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EXECUTIVE

Meeting to be held on Wednesday 20 May 2015

Please see the attached information as further background for the report below.

10 GATEWAY REVIEW OF SUBSTANCE MISUSE SERVICES

Copies of the documents referred to above can be obtained from http://cds.bromley.gov.uk/

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Drug Misuse

A Needs Assessment

Bromley

January 2015

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DRUG MISUSE: A NEEDS ASSESSMENT

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EXECUTIVE SUMMARY

Introduction

About 4 million people in the UK use illicit drugs each year. The most commonly used drugs in the UK, in order, are cannabis, cocaine and crack, and opioids. Opioids are used by about 50,000 people in the UK, and are responsible for the greatest damage to individuals and society. Abuse of legal drugs, 'legal highs', are on the increase, but there is currently little data. Injecting of steroids, to enhance appearance and performance, is rapidly increasing among younger people. Again, data is scant.

Causes and patterns of use

Problem drug use is viewed as a medical condition in the UK, and there is neurobiological evidence to suggest that this is the case. There are both genetic and social risk factors for drug misuse, which are most potent in combination.

Most people start taking illicit drugs in their teens and early twenties, with most reducing or stopping use as they move into adulthood. Dependency on opioids tends to start a few years after first use.

Dependency causes long-lasting changes in the brain, which cause tolerance, craving and withdrawal. As a result it is a chronic condition, characterised by periods of remission and relapse.

Epidemiology of drug misuse

Because of the illicit nature of drug misuse, direct prevalence data is not available. Instead we have to rely on indirect data from national surveys, crime data, and data on people in treatment, hospital admissions and drug-related deaths.

The crime survey for England and Wales suggests that approximately 15,000 residents took illicit drugs in Bromley in 2012/13. The estimated prevalence of opiates and/or crack use was 1,117 in Bromley in 2012, at a rate of 5.5 per thousand adult population. About a quarter of these people use both drugs, and nearly half of those in treatment.

Drug use is more common in males, single adults, white ethnic groups and those on low incomes. There is a relationship, however, between affluence and early

use of cannabis. Nearly three quarters of drugs users in treatment in Bromley are male, and this proportion has risen significantly in recent years.

People in treatment in Bromley tend to be a little older than in other parts of the country, and are more likely to be taking both opiates and crack.

IMPACT ON HEALTH

Mortality rates related to drug use have been increasing since 1993, with heroin and morphine the most commonly implicated drugs.

There were 80 drug-related deaths in Bromley between 2006 and 2013. The average age at death was 48, more than thirty years lower than average life expectancy for the borough. Deaths were most frequent in deprived wards.

Injecting drug users are at great risk of blood-borne infections, accounting for 90% of cases of Hepatitis C diagnosed in the UK. Rates of infection in drug users with Hepatitis B and HIV have declined as a result of needle and syringe programmes, vaccination and opportunistic testing and treatment.

There is a strong association between drug use and mental health problems, with drug use occurring both as a result of mental illness, and as a cause.

There were 518 drug-related hospital admissions in Bromley in 2-13/14. Admission rates have been steadily increasing since 2009, the numbers greatest in the 25-44 age group.

SOCIOECONOMIC IMPACT

Drug use carries a substantial economic burden, associated as it is with high healthcare and social costs as a result of ill health, crime, homelessness and family breakup. It was estimated in 2002 that problematic drug use costs society £35,000 per user per year. Based on average annual inflation at 3%, this amounts to around £50,000 per user per year. These estimates do not include benefits for those unemployed, or the cost of taking care of their children.

The National Treatment Outcomes Research Study (NTORS) found that 61% of a sample of people entering treatment had committed crimes other than drug possession in the three months prior to starting treatment, the most common being shoplifting. The main sources of illegal income required to fund an illicit drug habit were theft and fraud.

THE TREATMENT AND MANAGEMENT OF DRUG MISUSE

The main aims of treatment are:

1. Harm reduction – preventing or reducing negative health and social consequences of drug use, including infections and overdose.
2. Maintenance oriented treatments – reducing an individual's level of drug use, mainly by substitute prescribing.
3. Abstinence-oriented treatments – reducing drug use with the ultimate aim of abstinence, using a range of interventions including detoxification, psychosocial interventions and residential rehabilitation.

Effectiveness of treatment

Reviewing effectiveness is complex as there are many interventions, used in a variety of combinations, in order to treat people who are taking many different drugs in a variety of combinations. Few treatments are given in isolation, and indeed tend be less effective if they are.

It is important, also, when assessing effectiveness, to understand the nature of drug misuse and dependency, and in particular that dependency is a chronic illness for which there is no cure.

The evidence for the effectiveness of individual interventions for individual drugs is presented in this report, sometimes in combination with one or more of other approaches.

A. Needle and syringe programmes (NSPs)

These provide drug users with clean injecting equipment, and other services including blood testing, education and brief psychological interventions. They have been shown to be effective in reducing injection risk behaviours, reducing blood borne infections, and decreasing attendance at accident departments. Evidence also suggests they increase the rate at which users enter treatment.

Delivered in combination with opiate substitution therapy, they have been found to reduce risky injecting, and reduce the incidence of hepatitis C and HIV. NICE has deemed these programmes effective and recommends their use.

B. Opioid substitution therapy (OST)
Opioid substitution therapy is the process of replacing an illegal opioid with a longer acting but less euphoric opioid, usually methadone or buprenorphine, taken under medical supervision. This treatment is recommended as an option for treating opioid dependency under a NICE technology appraisal (TA114), which means that

'if a patient has opioid dependence and the doctor responsible for their care thinks that methadone and buprenorphine are the right treatments, they should be available for use, in line with NICE's recommendations' (NICE)

On average, 40-65% of patients maintain complete abstinence from illegal opioids while receiving OST, and 70-95% are able to reduce their use substantially. Users also reduce risk-taking in injecting, experience improved mental health and relationships, and are less likely to be arrested. OST has also been associated with lower transmission of blood borne viruses.

Treatment is usually long term and a report commissioned by the Home Secretary in 2013, to advise on whether a cap on duration of treatment should be imposed, showed that enforced termination of treatment increases rates of relapse, acquisitive crime and drug dealing, blood borne infection and overdose deaths. It is also considered likely to result in increased medico-legal challenges. As a result, treatment caps are not recommended.

C Opioid detoxification.
Detoxification is the process by which opioid drugs are eliminated from dependent users in a safe and effective manner, either with OST or gradual reduction in the illicit drug, such that withdrawal symptoms are minimised. It takes place either in community or residential settings. The evidence for the effectiveness of detoxification concerns its ability to achieve sustained abstinence in the user, and is based on detoxification plus psychological support. For example, detoxification together with contingency management has been shown to be cost-effective, with an estimated additional 1% of users being drug free at four months for every £12 spent on treatment.

D. Psychosocial interventions.
Brief interventions (one or two 45 minute sessions) have been shown to be effective, especially for those using cannabis or stimulants who are not in formal treatment. Two sessions with a self-help leaflet were shown to be nearly four times more effective in achieving abstinence at four month follow up than a self-help leaflet alone (19.2% v 5.5%). NICE recommends brief interventions lasting 10-45 minutes should be offered opportunistically to drug users.

Longer psychological interventions include a range of approaches that are rarely used in isolation. There is strong evidence that *contingency management* (CM) is cost effective in increasing abstinence and treatment retention in cocaine and heroin users, and has been found to be of benefit in users who are on OST. CM is an approach whereby incentives (in the form of vouchers or privileges) are given for clients to achieve abstinence. A cost effectiveness model showed that CM was consistently more effective than standard care alone, achieving over four times the abstinence rates at 12 months. CM is recommended by NICE.

Cognitive Behavioural Therapy (CBT) and other psychotherapies have been shown to be effective as an adjunct to other approaches. CBT is not recommended routinely, but for clients with co-morbid mental health problems. Couples therapy for users with non-using partners has been found to be more cost effective than individual-based care.

12-step programmes clearly help many users but coercive attendance does not appear to be of benefit, so randomised controlled trials are difficult to conduct in this area. NICE recommends that clients be given information about these groups, and supported to attend.

E. Residential programmes.
It is difficult to assess these programmes objectively because the people who receive residential care are not a typical group, tending to have more social, physical and mental health problems. However, what is known about these programmes is that completion rates are very high (75-80%), programmes of three months duration or longer work better than shorter programmes, and long-term outcomes are better if there is structured aftercare. NICE recommends that

residential programmes be available as an option for clients who have significant physical, mental or social problems.

Treatment in Bromley

Bromley Drug and Alcohol Service provides

- brief interventions, both at BDAS and community settings
- 6-8 week psychological interventions for non-opiate users
- longer psychological interventions for opiate users
- residential care for opiate users who have significant physical, mental and social problems

While the numbers of people presenting at drug treatment services in Bromley has been falling in recent years, from 555 in 2011-12 to 520 in 2012-13, the proportion of these going on to be in effective treatment (in treatment for three months) has been rising, from 66% in 2006 to 89% in 2013. The numbers of clients who successfully complete treatment (complete programme and are now drug free, or occasional non-opioid/non-crack use) have also been rising, from 5% in 2006, to 19% in 2013). These data indicate that services have become more effective, both in engaging the clients who present, and treating them successfully. While the proportion in effective treatment in Bromley is a little lower than for England, successful completion rates are higher, suggesting that Bromley services are working effectively at the triage stage.

To continue to improve the number of individuals who complete treatment successfully the services are working to:

- identify why users are leaving treatment,
- managing users' anxiety about stopping substitute prescribing,
- further improving the treatment pathway and care coordination,
- increasing the number of satellite provision sessions,
- providing opportunities for non-opiate users to receive treatment separately from opiate users
- increasing the numbers accessing the service by producing information on services targeted to various locations such as A&E and GP surgeries

INTRODUCTION

An estimated 4 million people in the UK use illicit drugs each year, cannabis being the most widely used substance, followed by cocaine and crack. While the numbers of people using opioids are much lower, around 50,000 adults in the UK, the damage to the individual and society is much greater than for other drugs[1].

Under the Misuse of Drugs Act 1971, illegal drugs are placed into one of three classes – A, B or C. This is broadly based on the harms they cause when they are misused, either to the user or society.

Class A drugs have the potential to cause the most serious harm, and include opioids – opium, which comes from the poppy plant, plus a number of synthetic forms, including heroin; metamphetamine, a potent stimulant of the amphetamine group; and cocaine, a stimulant derived from the leaves of the coca plant;. Crack cocaine is the freebase form of cocaine that can be smoked and produces a short but very intense euphoria to those who take it.

Class B drugs comprise primarily of cannabis and its various forms, plus less potent forms of amphetamine.

Class C drugs include Ecstasy and MDMA.

In recent years, 'legal highs' have become more commonly used. These are drugs that can be obtained legally on prescription, or over the counter, and which can have a variety of stimulant and euphoric effects. The most commonly used of these drugs are opioid analgesics. While illegal opioids have traditionally been the main drug which is injected, the UK has recently been seeing a rapid increase in steroid injection, used to enhance appearance and performance.

[1] Roe, S. & Man, L. (2006) Drug Misuse Declared: Findings from the British Crime Survey 2005/06 – England and Wales. London: Home Office.

Drug usage is consistently higher in young people, who usually go on to moderate or completely stop using illegal drugs by their mid to late 20s when they 'settle down' and take on adult responsibilities. A small, but significant number of people continue to use illegal drugs, and particularly cannabis, into their 30s. A much smaller number of people continue to use heroin and crack cocaine, two of the drugs that cause the most harm to individuals and communities.

Surveys on a national and local level have found that illegal drug use is only an occasional activity for most people, and that most illegal drug use is experimental and recreational. Most people who use drugs, whether legal or illegal, do not come to serious harm, and statistics from the Crime Survey for England and Wales[2] suggest that among people aged 16-59, use of most drugs has been decreasing for several years. However, those who go on to have problems with drug use suffer a great deal of adverse effects, as do the communities in which they live.

1. CAUSES AND PATTERNS OF DRUG MISUSE

Since the Rolleston report in 1926, drug misuse has been viewed as a medical disorder in the UK, unlike in the US where there has traditionally been a more punitive approach. Advances in our understanding of the neurobiology of dependence suggests that it is indeed a medical condition[3], although it is clear that the cause of drug dependency is multifactorial, with peer drug use, family problems and childhood abuse and/or neglect being well-established risk factors, as well as genetic predisposition[4]. Risk factors for dependent drug use are much more significant when they occur together rather than individually.

Typically people start taking drugs as a recreational choice, aimed at feeling better, but over time their control over its use diminishes, despite the negative consequences[5]. The effects of most illicit drugs are mediated via the reward system in the brain, and a range of substances, including opioids, stimulants and cannabis, as well as alcohol and nicotine, all appear to produce euphoric effects

[2] Crime Survey for England and Wales. ONS. Year ending June 2014.
[3] Volkow, N. & Li, T. K. (2005) The neuroscience of addiction. Nature Neuroscience, 8, 1429–1430.
[4] Frischer, M., Crome, I., MacLeod, J., et al. (2005) Substance misuse and psychiatric illness: a prospective observational study using the general practice research database. Journal of Epidemiology and Community Health, 59, 847–850.
[5] Dackis, C. & O'Brien, C. (2005) Neurobiology of addiction: treatment and public policy ramifications. Nature Neuroscience, 8, 1431–1436.

by increasing levels of dopamine (a neurotransmitter) in the nucleus accumbens. As a result of the euphoria resulting from use, the person is motivated to repeat the experience. Over time, drug use can produce long-lasting changes in the brain, including reductions in dopamine receptor levels, which leads chronic drug users to go on to experience the well-known characteristics of drug dependence - craving, tolerance and withdrawal. As a result of these changes in the brain, drug dependence is generally a chronic condition, interspersed with periods of relapse and remission[6]. The consequences of repeated brushes with the law, unemployment, breakdown in relationships and increasing social isolation all serve further to entrench drug misuse.

While people who misuse drugs typically start in their late teens or early twenties, there are some differences between drugs. Cannabis use typically begins in adolescence, with heaviest use in the 15–24 age group. Use tends to decline steadily from the mid 20s to the early 30s. Cocaine use typically occurs first around the age of 20, with the risk of cocaine dependence occurring early (and with great intensity) after first use, and persisting for an average of 10 years. Opioid use tends to start around the same age, but dependence usually begins several years later, and continues over the next 10–30 years. In a long-term outcome study (up to 33 years) of 581 male opioid users in the US, 30% had positive (or refused) urine tests for opioids, 14% were in prison and 49% were dead[7].

2. EPIDEMIOLOGY OF DRUG MISUSE

Prevalence of illicit drug use

Because of the illicit nature of drug misuse, direct prevalence data on how many people are currently taking illicit drugs are not available. Instead we need to look at less direct methods of assessing prevalence – from:

- crime data

[6] Marsden, J., Strang, J., Lavoie, D., et al. (2004) Drug misuse. In Health Care Needs Assessment: The Epidemiologically Based Needs Assessment Reviews (eds. A. Stevens, J. Raftery, J. Mant, et al.), pp. 367–450. Abingdon: Radcliffe Medical Press.

[7] Drug Misuse: opioid detoxification. The NICE guideline (no 52). 2008

- national prevalence surveys

- data on people in treatment.

By combining these different sources we can start to paint a picture of drug use in England and Bromley.

The Crime Survey for England and Wales (CSEW) measures the extent of crime in England and Wales by asking people whether they have experienced any crime in the past year. Because it includes crimes that have not been reported to the police, it provides a valuable addition to police recorded crime figures. In 2013/14 around 50,000 households across England and Wales were invited to participate in the survey, of whom three quarters responded.

The crime survey of 2012/13[8] reported that 8.2% or 2.7 million adults had taken an illicit drug (excluding mephedrone) in the last year. Applied to Bromley this would represent approximately 15,000 adult residents reporting illicit use of drugs over the same time period.

The annual Glasgow Prevalence Estimation seeks to estimate prevalence by combining all available data on drug use and then estimating the hidden population to provide a prevalence estimate for each area. The data sources include treatment data, police and criminal justice data, hospital admissions and mortality data, and applies only to opiate, crack and injecting drug users[9].

Table 1 shows the estimated numbers and rates of illicit drug use in Bromley as compared with London and England.

[8] Home Office. Drug Misuse: Findings from the 2012/13 Crime Survey for England and Wales. 2013
[9] Hay G et al Estimates of the Prevalence of Opiate Use and/or Crack Cocaine Use, 2010/11.

Table 1

	Number of Drug Users (Rate per 1000 Adult Population)			
	Opiate & Crack User	Opiate User	Crack User	Injecting
Bromley	1,117 (5.55)	814 (4.05)	750 (3.73)	119 (0.59)
London	54,985 (9.55)	43,818 (7.63)	40,080 (6.96)	11,351 (1.97)
England	293,879 (8.4)	256,163 (7.32)	166,640 (4.76)	87,302 (2.49)

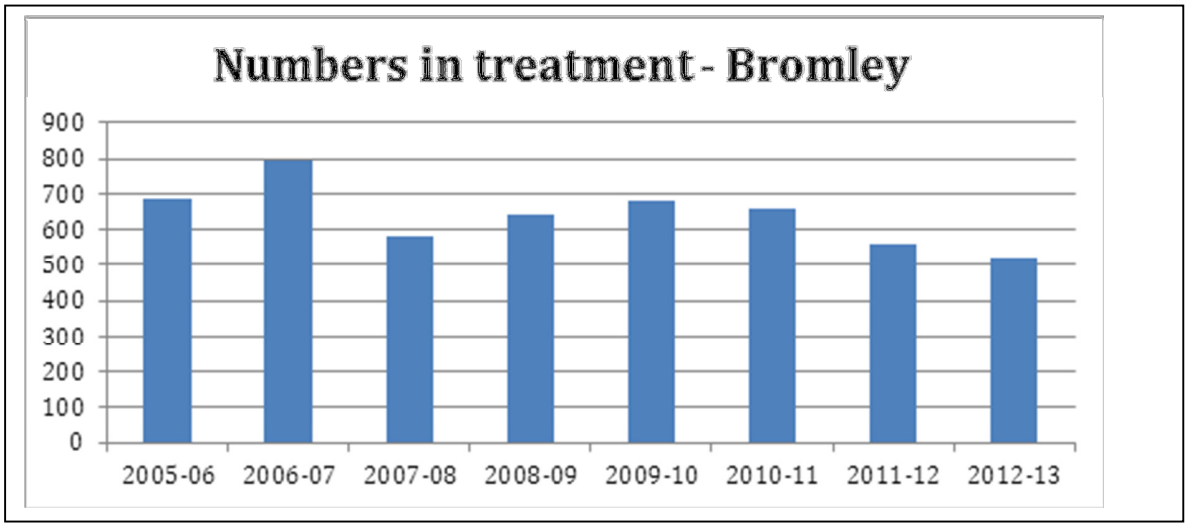
Source: Glasgow Prevalence Estimates (2011/12)

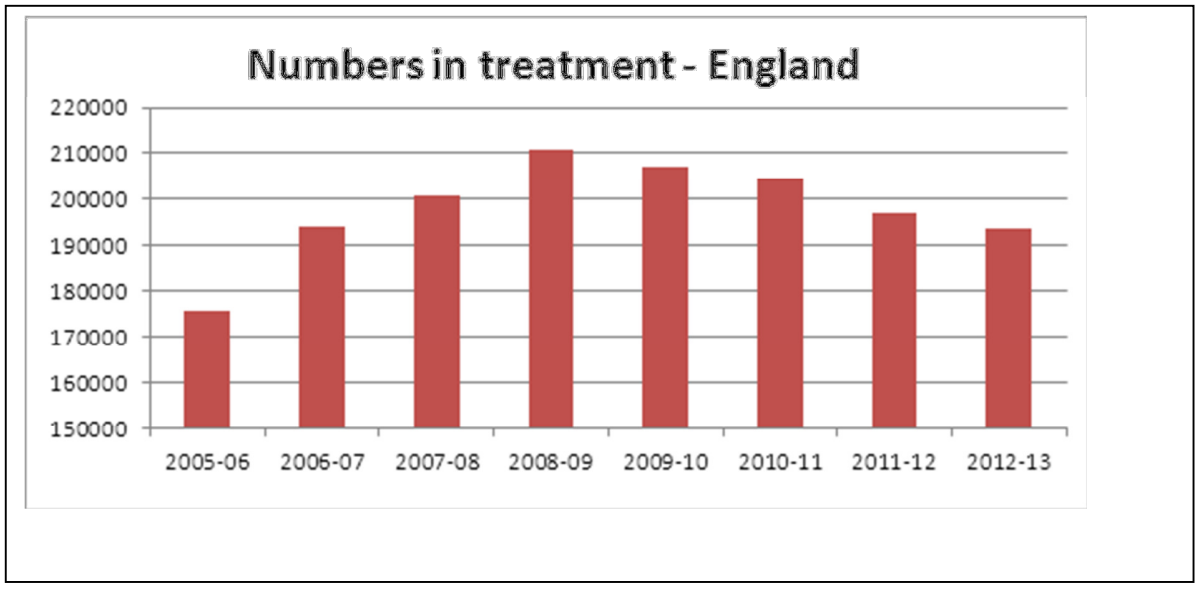
Bromley has lower rates of drug use than London and England in all categories. While the number of people using opiate and crack have increased over the last two years (as in London as a whole), numbers in other categories have fallen. Although we know that the number of steroid injecting users is rising rapidly, we do not yet have data on this.

Data on people in treatment. The most accurate data we have on drug users comes from the National Drug Treatment and Monitoring Service (NDTMS), as this is data collected diligently from those who attend drug treatment services. They provide an incomplete picture of drug use in the community, inevitably, as many drug users never access services, and the ones who do tend to have more serious problems and to be taking opioids and/or crack. However, they do give indications of drug use in the wider community, with trends over time, and they also provide valuable information about who uses treatment services, and how effective that treatment is.

The numbers of people in treatment have been falling gradually over the last decade, both in Bromley and England. During 2012-13, 520 people were in contact with drug treatment services in Bromley, as compared with 800 in 2006-07 (see Figs 1a and 1b).

Figures 1a and 1b





Source: NDTMS

Prevalence of over the counter and prescription only medicines.
Addiction to prescription-only medicines (POMs) and over the counter medicines (OTC) has become an increasing problem in recent years. OTC/POM drugs come under four main groups:

- Benzodiazepines and z-drugs, prescribed mainly for anxiety (benzodiazepines only) and insomnia

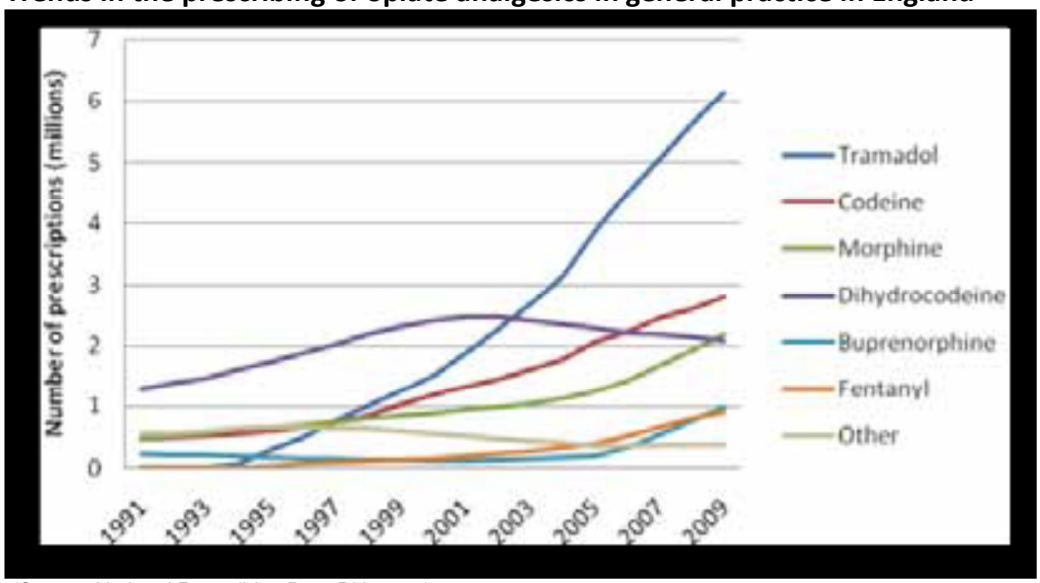
- Opioid and some other pain medicines, both prescribed and bought over-the-counter
- Stimulants, prescribed for ADHD or slimming
- Some OTC cough and cold medicines, and anti-histamines and stimulants.

There are distinct but overlapping populations using these medicines:

- Those who use prescription and OTC medicines as a supplement or alternative to illicit drugs, or as a commodity to sell
- Those who overuse prescription or OTC medicines to cope with genuine or perceived physical or psychological symptoms
- Those for whom the prescribed use of a medicine inadvertently led to dependence, sometimes called involuntary or iatrogenic addiction.

Opioid analgesics are the most commonly used drug in OTC/POM treatment populations, and national GP prescribing data show that the numbers of prescriptions for prescription-only opiates has been going up since the late 1990s. The most commonly prescribed opiate is Tramadol, the prescription of which has increased ten-fold since 1991.

Trends in the prescribing of opiate analgesics in general practice in England



(Source: National Prescribing Data DH, 2011).

12.5% of all people presenting to drug treatment services have a problem with prescription only, or over the counter medicines (POM/OTC). Of these, over four fifths (10.4% of total treatment population) are also taking illegal substances. In addition, 2% of people presenting to alcohol services also report problems with OTC/POM *(Source: NTA 2009-10)*. Among drug users in treatment, the most common prescribed drug used by those also using illegal drugs are benzodiazepines. Among those who are not using illegal drugs, the most commonly used drugs are prescribed opiates.

35- 40% of those presenting with OTC/POM problems to specialist drug treatment centres are self-referred, whether they also use illegal drugs or not, and performance data suggests these clients stay in drug treatment for a significant period of time (ten months plus), engage well in treatment services and achieve better success rates than other drug users.

Demographic characteristics of people who misuse drugs

The best data that we have on demography is from the Health and Social Care Information Centre, which compiles data from an extensive range of surveys and statistics, including data on hospital admissions, crime, psychiatric morbidity, mortality and drug treatment. The most recent report, November 2013[10], describes the characteristics of drug users in England:

- Since 1996 levels of any illicit drug and any Class A drug use during the last year were higher among men than women, at a ratio of around 70:30.
- Single adults were more likely to have taken any drugs or any Class A drug in the last year than any other marital status.
- Adults from a White ethnic group generally had higher levels of any drug use (9.5%) than those from non-White background (5.4%).
- Adults living in a household in the lowest income group (£10,000 or less) had the highest levels of drug use in the last year (11.9%) and Class A drug use in the last year (3.6%) compared with all other income groups. For example 6.8% and 2.8% respectively of adults living in a household with an income of £50,000 or more took drugs and Class A drugs in the last year respectively).

[10] HSCIC Statistics on Drug Misuse: England 2013

- Since 2001, there has been an overall decline in the prevalence of drug use among pupils. The proportion of pupils who reported ever having taken drugs decreased from 29% in 2001 to 17% in 2012.
- Some young people have shown to be vulnerable to problematic drug use. These include those who truant or have been excluded from school.

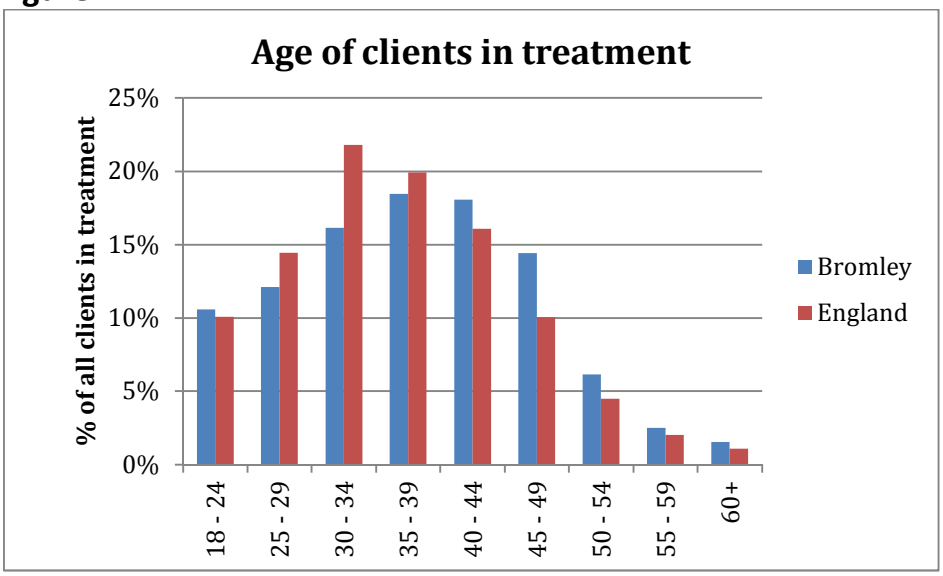
Drug users in Bromley

The best source of data on drug users in Bromley is the treatment data from NDTMS, which is the source of all data in this section.

Age

Fig 2 shows that the age distribution is similar in Bromley to England, but that clients in treatment tend to be older in Bromley. For example, peak age for drug misuse in England is 30-34, whereas it is 35-39 in Bromley.

Figure 2



In addition, while the proportion of clients in the 25-29 age group is lower in Bromley, and has been falling (Fig 3), it is noticeably higher in the 55-59 age group, which has been climbing (Fig 4).

Figure 3

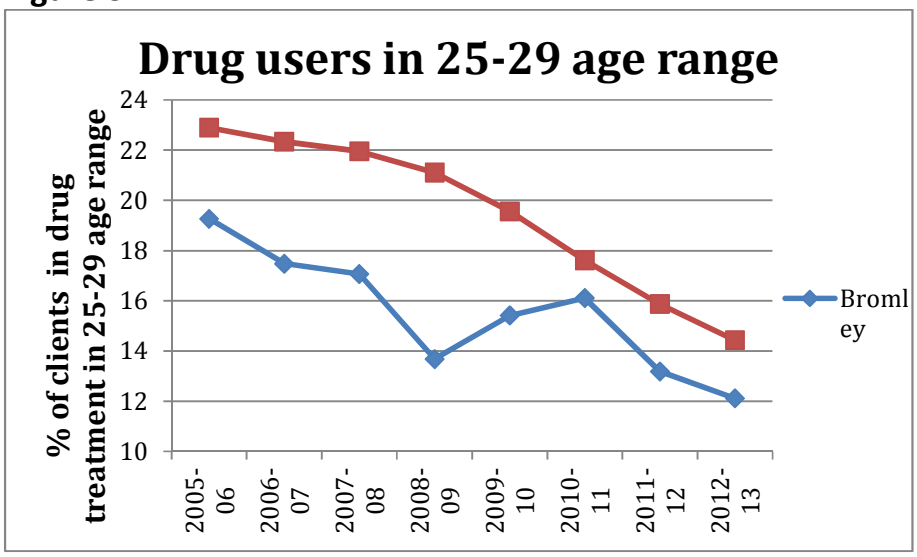
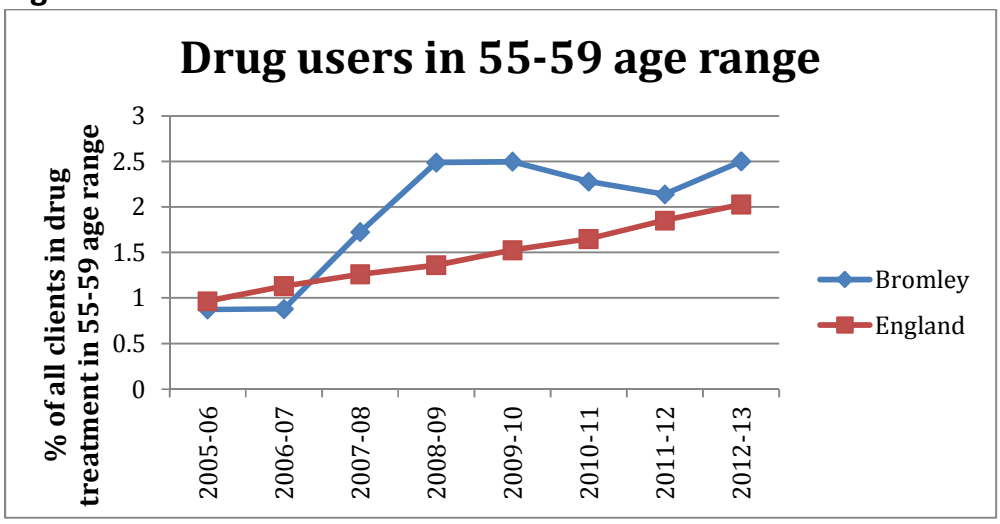
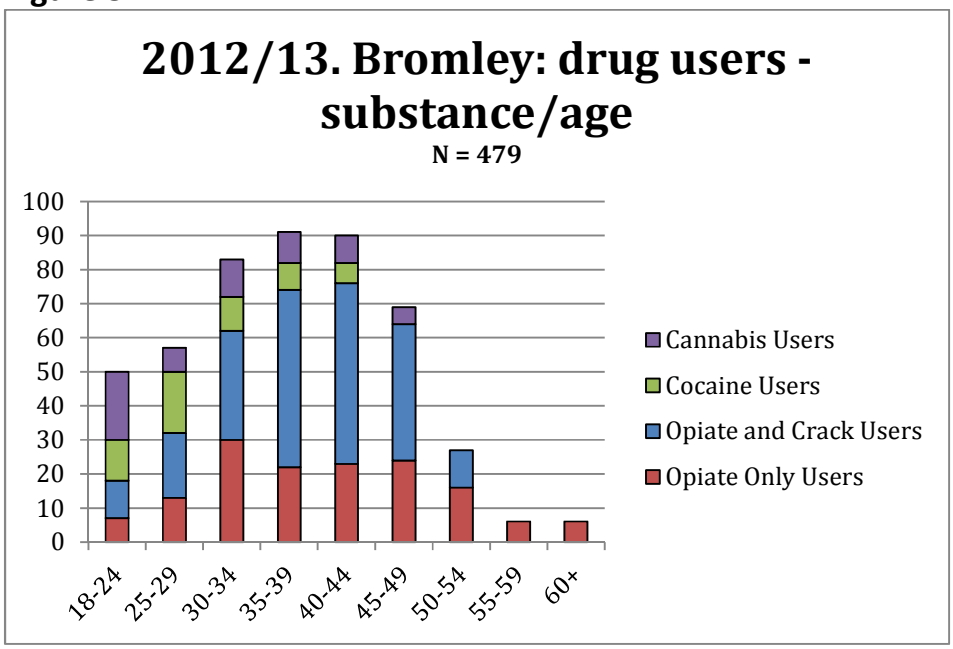


Figure 4



In terms of which drugs are used by which age groups, Figure 5 shows that cocaine and cannabis use falls off with age, with the over fifties not using these drugs at all.

