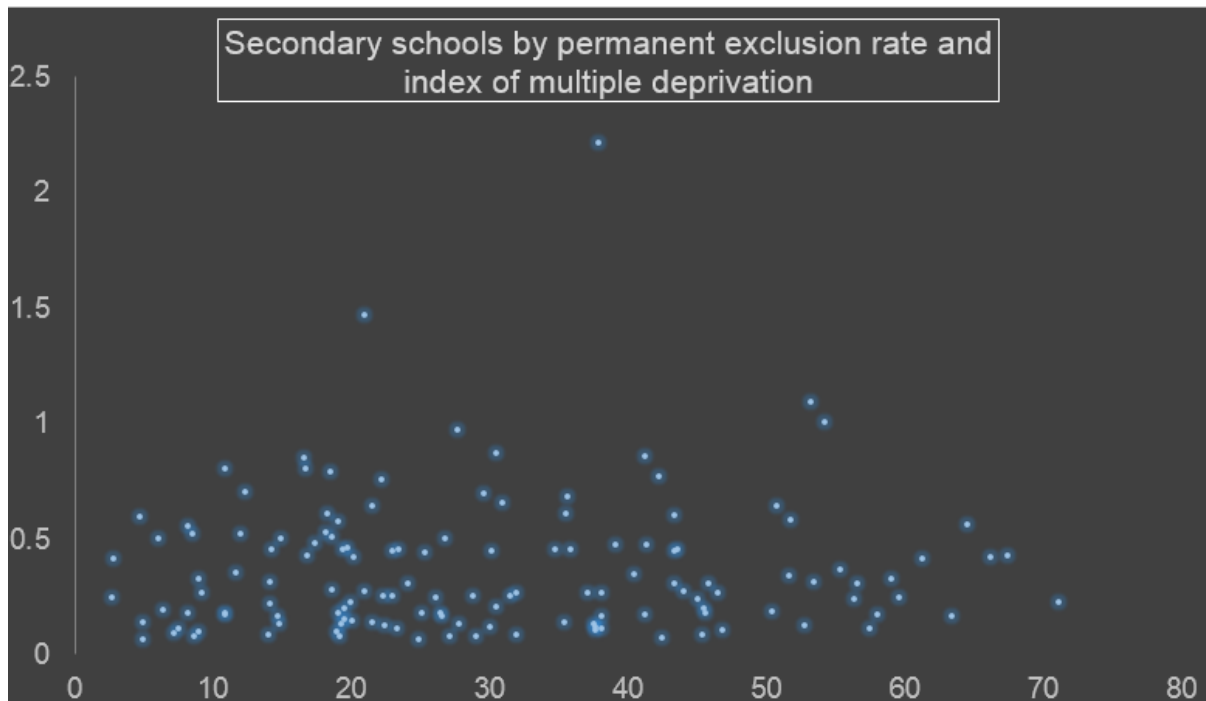
Correlation between permanent exclusion rates and education deprivation by local authority



Key findings

- 152 upper tier local authorities in England are shown on the chart as blue dots
- The permanent exclusion rate is shown on the y axis – local authorities with higher rates are towards the top of the chart
- Education, skills and training deprivation (score) is shown on the x axis – the more deprived a local authority is, the further towards the right-hand side of the chart it is
- The scatter plot reveals great variation between local authorities in terms of education deprivation scores and permanent exclusion rates
- A correlation coefficient of 0.3 suggests little if any linear correlation
- The seven local authorities in the West Midlands are labelled on the chart
- Solihull, though less deprived, has a relatively high exclusion rate
- Birmingham, Walsall and Sandwell are more deprived, but all have lower permanent exclusion rates than Solihull
- Dudley and Wolverhampton are both deprived with high exclusion rates
- Only three local authorities in England have higher exclusion rates than Wolverhampton

