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Tobacco Health Needs Assessment

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ABSTRACT

Background

Smoking is the primary cause of preventable illness and premature death accounting for approximately 100,000 deaths a year in the United Kingdom. It is the biggest single cause of inequalities between rich and poor in England. Smoking harms nearly every organ of the body and dramatically reduces both quality of life and life expectancy. Smoking causes lung cancer, respiratory disease and heart disease as well as numerous cancers in other organs including lip, mouth, throat, bladder, kidney, stomach, liver and cervix. There is no risk-free level of exposure to tobacco smoke and there is no safe tobacco product.

Smoking is by far the most important preventable cause of cancer in the world. Preventing people from starting smoking is fundamental to reducing the health harms and inequalities associated with tobacco use. Health inequalities start in the womb, persist until old age and span generations.

Reports have identified that there are great inequalities in smoking prevalence within Bradford District and more so within certain subgroups of tobacco users (routine and manual, mental health service users and pregnant women). At a local level Bradford is above the national and regional average for all smoking attributable mortality and because of this, major challenges remain to ensure that we achieve the target of reducing the prevalence rate of tobacco usage across the whole population.

Aim

Reduce smoking prevalence among the people of Bradford District, with a distinct focus on Children and Young People, Adults and Pregnancy.

Objectives

1. To identify the current burden of tobacco use within the population of Bradford District, compared with previous years and compared with regional and national levels.
2. To identify current service provision for Tobacco and gaps in service provision within Bradford District.
3. To identify key guidance documents for management and delivery of the local Stop Smoking Service and compare Bradford Districts performance with the targets set within these documents.

4. Prepare recommendations for an action plan to be put forward to the partners working towards a smokefree future, including Health Professionals, Midwives and Clinical Commissioning Groups (CCG's) in Bradford District.

Methods

An epidemiological needs assessment was carried out for smoking within Bradford District. Several sources of data were utilised to obtain information. The data also enabled analysis of epidemiological information at sub group level and analysis of effectiveness of services.

National guidelines containing standards for service provision were utilised to evaluate Stop Smoking Services in Bradford District as part of the epidemiological needs assessment.

A corporate needs assessment was also carried out. This was performed by approaching key stakeholders to identify current service provision and gaps in service provision, as well as proposed ideas for change.

Results

The incidence of smoking and tobacco use in Bradford continues to remain high. The smoking prevalence in England for adults is 18.4% compared to Bradford District where prevalence rates are 22.6%, according to the national Integrated Household Survey. However Bradford's position regionally has dropped in position from 6th lowest to the 5th highest indicating that further interventions are required to reduce smoking prevalence.

Analysis at sub-group level reveals that smoking in Bradford among young people has reduced considerably over recent years, however some of the highest rates of smoking are in young people, many starting before the age of sixteen. This increases the chance that they are more likely to continue to be smokers into adulthood and are likely to be affected by one of the many diseases associated with long term tobacco use; increasing health inequalities.

Smoking in pregnancy and at time of delivery within Bradford is higher than the national average with rates highest within areas of highest deprivation. Pregnant women under the age of twenty are most likely to smoke during and after pregnancy; however prevalence is remaining consistently high for this group as a whole, with low attendance and quit rates at smoking cessation clinics.

Diseases related to smoking are highest in the country with lung cancer seeing the highest mortality rates. The Bradford stop smoking service continues to work with local partners resulting in many programmes being rolled out to tackle the high prevalence. One priority is to reduce the number of young people who take up smoking and educate them around the effects of tobacco. Additionally secondhand smoke is high on the agenda due to the heightened awareness of the impact this has on babies, children and young people and adults, particularly those suffering from smoking related diseases such as chronic obstructive pulmonary disease.

Conclusion

Smoking and tobacco use remains a significant Public Health problem in Bradford District. It is imperative that the stop smoking service continues to employ a multidisciplinary approach to reduce the number of young people taking up smoking initially, which will in turn reduce the prevalence of adult smokers. In the context of smoking related diseases, fewer adults will suffer poor health as a consequence of tobacco use. Continuing developmental work with pregnant smokers will potentially reduce the numbers who smoke at the time of delivery, consequently reducing poor infant health outcomes including low birth rate, sudden infant death syndrome and lower respiratory infections.

Key Recommendations

1. To de-normalise smoking further and discourage young people from being influenced by adult smoking and identify opportunities to introduce smoke-free policies in external areas which children and young people frequent e.g. play areas, school entrances.
2. Ongoing reviews of legislation i.e. smoking in enclosed public places, smokefree homes, smokefree cars has highlighted how crucial the need for policy implementation for smokefree areas spanning all organisations involved in the care or education of young people and children.
3. Within secondary care, referral and support pathways should be part of the organisation's service plan with interventions and referrals written into care pathways ensuring that stop smoking support is promoted and communicated effectively.
4. Within primary care all health and social care services need to play a key role in identifying smokers and making every contact count to ensure that smokers access the most effective stop smoking support options available. Formalised referral systems, electronic or otherwise, enable the monitoring of referral sources (i.e. settings) and the identification of areas in which referral rates could be improved.
5. Ensure all national and regional campaigns are well publicised and resources made available to primary and secondary health care and social care professionals (i.e.

Stoptober, Health Harms, Smokefree homes and cars). Local services and marketing need to be supported by local intelligence and research on local knowledge.

6. Clinical Commissioning Groups (CCG's) commission many programmes including secondary care creating opportunities for CCG's to include stop smoking advice and referral to smoking cessation services in all provider contracts.
7. Commissioners from Public Health and CCG's need to work collaboratively to ensure a coordinated approach to improve outcomes for people stopping smoking.
8. Workplace health and wellbeing teams need to be targeted to assist in making access to stop smoking services for routine and manual workers.
9. Investigation involving focus groups and in-depth interviews are required to identify and explore the needs of pregnant women with regards to service access and support.
10. Due to high relapse within six months, health visitors and professional groups need to maintain the smokefree work to deliver the smokefree messages.
11. In line with NICE guidance (PH26), there needs to be a requirement for fertility clinics (family planning and pre-conceptive advice) to identify smokers and link their advice to the evidence relating to the effects of smoking on fertility plus referral via a care pathway into the stop smoking service.
12. All contacts with pregnant women should include messages that encourage partners/ supportive others to attend appointments to quit smoking. With campaigns and social media advertising support services within maternity settings e.g. televisions/ electronic boards.

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Abbreviations

ASH	Action on Smoking and Health
CCG	Clinical Commissioning Group
CYP	Children and Young People
DH	Department of Health
LGBT	Lesbian Gay Bisexual and Transgender
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
PHIAC	Public Health Interventions Advisory Committee
PHOF	Public Health Outcomes Framework
WHO	World Health Organisation

Glossary of Terms

Infant Mortality	Death in the first year following birth
Perinatal death (includes still-birth)	From 24 weeks gestational to 7 days or 28 days of life born alive
Neonatal death	Death of newborn within first four weeks of life
Preterm birth	Before 37th week of pregnancy
Infant Mortality Rate (IMR) –	Number of infant deaths per 1,000 live births
Occasional Smokers	Less than 1 cigarette per week
Regular Smokers	More than 1 cigarette per week

SECTION 1: OVERVIEW OF THE REPORT

1.1 Purpose of the report

The aim of this report is to highlight the importance of reducing the prevalence of tobacco use, improve the overall health for the population of Bradford District and increase healthy life expectancy, in line with Public Health England's priorities. In particular to focus on a reduction in the proportion of young people taking up smoking and as identified in particularly female teenagers, who are more likely to smoke throughout pregnancy. Similarly, adults in routine and manual jobs are more than twice likely to smoke. The overall aim is to work towards a tobacco-free generation and a smokefree future for Bradford District.

1.2 Structure of the report

The report will begin by describing what tobacco is and the public health impact of tobacco use; including what the risk factors of tobacco use are. It will then look at the service provision to tackle and reduce prevalence within Bradford District.

The next section of the report will discuss global and national implications of tobacco use and how global and national guidelines have been put in place by the World Health Organisation, Public Health England and NICE guidance to increase awareness and the importance of tackling the burden of tobacco.

The following chapter with be structured to highlight the different types of health needs assessment and describe the components of a health needs assessment in a general context and how it will be applied in this report to assess tobacco control within Bradford District. This will be followed by the epidemiological needs assessment in the three key priority areas, namely, Children and Young People, Adults and Pregnancy. The corporate needs assessment is incorporated into the three sections to identify gaps in service provision.

Following on from this, all the information will be combined to identify areas of development for Tobacco Control services in Bradford District and propose recommendations for change.

SECTION 2: INTRODUCTION

This section of the report describes what tobacco is and its relevance to public health along with how current service provision is tackling smoking prevalence within Bradford District. This is followed by a history of surveillance of tobacco use as well as the impact surveillance has had on steering and managing services to tackle this constant threat of premature disease and death caused by tobacco use.

2.1 What is tobacco?

Tobacco is an agricultural crop and is grown all over the world and supports a billion-dollar industry. What we commonly call "tobacco" includes cigarettes, cigars, loose pipe tobacco, chewing tobacco (also known as smokeless tobacco) and snuff. These products contain the dried, processed leaves of the tobacco plant *nicotiana rustica* or *nicotiana tabacum*.

Tobacco is an addictive drug and a nervous system stimulant that triggers complex biochemical and neurotransmitter disruptions. It elevates heart rate and blood pressure, constricts blood vessels, irritates lung tissue, and diminishes your ability to taste and smell. All tobacco contains nicotine which is the psychoactive ingredient, and a stimulant, more than 4,000 other chemicals are present in cigarettes 2,000 of which are known to be poisonous. These chemicals are designed to make the products more user-friendly and addictive, improve its flavour, and/or to increase burn rate, which increases sales.

2.2 What are the risk factors?

Tobacco use is one of the main risk factors for a number of chronic diseases, including cancer, lung diseases, and cardiovascular diseases. Despite this, it is common throughout the world. Among the five greatest risk factors for mortality, it is the single most preventable cause of death. Eleven per cent of deaths from ischemic heart disease, the world's leading killer, are attributable to tobacco use. More than 70% of deaths from lung, trachea and bronchus cancers are attributable to tobacco use.

If current patterns continue, tobacco use will kill more than 8 million people per year by 2030. Up to half of the world's more than 1 billion smokers will die prematurely of a tobacco-related disease. The economic costs of tobacco use are equally devastating. In addition to the high public health costs of treating tobacco-related diseases, tobacco users are also less productive due to increased sickness, and those who die prematurely deprive their families of much-needed income.

Because there is a lag of several years between when people start using tobacco and when their health suffers, the epidemic of disease and death has just begun. Tobacco use remains the single biggest threat to public health.

2.3 Service Provision

There are many cost-effective tobacco control measures that can be used in different settings that have a significant impact on tobacco consumption. The most cost-effective strategies are population-wide public policies, like bans on advertising, promotion and sponsorship of tobacco products; tobacco tax and price increases; forbidding smoking in all public and workplaces; and large, clear and visible graphic health messages on tobacco packaging. All of these measures are outlined in the World Health Organisation (WHO) Framework Convention on Tobacco Control.

At local level a network of Stop Smoking Services has existed in England since 1999. These services are proven to be highly cost effective and have been shown to effectively assist in reducing the health inequality caused by smoking.

The Public Health Stop Smoking Service are no longer driven to achieve a four week quit target creating capacity within the specialist team to focus tobacco control work on addressing smoking prevalence and focussing work on specific areas of need e.g. implementing care pathway referrals, brief intervention training, promoting smokefree messages and developing programmes that address smoking in pregnancy. This may reduce the number of stop smoking clinics provided by the specialist service however support can be accessed from commissioned providers (GP practices, Pharmacies, Dental practices) it also creates an opportunity to consider increasing the number of commissioned providers in areas of need.

Action on Smoking and Health (ASH) has developed a Ready Reckoner tool to calculate the likely cost of smoking to local areas - http://ash.org.uk/localtoolkit/docs/Reckoner.xls

2.4 Surveillance of Smoking prevalence on Tobacco Control - how we measure the burden of Tobacco in Bradford District

There are a number of ways in which we can measure the burden of Tobacco within Bradford District. The first and most recognised method is smoking prevalence among adults (18+). The Public Health Outcomes Framework (PHOF) reports smoking prevalence at National, Regional and Local Authority level. This is a good source to use to compare ourselves with other areas. In addition to this measure the PHOF reports smoking prevalence among routine and manual

groups with smoking among these groups higher nationally and locally compared to all adults (18+).

Whilst the PHOF is a good way to compare ourselves to other areas, it doesn't allow us to get the local picture. Since the transition of Public Health into Local Authority access to data has been limited, the Yorkshire and Humber Commissioning Support Unit provided Public Health with data on adults registered with a GP in Bradford, who have a smoking status recorded, with a number of demographic fields including age, gender, and ethnicity. There are a number of limitations with the data which are; it excludes Bradford residents who are not registered with a GP in Bradford and it will include those who reside outside of Bradford but are registered with a GP in Bradford. It is based on the assumption that all of the smoking statuses recorded are up-to-date, any ward level analysis carried out is based on the postcode of the GP practice and not the postcode where the patient lives, which may not be accurate and therefore doesn't give a true picture of the smoking prevalence within that area. Despite all of the above limitations the data does give us a good indication of the picture in Bradford.

In order to gain a better understanding of tobacco use in Bradford and exposure to secondhand smoke in particular among children and young people, we have used the Children and Young people lifestyle survey, which was carried out in 2013 in schools within Bradford. The survey contained several questions which looked at individual smoking behaviour, and exposure to secondhand smoke. Results from this survey can be seen in more detail in section five of this report; tobacco and children and young people.

The burden of tobacco in Bradford can also be measured using hospital data i.e. admissions and deaths for illnesses attributable to smoking. Breaking this down by age and gender we can see who is most affected, detailed in the fifth section of the report, tobacco and adults.

Smoking in pregnancy is measured by the number of women smoking at the time of delivery (SATOD) data from the hospital trusts allowing analysis of the proportion of pregnant women smoking at the time of delivery in 2012/13. We were also able to look at those smoking at booking compared with SATOD. More information can be found in section five of the report, tobacco and pregnancy.

Nationally stop smoking services are measured on the number of smokers who have quit 4 weeks following their quit date.

2.5 Summary

Stopping smoking at any time has considerable health benefits for people who smoke and for those around them. For people using secondary care services there are additional advantages, including shorter hospital stays, lower drug doses, fewer complications, higher survival rates, better wound healing, decreased infections and fewer re-admissions after surgery. Secondary care providers have a duty of care to protect the health of, and promote healthy behaviour among, people who use, or work in, their services. This duty of care includes providing them with effective support to stop smoking or to abstain from smoking while using or working in secondary care services.

The next chapter of this report explores how tobacco use became a global public health priority and how it led to policies and strategies being implemented to try and tackle the burden of it.

SECTION 3: BACKGROUND

3.1 Global Picture

Tobacco use is one of the biggest public health threats the world has ever faced. Tobacco kills up to half of all users which equates to 5.4 million people a year - an average of one person every six seconds and accounts for one in 10 adult deaths worldwide. There are more than one billion smokers in the world and globally use of tobacco products is increasing, although it is decreasing in high-income countries. Almost half of the world's children breathe air polluted by tobacco smoke while the epidemic is shifting to the developing world more than 80% of the world's smokers live in low- and middle-income countries. It is a risk factor for six of the eight leading causes of deaths in the world.

The World Health Organisation (WHO) estimates that around 210 million people have Chronic Obstructive Pulmonary Disease (COPD) world wide of which 80 million are moderate to severe cases. Globally COPD is the 4th most common cause of death. The WHO predicts that by 2030 COPD will have risen to the 3rd most common cause of death and account for 8.6% of all deaths worldwide. A number of countries including the UK now have legislation restricting tobacco advertising, regulating who can buy and use tobacco products, and where people can smoke.

Lung cancer has been the most common form of cancer in the world for a number of decades accounting for 1.61 million new cases and 1.38 million deaths each year. Lung cancer is most commonly associated with smoking and around 90% of all lung cancers are caused by smoking or as a result of secondhand smoke.

Governments use the tobacco control measures in the WHO Framework Convention on Tobacco Control (WHO FCTC) to reduce the prevalence of tobacco use and exposure to tobacco smoke. By implementing these measures, governments reduce the heavy burden of disease and death that is attributable to tobacco use or exposure.

3.2 National Picture

In 2007 39,473 people were diagnosed with lung cancer and in 2008 35,261 people died of the disease. Current smokers are 15 times more likely to die from lung cancer than life long non smokers. In 2010 the prevalence of smokers in England for all ages was 20% and the Government launched a new Tobacco Control Plan which set out its strategy for tackling tobacco in England.

The Plan also committed to look at the evidence in support of plain packaging of tobacco products and to ending the display of tobacco products in large shops in England by April 2012, and small shops by April 2015. It was recognised that the best way to reduce smoking rates among young people is to reduce adult rates, therefore to reduce prevalence among adults in England to 18.5% or less by 2015 and reduce rates of smoking throughout pregnancy to 11% or less by 2015.

3.3 Electronic Cigarettes

Electronic cigarettes are devices that deliver nicotine to the user by heating and vapourising a solution that typically contains nicotine, propylene glycol and/or glycerol, plus flavours. As there is no combustion involved with the operation of electronic cigarettes, there is no smoke or harmful products associated with combustion, such as tar and carbon monoxide. The liquid can be contained in sealed cartridges or can be added to a tank system. Some electronic cigarettes use 'cartomisers' that combine the vapourising system and electronic cigarette liquid in a single unit. They are designed to replicate smoking behaviour without the use of tobacco. Electronic cigarettes have been developed as a 'lifestyle' or consumer product, and not as a medicine

There is a number of unlicensed nicotine containing products available on the market, such as nicotine vapourisers (e-cigarettes). Unlike those licensed products regulated by the Medicine and Healthcare products Regulatory Agency (MHRA) (e.g. patches, gum, nasal and mouth sprays, sublingual tablets, lozenges, strips and the inhalator), there is limited evidence about their quality, safety or efficacy. Encouraging new evidence is emerging all the time, but currently there are no licensed nicotine vapourisers and therefore these products cannot be prescribed or provided by stop smoking services, nor can they be recommended as a replacement for licensed medications.

Following a public consultation on unlicensed nicotine containing products, and commissioned research, the MHRA announced in 2013 that all such products would need to be licensed as medicines once relevant European legislation was introduced. This EU legislation, Tobacco Products Directive (TPD) was endorsed by the European Parliament in February 2014 and will be implemented from 2016. This requires all nicotine vapourisers containing over 20 mg/ml of nicotine to be licensed as medicines but allows others to continue to be sold as consumer products but with some controls similar to those applied to tobacco products.

To date there remains limited evidence about the use of nicotine vapourisers for smoking cessation. However, expert opinion cited in the MHRA announcement and the NICE tobacco

harm reduction guidance makes it clear that the use of nicotine vapourisers is likely to be considerably less hazardous than tobacco smoking. On this basis, services should, as part of the commissioning arrangement, still be able to provide behavioural support to clients who wish to use unlicensed, self purchased products, whether this use is in combination with or instead of a licensed product. Provided they adhere to the Russell Standard, stop smoking services can include in national data returns clients who are smoking tobacco, receiving behavioural support and who are using a nicotine vapouriser (or other unlicensed nicotine containing product) to help them stop.

Clients who have not smoked in the 48 hours prior to attending their first session, whether they are exclusively nicotine vapouriser users or not, are considered non-smokers and cannot be included in national data returns. However, they may be reported to commissioners locally as examples of recipients of additional services provided.

3.4 Summary

Throughout recent years, several strategies have been published to provide guidance to strengthen existing Stop Smoking Services with the aim of reducing the prevalence of tobacco use with a long-term goal of creating a smokefree future.

This report explores whether Bradford District is meeting the specified targets and requirements set out by these guidelines and targets, by undertaking a health needs assessment.

SECTION 4: HEALTH NEEDS ASSESSMENT

This section of the report describes what a health needs assessment is in general context and how it will be used to analyse the burden of Tobacco use for the population of Bradford District.

4.1 What is a health needs assessment?

A health needs assessment (HNA) is a systematic process, which reviews the health issues affecting a population. The process aims to improve health, and reduce health inequalities, by identifying local priorities for change and then planning the actions needed to make these changes happen (Hooper and Longworth, 2002).

The aim of the government's health inequalities strategy is to narrow the gap between different social and economic groups and areas. A HNA is a vital tool in helping meet this objective through targeting populations most in need of improved support and services (Cavanagh and Chadwick, 2005).

4.2 Types of health needs assessment

There are several types of health needs assessment that can be undertaken. The two most common types were used and are described below.

The first type is an epidemiological needs assessment which incorporates three core elements known as the 'triangle of health needs assessment'.