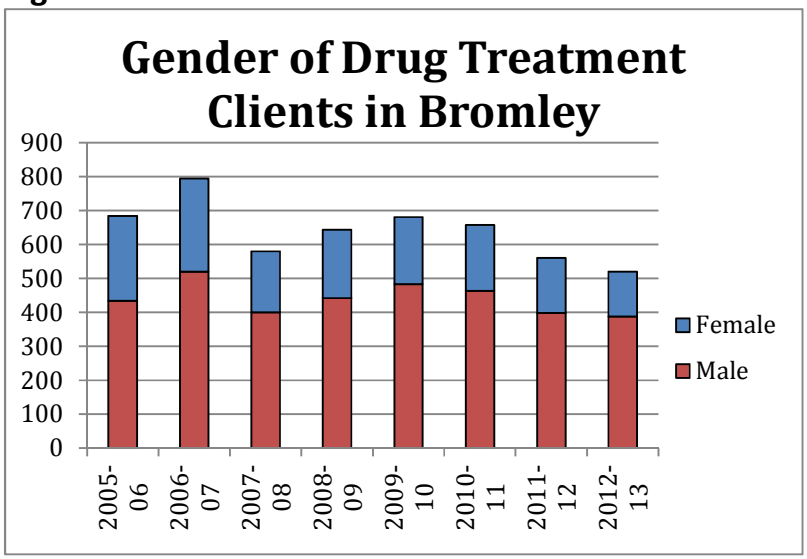
Figure 5



Gender

There is a roughly 80/20 male to female gender split among Bromley clients, compared to 70/30 in England (Figure 6). This has been changing in recent years – in 2005/06, the gender split in Bromley was 63/37. Although the proportion of males has been rising steadily in England, the change has been relatively small, while in Bromley it has been substantial.

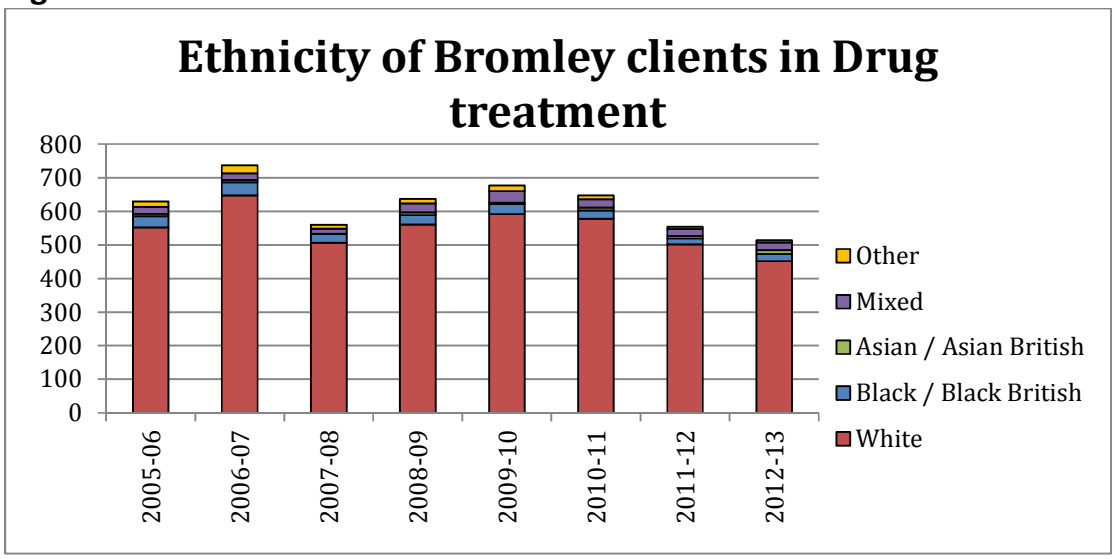
Figure 6



Ethnic group

Fig 7 shows the proportion of drug users in treatment in different ethnic groups, which is similar to the general population of Bromley, predominantly white.

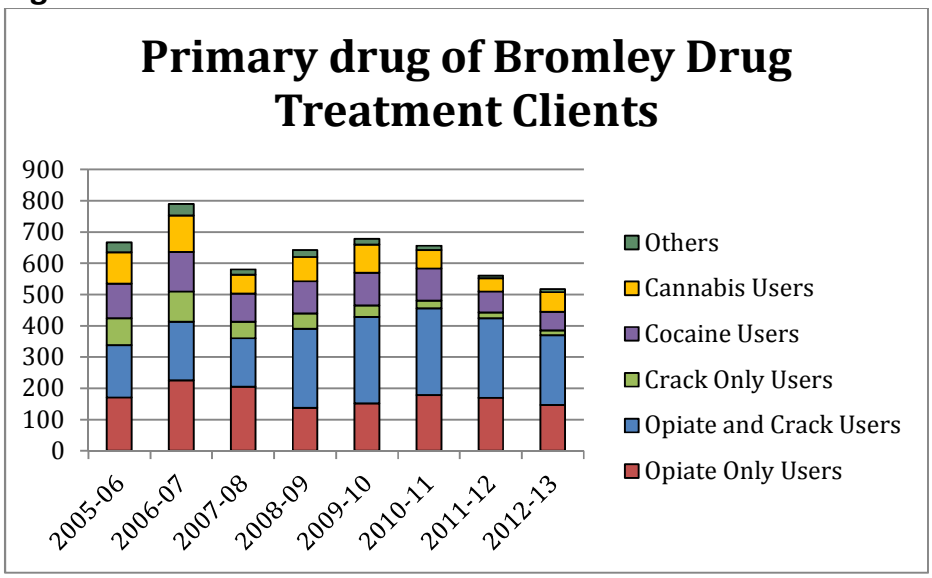
Figure 7



Types of drugs used by clients in Bromley

Most clients in treatment are using opiates and/or crack (Fig 8).

Figure 8



While use of opiates alone has remained fairly steady in Bromley in recent years, and the use of crack alone has gradually reduced, the number using both opiates and crack has gone up. The fall in crack-only use, and the rise in crack and opiate use is much more marked in Bromley than in England as a whole (Figs 9a-c).

Figure 9a

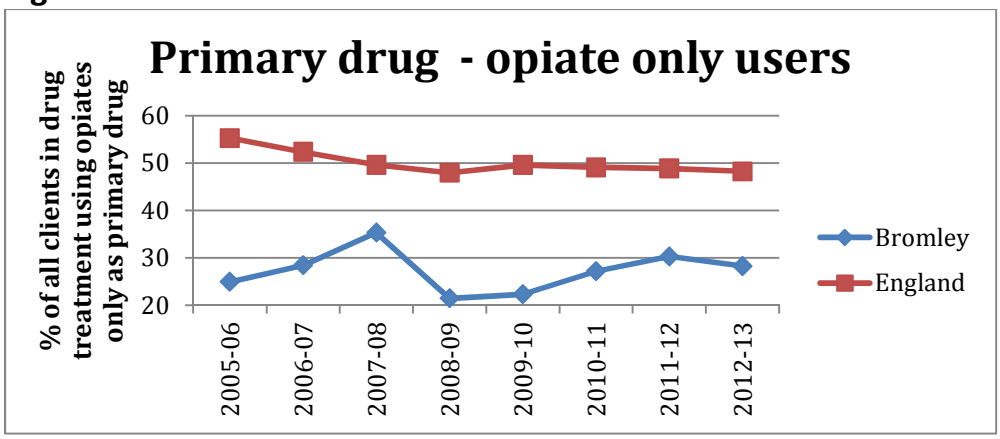


Figure 9b

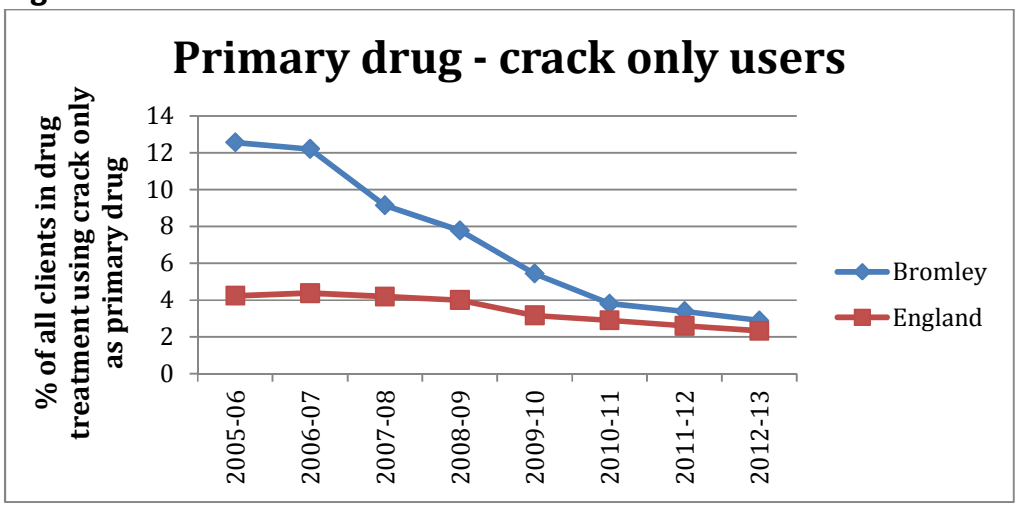
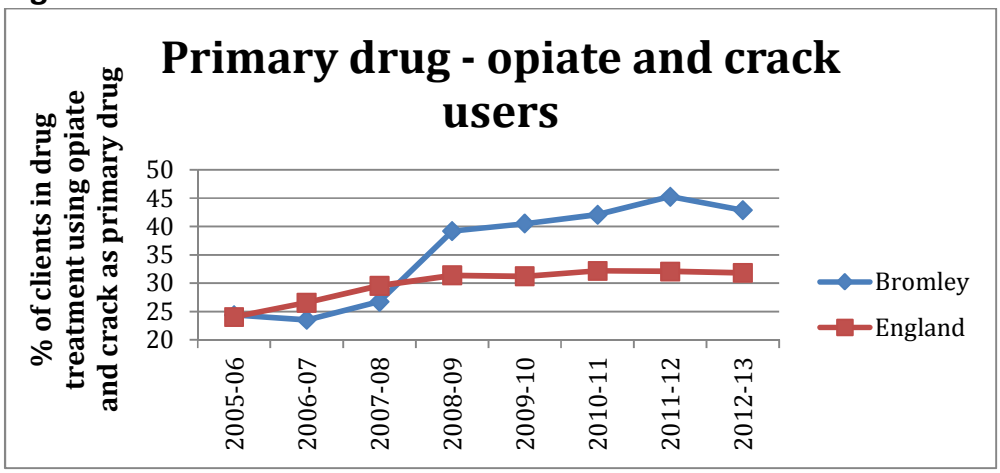


Figure 9c



3. IMPACT ON HEALTH AND WELL-BEING

While health problems and death are seen in users of all classes of drugs, the most harmful effects of drug misuse are seen among opioid users. These include increased risk of death from overdose, increased risk of infection with blood-borne viruses (HIV, hepatitis B and hepatitis C), high levels of depression and anxiety disorders, social problems such as disrupted parenting, unemployment and homelessness, and increased participation in the crime required to fund the habit.

Death

Drug use and drug dependence are known causes of premature mortality, with drug poisoning accounting for nearly one in seven deaths amongst people in their 20s and 30s in 2013[11].

Mortality data are currently presented for two distinct groups, those where the underlying cause is

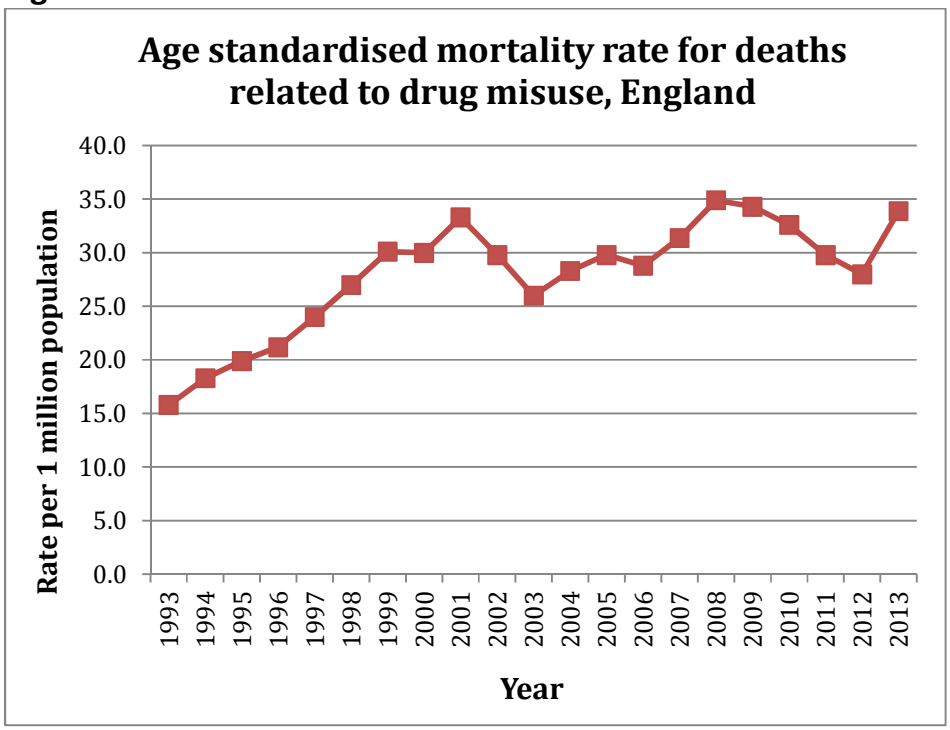
- drug abuse/dependence on an illegal drug, and
- drug poisoning involving a controlled drug (legal or illegal).

[11] Office for National Statistics. Deaths related to drug poisoning in England and Wales, 2013.

Deaths from opioids may be counted in either group, depending on whether death was due to a drug-related condition or whether it was due to overdose or poisoning. The second category includes many other drugs, including those that are prescribed, such as Tramadol and anti-depressants.

Age-standardised death rates for drug misuse (as opposed to poisoning), have increased since 1993, with peaks in 2001 and 2008, and another increase in 2013 (Fig 10).

Figure 10



Deaths due to drug poisoning have showed a similar trend, with a peak in 2009, a fall until 2012, and then a 19% increase in 2013. Of the 2,955 drug poisoning deaths (involving both legal and illegal drugs) registered in 2013 in England and Wales, over two thirds were in males, an increase of 23% from 2012. Female drug misuse deaths have increased steadily from 2009, and by 12%, from 459 in 2012

to 513 in 2013. In 2013, males aged 30 to 39 had the highest mortality rate from drug misuse, followed by males aged 40 to 49 years of age.

Heroin and morphine remain the substances most commonly involved in drug poisoning deaths. 765 deaths involved heroin or morphine in 2013; a sharp rise of 32% from 579 deaths in 2012. Deaths involving tramadol have continued to rise, with 220 deaths in 2013. This is almost 2.5 times the number seen in 2009 (87 deaths).

Deaths in Bromley

Between 2006 and 2013 there were 80 drug related deaths (43 male, and 37 female) in Bromley, 29 of which were due to accidental poisoning. The average age at the time of death was 48 years, ranging from 15 to 94 years old, and was 32 to 36 years less than the average life expectancy for men and women born in Bromley. As with the national picture, the number of deaths peaked between 2007 and 2009 where there were between 13 – 16 deaths for each of those years. The number of deaths has been lower in subsequent years; 6 in 2010, 9 in 2011, 8 in 2012 and 8 in 2013[12].

The highest number of drug related deaths between 2006 and 2013 have occurred in people residing in the following wards; Penge and Cator – 10, Bromley Town – 8, Cray Valley West – 8, Crystal Palace – 7, and Cray Valley – 6. All the other wards have had five or less deaths, and Darwin and Shortlands have not had any drug related deaths.

Local numbers are too small to analyse for trends in deaths from individual drugs.

In early 2014 the medical records of ten out of twelve patients who had died from drug related causes in the previous 12 months were examined[13]. It was found that half these patients had one or more significant medical conditions – asthma,

[12] Drug-related deaths. ONS. 2013.
[13] Dr Janice Lo. Drug and Alcohol related deaths 2014.

Chronic Obstructive Pulmonary Disease, ischaemic heart disease and alcohol-related problems, five had a history of depression, and only three had been in contact with services for their drug use.

Blood borne Infections

Injecting drug users are at great risk of blood borne infections, due to poor and non-sterile injecting techniques. The National Drug Treatment and Monitoring Service (NDTMS) recently reported that:

- **90% of cases of Hepatitis C diagnosed in the UK occurs as a result of injecting drugs.** Around 2 out of every five people who inject psychoactive drugs, such as heroin and mephedrone are living with hepatitis C; half of these infections are undiagnosed. About one in 30 of those who inject image and performance enhancing drugs, such as anabolic steroids, are living with hepatitis C.
- **Hepatitis B is now rare and vaccine uptake has improved.** Hepatitis B infection among people who inject psychoactive drugs has declined in recent years, probably reflecting the marked increase in the uptake of the hepatitis B vaccine. However, vaccine uptake levels have been stable in recent years, even though they could be increased further. Vaccine uptake is much lower among people who inject image and performance enhancing drugs.
- **HIV levels remain low and the uptake of care is good.** Around one in every 100 people who inject drugs is living with HIV. The level of HIV infection among those injecting image and performance enhancing drugs is similar to that among those injecting psychoactive drugs, and the uptake of HIV related care, including anti-retroviral therapy, is high.
- **Injecting risk behaviours have declined but remain a problem.** Reported needle and syringe sharing has halved over the last 10 years, but around one in seven people injecting psychoactive drugs share needles and syringes and almost one in three had injected with a used needle that they had attempted to clean.

- **Bacterial infections remain a major problem.** A quarter of people who inject psychoactive drugs report a recent symptom of an injecting site bacterial infection. One in six of those injecting image and performance enhancing drugs report having had a symptom of an injecting site bacterial infection.
- **Changing patterns of psychoactive drug injection are a cause for concern.** There has been a recent increase in the injection of amphetamines and amphetamine-type drugs, such as mephedrone. The injection of these drugs has been associated with higher levels of infection risk. Although the injection of these drugs is much less common than the injection of opiates, crack-cocaine, or image and performance enhancing drugs, this increase is a concern.
- **Provision of effective interventions needs to be maintained**. The provision of effective interventions, such as needle and syringe programmes, opioid substitution treatment and other drug treatment, which act to reduce risk and prevent infections, needs to be maintained. These interventions need to be responsive to any changes in patterns of drug use. Vaccinations and diagnostic tests for infections should continue to be routinely offered to people who inject drugs and treatment made available to those testing positive[14].

Due to this risk of blood borne infection, injecting drug users accessing treatment for substance misuse are tested for Hepatitis B and C and, if appropriate, vaccinated.

In 2012/13, 34% of eligible new presenters to drug services in Bromley accepted Hepatitis B vaccinations, compared with the national average of 47%. During the same period, 91% of previously or currently injecting clients in treatment in Bromley received a Hepatitis C test, as compared with the national average of 72.5%.

[14] Shooting up: Infections among people who inject drugs in the United Kingdom 2013. An update; November 2014. Public Health England.

Mental health problems

Psychiatric comorbidity is common in drug misuse populations, with anxiety and depression generally common, and antisocial and other personality disorders more prevalent than in the non-user population[15]. Psychiatric problems may both be caused by drug misuse, and be a risk factor for it. The national US Epidemiological Catchment Area study of the prevalence of mental health disorders reported a lifetime prevalence rate of substance misuse (drugs and alcohol) among people with schizophrenia and bipolar disorder of 47% and 60% respectively, compared with 16% in the general population. Around one in five of the people in the same sample had previously received treatment for a psychiatric health problem other than substance misuse. Drug misuse disorders complicated by other comorbid mental disorders have been recognised as having a poorer prognosis and being more difficult to treat than those without comorbid disorders[16].

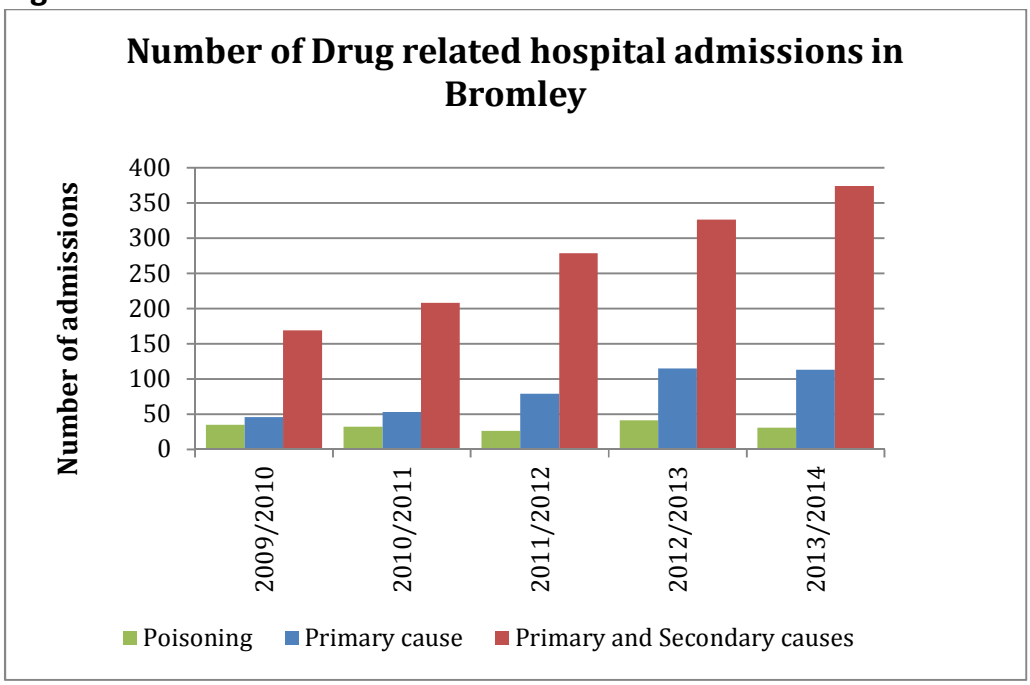
Hospital admissions

In 2013/14 there were 518 drug-related admissions in Bromley. These include admissions where drug use was the primary or secondary cause of admission, as well as where admission was due to drug poisoning. While the numbers of admissions due to poisoning have remained fairly constant, and relatively low, over the last five years (Fig 11), the numbers of drug-related admissions where drug use is the primary or secondary cause have steadily increased. For example, there were 169 admissions where drug use was the primary or secondary cause in 2009, and 374 admissions for the same reasons in 2013, more than double.

[15] Crome I. B. (2006) An epidemiological perspective of psychiatric comorbidity and substance misuse: The UK experience/example, in Baldacchino, A.and Corkery, J. (Eds.) Comorbidity: Perspectives Across Europe (ECCAS Monograph No. 4) pp.45–60.

[16] Marsden, J., Gossop, M., Stewart, D., et al. (2000) Psychiatric symptoms among clients seeking treatment for drug dependence. Intake data from the National Treatment Outcome Research Study. British Journal of Psychiatry, 176, 285–289.

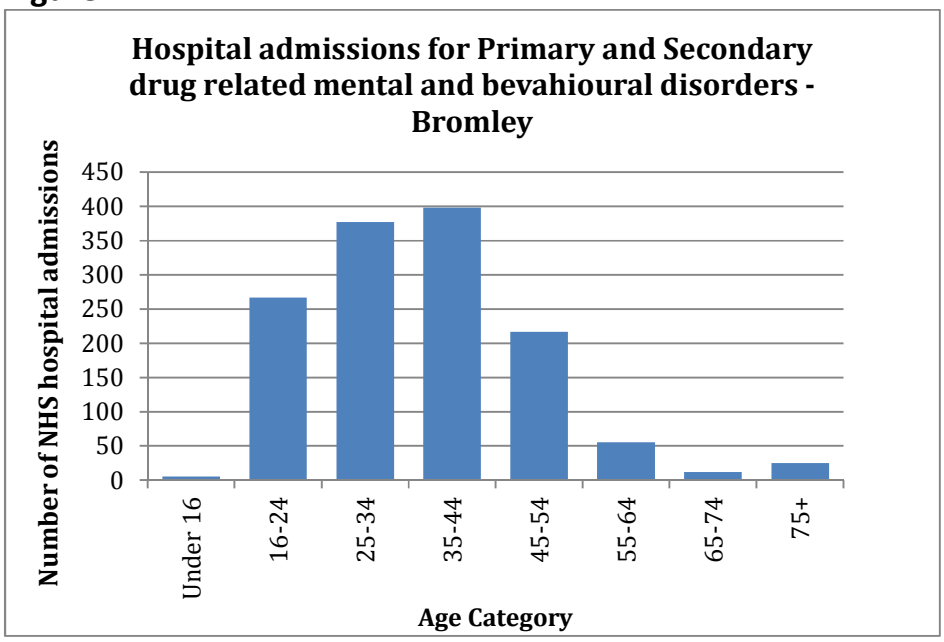
Figure 11



The age distribution of those admitted where drug use was a primary or secondary cause are shown in Fig 12. The majority are aged between 16-44 years old, with the peak in the 25-44 age group. Where drug use is the primary cause of admission, or where poisoning is the cause, the age distribution moves towards the younger age groups[17]. Where poisoning is the cause of admission, there are also greater numbers in the 65+ age groups, probably reflecting the increase in suicide attempts in older people.

[17] The Health and Social Care Information Centre, Lifestyle Statistics 2013

Figure 12



4. SOCIO-ECONOMIC IMPACT

Drug misuse carries a substantial economic burden. It is associated with high healthcare and social costs, mainly as a result of transmission of infectious disease, crime and violence[18]. It has been estimated that problematic drug use accounts for annual social costs in England and Wales of approximately £11,961 million, or £35,455 per user, per year[19]. By 2014 these costs could expect to have at least doubled. Chronic health problems comprise a significant element of the health and social care costs of drug misuse. It has been estimated that the prevalence of HIV among new injecting drug users in London is 4.2%[20]. These estimates yielded median annual costs to the NHS for the treatment for HIV infected drug users (asymptomatic, symptomatic and AIDS) of £12.5 million, £25 million and £24 million, respectively, totalling over £60 million.

[18] Petry, N. M., Tedford, J., Austin, M., et al. (2004) Prize reinforcement contingency management for treating cocaine users: how low can we go, and with whom? Addiction, 99, 349–360.
[19] Godfrey, C., Eaton, G., McDougall, C., et al. (2002) The Economic and Social Costs of Class A Drug Use in England and Wales. Home Office Research Study 249. London: Home Office.
[20] Drug misuse. The NICE guideline. No. 52. 2008.

Health services
Including primary care, emergency departments, inpatient care, community mental health, and inpatient mental healthcare, problem drug users are estimated to cost the health service between £283 million and £509 million per year. This estimate was in addition to psychosocial interventions, which at present cost £1,000 per user, per year[21].

Social services, housing and benefits
Lost productivity and unemployment increase with the severity and duration of drug misuse, and personal relationships are placed under considerable strain by dependent drug use. Problems with accommodation are also common in such groups. For example, prior to intake in the NTORS, 7% of the study group were homeless and living on the street, 5% were living in squats and 8% were living in temporary hostel accommodation.

Children and families
Drug misuse may also have a negative impact on children and families. In the UK it is estimated that 2–3% of all children under the age of 16 years have parents with drug problems. While use of opioids does not necessarily impact on parenting capacity, registration on UK child protection registers for neglect has been correlated strongly with parental heroin use, and parental problem drug use has been shown to be one of the commonest reasons for children being received into the care system (NICE guideline No.52).

Crime
It is well known that drug dependence is associated with a high incidence of criminal activity and it has been estimated that 40% of all acquisitive crime is drug-related. Godfrey and colleagues (2002) estimated that the criminal justice system and crime victim costs were £2,366 million and £10,556 million respectively. Criminal justice costs include costs associated with drug arrests for acquisitive crimes, stays in police custody, appearances in court, and stays in prison; crime victim costs refer to material or physical damage, crime victims' loss and expenditures taken in anticipation of crime.

[21] Godfrey, C., Eaton, G., McDougall, C., et al. (2002) The Economic and Social Costs of Class A Drug Use in England and Wales. Home Office Research Study 249. London: Home Office.

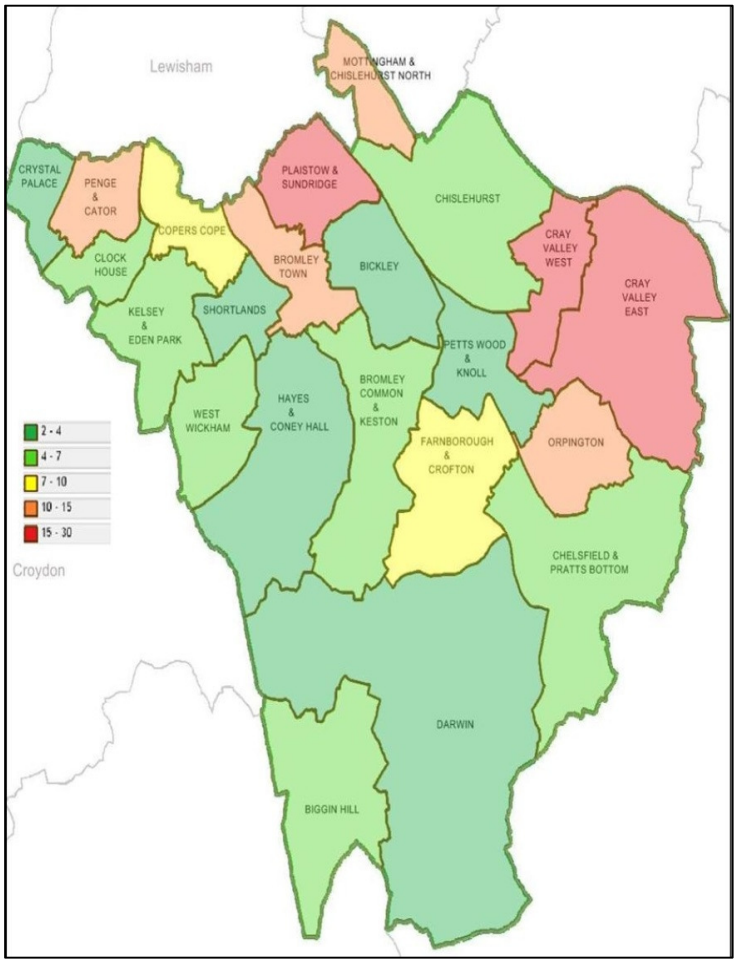
Among users in treatment, more than 17,000 offences were reported by an NTORS cohort of 753 participants in a 90-day period before entering treatment[22], with 10% of participants accounting for 76% of the crimes. Illicit drug use is also much more common among known offenders in the UK than among cohorts of comparable age drawn from the general population. In a sample of 1,435 arrestees drug-tested and interviewed, 24% tested positive for opioids. The average weekly expenditure on drugs (heroin and crack/cocaine) was £290, and the main sources of illegal income were theft, burglary, robbery, handling stolen goods and fraud. The NTORS also found 61% of a drug misuse treatment sample reported committing crimes other than drug possession in the 3 months prior to starting treatment, with the most commonly reported offence being shoplifting. In addition, there is a high prevalence of drug misuse among the prison population: in a 1997 survey between 41 and 54% of remand and sentenced prisoners were reported to be opioid, stimulant and/or cannabis dependent in the year prior to incarceration[23].

The above estimates did not consider the impact of current drug use on future healthcare demands, the lost output of the victim or perpetrator of crime, nor the intangible effects on the community at large, such as security expenditure, property depreciation or increased reliance on private transportation. It also does not include the cost of benefits to unemployed drug users, or the protection or care of their children. It is therefore evident that drug misuse places a considerable economic burden to the health service, local authorities and society as a whole.

In order to combat drug-related crime, by increasing opportunities for diverting drug misusing offenders out of crime and into treatment and reducing associated criminality, from January 2013, the Metropolitan Police Service extended drug testing across all 32 boroughs in London, including Bromley. Figure 13 shows the distribution of positive tests across Bromley in 2013-14.

[22] Gossop, M. & Strang J. (2000) Price, cost and value of opiate detoxification treatments-Reanalysis of data from two randomized trials. British Journal of Psychiatry, 177, 262–266.
[23] Drug Use: Opioid detoxification. NICE guideline No. 52. 2008

Figure 13: Distribution of Positive Drug Test, 2013/14



Source: Metropolitan Police Drug Intervention Program

A person testing positive for drugs on arrest is obliged to attend a drug assessment, regardless of whether convicted of the offence. Failure to attend is an offence which may result in arrest. These assessments can result in individuals being persuaded into drug treatment. Between January and June 2013 approximately 39% of people who tested positive were referred into treatment. The Police work closely with Arrest Referral workers, who are part of the Bromley drug and alcohol service.

5. THE TREATMENT AND MANAGEMENT OF DRUG MISUSE

The general principles of treatment are that no single treatment is appropriate for all individuals, treatments should be accessible and begin when and where the service user presents, and there should be the capacity to address multiple needs. It is also accepted that treatments will change over time. Research suggests that treatment does not need to be voluntary to be successful[24], and is ethical when given as an alternative to other penal sanctions.