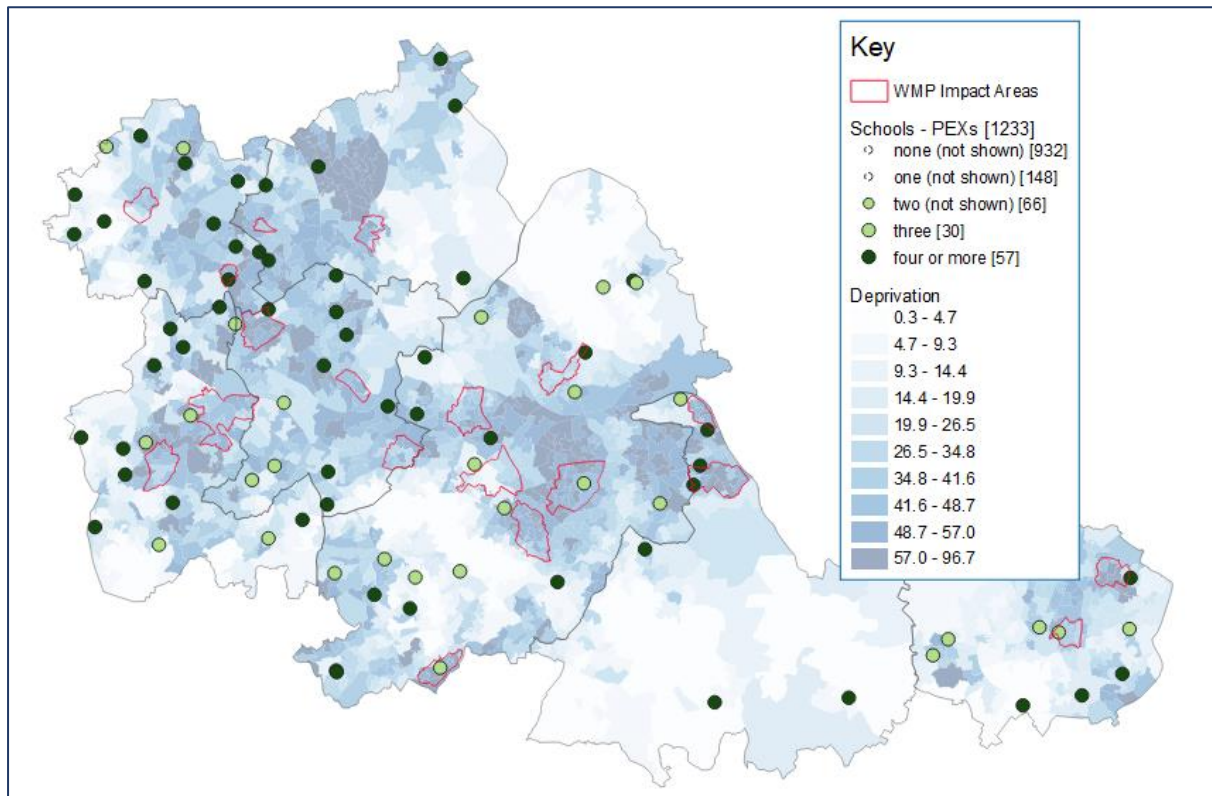
What are the links between individual secondary school's permanent exclusion rate and the multiple deprivation levels in the area it serves?



Key findings

- This scatter plot shows all secondary schools in the West Midlands that permanently excluded at least one pupil in the academic year 2017/18
- The y axis shows the exclusion rate – dots that are higher up represent schools with higher exclusion rates
- The x axis shows the general deprivation score of the LSOA that the school is located in – schools in areas of higher deprivation are further to the right-hand side
- A correlation coefficient of 0.04 means there is no correlation at all between schools that permanently exclude more pupils and being in more deprived areas

Schools with the highest numbers of permanent exclusions with IMD and WMP Impact Areas



Key findings

- The map illustrates the scatter plot analysis geographically
- Deprivation is shown as blue shading and schools with the highest number of permanent exclusions are shown as green dots
- Many of the schools with the highest numbers of permanent exclusions are indeed found outside areas of high deprivation
- These are also frequently found outside the WMP Impact Areas

What is the distribution of exclusions across the school estate?