The first element of an epidemiological needs assessment involves identifying the size of the problem and the pattern of the disease or relative risk, being studied in the population under investigation. This is done through analysis of data to obtain incidence, prevalence and distribution information. Incidence is the number of new cases of disease (groups such as gender are usually defined by exposure to a potential determinant/cause of the disease) that have occurred in a particular time period (usually a year) divided by the total population at risk of developing the disease in that time period. Prevalence is the number of existing cases with the disease of interest during a particular time period (usually a year), divided by the total population at risk. Distribution of disease describes the subgroups of the population who are affected the most, for example age groups, gender, ethnicity and deprivation. For example, those people who have ever smoked are 3 times more likely to die of lung cancer over a 15 year period than those who have never smoked.

The second element of an epidemiological needs assessment is the identification of effectiveness and cost effectiveness of intervention/services, in other words, identification of the interventions/services that work, are affordable and would also address the local health situation. The final element of an epidemiological needs assessment is identification of all the current services available for the disease or relative risk being investigated, which includes primary care, secondary care and voluntary sector services. In order to make changes for the better, knowledge of existing services is important to identify which services need to be changed or enhanced and what resources are required to make the change happen.

The second type of health needs assessment is a corporate needs assessment, which involves the systematic collection of knowledge and views of informants, on healthcare services and needs (Stevens and Gillam, 1998). Informants can include; health professionals, commissioning managers, voluntary organisations, local authority colleagues, NHS colleagues, patients and the public, and information is obtained in a variety of methods. This type of needs assessment is extremely useful in obtaining detailed knowledge of parties who are involved with the service of interest (stakeholders), particularly relating to local knowledge. This can also strengthen engagement of stakeholders through local ownership, when changes are implemented. However, vested interests may bias the information provided by stakeholders, therefore this has to be borne in mind when interpreting responses.

SECTION 5: TOBACCO NEEDS ASSESSMENT

5. 1 Tobacco and Children and Young People

Introduction

Smoking is a behaviour largely taken up in childhood and adolescence therefore it is important to reduce the number of young people smoking in the first place. While the rates of smoking among young people have reduced considerably in recent years, the uptake of smoking by young people continues to be a serious problem. In England around 6% of pupils aged 11-15 were regular smokers in 2009 and an estimated 330,000 young people under the age of 16 'tried' smoking for the first time (Department of Health (DH), 2011).

Across the population of England, some of the highest rates of smoking are in young people and although this has reduced, recent research from Action on Smoking and Health (ASH) (2014) estimated that every year more than 207,000 children, aged 11 – 15, start smoking in the UK.

Among adult smokers almost two-fifths (40%) had started smoking regularly before the age of 16 (ASH 2014), whilst two-thirds report that they took up smoking before the age of 18 and over 80% before the age of 20. As smokers age and die prematurely, the tobacco industry continue to recruit new, young smokers (Hopkinson et al., 2013).

National guidelines state that it wants to reduce smoking prevalence among 15 year olds to 12% or less by 2015 (DH 2011). The earlier someone starts smoking, the more likely they are to smoke for longer and to die earlier from a related condition or disease (National Institute for Health and Care Excellence (NICE), 2010). Beyond the direct health impacts of tobacco use, tobacco use in adolescence is also associated with behaviours that can adversely affect health, including the misuse of alcohol or other drugs. Regular smoking is also more prevalent among young people who have truanted or been excluded from school compared with those who have not (Health and Social Care Information Centre (HSCIC), 2009).

Key Public Health Outcomes:

- Nationally to reduce smoking prevalence among 15 year olds to 12% or less by 2015 from a baseline of 15% in 2009 (DH, 2011)
- Public Health outcome indicator for 15 year olds who are smoking to be agreed (DH, 2012)
- Stop the inflow of young people recruited as smokers

Smoking is among the largest causes of preventable deaths worldwide. The present data in this section of the report should help to raise awareness of childhood smoking and to focus attention on the need to address this important child protection issue.

Method

The main source used for this section was the children and young people lifestyle survey, the survey was carried out in 2013 with primary and secondary school pupils. Respondents were aged 8 to 9, 12 to 13 and 14 to 15. The survey was designed to look at the health and wellbeing of the children and young people in Bradford District. There was a section designated to smoking which asked various questions relating to their own smoking behaviour and their exposure to secondhand smoke. It was the first time questions were asked around Shisha use. The national survey smoking, drinking and drug use among young people in England has been used to compare nationally.

What are the health implications?

Tobacco smoking is a major public health problem, even more so for smokers who start at a young age. The Royal College of Physicians (RCP), (2010) have found that the younger the age of uptake, the greater the health risks. Early uptake is associated with subsequent heavier smoking, higher levels of dependency, a lower chance of quitting, and higher mortality. Children and young people who start smoking are more likely to continue smoking as adults, and are less likely to give up, than those who start smoking in later life (London Health Observatory, 2013).

Child and adolescent smoking causes serious risks to respiratory health both in the short and long term. Children who smoke are two to six times more susceptible to coughs and increased phlegm, wheeziness and shortness of breath than those who do not smoke (RCP 1992).

Smoking impairs lung growth and initiates a premature reduction in lung function which may lead to an increased risk of Chronic Obstructive Pulmonary Disease (COPD). Consequently lung development in young people is affected meaning that subsequent decline in lung function starts at a lower base increasing the risk of COPD in later life. Moreover, people who start to smoke before the age of 15 have a higher risk of lung cancer than those who start later, even after the amount is taken into account (Hopkinson et al., 2013). Evidence suggests the earlier children become regular smokers and persist in the habit as adults, the greater the risk of developing lung cancer or heart disease (British Medical Association (BMA), 2007).

Secondhand Smoke (SHS)

Smoke from tobacco products used by others is called secondhand smoke (SHS) and is harmful to non-smokers when inhaled. Secondhand smoke contains many hazardous chemicals, is invisible and can stay in the air for several hours after a cigarette or pipe has been extinguished. Parental smoking is the main determinant of exposure in non-smoking children. Cancer Research UK (2014) indicates that if a child's parent(s) smoke they are three times more likely to smoke themselves. Although levels of exposure in the home have declined in the UK in recent years, children living in the poorest households have the highest levels of exposure (RCP 2005).

Equally, children exposed to secondhand smoke are also linked to an increased risk of health complications including lower respiratory tract infections, bronchitis and pneumonia, wheezing, middle ear infections and sudden infant death syndrome (SIDS). These are more common in infants and children who have one or two smoking parents. Exposure to SHS in the home more than doubles a child's risk of invasive meningococcal disease, with the greatest risks found for children less than five years of age and for those whose mothers smoked in the postnatal period (Murray et al., 2012).

A review by the British Medical Association's Board of Science concluded that there is no safe level of exposure to tobacco smoke for children and adverse effects can be found even at low levels of exposure. Nicotine inhaled from smoking tobacco is highly addictive, but it is primarily the toxins and carcinogens in tobacco smoke, not the nicotine, that cause illness and death (NICE guidance (PH45), 2013). Chief Medical Officer Professor Dame Sally Davies said: "It is well known that smoking kills, but many smokers still don't realise the damage their smoke causes to those around them". As a result of the evidence surrounding the impact of SHS exposure to children, Public Health England launched a campaign in June 2013 to increase awareness of the hidden dangers of smoking in homes and cars, highlighting that more than 80 per cent of secondhand smoke is invisible and odourless, and contains harmful cancer causing toxins and poisons. The British Lung Foundation campaigned for 5 years for the introduction of a smoking ban in cars where minors are present, UK parliament have now voted in favour and the ban will come into force from 1st October 2015.

Children are especially vulnerable to SHS as they breathe more rapidly, inhaling more pollutants per pound of body weight (a higher relative ventilation rate) than adults. Children also ingest higher quantities of tobacco smoke pollutants due to more hand-to-mouth behaviours (Matt et al., 2004). Research has found that after exposure to similar levels of tobacco smoke, cotinine

levels (a metabolite of nicotine used to measure SHS exposure) in children are about 70% higher than in adults (Willers et al.,1995).

SHS in the home is a major source of exposure because children spend most of their time at home and indoors. Unlike adults who can choose whether or not to be in a smoky environment, children have little choice or control over their SHS exposure. They are far less likely to be able to leave a smoke-filled room if they want to, babies cannot ask, some children may not feel confident about raising the subject, and others may not be allowed to leave even if they do ask.
In 2010 The Royal College of Physicians (RCP) published a landmark report entitled "Passive Smoking and Children". The report acknowledges the importance of smokefree legislation in reducing exposure to SHS in the workplace but points out that the principle source of exposure for non-smokers is in the home and that children are especially at risk (RCP, 2010).

The authors state that *"passive smoking in the home is a major hazard to the health of the millions of children in the UK who live with smokers, and the extent of this health problem has not, to date, been accurately quantified."* They conclude that *"passive smoking is a significant cause of morbidity and mortality in babies and children."*

The RCP report concurs with the findings of a review published by the World Health Organization (WHO), with both reports identifying that SHS is linked to increased risk of a wide range of poor health outcomes for children.

HEALTH EFFECTS

Lower respiratory tract infections

Lower respiratory tract infections affect airways and lungs, and include flu, bronchitis and pneumonia. A review of 60 research studies, found that SHS exposure in the home increased young infants' risk of developing lower respiratory tract infections by 20% - 50% (Jones et al., 2011).

Middle ear infections

Exposure to SHS increases the risks of middle ear disease in children. A review of 61 studies found that exposure to maternal smoking increased a child's risk of middle ear infection by over 60%. The review concluded that 7.5% of episodes of middle ear infections in children in the UK could be attributed to exposure to SHS in the home. They also found that they would be more at risk of needing surgery for middle ear infection (Jones et al., 2012).

Sudden Infant Death Syndrome

Sudden unexpected death in infancy, also known as cot death, is the sudden and unexpected death of an apparently well baby, and affects at least 300 babies in the UK each year (National Health Service (NHS), 2012). A review of the research presented in the Passive Smoking and Children report using data from 75 studies concluded that maternal smoking after birth was associated with a three-fold increased risk of sudden unexpected death in infancy (RCP, 2010). The report also found that having one or more smokers living in the household more than doubled the risk of sudden unexpected death in infancy (NHS, 2012). This will be discussed further in section three 'Tobacco and Pregnancy'.

Invasive Meningococcal disease

Invasive Meningococcal disease is a serious cause of disability and death in children, with just under 5% of cases being fatal and around 16% of those having the disease being left with serious physical or mental disability (Baraff et al., 1993). A review of 18 studies found that exposure to SHS in the home more than doubled a child's risk of invasive meningococcal disease, with the greatest risks found for children under five years of age and those whose mothers smoked in the postnatal period (Murray et al., 2012).

Asthma

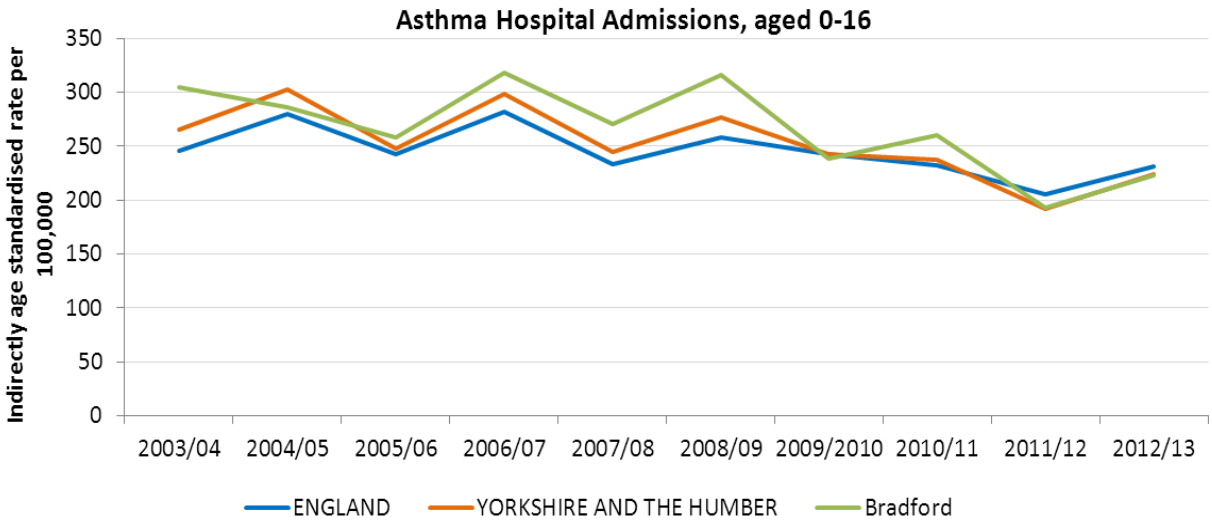
Asthma is the most common chronic disease of childhood. Although there are many reasons why a child may develop asthma, such as one or both parents suffering from it, children who are exposed to secondhand smoke are at greater risk of developing asthma, or those who have asthma will suffer more frequently with asthma attacks if they are around those who smoke. Parental smoking has been shown to be a causal factor of asthma symptoms in children and teenagers and may cause many new cases of asthma each year, with the prevalence of asthma increasing with the number of smokers in the home (Jones et al., 2011).

Studies have found that children exposed to cigarette smoke at home have lower levels of an enzyme that helps them respond to asthma treatment (Kobayashi et al., 2014). However when smoking stops the asthma medication is likely to increase in efficacy and perform as it should.
Smoking in childhood is also a risk factor for asthma and a common trigger of asthma in all ages. Children who wheeze are likely to go on to develop asthma, whilst smoking when you have asthma increases your risk of worsening asthma symptoms and asthma attacks (ASH, 2014).
Research suggests that smoking during pregnancy significantly increases the risk of a child developing asthma (Asthma UK, 2014). In addition, studies have found that asthma causes more absences from school than any other chronic condition: 30% of children with asthma will miss more than three weeks of school each year (ASH, 2014).

A 2006 study found that regular cigarette smoking by adolescents increases the risk of asthma in teenagers with no lifetime history of asthma or wheezing. Teenagers who smoked regularly were four times more likely to develop asthma over the next eight years than non-smokers (ASH, 2014). Demonstrating that the health consequences of smoking emerge quickly and that tobacco smoking can initiate the onset of asthma. Not all hospital admissions for asthma are as a result of exposure to smoking; however, current research reveals that those who are exposed to secondary smoke are at greater risk of repeat admissions.

The next section will now focus on Bradford District and overall the number of emergency hospital admissions is decreasing over time. Hospital admissions were greater in males than females and this echo's the same trend nationally and regionally. Previous rates have seen Bradford higher than the national and regional average, however in the last year Bradford rates have decreased at a faster rate, and are now similar to that of the Regional average and slightly lower than the National average. The Wheezy Child Pathway Group across Yorkshire and Humber launched in 2012 the children and young people asthma/wheeze management plan. This may have further decreased hospital admissions due to improved self management of the condition and in addition increased knowledge of the impact of secondhand smoke due to the highlighted educational intervention of smokefree homes.

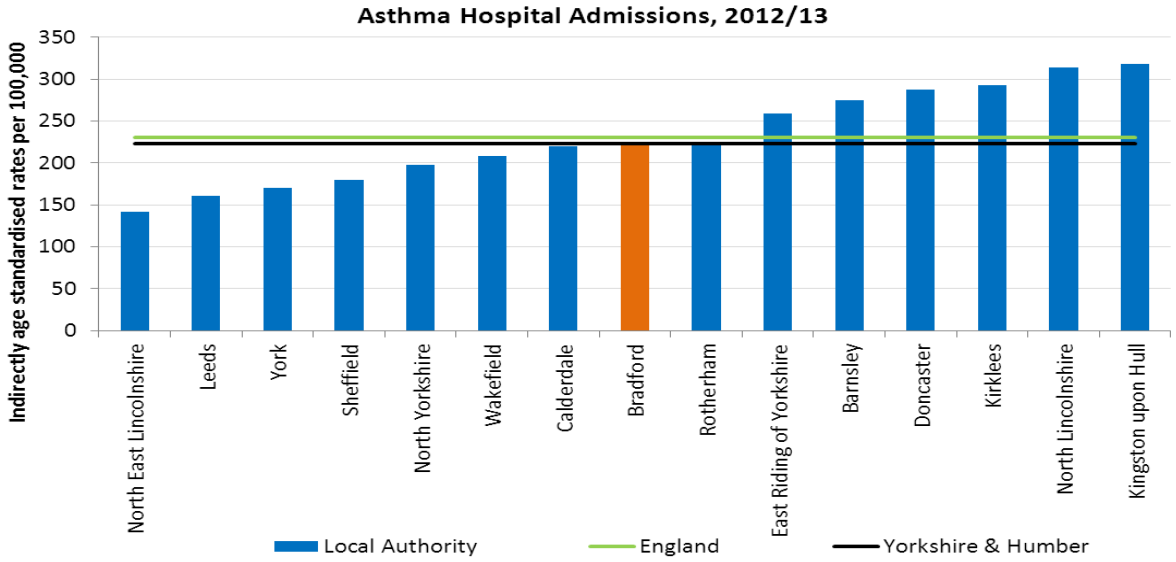
Chart 1: Emergency Hospital Admissions for Asthma aged 0-16 2002/03 to 2012/13



Source: Health & Social Care Information Centre, 2015

Emergency hospital admissions for 0-16 year olds, who had a primary diagnosis of asthma in 2012/13, was lower than the national average and similar to the regional average (NHS Indicator portal, 2015) lowest rates were seen in North East Lincolnshire with the highest rates in Kingston Upon Hull.

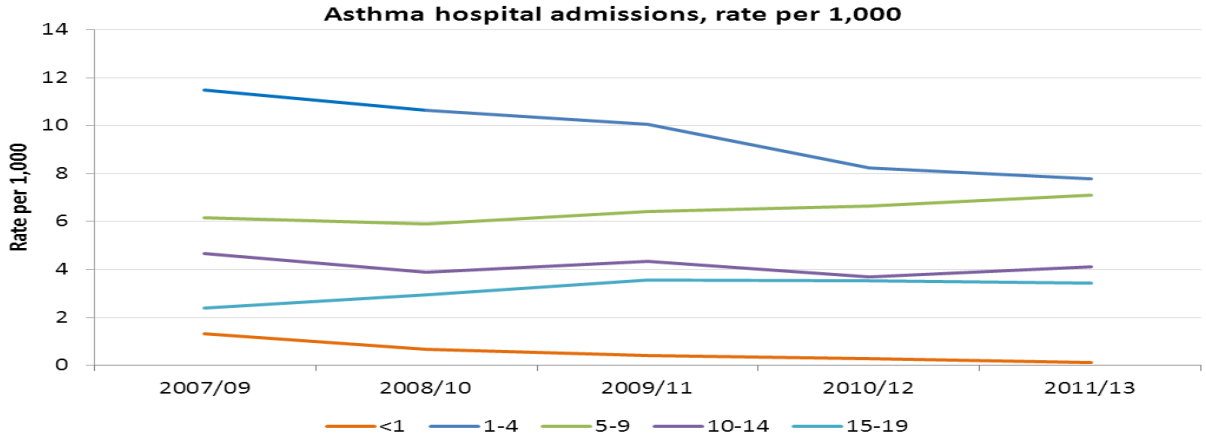
Chart 2: Emergency Hospital admissions, 2013/4 by Local Authority across Yorkshire and Humber



Source: Health & Social Care Information Centre, 2015

The following charts show the rates of emergency hospital admissions for asthma among Bradford residents aged 0-19, broken down into age bands.

Chart 3: Emergency Hospital Admissions for Asthma by age band



Source: Hospital Admissions, 2007-2013

Admission rates were higher among those aged 1-4, although these rates have reduced over the last five years; however admissions among 5-9 year olds and 15-19 years have shown an increase over time. Nearly one third of very young children will have wheezing at some point. Over time most of them will stop wheezing as their airways grow, however for others this could be a sign that they will go on to develop asthma in later childhood or adult life and this will be exacerbated with smoking or being exposed to secondhand smoke.

The number of admissions for asthma in those under the age of 1 is low, this could be a result of asthma not usually being diagnosed at such an early age and difficult to confirm under the age of two. Admissions at this age, due to exposure to secondhand smoking, would usually be for respiratory infections, and pneumonia, this will be discussed further in the tobacco and pregnancy section.

The Children and Young People Lifestyle

The Children and Young People lifestyle (CYP) survey 'Every Child Matters in Bradford District,' carried out in 2013 was designed to look at the health and wellbeing of the children and young people within the district of Bradford. There were 9,372 respondents which included children from 119 primary schools (76% representation) and 22 secondary schools (73% representation), including pupils from years 4, 7 and 10.

Table 1: Bradford's Children and young people lifestyle survey 2013 respondents

2013	Age	Males	Females	All
Primary Year 4	8-9y	2,382	2,278	4,660
Secondary Year 7	12-13y	1,220	1,154	2,374
Year 10	14-15y	1,211	1,127	2,338
Total				9,372

Who Participated?

By looking at the schools that participated we can gain a better understanding of the areas that have being included in the survey, as this can affect the results. For example if we have a lot of respondents from low socio economic groups this may artificially increase our smoking prevalence rates among young people. The following table gives a breakdown of the secondary schools that participated and the numbers that participated, broken down by year and gender this is the total number of participants to the whole survey not just the smoking section.