The aims of treatment

The treatment of drug misuse aims to prevent or reduce harm resulting from the use of drugs and may be categorised into three broad approaches:

1. **Harm reduction** aims to prevent or reduce negative health or other consequences associated with drug misuse, whether to the drug-using individual or, more widely, to society. For example, needle and syringe exchange services aim to reduce transmission of blood-borne viruses through the promotion of safer drug injecting behavior.

2. **Maintenance-oriented treatments** aim to reduce an individual's level of drug use. In the UK this primarily consists of the prescription of opioid substitutes (methadone or buprenorphine) and aims to reduce or end illicit drug use, and so reduce the harms to self, transmission of viruses, criminal behaviour and other costs to society.

3. **Abstinence- oriented treatments** aim to reduce drug use, with the ultimate goal of abstinence. They may include a range of psychosocial interventions, detoxification and residential rehabilitation. Detoxification refers to the process by which the effects of opioid drugs are eliminated from dependent opioid users in a safe and effective manner, such that withdrawal symptoms are minimised (WHO, 2006). With opioids, this process may be carried out by using the same drug or another opioid in decreasing doses, and can be assisted by the prescription of adjunct medications to reduce withdrawal symptoms

[24] Belenko (n 2).; GAO (n 2).; Schaub, *et al* 2010 (n 2).; Marianne van Ooyen-Houben, 'Quasi-compulsory treatment in the Netherlands: promising theory, problems in practice' in Alex Stevens (ed), *Crossing Frontiers: International Developments in the Treatment of Drug Dependence*, Pavilion Publishing, 2008.

Much of the current publicly funded treatment of drug misuse focuses on the treatment of opioid misuse. Although opioid use is less common than use of cannabis, cocaine and ecstasy, it causes greater harm to the individual and to society. It is also perceived as more problematic by users, who are therefore more likely to present themselves to services. Only a minority of users entering treatment initially chooses abstinence and enforced abstinence appears ineffective. However, approximately one third entering treatment services generally are abstinent 5 years later (at least for a period of time) (Gossop *et al.*, 1998).

Most drug treatment is initiated as a result of drug users themselves seeking treatment. However, there has recently been an increase in forms of legally coerced treatment, whereby the user is coerced into treatment as an alternative or adjunct to criminal sanctions (Wild *et al.*, 2002). This may be legally ordered by the court or through referral away from the judicial process, usually following arrest and charge for drug-related and other offences.

Effectiveness of treatment

Reviewing the effectiveness of treatment is a complex task, as:

- There are a number of different treatment approaches in general use, all of which have been evaluated with different kinds of users and different kinds of drugs. The effectiveness of an approach with one type of drug user cannot be assumed to be effective with another kind.

- There are an ever-increasing and ever-changing number of drugs that are being misused, meaning that treatment approaches have to be adapted and re-evaluated on a regular basis. For example, needle and syringe schemes have almost entirely been evaluated among opioid injectors, whereas now there is a rapidly increasing population of users who inject steroids.

- Few treatments are given in isolation. Needle exchange programmes, for example, tend to provide psycho-social interventions, education and testing for viruses, as well as clean injecting equipment. Substitute prescribing is rarely, if ever, provided without other kinds of support, and is not as effective if it is given in isolation. There are therefore a large number of

possible combinations of treatment, all of which should ideally be evaluated for effectiveness.

- Follow up periods in studies vary, which makes it difficult to compare interventions and difficult to predict long term outcomes.

- Although there are many thousands of research papers, as a result of all the different permutations, nearly all of these studies have been conducted in countries other than the UK, most of these in the US. Any conclusions therefore have to be evaluated as to whether they are applicable to the UK, and UK cost-effectiveness analyses are necessarily based on modeling from findings in other countries

For the purposes of this report, therefore, a summary of the main sources of evidence is given for the effectiveness of the most commonly used single or combination treatment modalities on single groups of drugs, with an emphasis on opioids. Because there are so many individual papers, conducted in a variety of settings, most of the sources used are in the form of high quality literature reviews. More in-depth analysis of individual papers and combinations of treatments are available on request.

Points to consider when evaluating the evidence.

When evaluating the effectiveness of interventions to reduce harm, reduce intake or achieve abstinence among drug users, it is important to understand the nature of drug using and addiction. In particular it is important to realize that there are several distinct groups of drug users, and that users may or may not progress from one group to another.

Firstly there is the group of people that uses drugs but who never come into contact with services; as a result we know little about them, their patterns of use or the drugs they take. There are another group of users who do come into contact with services, who take drugs but are not dependent. They are more likely to be using cannabis, amphetamines and other stimulants than they are to be using opioids. These users tend to be easier to treat, and abstinence is a reasonable, and often-achieved, goal of treatment. Finally there are the dependent users. These are usually opioid users, and are both physically and psychologically dependent on drugs. They are more likely to inject the drugs they

use, and are therefore more exposed to injecting-related health problems; they are less likely to be able to hold down a job and therefore more likely to turn to crime and prostitution in order to fund their habit; and they are more likely to have problems in their close relationships and in child-rearing. It is this last group that are the hardest to treat, but in whom successful treatment will pay the greatest dividends, both to themselves, their families and society.

Drug dependency is a relapsing, life-long illness, characterized by periods of reduced intake or abstinence, relapses, progression, side effects and health co-morbidities. As such it may be compared with chronic illnesses such as Diabetes or Multiple Sclerosis, and in terms of mental illness it may be compared with chronic depression. As in other chronic conditions, anxiety and depression are common mental health co-morbidities among dependent drug users, making treatment more complex and difficult. Because of the chronic, relapsing nature of drug dependency, the effectiveness of treatment should be viewed in terms of its ability to reduce drug use and its associated harms, rather than cure. There is no cure for drug dependency.

Effectiveness of individual treatments

In trying to establish effectiveness of interventions, NICE used the PICO (patient, intervention, comparison and outcome) framework, see below. This structured approach divides each question into four components: the patients (the population under study), the interventions (what is being done), the comparisons (other main treatment options) and the outcomes (the measures of how effective the interventions have been).

Features of a well-formulated question on effectiveness of an intervention – the PICO guide

Patients/population Which patients or population of patients are we interested in? How can they be best described? Are there subgroups that need to be considered?

Intervention Which intervention, treatment or approach should be used?

Comparison Which intervention, treatment or approach should be used?

Outcome What is really important for the patient? Which outcomes should be considered: intermediate or short-term measures; mortality; morbidity and treatment complications; rates of relapse; late morbidity and readmission; return to work, physical and social functioning and other measures such as quality of life; general health status; costs.

In this review of the evidence, the following interventions are considered:

A. Needle and syringe programmes (NSPs)

B. Opioid substitution therapy (OST)

C. Pharmacological detoxification

D. Psycho-social interventions (brief and longer term)

E. Residential programmes

A. Needle and syringe programmes (NSPs)[25].

NSPs provide injecting drug users with clean injecting equipment, with the aim of reducing risky injecting practices and therefore infection with blood borne viruses – Hepatitis B, Hepatitis C and HIV. In addition, they usually provide brief psychological interventions, education and testing. As it is estimated that around 1/5 of all new HIV infections and the vast majority of Hepatitis C infections are the result of injecting drug use, needle exchange programmes are an important plank in harm reduction, not just for individual drug-users, but for the communities they live in.

NSPs have been deemed cost-effective by NICE, who recently updated their guidance to allow the service to be extended to under 18s, as a result of a rapid increase in the injection of steroids among young people. (Needle and Syringe Programmes. PH 52 NICE. 2014). The in-depth review of the evidence that was conducted by NICE in the course of producing this guidance found that there is evidence to suggest from:

- one good quality and five moderate quality systematic reviews and meta-analyses that participation in NSPs reduces injection risk behaviours among

[25] Needle and Syringe Programmes. NICE guidance PH52. 2009. Updated March 2014. References given in brackets in this section may be found in this document.

injecting drug users (IDUs), in particular self-reported sharing of needle and syringes, and frequency of injection (Tilson et al 2006; Gibson et al 2001; Cross et al 1998; Ksobiech 2003; Ksobiech 2006; Ritter & Cameron 2006).

- two good-quality systematic reviews (Wodak & Cooney 2004; Gibson et al 2001) to support the effectiveness of NSPs in reducing HIV infection among IDUs. However, findings from two other systematic reviews (Tilson et al 2006; Kall et al 2007), including one good quality review, suggest that the evidence may be less convincing.

- two good quality systematic reviews that access to sterile needles and syringes via pharmacies provides specific benefits in addition to those available through specialist NSPs (Wodak & Cooney 2004; Tilson et al 2006).

- one lower quality RCT to suggest that NSPs increase the likelihood that users will enter treatment.

- one moderate quality cohort study to suggest that the provision of NSP services may decrease attendance at emergency departments.

- one moderate quality cohort study and one poor quality cross-sectional study to suggest that IDUs who exclusively obtain their needles from NSPs are less likely to engage in high risk injection behaviours than those who obtain them via secondary distribution, eg via pharmacies. However, there is evidence from two poor quality cross-sectional studies to suggest that IDUs who obtain needles via secondary distribution engage in high risk injection behaviours less than IDU who do not obtain any needles, directly or indirectly, from NSPs.

- two studies that examined needle and syringe distribution delivered in parallel to, or alongside opioid substitution therapy. The first found that the combination of approaches resulted in a significant reduction in risky injecting behaviours, and the second found that it contributed substantially to the reduction of incidence of HIV and Hepatitis C.

- In terms of cost-effectiveness, two high quality reviews estimated that every HIV infection prevented through a needle exchange program saves over £200,000 (Wodak & Cooney 2004; Tilson et al 2006)

B. Opioid substitution therapy (OST)[26]

Opioid substation therapy is the process of replacing an illegal opioid, such as heroin, with a longer acting but less euphoric opioid, typically methadone or buprenorphine, taken under medical supervision. The principle behind OST is that it allows the user to achieve psycho-social and economic stability in their lives, while reducing the withdrawal symptoms and cravings that make it so difficult for them to maintain abstinence. Users do not experience a strong euphoric effect as a result of the treatment, so psychological need for the drug decreases. On average, 40-65% of patients maintain complete abstinence from illegal opioids while receiving OST, and 70-95% are able to reduce their use significantly. At the same time users reduced risk-taking (improper diluents, non-sterile injecting equipment), experienced improved mental health and relationships, and were less likely to be arrested or imprisoned for theft, dealing etc. It has also been shown that OST is associated with reduced transmission of blood borne viruses. A study found that approximately one third of those entering treatment services were abstinent 5 years later[27].

NICE recommends the use of OST in the treatment of opioid misuse, supervised for at least the first three months, alongside psychosocial support (NICE TA 114).

Treatment with OST tends to be long term, the average length of time under treatment being 4 years. The Home Secretary requested, in 2013, an analysis of the evidence regarding length of treatment, with a view to imposing a limit on length of treatment. This resulted in a report in June 2014, which advised against a blanket limit[28] (ACMD 2014). The reviewers found that continued OST resulted in long term stability in many drug users, maintaining abstinence from illicit drugs and reduction in morbidity and mortality. On the other hand they found strong

[26] Methadone and buprenorphine for the management of opioid dependence. Technology appraisal. Evidence review. NICE TA114. References given in brackets in this section may be found in this document.
[27] Gossop, M., Marsden, J., Stewart, D., et al. (2003) The National Treatment Outcome Research Study (NTORS): 4-5 year follow-up results. Addiction, 98, 291–303.

[28] Advisory Council on the Misuse of Drugs. Time limiting opioid substitution therapy. June 2014.

evidence to suggest that enforced detoxification from heroin or time limiting OST would lead to[29]:

- increased rates of relapse. While illicit drug use reduces significantly during OST, it doubles on cessation, and less than 3% maintain abstinence at 12 months. This is the case even if the user wishes to reach abstinence.
- Increased acquisitive crime, drug dealing, and user contact with the criminal justice system. Two recent analyses found that the rise in heroin use accounted for 40% of the rise in acquisitive crime in England and Wales from 1991 to its peak. Similarly, the provision of OST is thought to be associated with 25-33% of the fall in some types of acquisitive crime.
- Increased spread of blood-borne viruses. There is strong evidence that OST can prevent the spread of HIV infection and hepatitis.
- Increased rate of overdose deaths. There is strong research evidence that OST is protective against heroin overdose and that while the risk of heroin overdose death is reduced greatly during OST, it doubles following the conclusion of OST detoxification programmes.
- Increase in medico-legal challenges, arising from avoidable deaths and other unintended consequences of stopping treatment.
- Increased rate of other addictions. In the patients that do achieve lasting (longer than six months) abstinence from opioids, over 40% become addicted to alcohol and/or benzodiazepines, and a small percentage become addicted to other drugs.

C. Opioid detoxification[30]

Detoxification refers to the process by which the effects of opioid drugs are eliminated from dependent opioid users in a safe and effective manner, such that withdrawal symptoms are minimised. It is usually carried out using a substitute

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[29] Mattick et al.: National Evaluation of Pharmacotherapies for Opioid Dependence (NEPOD): Report of Results and Recommendation. Cochrane collaboration. Republished 2014. References given in brackets in this section may be found in this document.

[30] Opioid detoxification. NICE guideline CG52. 2007. The evidence base is detailed in the methods section of the guideline.

drug, such as methadone, but may also involve simply reducing the dose of the illicit drug over time, often together with the prescription of adjunct medications to reduce withdrawal symptoms. Opioid detoxification takes place in a variety of settings, including the community, inpatient units, residential units and prisons, and may take from one to six months. There are rapid methods of detoxification available (over 7-21 days), using a drug called Naltrexone, but there is controversy over the safety of this method and it is not used routinely in the UK.

Around 30,000 detoxifications are currently carried out each year in the UK, and the majority are in the community.

Most heroin users presenting for treatment (up to 81% according to the NTA Annual User Satisfaction Survey) wish to become drug free[31], so they frequently ask for detoxification. Abstinence, however, is often unrealistic due to factors that make abstinence unlikely to be possible for the individual at that time. These would include poly-substance use and social risk factors such as homelessness. The process of treatment planning is therefore often one of negotiation and education.

Most service users only start formal detoxification following a period of stabilisation on a substitute opioid (either methadone or buprenorphine). The stabilisation results in the cessation of illicit drug use, with the individual feeling comfortable on the dose of substitute opioids he or she is taking. This process can take months or even years to achieve and for many only happens after years of maintenance treatment.

The process of detoxification alone is not perceived as a solution for long-term abstinence, so should always be accompanied by psychosocial interventions, otherwise early relapse is likely. The research evidence for detoxification is therefore based around chemical detoxification in combination with one or more of these treatments.

[31] Best, D., Day, E. & Morgan, B. (2006b) Addiction Careers and the Natural History of Change. London: NTA.

Hartz and colleagues[32] examined the cost effectiveness of contingency management (CM)in a 180-day methadone detoxification study conducted in the US. People dependent on opioids (N=102) received either detoxification enhanced with contingency management or the same treatment without contingency management. All participants were stabilised to a daily dose of 80 mg of methadone for the first 4 months, followed by a 2-month taper. When methadone doses were fully stabilised, and before initiation of methadone tapering, those in the enhanced treatment were more likely to be drug-free than those in the control group. The incremental cost-effectiveness ratio (ICER) indicated that an additional 1% of participants were continuously substance-free during month 4 for every $17.27 treatment expenditure increase. There was also evidence that the enhanced treatment group used fewer health services than the control group.

Most studies were of the effectiveness of CM in combination with detoxification, but one looked at family/couples therapy[33], and another at social networks interventions[34]. Both studies found that participants who had the interventions were more likely to be abstinent than controls.

There have been some studies comparing inpatient or residential detoxification with community detoxification. However, these studies are often based on small sample sizes, have considerable methodological problems and have produced inconsistent results. Inpatient or residential detoxification requires significantly more resources than community detoxification, so it is important to assess whether treatment in such settings is more clinically and cost effective. If so, it is also important to understand if there are particular subgroups that are more likely to benefit from treatment in these settings

[32] Hartz, D., Meek, P., Piotrowski, N. A., et al. (1999) A cost-effectiveness and cost-benefit analysis of contingency contracting-enhanced methadone detoxification treatment. American Journal of Drug and Alcohol Abuse, 25, 207–218.
[33] Yandoli, D., Eisler, I., Robbins, C., et al. (2002) A comparative study of family therapy in the treatment of opiate users in a London drug clinic. Journal of Family Therapy, 24, 402–422.
[34] Galanter, M., Dermatis, H., Glickman, L., et al. (2004) Network therapy: decreased secondary opioid use during buprenorphine maintenance. Journal of Substance Abuse Treatment, 26, 313–318.

D. Psychosocial interventions[35]

Psychosocial interventions range from brief interventions and self-help, through community-based psychosocial programmes, to residential detoxification and rehabilitation.

Brief interventions typically consist of one or two 45 minute sessions. The approach is usually empathic and non-judgmental and can be done opportunistically with users who are not in formal drug treatment, as well as those who are. The main aim of the intervention is to enhance the possibility of change in terms of abstinence or the reduction of harmful behaviours associated with drug misuse. The principles of brief interventions include expressing empathy with the service user, not opposing resistance, and offering feedback with a focus on reducing ambivalence about drug misuse and possible treatment. A number of brief interventions are based on principles drawn from motivational interviewing.

A review of the literature on the benefit of brief interventions revealed that they work best for users who are not in formal treatment, particularly those using cannabis or stimulants, and to some extent those using opioids.

NICE conducted an extensive cost effectiveness review into brief interventions for cannabis use and found that brief interventions were more effective than self help leaflets alone, and that the more intensive the intervention, ie two sessions v one session, the more cost effective they were (Table 2). Results were similar for stimulant users. NICE guidance recommends that brief interventions, lasting 10-45 minutes, should be offered opportunistically to drug misusers, at needle exchange programmes, police stations, social services and so on.

Table 2 Effectiveness data utilised in the economic model for cannabis users

Data derived from the guideline meta-analysis		
A. Percentage of users abstinent at 3-month follow-up		
Intervention	*Mean*	*95% CI*

[35] Drug Misuse – psychosocial interventions. NICE guideline. CG51. 2007.

One-off brief intervention	16.67%	10.28% to 25.63%
Self-help booklet	5.43%	2.02% to 12.80%
RR	3.07	1.18 to 7.98 (fixed-effects model)
B. Percentage of users abstinent at 4-month follow-up		
Intervention	*Mean*	*95% CI*
Two sessions of brief intervention	19.21%	14.17% to 25.45%
Self-help booklet	5.56%	3.04% to 9.75%
RR	3.44	1.87 to 6.33 (fixed-effects model)

Source: NICE guideline CG52. Evidence base.

The incremental cost-effectiveness ratio (ICER) of a two-session brief intervention versus a one-off brief intervention was £4,365 per QALY gained. The ICER of a one-off brief intervention versus the provision of the self-help booklet was £3,059 per QALY gained. Both types of brief intervention were significantly more cost effective than the self- help booklet, and the two-session intervention was more cost effective than the one-off intervention, falling below the cost-effectiveness threshold of £20,000 per QALY as set by NICE.

Longer Psychosocial programmes in funded drug services are usually based on more than one model and may include cognitive-behavioural (for example, motivational interviewing and relapse prevention), humanistic and 12-step approaches.

The evidence base for the effectiveness of psychological interventions is extremely complex, as it encompasses several different treatments, in many different combinations, and for several different drugs. What is presented here is a sample of research evidence for the most common interventions for the most commonly used drugs used by those attending for treatment in Bromley.

The primary outcomes that are assessed in the review of evidence conducted by the expert panel at NICE were levels of drug use and abstinence. Both point abstinence (ie whether a user is abstinence at a particular point in time) and duration of abstinence were examined. Frequency of illicit drug use is also an

important measure because, although abstinence is the ideal goal, reducing drug misuse is often a more realistic way of reducing drug-related harm.

The main psychological interventions used to help drug users are:

Contingency management (CM), whereby users are given vouchers or clinic incentives (such as being allowed to take methadone home) for abstinence, as measured, usually, by drug testing.

A systematic review of 19 studies[36] with a total of 1,664 cocaine users, showed that contingency management (CM) - in combination with standard cognitive behavioral or other psychological interventions:
- increases cocaine abstinence
- improves treatment retention during and after group-based or individual psychological treatment
- is of benefit in trials of OST
- may act synergistically with OST.

In another review, seven RCTs were evaluated for the effectiveness of contingency management in achieving continuous abstinence in cocaine and heroin users over 3,6,9 and 12 weeks, and found that the average likelihood of abstinence at 12 weeks for those in contingency management was five times that in controls. The quality of evidence was good, and the strength high.

Olmstead and colleagues evaluated the cost effectiveness of a prize-based intervention (contingency management) as an addition to usual care for people who misuse cocaine. Participants randomised to the incentive group earned the chance to draw for prizes on submitting substance-negative samples; the number of draws earned increased with continued abstinence. The time frame of the study was 12 weeks. Participants assigned to prize-based contingency management (n _ 209) had significantly better outcomes than participants assigned to usual care alone (n _ 206), achieved significantly longer durations of continuous stimulant and alcohol abstinence (4.3 weeks versus 2.6) and submitted significantly more stimulant-negative urine samples.

[36] Efficacy of contingency management for cocaine dependence treatment: a review of the evidence. Schierenberg A[1], van Amsterdam J, van den Brink W, Goudriaan AE)

Sindelar and colleagues (2007) assessed the cost effectiveness of lower- versus higher-cost prize-based contingency management treatment for people who misuse cocaine, and found that the higher cost prize produced outcomes at a lower cost per unit compared with the lower cost prize.

The cost-effectiveness of contingency management in the UK was calculated by taking data from RCTs, which compared CM with standard care in cocaine users, and putting these into an economical model, based on the NHS. Following users at 3,6,9 and 12 weeks, and also 12 months, CM was found to be consistently more effective than standard care, achieving over four times the abstinence rates at 12 weeks, (23% v 5% respectively), and 50% higher abstinence rates at 12 months (50% v 35%).

NICE guidance recommends the use of contingency management for problem drug users.

Cognitive Behavioural therapy (CBT)[37]

CBT for drug use is based on supporting users to reduce or abstain from use via a cognitive model of drug misuse. CBT is also used to treat co-morbid mental health issues, such as anxiety and depression. In comparisons of brief interventions with longer interventions for people who misuse cannabis or amphetamines who were seeking drug treatment, individual relapse-prevention CBT, lasting between four and nine sessions, was associated with greater levels of abstinence and reductions in drug use for people who misuse cannabis, but no additional benefit for amphetamine misuse. Further research is required to assess the efficacy of brief interventions in comparison with individual and group relapse-prevention CBT, other interventions, and with people who misuse drugs other than cannabis.

NICE recommends the use of CBT for co-morbid depression and anxiety, and selectively for other clients.

Psychodynamic therapy

This kind of therapy was ineffective during treatment and at follow-up in significantly reducing cocaine use.

[37] Drug Misuse – psychosocial interventions. NICE guideline. CG51. 2007.

NICE does not recommend routine use of this kind of therapy, but that it should be considered as an option for certain clients.

Couples and family-based interventions

In these interventions, relationships are supported, and partners and family members are supported to support the user. Cost effectiveness of behavioural couples therapy was assessed in comparison with individual-based treatment in a US study (Fals-Stewart *et al.*, 1997). Males who misused substances were randomly assigned to one of the two treatments. Behavioural couples therapy was more cost effective than individual-based treatment; for each US$100 spent, behavioural couples therapy produced greater improvements on several indicators of treatment outcome (for example, days of abstinence and legal problems). Also, the groups differed significantly at follow-up in costs related to hospitalisation, criminal justice and total social costs, always in favour of behavioural couples therapy. Total cost savings were nearly US$5,000 per person receiving behavioural couples therapy compared with those receiving individual treatment.

Individuals with cocaine and/or opioid dependence and who are in close contact with a non-drug-misusing partner benefit from behavioural couples therapy both during treatment and at follow-up. NICE recommends that these users and their partners should be offered this kind of support.

12-step programmes

In addition to formal, structured treatment, there is a long tradition in North America and Europe of community-based, peer-led self-help groups for people with substance misuse problems. The most well-established of these deliver the principles of 12-steps, which has its origins in Alcoholics Anonymous (AA). Organisations especially relevant to people who misuse drugs are Narcotics Anonymous (NA) and Cocaine Anonymous (CA). AA was founded in the US in 1935 and in the UK in 1947. NA was founded in the US in 1953, and the first UK meeting was held in 1980. While it is clear that many people benefit from these programmes, if they attend voluntarily, coercive attendance does not appear to be effective.

NICE recommends that clients should be given information on Self help groups, and supported to attend.

E. Residential programmes[38]

Residential rehabilitation programmes usually include detoxification and have abstinence as their goal. They respond to the complex problems related to drug misuse by offering respite and highly structured and intensive programmes of support for residents to make fundamental changes to their lifestyles. Treatments can last from anything between 2–12 months.

Because residential treatment is so much more expensive than treatment in the community, it is legitimate to question its cost-effectiveness. There have been some studies comparing residential treatment with community-based treatment, but these studies are often based on small sample sizes, are of poor methodological quality and have produced inconsistent results.

There are several reasons why it has been difficult to evaluate residential services[39]:

1. The aims and duration of residential and community treatments for drug misuse are different. While the ultimate aim of both residential and community drug services is the same, sustained abstinence, many community programmes start by stabilising an individual's drug use, usually through methadone maintenance prescribing and basic education about harm reduction.

2. The interventions provided by community and residential programmes are different. Residential programmes provide a highly structured programme of intensive psychosocial support over a clearly defined period of time. Community services provide different types of interventions, at different intensities and for different durations.

3. The characteristics of clients entering community services are often quite different than those entering residential services. NTORS found that clients

[38] Drug Misuse – psychosocial interventions. NICE guideline. CG51. 2007.

[39] Residential detoxification and rehabilitation services for drug users: A review. Effective interventions unit. Scotland. 2004. http://www.scotland.gov.uk/Publications/2004/11/20231/46404

entering residential services in England were older, had a longer history of drug use, were more likely to take stimulants and be heavy drinkers, and were more likely to be involved in crime.

In order to truly compare the effectiveness of community and residential services, individuals would need to be randomly allocated to both treatment modalities. It is questionable whether such a random allocation would be possible, or ethical.

What is known about residential programmes is:

- Completion rates are very high - around 75-80% - considerably higher than those for community detoxification programmes (20-53%).
- Detoxification programmes result in better long-term outcomes if they are followed up by some form of structured aftercare.
- The four main factors that impact on and influence the effectiveness of residential rehabilitation programmes are: time in treatment, retention, client characteristics and provision of aftercare.
- Residential rehabilitation programmes of at least three months duration are more effective than shorter programmes. Longer programmes may be appropriate for those with more severe problems.
- Residential rehabilitation programmes have high drop-out rates. Studies commonly show that about one-quarter of clients will leave within two weeks of entry.

NICE recommends that clients with significant social, mental or physical problems should be considered for residential rehabilitation.

Overall cost effectiveness of treatment.

Needle and syringe programmes, opioid substitution therapy, contingency management and psychological support have all been shown to be cost-effective (see relevant sections). Some of these have involved building economic models in which data from trials, or groups of trials, are applied in order to estimate costs and gains of treatment. For example, a cost-effectiveness analysis of treating Class A drug users in England and Wales[40] showed costs to the criminal justice system, depending on whether users are in treatment or not:

[40] Gossop, M., Marsden, J., Stewart, D., et al. (2000b) Reductions in acquisitive crime and drug use after treatment of addiction problems: 1-year follow up outcomes. Drug and Alcohol Dependence, 58, 165–172.

A. Drug users not in treatment
Criminal justice system cost£7,037 (£5,864–£10,556)
Victim costs of crime£30,827 (£25,691–£46,242)
TOTAL£37,864 (£31,555–£56,798)

B. Drug users in treatment for less than a year
Criminal justice system cost£8,397 (£6,997–£12,582)
Victim costs of crime £8,893 (£7,417–£13,357)
Total£17,290 (£14,414–£25,939)

(costs in brackets refer to lowest and highest estimates)

Implementing the evidence

The National Treatment Agency's treatment effectiveness strategy was launched in June 2005[41]. It incorporates mechanisms and initiatives to improve the effectiveness of drug treatment, in line with the Government's drug strategy objectives. The strategy identifies treatment engagement and delivery as areas where the quality of interventions could be improved.

ITEP (International Treatment Effectiveness Project) is proposed as one mechanism by which treatment quality may be both improved and measured. The project is a collaboration between the NTA, The Institute of Behavioural Research at the Texas Christian University (IBR at TCU) and a series of service providers in north-west England. ITEP builds on an internationally evaluated model of service improvement and adapts the model for use in England.

Drug service staff are trained to use ITEP, which is a mapping tool consisting of a number of elements – assessment of the client, selection and delivery of inteventions, and evaluation of outcome.

Treatment services in Bromley

Treatment services are delivered mainly by the Bromley Drug and Alcohol Service (BDAS), augmented by shared care with GPs and a service level agreement with

[41] NTA. Routes to recovery Part 2. The ITEP manual, delivering psychosocial interventions.

14 pharmacies who provide sterile injecting equipment and education.

Brief interventions
The first contact that drug users have with the service in Bromley consists of the elements of brief interventions that have been described in the literature. A triage assessment at BDAS is around 45 minutes, and consists of an assessment of drug usage, education and, if appropriate, blood testing. For some clients this is enough. Clients seen at the police station or in mental health services receive similar input. In addition, all clients attending the needle exchange service at BDAS have brief interventions, including the offer of Hep B and C testing, Hep B vaccination and HIV testing.

Longer psychological interventions
BDAS use a service model based on Foundations of Recovery (FoR), which has a 3 stepped approach, Change (eight sessions) (FoC), Growth 16 sessions (FoG) and Life 16 sessions (FoL). These are based on an integrative model but largely founded on CBT and motivational interviewing.

At triage, a comprehensive assessment is completed, using clinical tools such as Audit C, Clinical opiate withdrawal scales, urine screens, and ITEP-type mapping tools. Clients leave with a recovery plan and also an appointment to commence treatment within 3 working days.

BDAS provide both non-opiate and opiate pathways, health and wellbeing clinics, over the counter/prescribed medication and family and carer support services

Other, non-BDAS support, is available on the premises, such as SMART Recovery and a range of 12-step groups.

Who attends drug treatment services in Bromley?
While the numbers of people presenting at drug treatment services in Bromley has been falling in recent years, the proportion of these going on to be in effective treatment (in treatment for three months) has been rising, from 66% in 2006 to 89% in 2013 (Fig 14). The numbers of clients who successfully complete treatment (complete programme and are now drug free, or occasional non-opioid/non-crack

use) have also been rising, from 5% in 2006, to 19% in 2013 Fig 15). These data indicate that services have become more effective, both in engaging the clients who present, and treating them successfully. While the proportion in effective treatment in Bromley is a little lower than for England, successful completion rates are higher, suggesting that Bromley services are working effectively at the triage stage.

Figure 14

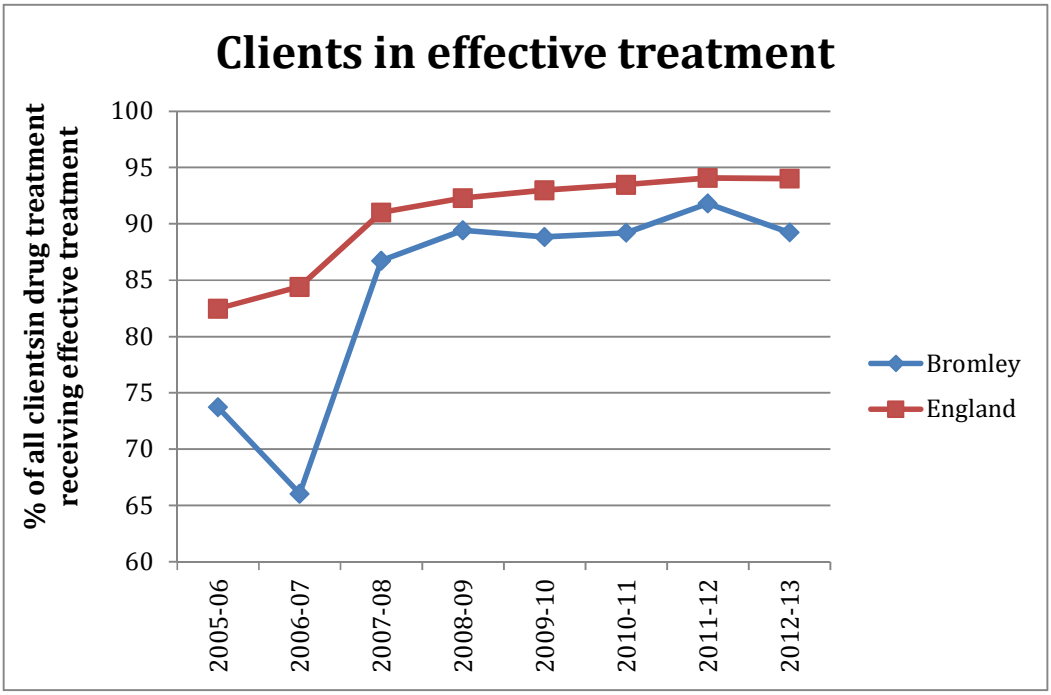


Figure 15

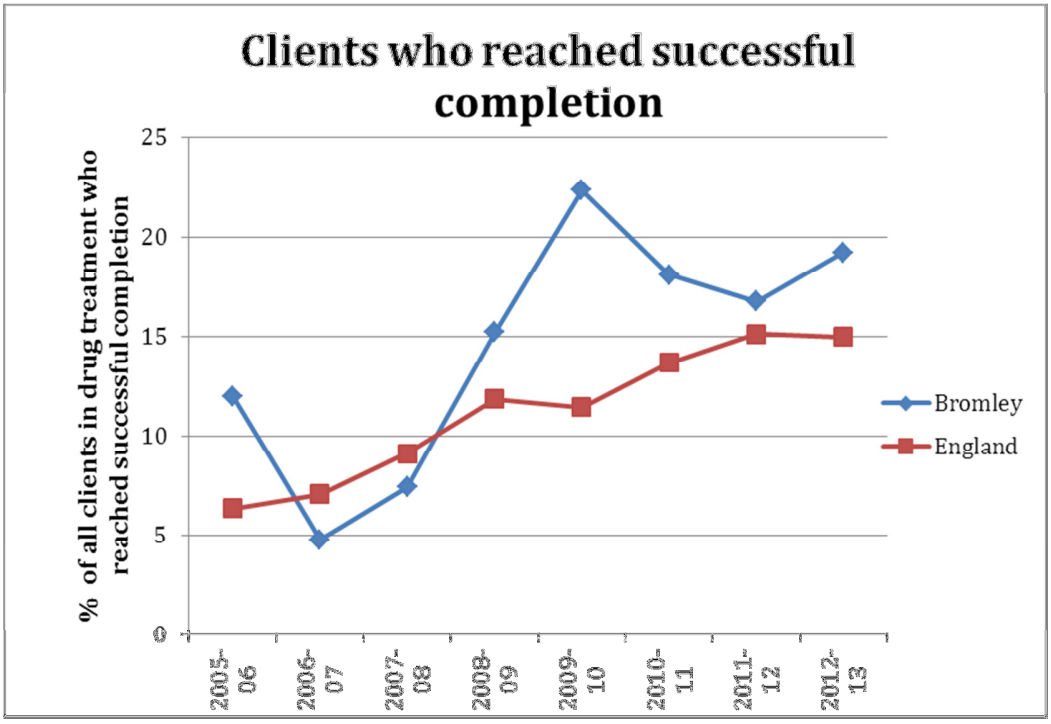

Clients who reached successful completion
% of all clients in drug treatment who reached successful completion
25
20
15
10
5
0
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Bromley
England

Fig 16, below, shows that relatively more young people successfully complete treatment than in the older age groups.