Relatively small numbers of schools are responsible for the majority of permanent exclusions in the West Midlands

Proportion of all schools	Number	Proportion of permanent exclusions	Number
12%	153	79%	548
7%	87	60%	416
5%	57	47%	326
3%	35	34%	238
1%	7	11%	77

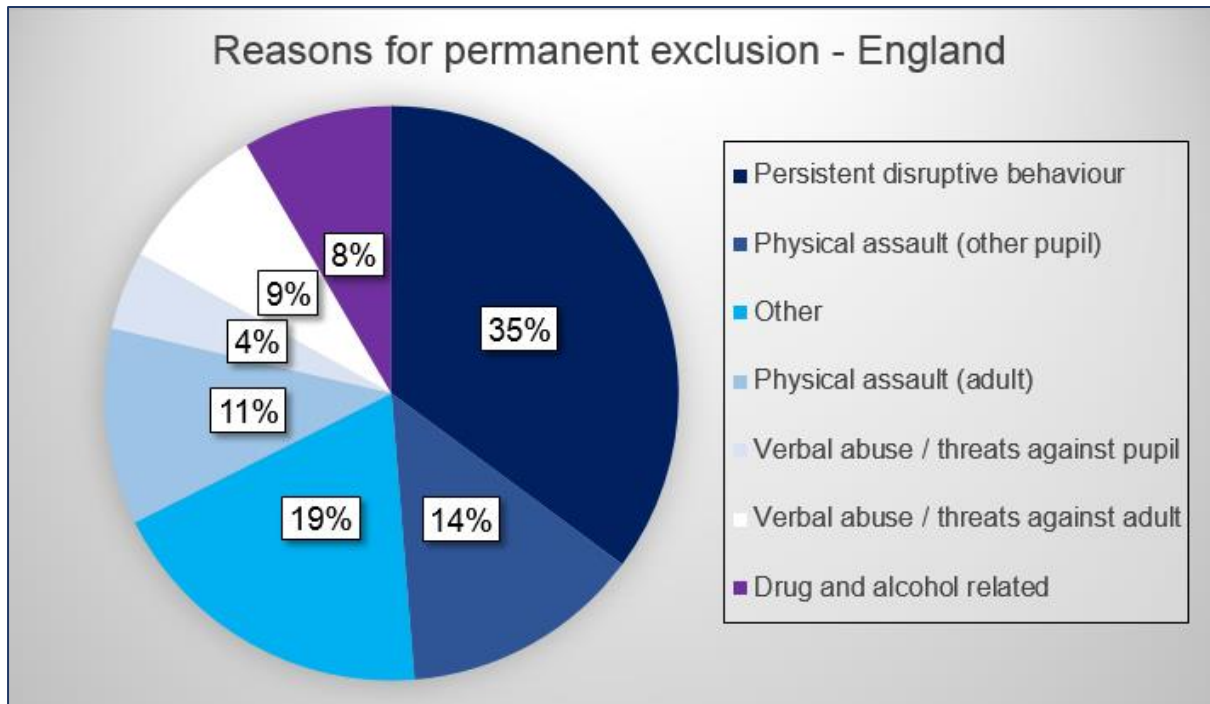
- In the 2017/18 academic year 12% of all schools in the West Midlands were responsible for almost 80% of permanent exclusions. That's 153 schools excluding 548 pupils in total
- At the tip, seven schools (just 1%) excluded 77 pupils
- However, it is important to recognise that the majority of permanent exclusions from school happen in state-funded secondary schools, which comprise 221 out of approximately 1,200 schools of all types

Proportion of secondary schools	Number	Proportion of permanent exclusions	Number
50%	110	93%	451
36%	79	80%	389
25%	55	65%	317
15%	34	48%	233
3%	7	16%	77