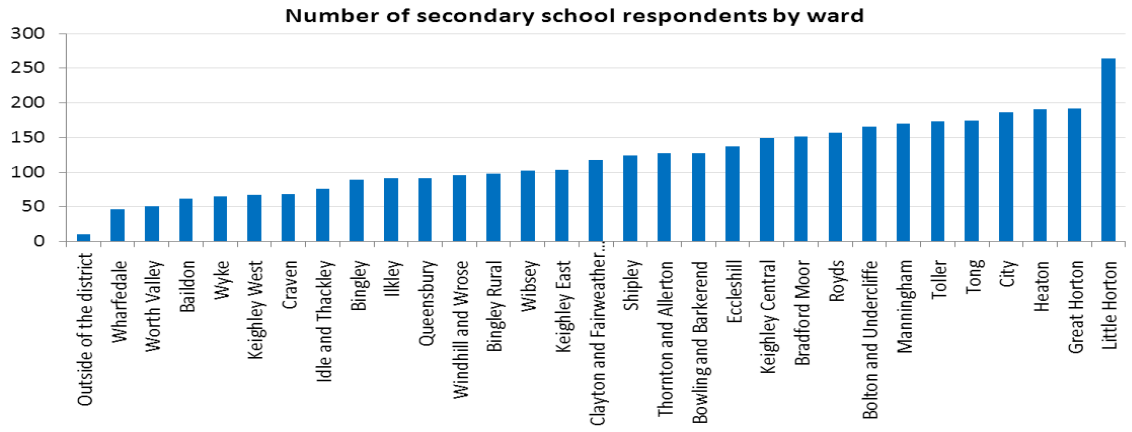
Table 2: Bradford's Children and young people lifestyle survey, list of schools who participated

School Name	Ward	Year 7			Year 10		
		Male	Female	Total	Male	Female	Total
Beckfoot School	Bingley Rural	149	99	248	129	120	249
Parkside School	Bingley Rural	0	0	0	1	1	2
Bradford Academy	Bowling and Barkerend	57	55	112	75	56	131
Bradford District PRU	Bowling and Barkerend	0	0	0	29	7	36
Carlton Bolling College	Bowling and Barkerend	64	71	135	42	53	95
Enterprise College	Bradford Moor	70	81	151	70	66	136
Dixons Allerton Academy	Clayton and Fairweather Green	58	42	100	59	42	101
Grange Technology College	Great Horton	119	108	227	136	105	241
Belle Vue Girls' School	Heaton	0	62	62	0	87	87
Bradford Central PRU	Idle and Thackley	2	0	2	2	0	2
Ellar Carr	Idle and Thackley	13	3	16	0	0	0
Ilkley Grammar School	Ilkley	127	86	213	0	0	0
The Holy Family Catholic School	Keighley Central	52	66	118	0	0	0
University Academy Keighley	Keighley Central	0	0	0	39	36	75
Oakbank School	Keighley West	49	61	110	49	71	120
Dixons City Academy	Little Horton	89	74	163	91	70	161
Oasis Academy Lister park (previously known as Challenge College)	Manningham	0	0	0	85	47	132
Queensbury School	Queensbury	24	27	51	25	35	60
Enterprise College	Royds	50	43	93	49	40	89
Titus Salt School	Shipley	119	107	226	113	110	223
Thornton Grammar School	Thornton and Allerton	115	100	215	114	90	204
Tong High School	Tong	63	69	132	103	91	194

Source: Children and Young People Lifestyle Survey, 2013

The following chart shows the number of responses received from secondary school pupils received by ward. This is the ward in which the pupils live, not where the school resides. It highlights that the greatest number of responses were from pupils who live in Little Horton. The lowest number of respondents was from Wharfedale and Worth Valley, these areas are on the outskirts of Bradford and it is likely that pupils who reside in this area will go to Schools outside of the area. It is important to note that 25% of respondents in secondary school could not be matched to a ward area, because they either failed to provide a post code, or provided an inaccurate postcode.

Chart 4: Bradford's Children and Young people lifestyle survey respondents by ward



Source: Children and Young People Lifestyle Survey, 2013

The following table highlights those who did not participate in the survey.

Table 3: list of schools that did not participate in the Bradford Children and Young people lifestyle survey 2013

School Name	Ward
Appleton Academy	Wyke
Belle Vue Boys School	Heaton
Bingley Grammar School	Bingley
Dixons Trinity Academy	City
Feversham College	Bolton and Undercliffe
Hanson School	Bolton and Undercliffe
Immanuel College	Idle and Thackley
Kings Science Academy	Great Horton
St Bede's Catholic Grammar School	Heaton
St Joseph's Catholic College	Manningham
Samuel Lister Academy	Bingley Rural

Source: Children and Young People Lifestyle Survey, 2013

Of the 9,372 respondents 94% answered the question related to their own smoking status of which 88% stated they have never smoked. This left 12% to respond to the remaining questions around individual smoking use. Questions around exposure to secondhand smoke were open to all participants, this did see a slight drop in respondents but not significant.

This survey asks similar questions to that of the annual government survey, smoking among secondary school pupils in England (Smoking Drinking and Drug use, among Young People in England). We can use this to compare Bradford with the rest of the England. The National survey only asked young people aged between 11 and 15 year groups therefore we cannot compare results from our year 4 cohort. The survey had 7,589 responses; although this was lower than our overall result it was higher than our secondary school cohort which had 4,712 responses. Please note that the latest national survey (2013) only asked the core questions on smoking, which includes rates of smoking, by age, group and gender and smoking status. The national results for people they know who smoke and other in-depth analysis is taken from the previous survey in 2012.

The following gives a breakdown of the results from the smoking section of the report, analysing the results by gender, ethnicity and deprivation. There is also some comparison on the responses from the previous survey. However, because this is the first time questions have been asked around the use of shisha, it was not possible to compare these responses.

Who Smokes?

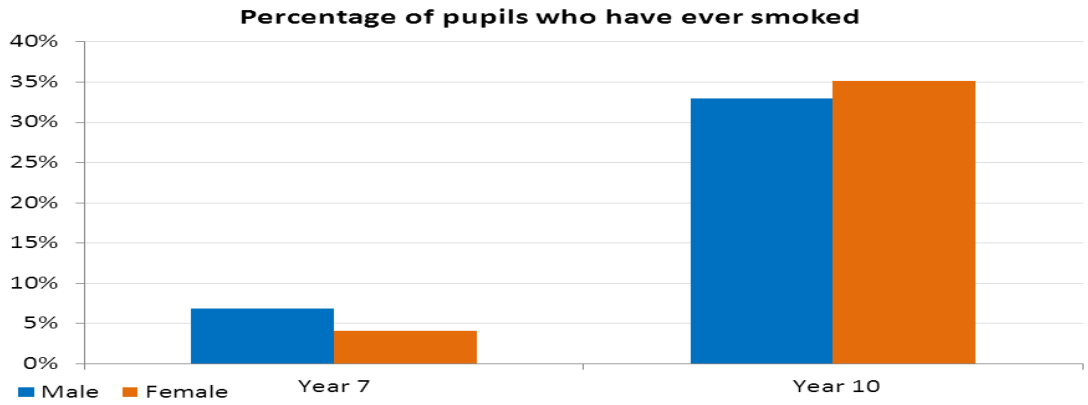
The local survey asked about pupils smoking habits, and breaks them down to look at those who have never smoked, those who have tried smoking once or twice, smoke occasionally (less than one cigarette per week) and regular smokers, by whether or not they wish to quit.

The following section looks at those who have ever smoked, smoke occasionally and are regular smokers, breaking the results down by age, gender, deprivation and comparison to the previous survey.

Who has ever smoked?

4% of year 4 pupils have ever smoked; this is considerably higher among males (7%) than females (1 %.) This is slightly higher for year 7 pupils with 6% of pupils having ever smoked. Pupils who have ever smoked includes those who may have only tried smoking once or twice, those who have smoked in the past but no longer smoke, those who are occasional smokers and those who are regular smokers, in essence it is anyone who has ever tried smoking regardless of their current smoking status.

Chart 5: Percentage of secondary school pupils who have ever smoked

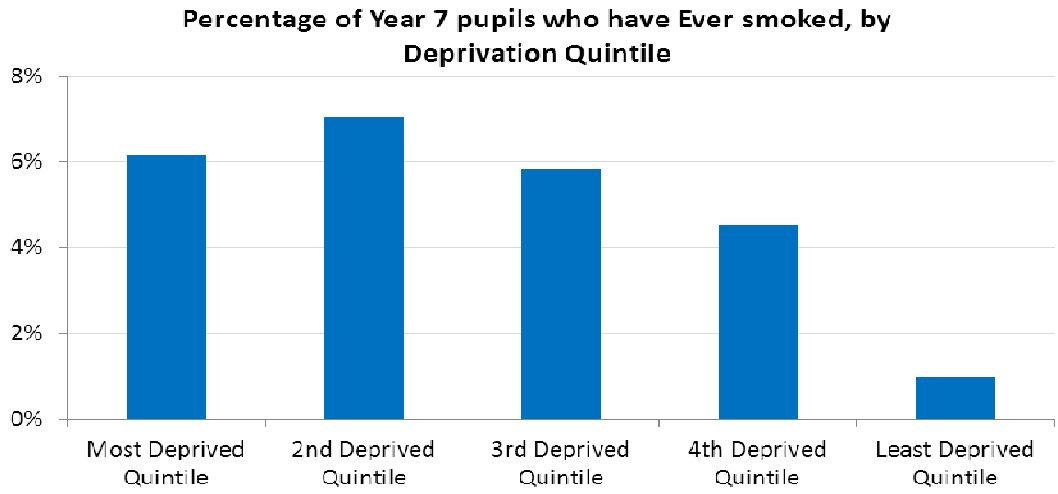


Source: Children and Young People Lifestyle Survey, 2013

As with year 4 pupils, in year 7 more males (7%) than females have tried smoking (4 %), this pattern changes as we look at pupils in year 10. Overall 34% of pupils in year 10 have ever smoked, however this is slightly higher among females (35%) than males (33 %).

The following chart looks at year 7 pupils who have ever smoked by deprivation, it highlights that the more deprived are more likely to have at least tried a cigarette compared to those in the least deprived quintile.

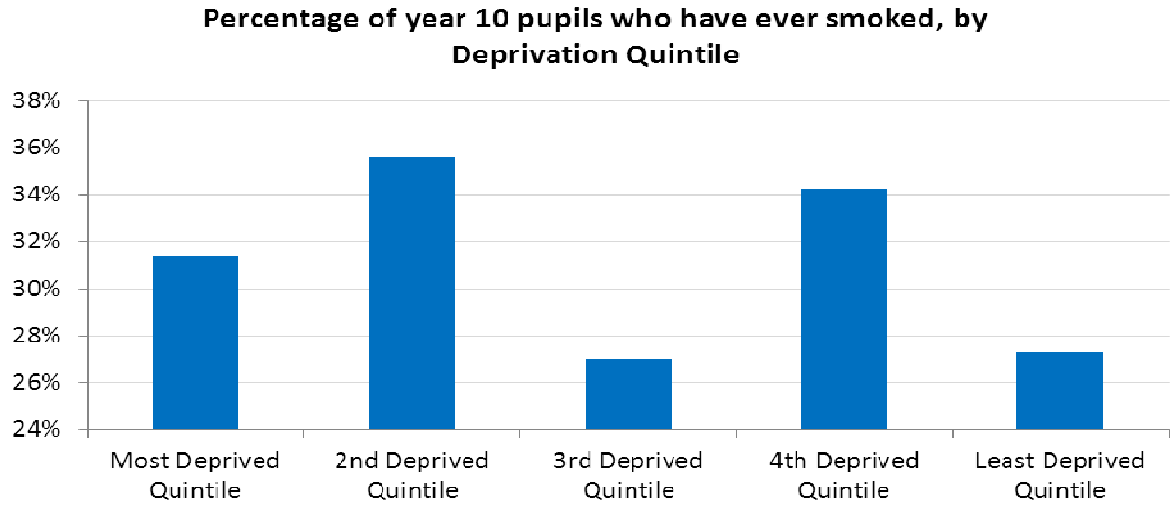
Chart 6: Percentage of year 7 pupils who have ever smoked by deprivation quintile



Source: Children and Young People Lifestyle Survey, 2013

There is very little correlation between those in year 10 who have ever smoked and deprivation; therefore by the time they are in year 10, deprivation is having little impact on whether or not a pupil decides to smoke.

Chart 7: Percentage of year 10 pupils who have ever smoked by deprivation quintile



Source: Children and Young People Lifestyle Survey, 2013

Chart 8: Percentage of year 7 pupils who have ever smoked, 2010 and 2013

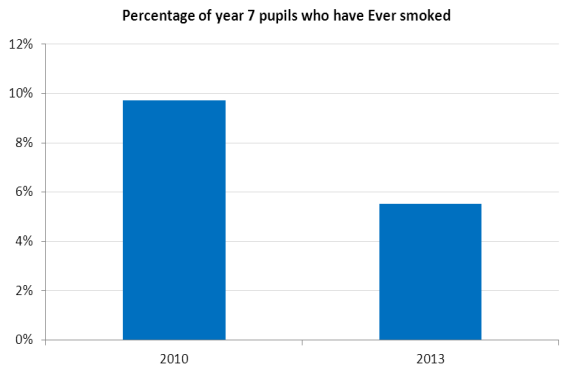
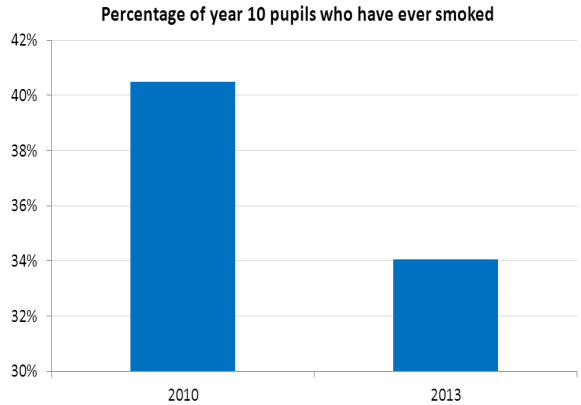


Chart 9: Percentage of year 10 pupils who have ever smoked, 2010 and 2013



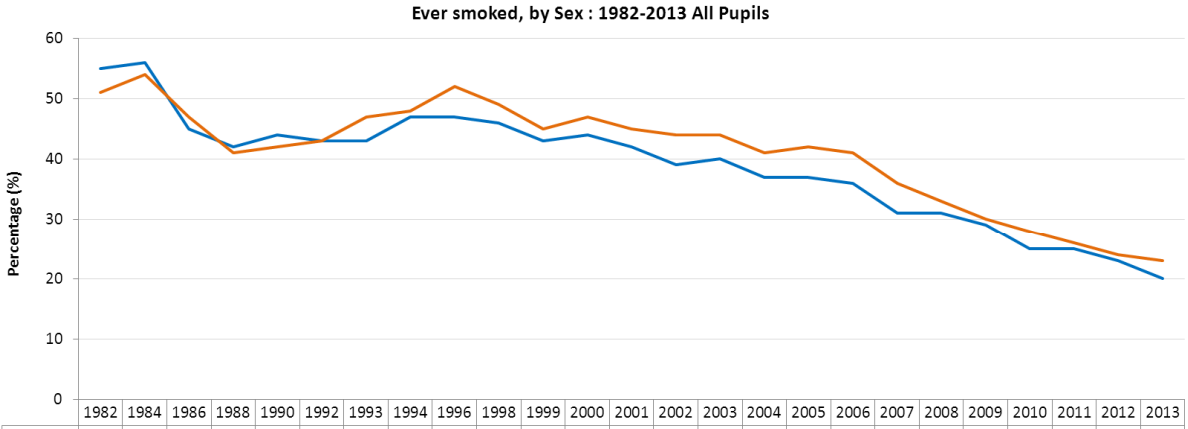
Source: Children and Young People Lifestyle Survey, 2013

The percentage of year 7 pupils who have ever smoked has decreased since the previous survey in 2010, from 10% to 6%; this is the same for both males and females. There has also been a decline in pupils in year 10 from 41% to 34%. The trend for males and females has remained the same with more males than females having ever smoked in year 7 and more females than males having ever smoked in year 10.

Is this the same nationally?

Nationally the percentage of pupils who have ever smoked is on the decrease 22% of pupils in 2013 had tried smoking at least once, this has halved since 1996 where 49% had tried smoking at least once.

Chart 10: percentage of pupils who have ever smoked 1982- 2013 (National survey) by gender



	1982	1984	1986	1988	1990	1992	1993	1994	1996	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Boys	55	56	45	42	44	43	43	47	47	46	43	44	42	39	40	37	37	36	31	31	29	25	25	23	20
Girls	51	54	47	41	42	43	47	48	52	49	45	47	45	44	44	41	42	41	36	33	30	28	26	24	23

Source: Smoking, drinking and drug use among young people in England, HSCIC 2013

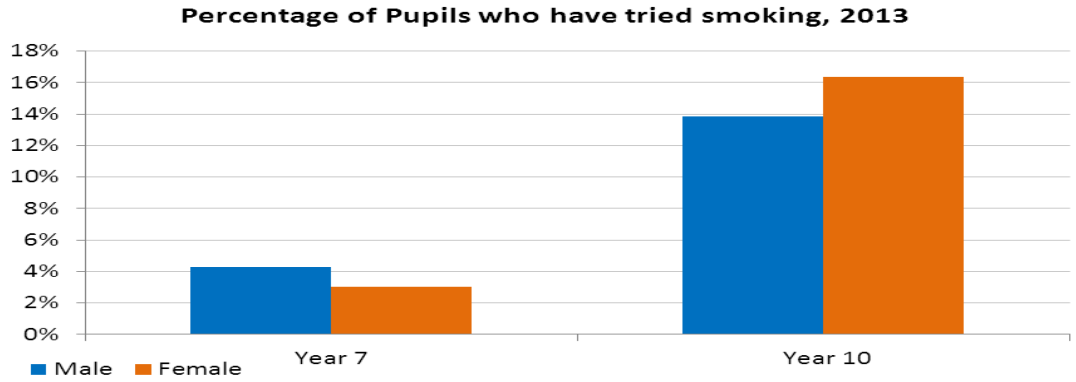
In 2013, 3% of all pupils were regular smokers, in line with Bradford, this increased with age with 8% of 15 year olds identified as regular smokers. This was similar for males and females.

Who has tried smoking?

The following graph looks at the percentage of pupils who have only tried smoking once or twice. The number of those trying cigarettes is considerably higher among those in year 10. This is expected due to the high percentage of year 7 pupils who have never smoked. The number of pupils who have tried smoking once or twice increases with age; this is consistent with the national picture with 3% of 11 year olds having tried smoking, which increased to 17% of 15 year olds, this is a very similar picture locally with 4% of year 7 pupils compared with 15% of year 10 pupils.

More males than females have tried smoking among year 4 and year 7 age groups; however more females in year 10 had tried smoking, with 17% compared to 14% respectively. Nationally, previous surveys have shown that more boys than girls had tried smoking, however the trend has now changed and there is very little variation between genders with 19% of aged 15 girls and 16% of boys in the same age group. For girls and boys the danger of trying smoking is that nicotine is very addictive.

Chart 11: Percentage of year 7 and 10 pupils who have tried smoking by gender, 2013



Source: Children and Young People Lifestyle Survey, 2013

Similar to those who have never smoked, there is quite a strong correlation between those trying smoking and deprivation in year 7 pupils with 2% in the least deprived compared to 6% in the most deprived (having tried at least once,) but less correlation among year 10 pupils. The more deprived a pupil in year 7 the higher the chance that they have already tried smoking. Although for year 10 pupils, those in the most deprived quintile are least likely to have only tried smoking once or twice, for those who have tried it is more prevalent among those in the more affluent quintiles, there are a couple of reasons why this may be including; pupils in year 10 who have tried smoking once or twice will have done so regardless of social class or that those who are most deprived would class themselves as occasional or regular smokers which we will look at next.