Figure 16

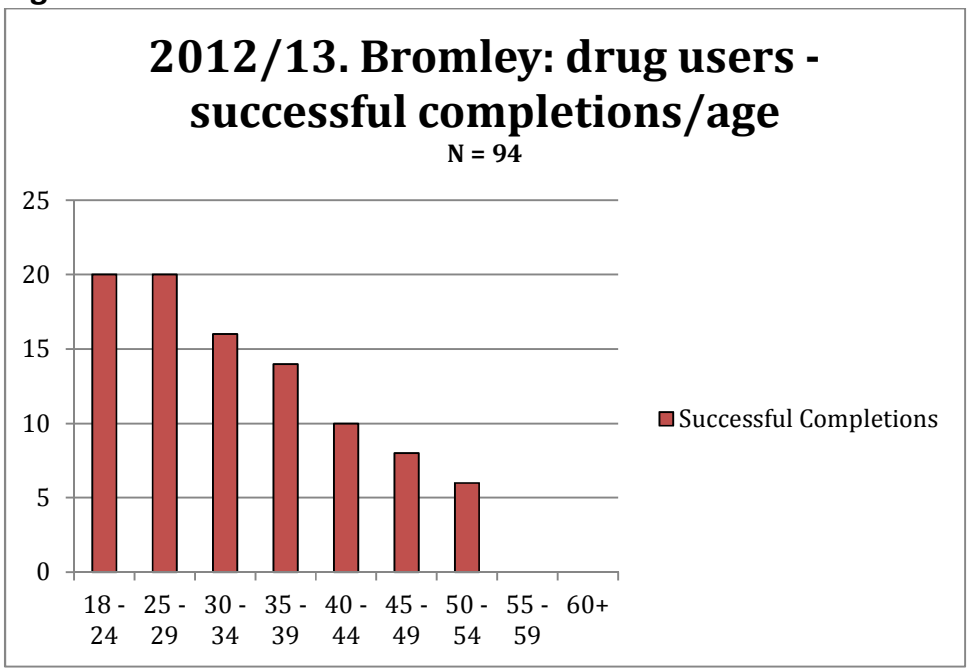
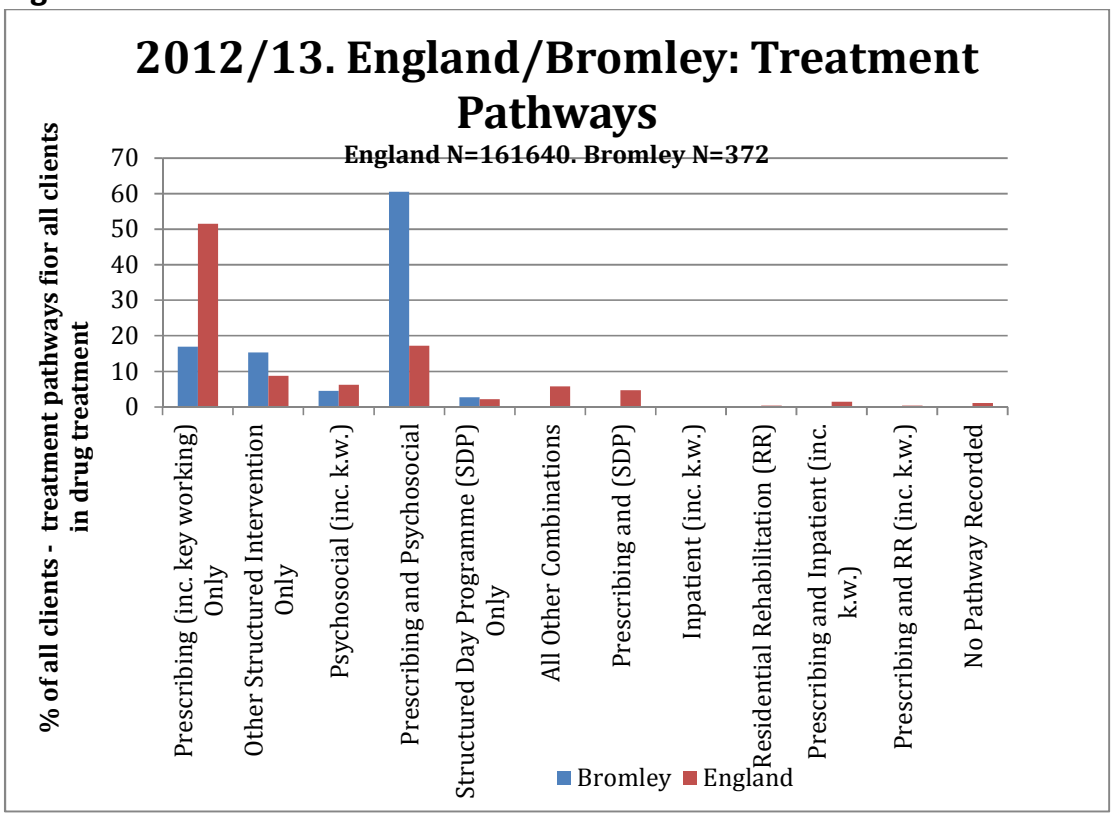


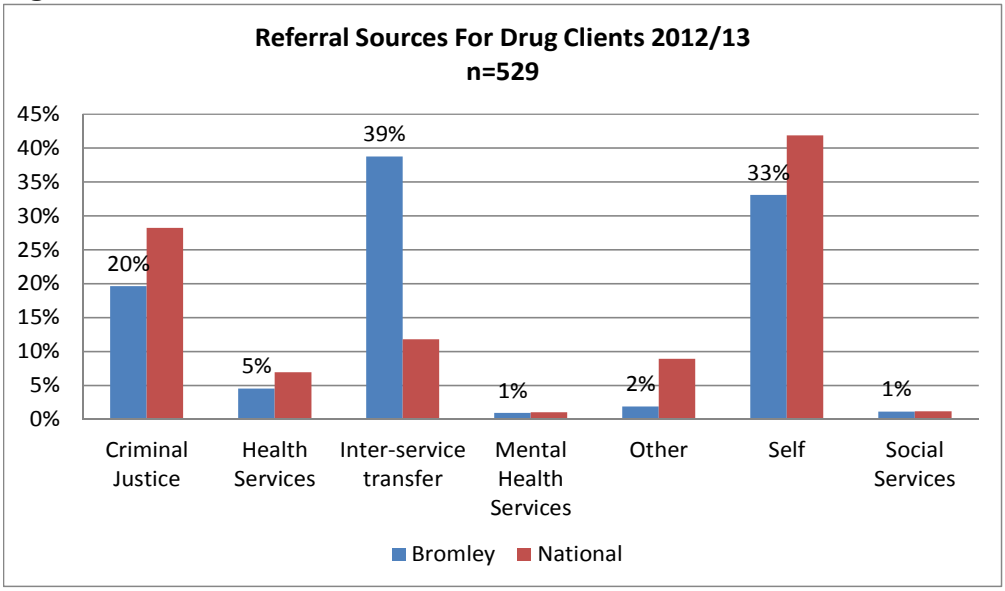
Fig 17 shows the numbers of people in Bromley and England receiving treatment via different available pathways. What is notable is that clients are more likely to receive psychological interventions in conjunction with substitute prescribing than in England as a whole. Bromley practice is in line with what is known about effectiveness, in that prescribing-only is much less effective in achieving sustained abstinence than when combined with psychological support.

Figure 17



In 2012-13, there were 529 treatment episodes in Bromley. The number of treatment episodes is usually slightly higher than the number of people receiving treatment, as a few people may have a break in treatment, or complete and then relapse, generating a second treatment episode. Substance misuse services treat users from a variety of referral sources, including the criminal justice system, GPs, A&E, schools and self-referrals. Referrals in Bromley from the criminal justice system (police, prison, probation) and self-referrals form a lower proportion of the total referrals than nationally (Fig 18). The demographic characteristics of people in treatment are covered earlier in the report.

Figure 18



Source*: *National Drug Treatment and Monitoring Service (NDTMS)

In recent years there has been a small reduction in the number of people in treatment, a fall from 555 people in treatment in 2011-12, to 520 in 2012-13. This reflects the national downward trend. There has been an overall increase in the proportion of opiate users successfully completing treatment (the definition of this is free of drug(s) of dependence who do not then re-present to treatment again within 6 months). See Table 3.

Table 3: Substance Misuse Related PHOF Indicators: proportion of users successfully completing treatment 2010-12

Indicator	Sex	Age	Time Period	Bromley	London	England
Successful completion of drug treatment - opiate users	Persons	18-75 yrs	2010	5.90	8.27	6.64
Successful completion of drug treatment - opiate users	Persons	18-75 yrs	2011	7.04	9.91	8.62
Successful completion of drug treatment - opiate users	Persons	18-75 yrs	2012	9.55	9.57	8.24
Successful completion of drug treatment - non-opiate users	Persons	18-75 yrs	2010	43.72	34.48	37.50
Successful completion of drug treatment - non-opiate users	Persons	18-75 yrs	2011	50.67	36.15	39.50
Successful completion of drug treatment - non-opiate users	Persons	18-75 yrs	2012	35.83	34.72	40.20

Source: Public Health Outcomes Framework* *http://www.phoutcomes.info/

However, there has been a reduction in the number of non-opiate users successfully completing treatment. Of the individuals completing their drug treatment 93% of individuals have no housing issues and 38% are in employment.

To continue to improve the number of individuals who complete treatment successfully the services are working to:

- identify why users are leaving treatment,
- managing users' anxiety about stopping substitute prescribing,
- further improving the treatment pathway and care coordination,
- increasing the number of satellite provision sessions,
- providing opportunities for non-opiate users to receive treatment separately from opiate users
- increasing the numbers accessing the service by producing information on services targeted to various locations such as A&E and GP surgeries.

APPENDIX 1: DEFINITIONS

Numbers in treatment (all clients): The client receives treatment in the relevant year and the client is over 18 by the age definition used throughout (see 'age').

Numbers in treatment (new presentations): The client has a new treatment journey starting in the relevant year and they are over 18 at the time of presentation to treatment. (Note that this does not always mean that the client is presenting to treatment for the first time *ever*, merely that they have commenced a new journey.)

Successful completions: The client exited the treatment system in a planned way at the end of their latest treatment journey in the relevant year and they were over 18 by the age definition used throughout (see 'age'). A successful completion is identified by the presence of the codes 'treatment completed drug free' and 'treatment completed – occasional user (not heroin or crack)' at this point.

Effective treatment: A client is deemed to be in effective treatment if they have been retained in treatment for 12 weeks and/or they successfully completed treatment within their latest treatment journey in the relevant year. The client must be over 18 by the age definition used throughout (see 'age').

Waiting times: A wait is defined as the time between the date the client was referred to receive a specified modality and the date of the first appointment they were offered to commence treatment. In each year, waiting times are reported only for the first modality received by the client in their latest treatment journey, where the modality commences in the year and the client was over 18 at the time of presentation.

Pathways: A pathway represents the combination of adult modalities received by a client as part of their latest treatment journey in the relevant year. A modality is counted towards a pathway if a modality start date is present. All modalities received by the person in the whole duration of the journey are included in the pathway, which may include modalities received outside of the stated year. If the modality is reported as 'other structured intervention' then this is labelled as keyworking, unless it is the only modality. Modalities specified as relating to alcohol and interventions for young people are not counted as part of pathways. The client must be over 18 by the age definition used throughout (see 'age').

Time in treatment: This is defined as the time from the earliest triage to the latest discharge in the client's latest treatment journey in the relevant year. If the client is still in treatment at the end of the relevant year, time in treatment is calculated from the earliest triage to the last date of that year. The client must be over 18 by the age definition used throughout (see 'age'). The data is reported in whole years, e.g. '1-2 years' means the client has been in treatment 'at least one year and less than two years'.

Age: A client's age is defined as their age at their first point of contact with treatment in the year within their latest treatment journey. This means that for new presentations (see 'Numbers in treatment – new presentations' for definition) age at the time of presentation is used, and for clients carried over from the previous year age at the beginning of the financial year is used. This age definition is used throughout the data on ViewIt.

Ethnicity: Ethnicity as defined by the client at their initial presentation to treatment is used. If there is contradictory information regarding ethnicity when the client presents to treatment then the client is reported under 'missing/unknown'. Standard level 1 classifications from the Office for National Statistics are used (see here).

Substances: Clients are initially grouped by substance on whether they cite problematic use of opiates and/or crack cocaine at any point in their latest treatment journey in the relevant year. If they cite both substances they are assigned to the 'opiates & crack' category and if they cite one of these they are classified accordingly ('opiates only' or 'crack only'). For clients who do not use opiates or crack cocaine, the primary drug at the start of the client's latest treatment journey in the year is used, and these cases are grouped into primary powder cocaine users, cannabis users and other users. Where the client's primary substance could not be established (either due to inconsistency of reporting or reporting as 'misuse free') the drug group is reported as 'unknown'.

Quality-adjusted life year (QALYS)

A measure of the state of health of a person or group in which the benefits, in terms of length of life, are adjusted to reflect the quality of life. One QALY is equal to 1 year of life in perfect health. QALYs are calculated by estimating the years of life remaining for a patient following a particular treatment or intervention and weighting each year with a quality of life score (on a zero to 1 scale). It is often measured in terms of the person's ability to perform the activities of daily life, freedom from pain and mental disturbance.)

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Alcohol

A Needs Assessment

Bromley

October 2014

Shannon Katiyo
Specialty Registrar in Public Health

Executive Summary

The Bromley Alcohol Health Needs assessment describes the current health needs of the local population that are due to the consumption of alcohol.

In 2013 the budget for drug and alcohol services transferred to the Director of Public Health meaning that Public Health responsibilities now include drug and alcohol misuse prevention and treatment for dependence. This needs assessment provides an opportunity for a public health needs led approach to commissioning of drug and alcohol services in order to address the needs of the whole population.

The analysis supporting this report defines the sub-groups for alcohol use in Bromley and assesses the level of alcohol use for each sub-group. A literature review was conducted to identify the latest evidence available on the harms of alcohol to health and how the effects might be distributed in the population.

A detailed analysis of local hospital admissions and mortality data was carried out to assess the levels of alcohol-related harm on the health of Bromley residents. This was supported by a qualitative analysis and views of service providers in describing the current provision of services and identifying any gaps in meeting population need.

The needs assessment found that Bromley residents generally drink no more than the rest of England but due to the difficulty of establishing individual levels of alcohol consumption, this is likely to be an underestimation. People now consume more alcohol at home than they did a decade ago and middle aged men in Bromley are more likely than women to be drinking at levels that are hazardous and harmful to health.

Men are disproportionately affected compared to women both in terms of ill-health and mortality as a result of their alcohol use, and the rates of alcohol-related hospital admission have been rising in recent years particularly for young people.

This report concludes that alcohol consumption makes a considerable contribution to ill-health across all ages in the borough and the impact is worst in men. The burden of ill-health due to alcohol is slowly rising as evidenced by increasing rates of hospital admissions, with young people of particular concern.

This report recommends improved collection of robust data from primary and secondary care in relation to alcohol consumption and how people are

followed up when they potentially have problems with alcohol. This will improve our understanding of the problem with alcohol in the borough and help determine how effective services are.

A preventive and whole population approach is required to address alcohol misuse and reduce aggregate levels of drinking across the population as a whole, thereby reducing overall levels of harm. This will require a strategic and coordinated approach across the borough Partnership.

Widespread delivery of Alcohol Identification and Brief Advice in a wide variety of settings by multi-disciplinary professionals should form part of any strategy to reduce levels of hazardous and harmful drinking across the population.

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Paula Morrison – London Borough of Bromley
Nada Lemic – London Borough of Bromley
Janice Lo – Public Health Registrar
Sam Thenabadu – Princess Royal University Hospital

List of Abbreviations

AA	Alcoholics Anonymous
ADH	Alcohol dehydrogenase enzyme
ALD	Alcoholic liver disease
ALDH	Aldehyde dehydrogenase enzyme
AUDIT	Alcohol Use Disorders Identification Test
BAC	Blood alcohol concentration
BDAS	Bromley Drug and Alcohol Service
BYPASS	Bromley Young Persons Alcohol and Substance Service
CRI	Crime Reduction Initiatives
CCG	Clinical Commissioning Group
CER	Cost effectiveness ratio
CI	Confidence Interval
CQUIN	Commissioning for Quality and Innovation
DALY	Disability adjusted life years
DES	Directly Enhanced Service
HIV/AIDS	Human Immuno-deficiency virus /Acquired Immuno-Deficiency Syndrome
IBA	Identification and Brief Advice
ICD	International Classification of Disease
NICE	National Institute for Health and Care Excellence
ONS	Office for National Statistics
QALY	Quality adjusted life year
RR	Relative Risk
TB	Tuberculosis
WHO	World Health Organisation

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1 Introduction and statement of the problem

National context

The average alcohol consumption per person in the United Kingdom has been on a long term rise since the post war years, peaking in 2005 before starting to fall again. Since 2005 consumption has continued on a downward trend[1] but despite this downward trend in consumption, the level of alcohol-related harms to health remains high.

Compared to 10 years ago, there was a 41% increase by 2013 in the number of hospital admissions across England where the primary reason for admission was related to alcohol.[2]

There were 6,490 alcohol-related deaths across England in 2012 which is a 19% increase from 2001 (5,476) but a 4% decrease from 2011 (6,771).[1]

Local context

The levels of alcohol consumption in Bromley are estimated to be similar to the rest of the nation. We don't know precisely how much people drink in Bromley because it is very difficult to measure and the nationally produced estimates are outdated. There is a concern that people may consciously or unconsciously underestimate how much alcohol they drink.

In Bromley there is an increasing rate of alcohol-related hospital admissions for both men and women, and an increasing mortality rate from liver disease for men in the five years leading up to 2013. The rate of hospital admissions with an alcohol-related cause for young people is above the regional average and is creeping up from a five year low, back in 2010/11.

In 2013 the budget for drug and alcohol services transferred to the Director of Public Health meaning that Public Health responsibilities now include drug and alcohol misuse prevention and treatment for dependence. This provides an opportunity for a public health led approach to commissioning of drug and alcohol services to try and meet the needs of the whole population at risk. This needs assessment provides a key step in understanding the level of local need across the whole population and current provision of services for alcohol misuse problems.

[1] Alcohol consumption factsheet. Institute of Alcohol Studies (2014).
[2] Statistics on Alcohol: England. Health and social Care Information Centre (2014).

1.1 Why is alcohol an issue?

Alcohol is an issue because its use is widely socially acceptable and yet it carries a significant burden of physical, mental and social problems.

Alcohol consumption is associated with chronic health problems such as liver disease and cancer, mental health problems and social problems including alcohol-related crime, family dysfunction and domestic violence. Alcohol kills more than three times the number of people dying in road accidents.

The NHS spends £3.5 billion each year on treating conditions related to alcohol misuse which equals £120 for every tax payer.[3] There were over a million hospital admissions related to alcohol use in 2012/13 and up to 20% of these were for mental and behavioural disorders. Some 183,810 items were prescribed for the treatment of alcohol dependency at the cost of £3.13 million.

1.2 Aims, objectives and methods

The aim of this needs assessment is to describe the health needs resulting from alcohol use in Bromley to inform public health commissioning.

The objectives

1. Establish the level of alcohol use in Bromley
2. Establish the impact of the identified level of alcohol use on health in Bromley
3. Assess the current provision of services available to address the need and identify any gaps in the services.

The methods

1. Define the sub-groups for alcohol use and assess the levels of alcohol use for each of the sub-groups in Bromley.
2. Conduct a literature review on the harmful impacts of alcohol applied to the Bromley population.
3. Assess the levels of alcohol-related harm to health in Bromley.
4. Match the levels of need to current provision of services for each sub-group.

[3] House of Commons Health Committee. Government's Alcohol Strategy. Third Report of Session 2012-13. Volume I: Report, together with formal minutes and oral and written evidence. (2012)

Population assessed

The population assessed by this needs assessment is the residents of Bromley aged 16 years or older. National estimates on alcohol consumption and ill health effects are more widely available for this population segment with very little information available on those below this age group. There are 252,114 residents in Bromley aged 16 years and older (ONS, Mid-year estimate 2012).

2 Definitions

2.1 Risky drinking behaviours

There are many terms currently in use for classifying different types of drinking behaviour. The main terms are used to classify drinking either in terms of the risk of harm, or the pattern of consumption. There is a further categorisation of people who drink at hazardous levels and have become dependent on alcohol.

The WHO[4] and NICE refer to sensible, hazardous and harmful levels of drinking.

- **Sensible drinking:**
  Those who are drinking within the recommended limits
- **Hazardous drinking:**
  A pattern of alcohol consumption that increases someone's risk of harm. Some would limit this definition to the physical or mental health consequences (as in harmful use). Others would include the social consequences.
- **Harmful drinking**
  A pattern of alcohol consumption that is causing mental or physical damage.

The Department of Health has recently introduced the terms 'lower risk', 'increasing risk' and 'higher risk' based on units of alcohol. This classification complements the medically defined terms hazardous and harmful. [5]

- **Lower-risk drinking:**
  Regularly consuming 21 units per week or less (adult men) or 14 units per week or less (adult women). It is also known as 'sensible' or 'responsible' drinking.
- **Increasing-risk drinking:**
  Regularly consuming over 50 alcohol units per week (adult men) or over 35 units per week (adult women).
- **Higher-risk drinking:**
  Regularly consuming over 50 alcohol units per week (adult men) or over 35 units per week (adult women).

[4] Thomas F. Babor and John C. Higgins-Biddle. Brief Intervention. For Hazardous and Harmful Drinking. A Manual for Use in Primary Care. WHO (2001).
[5] NICE guidelines [PH24] Alcohol-use disorders: preventing harmful drinking. (2010)

In NICE guidance[5], 'increasing risk' equates with 'hazardous drinking' and 'higher risk' equates with 'harmful drinking'.

Binge drinking
The definition of binge drinking used by the NHS and the Office for National Statistics (ONS) is drinking more than double the lower risk guidelines for alcohol in one session. Binge drinking for men, therefore, is drinking more than 8 units of alcohol – or about three pints of strong beer. For women, it's drinking more than 6 units of alcohol, equivalent to two large glasses of wine.[6]

Dependence
Drinkers can also be classified by their addiction to alcohol, known as dependence. Alcohol dependence is characterised by craving, tolerance, a preoccupation with alcohol and continued drinking despite harmful consequences (for example, liver disease or depression caused by drinking). Someone who is alcohol-dependent may persist in drinking, despite harmful consequences. They will also give alcohol a higher priority than other activities and obligations.

- **Mild dependence:**
  May crave an alcoholic drink when it is not available or find it difficult to stop drinking.

- **Moderate dependence:**
  Likely to have increased tolerance of alcohol, suffer withdrawal symptoms, and have lost some degree of control over their drinking.

- **Severe dependence:**
  May have withdrawal fits (delirium tremens: e.g. confusion or hallucinations usually starting between two or three days after the last drink); may drink to escape from or avoid these symptoms.

Abstainers are considered to be people who have reported not consuming alcohol in the previous 12 months. This may include people who have once been dependent on alcohol but are no longer consuming it.

An alcohol-attributable fraction is the proportion of a condition caused by alcohol. An alcohol-attributable fraction of 1.0 = 100% of cases are caused by alcohol. An alcohol-attributable fraction of 0.25 = 25% of cases are caused by alcohol. This is explained more in Appendix x[41]

[6] https://www.drinkaware.co.uk/understand-your-drinking/is-your-drinking-a-problem/binge-drinking last accessed 4 September 2014.

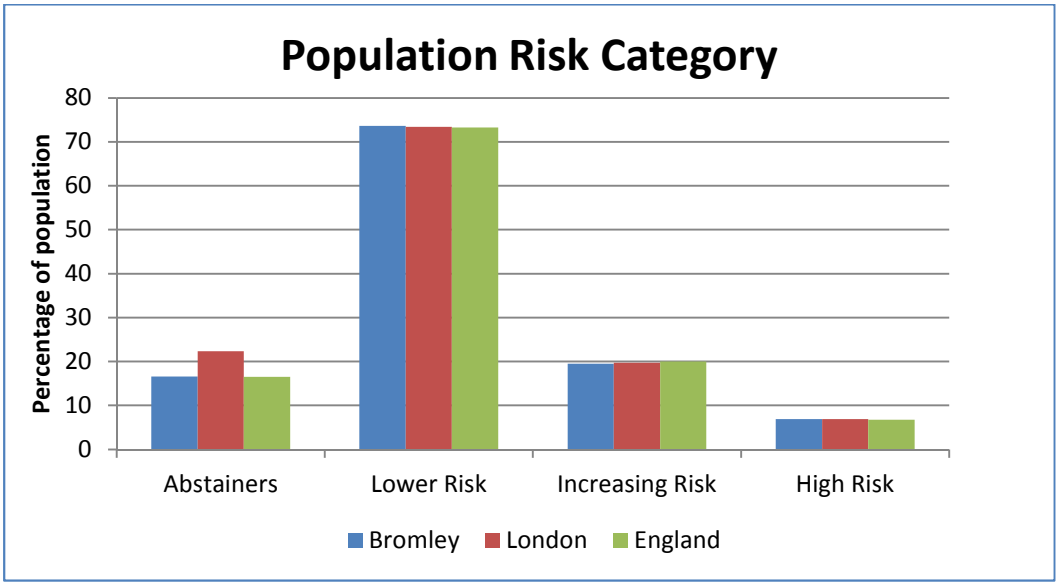
Alcohol-specific conditions include those conditions where alcohol is causally implicated in all cases of the condition; for example, alcohol-induced behavioural disorders and alcohol-related liver cirrhosis. The alcohol-attributable fraction is 1.0 because all cases (100%) are caused by alcohol.

Alcohol-related conditions include all alcohol-specific conditions, plus those where alcohol is causally implicated in some but not all cases of the outcome, for example hypertensive diseases, various cancers and falls. The attributable fractions for alcohol-related outcomes used here range from between 0 and less than 1.0.

3 Epidemiology of alcohol use in Bromley

People in Bromley are not thought to drink any more than the average for London or England. In 2012 an estimated 73.6% of all drinkers in Bromley were in the lower risk category and drinking within the recommended levels, compared to 73.4% for London. There were 19.5% of drinkers at increasing risk, and a further 6.9% at high risk, which was no different to the London average. Figure 3-1 shows the most recent estimates of people of people consuming alcohol locally and nationally.

Figure 3-1 Synthetic estimates of population at risk from alcohol – 2009*



Source: Local Alcohol Profile for England 2014 (dataset)

* Abstainers include people who may have had harmful or dependent drinking patterns in the past but may have stopped drinking since. They are not included in the estimation of lower risk drinkers.

The North West Public Health Observatory has used data from the general household survey in 2005 to estimate the levels at which people are drinking shown in table 3-1. These have been applied to the Bromley population shown in table 3-2.

With the exception of those who do not drink (labelled 'None') all the other groups are at increasing risk of alcohol-related harm. The risk increases with increasing levels of consumption. There are slightly lower limits of consumption for women and raised limits for men. Appendix 1 explains the methodology used whilst Appendix 2 shows the relative risks of harms associated which each category of alcohol consumption. The majority of the population drink at the lower levels.

- More men are drinking at hazardous and harmful levels than women at every age.
- The proportion of men drinking at harmful levels between the ages of 16 and 75 years is three to four times that for women.
- When the proportions are applied to Bromley, there are 22,164 men and 7,771 women who would be consuming 40g (5 units) of alcohol or more per day. That is around 30,000 people drinking alcohol at harmful or hazardous levels in Bromley.

Table 3-1 Age specific distribution of alcohol consumption (grams of alcohol per day) - % of population

ENGLAND										
		MALES (g/day)				FEMALES (g/day)				
Age	**None**	**01-19**	**20-39**	**40-74**	**75+**	**None**	**01-19**	**20-39**	**40-74**	**75+**
16 to 24	18.1%	43.5%	20.5%	9.9%	7.9%	23.8%	51.3%	16.2%	5.2%	3.5%
25 to 34	17.8%	42.0%	20.7%	13.2%	6.3%	23.9%	56.2%	13.7%	4.8%	1.4%
35 to 44	12.4%	45.6%	22.9%	14.7%	4.5%	23.1%	55.3%	15.1%	4.9%	1.5%
45 to 54	12.4%	42.7%	22.0%	14.5%	8.4%	25.5%	52.9%	14.3%	6.1%	1.2%
55 to 64	13.9%	44.8%	19.4%	16.0%	5.9%	30.3%	51.3%	12.2%	5.2%	1.1%
65 to 74	20.0%	49.2%	16.7%	9.9%	4.1%	43.5%	46.2%	7.8%	1.7%	0.9%
75+	28.5%	49.6%	12.9%	7.5%	1.5%	52.3%	41.4%	4.8%	1.2%	0.2%
16-75	**16.5%**	**45.0%**	**19.9%**	**12.9%**	**5.7%**	**30.2%**	**51.5%**	**12.5%**	**4.4%**	**1.4%**

Source: NWPHO from the General Household Survey 2005

Table 3-2 Age-specific distribution of alcohol consumption (grams of alcohol per day) - number of people

BROMLEY										
		MALES (g/day)				FEMALES (g/day)				
Age	**None**	**01-19**	**20-39**	**40-74**	**75+**	**None**	**01-19**	**20-39**	**40-74**	**75+**
16 to 24	2738	6581	3101	1498	1195	3656	7881	2489	799	538
25 to 34	3400	8022	3953	2521	1203	4942	11620	2833	992	289
35 to 44	2778	10217	5131	3294	1008	5616	13445	3671	1191	365
45 to 54	2795	9623	4958	3268	1893	6097	12649	3419	1459	287
55 to 64	2305	7430	3217	2653	978	5441	9212	2191	934	198
65 to 74	2567	6314	2143	1270	526	6414	6812	1150	251	133
75+	3014	5245	1364	793	159	8362	6619	767	192	32
16-75	**19662**	**53622**	**23713**	**15372**	**6792**	**40152**	**68471**	**16619**	**5850**	**1861**

Note: Based on table 3 in Attributable Fractions for England. The estimates from the national report were applied to the Bromley ONS 2012 Mid-Year Estimates

3.1 Alcohol consumption and Ethnicity

People from non-white ethnic backgrounds in the UK are less likely to drink alcohol and yet some minority ethnic groups are more likely to suffer from alcohol-related harm than the general population.

The proportion of people who don't drink at all (abstinence) is known to vary by ethnic group. In the United Kingdom, abstinence is highest amongst South Asians, particularly those from Pakistani, Bangladeshi and Muslim backgrounds. Abstinence is often influenced by religion which is closely associated with ethnicity.[7] In 2012 the proportion of people from a white ethnic background nationally who reported drinking in the last week was 62% compared to 27% all non-white ethnic.

3.2 Prevalence of binge drinking

There is no information available on the prevalence of binge drinking locally. It is known from national surveys that young people drink less frequently than older people but are more likely to exceed the recommended daily limits.

National

A national survey in 2012 showed that over one third (36%) of men aged 16-24 had drunk more than 4 Units on at least one day the previous week compared with 20% of men aged 65 and over. Among women, 37% of those aged 16-24 had exceeded 3 units on at least one day compared with only 11% of those aged 65 and over.[8]

One fifth (20%) of men drink more than 8 units on at least one day of the week and 13 % of women drink more than 6 units on at least one day of the week. The prevalence of binge drinking among young men and women has fallen since 1998. Figure 3-2 shows the national trend amongst 16-24 year olds.

[7] Drinking Habits Amongst Adults. Office for National Statistics (2012). http://www.ons.gov.uk/ons/dcp171778_338863.pdf last accessed 4 September 2014.
[8] Rachael Harker. Statistics on Alcohol. House of Commons Library. Social and General Statistics (2012).

Figure 3-2 Prevalence of binge drinking among 16-24 year olds: Great Britain 1998-2010

Source: Statistics on Alcohol. House of Commons Library.2012[8]

Local

Compared to the rest of England, Bromley has a lower percentage of the population aged 16+ years that binge drink.

Modelled estimates produced by the South East Public Health Observatory showed that between 2007-08 around 13.8% (95% CI 12.5 to 15.2) of adults aged 16+ years were binge drinking, compared to 20.1% (95% CI 19.4 – 20.8) for England.