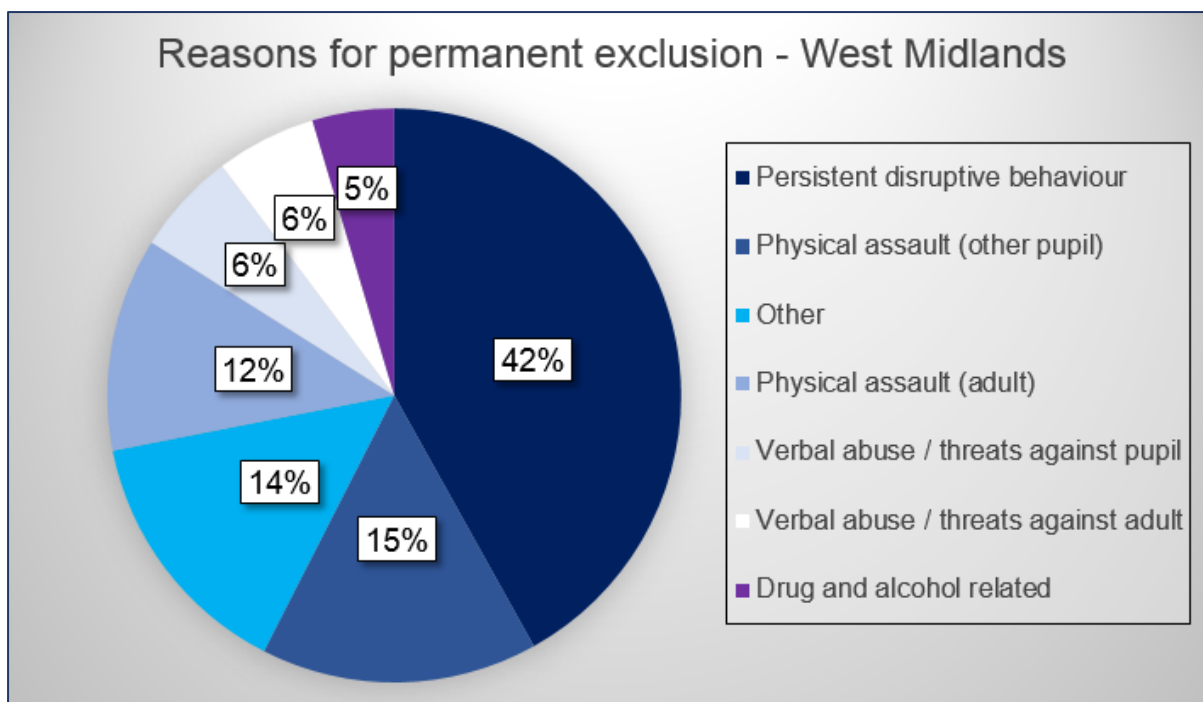
- Of those, 144 excluded at least one pupil permanently in 2017/18
- Having said that, half of the schools made 93% of permanent exclusions

Why are children being excluded from school?

Nationally, the main reason identified by schools for permanent exclusions is persistent disruptive behaviour, which accounts for more than a third of exclusions.



- Physical assault makes up 25% in total (14% against another pupil and 11% against an adult)
- “Other” is high at 19% and hard to know exactly what is included
- It is possible possession of weapons (including knives) which does not have its own category, makes up a proportion of “Other”



Further investigation

Reasons for exclusion are available at local authority level.

Some conclusions



Although children are more likely to be excluded if they have certain characteristics, such as children with special needs, there is no indication that schools in the most deprived areas are more likely to exclude children permanently.

This suggests individual schools manage behavioural issues individually and have different school policies towards exclusions.

It is possible some schools avoid permanently excluding children and manage behavioural issues in other ways, such as off-rolling or managed moves.

16-17 year-olds not in education, employment or training (NEETs)

1.05 - 16-17 year olds not in education, employment or training (NEET) or whose activity is not known 2017 Proportion - %

 Export table as image  Export table as CSV file

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	-	68,070	6.0	6.0	6.0
CA-West Midlands	-	4,630	7.1	6.9	7.3
Birmingham	-	2,420	9.2	8.9	9.6
Dudley	-	520	7.1	6.6	7.8
Solihull	-	300	6.0	5.4	6.7
Walsall	-	380	5.8	5.3	6.4
Coventry	-	380	5.4	4.8	5.9
Sandwell	-	370	4.8	4.3	5.2
Wolverhampton	-	260	4.7	4.2	5.3

Source: Department for Education

Key findings

- Birmingham (9.2%) and Dudley (7.1%) have the highest rates in the West Midlands, both above the national average of 6%

