Gambling-related harm and vulnerability to harm in Camden.

An evidence base in the context of planning policy.

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Purpose of this paper

This evidence base of gambling premises and the prevalence of at-risk and harmful gambling in Camden has been produced by the Council's Health and Wellbeing Department to inform the review of Camden's Local Plan in 2023.

It is primarily for Planning Policy officers to support the drafting of robust planning policies that contribute to tackling gambling-related harm in Camden as part of a whole system approach that the Council is taking. It is also aimed at those who approve Council policies, including Members of the Council and planning inspectors to support their decision making.

Finally it is also aimed at anyone with an interest in the evidence behind Local Plan policies that tackle overweight and obesity

Statement of the issue

Recognition is growing that gambling can have major impact and be a source of serious harm to individuals, families and communities. Gambling also disproportionately impacts on people living in deprived circumstances. It has the potential to negatively affect physical health, psychological health, and the social functioning of the people who gamble and others around them.

Gambling related harm occurs on a spectrum. At the severe end of the spectrum are those experiencing harm, termed "problem gamblers" or "harmful gamblers". Where harmful gamblers seek treatment, they may be clinically diagnosed with gambling disorder. The spectrum also includes those whose gambling puts them at either medium or low risk of gambling related harm, where a change in circumstances, for

example loss of employment, might lead them to gamble at harmful levels. People who gamble at affordable levels are likely to be no-risk gamblers, although a change in circumstance may put them at risk of gambling harmfully.

Gambling disorder is highly stigmatised relative to other mental health problems, in part because it is viewed as more likely to be caused by factors that can be controlled by the individual.[1]

Although online gambling has increased greatly over the past decade or so, in-person gambling continues to present risks to people who are vulnerable to gambling related harm.

Limiting the risk of gambling related harm through planning policy is just one aspect of a whole system approach to reducing gambling related harm, but is an important intervention where the risk is disproportionately high.

Key points

- Estimates suggest that between 4.0% and 5.7% of Camden adults (7,100 to 10,200 people aged 16 and over) gamble that levels that cause harm or at risk of harm, and a further 7% (15.000) are affected by others' harmful gambling.
- Gambling impacts on family relationships, finances, mental and physical health, education and employment, and criminal and anti-social behaviour.
- Individual vulnerabilities (e.g. age, gender, mental health status, etc) increase the risk of gambling harms, with environmental risks (presence of gambling premises, advertising, etc.) compounding the risk of gambling-related harms.
- The Gambling-related harm index is an evidence-based method for identifying areas with high levels of vulnerability in the population. It shows that there are areas in Camden where people are more likely to be vulnerable to gambling related harm. Mapping existing gambling premises to the index shows that areas with high levels of vulnerability to harm tend to have clusters of gambling premises.
- Men are more likely to participate in gambling compared to women, particularly men aged 25 to 34. This age group is also more likely to gamble at at-risk or harmful levels.
- The risk of gambling related harm increases with higher levels of deprivation, and the number and density of gambling premises also increases with higher deprivation.
- Particular types of advertising at betting shops are clustered in areas where there is a high prevalence of gambling vulnerability. Such advertising concentrates on a few types of bets with high expected losses for the gambler.

[1] Quigley, L. Gambling Disorder and Stigma: Opportunities for Treatment and Prevention. Current Addiction Reports volume 9, pages410–419 (2022)

- There is evidence that greater exposure to gambling adverts leads to increased risk of gambling and increased risk of harm.
- Despite the rapid rise in online gambling over the past decade or so, in-person gambling continues to present a significant risk for gambling-related harm
- Planning policies can resist new gambling premises (i.e. refuse applications unless the applicant can demonstrate that a new premises will not increase harm. This helps to ensure that the risk of gambling-related harm is minimised where the population is at greatest risk of such harm and where gambling premises are already clustered such as Camden Town, Fitzrovia, and Kentish Town. Such areas should be prioritised for resisting new gambling premises because of the additional risk from over-concentration of premises.
- Planning policies are one aspect of a suite of interventions to reduce and address gambling related harms, alongside licensing, restricting advertising, education, early identification of people gambling at risky and harmful levels, and support and treatment.

Introduction

This evidence base was developed by the Camden Health and Wellbeing Department in 2023 to support planning policy decisions in Camden's Local Plan. The evidence base reviews the impact of gambling on the health and wellbeing of the population and the impact of gambling-related harm in Camden, and policies to reduce the impact of gambling-related harm.