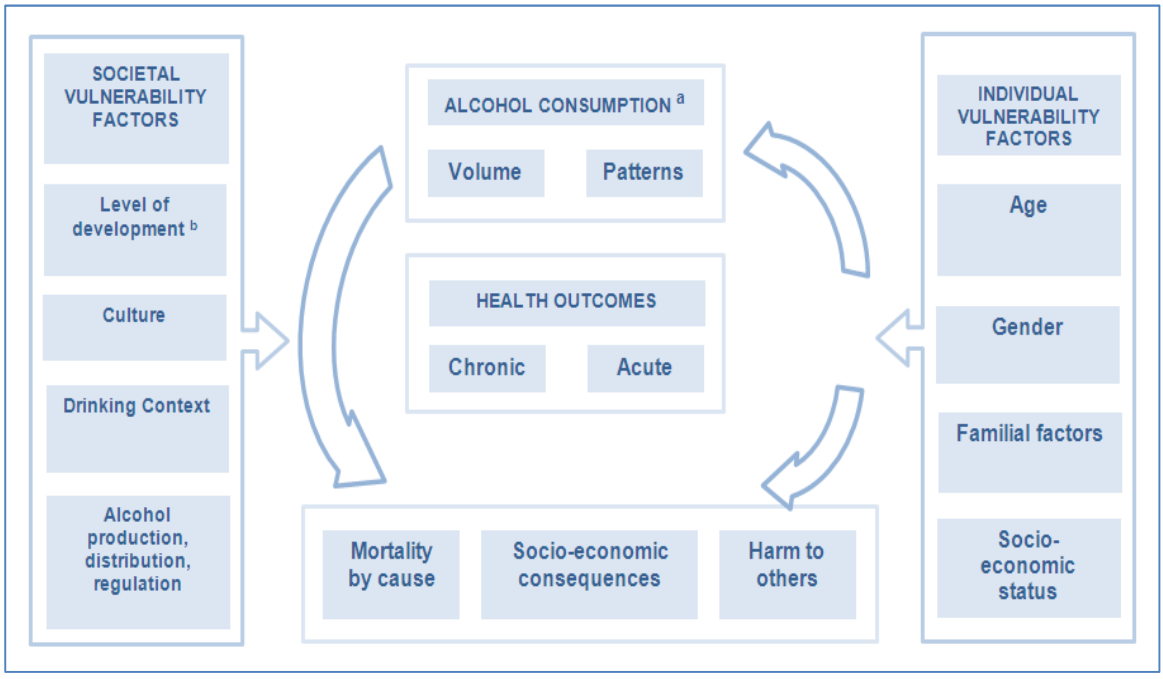
The local estimates are now outdated.

4 Literature Review: Impact of Alcohol on Health

Alcohol consumption, particularly heavy drinking, is an important risk factor for many health problems. Alcohol is an underlying cause for more than 30 conditions and a contributing factor to many more.[9] Alcoholism is also a disease in its own right.

The effects of alcohol on health are dependent on a variety of factors such as age and sex of the individual, as well as the quantity and pattern of consumption. The effects can be immediate or long term, also referred to as chronic or acute. Certain lifestyle choices such as physical activity and diet can have a protective effect against the harms of alcohol. The WHO has produced a conceptual causal model of alcohol consumption and health outcomes shown in Figure 4-1, to try and explain the factors contributing to alcohol harm.

Figure 4-1 Conceptual causal model of alcohol consumption and health harm[10]



[a]Quality of alcohol consumed can also be a factor
[b]Development of health and welfare system, and economy as a whole
Source: WHO Alcohol Fact Sheet - based on Rehm et. al 2010 and Blas et. al 2010.

There is evidence for a causal impact of the average volume of alcohol consumed for a number of major diseases. Dose-response relationships have

[9] Rehm, J. The Risks associated with Alcohol Use and Alcoholism. Alcohol Research and Health, Volume 34, Issue Number 2. http://pubs.niaaa.nih.gov/publications/arh342/135-143.htm. Last accessed on 12/08/14.
[10] WHO. Alcohol Factsheet. http://www.who.int/mediacentre/factsheets/fs349/en/ last accessed 29/08/14.

been quantified for most diseases with the relative risk of disease increasing as the level of alcohol consumption increases. Alcohol, even at low levels significantly increases the risk of cancers of the mouth, oesophagus (gullet) and larynx (upper airway).

Controversially, 'moderate' alcohol consumption has been shown to provide some protective health benefits irrespective of the type of alcoholic beverage consumed.[11] For example, a small dose of alcohol consumed reduces the risk of heart disease, although the exact size of the reduction in risk and the level of alcohol consumption at which the greatest reduction occurs are still debated.

Most of the reduction in risk can be achieved by an average of 10g of alcohol (one drink) every other day. Beyond 20g of alcohol (two drinks) a day - the level of alcohol consumption with the lowest risk - the risk of coronary heart disease increases. In very old age the reduction in risk is less. There is evidence that alcohol in low doses might reduce the risk of vascular-caused dementia, gallstones and diabetes, although these findings are not consistent across all studies.[12] At levels of alcohol consumption of more than 20-30 g a day, all individuals are likely to accumulate risk of harm.

The literature review considered those health impacts that carried the highest risk. A full table is available in Appendix 2 showing the relative risks for chronic conditions associated with different levels of alcohol consumption. Whilst alcohol has many effects on the body, the following health effects were considered due to the strength of their relationship with alcohol consumption or the burden of ill-health caused in the population:

- Pa

4.1 Disease of the Liver and Pancreas

Alcohol consumption has a significant effect on the liver and pancreas as evidenced by diseases such as alcoholic liver disease, alcoholic liver cirrhosis, and alcohol induced acute or chronic pancreatitis.

Pancreas
Pancreatitis is inflammation of the pancreas. Chronic pancreatitis leads to progressive and irreversible organ damage. The risk of pancreatitis is related in an exponential dose-response manner to the average volume of alcohol

[11] L M Hines, E B Rimm. Moderate alcohol consumption and coronary heart disease: a review. Postgrad Medical Journal 2001;77:747–752
[12] Peter Andersen and Ben Baumberg. Alcohol in Europe. A Public Health Perspective. Institute of Alcohol Studies, UK (2006).

consumed. Lower drinking categories do not show much difference and the threshold for any effect is around 4 drinks per day.[13] The reported relative risks for pancreatitis associated with alcohol intake of 25, 50, and 100 g/day of ethanol are;

- 1.3 (95% CI: 1.2–1.5), 1.8 (95% CI: 1.3–2.4), and 3.2 (95% CI: 1.8–5.6) respectively, compared to non-drinkers.

Liver

Alcoholic liver disease (ALD) encompasses a spectrum of injury, ranging from simple steatosis (fatty liver) to frank cirrhosis which is a result of long term scarring of the liver. The damage caused by cirrhosis cannot be reversed and if it becomes serious the liver can stop working.

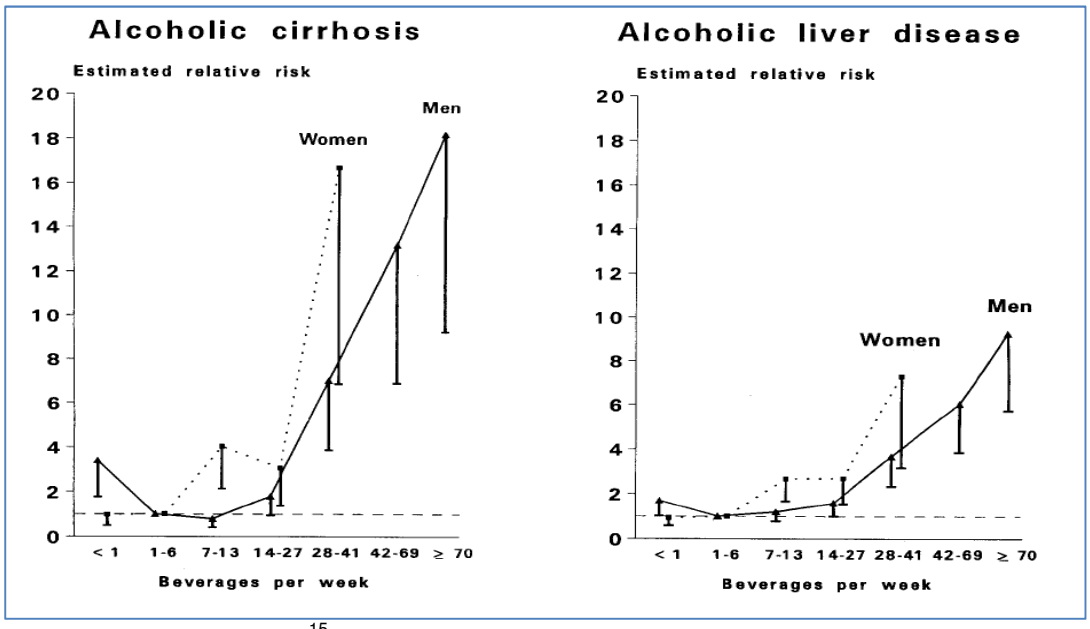
Fatty liver is the first stage of liver damage which almost all heavy drinkers will develop. Around 20-30% of heavy drinkers who continue to drink will develop alcoholic hepatitis where the liver becomes inflamed. About 10% of heavy drinkers will develop liver cirrhosis which is the third stage of liver damage. The stages of liver disease are not distinct and may be present simultaneously in an individual.[14] A subset of people with ALD will develop alcoholic hepatitis which has a substantially worse short term prognosis.

Periodic drinking of large quantities of alcohol carries a lower risk compared to continuous drinking for a longer period of time.[12] Evidence suggests that alcohol consumption is more strongly linked to cirrhosis mortality than to morbidity because drinking, especially heavy drinking has been shown to worsen existing liver disease considerably.[23] Figure 4-2 shows the relative risks for liver damage and associated alcohol consumption.

[13] Irving, H.M.; Samokhvalov, A.V.; and Rehm, J. Alcohol as a risk factor for pancreatitis. A systematic review and meta-analysis. Journal of the Pancreas 10(4):387–392, 2009

[14] O'Shea, R. S., Dasarathy, S., McCullough, A. J. and Practice Guideline Committee of the American Association for the Study of Liver Diseases and the Practice Parameters Committee of the American College of Gastroenterology (2010), Alcoholic liver disease. Hepatology, 51: 307–328

Figure 4-2 Relative risks for alcoholic liver cirrhosis and alcoholic liver disease



Source: Becker et al 1999[15]

4.2 Cardiovascular disease

Light to moderate alcohol consumption (a drink a day or less) is consistently associated with a 14-25% reduced risk for multiple cardiovascular outcomes in comparison to abstaining. However, consuming larger amounts of alcohol is associated with higher risks for stroke incidence and mortality.

The relationship between alcohol and cardiovascular disease is a complex one and there is still a lot of debate on the matter. For example, moderate consumption is linked with a lower risk of ischaemic stroke but a higher risk of haemorrhagic stroke.

Where protective effects have been reported, the size of the effect is very small and outweighs any benefit of supporting or promoting light to moderate alcohol consumption. For older adults the relative risks for coronary heart disease seem to converge towards 1.0 with increasing age and as such there is no evidence of a protective effect in men aged 75 years or older.

Dose-response analysis revealed that the lowest risk of coronary heart disease mortality occurred with 1–2 drinks a day, but for stroke mortality it

[15] Becker U1, Deis A, Sørensen TI, Grønbaek M, Borch-Johnsen K, Müller CF, Schnohr P, Jensen G. Prediction of risk of liver disease by alcohol intake, sex, and age: a prospective population study. Hepatology. 1996 May;23(5):1025-9.

occurred with ≤1 drink per day. The same study reported the following relative risks.[16]

- Cardiovascular disease mortality = 0.75 (95% CI 0.70 to 0.80)
- Incident coronary heart disease = 0.71 (95% CI 0.66 to 0.77)
- Coronary heart disease mortality = 0.75 (95% CI 0.68 to 0.81)
- Incident stroke = 0.98 (95% CI 0.91 to 1.06)
- Stroke mortality = 1.06 (95% CI 0.91 to 1.23)

Hypertension

Hypertension is a well-documented risk factor for cardiovascular disease, and drinking alcohol raises blood pressure in a dose response manner. Reducing alcohol consumption was found to be associated with significant reduction in mean systolic and diastolic blood pressures of - 3.31 mm Hg (95% CI -2.52 to -4.10 mm Hg) and -2.04 mm Hg (95% CI -1.49 to -2.58 mm Hg), respectively. The effects of reducing alcohol on blood pressure are more enhanced in people with higher baseline blood pressure for example heavy drinkers.[17]

Diabetes

Alcohol has a complex relationship with type 2 diabetes. The evidence suggests that moderate alcohol consumption of about two standard drinks per day is protective but the exact nature of the dose-response relationship remains unclear. [18]

- Compared with lifetime abstainers, the relative risk (RR) for type 2 diabetes among men was most protective when consuming 22 g/day alcohol (RR 0.87 [95% CI 0.76 –1.00]) and became deleterious at just over 60 g/day alcohol (1.01 [0.71–1.44]).
- Among women, consumption of 24 g/day alcohol was most protective (0.60 [0.52– 0.69]) and became deleterious at about 50 g/day alcohol (1.02 [0.83–1.26]).[19]

[16] Ronksley Paul E, Brien Susan E, Turner Barbara J, Mukamal Kenneth J, Ghali William A. Association of alcohol consumption with selected cardiovascular disease outcomes: a systematic review and meta-analysis BMJ 2011

[17] Xin X1, He J, Frontini MG, Ogden LG, Motsamai OI, Whelton PK. Effects of alcohol reduction on blood pressure: a meta-analysis of randomized controlled trials. Hypertension. 2001 Nov;38(5):1112-7

[18] Rehm J1, Baliunas D, Borges GL, Graham K, Irving H, Kehoe T, Parry CD, Patra J, Popova S, Poznyak V, Roerecke M, Room R, Samokhvalov AV, Taylor B. The relation between different dimensions of alcohol consumption and burden of disease: an overview. Addiction. 2010 May;105(5):817-43.

[19] Baliunas, D.O.; Taylor, B.J.; Irving, H.; et al. Alcohol as a risk factor for type 2 diabetes: A systematic review and meta-analysis. Diabetes Care 32:2123–2132, 2009.

4.3 Cancer

Alcoholic beverages are classified as carcinogens increasing the risk of cancer in a dose response relationship. Alcohol increases the risk of cancer of the mouth, oesophagus (gullet) and larynx (upper airway). To a lesser extent it also influences cancer of the stomach, colon and rectum in a linear relationship. A causal relationship has also been established.[12] Alcohol also increases the risk of liver cancer and female breast cancer. Around 3.6% of all cancers (5.2% in men, 1.7% in women) are attributable to alcohol.

There is a long lead time between drinking alcohol and developing cancer. The formation of cancer is reflected by the amount of drinking 15-20 years earlier. If people quit drinking, their relative risks compared to lifetime abstainers decreases slowly and only after 15-20 years is a level similar to lifetime abstainers reached.[20]

Cancer of the mouth, oesophagus, and larynx

Acetaldehyde, a toxic metabolite of alcohol is responsible for damaging DNA and is considered a major cause of the observed carcinogenic effect on the upper aero-digestive tract. The final product of alcohol digestion is acetate which is not toxic to the body.[21]

Even light drinking of up to 1 drink a day is associated with an increased risk of cancer;

- oropharyngeal cancer [relative risk, RR = 1.17; (95% CI 1.06–1.29)
- oesophageal squamous cell carcinoma (SCC) (RR = 1.30; (95% CI 1.09–1.56)

Furthermore people who abstain from alcohol have a much lower risk of developing some cancers, for example;

- The risk of developing laryngeal cancer is 47% (OR 0.53, 95% CI 0.37–0.75) lower for never drinkers than for current drinkers.

[20] Peter Anderson, Emanuele Scafato, and Lucia Galluzzo. Alcohol and older people from a public health perspective. Annali Dell'Istituto Superiore di Sanita, 2012, vol./is. 48/3(232-47), 0021-2571;0021-2571 (2012)

[21] Bagnardi V1, Rota M, Botteri E, Tramacere I, Islami F, Fedirko V, Scotti L, Jenab M, Turati F, Pasquali E, Pelucchi C, Bellocco R, Negri E, Corrao G, Rehm J, Boffetta P, La Vecchia C. Light alcohol drinking and cancer: a meta-analysis. Annals of Oncology. 2013 Feb;24(2):301-8

- The risk of developing pharyngeal cancer is 53% (OR 0.47; 95% CI 0.31– 0.70) lower for never drinkers compared with current drinkers.[22]

The impact of drinking on the increased risk of cancer is long lasting. For example, previous studies have reported that 16.5 (95% CI: 13–24) and 23 (95% CI: 14–70) years of abstention are required before the elevated risk of drinking disappears for oesophageal and liver cancer, respectively.[22]

Female breast cancer

Many studies have indicated a positive relation between alcohol consumption and the incidence of breast cancer. The risk exists even at light to moderate levels of drinking and increases with the level of alcohol consumption. Each additional 10g of alcohol per day (less than a standard drink in some countries) is associated with an increase of 7% in the RR of breast cancer or higher.[23]

It is thought that consumption of alcohol leads to increased levels of oestrogen or increased levels of plasma insulin-like growth factor (IGF) produced by the liver and this in turn affects cancer risk.

- Even light drinking of up to 1 drink a day is associated with an increased risk of female breast cancer (RR = 1.05; 95% CI 1.02–1.08)

4.4 Unintentional injuries

Alcohol use can cause many different types of injuries including road traffic accidents, occupational accidents, assaults and falls. The average volume of alcohol consumed and drinking pattern is causally linked to unintentional and intentional injuries.

The effect of alcohol on the brain means that it affects physical movement related to mental activities (psychomotor abilities). The level of blood alcohol concentration which can result in injury can typically be achieved by consuming two to three drinks within an hour.[9]

[22] Ahmad Kiadaliri A, Jarl J, Gavriilidis G, Gerdtham U-G (2013) Alcohol Drinking Cessation and the Risk of Laryngeal and Pharyngeal Cancers: A Systematic Review and Meta-Analysis. PLoS ONE 8(3).

[23] Rehm J, Baliunas D, Borges GL, Graham K, Irving H, Kehoe T, Parry CD, Patra J, Popova S, Poznyak V, Roerecke M, Room R, Samokhvalov AV, Taylor B. The relation between different dimensions of alcohol consumption and burden of disease: an overview. Addiction. 2010 May;105(5):817-43.

Alcohol causes injury in a dose response manner i.e. the risk of injury increases with increasing alcohol consumption. The most common way in which alcohol-related injuries occur is from a single episode of heavy drinking e.g.

- For motor vehicle accidents, the odds ratio increases by 1.24(95% CI: 1.118-1.31) per 10-gram of pure alcohol to 52.0 (95% CI: 34.50 – 78.28) at 120 grams
- For non-motor vehicle injury, the OR increases by 1.30 (95% CI: 1.26–1.34) to an OR of 24.2 at 140 grams (95% CI: 16.2 – 36.2)[24]

The relative risk of injury only expresses the risk associated with each drinking occasion but does not reveal the absolute risk of injury associated with regular drinking or a lifetime of drinking.[25]

4.5 Intentional injuries

Alcohol use is associated with intentional injuries and acute alcohol use is associated with suicide. There is a high rate of positive blood alcohol amongst people who successfully complete suicide and intoxicated people are more likely to attempt suicide using more lethal methods. Middle-age men and older men with alcohol dependence are at particularly high risk.[26] There is a clear link between alcohol consumption and aggression, including but not limited to homicides.[9]

4.6 Neuropsychiatric disorders

Depression and Anxiety

There is a linear relationship between alcohol consumption and symptoms of depression and anxiety, with increasing prevalence of symptoms with greater consumption.[27] Alcohol-dependent individuals demonstrate a two to three-fold increase in the risk of depressive disorders.

[24] Taylor, B.; Irving, H.M.; Kanteres, F.; et al. The more you drink, the harder you fall: A systematic review and meta-analysis of how acute alcohol consumption and injury or collision risk increase together. Drug and Alcohol Dependence 110(1–2):108–116, 2010.
[25] Taylor, B.; Rehm, J.; Room, R.; et al. Determination of lifetime injury mortality risk in Canada in 2002 by drinking amount per occasion and number of occasions. American Journal of Epidemiology 168(10):1119–1125, 2008.
[26] L.Sher. Alcohol consumption and suicide. Quarterly Journal of Medicine QJM. 99:57-61. 2006.
[27] Alati et al. 2005 as cited by Peter Andersen and Ben Baumberg. Alcohol in Europe. A Public Health Perspective. Institute of Alcohol Studies, UK (2006).

Alcohol consumption has by far the greatest impact on risk for alcohol dependence. However, alcohol has been associated with basically all mental health disorders although causality of these associations is not clear. Mental health disorders may either be caused by alcohol, or Alcohol Use Disorders (i.e. alcohol dependence, harmful and hazardous use of alcohol).[9]

Epilepsy and seizures

There is a strong and consistent association between alcohol consumption and epilepsy/unprovoked seizures particularly with heavy drinking (four or more drinks daily). A dose response relationship between the amount of alcohol consumed daily and the probability of onset of epilepsy has also been found. [28]

Alcohol dependence

Alcohol dependence occurs when people become addicted to alcohol physically and mentally. Sometimes it is called alcoholism. The risk of alcohol dependence increases with both the volume of alcohol consumption and a pattern of drinking larger amounts on an occasion. The NHS estimates that that 9.3% of men and 3.6% of women aged 16-74 years of age in England are dependent on alcohol.[9]

Higher rates of alcohol dependence have been reported in the younger population but the type of dependency is less severe than that seen in older people. [29] The peak age for first use of alcohol is estimated at 18 years of age and the peak for dependency at 21 years of age. Around 12-13% of alcohol users will become dependent within 10 years of their first use.[30] Addictive behaviour can still recur after many years of abstinence. [31]

4.7 The immune system and infectious diseases

Heavy alcohol use and alcohol use disorders are risk factors for an impaired immune system and may increase a person's susceptibility to infections such

[28] Samokhvalov, A.V.; Irving, H.; Mohapatra, S.; and Rehm, J. Alcohol consumption, unprovoked seizures and epilepsy: A systematic review and meta-analysis. Epilepsia 51(7):1177–1184, 2010.
[29] Farrell, M., Howes, S., Bebbington, P., Brugh, T., Jenkins, R., Lewis, G., Marsden, J., Taylor, C. and Meltzer, H. (2001). Nicotine, alcohol and drug dependence and psychiatric co-morbidity. British Journal of Psychiatry 179 432-437.
[30] Wagner, F.A., and Anthony, J.C. (2002). From first drug use to drug dependence: developmental periods of risk for dependence upon marijuana, cocaine and alcohol. Neuropsychopharmacology 26 479-488.
[31] Spanagel, R. and Heilig, M. (2005). Addiction and its brain science. Addiction 100 1813-1822.

as tuberculosis (TB), Human Immuno-deficiency virus /Acquired Immuno-Deficiency Syndrome (HIV/AIDS) and community acquired pneumonia.

The incidence and severity of infections such as TB amongst people consuming alcohol are greater than for abstainers.[32] One systematic review reported a pooled relative risk of 2.94 (95% CI: 1.89-4.59) for tuberculosis in people with a clinical diagnosis of alcohol use disorder.[33]

Alcohol consumption is strongly and consistently associated with the incidence of HIV/AIDS, and contributes to a worsened course of disease.[34] The association occurs through the direct effects of alcohol on the immune system but also through indirect effects relating to personality characteristics, situational factors responsible for risky drinking, and sexual behaviour.[9]

4.8 Health effects in older persons

In older adults, gastric and liver ADH (alcohol dehydrogenase) activity is significantly reduced, potentially increasing the amount of ethanol available to be absorbed with age. Compared with younger people, BACs (blood alcohol concentrations) are likely to reach a higher level at any given alcohol intake due to altered body composition and increased body fat in older people (age 65 years +).[12]

A systematic review of health related effects of alcohol use in older people was inconclusive about the association between increased alcohol use and falls or fall injuries.

A systematic review found that alcohol consumption appears to be protective for dementia and Alzheimer's disease but there was no evidence of a protective effect against vascular dementia or impaired cognitive function. Overall, there was no close agreement among studies as to the optimal level of consumption.

Older adults who drink alcohol and who take medications can be at risk for a variety of adverse consequences depending on the amount of alcohol and the type of medication they are taking.

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[32] Rehm et al. The association between alcohol use, alcohol use disorders and tuberculosis (TB). A systematic review. BMC Public Health, 9:450.(2009)

[33] Lönnroth K1, Williams BG, Stadlin S, Jaramillo E, Dye C. Alcohol use as a risk factor for tuberculosis - a systematic review. BMC Public Health. 2008 Aug 14;8:289.

[34] Shuper PA1, Neuman M, Kanteres F, Baliunas D, Joharchi N, Rehm J. Causal considerations on alcohol and HIV/AIDS--a systematic review. Alcohol. 2010 Mar-Apr;45(2):159-66.

Burden of disability and illness

The majority of DALYs (disability adjusted life years) attributable to alcohol fall into categories of neuropsychiatric disorders, unintentional and intentional injuries, cirrhosis of liver, cardiovascular diseases and cancers. The overall volume of consumption over time impacts on most disease categories, whereas irregular heavy drinking occasions in addition impact on injury and ischaemic conditions.

Main causes of mortality

The estimated top three causes of alcohol-related deaths amongst older people included liver diseases, malignant neoplasms (cancer) and cardiovascular disease – conditions for which there tend to be longer durations between consumption and outcome.

Hospital admissions

Amongst older people in the UK, estimated hospital admissions for wholly attributable alcohol-related conditions were quite low, compared with younger populations, whereas estimated admissions for partially attributable conditions were quite high. The estimated top three conditions amongst older people included mental and behavioural disorders due to alcohol, hypertensive disease, cardiac arrhythmias, and in the oldest age group, falls.

4.9 Health effects in younger people

The effects of alcohol on young people are different from adults because their bodies are still growing. Young people who drink alcohol are also more likely be engaged in risky behaviours including unsafe sex and antisocial behaviour.

Heavy drinking during adolescence may affect normal brain functioning during adulthood and young people who drink heavily may experience adverse effects on liver, bone, growth and endocrine development.

Alcohol-related diseases such as liver cirrhosis, cancers and heart disease take time to develop; so chronic effects resulting directly from alcohol misuse are rarely seen in among young people. The most common impacts of alcohol

intoxication in children are vomiting, and coma, which in cold environments can result in fatal hypothermia.[35]

There is a lack of evidence about the precise amounts of alcohol that lead to adverse consequences in young people. As such, the guidance by the Chief Medical Officer is clear that an alcohol-free childhood is the healthiest option.[36]

4.10 Binge drinking

Brief and intense exposure to alcohol such as episodic heavy drinking (or binge drinking) can result in acute consequences of alcohol such as intentional and unintentional injuries. Episodic heavy drinking is harmful and sometimes potentially life threatening.

The effects of drinking pattern on mortality and morbidity are less well known than the effects of total alcohol consumption,[37] in part because that the term 'binge' drinking is poorly defined.

The current definition of binge drinking i.e. more than 8 units on a single occasion for men or 6 units per occasion for women does not quantify the duration of the occasion, or the strength and size of the drink. There is general agreement however, that drinking to intoxication is a general feature of binge drinking.[38]

Binge drinking is of particular concern amongst young people and there is evidence that it is becoming more prevalent.

Health problems associated with binge drinking include;

- Cardiovascular problems such as atrial fibrillation "holiday heart"
- Increasing risk for development of alcohol dependence
- Increased risk for road traffic accidents, injuries, and violence

[35] Newbury-Birch, D., Gilvarry, E., McArdle, P. et al. (2008) Impact of Alcohol Consumption on Young People: A Systematic Review of Published Reviews. Department for Children, Schools and Families

[36] Guidance on the consumption of alcohol by children and young people. Chief Medical Officer (2009).

[37] Jussi Kauhanen, George A Kaplan, Debbie E Goldberg, Jukka T Salonen, Beer Binging and mortality: results from the Kuopio ischaemic heart disease risk factor study, a prospective population based study. BMJ 1997;315:846

[38] International Centre for Alcohol Policies (ICAP) Blue Book (2011)

4.11 Ethnicity and Alcohol

In addition to the differences in alcohol consumption, alcohol-related health outcomes also tend to vary by ethnicity. Studies have shown that people carrying certain alcohol-related genes are at significantly reduced risk of becoming alcoholics.

Genetic differences are responsible for variations in the enzymes that metabolise alcohol. There are several forms (variants) of the two enzymes - alcohol dehydrogenase ADH, and aldehyde dehydrogenase ALDH. The variants are unevenly distributed among the ethnic groups in the general population.

In reality, other factors, including liver size and differences in gene expression, can lead to differences even between individuals carrying the same alternatives of a gene (also called alleles).

Humans have seven different genes coding for alcohol dehydrogenase enzymes. They are ADH1A, ADH1B, ADH1C, ADH4, ADH5, ADH6, and ADH7. The variants of enzyme differ in the rate at which they can metabolise alcohol or acetaldehyde, and in the levels at which they are produced.

Examples of differences in the alleles and their effects

- The ADH1B*2 allele, which is associated with particularly rapid ethanol oxidation, has shown protective effects against alcohol dependence in a variety of populations. In East Asians, in whom the ADH1B*2 allele is found at high frequency, it is protective against alcoholism.
- In European or African populations, the ADH1B*2 allele is not very common but also provides protection against alcoholism
- Among people of Jewish descent, the ADH1B*2 allele is found at moderate frequencies and reduces binge drinking and risk for alcoholism
- The ADH1B*3 allele had a significant protective effect on risk for alcoholism in a set of African-American families selected for having multiple alcoholic members. The ADH1B*3 allele also had a protective effect among Southwest California Indians. The ADH1B*3 allele is associated with protection against foetal alcohol syndrome.
- The ADH1C*1 allele also appears to have protective effects against alcoholism in Asian populations; however, this protection can be attributed to the fact that this allele usually is co-inherited with the

protective ADH1B*2 allele and is not an independent effect of the ADH1C*1 allele.[39]

The way in which alcohol is metabolised in the body plays a key role in the risk of developing alcoholism or levels of alcohol consumed. Some ethnic groups may be at increased risk of alcohol dependency despite a reduced likelihood of drinking alcohol in the first place.[39]

These differences may explain why some ethnic groups are more at risk of alcohol-related harm. Irish, Scottish, and Indian men, and Irish, and Scottish women have on average, higher rates of alcohol-related deaths than nationally (England and Wales). Sikh men are overrepresented for liver cirrhosis and people from minority ethnic groups in the UK have similar levels of alcohol dependence compared to the general population, despite drinking less.[40]

[39] Edenberg H J. The genetics of alcohol metabolism: role of alcohol dehydrogenase and aldehyde dehydrogenase variants. Alcohol Research and Health; 30(1):5-13.(2007)
[40] Rachel Hurcombe, Mariana Bayley, Anthony Goodman. Ethnicity and alcohol: a review of the UK literature. Joseph Rowntree Foundation (2010).

5 Alcohol-related mortality

National

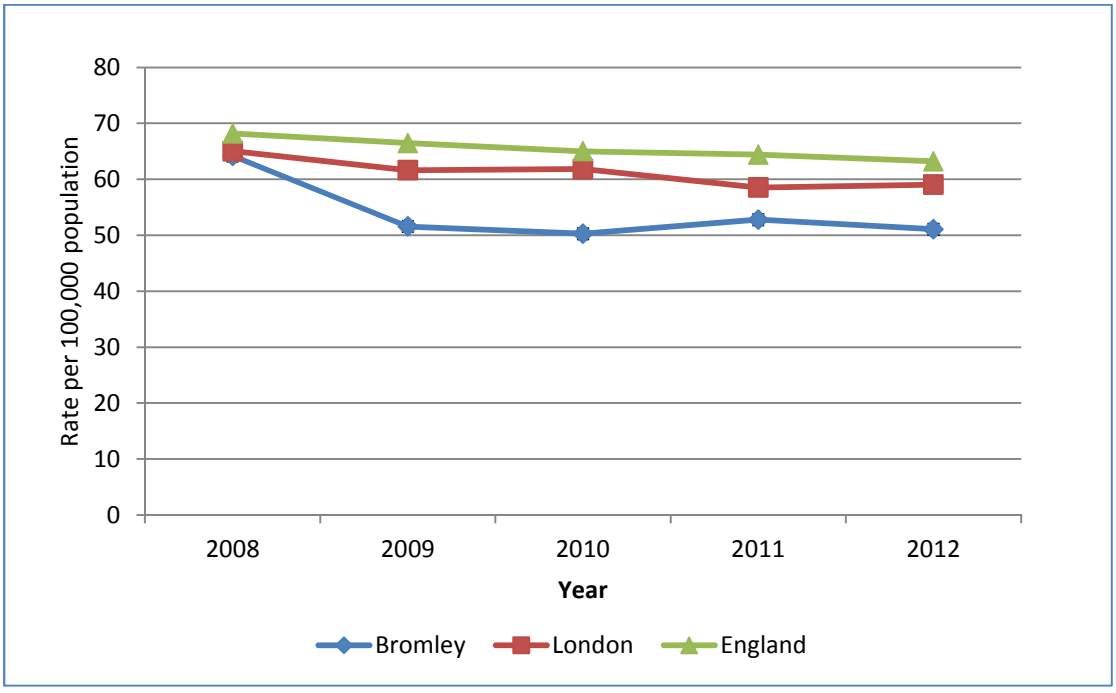
- In England, in 2012 there were 6,490 alcohol-related deaths. This is a 19% increase from 2001 (5,476) but a 4% decrease from 2011 (6,771).
- Males accounted for approximately 65% of all alcohol-related deaths in the UK in 2012.
- The most common reason for alcohol-related death was alcoholic liver disease which accounted for 63% (4,075) of all alcohol-related deaths in 2012.

Local

- The mortality rate from alcohol-related causes in Bromley has risen for women whilst remaining level for men.
- The alcohol-related mortality rate for women in 2012 was 27.4 deaths per 100,000 populations which exceeded the regional average of 24.5 deaths per 100,000 population.
- The alcohol-related mortality rate for men in Bromley is almost twice that for women.
- In 2013 there were 68 (2.79% of all deaths) alcohol-related deaths in Bromley.