Chart 12: Percentage of year 7 pupils who have tried smoking by deprivation

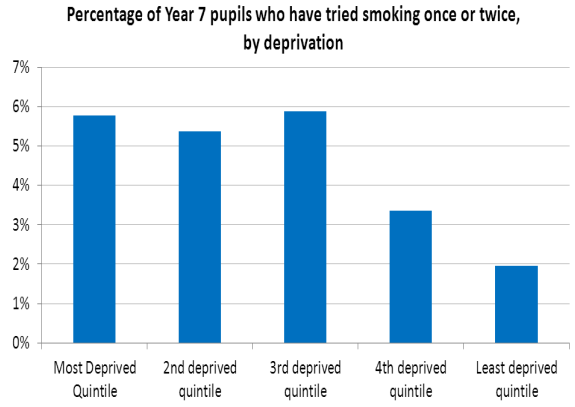
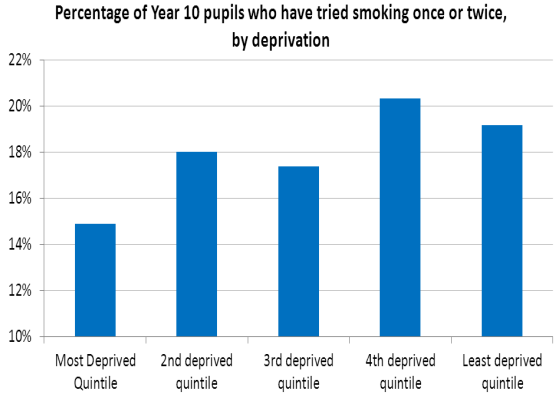


Chart 13: Percentage of year 10 pupils who have tried smoking by deprivation quintile



Source: Children and Young People Lifestyle Survey, 2013

Those who have tried smoking have decreased from the previous survey, among both year 7 and year 10 pupils. Previously year 10 males were more likely to have tried smoking than

females; however the latest survey has seen a shift with more females (16%) having tried than males (14 %.)

Chart 14: Percentage of year 7 pupils who have tried smoking 2010 and 2013, by gender

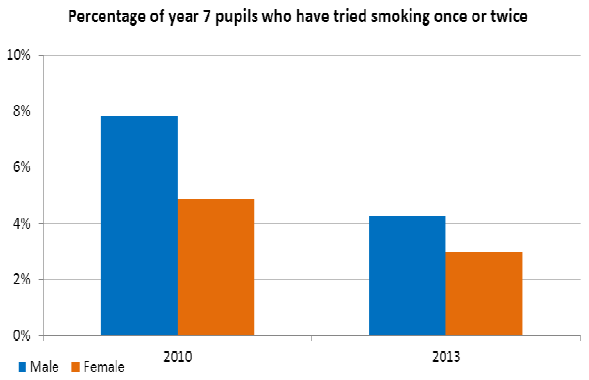
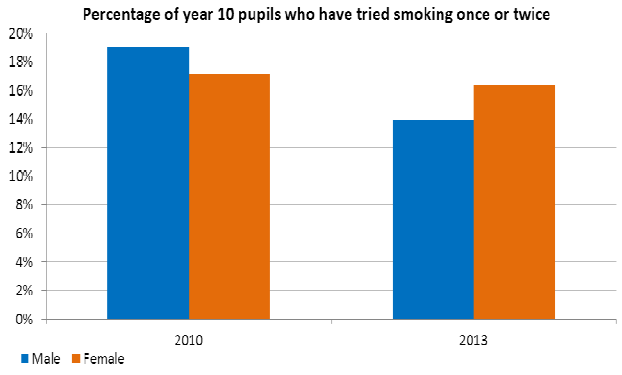


Chart 15: Percentage of year 10 pupils who have tried smoking 2010 and 2013, by gender

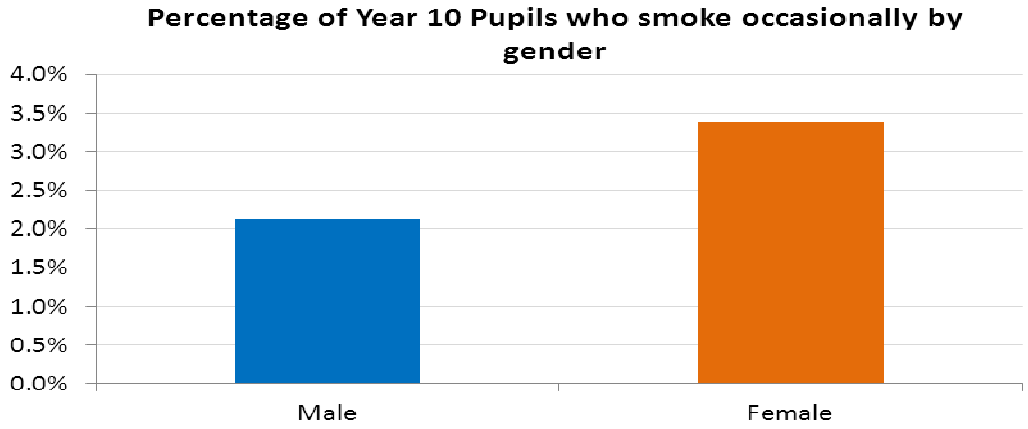


Source: Children and Young People Lifestyle Survey, 2013

Occasional Smokers

The number of year 7 occasional and regular smokers are too small to analyse in detail, therefore only year 10 pupils have been analysed in detail. 3% of year 10 pupils reportedly smoke occasionally; occasional smoking was described as at least once a week. This was slightly higher for females with 3.6% compared with 2.3% of males.

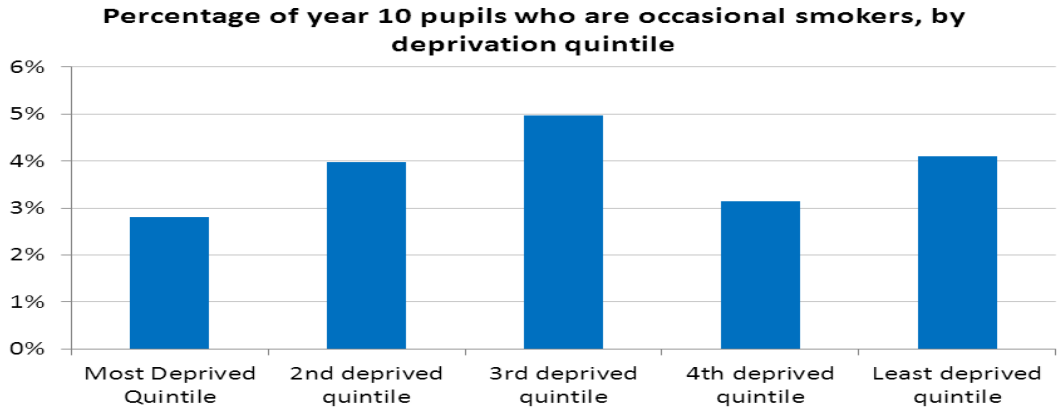
Chart 16: Percentage of Year 10 pupils who smoke occasionally by gender



Source: Children and Young People Lifestyle Survey, 2013

There is no correlation between those who smoke occasionally and deprivation. However it was marginally lower among the most deprived quintile.

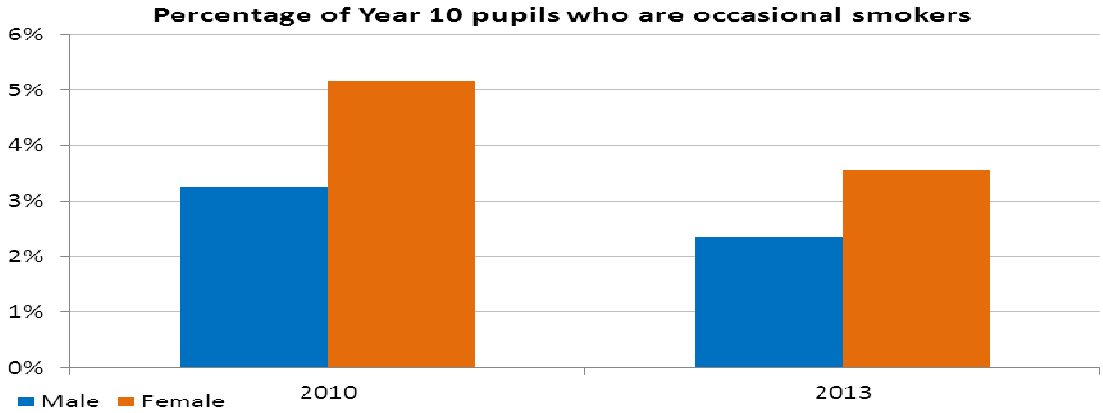
Chart 17: Percentage of year 10 pupils who are occasional smokers by deprivation quintile



Source: Children and Young People Lifestyle Survey, 2013

The percentage of occasional smokers has reduced slightly since the previous survey; however the trend between males and females has stayed the same, with more females than males being occasional smokers. This could suggest that females are more likely to smoke socially with friends on occasions than all of the time. This will be discussed in detail in the analysis section.

Chart 18: Percentage of year 10 pupils who are occasional smokers 2010 and 2013

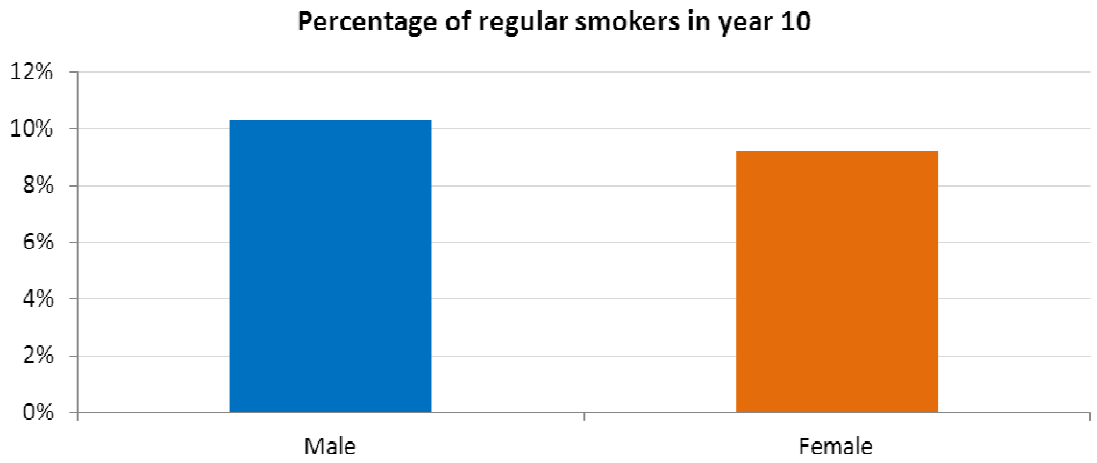


Source: Children and Young People Lifestyle Survey, 2013

Regular Smokers

10% of year 10 pupils are regular smokers; this is slightly higher among males (10%) than females (9 %). Regular smoking was described as more than once a week.

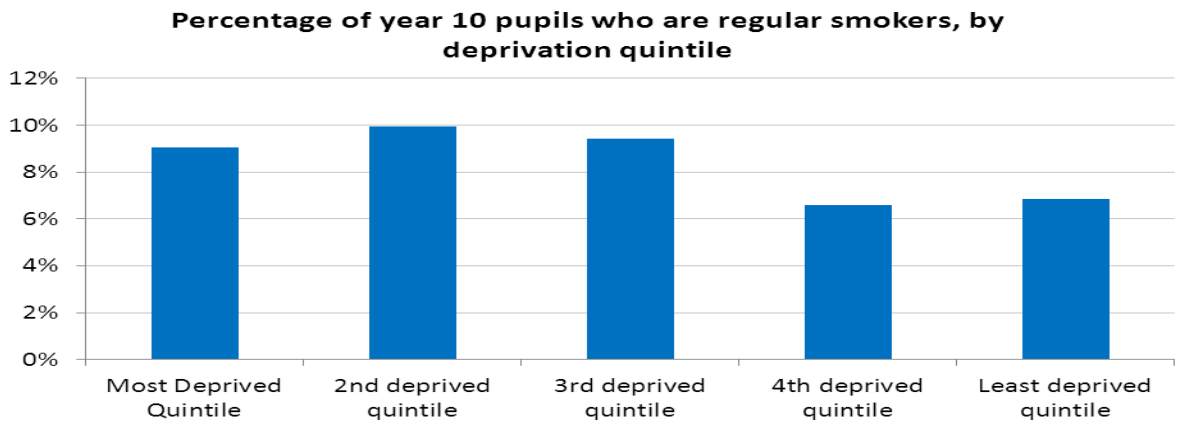
Chart 19: Percentage of regular smokers in year 10 by gender



Source: Children and Young People Lifestyle Survey, 2013

The percentage of regular smokers is higher among the more deprived quintiles; however the correlation isn't clear, the results are dispersed quite equally among all of them.

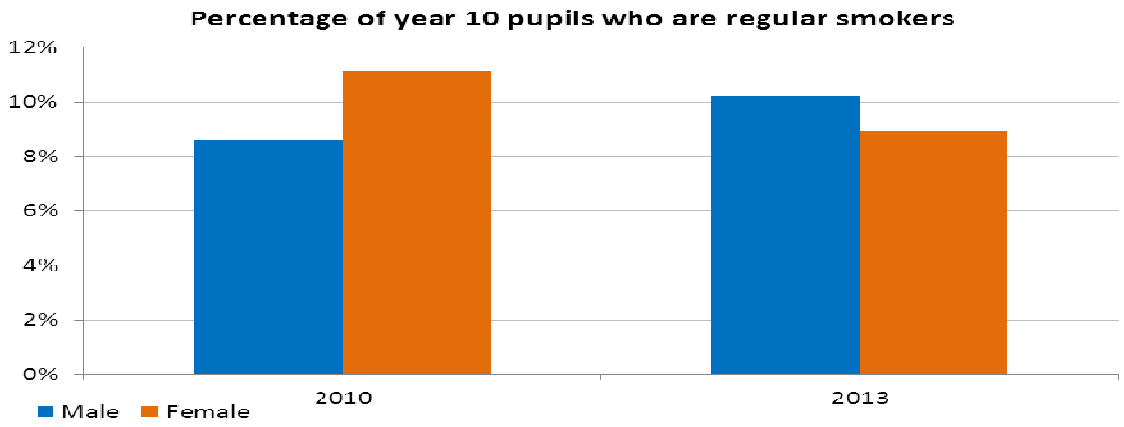
Chart 20: Percentage of year 10 pupils who are regular smokers by deprivation quintile



Source: Children and Young People Lifestyle Survey, 2013

The percentage of year 10 pupils who are regular smokers hasn't changed since the previous survey. However smoking among females has reduced, previously regular smoking was higher among females than males.

Chart 21: Percentage of year 10 regular smoker 2010 and 2013

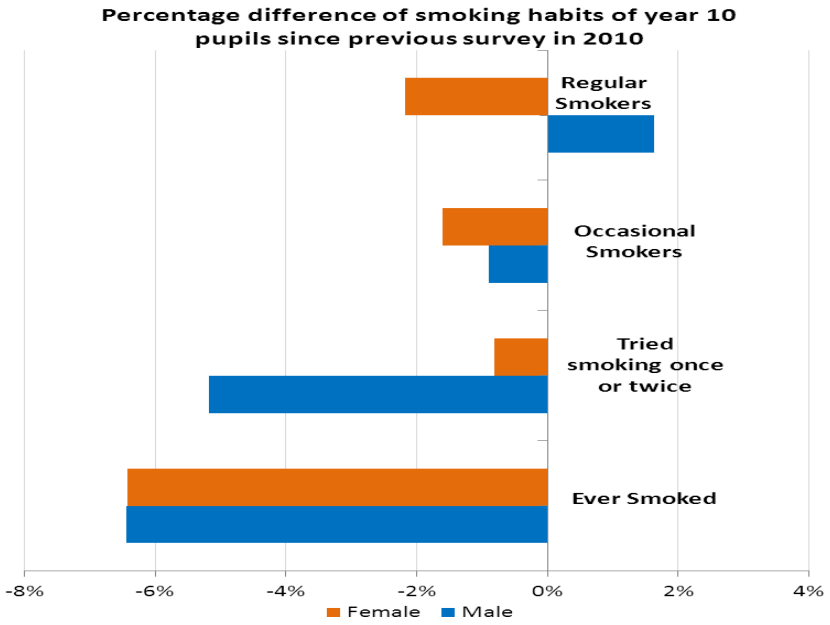


Source: Children and Young People Lifestyle Survey, 2013

Has this changed since the previous survey in 2010?

The percentage of pupils who have ever smoked has decreased the most among males. Females have a 6% increase. Those who only tried smoking once or twice has decreased, this is greater among males (-5%) than females (-1 %). Occasional smokers have also decreased. The percentage of regular smokers has increased among males but decreased among females however this is slight, and the overall results have remained the same at 10%.

Chart 22: Smoking habits of year 10 pupils 2010 and 2013



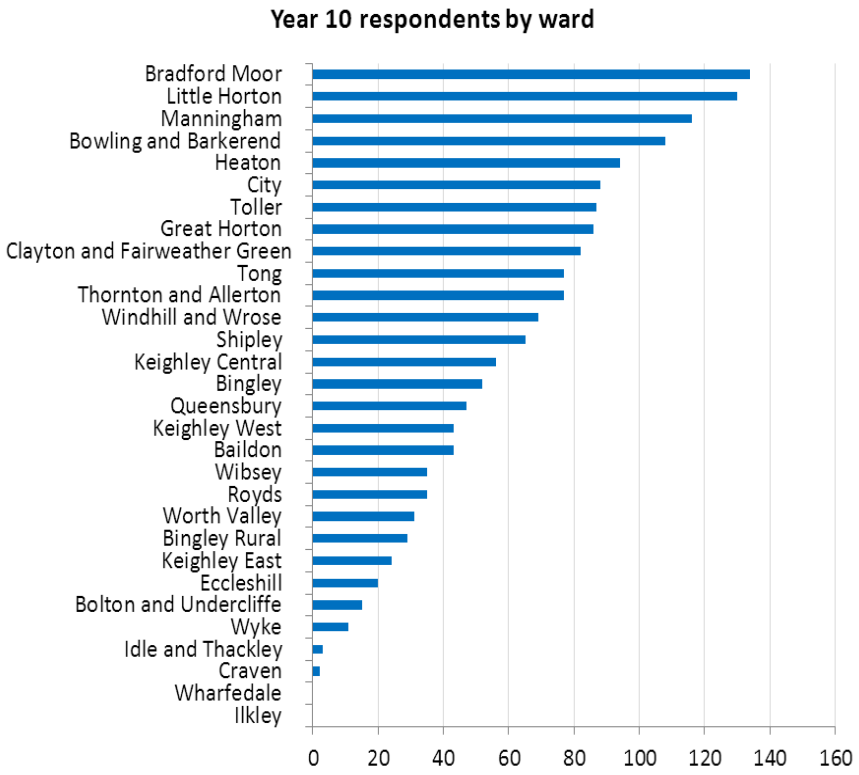
Source: Children and Young People Lifestyle Survey, 2013

Smoking status by ward

Due to pupils having incorrect or incomplete postcodes, not all responses were able to match to a ward, this equates to 28% of pupils in year 10. Therefore the following breakdown by ward

does not give a true picture of smoking prevalence by ward; the next chart will show the total number of respondents among year 10s by ward in which they live. This will give a better understanding of the percentages. There were 2,338 responses from pupils in year 10, with 1,659 able to be matched to a Bradford ward.

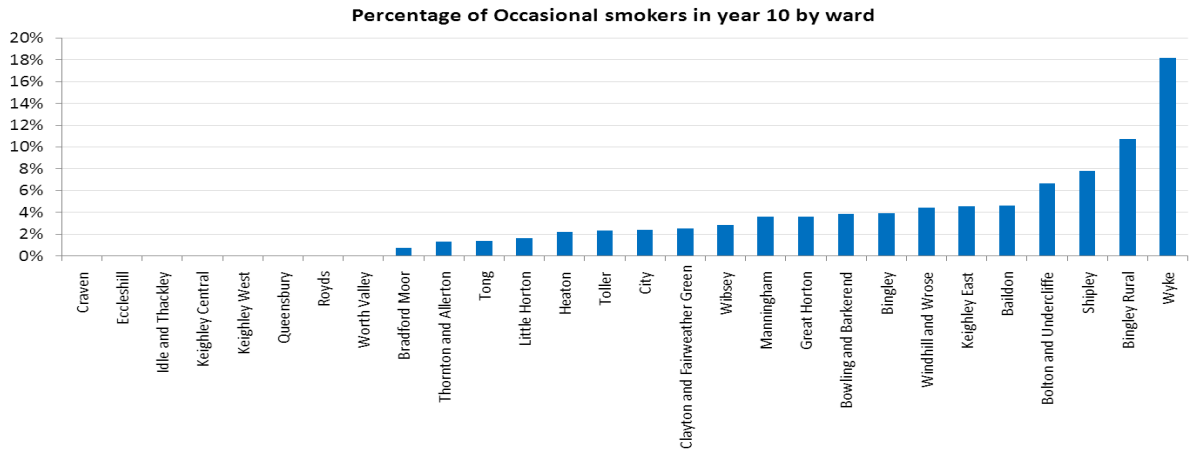
Chart 23: Year 10 respondents by ward



Source: Children and Young People Lifestyle Survey, 2013

The highest proportion of occasional smokers came from the Wyke ward, with 18% of year 10 pupils who reside in Wyke reporting they smoke occasionally, there were only a small number of respondents from Wyke and this could account for the high percentage. Bingley rural reported the second highest proportion with 11%; again this ward had quite low respondents in this year group. There were several wards which reported no occasional smokers, these are highlighted in the chart below, and in addition Wharfedale and Ilkley had no year 10 pupils who responded to this question. This could be due to the schools that participated in the survey and those who did not, a list of the schools who did participate and their participation rates by school year and gender is included in the appendix.