Gambling is a common activity, with around half of Londoners participating in the past year, equivalent to between 77,000 and 84,000 Camden residents aged 16 and over.[1]

Recognition is growing that gambling, is a source of serious and unevenly distributed harm. Although gambling is highly profitable for corporations (£14.1bn in profit in 2021/22)[2] and raises revenue for governments (3.3bn in 2022/23)[3], a significant proportion of people gamble at harmful levels and at levels that place them at risk of harmful gambling. Estimates suggest that between 5,500 and 7,500 Camden residents aged 16 and over gamble to the extent that places them at risk of harm ("*at-risk gambling*"), and a further 1,600 to 2,700 Camden residents gamble at harmful levels ("*problem gambling*").[2]

In the UK, research into gambling harms is predominantly funded through voluntary contributions from the gambling industry and distributed by GambleAware, itself funded by the gambling industry. This has led to concerns that the Gambling Industry controls the labelling and direction of research, including such terms as "problem gamblers". This places the onus on the gambler as an individual rather that the

[2] Gambling Commission. Statistics and Research.` https://www.gamblingcommission.gov.uk/about-us/statistics-and-research https://www.gov.uk/government/statistics/uk-betting-and-gaming-statistics
[3] National Statistics. UK Betting and Gaming Statistics

industry's role in the harmful effects of gambling products and gambling environments.[3]

'Problem gambling' (also called 'harmful gambling') means gambling to a degree that compromises, disrupts or damages family, personal or recreational pursuits.

Moderate at-risk gamblers are defined as 'gamblers who experience a moderate level of problems leading to some negative consequences'

Low risk at-risk gamblers are defined as 'gamblers who experience a low level of problems with few or no identified negative consequences'.

Although prevalence studies place at risk and harmful gamblers in distinct categories, gambling-related harm is a continuum across categories of harm. Understanding the problem as a continuum underlines the need to prevent escalation of low and moderate risk gambling as well as tackling harmful gambling which is already impacting on the individual.

Problem gamblers contribute an estimated 25% of the profits of the gambling industry, and people who are at low or moderate risk of becoming problem gamblers contribute a further 35%.[4]

Including adults and children, around 7% of the population are estimated to be negatively affected by someone else's gambling (which would suggest that around 15,000 Camden residents are affected).[1]

People who experience harm from others' gambling are more likely to be women, reflecting the association between problem gambling and men. Immediate family members experience the most severe impacts of others' problem gambling.

Gambling-related harms

Problem gambling has a different activity profile to general gambling and has serious consequences for individuals, families and communities These harms are complex and individualised. Problem gambling often leaves a lasting legacy beyond initial recovery from a gambling disorder and may be experienced for many years after the event.

Gambling-related harms manifest in a variety of ways,[5] including:

Financial problems such as debts, erosion of savings or pensions, having to do without basics like food and clothing, and serious outcomes such as bankruptcy and homelessness.

Relationship disruption, conflict or breakdown, including domestic or family abuse.

Mental and physical health harms including significantly lower quality of life, anxiety, depression and sleep problems, drug and alcohol misuse, higher all-cause mortality, and increased risk of suicide.

Employment and educational harms, including lost jobs, demotion or resignation due to gambling, loss of concentration on work activities, showing up late, not turning up for work or turning up after no sleep. Close associates of gamblers report that their work performance is affected, and work colleagues and employers also report adverse impacts. Children of gamblers also noted difficulties at school because of the chaotic home life associated with a gambling parent.

Criminal and anti-social behaviour, often due to the gambling-related financial difficulties. Close associates and wider society can be affected by criminal activity, for example gamblers taking out loans in another person's name, stealing from friends and family, and committing fraud.

Whilst the National Lottery and scratch cards are by far the most popular gambling activity amongst the general population, problem gamblers account for a significantly disproportionate level of participation in machines in a bookmakers, spread betting, poker played in pubs or clubs and other events or sports in-person. [1]

At-risk gamblers are more likely to participate in online gambling on slots, casino or bingo games as well as machines in bookmakers, spread betting, betting exchanges and poker played in pubs or clubs.[1]

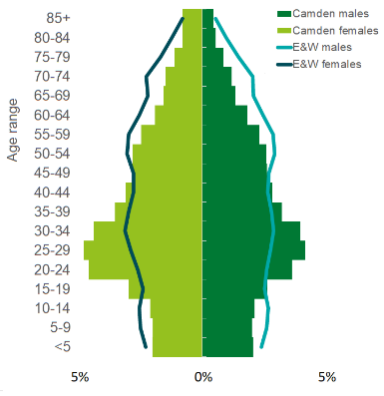
This demonstrates that despite the rapid rise in online gambling, in-person gambling continues to present a significant risk for gambling-related harm.