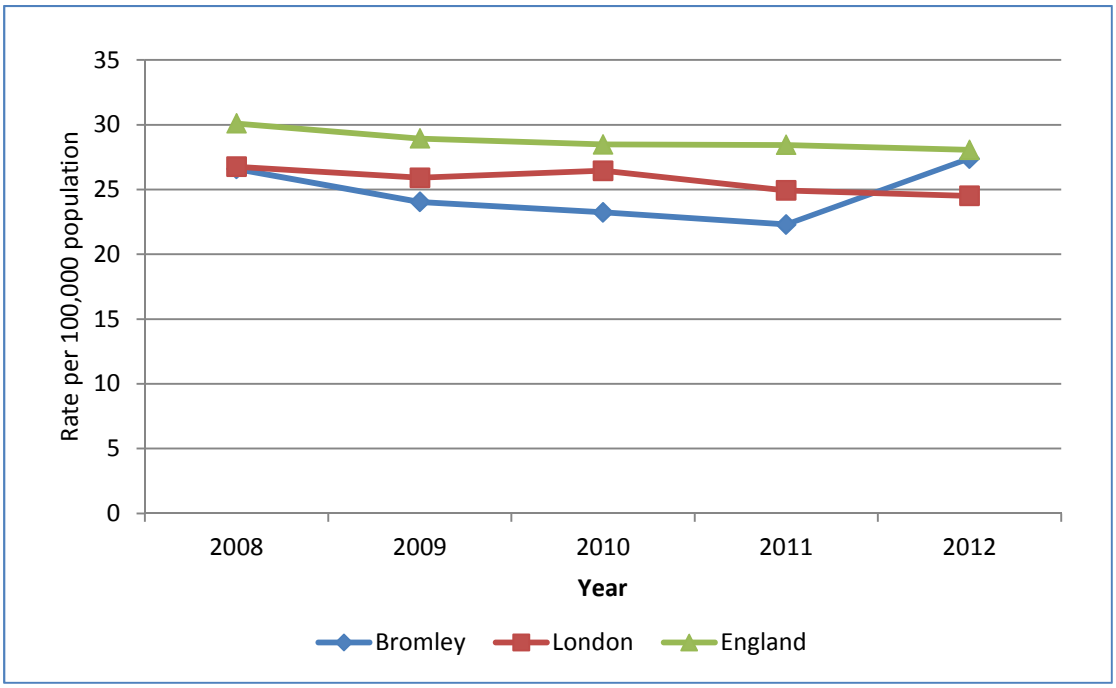
Figure 5-1 and 5-2 show the trend in alcohol-related deaths in Bromley, London and England.

Figure 5-1 Alcohol-related deaths. Directly Standardised Rate - Males



Source: Data from the LAPE Dataset 2014

Figure 5-2 Alcohol-related deaths. Directly Standardised Rated - Females



Source: Data from the LAPE Dataset 2014

Although the number of alcohol-attributable deaths varied by age, overall, men and women appear to have been equally affected by their alcohol consumption. Younger people were disproportionately affected by their alcohol use.

Table 5-1 shows the number of deaths with an alcohol-related cause for each age group and as a proportion of all deaths (all causes) in that age group. This is a measure of the potential contribution of alcohol to the burden on mortality, but is not the same as alcohol-attributable deaths (i.e. total number of deaths as a result of alcohol).

Explanation:
Deaths were included if they were of a Bromley resident, occurring within the calendar year 2013, and with an alcohol related 'underlying cause'. Underlying cause of death is the disease or injury that initiated a train of events leading directly to death or the circumstances of the accident or violence which produced the fatal injury. This calculation does not take into account how much of the death was directly due to alcohol.

The deaths in each age group are expressed as a total of all deaths in that age group i.e. total of alcohol related and non-alcohol related deaths.

Table 5-1 Number (% of all deaths in each age group) of deaths with an alcohol-related underlying cause – 2013

	0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+
Males	*	*	*	6	14	46	71	255
	*	*	*	33%	32%	41%	38%	31%
Females	*	*	*	9	10	22	47	331
	0%	0%	20%	60%	50%	32%	31%	33%
Total	*	*	*	15	24	68	118	586
	10%	29%	10%	45%	38%	38%	35%	32%

*Number less than 5, percentage concealed. Source: Primary Care Mortality Database 2013.

5.1 Main causes of alcohol attributable death

National

The leading causes of alcohol-related deaths in the UK are alcoholic liver disease and cancer of the oesophagus for men and women aged 16-75+. Additionally, breast cancer is the third commonest cause for women, and colorectal cancer for men. Other important causes of alcohol-related death are intentional self-harm (predominantly amongst men), road/pedestrian traffic accidents, and poisoning. The full list of top causes of alcohol-attributable deaths for England are in Appendix 4.

Local

Table 5-2 shows the leading causes of alcohol attributable mortality in Bromley based on the underlying cause of death. The overall attributable fraction used for this calculation takes account of sex differences but does not account for the amount of alcohol consumed or the age group.

Explanation:
Deaths obtained from the public health mortality file were included if they were of a Bromley resident, occurring within the calendar year 2013, and with an alcohol related 'underlying cause'.

For each death with an alcohol-related cause, an Alcohol Attributable Fraction was applied to estimate a proportion of that death which was specifically due to alcohol. All the fractions were added up to estimate how many deaths were specifically due to alcohol for a particular disease. Deaths with a fraction of zero or a negative (protective) fraction will not be included.

e.g. A death due to alcoholic liver disease is wholly alcohol related and contributes a fraction of 1.0 to the total of alcoholic liver disease deaths due to alcohol.

A death due to hypertensive disease in a male is only partially due to alcohol and contributes a fraction of 0.25 to the total of hypertensive disease deaths due to alcohol. Four such deaths would amount to 1 Alcohol Attributable death i.e. 0.25 x 4

Deaths in children aged 0-15 were only included if they were wholly attributable to alcohol i.e. had an AAF of 1.

Table 5-2 Main causes of alcohol-related deaths in Bromley. Estimates - 2013

Disease category (rank order)	Number of all deaths from cause		Overall AAF%		Number of alcohol-attributable Deaths	
	Male	Female	Male	Female	Male	Female
Alcoholic liver disease	10	8	1	1	10.00	8.00
Cardiac arrhythmias	14	27	0.31	0.23	4.34	6.21
Hypertensive disease	25	30	0.25	0.1	6.25	3.00
Cancer of oesophagus	20	13	0.26	0.12	5.20	1.56
Intentional self-harm/Event of undetermined intent	8	2	0.34	0.31	2.72	0.62
Cancer of lip, oral cavity, pharynx	4	5	0.45	0.26	1.80	1.30
Haemorrhagic stroke	8	14	0.23	0.09	1.84	1.26
Cancer of breast		51	N/A	0.06	0.00	3.06
Unspecified liver disease	2	2	0.72	0.47	1.44	0.94
Cancer of liver and bile ducts	10	9	0.13	0.06	1.30	0.54
Cancer of rectum	17	6	0.07	0.03	1.19	0.18
Total*	101	161	4	3	35	26
All Bromley Deaths (2013)	1189	1261				

Source: Bromley Public Health - Primary Care Mortality Database 2013
* Other conditions not listed here do not make a significant contribution to the total number of alcohol-attributable deaths.

Additional findings
There are some differences in the proportions of men and women dying from the top five alcohol-related causes. Oesophageal cancer and deaths from intentional self-harm/events of undetermined intent showed a statistically significant difference between the proportions of men and women affected. The calculations were based on the actual number of deaths rather than the estimated number of alcohol attributable deaths. The analysis was carried out for a two year period (2012-13) due to small numbers.

- Men were more likely to die from intentional self-harm/events of undetermined intent (31 men, 5 women) between 2012 and 2013. The average age at death was 52.6 (range 15 – 84) years. The difference in the proportion of deaths between men (4.53%) and women (0.57%) was statistically significant at the 95% confidence level (2.41% to 5.66%)
- There were 70 deaths from cancer of the oesophagus (37 men, 23 women) between 2012 and 2013. The difference in the proportion of deaths between men (5%) and women (3%) was statistically significant at the 95% confidence level (0.13% to 4.00%)

5.2 Medical and Mental Health history

Further analysis of deaths looking at past medical history was carried out by a public health registrar and presented in a report entitled 'Drug and Alcohol Related Deaths' in Bromley 2012 and 2013 .

The report looked at the past medical and mental health histories for each death which are often not recorded with the mortality data. GP records were available to be reviewed for 69 alcohol related deaths.

The report found that 80% (55) of the deaths had one or more significant past medical conditions, with over half of them having between one and three significant past medical conditions in addition to the cause of death.

A total of 147 different significant medical conditions were recorded for all the 69 deaths. The commonest conditions were alcohol-related such as gastrointestinal bleeding, reflux disease and pancreatitis. Other conditions recorded were hypertension, diabetes, neurological disease, and respiratory diseases such as asthma and chronic obstructive pulmonary disease.

Over half of the people who died had up to two mental health problems. Depression was the commonest condition reported, followed by anxiety disorder . Among the people who suffered from mental health problems a few had a history of self-harm and attempted suicide.

5.3 Contact with Health & Treatment Service

The report also looked at previous contact with health care services for each of the deaths. From the GP records, the details of first presentation to the health care and treatment services with alcohol-related problems were reviewed.

It was found that 51 out of 69 people had presented with alcohol-related problems to the various health services previously, including GP, hospital clinics, mental health units, accident and emergency, and private hospitals. Around 3 in 4 people had seen their GP previously as their first presentation.

Common reasons for presentation to the GP were deranged liver function test, or symptoms of liver failure as well as depression or anxiety. Some of the people had already sustained irreversible damage to the liver (for example liver cirrhosis) on first presentation to health services and intervention to treat

their alcohol problems at that point was too late to reverse the damage caused by alcohol.

In addition, reviewing consultation notes showed that the focus of many consultations was on monitoring and treating the liver problems rather than the alcohol problem itself. Where brief advice to reduce alcohol consumption was offered, no clear follow up mentioned. Some but not all had documented advice to contact alcohol treatment service, whilst other patients had refused help. In many cases, no clear follow-up plan was noted.

Some patients presented their alcohol problems during hospital outpatient clinics, often when their liver problems were being investigated. This was followed by presentation to the mental health service during consultation for other mental health issues; whilst some people presented to the A&E, often with acute liver failure or alcohol intoxication. However, similar to the people presenting to their GPs, no clear follow-up plan could be found.

The timing of their first presentations varied, with some presenting to the health service over 10 years prior to death, or up to a few of months prior to death.

In terms of contact with alcohol treatment services, only 22 people (32%) had reported contact with alcohol treatment service prior to their death. The majority (73%) had contact with alcohol treatment services in Bromley. The remainder reported seeking help from Alcoholics Anonymous (18%) or other alcohol treatment service.

6 Burden of ill-health due to alcohol

Hospital related alcohol admissions

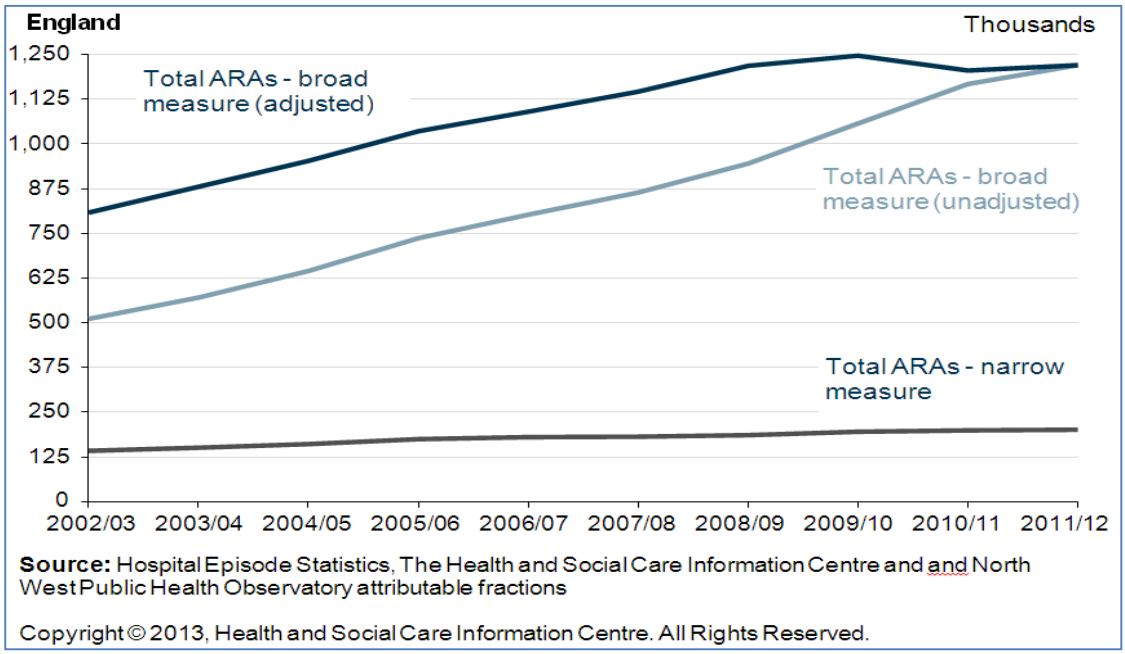
Hospital admission episodes are a proxy measure for the burden of alcohol-attributable illness on the population. Not all alcohol-related illness results in an admission to hospital so this measure tends to underestimate the true burden of alcohol-related disease. A new 'narrow' measure of hospital admissions has been introduced by the public health observatories and it provides a more consistent comparison over time compared to the older 'broad' measure. The differences are fully explained in Appendix 3.[41]

In this report the narrow measure has been used because it is less likely to be affected by changes to coding practices over time. It is also more practical to calculate at a local level in order to allow for comparison with national data.

National

The rate of alcohol-related hospital admissions in England had been rising fast since 2002/03 before starting to stagnate in 2011/12. In that period there was a 51% increase from an estimated 807,700 alcohol-related admissions in 2002/03 and a 1% increase from 1,205,500 in 2010/11. This is shown in figure 6-1 below.

Table 6-1 Alcohol-related NHS hospital admissions (ARAs) 2002/03 to 2011/12



[41] Clare Perkins and Matt Hennessey. Understanding alcohol-related hospital admissions. Understanding alcohol-related hospital admissions. Public Health England. https://publichealthmatters.blog.gov.uk/2014/01/15/understanding-alcohol-related-hospital-admissions/ last accessed 29/09/14.

In 2012/13, there were an estimated 325,870 hospital admissions in England where the primary diagnosis or alcohol-related external causes recorded in secondary diagnosis fields were attributable to the consumption of alcohol (the narrow measure).

Of these,

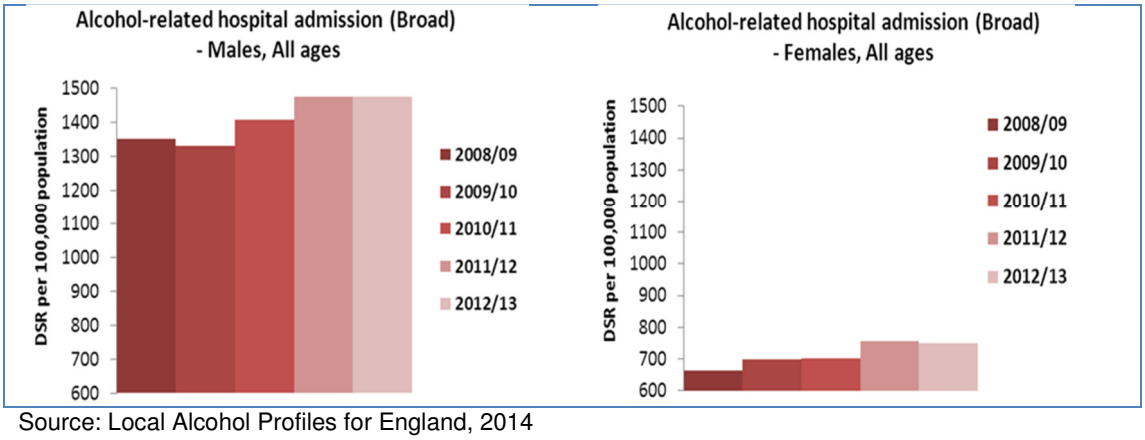
- 42% (136,280) were due to conditions which were categorised as partly attributable chronic conditions
- 27% (86,420) were for conditions categorised as partly attributable acute conditions
- 32% (103,160) were for wholly attributable conditions
- more males than females were admitted to hospital with a primary diagnosis or external cause code of a condition attributable to alcohol (202,580 and 123,280 admissions respectively)
- However amongst the under 16s, the opposite is true where females were more likely to be admitted to hospital with alcohol-related diseases, injuries and conditions than males, with females accounting for 57% of all admissions. [42]

Local

In Bromley, hospital admission rates for alcohol-related conditions for both men and women have been increasing since 2008 to a peak in 2010-11, with the rate unchanged in 2012-13. These rates are significantly lower than those for London and for England.

The hospital admission rate for males is almost twice the rate for females in Bromley. The rates are shown in Figure 6-2.

Figure 6-1 Alcohol-related hospital admissions for men and women in Bromley 2008/09 - 2012/13

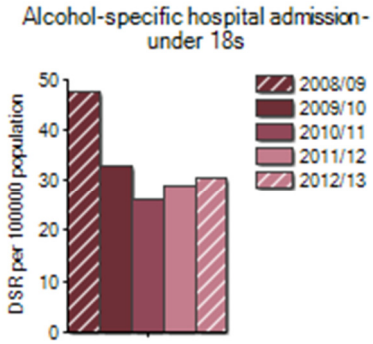


Source: Local Alcohol Profiles for England, 2014

[42] Alcohol Statistics for England. Health and Social Care Information Centre 2014.

The alcohol-specific admission rate for under 18 year olds in Bromley has been gradually increasing in the last two years, and is comparable with the rate for London, but significantly lower than the rate for England. In 2012/13 the rate was 30.5 admissions per 100,000 population compared to 29.8 for the London region. Bromley was ranked 105 out of 326 where 1 is the lowest value.

Figure 6-2 Alcohol-related hospital admissions for young people in Bromley 2008/09 to 2012/13



Source: Local Alcohol Profiles for England, 2014

The rates of alcohol-related hospital admissions (narrow measure) for Bromley and the London region are shown in table 6.2 below

Table 6-2 Crude rate of hospital admissions per 100,000 population

	Bromley	National rank*	London
Males	455.3	61	557.1
Females	267.6	118	260.1

Source: Local Alcohol Profiles for England, 2014
*Rank of 1 is the lowest value out of 326 local authorities.

6.1 Further analysis of hospital admissions in Bromley

Detailed analysis was carried out on hospital admissions (narrow measure) for Bromley residents where there was either an alcohol-related primary cause of admission or an alcohol-related external cause of admission for example injuries or accidents.

The total number of alcohol-related hospital admissions (person-specific) in Bromley rose from 7,589 in 2009/10 to 8,398 in 2011/12. In 2013/14 this number had dropped to 6,429. Person specific admissions do not take account of the alcohol attributable fraction (i.e. the proportion of the illness or admission episode that was due to alcohol alone). They include all admission episodes with an alcohol-related ICD 10 code.

A summary of the alcohol-related hospital admissions over the five year period 2009/10 – 2013/14 is as follows:

- There was a total of 37, 670 alcohol-related admission episodes.
- There were 21, 653 (57%) women and 16,017 (43%) men admitted.
- For the five year period 2009/10 to 2013/14 over 78% of alcohol-related hospital admissions was for people who considered their ethnicity as British. The other ethnic groups accounted for less than 2% each. Around 10% of admissions were of unknown ethnicity.
- The method of admission for 60% of alcohol-related admissions was accident and emergency or dental casualty departments. A further 16% were from waiting lists, 14% from booked appointments, and 7% planned admissions.
- The average duration of an admission spell was 290 days, range 0-290 days, median 61.5 days and mode 0 days.

Explanation

- All hospital admissions with an alcohol related ICD 10 code in the primary or secondary cause of admission field are extracted from the SUS database.
- Admission episodes are extracted for all Bromley residents for the financial year 2009-10 through to 20013-14 (n = 123, 273)
- Admissions are included if they have an alcohol related primary cause of admission or an alcohol related external cause of admission such as accidents or falls. This is because external cause codes cannot be recorded as the primary cause of admission.
- Admissions are excluded if they do not have a valid 'Sex', or 'Year'.
- All the admission episodes at this point will contribute to the total of person specific alcohol related hospital admissions. Repeat episodes of admission are counted separately. (n = 37, 670)
- Each admission episode is then assigned an alcohol attributable fraction (AAF) based on the age, sex, and cause of admission ICD code (primary cause or external cause codes)
- The total of the alcohol attributable fractions will be called 'alcohol attributable hospital admissions'. This total is the estimated number of admission that are entirely due to alcohol.

Alcohol-attributable hospital admissions

The total number of alcohol-attributable admissions in Bromley peaked in 2010/11 and is now at a 5 year low. Men generally contribute in higher numbers to the total of alcohol-attributable admissions, but in some years women have contributed more.

People aged 45-54 tend to contribute most to the total burden of alcohol-attributable hospital admissions and those aged 0-15 contribute the least as shown in table 6-3.

Table 6-3 Estimate number of alcohol-attributable hospital admissions by age and sex (5yr 2009-2014)

	2009/10		2010/11		2011/12		2012/13		2013/14	
	M	F	M	F	M	F	M	F	M	F
0-15	0	1	0	2	0	5	0	4	0	2
16-24	30	13	19	14	24	17	30	11	25	13
25-34	13	14	10	25	11	23	20	13	16	12
35-44	32	42	21	44	19	61	25	33	18	26
45-54	52	34	64	39	78	46	65	18	52	11
55-64	49	30	53	34	48	54	58	23	45	26
65-74	4	72	-4	62	-2	75	-7	54	-12	53
75+	51	10	38	9	69	20	62	17	55	9
Total	**230**	**216**	**200**	**229**	**249**	**300**	**253**	**173**	**197**	**152**

Source: Hospital Inpatient Data from Secondary User Services – Bromley CCG

Conditions contributing to alcohol morbidity

Alcohol-attributable causes can be split into three broad categories:

- Wholly attributable conditions – those with an AAF of 1.
- Partially attributable chronic protective – those with a negative AAF. Alcohol has a protective effect on these conditions and it reduces the overall burden of disease that would result from these conditions.
- Partially attributable chronic harmful – those with an AAF of less than 1 but more than 0.
- Partially attributable acute consequences

Chronic conditions where alcohol has a net protective effect and therefore reduces the net number of hospital admissions include; Cholelithiasis (gall stones), Non-insulin dependent diabetes (Type II), Ischaemic heart disease, haemorrhagic stroke and ischaemic stroke.

Table 6-4 summarises the harmful and protective effects of alcohol and the net total of admissions after accounting for the different effects.

Table 6-4 Estimate number of alcohol-attributable hospital admissions caused and prevented by alcohol (5yr 2009-2014)

	0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+	Total
Net admissions									
Men	0	129	70	114	311	252	-21	275	1130
Women	14	197	157	319	459	420	295	339	2200
Harmful									
Men	0	134	88	170	364	303	186	427	1671
Women	14	82	120	250	285	367	420	268	1805
Protective									
Men	0	-5	-18	-56	-54	-51	-206	-152	-542
Women	0	-14	-33	-44	-137	-199	-104	-204	-735

Source: Hospital Inpatient Data from Secondary User Services – Bromley CCG

National

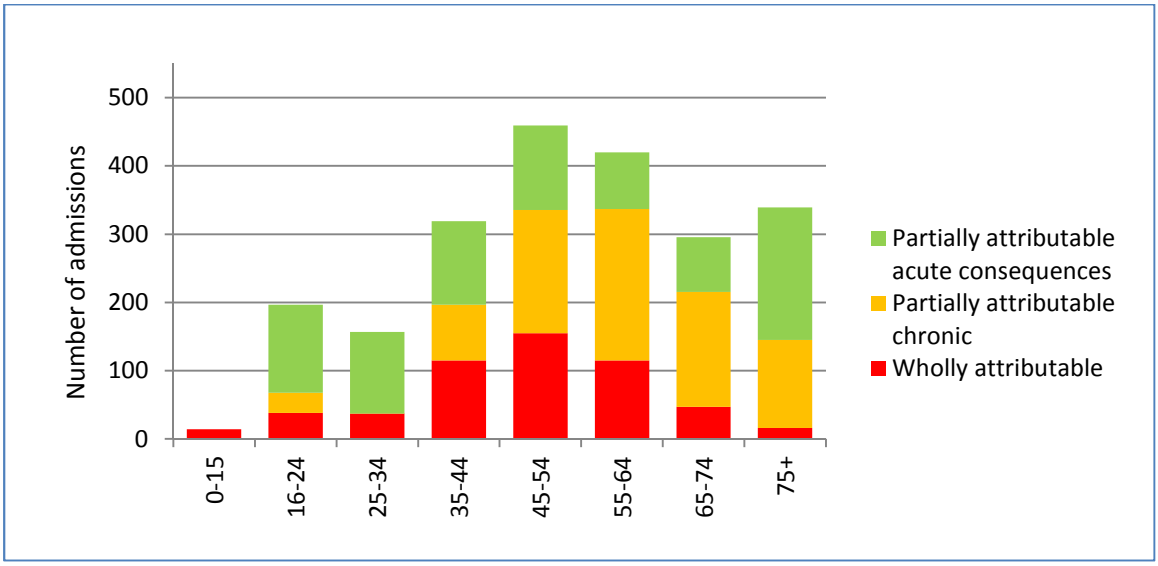
- Chronic conditions contribute most to the overall burden of alcohol-attributable morbidity.
- The burden of chronic harmful conditions is highest in those aged 65 years or older.
- The burden of wholly attributable conditions is highest in those aged 35-54 years of age[62]

Local

Figure 6-3 shows the burden of ill-health due to alcohol arising from different types of conditions amongst Bromley residents.

- The burden of wholly attributable conditions is highest in those aged 45-54 years of age.
- Acute conditions and chronic conditions contribute almost equally to the total of alcohol-attributable hospital admissions.
- Each year more than 100 people are admitted for conditions which are entirely the result of alcohol use.

Figure 6-3 Number of alcohol-attributable hospital admissions in Bromley by type of condition 5yr 2009-2014



Source: Hospital Inpatient Data from Secondary User Services – Bromley CCG

Causes of hospital admission

National – latest available 2010 data[62]

- Amongst those aged 15 years and under the most common causes of admission were for mental and behavioural disorders, and low birth weight arising from maternal alcohol use.
- For men in the 16-24 and 25- 34 year age groups, the largest contributors by disease area to hospital admissions were neuropsychiatric illnesses, followed by injuries.
- Among the older age groups, the largest contributors were cardiovascular disease and neuropsychiatric illness. Women followed a similar pattern, but with breast cancer being another major contributor among women aged 35 to 74 years of age.

Local

Table 6-5 summarises the top 3 causes of morbidity in each age group within Bromley. Due to small numbers in some age groups, five year data was pooled from 2009-10 to 2013/14. Low birth weight was not included at the analysis as this is a new diagnosis included in the alcohol fractions.

- Amongst those aged 15 years and under the most common cause of admission was for mental and behavioural disorders.
- Alcoholic liver disease contributed significantly to hospital admissions for men across all ages.
- Falls contributed significantly to hospital admissions for both men and women across all the age groups.

Table 6-5 Top three causes of alcohol-attributable hospital admissions (number) in Bromley 5yr 2009-2014.

	Male		Female	
	Condition	n	Condition	n
16-24	Intentional self-harm/Event of undetermined intent	26	Mental and behavioural disorders due to use of alcohol	22
	Assault	25	Intentional self-harm/Event of undetermined intent	21
	Epilepsy and status epilepticus	19	Epilepsy and status epilepticus	18
25-34	Alcoholic liver disease	15	Fall Injuries	25
	Intentional self-harm/Event of undetermined intent	13	Intentional self-harm/Event of undetermined intent	21
	Road traffic accident non-pedestrian	10	Assault	16
35-44	Alcoholic liver disease	54	Malignant neoplasm of breast	56
	Acute and chronic pancreatitis	24	Fall Injuries	29
	Epilepsy and status epilepticus	18	Intentional self-harm/Event of undetermined intent	27
45-54	Alcoholic liver disease	97	Malignant neoplasm of breast	166
	Fall Injuries	53	Mental and behavioural disorders due to use of alcohol	22
	Epilepsy and status epilepticus	36	Malignant neoplasm of oesophagus	12
55-64	Alcoholic liver disease	90	Malignant neoplasm of breast	172
	Cardiac arrhythmias	30	Fall Injuries	40
	Malignant neoplasm of oesophagus	24	Malignant neoplasm of lip, oral cavity and pharynx	29
65-74	Malignant neoplasm of oesophagus	59	Malignant neoplasm of breast	123
	Alcoholic liver disease	28	Fall Injuries	65
	Malignant neoplasm of lip, oral cavity and pharynx	26	Cardiac arrhythmias	48
75+	Fall Injuries	154	Malignant neoplasm of breast	67
	Malignant neoplasm of oesophagus	65	Cardiac arrhythmias	49
	Cardiac arrhythmias	61	Fall Injuries	34
16-75+	Alcoholic liver disease	294	Malignant neoplasm of breast	584
	Fall Injuries	261	Fall Injuries	203
	Malignant neoplasm of oesophagus	153	Cardiac arrhythmias	130

Appendix 5 contains the top three causes of alcohol-attributable hospital admissions for England.

7 Interventions for management of alcohol use disorders

A public health approach to alcohol misuse disorders involves different levels of intervention to address the needs of the whole population. The three levels of intervention to address needs of the population are as follows;

- **Primary prevention** –preventing people from drinking in the first place or at least helping them stay within safe levels.
- **Secondary prevention** –identification of people who may be at risk of harm from their drinking and intervening appropriately to reduce harm.
- **Treatment** –interventions for people who are already experiencing harm from alcohol through specialist alcohol treatment services.

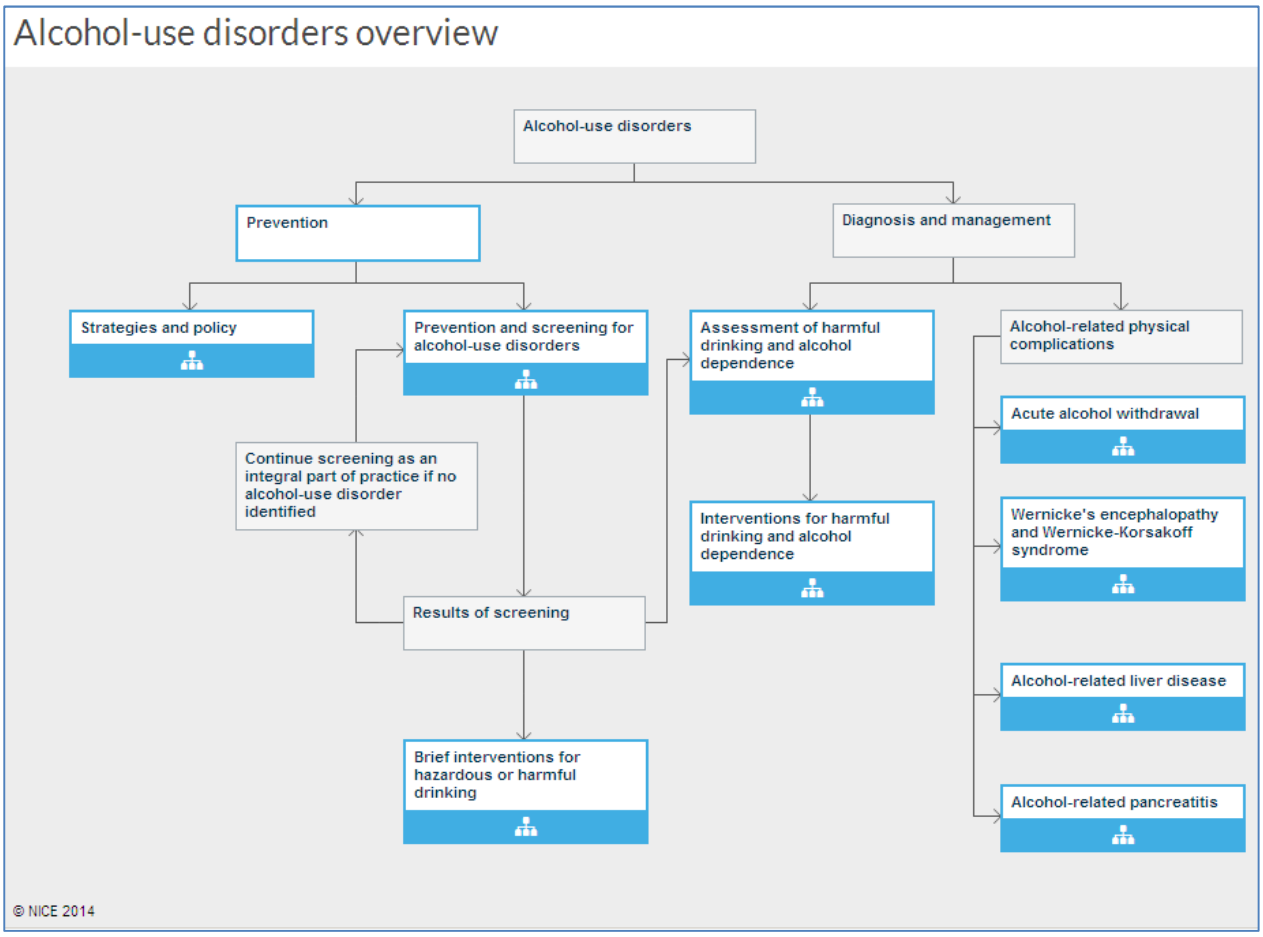
Population-level approaches are very important because they can help reduce the aggregate level of alcohol consumed and therefore lower the whole population's risk of alcohol-related harm. They help:

- Those who are not in regular contact with relevant services
- Those who have specifically been advised to reduce their alcohol intake, by creating an environment that supports lower-risk drinking.
- Those who are drinking at low-risk levels to continue drinking at safe levels

Individual level interventions can increase awareness of the potential risks of alcohol intake at an early stage. Early intervention has a better chance of success and could prevent costly and extensive damage to health.