Summary of conclusions

- 19% of Lower Super Output Areas in the West Midlands are in the top decile nationally for education, skills and training deprivation
- Some of those communities are in West Midlands Police impact areas, but there are nonetheless considerable gaps
- The quality of early years provision in the West Midlands is below the national average and a bigger proportion had “inadequate” Ofsted inspections
- Learning difficulties and special needs rates are higher than the national average, at 56 per 1,000 in West Midlands, compared to 33 per 1,000 in England
- There is some evidence that schools with the highest rates of pupils with special educational needs are more likely to be in areas of greater deprivation
- Pupil absence is higher in the West Midlands (at 4.97%) than in England (4.81%)
- Permanent exclusion rates are higher in the West Midlands and rising
- However, there is no evidence that schools in more deprived parts of the West Midlands are excluding the highest rates of pupils
- A relatively small proportion of schools are responsible for the vast majority of exclusions, but this ratio is less stark if only state-funded secondary schools are considered
- The vast majority of schools with the highest permanent exclusion rates are to be found outside the WMP Impact Areas

Summary of key findings

Section 4: The Education Sector

- There is a clear overlap between West Midlands Police Impact Areas and areas with the highest health deprivation
- Being excluded from school puts young people at greater risk of being involved in violence or crime, as a victim or a perpetrator
- There is a body of evidence that some young people are at greater risk of being excluded in the first place, particularly those with special educational needs
- There is significant education, skills and training deprivation in the Black Country, particularly a large concentration of deep deprivation in northwest Walsall
- The West Midlands has almost double the national average of areas in the top 10% most deprived areas for education, skills and training
- Wolverhampton has the highest proportion of early years providers “requiring improvement”, meaning 15% of providers in total failed their latest inspection
- There is some correlation between areas of income deprivation affecting children and the primary schools with the highest rates of pupils with special needs
- Permanent school exclusion rates are higher than the national average in the West Midlands and have been rising steadily since 2012
- Wolverhampton has the highest exclusion rates in the West Midlands
- 12% of all schools in the West Midlands were responsible for almost 80% of permanent exclusions

Conclusions

The evidence suggests that the areas prioritised for West Midlands VRU interventions and activity in 2019/20 are areas of high violence and high risk.

However, the updated needs assessment reveals there are communities in other parts of the West Midlands that are equally deprived, with high levels of violence and risk factors that may be indicators of people being involved in violence in the future.

Potential areas of focus for West Midlands VRU in 2020 and going forward:

Wolverhampton

- High rates of domestic violence
- Lowest reductions in youth offending
- Increase in number of children sentenced for Violence Against the Person offence
- Very high hospital admissions for young people with knife wounds
- High rates of early years providers failing Ofsted inspections
- Highest rates of children with learning difficulties
- Highest permanent school exclusion rates

Sandwell

- High rates of knife crime
- High rates of domestic violence
- Second lowest reductions in youth offending
- Increase in number of children sentenced for Violence Against the Person offence
- High hospital admissions for violence
- High hospital admissions for young people with knife wounds
- High rates of domestic violence recorded in children's services assessments
- Lowest rate of school readiness

Inner-city Birmingham – east side

- High overall deprivation
- High rates of domestic violence
- Very high education deprivation

Walsall

- Very high health deprivation
- Very high education deprivation
- Lowest attainment 8 scores at school

Areas for further investigation

Some areas that would benefit from further investigation and analysis have been highlighted throughout the report.

Work is also under way in the West Midlands to identify and access data that would further enhance and add value to the needs assessment.

Some of the key organisations and data is outlined below.

Context and Landscape

- Employment
- Economic Inequalities
- Detailed Demographics

Health Sector

- Injury Surveillance to Tackle Violence (ISTV) data (analyst post to be filled)
- Ambulance Callouts (information sharing agreement in process)
- GP data (referrals for DV - to be confirmed)
- Children's Services (work under way with local authorities)

Education Sector

- Further Education and Skills

Vulnerable Young People

- Children in care / looked-after children (work under way with local authorities)
- Exploitation (county lines / CSE)

Environment

- Context
- Built environment / Housing
- Green Space
- Air quality / pollution

Connectivity

- Transport / Accessibility
- Digital trends and influence (netnography)

Other stakeholders

- Local Authorities (violence / safeguarding agendas)
- Community Safety Partnerships (work under way to share information)
- Fire Service (incidents / safe and wells)

Annexes, appendices, source references and attribution

Geographical data and analysis

Maps have been produced using QGIS (<https://qgis.org/en/site/>). QGIS is a professional GIS application that is built on top of and proud to be itself Free and Open Source Software.