Inequalities in gambling-related harm

Whilst there is little variation in any gambling activity at national level between index of multiple deprivation quintiles, the most socio-economically deprived and disadvantaged groups have the highest levels of problem gambling, and they are also the most susceptible to harm.

Nationally, the prevalence of at-risk and problem gambling increasing across quintiles from 3.0% in the least deprived areas to 5.3% in the most deprived areas.[1]

Figure 1: Population Pyramid 2021, Camden and England &



Source: Census 2021

Men are more likely to participate in gambling compared to women, particularly men aged 25 to 34. This age group is also more likely to gamble at at-risk or harmful levels. Within Camden, the high proportion of young men in this age group (Figure 1, right) suggests that the prevalence of gambling-related harm may be higher than regional or national estimates.

Research for Freudplus and GambleAware in August 2022 found that of 1,606 women who had gambled in the previous month, almost half had done so to try to win money to help with the cost of living.[6] Similarly, Gamcare found that People who are gambling at harmful levels were ten times more likely than the general population

to have used a warm bank in the previous 12 months, and 16% people gambling at harmful levels had visited public spaces to avoid escalating energy costs, compared to just 5% of the UK population.[7]

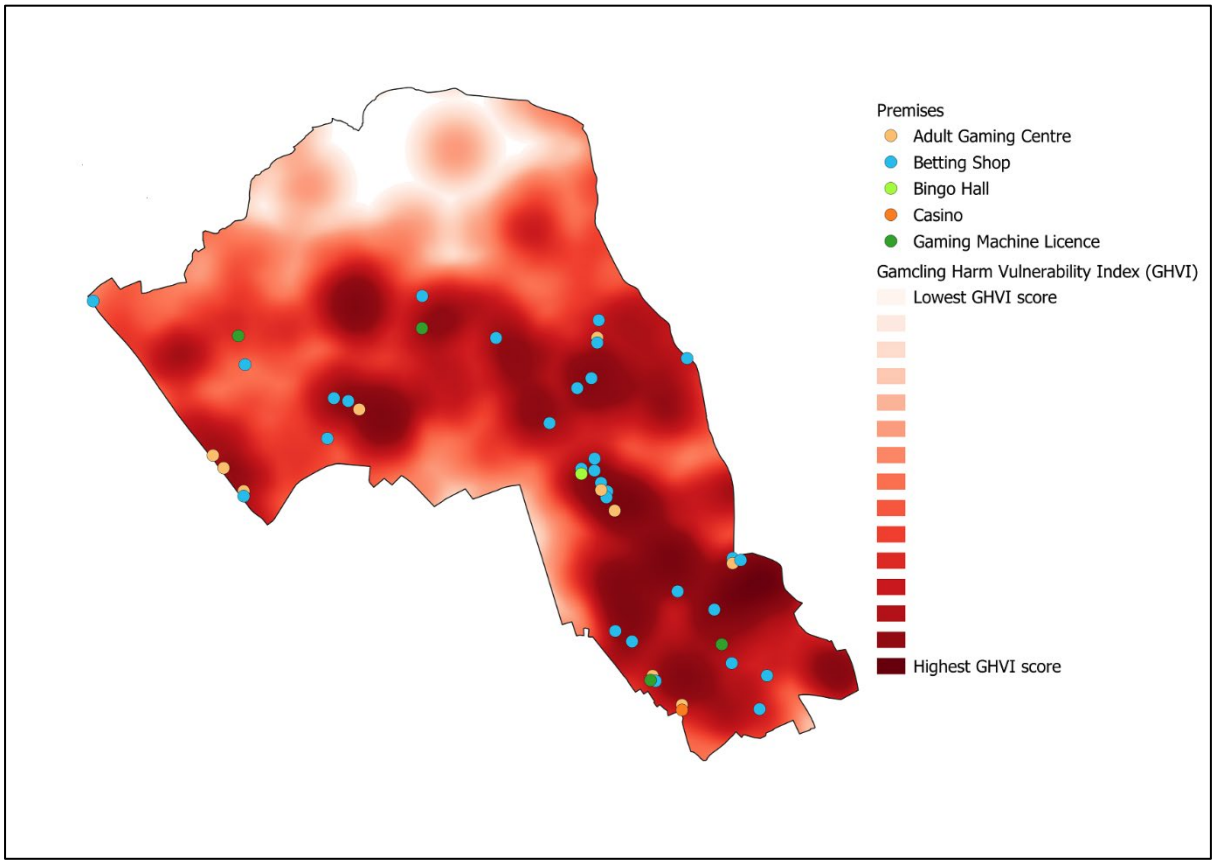
Spatial distribution of people vulnerable to gambling-related harm