The government continues to use both individual and population approaches to address the harm caused by alcohol for example, in its strategy 'Safe Sensible Social.' Figure 7-1 shows the main pathway for alcohol use disorders.

Figure 7-1 Pathway for Alcohol Use Disorders



Source: NICE Pathways 2014. http://pathways.nice.org.uk/pathways/alcohol-use-disorders

Prevention

Prevention is split into two strands: 1. Strategy and Policy, 2. Prevention and Screening for alcohol use disorders:

1. Strategy and policy work is happening at both national and local level. National government controls elements of price, duty and taxation, availability, and marketing and advertising. Local government has responsibility for school partnerships and licensing of alcohol.

2. Prevention and screening work focuses on school based education and advice, as well as ensuring that chief executives and commissioners avail resources for screening and brief interventions for hazardous and harmful drinkers.

7.1 Primary Prevention

Effective interventions for strategy and policy work, as well as prevention and screening are summarised here for reference.[43] The full list of references can all be found in the report: Interventions on Control of Alcohol Price, Promotion and Availability for Prevention of Alcohol Use Disorders in Adults and Young People, produced by The University of Sheffield School of Health and Related Research.[44]

1. Reducing affordability - price

Making alcohol less affordable is the most effective way of reducing alcohol-related harm among a population where hazardous drinking is common. Evidence suggests that young people who drink and people who drink harmful amounts tend to choose cheaper alcohol products.

A comprehensive systematic review was identified that demonstrated a clear association between price or tax increases and reductions in consumer demand for alcohol. Further evidence available was supportive of a negative relationship between the price of alcohol and alcohol consumption among young people.

A limited evidence base has been identified indicating that minimum pricing may be effective in reducing alcohol consumption. An evidence base comprising a large number of primary studies was also identified that demonstrated a relationship between price/tax increases and reductions in harms. Additional evidence indicates that decreases in the price of alcohol contribute towards increases in alcohol-related deaths, particularly in deaths attributable to chronic causes such as alcoholic liver disease.

A positive relationship between alcohol affordability and alcohol consumption operating across the European Union was identified.

[43] NICE guideline [PH24] Alcohol-use disorders: preventing harmful drinking. 2010
[44] Rachel Jackson, Maxine Johnson, Fiona Campbell, Josie Messina, Louise Guillaume, Petra Meier, Elizabeth Goyder, Jim Chilcott, and Nick Payne. Interventions on Control of Alcohol Price, Promotion and Availability for Prevention of Alcohol Use Disorders in Adults and Young People. ScHARR Public Health Collaborating Centre. 2009.

2. Reducing availability

International evidence suggests that making it less easy to buy alcohol by reducing the number of outlets selling it in a given area and the days and hours when it can be sold, is another effective way of reducing alcohol-related harm.

UK-specific studies of the effects of changes in licensing hours presented mixed findings, with some studies reported no apparent effects on alcohol-related outcomes. However, following extensions of licensing hours, one study[45] reported an increase in admissions for self-poisoning by overdose in which alcohol was also involved, whilst another study found increases in the occurrence of slight accidents in the workplace.

Additional international evidence on the effects of changes in licensing of the sale of alcohol has also been reported. Extensions in trading hours in Australia were typically associated with increased violence, motor vehicle crash rates, and increased apprehensions of impaired male drivers aged 18 to 25 yrs.

A clear positive relationship between increased outlet density and alcohol consumption among adults was demonstrated in a range of association studies. However, one study found no significant association between alcohol outlet density and heavy drinking. Similar relationships were found for studies focusing on young people.

Responsibility for licensing lies with local authorities but the Licensing Act currently does not cover public health considerations. In Scotland however, protection and improvement of the public's health has been included within the licensing objectives.

3. Balanced and realistic advertising

There is a clear and consistent relationship between advertising expenditure and alcohol consumption across the whole population. However, the evidence on a complete ban on advertising is limited.

One systematic review demonstrated a small but consistent relationship between advertising and alcohol consumption at a population level. Another systematic review of longitudinal studies found that exposure to alcohol

[45] Northridge, D. B., McMurray, J., & Lawson, A. A. H. Association between liberalisation of Scotland's liquor licensing laws and admissions for self-poisoning in West Fife. British Medical Journal 293, 1466-1468. 1986.

advertising and promotion was associated with onset of adolescent alcohol consumption.

Another systematic review presented evidence of a moderate but consistent association between point of purchase promotions and effects on alcohol consumption among under-age drinkers, binge drinkers and regular drinkers.

A systematic review reported that outdoor and print advertising media may increase the probability of onset of adolescent alcohol consumption and also influence quantity and frequency of alcohol consumption among young people. This was supported by another systematic review which demonstrated that exposure to television and other broadcast media was linked with the onset of and levels of alcohol consumption.

The content of alcohol advertising was reported to be attractive to young people, conveying desirable lifestyles and images of alcohol consumption. Younger age groups and girls aged15 to 17 years were reported to be potentially experiencing the greatest impact of alcohol advertising

All of the evidence suggests that children and young people should be protected as much as possible by strengthening the current regulations.

4. School-based interventions

Children should be encouraged not to drink and to delay the age at which they start drinking.

The evidence supporting this is summarised here but the full list of references can be found in the evidence tables of the a review carried out by the Liverpool John Moores University's Centre for Public Health in collaboration with the National Collaborating Centre for Drug Prevention.[46]

The review of the effectiveness of school based interventions included a total of 14 systematic reviews and meta-analyses, and 136 primary studies, which evaluated 52 programmes. A broad range of programmes were identified including classroom-based programmes delivered by teachers or other professionals, multicomponent programmes that combined classroom-based intervention components with family-based and/or community based components, and other approaches delivered outside of lesson time including brief interventions and peer support programmes. The majority of programmes were aimed at prevention or reduction of alcohol use.

[46] Lisa Jones, Marilyn James, Tom Jefferson, Clare Lushey, Michela Morleo, Elizabeth Stokes, Harry Sumnall, Karl Witty, Mark Bellis. A Centre for Public Health, Liverpool John Moores University; Centre for Health Planning and Management, University of Keele; Cochrane Vaccines Field, Anguillara Sabazia, Rome, Italy. 2007.

The review found evidence that some class room based programmes (life skills approach and skills-based activities) can reduce alcohol use in the medium-term and one produced long term reductions (greater than 3 years) in alcohol use.

There was evidence to suggest that brief intervention programmes, which target children aged 12-13 and involve nurse-led consultations regarding a young person's alcohol use, such as the Families programme can produce short-term, but not medium-term reductions in heavy drinking.

The review also found that programmes that begin in early childhood, combine school-based curriculum intervention with parent education can have long-term effects on heavy and patterned drinking behaviours.

7.2 Secondary Prevention

Effective interventions for prevention and screening are summarised here for reference.[47] The references can all be found in the report: Interventions on Control of Alcohol Price, Promotion and Availability for Prevention of Alcohol Use Disorders in Adults and Young People, produced by The University of Sheffield School of Health and Related Research.[48]

1. Commissioning alcohol screening and brief interventions

Many people attending health and other public and voluntary sector services will benefit from the recommendations on screening and brief alcohol interventions. The benefits are most clearly seen when brief interventions are used in people who were previously not aware of the harm that alcohol is causing them or others.

There is strong evidence that many people benefit from brief advice provided by health professionals who are not alcohol specialists. Evidence shows that it is worthwhile for non-healthcare professionals to carry out these interventions. Professionals working in public services such as social care, criminal justice, higher education, occupational health and children's services do come in contact with people who are drinking hazardous and harmful amounts.

[47] NICE guideline [PH24] Alcohol-use disorders: preventing harmful drinking. 2010
[48] Rachel Jackson, Maxine Johnson, Fiona Campbell, Josie Messina, Louise Guillaume, Petra Meier, Elizabeth Goyder, Jim Chilcott, and Nick Payne. Interventions on Control of Alcohol Price, Promotion and Availability for Prevention of Alcohol Use Disorders in Adults and Young People. ScHARR Public Health Collaborating Centre. 2009.

2. Working with children and young people

The Chief Medical Officer has called for an alcohol-free childhood up to the age of 15 because the evidence suggests that there are no safe drinking limits for childhood.

Young people are particularly vulnerable to alcohol and the harm it causes because they are still developing both physically and emotionally. They may also be drinking in unsupervised situations and 'unsafe' environments where problems are more likely to occur.

It is important for professionals to encourage vulnerable young people to include their parents or guardians in any professional intervention. Professionals need to be aware of child safeguarding, consent and confidentiality issues.

3. Screening

Screening is a systematic process of identifying people whose alcohol consumption places them at increased risk of physical, psychological or social problems and who would benefit from a preventive intervention.

Questionnaire-based screening is accurate, minimally intrusive and has been found to be acceptable to recipients. It is also considerably cheaper than using physiological tests to detect alcohol-related problems.

The 'Alcohol-use disorders identification test' (AUDIT) was the first screening tool designed specifically to detect hazardous and harmful drinking. It has been validated in a number of health and social care settings and across a range of drinking cultures. AUDIT was shown to outperform other tests available for identification of alcohol use dependence.

Three systematic reviews including one UK based one showed that AUDIT is effective in the identification of hazardous and harmful drinking in adults in primary care. Evidence was identified for the use of alcohol screening questionnaires among adults in emergency care settings. One study found that the CAGE questionnaire was effective in screening for a lifetime diagnosis of alcohol dependence in trauma centre patients.

4. Brief interventions

There are two main types of brief intervention: structured brief advice or extended brief intervention. Nearly all of the latter are based on the principles and practice of 'motivational interviewing'. Evidence shows that brief advice is effective where time is tight – even when there is only 5 minutes available.

Twenty seven systematic reviews provided a considerable body of evidence supportive of the effectiveness of brief interventions for alcohol misuse. Brief interventions were found to reduce alcohol consumption, alcohol-related mortality, morbidity, injuries, social consequences and the consequent use of healthcare resources and laboratory indicators of alcohol misuse.

Six systematic reviews demonstrated that interventions delivered in primary care are effective in reducing alcohol-related negative outcomes.

Extended brief interventions
These are offered to help people address their alcohol use. This could take the form of motivational interviewing or motivational-enhancement therapy with session lasting between 20 to 30 minutes. They should aim to help people reduce the amount they drink to low-risk levels, reduce risk-taking behaviour as a result of drinking alcohol or to consider abstinence.

Extended brief interventions were demonstrated to be effective in the reduction of alcohol consumption by two systematic reviews. The evaluated interventions consisted of two to seven sessions with a duration of initial and booster sessions of 15 to 50 minutes or 10 to 15 minutes in one session with a number of specific booster sessions of 10 to 15 minutes duration.

There is evidence that implementation of screening and brief interventions would be facilitated by use of environments where alcohol can be discussed in a non-threatening way. Integrating screening and advice into general lifestyle discussions might increase the acceptability of screening and brief intervention for users. In a range of studies, providers and experts emphasise the importance of appropriate contexts for discussion of alcohol use with users in order to increase acceptability.

Summary of evidence of effectiveness of alcohol policies

WHO produced a summary of the evidence of the effectiveness of alcohol interventions shown in table 7-2.

Table 7-1 WHO summary of the evidence of effectiveness of alcohol interventions

Degree of evidence	*Evidence of action that reduces alcohol-related harm*	*Evidence of action that does not reduce alcohol-related harm*
Convincing	Alcohol taxes Government monopolies for retail sale Restrictions on outlet density Restrictions on days and hours of sale Minimum purchase age Lower legal BAC levels for driving Random breath-testing Brief advice programmes Treatment for alcohol use disorders	School-based education and information
Probable	A minimum price per gram of alcohol Restrictions on the volume of commercial communications Enforcement of restrictions of sales to intoxicated and under-age people	Lower taxes to manage cross-border trade Training of alcohol servers Designated driver campaigns Consumer labelling and warning messages Public education campaigns
Limited-suggestive	Suspension of driving licences Alcohol locks Workplace programmes Community-based programmes	Campaigns funded by the alcohol industry

Source: WHO Europe Regional Office: Evidence for the effectiveness and cost–effectiveness of interventions to reduce alcohol-related harm (2009)

7.3 Treatment for dependence

Diagnosis and management is split into two pathways;

1. Assessment of harmful drinking and alcohol dependence
2. Diagnosis and management of alcohol-related physical health complications.

Assessment for harmful drinking and alcohol dependence works to assist people who misuse alcohol and their families and carers. This work is carried out by people who are competent in identifying harmful drinking and alcohol dependence and assessing the need for an intervention. If they are not competent then they should be able to refer people to a service that can assess them.

Management of alcohol-related physical health complications addresses problems associated with acute alcohol withdrawal, Wernicke's encephalopathy and Wernicke-Korsakoff syndrome, alcohol-related liver disease and alcohol-related pancreatitis.

Effective Interventions for diagnosis and management of alcohol use disorders[49], [50]

There are two main types of interventions for treatment of alcohol use disorders; psychosocial and pharmacological. Psychosocial interventions include cognitive behavioural therapies, behavioural therapies or social network and environment-based therapies.

Pharmacological interventions involve prescription drugs which may be used in conjunction with psychosocial interventions or on their own depending on the clinical needs of the service user. They are also used when there has not been a response to psychosocial interventions. There is good evidence of effectiveness for the prescription of Oral Naltrexone, Acamprosate, or Disulfiram in combination with individual psychological interventions. [51], [52]

[49] NICE guideline CG115. Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence (2011).
[50] NICE guideline CG100. Alcohol-use disorders: diagnosis and clinical management of alcohol-related physical complications (2010).
[51] NICE guideline CG115. Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence (2011).
[52] NICE guideline CG100. Alcohol-use disorders: diagnosis and clinical management of alcohol-related physical complications (2010).

The main interventions are summarised here for reference.

1. Psychosocial interventions

Psychosocial interventions are best described as 'psychologically-based interventions aimed at reducing consumption behaviour or alcohol-related problems'[53], which exclude any pharmacological treatments. The most frequently used interventions include motivational interviewing (MI), cognitive-behavioural therapy (CBT), psychodynamic approaches, screening and brief interventions (SBI), family therapy, drug counselling, 12-step programs, therapeutic communities (TC) and vocational rehabilitation (VR).[54]

An extensive review[55] was carried out in 2006 looking at the effectiveness of treatment for alcohol problems. The review was based on large national and international studies and two large treatment trials. One of the studies, the UK Alcohol Treatment Trial (UKATT) offered psychosocial interventions and compared two treatments (Social behaviour and network therapy, and motivational enhancement therapy). The study reported that a 25% of clients showed successful outcome with no alcohol-related problems at follow-up, 40% were at least much improved with a reduction in alcohol related problems of two-thirds or more, and 58% were at least somewhat improved with a reduction in alcohol related of one-third or more.

The review suggests that it is extremely unlikely that such changes would have occurred as a result of natural recovery processes. Overall the review concluded that there a number of effective treatments that are known to be of potential benefit to clients.

2. Pharmacological treatment (for treatment of moderate to severe alcohol dependency)

Detoxification[55]

Detoxification is a common procedure undertaken in any treatment setting to rapidly achieve an alcohol free state. Detoxification is achieved by prescribing medicine to minimise withdrawal symptomology (tremulousness, seizures, and delirium). In 80-90 % of cases, it is without complications and can be treated without medication.

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[53] 10.Kaner EF, Beyer F, Dickinson HO, Pienaar E, Campbell F, Schlesinger C, Heather N, Saunders J, Burnand B: Effectiveness of brief alcohol interventions in primary care populations. Cochrane Database Syst Rev (Online) 2007, CD004148.

[54] 11.Amato L, Minozzi S, Davoli M, Vecchi S: Psychosocial and pharmacological treatments versus pharmacological treatments for opioid detoxification. Cochrane Database Syst Rev 2011, CD005031.

[55] Duncan Raistrick, Nick Heather and Christine Godfrey. Review of the effectiveness of treatment for alcohol problems. National Treatment Agency for Substance Misuse. 2006.

Chlordiazepoxide (Librium ®) is the recognised gold standard treatment for uncomplicated withdrawal. Chlordiazepoxide is in a class of drugs known as benzodiazepines.

A Cochrane review of 64 studies of benzodiazepines in 4309 participants undergoing alcohol withdrawal found that for reduction in seizures, benzodiazepines were more effective than placebo (relative risk [RR] = 0.16, 95% confidence interval [CI] 0.04 to 0.69).[56] There are other drugs available where Chlordiazepoxide is not indicated.

3. Nutritional supplements

People who misuse alcohol, particularly regular heavy drinkers, often have a poor diet. It is usual to consider vitamin supplements at detoxification. The logic for this is that detoxification will often follow a period of particularly heavy drinking, but also that medical and nursing staff are invariably available to assess and treat. Severe vitamin deficiencies may lead to a variety of conditions such as Wernicke's encephalopathy which is caused by thiamine deficiency. Wernicke's is important because the condition is reversible with adequate thiamine, but without immediate and adequate treatment can result in irreversible brain damage known as Korsakoff's syndrome.

4. Relapse prevention

If service users have not responded to psychological interventions alone, or specifically request a pharmacological intervention, they could be offered pharmacological treatments in combination with an individual psychological intervention. A full of references can be found in the 'Review of the effectiveness of treatment for alcohol problems' report. [55]

There are two types of relapse prevention medications:

1. **Sensitising agents** – these medications produce an unpleasant reaction when taken with alcohol. They work by changing the expectations of the drinker about the consequences of taking alcohol, from something good to something unpleasant e.g. Disulfiram (Antabuse ®).

   A number of studies have been conducted assessing the effectiveness of sensitising agents. A number of studies have supported the use of Disulfiram and demonstrated increased rates of abstinence compared to alternative treatments. One particular well designed study found that at six

[56] Alcohol-use disorders: physical complications Evidence Update March 2012. A summary of selected new evidence relevant to NICE clinical guideline 100 'Diagnosis and management of alcohol-related physical complications' (2010)

month follow-up, abstinence was achieved in 42% of subjects receiving a therapeutic dose of Disulfiram compared to 17% in those receiving vitamins.

2. **Anti-craving agents** - these medications help maintain abstinence in alcohol-dependent patients by decreasing voluntary intake of alcohol.

   One meta-analysis which included 33 trials compared acamprosate and naltrexone to placebo treatment. Over a 3 to 24 month period, acamprosate was associated with significant odds of abstinence. A number of multi-centre trials have also demonstrated the efficacy of Acamprosate.

   Naltrexone has also been found to be effective in a number of studies. One study with 70 alcohol-dependent subjects in a placebo-controlled trial found that at 12 weeks, 54 % of the placebo-treated subjects had relapsed, compared to 23 %of naltrexone subjects.

   Current evidence concludes that Naltrexone is most clearly indicated to help individuals who have lapsed or “slipped” and Acamprosate is best suited to supporting abstinence among those who fear craving will lead to a lapse. There are currently too few studies to compare naltrexone against acamprosate.

Pharmacological treatments – mode of action :

Acamprosate (Campral ®) is used to help prevent a relapse in people who have successfully achieved abstinence from alcohol. It's usually used in combination with counselling. Acamprosate works by affecting levels of a chemical in the brain called gamma-amino-butyric acid (GABA). GABA is thought to be partly responsible for inducing a craving for alcohol.

Disulfiram (Antabuse ®) is used to help achieve abstinence where there is a risk of relapse, or a history of previous relapses. Alcohol is normally changed to acetaldehyde in the body. Disulfiram blocks the enzyme which breaks down acetaldehyde. Increased levels of acetaldehyde in the blood lead to unpleasant physical reactions.

Naltrexone can also be used to prevent a relapse or limit the amount of alcohol someone drinks. It works by blocking the opioid receptors and stopping the effects of alcohol. It should be used in combination with other medication or counselling.

Source: Electronic Medicines Compendium – summary product characteristics

5. Interventions for people with a comorbid mental health disorder

For treating comorbid mental health disorders, reference should be made to the relevant NICE guidance on depression and anxiety.

People with a significant comorbid mental health disorder, and those at high risk of suicide, should be referred to a psychiatrist to make sure that there is effective assessment, treatment and a risk-management plan.

Service users who have been dependent on alcohol will need to be abstinent, or have very significantly reduced their drinking, to benefit from a psychological intervention for comorbid mental health disorders.

7.4 Costs, and cost effectiveness of Interventions to reduce alcohol use

NICE Centre for Public Health Excellence and University of Sheffield produced a cost effectiveness review for Screening and Brief Interventions.[57] The evidence was reviews for three settings; emergency care, hospital inpatient and outpatient, and primary care.

The conclusions of the report are summarised below:

- In primary care, screening plus brief interventions were likely to be cost effective.
- There was insufficient evidence to conclude on cost effectiveness for hospital inpatient or outpatient, or emergency care settings but the evidence was suggestive that screening conducted in emergency care settings may be cost effective.
- There wasn't sufficient robust evidence to conclude that brief interventions are cost saving in primary care.
- The economics literature did not allow firm conclusions to be drawn as to which was the most effective type of brief intervention, though the AUDIT questionnaire was likely to be the most cost effective screening technique.
- There was inconclusive evidence that increasing the duration or intensity of brief interventions increases effectives and it may be concluded that very brief interventions are likely to be more cost effective than extended ones.

Table7-3 adapted from the ScHARR report[57] shows the costs of screening and brief interventions found by the studies included in the research and table 7-4. The cost is dependent on the setting in which the intervention is delivered, who delivers it and the time taken to deliver it.

[57] Nicholas Latimer, Louise Guillaume, Elizabeth Goyder, Jim Chilcott, and Nick Payne. ScHARR Public Health Evidence Report 2.3Alcohol use disorders – preventing harmful drinking Screening and brief interventions: Cost effectiveness review (2009).

Table 7-2 Cost of alcohol and screening and IBA

Resource Use	Chisholm *et al* (2004)	Mortimer Segal based on *et al* (1997)	Mortimer and (2005) based Saunders *et* (1991): intervention	Mortimer and (2005) based Saunders *et al* (1991): intervention	Solberg, Maciosek, & Edwards (2008)
Cost of Screening	£34	£4.35	£58.00	£58.00	£2.90
Cost of Brief Intervention	£102.00	£68.00	£14.50	£348.00	£14.50
Total cost of screening + brief intervention	£136.00	£72.35	£72.50	£406.00	£17.40
Population Costs					
% population screened	50%	50%	50%	50%	100%
% population positive for problem drinking	13%	13%	13%	13%	25%
% who agree to receiving intervention	70%	70%	70%	70%	86%
Average cost per person of screening	£17.00	£2.18	£29.00	£29.00	£2.90
Average cost per person of brief intervention	£9.00	£6.00	£1.28	£30.69	£3.12

The lifetime gains in QALYs (quality adjusted life years) or losses in DALY (disability life years) from administering screening and brief interventions were estimated in the various studies and a cost effectiveness ratio calculated. These are shown in table 7.3 below.

Cost effectiveness ratio (CER) is the ratio of the cost of an intervention to the health effects produced (e.g. life-years gained). An intervention with a low CER is more cost-effective but this doesn't mean it is clinically effective. There is also considerable uncertainty surrounding the cost per QALY estimates.

Table 7-3 Lifetime QALY/DALY gains and total lifetime intervention costs in a UK context

	Chisholm et al (2004)	Mortimer and Segal (2005) based on Wilk et al (1997)	Mortimer and Segal (2005) based on Saunders et al (1991) : Simple intervention	Mortimer and Segal (2005) based on Saunders et al (1991): Extended intervention	Solberg, Maciosek, & Edwards (2008)
QALY/DALY	0.019	0.004 males 0.005 females	0.010	0.018	0.012
Total Cost (future costs subject to 3.5% discount rate)	£47.88	£8.17	£30.28	£59.69	£141.88
Average Cost Effectiveness Ratio (compared to no intervention)	£2.535	£2.036 males £1.483 females	£3,052	£3,334	£11,823

8 Alcohol Services

8.1 Services available in Bromley

Bromley has two main commissioned services for dealing with alcohol misuse issues. Bromley Drug and Alcohol Service (BDAS)/CRI provide an integrated treatment system for adults who have drug and alcohol misuse problems. Bromley Bypass is the commissioned provider working with young people aged 10-17 years who have drug and alcohol issues. These two services are explored in more detail later in this chapter.

In Primary Care there is a Direct Enhanced Service agreement for practice staff to deliver Identification and Brief Advice (using AUDIT C) to their patients or as part of the National Health Checks programme. Some GPs also prescribe medications for alcohol detoxification.

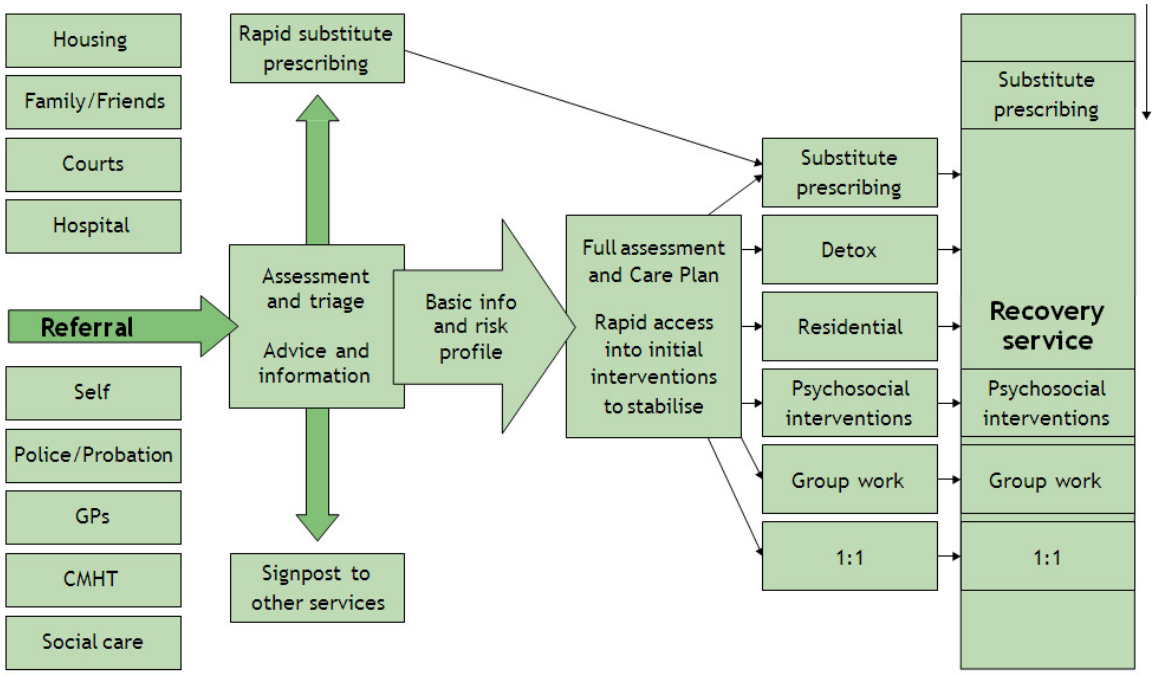
Bromley Clinical Commissioning Group (CCG) has a CQUIN (Commissioning for Quality and Innovation) agreement with the Princess Royal University Hospital to deliver brief alcohol interventions in the Accident and Emergency unit, Medical Acute Unit and Acute Surgical Unit.

8.2 Treatment pathway

Treatment services are for people who require support or clinical interventions to enable them to manage reducing alcohol misuse. In 2011 an integrated drug and alcohol provision for people over 18 years was established, providing a single point of access to a range of services. This Bromley service has two components shown in figure 8-1 below:

- **Stabilisation and Assessment:** providing a single point of contact, assessment and care co-ordination for people requiring specialist alcohol services.
- **Recovery Service**: delivery of intervention programmes, including a return to employment, to support people to maintain abstinence or reduction in harm from alcohol.

Figure 8-1 Bromley Drug and Alcohol Treatment Pathway



Source: Bromley Drug and Alcohol Commissioner 2013-14

The complete Alcohol pathway for Bromley is shown in appendices 7 and 8.

8.3 Bromley Drug and Alcohol Service (BDAS)/CRI

Aim:
The aim of the service is to help people with substance misuse issues (alcohol) and their families. The main goals for treatment are either abstinence or harm reduction.

Location:
Main locations
Bromley Drug and Alcohol Service
35 London Road, Bromley, Kent, BR1 1DG

Bromley Recovery Service
Norton House, 26-32 High Street, Bromley,
BR1 1EA

Satellite clinics:
Orpington Hospital, 12pm-4pm
Cotmandene Resource Centre, St Mary's Cray, Thursday 12pm-4pm
Holy Trinity Church, Penge, 12pm-4pm

Opening hours:
Bromley Drug and Alcohol Service
Mon, Wed, Fri, 9am-5pm
Tue, Thurs, 9am-8pm

Bromley Recovery Service
Mon, Wed, Fri, 9am-5pm
Tue, Thurs, 9am-8pm
Sat, Sun, 10am-4pm

Access criteria: Open access. People are either referred or can refer themselves.
Eligibility: Bromley residents or those registered with a GP in Bromley.

Services offered:

Stabilisation and Assessment Service - This service assesses individuals within a short time frame and ensures that they have the services required to stabilise them. Referrals are made to the prescribing services and, once the individual is stable, to the recovery service.

Recovery Service - This service provides treatment interventions and support to ensure people become abstinent and includes work with Job Centre Plus to move people into work.

Intensive Prescribing Service - is a substitute prescribing service for individuals for up to two years with the aim of people becoming abstinent during this time.

Key treatment statistics are shown in table 8-1.

Alcohol treatment data is collected by Public Health England through the National Drug Treatment Monitoring System (NDTMS). All drug treatment agencies must provide a basic level of information to the NDTMS on their activities each month – known as the Core Data Set.

Table 8-1 Key statistics for adults in treatment for alcohol misuse

	Bromley	National
Adults waiting under three weeks to start treatment ***% is the proportion of adults waiting less than 3 weeks to start treatment in the year out of all clients in treatment during the year***	270 (71%)	68 067 (62%)
Adults waiting over six weeks to start treatment ***% is the proportion of adults waiting more than 6 weeks to start treatment in the year out of all clients in treatment during the year***	0 (0%)	2711 (2%)
Number of adults in alcohol treatment (2012-13)	380	109441
Routes into treatment **Self-referral** **Criminal justice system** **GP** **Hospital/A&E** **Social Services** **All other referral –routes** **Missing**	 87 (36%) 27 (11%) 64 (27%) 13 (5%) 12 (5%) 36 (15%) 0 (0%)	 42% 10% 17% 7% 2% 21% 1%
Number of adults starting new alcohol treatment in 2012-13 ***% is the proportion of adults starting new treatment in the year out of all clients in treatment during the year***	262 (69%)	75606 (69%)
Mean age of all adults in alcohol treatment in 2011-12	Male 43.7yrs Female 42.7yrs All 43.3yrs	42.2yrs 42.3yrs 42.3yrs
Age of adults in alcohol treatment - Gender split **18-29** **30-39** **40-49** **50-59** **60+**	**(M/F %)** 10/14 21/27 38/32 22/23 9/4	**(M/F %)** 14/14 25/24 33/33 20/21 8/9
Number of adults leaving alcohol treatment in 2012-13 **% is the number who left in the year out of all clients in treatment in the year**	252 (66%)	69989 (64%)
Clients completing treatment successfully in 2012-13 ***(completed treatment successfully and did not return within 6 months)***	141 56% (of all exits) 37% (of all in treatment	44314 (63%) (40%)

Source: Public Health England, JSNA Support Pack 2014 (2013 data)

8.4 BYPASS (Bromley Young Persons Alcohol and Substance Service)

Aim: Deliver early intervention and specialist treatment to young people aged 10-17 years who have a problem with drugs or alcohol.
Location: Bromley Young Persons' Alcohol and Substance Service - KCA 19A Widmore Road, Bromley BR1 1RL
Opening hours: Monday to Friday: 9am to 5pm Drop In Service: Wednesday: 3.30pm to 5pm Parents' Support Group: Tuesday 5pm to 8pm
Access criteria: Open access. Young people can be referred by a professional or can refer themselves.
Services offered: **Early Intervention;** Advice and information, Group work, Informal one-to-ones and help to access other services **Specialist Treatment;** One-to-one with a specialist substance misuse worker, Substitute prescribing if needed, Sexual health interventions, C-card registration, Help to access other services **Criminal Justice Intervention;** One-to-one with a specialist substance misuse worker, Substitute prescribing if needed, Sexual health interventions, help to access other services. **Family Work** One-to-one support for parents and carers who are concerned about a young person's drug or alcohol use, support for young people who are worried about another person's drug or alcohol use.

Key statistics for young people in treatment for alcohol misuse are combined with those for substance misuse and do not describe in sufficient detail about outcomes for alcohol misuse only.

8.5 Alcohol in Primary Care

Under the alcohol DES (Directly Enhanced Service), practices are financially rewarded for screening all new registrations aged 16 and over. As part of the DES, practices deliver brief advice to patients identified as drinking at Increasing and higher risk levels. Following practice returns, payment is made annually to practices.