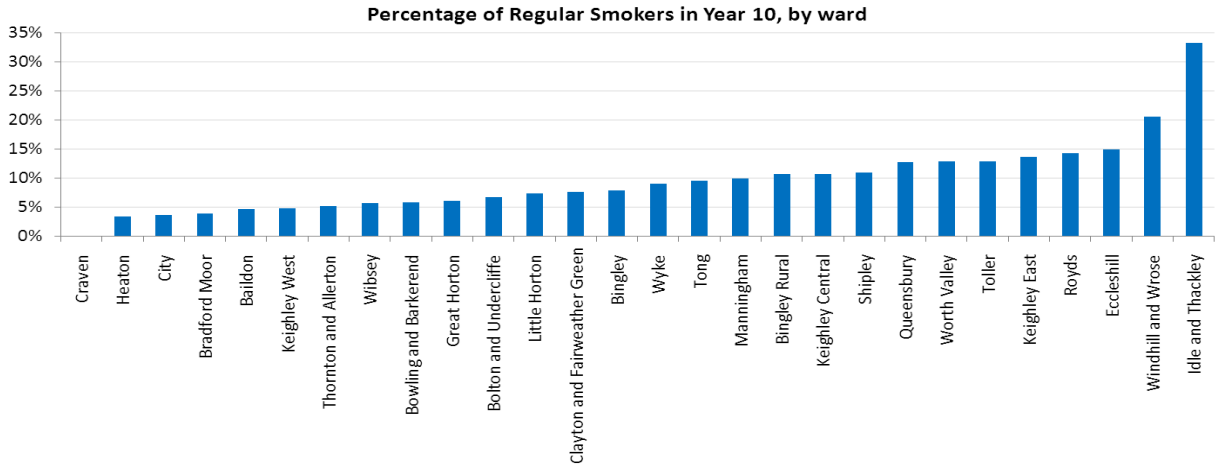
Chart 24: Percentage of year 10 occasional smokers by ward



Source: Children and Young People Lifestyle Survey, 2013

The highest proportion of regular smokers reside in Idle and Thackley (33%), second highest was in Windhill and Wrose (21%). Heaton (3%) and City (4%) reported the lowest after Craven who reported no regular smokers among year 10, however this is due to small numbers reporting from this ward. The small numbers reporting from Craven could be due to pupils who live in this area, going to schools outside of the district, which did not participate.

Chart 25: Percentage of regular smokers in year 10 by ward

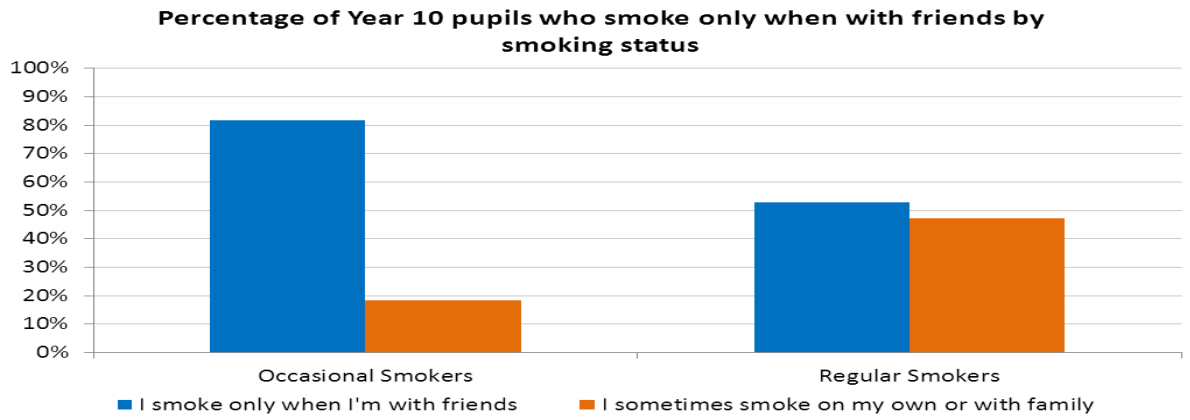


Source: Children and Young People Lifestyle Survey, 2013

Who do people smoke with?

60% of year 10 pupils who smoke either regularly or occasionally, do so only when they are with friends, this is higher among occasional smokers; with 82% (49) pupils who smoke occasionally reported smoking only when they are with friends rather than when alone or with family. This suggests that peer pressure or accessibility could play quite a large part in the number of people who smoke, and that there is a smoking culture among young people. There is also a considerable amount of regular smokers who also only smoke with friends; however there is little difference between this and those who smoke on their own or with family.

Chart 26: Percentage of year 10 pupils who smoke only when with friends by smoking status

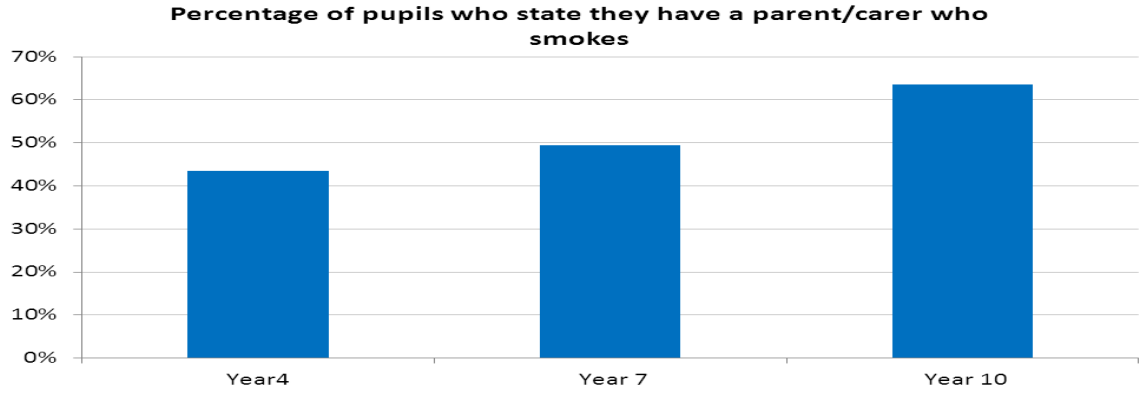


Source: Children and Young People Lifestyle Survey, 2013

Exposure to Secondhand smoke

Recent policy has not only tried to reduce the prevalence of smoking but also the reduction in exposure of secondhand smoke. The CYP survey asks pupils about their family smoking habits. The number of pupils who have a parent or carer that smokes increases with age, the percentage is lowest among pupils in year 4 (43%) and highest among those in year 10 (64 %.) The possible reason for the low numbers reported in year 4 pupils could be that they either do not want to say whether their parent/carer smokes or the parent/carer smoke away from the child so therefore are not overtly smoking for the pupil to knowingly report on this. There is also little gender variation.

Chart 27: Percentage of pupils who state they have a parent or carer who smokes



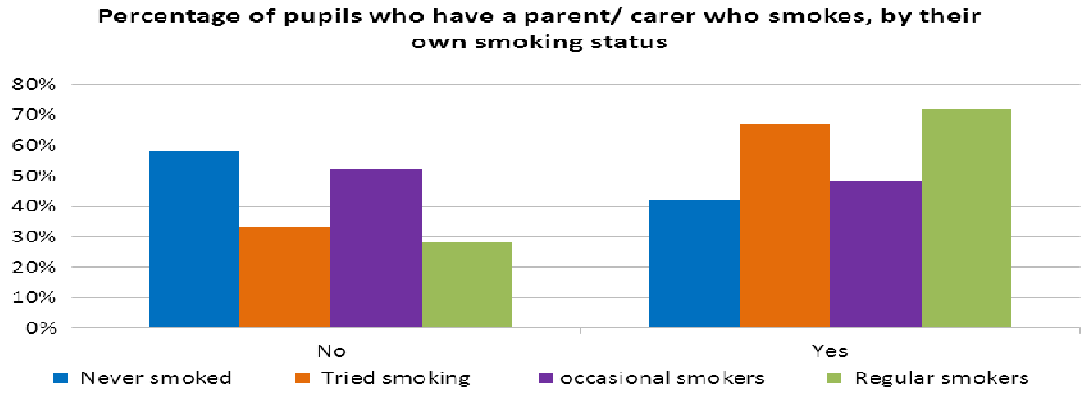
Source: Children and Young People Lifestyle Survey, 2013

The following explores the relationship between those exposed to environmental tobacco smoke, and their own personal smoking status, to see whether there is any correlation between the two. The percentage of pupils, who have never smoked, is higher among those whose parent or carer doesn't smoke. The percentage of occasional smokers is also higher among those whose parents or carers don't smoke. The percentage of smokers, whose parents smoke is more than

double that of those whose parents don't, similarly the percentage of pupils who try smoking increases significantly among those who have a parent or carer who smokes.

This is in line with national research which would suggest that smoking initiation is three times more likely if they are associated with a parent or sibling who smokes (ASH, 2014)

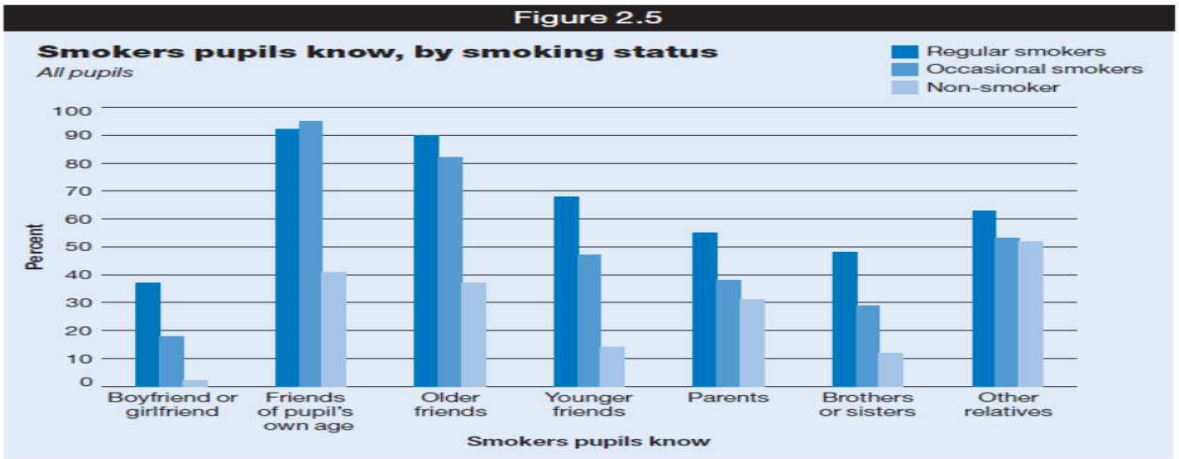
Chart 28: Percentage of pupils who have a parent/carer who smokes by child smoking status



Source: Children and Young People Lifestyle Survey, 2013

This is the same nationally (2012 survey,) 68% of pupils knew a family member who smoked. 32% of which said it was a parent that smoked, 14% said a brother or sister, and 53% said it was another relative that smoked. Smokers are more likely to know someone who smokes than a non-smoker. 55% of regular smokers had a parent who smoked; this is lower than the local figure of 71%. The more likely a pupil was to smoke, increased with the number of people they knew that smoked; 16% of regular smokers lived with three or more smokers compared with 1% of regular smokers who did not live with a smoker.

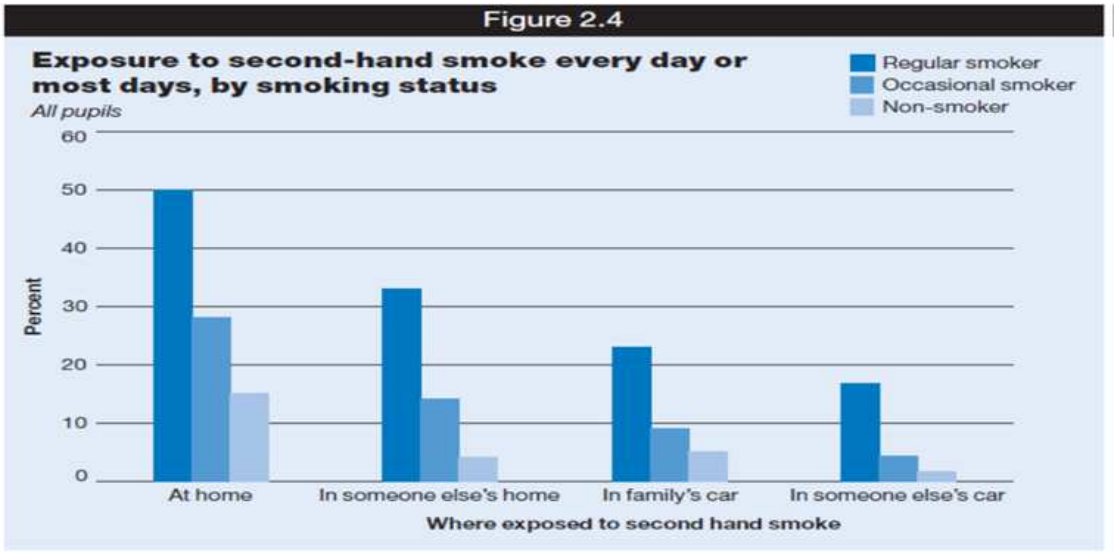
Chart 29: Percentage of smokers pupils know by smoking status, National survey



Source: Smoking, drinking and drug use among young people in England, HSCIC 2012

The national survey asks pupils about exposure to secondhand smoke within four different settings, these included; in their own home, the homes of others, in their family car, or in someone else's car. 67% of pupils had been exposed to secondhand smoke in at least one of these settings. 55% reported that in the last year they had been exposed to secondhand smoke within someone else's home, with 43% within their own home. Secondhand smoke within cars was less prominent with 26% in their own family's car, and 30% in someone else's car. Regular smokers were more likely to report, that they were near someone who smokes on most days. Half of all regular smokers, were around smokers within their home on a daily basis; 33% in other homes, 23% in their family car and a further 17% in someone else's car this is considerably higher than occasional and non- smokers.

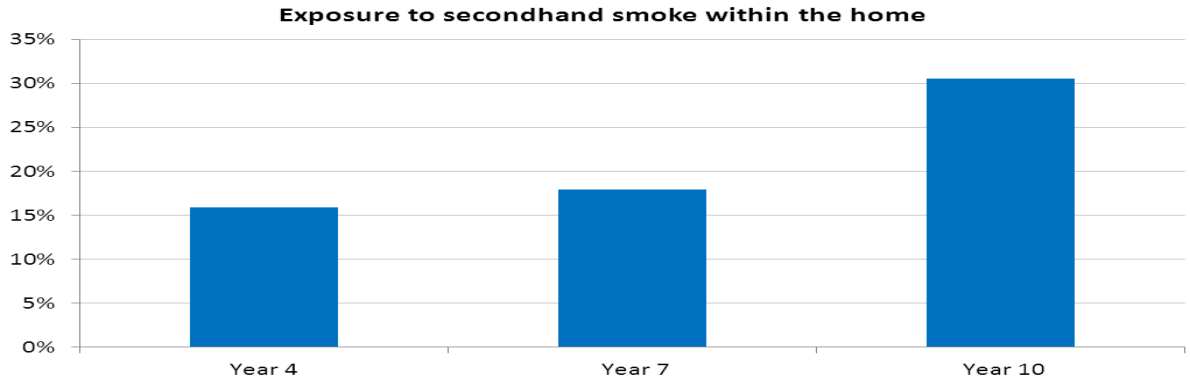
Chart 30: Exposure to second-hand smoke every day or most days, by smoking status, National survey



Source: Smoking, drinking and drug use among young people in England, HSCIC 2012

The local CYP survey asks pupils about exposure to secondhand smoke within their home, and in their family car. Exposure to smoking at home was quite low with only 19% overall saying that they have parents, or siblings that smoked at home. The exposure however increases with age; pupils in year 10 reported the highest levels of people smoking at home (34%) this was higher for females (34%) than males (27%) there was very little gender variation among the other school year groups.

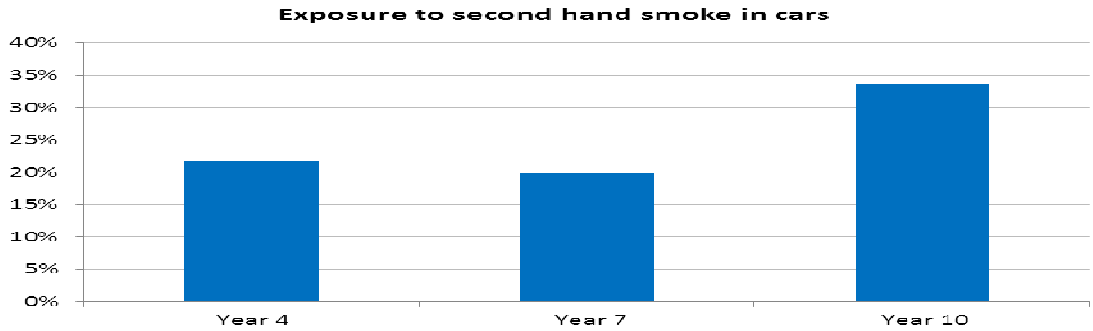
Chart 31: Exposure to secondhand smoke within the home, by school year



Source: Children and Young People Lifestyle Survey, 2013

Exposure to tobacco smoke in the car is very similar to that of smoking in the home. Exposure is lowest among year 7 boys (19%) the proportion of pupils who say they are exposed to secondhand smoke in the car increases with age, with year 10 having the highest exposure to smoke in cars (34%) compared to 22% of year 4 pupils. We do not have any statistical evidence to say why exposure increases so much among year 10 pupils. However it may be a result of respondent bias which is possibly under represented among year 4 pupils with stigma attached to smoking; likewise year 10 pupils may over represent exposure to secondhand smoke.

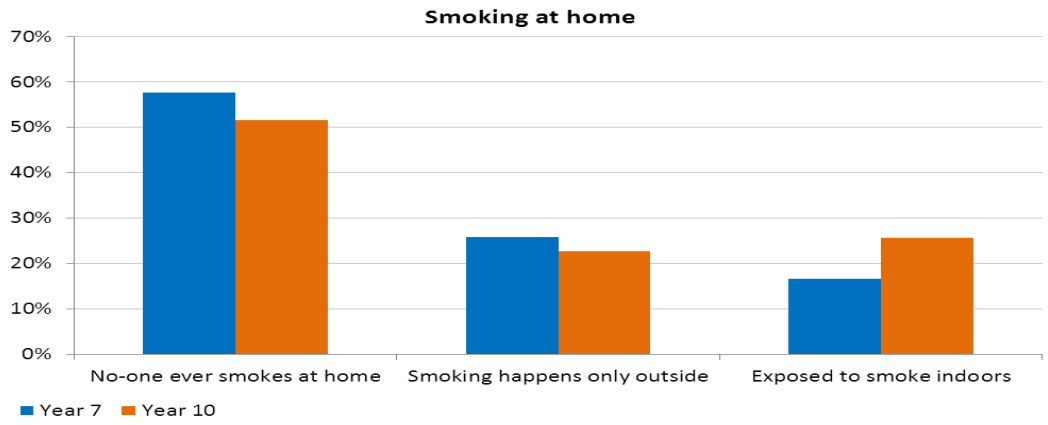
Chart 32: Exposure to secondhand smoke in cars, by school year



Source: Children and Young People Lifestyle Survey, 2013

Pupils were asked to think about smoking at home and what or if there were any rules around smoking at home. The majority of pupils do not experience exposure to smoke at home, however those who have more relaxed rules around smoking at home is higher among those in year 10.

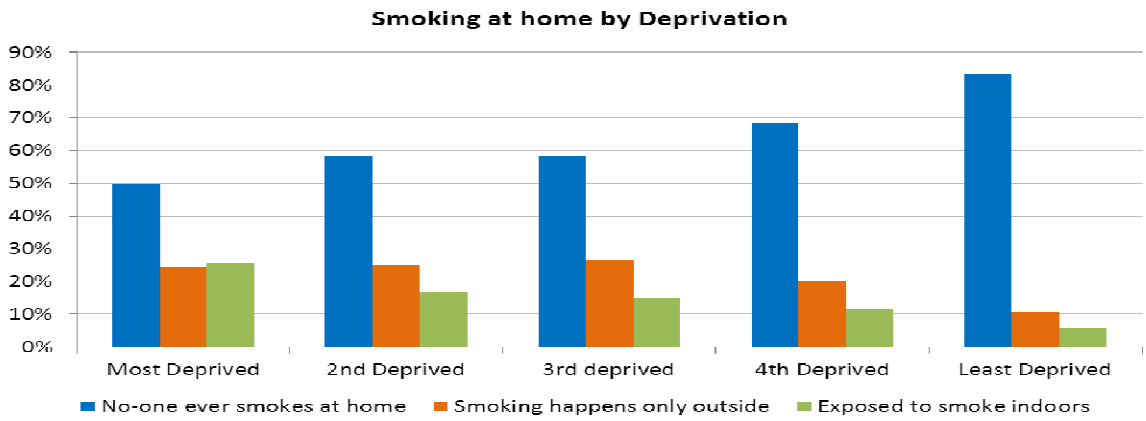
Chart 33: Smoking rules at home, by school year



Source: Children and Young People Lifestyle Survey, 2013

Those pupils from the least deprived quintile are less likely to have been exposed to secondary smoke in the home, and that the rules around smoking are much stricter with nobody reporting that smoking can occur anywhere within the home. The highest percentage of those reporting that smokers can smoke anywhere in the house, was among those from the most deprived quintile (9 %.) Half of all pupils from the least deprived quintiles are exposed to some degree of tobacco smoke. This was the same among all year groups (including year 4).