Mapping base layers have been reproduced courtesy of © OpenStreetMap contributors.

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Boundaries

All lower super output areas (LSOAs), middle super output areas (MSOAs) and local authority boundaries reproduced courtesy of the Office for National Statistics Open Geography Portal - <http://geoportal.statistics.gov.uk/>

Section 1: Context – Population, Demographics, Inequalities

Index of Multiple Deprivation (2019) – Ministry of Housing, Communities and Local Government (MHCLG).

<https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

Age Profiles (2018) – Public Health England Fingertips profiles.

<https://fingertips.phe.org.uk/search/age#page/12/gid/1/pat/6/par/E12000005/ati/102/are/E08000025>

Distribution of ethnic groups in the West Midlands according to the 2011 census reproduced courtesy of Wikipedia.

[https://en.wikipedia.org/wiki/West_Midlands_\(county\)#Demography](https://en.wikipedia.org/wiki/West_Midlands_(county)#Demography)

Section 2: The Criminal Justice Sector

West Midlands Police Impact Areas – West Midlands Police

National and local authority recorded crime statistics – Office for National Statistics - <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice>

Violent Crime statistics – West Midlands Police Signals from Noise database

Domestic abuse by police force - Office for National Statistics
<https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/articles/domesticabuseprevalenceandtrendsenlandandwales/yearendingmarch2019>

Domestic abuse (West Midlands detail) - West Midlands Police

Prosecutions – Crown Prosecution Service

<https://www.cps.gov.uk/underlying-data>

<https://www.cps.gov.uk/violence-against-women-and-girls-data>

Offender Management – Prison data

Prison population Statistics – Ministry of Justice

<https://www.gov.uk/government/collections/prison-population-statistics>

Offence types of prisoners by prison – Ministry of Justice (Prison Population data tool)

<https://www.gov.uk/government/collections/offender-management-statistics-quarterly>

Adjudications for violence in prisons – Ministry of Justice

<https://www.gov.uk/government/collections/offender-management-statistics-quarterly>

Reoffending rates of offenders on probation orders

<https://www.gov.uk/government/collections/offender-management-statistics-quarterly>

Youth Offending Teams data - youth justice statistics

<https://www.gov.uk/government/statistics/youth-justice-statistics-2018-to-2019>

Crime Survey – Office for National Statistics

<https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice>

Annexe 2

Detailed Impact Areas methodology

- 1 year of SAC data (burglary, robbery and vehicle crime)
- 1 year of criminal damage data (all types of criminal damage)
- 1 year of violence data*
- 1 year of ASB data (all 3 types)
- 1 year of P1 and P2 data (excluding ASB)
- 1 year of offender home locations data (for the 3 crime types listed above)

*Violence category includes:

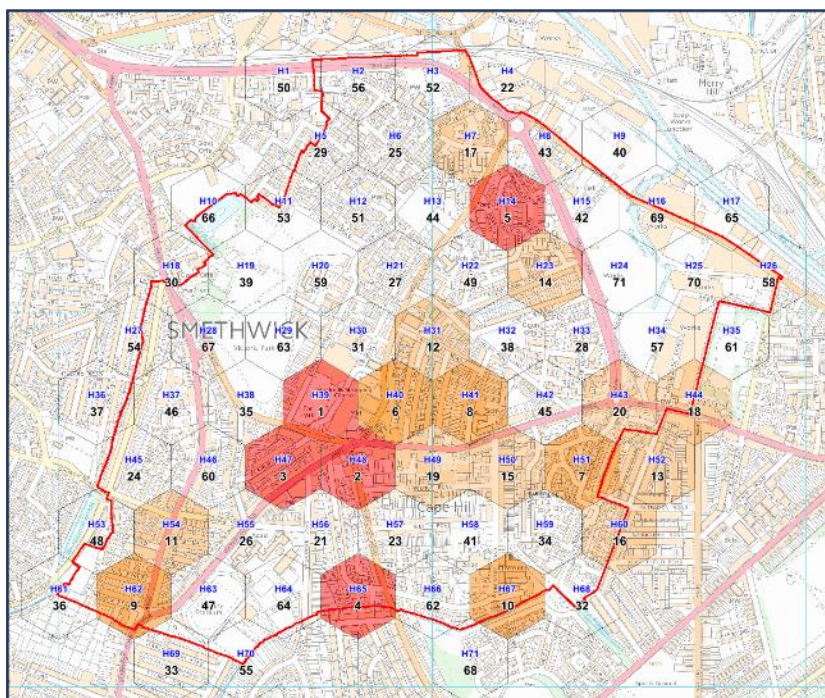
- Homicide
- Violence with injury
- Violence without injury
- Sexual offences
- Possession of weapons
- Arson