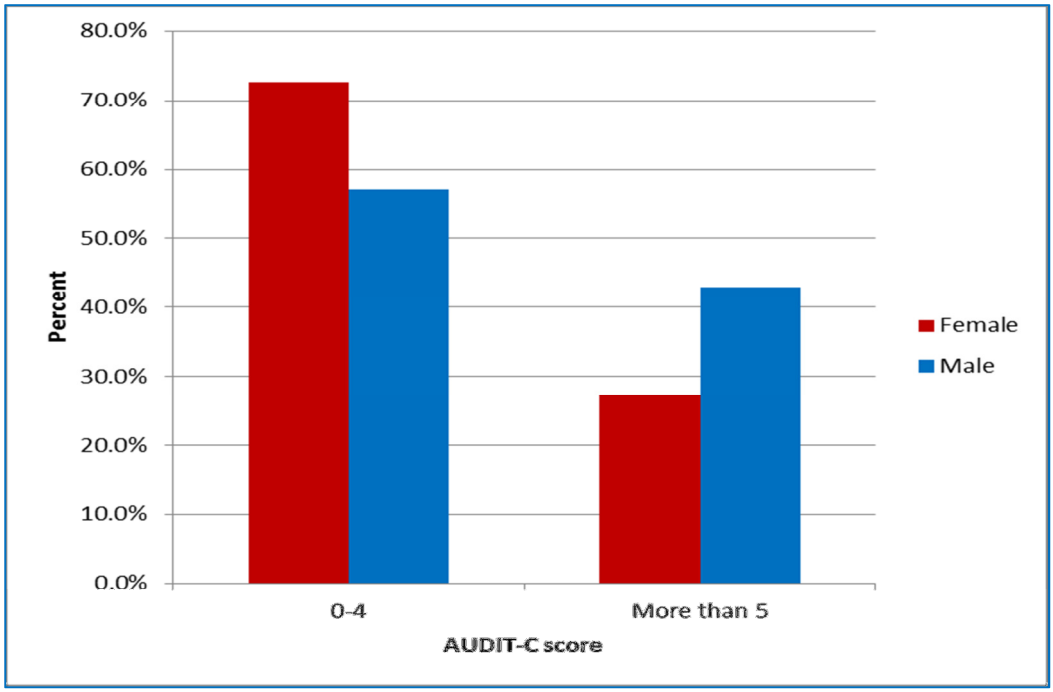
Health Checks
As part of the NHS Health Check Programme, men and women in Bromley between the ages of 40 and 74 year are asked to attend their GP surgery or other providers for an NHS health check to assess their risk of developing cardio-vascular disease. During that check they are asked about their alcohol consumption, in units and via a questionnaire called the AUDIT-C (see appendix 4 which displays all elements of questionnaire and how it relates to risk).[58]

More women than men completed a health check in Bromley, therefore more women completed an AUDIT-C questionnaire as part of that check. The figure below suggests that in general, those who attended for an NHS health check and completed a questionnaire have a low risk of having alcohol problems. The exception is that over two thirds of all males who completed a questionnaire scored 5 or more which could be indicative of hazardous or harmful drinking.

58

http://www.alcohollearningcentre.org.uk/Topics/Browse/BriefAdvice/?parent=4444&child=6422ning centre website

Figure 8-2 AUDIT-C score for women and men who attended for a health check between April 2013 and March 2014



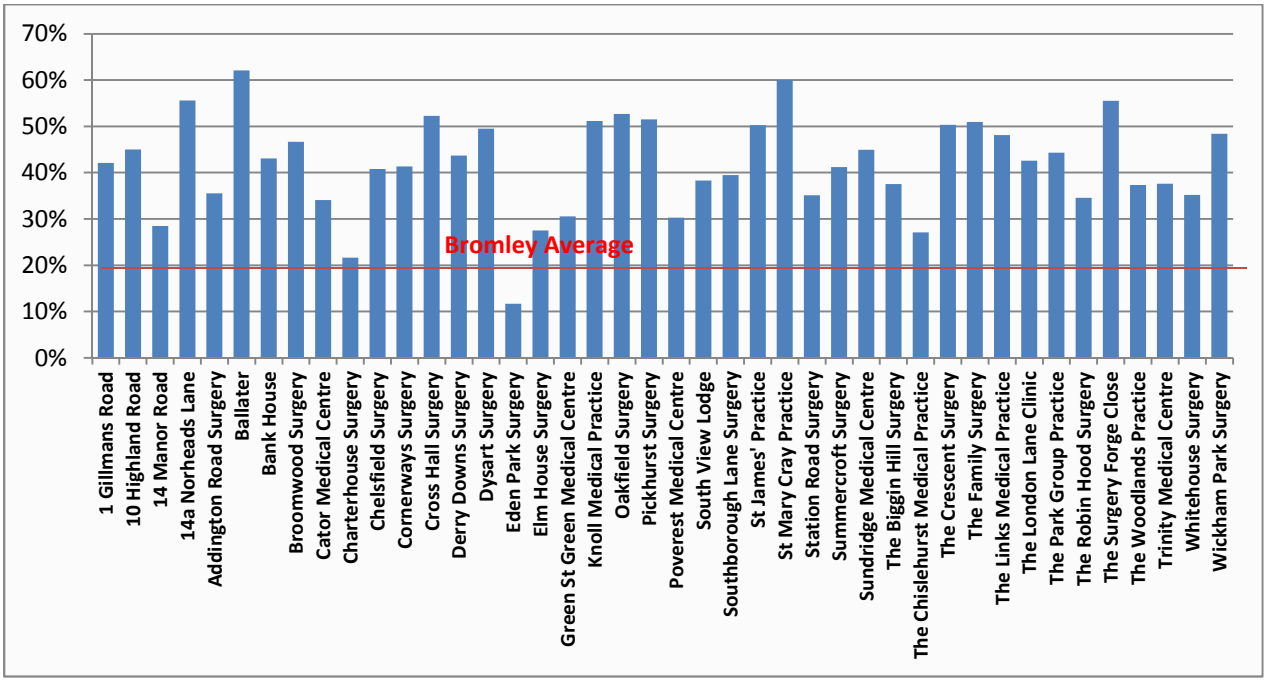
Source: Bromley NHS Health checks database 2013/14

Alcohol DES (directed enhanced service)

A recent report looking at the recording of alcohol status for patients attending Bromley general practices found that the levels of recording were generally very low. Out of 333,932 patients registered with a general practice in Bromley, 125,470 (38%) had their alcohol consumption recorded in the last 5 years. The recording rates varied substantially between practices and data for some practices were not available.

Figure 8-3 shows the proportion of all patients over the age of 16 years with recorded alcohol consumption in the last 5 years.

Figure 8-3 Proportion of all patients over 16yrs with alcohol consumption recorded by GP practice in the last 5 years.



Source: GP Dataset 2013 analysed by Mike Smith

8.6 Alcohol Identification and Brief Advice at the Princess Royal University Hospital

Bromley Clinical Commissioning Group (CCG) has a CQUIN (Commissioning for Quality and Innovation) agreement with the Princess Royal University Hospital to deliver brief alcohol interventions in the Accident and Emergency, Medical Acute and Acute Surgical units.

The purpose of this CQUIN is to improve Identification & Brief Advice (IBA) for increasing and higher risk patients admitted to acute care. At-risk drinkers are identified using a validated alcohol screening tool. The secondary purpose of IBA is to ensure possibly dependent drinkers (requiring more than Brief Advice) are offered information and referral to local alcohol specialist services.

Provisional data for July to September 2014 suggests that the majority of patients admitted into the Acute Surgical (ASU), and Acute Medical (AMU) units are screened using the FAST (fast alcohol screening tool). Between July and September 2014, 84% (672) of patients admitted to the ASU, and 79% (2986) of patients admitted to the AMU were screened. As a result of screening 32% (95) of ASU patients, and 36% (240) of AMU patients had a FAST score of 3 or more. A score of 3 or more may indicate hazardous or harmful drinking.

Qualitative information available suggested that there several barriers preventing full implementation of the alcohol brief intervention CQUIN.

8.7 Mutual Aid Organisations – Alcoholics Anonymous

Alcohol Anonymous (AA) is a mutual aid organisation which operates across the country and holds several groups in Bromley. One of the groups operates out of the London Road premises for the Bromley Drug and Alcohol Service.

Attendance to AA meetings is varied and due to anonymity it's not possible to obtain accurate attendance records. The majority of people who attend AA have referred themselves and are alcohol dependent.

NICE Clinical Guideline CG115 for alcohol use disorders recommends that people are offered information on the value and availability of community support networks and self-help groups e.g. AA or SMART Recovery (self-management and recovery training).

Public health England has produced a brief guide for commissioners to enable improved access to mutual aid.[59]

[59] PHE Commissioners Guide to Mutual Aid (2014) http://www.nta.nhs.uk/uploads/commissioners-guide-to-mutual-aid.pdf last accessed 16/10/14

9 Gaps in Bromley

9.1 Information

- There is some information available from general practice about levels of alcohol consumption locally but the data has limitations due to several factors: differences in coding practice, completeness, potential recording and response biases. The remaining available evidence on alcohol consumption is based on national surveys or synthetic estimates with a wide margin of error. Clinicians also find it difficult to ask alcohol-related questions for various reasons including; not feeling adequately trained to do so, lack of confidence in how to approach the subject, and lack of knowledge about how and where to refer onwards any people who may need additional support in relation to their drinking.
- The level of recording of alcohol consumption in primary practice is poor. Questions on alcohol consumption should be routinely asked to all new registrants as part of the national alcohol DES, during health checks, and at other times when practitioners think it is appropriate. The data show that questions on alcohol are not always asked and when they are asked, some practitioners will use 'read codes' whilst others will record in free text. This makes it difficult to retrieve any data for audit purposes.
- The current patient administrative system used in the Emergency Department at the PRUH (Princess Royal University Hospital) has a limited range of clinical codes available to record whether an attendance might have an alcohol-related cause. This makes the data unsuitable for trying to establish the contribution of alcohol to emergency department attendances if the data are not accurately coded.
- There is a lack of information on the total costs of alcohol-related ill-health to the local economy. Some of this is because not all people experiencing ill-health due to alcohol will present to health services, but alcohol is not always attributed as a contributing factor to their illness. Alcohol treatment costs are borne by different providers e.g. primary care, secondary care, and mental health care trusts. The budgets for these services are funded through different commissioners and some of the interventions e.g. psychosocial interventions offered to substance misuse clients may not be specific to alcohol alone.
- The NHS Health Checks provide valuable information on alcohol consumption based on the AUDIT C in primary care. However, this information is only available for those who attend a health check, so it is not representative of the general population.

9.2 Population level approaches

- Bromley currently does not have a Partnership Alcohol Strategy to provide a coordinated , planned and sustained population-level approach to reducing alcohol consumption. Population levels approaches such as large scale delivery of targeted brief advice are needed to reduce aggregate alcohol consumption and lower the whole population's risk of alcohol-related harm. This requires a joint approach across the local strategic partnership.

- Presently, in Bromley, there is no Public Health representation on the Licensing Committee. There is some evidence suggesting that Public Health should be involved in decisions around Licensing in order to protect the health of the population. The Local Government Association has suggested that representation of evidence based data from Accident and Emergency departments, Local Alcohol Profiles for England and local NHS data should be used by licensing committees on making decisions.[60]

9.3 Individual level approaches - Adults

Primary Prevention

- The current service specification for health improvement with Bromley Health Care (BHC) does not include any preventative programmes specifically addressing alcohol misuse for adults.

Secondary Prevention

- Recording of alcohol consumption levels for patients attending primary care are low. Outside of the NHS health checks programme there is little evidence that Identification and Brief Advice on alcohol is routinely offered to people attending their GP practice who may be at increasing risk of alcohol harm or drinking at hazardous levels.

- In Secondary Care the information available suggests that IBA delivery is not at an optimal level. Some of the issues highlighted relate to the high rate of staff turnover and others are patient factors resulting in referred patients not attending their community appointment. Some of the barriers to effective delivery that were highlighted include:

[60]Local Government Association. Public Health and alcohol licensing in England. LGA and Alcohol Research UK briefing.

- Lack of hospital staff awareness when and how best to ask the alcohol questions.
- Lack of clarity about what advice to offer and what to do with responses to questions.
- Lack of a trained professional to follow up referrals within the hospital as this increases the rate of follow up.
- Lack of feedback to hospital staff on the outcomes of referrals to the alcohol community team.
- Patients who have been discharged from the hospital are not always keen to be followed up after discharge and therefore not as responsive to the messages.
- The current paper based assessment form used in A&E relies heavily on staff remembering to ask alcohol questions which may not always be prioritised.

9.4 Individual level approaches – Young People

Primary Prevention

- Alcohol is an part of the wider school curriculum in Bromley. Bromley currently funds a social norms survey called 'R U Different?' which is a social marketing style intervention covering a range of risk behaviours including alcohol. However, there are currently only four schools participating in the programme and more schools need to be involved.

Secondary Prevention

- Bromley BYPASS cited some of the following gaps in trying to address alcohol misuse in young people.
  - A lack of capacity in the current service to do more preventative work because all their resources are taken up by Tier 3 work i.e. complex cases requiring multidisciplinary team-based work.
  - The service is reliant on referrals from other professionals but training is needed to overcome barriers to professionals making referrals such as personal attitudes to drinking and the lack of safe drinking guidelines for children.
  - Some young people are referred to BYPASS after been screened in the Accident and Emergency Unit at the weekend. By the time the referrals are faxed through and followed up, some parents are reluctant for their children to engage with the service once discharged from hospital. There may be need for an alcohol specialist worker to see these referrals in hospital before they are discharged.

10 Recommendations

The recommendations are set out in the same order as the identified gaps. They should be approached in a prioritised and pragmatic way starting with those that can easily achieved before addressing those requiring a programme management approach.

10.1 Information

- More robust information should be collected by all GPs when they assess a patient's alcohol intake either as part of the National DES or the NHS Health Checks. The service level agreement with participating GP practices needs to be reviewed to improve levels of recording and correct coding.
- Bromley CCG and NHS England need to work more closely together to ensure better information flows of data on alcohol consumption recorded in general practice.
- The performance of the alcohol CQUIN between Bromley CCG and the Princess Royal University Hospital needs to be reviewed in order to maximise implementation of alcohol screening and brief advice in the hospital setting.

10.2 Population level approaches

- There is an opportunity for public health considerations to influence local alcohol licensing policy. Public health involvement with the Alcohol Licensing Committee should be explored.
- Any preventive approaches to Alcohol Misuse in Bromley need to be linked to the Emotional and Mental Health Subgroup of the Health and Wellbeing Board, as well as the Adult Safeguarding Board.

10.3 Individual level approaches - Adults

Primary Prevention

- Opportunities should be explored when renewing the contract with Bromley Health Care to ensure that health promotion initiatives addressing alcohol misuse are part of the work programme.

Secondary Prevention

- An audit should be carried out to establish the extent to which the AUDIT C is delivered as part of the health checks in primary care, with a view to improving delivery.

- There is evidence to support the potential for alcohol IBA to be delivered in a range of health and non-health settings and this should be explored.

Treatment

- Local guidance should be issued to health professionals in primary and secondary care making referral criteria into the Community Alcohol Team explicit. Whilst the service is open access, some health professionals are not confident about when they should refer someone and who they should be referring to.
- Alcohol treatment services should do more to promote access to mutual aid organisations such as Alcoholics Anonymous. There is good evidence that 12-step has a positive impact on substance misuse outcomes and treatment staff should routinely provide people with information about mutual aid groups and facilitate access for those interested in attending.[61]

[61] Public Health England. Facilitating Access to Mutual Aid. Three essential stages for helping clients to access appropriate mutual aid support. 2013.

Appendices

Appendix 1 Calculation of alcohol consumption by age and sex[62]

- Measures with uplifted alcohol content are:
    - wine – original units * 2;
    - strong beer – original units * 1.3;
    - normal beer – original units * 1.2.
- Measures left as per original are: alcopops, sherry & spirits.
- The GHS records units consumed per week. These were converted into grams per day by multiplying by 8 (grams per unit) and dividing by 7 (days per week).
- To calculate AAFs alcohol consumption was graded into categories across all age-groups: 0 g, 1-19 g, 20-39 g, 40-74 g, 75+ g (grams per day)[8].
- The mean number of grams consumed in these categories was not altered significantly using the new methods.
- Using the 2005 mid-year population estimates and the above estimates, the total number of adults in England estimated to consume alcohol at these levels (grams per day) is shown in Table 14. People consuming less than 0.5g/day are classified as consuming 0g.

Table 14. Number of adults consuming alcohol by age and sex in England

Age	0 g	1-19 g	20-39 g	40-74 g	75+ g	Total
Males						
16-24	545,579	1,312,670	619,416	299,453	237,922	3,015,040
25-34	595,079	1,405,722	692,234	443,273	209,492	3,345,800
35-44	478,117	1,761,787	883,791	567,945	173,861	3,865,500
45-54	393,142	1,358,612	700,701	460,002	267,443	3,179,900
55-64	398,640	1,287,915	559,040	459,970	169,835	2,875,400
65-74	399,287	980,069	333,496	197,375	81,672	1,991,900
75+	422,216	735,545	191,108	111,109	22,222	1,482,200
Total	*3,261,195*	*8,896,184*	*3,926,745*	*2,548,502*	*1,123,115*	*19,755,740*
Females						
16-24	690,130	1,483,614	470,089	150,028	100,019	2,893,880
25-34	803,202	1,884,338	458,973	160,640	48,447	3,355,600
35-44	904,397	2,161,730	590,677	191,173	58,823	3,906,800
45-54	826,111	1,709,857	463,487	196,922	38,424	3,234,800
55-64	901,266	1,526,448	362,788	155,155	31,944	2,977,600
65-74	956,157	1,015,369	171,056	37,281	19,737	2,199,600
75+	1,246,997	986,342	115,518	29,620	5,924	2,384,400
Total	*6,325,481*	*10,791,724*	*2,622,264*	*923,261*	*289,950*	*20,952,680*

Source: NWPHO from General Household Survey 2005 and ONS

[62] Lisa Jones, Mark A Bellis, Dan Dedman, Harry Sumnall and Karen Tocque. Alcohol-Attributable fractinos for England. Alcohol-Attributable mortality and hospital admissions (2008)

Appendix 2 Relative Risk for Major Chronic Disease Categories, by Gender and Average drinking Category

			Females			Males		
			Drinking Category*					
Disease	**ICD–9 code**	**ICD–10 code**	**I**	**II**	**III**	**I**	**II**	**III**
Malignant neoplasms	140–208	C00–C97						
Mouth and oropharynx cancers	140–149	C00–C14	1.45	1.85	5.39	1.45	1.85	5.39
Oesophagus cancer	150	C15	1.8	2.38	4.36	1.8	2.38	4.36
Liver cancer	155	C22	1.45	3.03	3.6	1.45	3.03	3.6
Breast cancer			1.14	1.41	1.59			
Under 45 years of age	174	C50	1.15	1.41	1.46			
45 years and over			1.14	1.38	1.62			
Other neoplasms	210–239	D00–D48	1.1	1.3	1.7	1.1	1.3	1.7
Diabetes mellitus	250	E10–E14	0.92	0.87	1.13	1	0.57	0.73
Neuropsychiatric conditions	290–319, 324–359	F01–F99, G06–G98						
Unipolar major depression	300.4	F32–F33	RR not available; AF could not be determined otherwise (Rehm et al., in press *b*)					
Epilepsy	345	G40–G41	1.34	7.22	7.52	1.23	7.52	6.83
Alcohol use disorders	291, 303, 305.0	F10	AF** 100%	AF 100%	AF 100%	AF 100%	AF 100%	AF 100%
Cardiovascular diseases (CVD)	390–459	I00–I99						
Hypertensive disease	401–405	I10–I13	1.4	2	2	1.4	2	4.1
Coronary heart disease	410–414	I20–I25	0.82	0.83	1.12	0.82	0.83	1
Cerebrovascular disease	430–438	I60–I69						
Ischemic stroke			0.52	0.64	1.06	0.94	1.33	1.65
Haemorrhagic stroke			0.59	0.65	7.98	1.27	2.19	2.38
Other CVD causes	415–417, 423–424, 426–429, 440–448, 451–459	I00, I26–I28, I34–I37, I44–I51, I70–I99	1.5	2.2	2.2	1.5	2.2	2.2
Digestive diseases	530–579	K20–K92						
Cirrhosis of the liver	571	K70, K74	1.26	9.54	9.54	1.26	9.54	9.54

Source: Jürgen Rehm, Ph.D., Gerhard Gmel, Ph.D., Christopher T. Sempos, Ph.D., and Maurizio Trevisan, M.D., M.S. Alcohol-Related Morbidity and Mortality. http://pubs.niaaa.nih.gov/publications/arh27-1/39-51.htm last accessed 4 September 2014.

*Definition of drinking categories:
Category I: for females, 0–19.99 g pure alcohol daily; for males, 0–39.99 g pure alcohol daily
Category II: for females, 20–39.99 g pure alcohol daily; for males, 40–59.99 g pure alcohol daily
Category III: for females, 40 g or more pure alcohol; for males, 60 g or more pure alcohol.

Appendix 3 Understanding Alcohol-related hospital admissions

Understanding alcohol-related hospital admissions

Clare Perkins and Matt Hennessey, 15 January 2014 — Chief Knowledge Officer, Reducing the burden of disease

Edited…

Clinical coding is at the heart of all hospital data analysis. It is done by specially trained staff and is the process whereby information written in patient notes is translated into coded data and entered into hospital information systems. The clinical notes are translated into a series of codes or condition groups that are defined within a standard framework -the International Statistical Classification of Diseases and Related Health Problems (ICD-10).The coder must identify a *primary code*, which could be seen as the main reason for admission but they can also record up to 19 *secondary codes* which describe other diagnoses that affect treatment. Additionally, the ICD-10 allows for some *external cause codes* to be recorded in order to help understand more about the admission. These might include codes indicating a motor accident, fall or assault. *External cause codes* can be listed within the 19 secondary codes but cannot be recorded as a *primary code*.

Alcohol-attributable fractions: Alcohol causes, or can contribute to the development of, many health conditions. Academics have been able to use high quality research evidence to estimate what proportion of cases of a health condition are alcohol-related. Conditions such as alcoholic liver disease where alcohol is the sole cause are known as *alcohol-specific* or *wholly alcohol-attributable* conditions and their alcohol-attributable fraction is 1.0 (100 per cent). For other conditions, where alcohol has a proven relationship but it is one of a range of causative factors, an estimate of the contribution alcohol makes is calculated. For example, it is estimated that alcohol plays a causative role in 25-33 per cent of cardiac arrhythmias. These are the *partially alcohol-attributable conditions* and the alcohol-attributable fractions would be 0.25-0.33. Fractions differ slightly for men and women. Some *external cause codes* also have an alcohol-attributable fraction (for example, 27 per cent of assaults are estimated to be alcohol-related and therefore the alcohol-attributable fraction is 0.27).

The total number of alcohol-related hospital admissions, as described by the indicators, is not a number of actual people or a number of actual admissions but an estimated number of

admissions calculated by adding up all of the fractions we have identified. The infographic below illustrates how all the partially alcohol-attributable admissions combine to make an alcohol-related hospital admission.

It is important to remember that this is an exercise using research evidence that is applied to hospital data. There will be people who don't drink alcohol whose admission will be included in the figures; injuries and illnesses that are entirely the result of alcohol use that are not given appropriate recognition; and circumstances where the contribution of alcohol is simply too complex to quantify (such as child malnutrition and neglect arising from parental alcohol dependence).

So what's the difference between the original and the new supplementary indicator? **The original indicator** considers all codes (primary and any secondary codes) that are recorded in relation to a patient's admission record, and if any of these codes has an alcohol-attributable fraction then that admission would form part of the alcohol-related admission total. This can be seen as a broad measure. It provides evidence of the scale of the problem but is sensitive to changes in coding practice over time.

The new indicator seeks to count only those admissions where the *primary code* has an alcohol-attributable fraction. Although alcohol-attributable fractions exist for *external cause codes* (such as 27 per cent of assaults), these cannot be recorded as a *primary code* so the new indicator also includes admissions where the *primary code* does not have an alcohol-attributable fraction but where one of the *secondary codes* is an *external cause code* with an alcohol-attributable fraction. This represents a narrower measure. Since every admission must have a primary code it is less sensitive to coding practices but also understates the part alcohol plays in the admission.

In summary, the new supplementary indicator provides a narrower measure of alcohol harm that is less sensitive to the changes that have occurred in coding over the years and therefore enables fairer comparison between levels of harm in different areas and over time. It is also more responsive to change resulting from local action on alcohol. However, the original indicator is a better measure of the total burden that alcohol has on community

and health services. These indicators measure different things and are to be used for different purposes. What matters most is that they are used to develop understanding, direct action, and achieve positive change in reducing alcohol harm.

Appendix 4 Top three causes of alcohol attributable deaths

Table 7. Top three causes of alcohol-attributable deaths

AGE	MEN		WOMEN	
	CONDITION	N	CONDITION	N
16-24	Road/pedestrian traffic accidents Intentional self-harm Poisoning	121 72 27	Road/pedestrian traffic accidents Intentional self-harm Epilepsy	19 12 7
25-34	Intentional self-harm Road/pedestrian traffic accidents Poisoning	136 101 95	Alcoholic liver disease[a] Intentional self-harm Poisoning	71 15 12
35-44	Alcoholic liver disease[a] Intentional self-harm Poisoning	498 206 99	Alcoholic liver disease[a] Breast cancer Mental and behavioural disorders	268 68 44
45-54	Alcoholic liver disease[a] Intentional self-harm Cancer of the oesophagus	978 209 191	Alcoholic liver disease[a] Breast cancer Haemorrhagic stroke	457 157 75
55-64	Alcoholic liver disease[a] Cancer of the oesophagus Colorectal cancer	1,068 514 213	Alcoholic liver disease[a] Breast cancer Cancer of the oesophagus	515 242 108
65-74	Cancer of the oesophagus Alcoholic liver disease[a] Colorectal cancer	731 606 330	Alcoholic liver disease[a] Breast cancer Cancer of the oesophagus	301 219 195
75+	Cancer of the oesophagus Pneumonia Colorectal cancer	921 826 482	Breast cancer Cancer of the oesophagus Pneumonia	512 481 423
16-75+	Alcoholic liver disease[a] Cancer of the oesophagus Colorectal cancer	3,501 2,397 1,117	Alcoholic liver disease[a] Breast cancer Cancer of the oesophagus	1,820 1,205 836

[a]Combines alcoholic liver disease (K70) and unspecified liver disease (K73, K74).

Appendix 5 Top three causes of alcohol-attributable hospital admissions

Table 12. Top three causes of alcohol-attributable hospital admissions (primary or secondary diagnoses)

AGE	MEN		WOMEN	
	CONDITION	N	CONDITION	N
16-24	Mental and behavioural disorders Other unintentional injuries Assault	10,037 4,108 1,523	Mental and behavioural disorders Ethanol poisoning Epilepsy	4,695 4,211 2,042
25-34	Mental and behavioural disorders Other unintentional injuries Ethanol poisoning	17,639 4,690 3,566	Mental and behavioural disorders Ethanol poisoning Epilepsy	7,098 3,705 2,423
35-44	Mental and behavioural disorders Hypertensive diseases Alcoholic liver disease[a]	30,443 7,895 5,426	Mental and behavioural disorders Hypertensive diseases Breast cancer	11,904 9,177 3,761
45-54	Mental and behavioural disorders Hypertensive diseases Alcoholic liver disease[a]	33,188 25,018 10,377	Hypertensive diseases Mental and behavioural disorders Breast cancer	28,366 12,331 8,109
55-64	Hypertensive diseases Mental and behavioural disorders Alcoholic liver disease	55,472 24,584 11,419	Hypertensive diseases Mental and behavioural disorders Breast cancer	45,815 8,309 6,348
65-74	Hypertensive diseases Mental and behavioural disorders Cardiac arrhythmias	70,371 14,557 11,499	Hypertensive diseases Cardiac arrhythmias Breast cancer	23,450 4,630 4,251
75+	Hypertensive diseases Cardiac arrhythmias Mental and behavioural disorders	59,123 18,392 6,904	Cardiac arrhythmias Epilepsy Mental and behavioural disorders	12,015 3,174 3,110
16-75+	Hypertensive diseases Mental and behavioural disorders Cardiac arrhythmias	219,925 138,374 40,094	Hypertensive diseases Mental and behavioural disorders Breast cancer	87,401 53,368 25,884

[a]Combines alcoholic liver disease (K70) and unspecified liver disease (K73, K74).

Source: Lisa Jones, Mark A Bellis . Updating England Specific Alcohol-Attributable Fractions. Liverpool John Moores University, Centre for Public Health 2013.

Appendix 6 Literature Review: Epidemiology of alcohol misuse – search strategy

A literature review was carried out to summarise the best available on the impact of alcohol consumption on health.

The following questions were considered:

- What are the main health impacts of alcohol consumption?
- How are the negative impacts distributed in society ?

Exclusion Criteria

Search Strategy
Academic research, local and central government studies and grey literature were all targeted. Language was restricted to English only.

Study identification was electronic and involved electronic databases using the listed search terms. The initial search criteria was broad to ensure as many studies as possible were assessed for their relevance. Unsuitable articles were excluded.

Search Strategy Grid

(Term 1) Alcohol (Title only search)	**AND**	(Term 2) Health (title only)
OR		**OR**
(Alternative Term) Ethanol ADJ Consumption OR intoxication (title only search)	**AND**	(Alternative Term) impact* OR effect* OR consequence* OR harm (title only)
OR		**OR**
(Related Terms) Drinking ADJ5 Alcohol	**AND**	(Related Terms) Ill* OR disease* OR wellbeing OR well-being OR morbidity OR mortality OR liver OR steatosis OR cancer, AND dementia OR psychological OR social OR mental OR mood OR behaviour OR anxiety OR depression OR impairment OR suicide OR poisoning OR stroke OR Heart ADJ Disease OR pancreas OR cardio ADJ vascular OR diabetes OR Gastro* OR digestive OR accident* OR fall* (title only)

Location: Anywhere
Period of Interest: All

Electronic search strategy
The following electronic databases were included:

- Medline – was chosen to find out about impacts on physical health

- PsycINFO – was chosen to find out about impacts on mental and behavioural health.

The remainder of the databases were excluded because they include research relating to clinical practice rather than the direct effects of alcohol on an individual. The numerous results obtained from these two databases were more than adequate for the purpose of the needs assessment.

The search results were limited to those published in English and involving Humans.

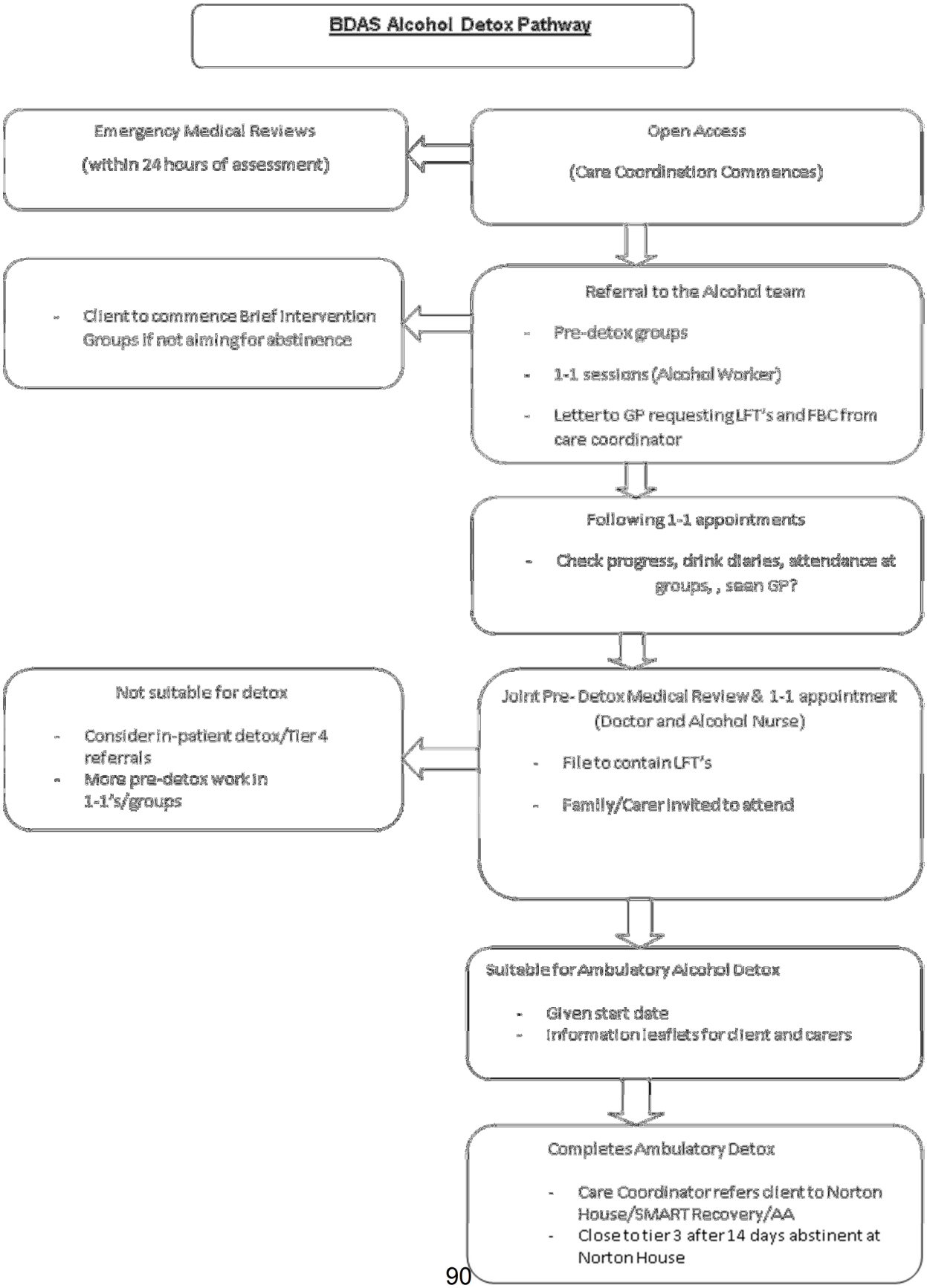
The type of study was limited to systematic review, meta-analysis, randomised controlled trial, observational study.

[Limit to: English Language and Humans and (Publication Types Clinical Trial or Meta-Analysis or Observational Study or Randomized Controlled Trial or Systematic Reviews)]

A snowball literature search was also carried out using references from key literature on the health harms of alcohol.

The full results of the literature search are available separately.

Appendix 7 Bromley Alcohol Detoxification Pathway



Appendix 8 Bromley Alcohol Pathway