Chart 34: Smoking rules at home by deprivation

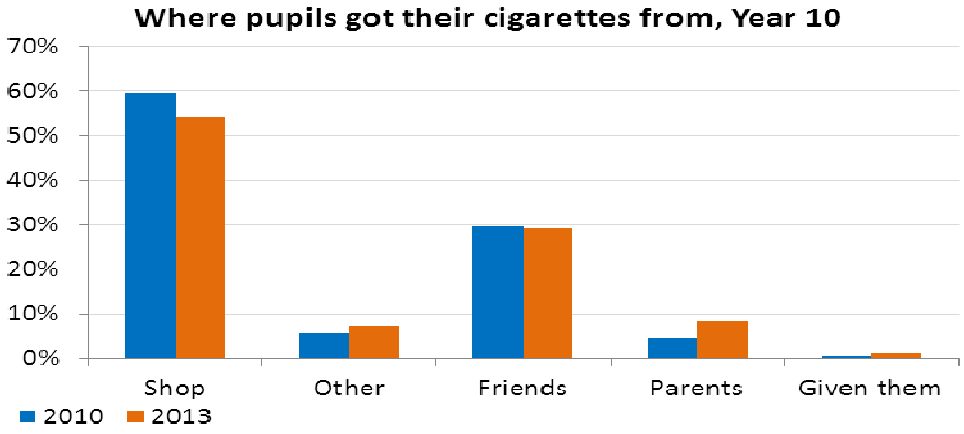


Source: Children and Young People Lifestyle Survey, 2013

Where pupils get their cigarettes from?

In October 2007, there was a change in the law so that it was illegal to sell cigarettes to young people under the age of 18. The reason for this change was to increase barriers to those who sell cigarettes to young people, and reduce the number of young people who actually smoke. Overall over half of year 10 pupils who smoke whether it is occasional or regular (54 %) got their cigarettes from a shop; this has decreased by 4% from the previous survey.

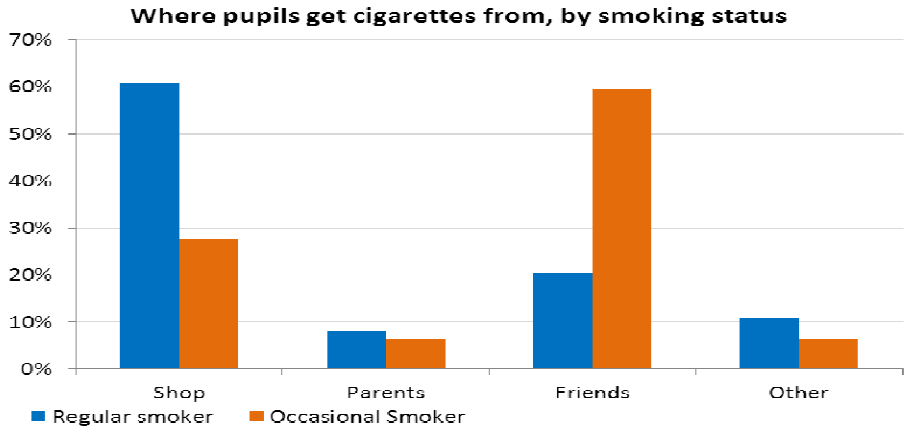
Chart 35: Where year 10 pupils got their cigarettes from, 2010 and 2013 survey



Source: Children and Young People Lifestyle Survey, 2013

The CYP survey asked pupils where they get their cigarettes from, 54% of respondents said that they obtained their cigarettes from a shop and this was highest among regular smokers with 60%, compared to 27% of occasional smokers. The majority of occasional smokers (57%) got their cigarettes from friends.

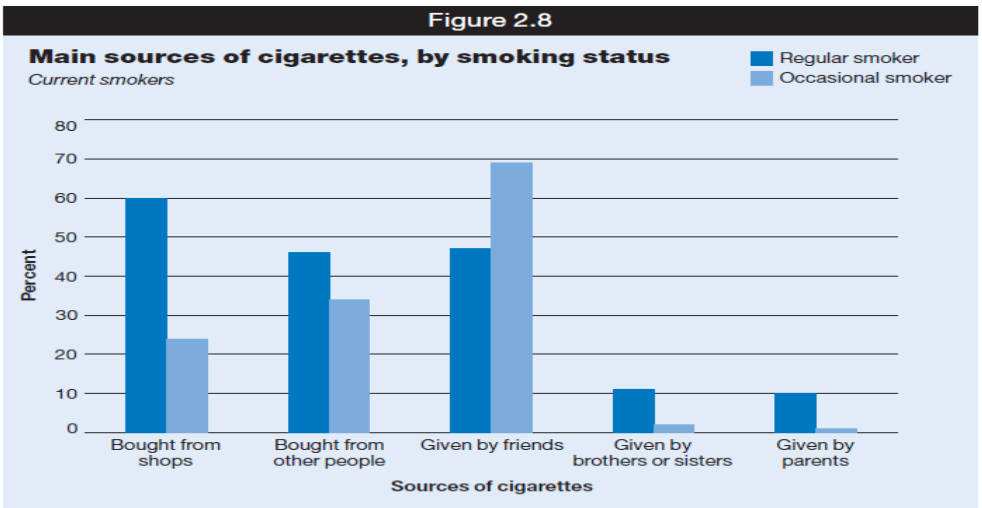
Chart 36: where pupils get their cigarettes from, by smoking status



Source: Children and Young People Lifestyle Survey, 2013

This trend is the same nationally, 44% of pupils had bought cigarettes from a shop, and regular smokers were more likely to buy from a shop than occasional smokers. Occasional smokers were more likely to obtain cigarettes from friends and peers, which mirrors the trend locally.

Chart 37: Main sources of cigarettes, by smoking status, National Survey



Source: Smoking, drinking and drug use among young people in England, HSCIC 2013

The percentage of pupils buying from a shop increased with age, 50% of 15 year olds compared to 29% of 11 to 13 year olds, there was very little difference between the age groups locally. However the numbers responding from lower age groups were quite small, therefore it may not be transferable to the whole population. Since the increase in the age of tobacco sales, there has been an increase nationally in people buying cigarettes from other people; therefore it is not reducing the numbers who are smoking, just where they get it from.

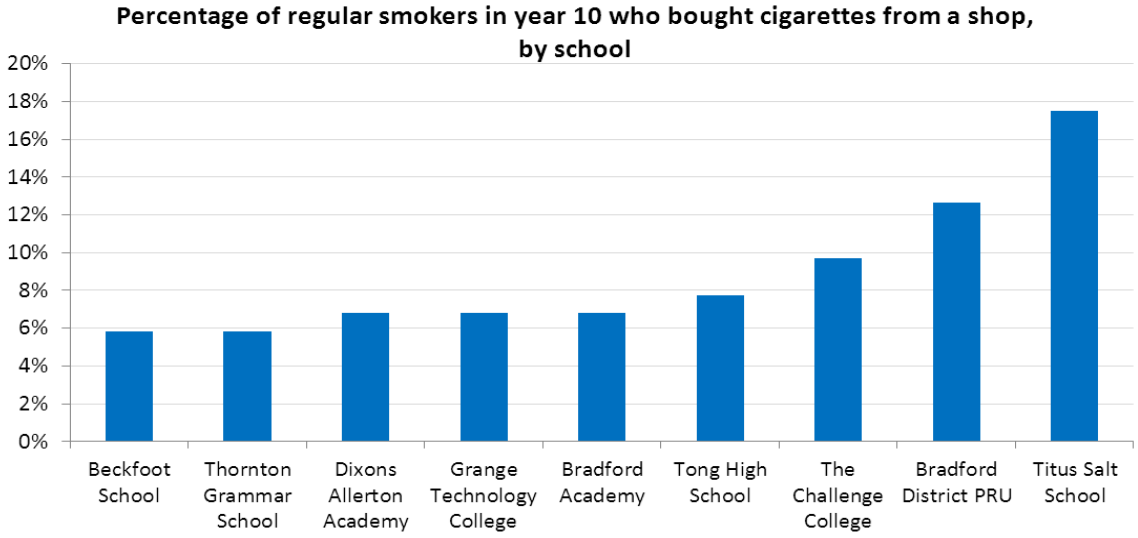
Buying from a shop by ward and school

36% of those who bought from a shop did not have a complete or correct postcode; therefore the numbers who can be attached to a ward are quite small, and may not be representative of the whole population. 59% of regular smokers who bought from a shop could be matched to a ward, there were 22 wards which had regular smokers who bought from a shop, only 19 of which had 5 or less pupils reporting this and therefore these figures had to be suppressed to reduce the risk of disclosure. The highest ward which reported buying from a shop was Toller with 15% followed by Windhill and Wrose with 13% and Manningham with 10%, this was calculated as a total of regular smokers buying from a shop which could be matched to a ward.

17 schools out of the 22 responding had regular smokers in year 10 reporting to have bought cigarettes from a shop. Out of these 17 there were 9 schools we are able to disclose. The chart below highlights the proportion of regular smokers buying cigarettes from a shop by school. The highest proportion of pupils buying cigarettes from a shop were from Titus Salt, in the Shipley ward. This does not correlate directly with the ward breakdown above, so it leads on to question are young people buying from shops where they live or near to their school. However pupils at Titus Salt could reside in Windhill and Wrose and therefore may indicate that this

ward has a higher problem with underage sales. Nonetheless please note that these figures may not be representative of the total population.

Chart 38: Percentage of regular smokers in year 10 who bought cigarettes from a shop, by school



Shisha

What is Shisha?

Shisha smoking can be as harmful as cigarettes. Shisha smoking, also known as hookah, narghile, water pipe, or hubble bubble smoking, is a way of smoking tobacco through bubbling water through a hose or tube. The tube ends in a mouthpiece from which the smoker inhales the smoke from the substances being burnt, into their lungs. Shisha smoking is traditionally used by people from Middle Eastern or Asian community groups but is becoming increasingly popular among all groups in cities around the UK; with usage emerging as a fashionable social pastime popular with students and young people.

Shisha pipes use tobacco often sweetened with fruit or molasses sugar, this makes the smoke more aromatic than cigarette smoke. Because the fruit syrup or sugar makes the tobacco damp, wood, coal, or charcoal is burned in the shisha pipe to heat the tobacco and create the smoke. Popular flavourings include apple, plum, coconut, mango, mint, strawberry and cola increasing its appeal and palatability to young people.

There is a misconception that smoking shisha is not as harmful or as addictive as smoking conventional cigarettes. Users often report the belief that the water, which the smoke passes through before it is inhaled, “filters out” the harmful substances in the smoke, this is a myth as

water will not filter out dangerous toxins. Traditionally shisha tobacco contains cigarette tobacco, so like cigarettes it contains nicotine, tar, carbon monoxide and heavy metals, such as arsenic and lead. As a result, shisha smokers are at risk of the same kinds of diseases as cigarette smokers, such as heart disease, cancer, respiratory disease and problems during pregnancy. In addition people smoke shisha for much longer periods of time than they smoke a cigarette, with the average shisha-smoking session lasting an hour. Additionally sharing a shisha mouthpiece can spread diseases.

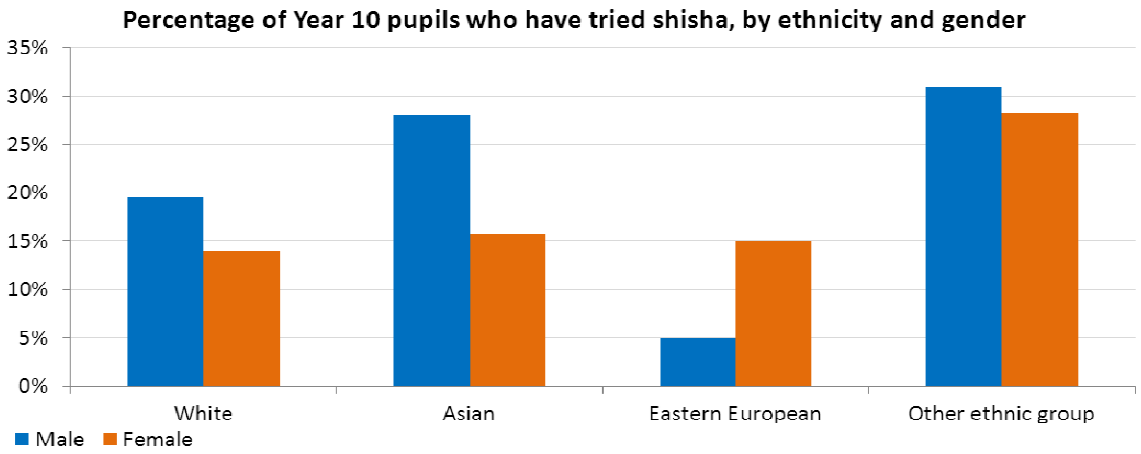
The use of charcoal as a heat source generates large amounts of carbon monoxide with research identifying that in an hour long session the shisha user can inhale the same amount of smoke as from more than 100 cigarettes. Shisha smoking produces secondhand smoke, posing a serious risk to the health of non-smokers, and is therefore covered by smokefree legislation which prohibits its use in enclosed public spaces. Shisha lounges are subject to the same Smokefree regulations as any other business. Shisha lounges are not illegal but they must comply with smoke free legislation, meaning at least half of the building must be permanently open.

In October 2013 it was reported that the number of Shisha lounges in Bradford had gone down by more than 40% after enforcement by environmental health. There are currently nine shisha premises known in the district, a drop of seven since January 2012 due to an increase in inspections visits which successfully brought prosecutions to five businesses which were being run illegally in 2012, three in 2011 and five in 2010, inspections continue to be carried out.

Who uses Shisha?

This is the first time questions around shisha were asked on a Bradford CYP survey. The highest percentage of pupils who reported they had smoked shisha were from the 'other ethnic group' category with 59% of year 10 pupils having tried shisha; this was higher among males (31%) than females (28 %). The second highest group was among Asian males, with 28% of year 10 males reporting to have tried shisha.

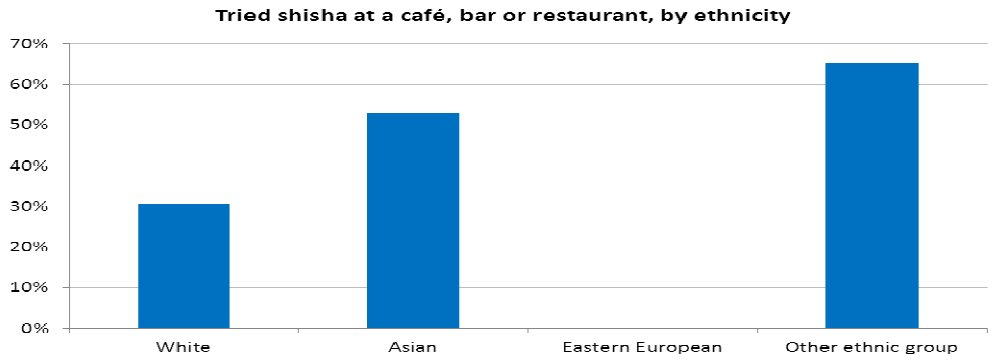
Chart 39: Percentage of year 10 pupils who have tried shisha, by ethnicity and gender



Source: Children and Young People Lifestyle Survey, 2013

Those whose families smoke are more likely to smoke themselves. 64% of pupils who said that they don't smoke shisha also said that their family members don't smoke shisha either. 54% of those who said they smoke shisha said that they also have a family member who smokes shisha. 14% of those who don't smoke shisha are unsure whether their family members do, and 23% of those who have family members who use shisha do not smoke themselves. 69% of those who said that they smoked shisha, didn't disclose where they had smoked it, the second highest was in a café, bar or restaurant. The highest percentage of people who said that they smoked shisha at a bar or restaurant was from the 'other ethnic group category' (65%), this is possibly due to the small numbers in the cohort and may not be representative of the total population. The second highest were among those from an Asian ethnic group with 53% of year 10 Asian pupils saying they smoked shisha at a bar or restaurant.

Chart 40: percentage of pupils who have tried shisha at a café, bar, or restaurant, by ethnicity



Source: Children and Young People Lifestyle Survey, 2013

It may be useful for following surveys to ask questions around the dangers of shisha, to gain an understanding of young people's knowledge; there may be a gap in understanding of the dangers of the product which requires further education.

Perceptions of parent's attitudes to their child smoking

The national survey looked at what pupils understood their parent's attitudes to be around them smoking. The majority of people felt that their family would have a negative response to them smoking, with 74% believing they would try and stop them from smoking, and 18% of families would persuade them to stop. There was a strong link between households that smoked and their child's perception of family attitudes to their smoking. Smokers who lived in homes with three or more smokers were less likely to report that their family would try and get them to stop smoking compared to non-smoking homes with 79% of pupils believing their family would try and make them stop.

Reasons for smoking

The national survey asked pupils why they thought people smoked. This question was asked to all participants regardless of smoking status. Of those who were regular smokers 87% said they smoked because it helped them cope with stress. 78% said they were addicted and 66% said it gave them a good feeling. The majority of regular smokers and occasional smokers said that they smoked to cope with stress in their life, followed closely by 'to help them relax.' This was actually the lowest by non-smokers, the majority of non-smokers felt that smokers smoked to look cool in front of their friends.

However it may be of value to highlight that the question asked was about why people smoked and not asking why people started to smoke in the first place. Because of this lack of information it is difficult to ascertain as to why young people are taking up smoking (locally) in the first place and also to concur with research which suggests that the two main reasons for starting smoking could be peers and the attractive packaging, along with the ease of obtaining cigarettes from local stores. There is some evidence which would also suggest the smoking initiation is two times more likely to be associated with children who truant or who are excluded from school.

The Children and Young People Lifestyle Survey, 2013 asked questions around bullying and smoking in the last 12 months. Evidence suggests that there is very little correlation between being bullied and smoking. It was recognised however that there was an overall increase in higher risk health behaviours and a decline in more positive behaviours from year 4 through to year 7 and the most significant from year 7 to year 10.

Addiction and willingness to quit

The national survey also explored smoker's willingness to quit. Regular smokers were showing signs of dependency, 67% felt that they would find it difficult to go a full week without smoking with 72% reporting they would struggle to give up altogether. 31% of regular smokers wanted to give up fully, 19% said they would not like to give up and 19% were undecided. 63% of smokers had actually tried to give up in the past, 28% of which were unsuccessful, but still wish to give up. 33% of smokers had not tried, nor had they had any desire to give up. This survey showed a link between ability to quit and length of time smoking. 86% of regular smokers who had been smoking regularly for longer than a year said that they would find it difficult to quit, compared to 56% of those who had been smoking less than a year. Of those who had been a regular smoker for longer than 12 months 75% had already tried to give up smoking compared to 51% of those who had not been smoking for a year.

What is happening in Bradford?

What recommendations are there?

In terms of the national picture, the UK is a signatory to the World Health Organisation (WHO) framework on Tobacco Control, with six internationally recognised strands.

Figure 1: Six Strands of Tobacco control

National Institute for Health and Care Excellence (NICE guidance [PH14], 2010) address the prevention of the uptake of smoking by children and young people by mainly focusing on mass media campaigns and point-of-sales measures. The UK has high tobacco taxes and increasing the price of tobacco products is known to be the single most effective means of encouraging

smokers to quit. However, illicit tobacco makes tobacco more available to poorer people and to children, helping to widen health inequalities; enabling cheap tobacco to fall within the purchasing power of young people making it easier for children to start smoking. The West Yorkshire and York City Illicit Tobacco Survey (West Yorkshire Trading Standards Service (WYTSS), 2014) identified that 87% of respondents felt it was important that children should not start smoking. The Public Health Interventions Advisory Committee (PHIAC) stresses that it is not a question of choosing one type of intervention over another, but employing a range of interventions and ensuring they are carried out in the most effective way (NICE guidance [PH23] 2010).

Protection "Keep it Out" Campaign

In line with the six strands of Tobacco Control, NICE guidance [PH14] (2010) uses mass media and point of sale interventions to prevent the uptake of smoking by young people under the age of 18. Bradford Stop Smoking Service is working in partnership with Trading Standards to reduce sales of illegal and underage tobacco. These are combined with other prevention activities such as illegal sales and support for enforcement legislation.