Crimes and incidents located at police establishments, courts, prisons or young offenders' institutions have been excluded.

The following data sources have been used to produce the NEED mapping:

- Index of multiple deprivation (2015):
 - Income domain
 - Employment domain
 - Education domain
 - Health domain
- Concentrations of young people aged 10-24

Example of local Impact Area in Smethwick, Birmingham



Section 3: The Health Sector

Hospital Episode Statistics – Public Health England

Injury Surveillance to Tackle Violence (ISTV) data –

Tier 1 Emergency Departments, via Public Health England

Children’s services data – Department for Education

<https://www.gov.uk/government/statistics/characteristics-of-children-in-need-2018-to-2019>

Section 4: The Education Sector

Income deprivation affecting children index – MHLCG

<https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

Early Years Provider statistics – Ofsted

<https://www.gov.uk/government/collections/early-years-and-childcare-statistics>

School readiness – rates by local authority - Department for Education (DfE), EYFS Profile: EYFS Profile statistical series (via Fingertips – Public Health England)

Pupil performance Secondary Attainment 8 GCSE statistics - Department for Education

<https://www.compare-school-performance.service.gov.uk/schools-by-type?step=default&table=schools®ion=all-england&for=secondary>

Pupil Absence - Department for Education

<https://www.gov.uk/government/collections/statistics-pupil-absence>

Children with Learning Difficulties and Special educational needs data – Department for Education

<https://www.gov.uk/government/collections/statistics-special-educational-needs-sen>

School exclusion data - Department for Education

<https://www.gov.uk/government/collections/statistics-exclusions>

Young people’s participation in education, employment and training and those not in education, employment or training (NEET) – Department for Education

<https://www.gov.uk/government/collections/statistics-neet>

Appendix 3

Walsall Data Science Approach to predicting children at risk of exclusion

A Data Science Approach to Predicting Pupils at Risk of School Exclusion in Walsall

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Background

- Exclusion from school is an increasingly important public health issue.
- Excluded children are more likely to experience poor educational outcomes, unemployment, criminal justice interventions and develop severe mental health problems.
- In Walsall, children as young as 5 years old have been excluded from school.
- Identification of the local factors that increase risk of exclusion would enable early and targeted interventions to potentially break the cycle of disadvantage.

Results

- Linkage of the 3 datasets rendered a master dataset of 62,536 individual Walsall children.
- The results of the linkage of education and social care records is summarised in Figure 2.
- The descriptive and predictive analytical methods used in this study were in concordance
- Analyses demonstrated that the demographic factors of sex, deprivation and ethnicity were predictive of school exclusion, in particular:
 - Boys ($\chi^2 = 584, p < 0.0005$)
 - Free School Meal eligibility ($\chi^2 = 676, p < 0.0005$)
 - White British ethnicity ($\chi^2 = 373, p < 0.0005$)

Methods

- 3 datasets; the school census, school exclusions logs and social care records, from the academic years 2015/16 - 2017/18 inclusive were linked using a sequence of methods (Figure 1).
- School census and exclusions records were linked using unique pupil number.
- These data were then matched to social care records using a concatenation of surname, first name and date of birth.
- Data was interrogated using Microsoft PowerBI, R, Python and the CRISP-DM methodology.

Discussion

- These results are informing the development of a risk matrix to enable proactive identification of children at risk of exclusion, so that supportive interventions can be implemented.
- These data will be incorporated into routine monitoring processes by local children’s social services to allow timely identification of children at risk.
- This study is being used to implement and drive the policy and actions of “The Walsall Right for Children Strategic Education Inclusion Board.”

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