The Gambling Harm Vulnerability Index[8] was developed by Professor Wardle and colleagues to draw on a broad range of available local data. This includes age, ethnicity, mental health, unemployment, financial distress, homelessness, alcohol and substance misuse and use of gambling treatment. It takes into account both individual factors and place-based factors.

The aim of the Gambling Harm Vulnerability Index is to provide greater insight when considering planning permission and gambling licenses to potential operators.

The Gambling Harm Vulnerability Index describes the relative risk within Camden of being vulnerable to gambling, at small area level. It is a Camden-specific measure and does not describe the relative risk compared to other areas.

Figure 1: The Gambling-related Harm Vulnerability Index in Camden



The Gambling-related Harm Vulnerability Index in Camden shows that there are areas of greater vulnerability to gambling-related harm in several areas of the borough, including Camden Town, Euston, Fitzrovia, Holborn, Kentish Town, Kilburn,

King's Cross, Somers Town and Swiss Cottage. Siting new gambling premises in these areas would increase the risk of gambling-related harm in communities in these areas. Resisting planning applications for gambling premises in these areas would prevent an increased risk of gambling-related harm.

Several of these areas also have concentrations of licensed gambling premises, including Camden Town, Fitzrovia, Kentish Town, Kilburn, and Swiss Cottage. Clustering of gambling premises around areas where the population has a higher vulnerability to gambling-related harm is consistent with research that shows clustering in areas of high multiple deprivation. For example, researchers at the University of Bristol found that 21% of gambling premises were located in the 10% most deprived areas in Britain, compared to two% in the 10% least deprived areas.[9] These areas should be priority areas for resisting new gambling premises due the additional risk arising from overconcentration of gambling premises.

Locations of gambling premises are not taken into account in calculating the gambling-related harm vulnerability index.

Some researchers have concluded that clustering of gambling premises in more deprived areas is results from a combination of availability of premises due to the closure of other retail, and gambling companies looking to close their poorer performing outlets.[10] However, given that at-risk and problem gamblers, whilst accounting for eight% of all gamblers, contribute an estimated 60% of bookmakers' profits,[4] and that problem gamblers are 1.75 times more likely to live in the most deprived areas than the least deprived, premises in deprived areas are likely to be both available and profitable.

Young people's participation in gambling

Young people's gambling participation is estimated from national survey data. Data are not available for smaller areas, so estimates for Camden below are based on national estimates applied to the Camden population.

The most recent national survey of gambling amongst young people shows that 31% of 11- to 16-year-olds spent their own money on gambling activities in the 12 months prior to taking part in the survey.[11] In Camden, this would equate to around 3,900 young people.[12]

Young people were most likely to have spent their own money on arcade games such as penny pusher or claw grab machines (22%, or around 2,700 Camden young people) or bet for money between friends or family (15%, or around 1,900 Camden young people), than other gambling activities.

The same survey found that the survey identified 0.9% of 11- to 16-year-olds as problem gamblers (100 Camden young people) and 2.4% as at-risk gamblers (300 Camden young people).[12]

Although arcade gaming machines, such as penny pushers or claw grab machines, are the most common type of gambling activity for young people, they were typically

with someone when they played on arcade gaming machines (89%) or fruit and slot machines (80%), rather than being alone (5%).[11]

Online vs. in-person gambling

In the year to March 2023 Gambling Commission's telephone survey[13] of 4,000 respondents aged 16 and over:

Nearly 3 in 10 adults reported any form of gambling in the previous four weeks, (excluding those who solely gambled on the National Lottery). Nearly 2 in 10 had participated in at least one form of in-person gambling (excluding the National Lottery) in the previous four weeks,

Nearly 2 in 10 had participated in any online gambling activity (excluding the National Lottery) in the previous four weeks.