Currently in West Yorkshire illegal tobacco makes up 11% of the total tobacco market the most common sources of illegal tobacco were reported to be available in pubs, clubs, private houses, shops, on the street and car boot sales. The most important of these sources for young people are shops and on the street and notably children are being offered illegal tobacco more than adults, making them cheaper to buy and easier for them to start smoking and continue to smoke.

As evident from the CYPL survey, 54% of year 10 pupils who smoke reported that they obtained their cigarettes from a shop. Shopkeepers faced with the prospect of prosecution, a fine, and a criminal record are, despite everything, stashing illicit tobacco products in some ingenious places, to maintain their ability to trade to young people. However Trading Standards have intensified their searches by using specially trained sniffer dogs to detect hidden tobacco. West Yorkshire Trading Standards Service is working closely with the Police, UK Boarder Agency (UKBA), Her Majesty Revenue and Customs (HMRC), and the general public to continue to support the prevention, intelligence and enforcement of the tobacco control plan. Since April 2014 they have confiscated over 400,000 sticks (20,000 packs) and over 210Kg (4200 pouches) of hand rolling tobacco. Their aim is to remove illicit tobacco and cigarettes from the streets as well as delivering educational sessions.

In Bradford we are engaging in multi-agency work to tackle the uptake of tobacco in young people and children. In July (2014) a new campaign was launched across West Yorkshire and York to tackle the trade in illegal tobacco and stop dealers who sell to children across Bradford, Calderdale, Kirklees, Leeds and Wakefield areas and city of York Council. The six local authorities are collaborating and working on the *Tackling Illicit Tobacco for Better Health in West Yorkshire and York Programme.* The work is commissioned by the six local authorities' public health teams and involves partnership working with trading standards, health and HMRC. Nationally, the illegal tobacco market has halved, with around 1 in 10 cigarettes illegal in 2013 compared to 1 in 5 in 2000. But the trade is still a problem in some areas. A major independent survey of over 1,200 smokers and non-smokers across Bradford, Calderdale, Kirklees, Leeds, Wakefield and York reveals:

- Around 17% of smokers buy illegal tobacco
- Illegal tobacco makes up around 11% of the total tobacco market
- 85% of adults are concerned about young people getting hold of illegal tobacco
- 36% of smokers have been offered illegal tobacco
- Six out of ten adults are "very uncomfortable" with illegal tobacco and see it as an important issue for the local community
- 8 out of 10 smokers regret starting

Enforcement efforts are being supported by a publicity campaign featuring radio adverts, posters and materials distributed in local communities and a website where people can find out more about the problems with illegal tobacco.

The campaign is based on work that was carried out in the North East and the North West, leading to a reduction in illegal tobacco consumption down to 9% in 2014 and a spike in intelligence to trading standards.

The trade in cheap, illegal tobacco might seem like a victimless crime but it makes it easier for children to smoke and brings crime into local communities. Illegal tobacco bypasses age of sale laws it is usually sold at half or even a third of the price and in a range of locations such as pubs and clubs, shops, from private houses or from street hawkers. The Trading Standards "Keep it Out" campaign is key to protecting young people from early association with smoking and tobacco use.

Underage Sales of Tobacco Project

There is a growing body of evidence showing that vigorous enforcement of under-age sales legislation is effective in reducing cigarette sales to minors and can have some impact on reducing smoking rates amongst young people. The evidence also states that both enforcement and community policies can improve retailer compliance. A Cochrane review concluded that, 'effective enforcement of laws to restrict tobacco sales to minors reduced young people's access to tobacco and improved retailer's compliance with the law, however, compliance rates by retailers have to be higher than 80% to reduce access sufficiently to reduce young people's tobacco consumption or smoking prevalence' (Stead & Lancaster, 2005).

The overarching aim of the Bradford project is to protect young people from the harmful effects of smoking by reducing the availability of tobacco to young people. The project is being implemented in identified areas of Bradford District over a one year period.

Smoking Cessation

The Bradford Stop Smoking Service continues to provide support for young people who want to stop smoking and also builds capacity among other professionals who can support them in a variety of appropriate accessible settings. However, as mentioned previously, and evident from the results of the CYP survey, young people do not tend to access the service to quit smoking. Young people who smoke tobacco are often aware of the risks but these do not seem real enough to put them off smoking. Many young people assume they will be able to stop smoking whenever they choose without realising the longer they continue to smoke, the more addicted to nicotine they are becoming, making it less of an option to stop. All forms of Nicotine Replacement Therapy (NRT) are available to young people from the age 12 – 17 however evidence suggests that young people tend not to use pharmacological products or stop smoking services and the uptake of these treatments are low, highlighting this is not an effective intervention.

Schools

National Initiative to de-normalise smoking

While the number of adult smokers has fallen in recent years, we know that most adult smokers begin smoking in late childhood and early adolescence therefore reducing the numbers of young people who start smoking must remain a focus. Prevention initiatives can be an important resource and pilot studies may be useful to utilize and replicate within our own district such as the study by Smoke Free Sports, which is an innovative multi-dimensional campaign to de-normalise smoking. Its findings suggest that physical activity could be used as an additional

vehicle for tobacco control. The study was completed in October 2013 and was an initiative showing that sport and physical activity can be effective in changing children's attitudes to smoking and preventing the uptake of tobacco in young people. They aimed to do this by promoting health messages to children by training sports coaches and teachers to deliver the smokefree messages (via brief interventions) and ask children to sign a pledge to be smokefree. Smoke Free Sports sought to use physical activity to encourage children to engage in health education in a fun interactive learning environment (Foweather et al., 2011). Over half of these children had a parent or sibling that smokes which compares similarly with our findings locally.

We know that children with family members that smoke are more likely to have favourable attitudes to smoking, which could lead to them starting to smoke in the future. The intervention programme encouraged more children to develop negative attitudes toward smoking (McGee, 2013).

Investors in Health

The Stop Smoking Service work with the Health and Wellbeing team to support the tobacco element of Investors in Health to ensure schools have a comprehensive whole school approach to tobacco. Investors in Health supports schools to build a robust framework for teaching and delivering Personal, Social, Health and Economic Health Education (PSHE) and developing policies. In addition, the programme enables schools to research health priorities and develop innovative responses to deliver effective, evidence based outcomes for pupils.

According to the Bradford Children and Young People's plan 2011-2014 and the Bradford Joint Services Needs Assessment (JSNA) Executive Summary in 2012, Bradford district is amongst the most deprived districts in the country. It ranks 26th most deprived out of 354 local authority districts in England and has the widest gap between the most deprived and least deprived areas within its boundaries. 31.4% (157,287) of the population live in areas included in the 10% most deprived in England. Children make up 22.6% of the total population of the district, compared to 18.7% nationally. The focus for childhood tobacco use within the region, and within the Bradford district, is on underage sales and the de-normalisation of tobacco. Highlighted in the Public Health Outcomes Framework (DH, 2012) improving the health of the poorest fastest is a key priority and focuses on outcomes to increase healthy life expectancy and reduce differences in life expectancy and healthy life expectancy between communities. Targeting children and young people is therefore fundamental to the programme and is in line with NICE guidance [PH23] (2010) with five recommendations to integrate information on smoking into schools and the curriculum.

1. The smoking policy should support both prevention and stop smoking activities and should apply to everyone using the premises (including the grounds).
2. Information on smoking should be integrated into the curriculum. For example, classroom discussions could be relevant when teaching biology, chemistry, citizenship and maths.
3. Anti-smoking activities should be delivered as part of PHSE and other activities related to Healthy Schools or Healthy Further Education status.
4. Anti-smoking activities should aim to develop decision-making skills and include strategies for enhancing self-esteem. Parents and carers should be encouraged to get involved and students could be trained to lead some of these programmes. All staff involved in smoking prevention should be trained to do so.
5. Educational establishments should work in partnership with outside agencies to design, deliver, monitor and evaluate smoking prevention activities.

School Nursing Team

School nurses work closely with pupils, parents, carers and teachers, offering support and advice on a range of issues from obesity to sexual health. They play a vital role in children's development, delivering the Healthy Child Programme, a national Department of Health programme for all children, carrying out immunisation and screening programmes, managing medical conditions and acting as a point of contact on child protection issues.

In line with NICE guidance [PH23] (2010) school based interventions to prevent smoking, recommendations are made to include all staff to be trained in Brief Interventions (BI) (smoking prevention) and to provide or discuss cessation support for anyone using the premises at appropriate opportunities. Within Bradford Stop Smoking Specialists work closely with the School Nursing Service to ensure training needs are met and secondhand smoke exposure is included as part of the children's health assessment. School nurses are trained to give brief interventions to all young people who smoke and want support in schools. The current figures for school nursing in the period 2013-2014 are that 74 young people were seen for some brief intervention around smoking and 48 young people were seen for actual smoking cessation.

Secondhand Smoke

Take 7 Steps Out Chemical Soup Programme

Bradford Metropolitan District Council (Bradford MDC) has commissioned Tobacco Free Futures to provide resources and training to support the local implementation of work to

protect children from exposure to secondhand smoke particularly where parents and/or carers are not currently willing or able to give up smoking.

Work is focussed in identified areas of need and delivered via a cohort of trained professionals from children's centres and the health visiting service. These 'expert smokefree leads' will cascade information to their colleagues, who will use this information to provide advice and support to parents and carers, health and childcare professionals and volunteers so that we can all work together to protect children from the harms of secondhand smoke.

Smokefree Family Life

Smoke Free Family Life (SFFL) is a holistic programme working with young people in schools and their families to encourage parents and carers to take the steps to quit smoking and prevent young people from starting. The programme has been commissioned as part of Bradford's tobacco strategy and to support inspiring a smokefree generation. Schools have been selected using data from the Bradford's Young People's Lifestyle Survey and public health analysis. The programme is also part of a national pilot being evaluated by University College London.

'Inspire a Smokefree Generation' project

Focussed work has been conducted in the Manningham area of Bradford. The 2011 Census highlighted that the percentage of residents who rated their health as 'very good' was less than the national average. Also the percentage of residents rating their health as 'very bad' was higher than the national average suggesting that the health of Manningham residents is generally worse than the average person in England (Council, 2012).

The overall aim was predominantly to educate communities about the effects of secondhand smoke in homes and cars. The project was delivered during Ramadan, a time for Muslims throughout the world take time for inner reflection, devotion to God and self-control. In between dawn and dusk Muslims totally abstain from food, drink, smoking and sex. This therefore was identified as an ideal opportunity to encourage and support many smokers to quit smoking or understand the harmful effects of smoking on their families, in particularly children.

The stop smoking service worked closely to train and support 24 religious members including religious teachers, Imams, Reverends, committee members of religious establishments and community staff to work as public health advocates. To enable them to provide key information about the dangers of secondhand smoke and promote the Smokefree Homes and Cars campaign

within their own communities. In addition to this, pledges were obtained from residents to make their cars and homes smokefree.

The smokefree homes and cars message reached approximately 2,700 attendees at four different mosques in Manningham. Ramadan calendars featuring the dangers of smoking, secondhand smoke and the contact details of the Stop Smoking Service were distributed to approximately 1000 households. In addition information was broadcast on three radio stations, and had newspaper and social media coverage. To conclude over 300 people signed a pledge to make their home and car smokefree .

Smokefree Homes and Cars

Reducing people's exposure to secondhand smoke is one of the main priorities in the new national strategy 'A Smokefree Future' (DH, 2010). The strategy aims to increase public awareness of the harm secondhand smoke can cause, especially the harm it causes to children, and to encourage people to make their homes and cars smokefree. There is clear evidence that secondhand smoke kills, and scientific evidence suggests there is no safe level of exposure (ASH, 2014). Secondhand smoke has long-term as well as immediate health effects, particularly when people are exposed to secondhand smoke over a long time (as discussed in the Secondhand Smoke (SHS) paragraph at the beginning of this section).

Children's Centres

Exposure to secondhand smoke has been shown to have a number of harmful effects on the health of children therefore children's centres are essential partners; training staff to enable them to engage effectively with parents and carers in order to reduce children's exposure to secondhand smoke in the home and in the car. Children's centres are central in local communities to reach parents and carers who smoke and are able to deliver key information via play groups, activity sessions or educational courses attended by adults/parents/carers.

The Stop Smoking Service works closely with children's centres and further work is being developed to ensure all staff promote a smokefree message. There are currently forty one children's centres in the district and thirty nine have received full training around brief interventions (whereby smokers can be signposted into the stop smoking service), and smokefree homes and cars. Four (10%) of the children's centres have a member of staff who have attended Bradford Stop Smoking Service level two training programme and now provide their own stop smoking support for smokers wanting to quit.

All children's centres are encouraged to have an appointed 'Smokefree Champion', and currently this has been taken up in seventeen (41%) of the children's centres. A smokefree champion's role is to support the development of a comprehensive and sustainable approach to delivering stop smoking brief interventions and the promotion of smokefree homes and cars in the children's centres. This work will continue as an integrated approach to collaborative working to reduce exposure to secondhand smoke.

Health Visitors

Health visitors carry out smoke free interventions with all core contacts with brief interventions and referral to stop smoking services as appropriate. Smoking data is recorded by Health Visitors after each core contact.

In terms of NICE guidance, the Health Visiting standards are currently being reviewed, the standards will reflect the relevant NICE guidance in addition to existing standards (Well Child Pathway). This is currently in development, however the stop smoking service will have an opportunity to influence the standards to ensure smoke free training and interventions remain part of health visiting service requirements.

Looked after Children

The British Association for Adoption and Fostering (BAAF) and the Fostering Network have produced policy papers giving guidance on reducing the risks from environmental tobacco smoke for fostered children (British Association of Adoption and Fostering, 2007) (The Fostering Network, 2009). Both organisations recommend that children aged under five should not be placed with carers who smoke and that children with significant health problems should not be placed with carers who are ex-smokers until at least 12 months after cessation (because of the risk of relapse to smoking within one year). Any smokers wanting to quit should be encouraged and signposted to the free support which is readily available via the stop smoking service.

However, implementation of these recommendations varies depending on each local authority and Bradford MDC states in its fostering policy that due to the health risks to children, people who smoke will not be approved to care for children aged less than two years or for children with respiratory problems. This does not infer that the care offered to children of smokers are less caring, however secondhand smoke presents a serious risk to a child's health and they must be protected from secondhand smoke plus a carer who smokes significantly increases the likelihood that a child will smoke. There are limitations for the Smokefree policies in foster

homes and these may be difficult to enforce and additionally these could potentially limit the number of foster homes available for vulnerable children (Royal College of Physicians, 2010). All cases would therefore need to be assessed on a case by case basis although the overriding priority in foster care must be the welfare of the children.

5.2 Tobacco and Adults

Introduction

Smoking remains the leading cause of preventable disease and premature death in the UK and is one of the most significant risk factors that impact upon health inequalities and ill health, which can lead to a range of disease including cancer, coronary heart disease (CHD), stroke and chronic obstructive pulmonary disease (COPD). Other associated cancers include cancers of the lip, mouth, throat, bladder, kidney, stomach, liver and cervix (London Health Observatory, 2013). We know that most adult smokers started as children and young people, and some illnesses are more likely to affect long term smokers regardless of the daily consumption. One in two regular smokers is killed by tobacco with half of these dying before the age of 70, losing on average 21 years of life. This section aims to look at tobacco use among adults in Bradford and the possible health implications.

Within Bradford there are major challenges to reduce the prevalence of tobacco use across the whole population. However research shows that the poorer and more disadvantaged you are the more likely you are to smoke and suffer smoking related disease (ASH, 2012). There remain health inequalities in Bradford across subgroups such as routine and manual, mental health service users and pregnant women. In order to gain a better understanding of tobacco use for adults within Bradford, the first section will look at who smokes, broken down by various demographics including age, gender and deprivation. It will then go on to look at the health impact smoking has.

Method

A combination of data sources have been used for the adult section of the needs assessment. For smoking prevalence the Public Health Outcomes Framework (PHOF) was used to compare against neighbouring local authorities and the national picture. For local level data the Yorkshire and Humber Commissioning Support Unit provided information on local smoking status at GP practice, this enabled analysis by age, gender and ethnicity.

The Quality Outcomes Framework (QOF) have five smoking indicators to monitor frequency of recorded smoking status, patients identified as a smoker and patients offered support. This data was used within section two of the report.

Hospital Episode Statistics were used to obtain hospital admissions for diseases and illnesses considered attributable to smoking and tobacco use, these include; lung cancer, coronary heart

disease, chronic obstructive pulmonary disease and stroke; death data was also used for these disease areas. Local tobacco control profiles were also used to compare smoking attributable admissions and mortality with other Local Authorities.

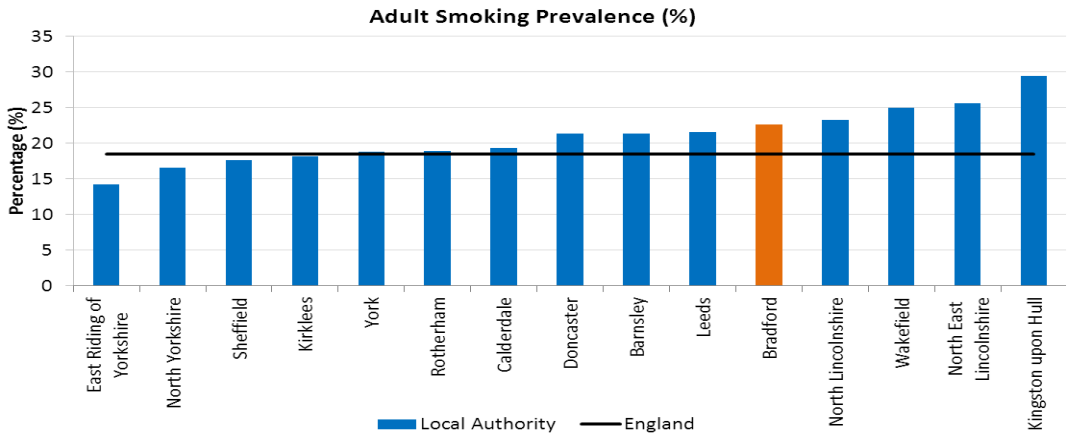
Statistics on smoking in England (2013) was used to look at trends in smoking prevalence nationally, and to look at smoking among different socio economic groups.

Smoking Prevalence

Healthy Lives, Healthy People 2011 set out three national ambitions one of which was to reduce smoking prevalence among adults (aged 18+) to 18.5% by the end of 2015; the 2013 Integrated Household Survey (IHS) indicated that nationally we have met this target with the current adult smoking prevalence in England 18.4% (IHS 2014). This is higher among adults in Bradford with 22.6% currently identified as smoking, a slight reduction from the 2012 result of 22.8%.

Despite this reduction adult smoking prevalence for the Bradford District compared to the Yorkshire and Humber region has dropped from 6th lowest to the 5th highest, Kingston Upon Hull remains the highest, Sheffield has had the largest reduction, with Leeds, Barnsley and Calderdale having improved greater than Bradford.

Chart 41: Adult smoking Prevalence, By Local Authority



Source: Statistics on Smoking England, 2014

The prevalence above is based on the results from the Integrated Household Survey, which is based on a sample of Bradford's resident adult population i.e. those aged eighteen and over. The following prevalence is calculated locally based on the smoking status recorded by Bradford GP's, therefore is based on Bradford's GP registered population, it may hold information for some people who are not resident within Bradford but are registered with a Bradford GP. Conversely there may be some smokers who are not registered with a GP therefore these

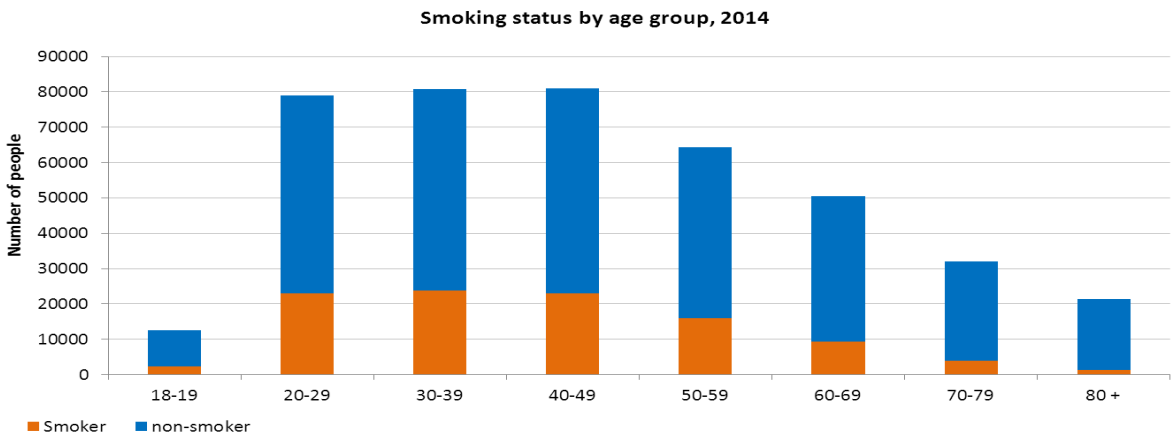
statistics have not being collected. The prevalence is calculated as a rate of those who have been asked whether or not they smoke and not the total registered population.