Some respondents will have participated both in-person and online.

It should be noted that almost 1 in 10 of all respondents gambled both in-person and online in the previous four weeks.

Advertising

Oversight of gambling advertising in the UK is the responsibility of the Department for Digital, Culture, Media and Sport (DDCMS), Ofcom, and the UK Gambling Commission. Whilst it can be argued that a large proportion of gambling activities takes place on social media and on television and radio, each betting premises in effect increases advertising and its reach.

Research evidence on children and adolescents showed that higher exposure to advertising is associated with higher gambling rates and severity, although advertising does not tend to encourage young people to start gambling, but instead encourages existing young gamblers to gamble more.[14] In another study, advertising through betting shops was the second most frequently recalled channel by young people (15%) after television (45%) and followed by technology/screens (14%).[15]

Among adults, higher risk gamblers also reported higher exposure to advertising, tending to hold more positive attitudes about advertising.[14]

Research has also shown that particular types of advertising at betting shops are clustered in areas where there is a high prevalence of gambling vulnerability. Such advertising concentrates on a few types of bets with high expected losses for the gambler such as a combination of events to occur at once, such as the exact score, the winning team and the first goal scorer.[16]

In a systematic umbrella review, across eight systematic reviews of 74 unique studies, researchers found evidence of a "dose-response" effect, where greater exposure to advertising leads to increased participation in gambling which leads to a greater risk of harm.[17]

Treatment for gambling problems

Gambling disorder is a recognised mental health condition involving repeated pattern of gambling behaviour where someone, feels they have lost control, continues to gamble despite negative consequences, and sees gambling as more important to them than any other interest or activity.

The NHS National Gambling Treatment Service is based in London, with a further 15 in place across the country by 2024.

Gamcare is a national charity that provides support face-to-face, online and by telephone for people gambling at harmful levels as well as family and friends impacted by someone else's gambling. Gamblers Anonymous is an organisation which describes itself as "run by compulsive gamblers for compulsive gamblers" and holds meetings in many locations.

Identifying people who gamble harmfully is problematic, with screening surveys such as the Problem Gambling Severity Index used in some prevalence estimates being lengthy and time consuming. Researchers at King's College London are currently developing a question to identify gambling harms to individuals or affected others and piloting it in three local authorities This will be highlighted to key front line services such as debt advice and alcohol advice to help to identify people gambling at harmful levels during interactions and offer advice or referral for treatment.

Current regulation

Gambling operators require a licence issued by the Gambling Commission and, for each premises where gambling activity takes place, premises licence issued by the local licensing authority.

There is a statutory aim to permit gambling if the following licensing objectives are met:

- preventing gambling from being a source of crime or disorder, being associated with crime or disorder or being used to support crime
- ensuring that gambling is conducted in a fair and open way
- protecting children and other vulnerable people from being harmed or exploited by gambling.

Planning permission

In addition to holding a premises licence, premises used for gambling must also have the correct planning class use. Premises used for gambling fall under the planning class use *Sui generis* ("of its own kind", i.e. unique) which requires any new proposed gambling premises or change of use to a gambling premises to undergo full local consideration in line with policies in the local development plan. This can include policies designed to resist over-concentrations or clustering of certain uses which may negatively impact wellbeing or economic vitality.

Policies to resist planning applications for new gambling premises or change of use to gambling premises should be included in the Camden Local Plan:

- in areas that currently have clusters to prevent deeper concentrations and the associated greater risk of gambling harm; and
- in areas with higher vulnerability of gambling-related harm to reduce an already elevated risk of gambling related harm in the population

Proposed reforms to regulation

In April 2023 the government has proposed reforms to gambling in a white paper, *High stakes: gambling reform for the digital age.*[18] As the title suggests, the majority of the reforms seek to tighten regulation of online gambling, which has grown significantly since the Gambling Act 2005.

The only proposed reform available to local licensing authorities (subject to legislation) is the introduction of cumulative impact assessments to the premises licensing regime (similar to those in alcohol licensing) which seek to prevent over-concentration or clustering. As this is subject to legislation, it is unclear when this may be available to licensing authorities.

Conclusions

Gambling related harm is increasingly seen as a public health issue, with consideration of the environment and the commercial determinants of health (the private sector activities that affect people's health, directly or indirectly) as important factors in improving health and reducing health inequalities.

The Camden Gambling Risk Vulnerability Index included in this evidence base demonstrates where there are higher proportions of people vulnerable to gambling-related harm in the borough. Mapping this with gambling premises locations shows clustering of gambling premises in some of those areas.

It is also important to note the potential impact of advertising in gambling premises shopfronts on children and on people who are vulnerable to gambling-related harm, and the potential negative impacts where gambling premises are sited in locations such as near to schools and youth clubs and in areas of high proportions of populations who are vulnerable to gambling-related harm. It is recommended that proposals for new gambling premises within 400m of a school (equivalent to a 5 to 10 minute walk) are resisted unless the applicant demonstrates that it would not contribute to a disproportionately increased risk of harm.

Policies to resist planning applications for new gambling premises or change of use to gambling premises should be included in the Camden Local Plan:

- in areas that currently have clusters to prevent deeper concentrations and the associated greater risk of gambling harm; and
- in areas where the Gambling-related Harm Vulnerability Index shows that the risk of gambling-related harm in the local population is high; and
- in areas within 400m of sensitive uses such as debt advice services, employment services, drug, alcohol and gambling treatment centres, and schools. References

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Appendix 1: the Gambling-related Harm Vulnerability Index methodology

The Gambling-related Harm Vulnerability Index[8] was developed by Professor Wardle and colleagues to use a broad range of local data on vulnerable groups to consider both the profile of residents and the location of various services for vulnerable people which draw at-risk groups into certain localities. The aim of the Gambling Harm Vulnerability Index is to provide greater insight when considering planning permission and gambling licenses to potential operators.

The Gambling Harm Vulnerability Index describes the relative risk within Camden of being vulnerable to gambling, at small area level. It is a Camden-specific measure and does not describe the relative risk compared to other areas.

It is also important to distinguish the Gambling Harm Vulnerability Index from the Problem Gambling Severity Index. The former is a population-based model of vulnerability to harmful gambling whilst the latter is a screening measure of gambling harm amongst individuals within a general (rather than clinical) population.

The model is comprised of two domains, the “At Home” score, which estimates vulnerability in the resident population, and the “Away from Home” score which estimates vulnerability among people visiting certain services.

Data sources used in the resulting geo-spatial models includes the numbers of young people, those from minority ethnic groups, benefits claimants, a measure of mental health need, the location of substance misuse treatment centres, food banks, homelessness hostels, educational establishments, pawnbrokers, and gambling treatment centres. These factors are then individually weighted to take into account the strength of the empirical evidence behind their contribution to vulnerability to harmful gambling and the relative level of gambling harm/problems exhibited by each group.

Note that the model does not include the location of premises licensed for gambling. This is because while such premises may be used by people who are vulnerable to harmful gambling, they do not increase the underlying vulnerabilities. However, locations where premises with gambling licences are shown on the final map for completeness.

Calculating the “At Home” scores

Ethnic group data from the 2021 Census at 2021 Lower Super Output Areas mapped to 2021 LSOA centroids.
https://www.ons.gov.uk/datasets/TS021/editions/2021/versions/1

Unemployment data was derived from the claimant count from NOMIS February 2023 at 2022 Lower Super Output Area mapped to 2011 LSOA centroids. Nomis - Official Census and Labour Market Statistics - Nomis - Official Census and Labour Market Statistics (nomisweb.co.uk)

Youth - residents aged between 10 and 24 Age by single year, from the 2021 Census at 2021 LSOA level mapped to LSOA centroids https://www.ons.gov.uk/datasets/RM200/editions/2021/versions/1

Each of the above datasets were transformed to normalised z-scores, this was done by subtracting the mean (average) of all data points in the set from each data point and dividing each value by the standard deviation of the data set.

Prevalence of **mental ill health** from the Small Area Mental Health Index (SAMHI) version 4 using 2019 data published in 2022 mapped to 2011 LSOA centroids. This dataset is presented as z-scores. The SAMHI is a composite annual measure of population mental health for each Lower Super Output Area (LSOA) in England. The SAMHI combines data on mental health from multiple sources (NHS-Mental health-related hospital attendances, Prescribing data – Antidepressants, QOF - depression, and DWP - Incapacity benefit and Employment support allowance for mental illness) into a single index. The data are compiled by the Place Based Longitudinal Data Resource at the University of Liverpool. https://pldr.org/dataset/2noyv/small-area-mental-health-index-samhi

The data for each LSOA centroid was then summed and multiplied by the weighting factors calculated by Wardle and colleagues:

Vulnerability	Weighting
Ethnic groups	4.0
Youth aged 10 to 24	2.3
Poor mental health	4.2
Unemployment	2.0

The resulting scores were then transformed to set the minimum value to zero using the minimum of all values from each value. They were then transformed again to produce a score of 0 to 50 by multiplying each value by 50 divided by the maximum value of all scores.

With the resulting “At home” scores, there are some discrepancies in the number of categories in each data point as eight 2011 LSOAs merged to become four new ones and one LSOA split to become two new ones.

Summary of LSOA changes from 2011 to 2021
E01000852 and E01000854 merged to become E01035711
E01000864 and E01000865 merged to become E01035707
E01000936 and E01000940 merged to bec0me E01035712
E01000945 and E01000950 merged to become E01035710
E01000953 spilt to become E01035708 and E01035909

However, this is compensated for when the final scores are mapped using the Kernal Density Estimation function in QGIS software, which averages scores from point data over a larger area. In Camden, a 500m radius was used.

Calculating the "At Home" scores

The location of **Education** establishments for young people aged between 10 and 24 were sourced from the Government *Get Information about Schools* website at https://get-information-schools.service.gov.uk/Search?SelectedTab=Establishments, filtered for secondary schools and sixth forms, independent schools with children aged 10 and over, colleges, and universities.

Hostels and supported housing locations were sourced from Camden Council's directory https://cindex.camden.gov.uk/kb5/camden/cd/results.page?communitychannel=8-2-1 supplemented by a Google search for locations in the LSOAs of neighbouring broughs bordering Camden.

Locations of **Drug and Alcohol** services were sourced from the Council's substance misuse commissioner.

Locations of **Employment support** services were soured from Camden Council's website https://www.camden.gov.uk/your-future and the Government's *Find a jobcentre* website https://find-your-nearest-jobcentre.dwp.gov.uk/search.php

Locations of treatment centres for **gambling addiction** were sourced from Gamcare's website https://www.gamcare.org.uk/get-support/find-local-treatment/ Gamblers Anonymous website https://www.gamblersanonymous.org.uk/find-a-meeting

Locations indicative of **financial distress** were sourced from Camden Council's website https://findfood.camden.gov.uk/ with a supplementary Google search for **food banks**, plus a google search using the terms *pawnbroker*, *cashconverters,* and *pay day loans*. This was cross-checked with Camden's Retail Survey Summer 2022.

Each of the above locations were mapped to postcode centroid, with a value of 1 for each location multiplied by the weighting factors as calculated by Wardle and colleagues:

Vulnerability	Weighting
Problem gamblers who are seeking treatment	25.0
Substance abuse/misuse	4.3
Poor mental health	4.2
Unemployment	2.0
Youth aged 10-24	2.3
Financial difficulties/debt	1.15
Homelessness	4.8

The scores for each postcode centroid were then transformed to a scale between 0 and 50 by multiplying each value by 50 divided by the maximum value of all scores.

Mapping the final Gambling Harm Vulnerability Index

The “At Home” and “Away From Home” scores were combined at postcode/LSOA centroid level to give an overall Gambling Vulnerability Harm Index score, with a potential minimum score of 0 and a potential maximum score of 100. A score of 0 does not signify no risk; as a relative risk it means that that area has the lowest vulnerability to gambling in Camden. Likewise, a score of 100 does not signify a 100% risk, but simply that the area has the highest risk of vulnerability to gambling in Camden.

Each unique LSOA and postcode centroid was input to QGIS mapping software with its related Gambling Harm Vulnerability Index score. The Kernel Density Estimation function was applied with a radius of 500m from each data point. This method produces a “heat map” with greater concentration towards the central data point which is compensated for where the radii overlap, producing a smoother map with clearly visible areas where vulnerability to gambling harm is greatest.

Data from neighbouring LSOAs outside Camden are included as the 500m radii from these data points extends into Camden and therefore impacts on the localised Gambling Harm Vulnerability Index. However, the final map is overlaid to hide areas outside of Camden.