All the above may account for a difference in prevalence, as we are unable to ask every individual within Bradford, prevalence measures are never a 100% accurate and also for those who have been asked we cannot always guarantee reliability, as it requires people to be honest with their answers. However the results are relatively close to the results from the Integrated Household Survey and therefore the results are giving us a good indication of the prevalence locally.

Smoking among adults (aged 18+) is slightly higher with 24.3%; the differences are quite possibly attributable to the reasons discussed above. According to the QOF database 85% of all patients aged 15 and over within the three Bradford Clinical Commissioning Groups (CCGs) have had smoking status recorded in the previous twenty seven months. There are issues with the validity of this information, as we are unsure when this status was recorded, individuals status may have changed, however it is the best data available at a local level that gives an indication of where smokers are within Bradford and sub groups to focus on.

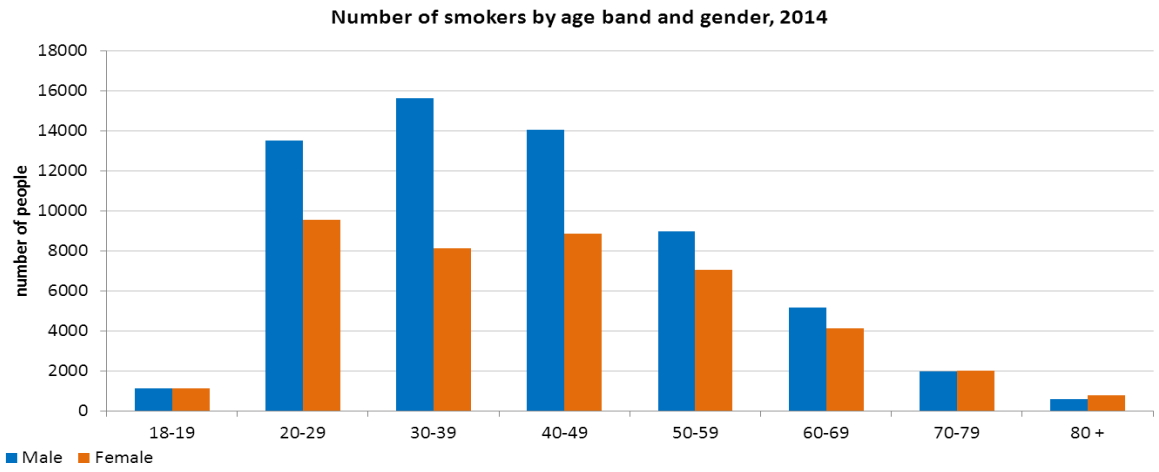
The following chart breaks the results down by age band, it highlights that smoking prevalence reduces with age with the highest prevalence being among those aged 20-49, the earlier a person starts to smoke the greater the chance they will continue to smoke into later life. Non-smokers have been included to give an indication of the numbers with a smoking status recorded by age band. These include those ex-smokers and those who have never smoked.

Chart 42: Smoking status by age group



Source: Data Supplied by WSYBCSU Analysed by Public Health Analysis Team CBMDC, 2014

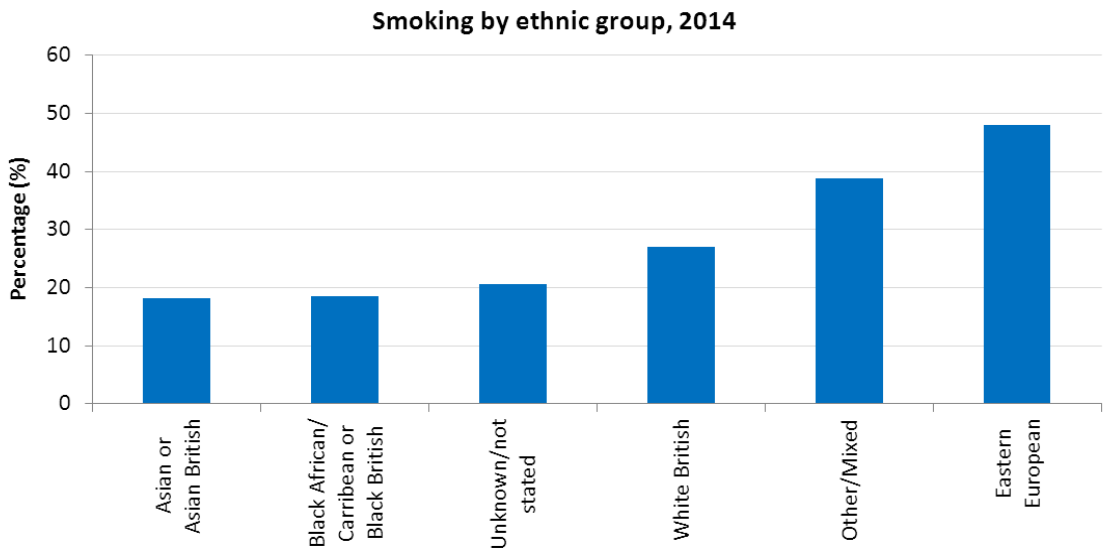
Chart 43: Numbers of smokers by age band and gender



Source: Data Supplied by WSYBCSU Analysed by Public Health Analysis Team CBMDC, 2014

The following shows smoking prevalence by ethnicity, it highlights that the lowest prevalence was among the Asian ethnic group, this could be due to cultural reasons that they do not wish to disclose whether or not they smoke, also Asians may be more likely to use chewed tobacco products, or shisha, which is not recorded. There is no evidence to definitively say this is the case, but research suggests that Asian adults are more likely to chew tobacco rather than smoke cigarettes. Eastern European adults had the highest prevalence with 48% however the total number within this population is low in relation to other ethnic groups.

Chart 44: Percentage of smoking status, by Ethnic group

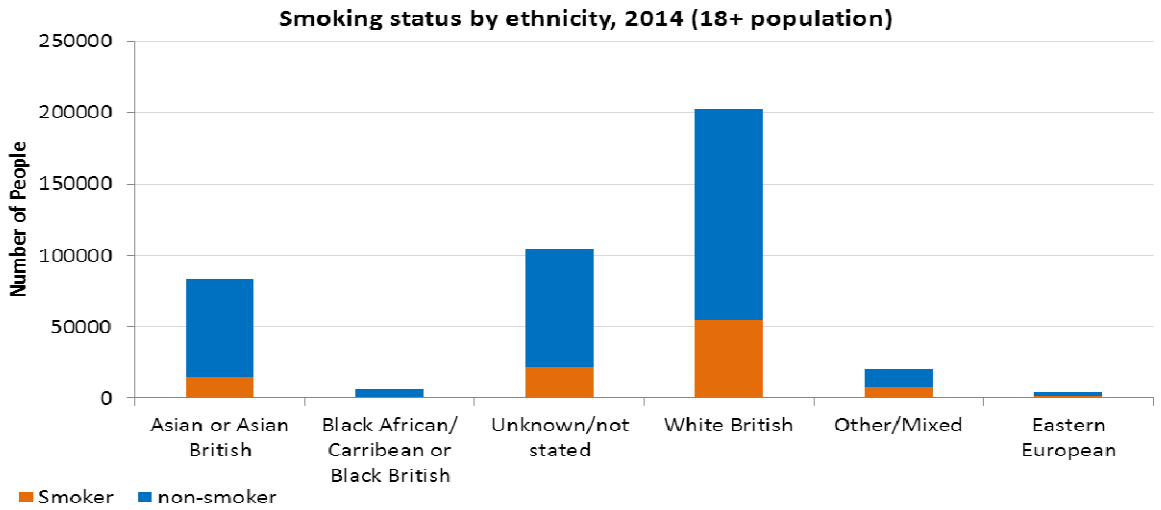


Source: Data Supplied by WSYBCSU Analysed by Public Health Analysis Team CBMDC, 2014

The chart below shows the numbers from each ethnic group to show what this means in relation to the whole population. It highlights that White British have the highest number of smokers and Eastern European have the least. However it is still important to note that areas

with higher populations of Eastern European residents will have a higher smoking prevalence. If we have an increase in migration from Eastern European countries we may see an increase in our smoking prevalence, as previously mentioned in the introduction section.

Chart 45: number of smokers and non-smokers, by ethnic group

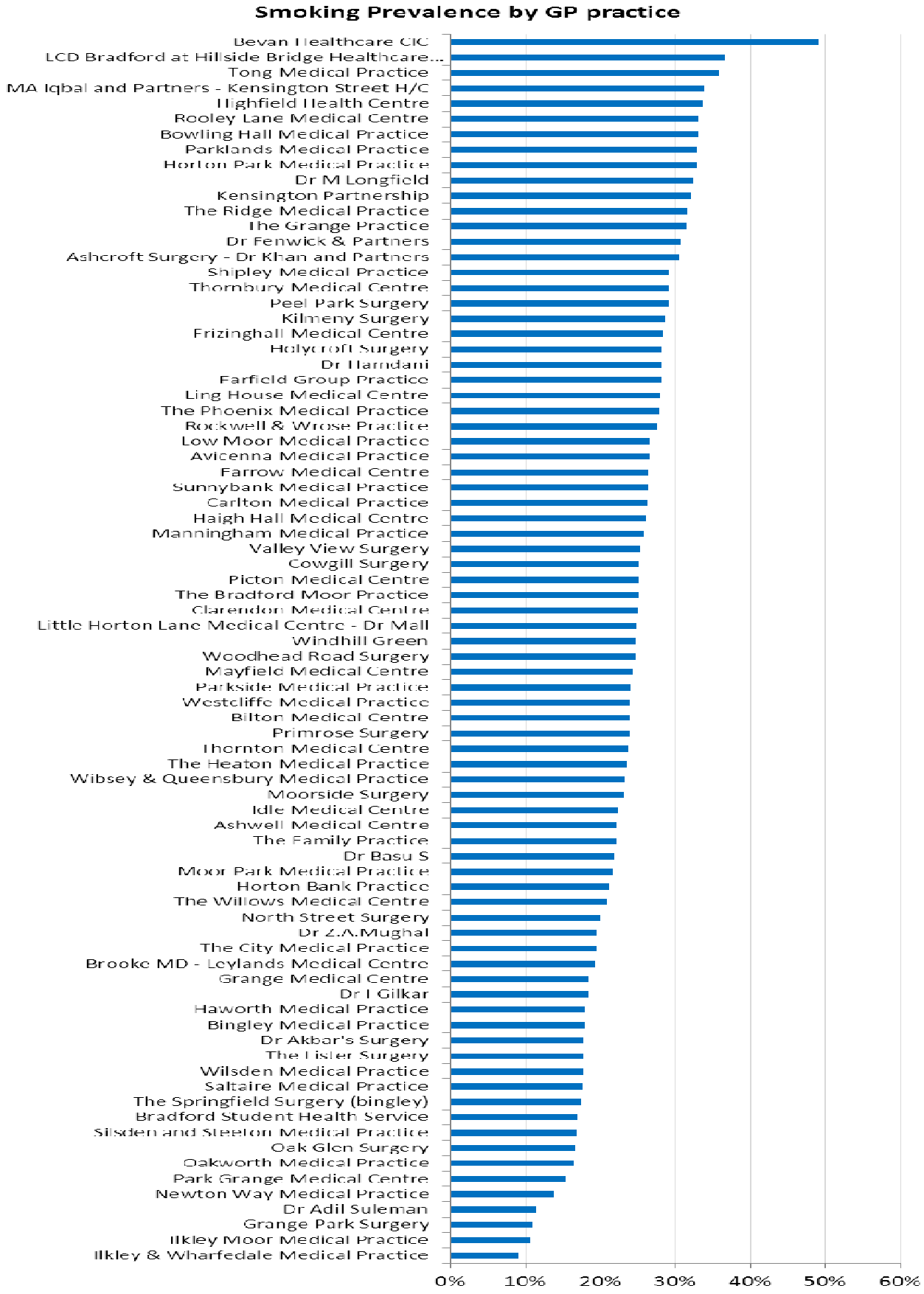


Source: Data Supplied by WSYBCSU Analysed by Public Health Analysis Team CBMDC, 2014

The following prevalence is broken down by GP practice; we were unable to carry out the analysis by ward as we didn't have individual postcodes. Initial thoughts were to break this down by ward in which the GP practice resides however this had various limitations, which include patients going to a GP outside their electoral ward resulting in patients residing in several wards for each GP practice. Another limitation was not all wards appeared to have a GP practice, Keighley East for example had no GP practices, however this was not the case as the practice was a branch of a larger practice situated in another ward that held the information for the branch within Keighley East. Due to these limitations it wasn't viable to use this analysis.

Highest Smoking Prevalence was at Bevan Healthcare CIC. Bevan Healthcare is a social enterprise designed to meet the health needs of the homeless and people in unstable accommodation, for example refugees and those seeking asylum in Bradford who may find it hard to access health care. This practice has a smaller than average patient list size due to its intended population however it is still important to note that almost half of the practice are smokers. Lowest prevalence is at Ilkley and Wharfedale Medical Practice. This is anticipated due to the practice being in an affluent area. The link to deprivation appears to be quite apparent with smoking prevalence higher in those practices in more deprived areas of Bradford compared to those in the least deprived areas having the lowest prevalence.

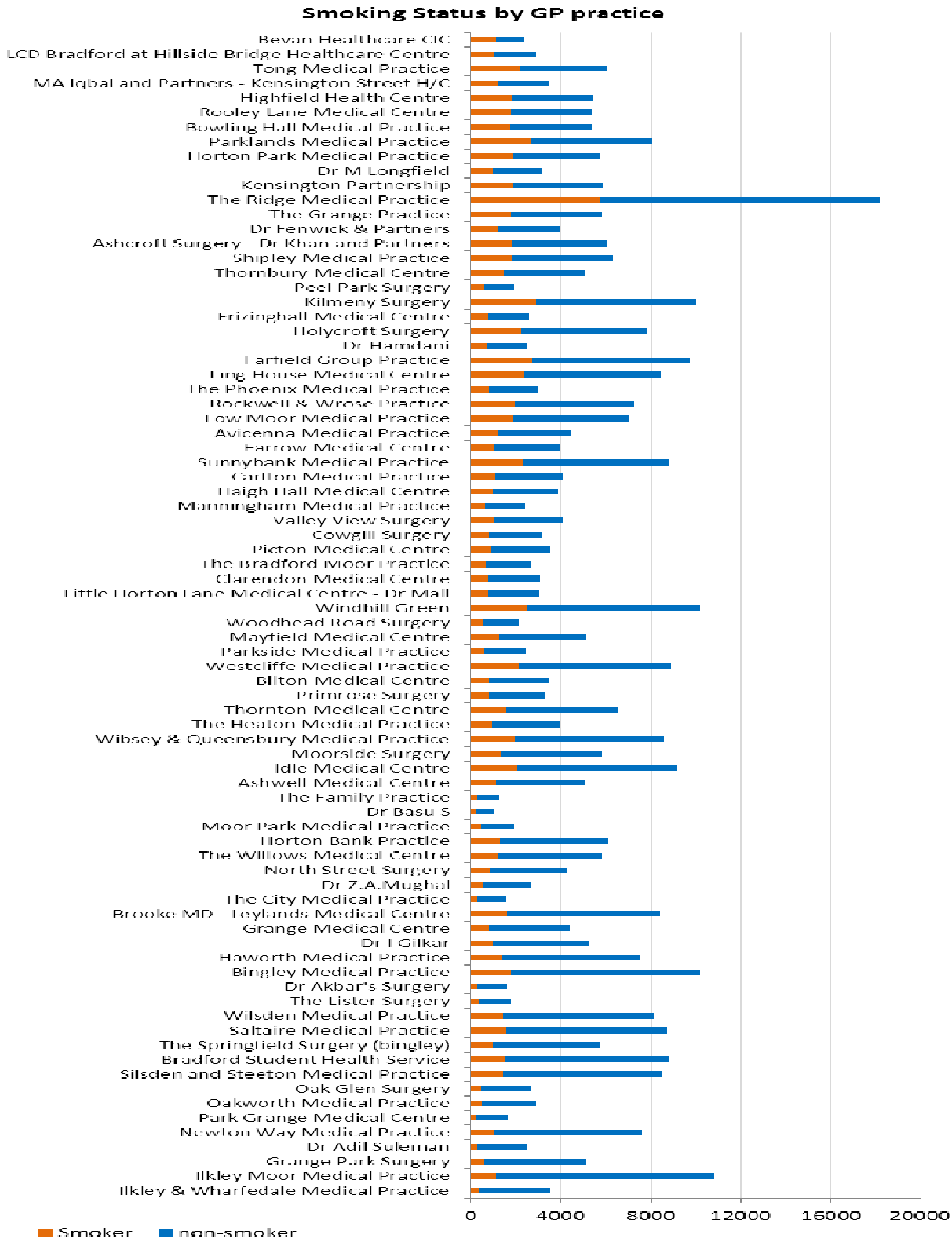
Chart 46: Smoking prevalence by GP practice



Source: Data Supplied by WSYBCSU Analysed by Public Health Analysis Team CBMDC, 2014

If we look at this in terms of numbers we can see that there are more smokers within the Ridge medical practice and Kilmeny surgery. Bevan Healthcare has a low number of smoking statuses recorded which may have led to an inflated smoking prevalence rate for the practice.

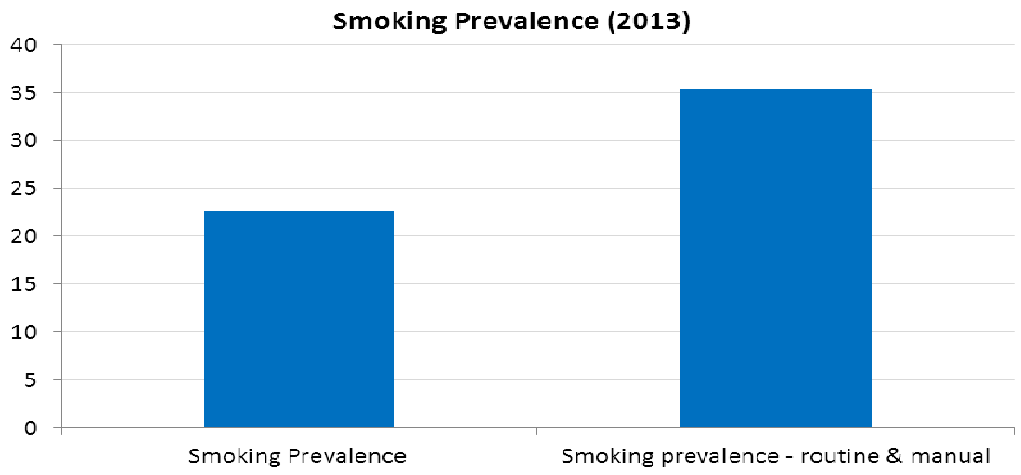
Chart 47: Smoking status by GP practice



Source: Data Supplied by WSYBCSU Analysed by Public Health Analysis Team CBMDC, 2014

The following chart supports the findings above; it has derived from the Integrated Household Survey, which looked at smoking prevalence across socio economic groups, the results indicated that smoking is more prevalent among those from a routine and manual socio economic group than overall smoking prevalence of all adults.

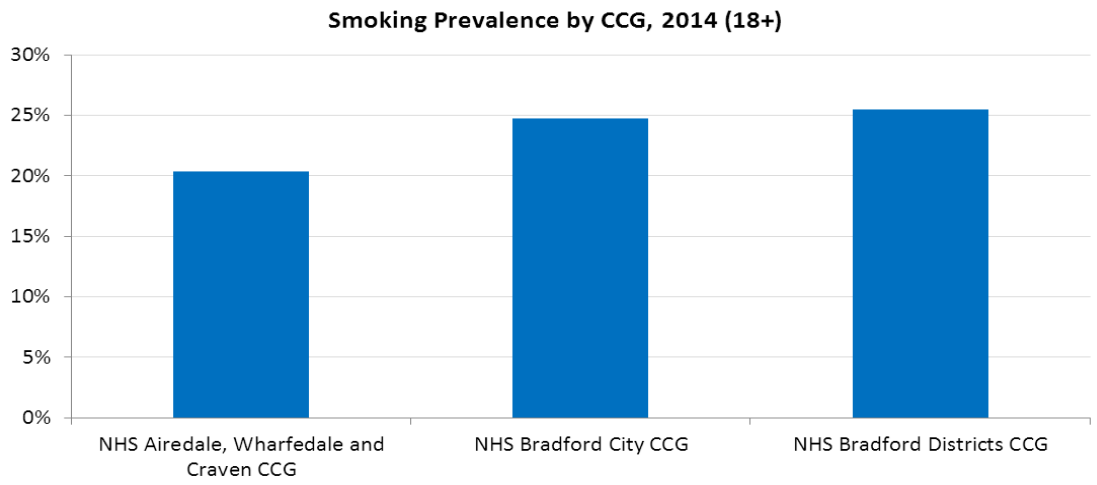
Chart 48: Smoking prevalence all adults and routine and manual groups



Source: Statistics on Smoking England, 2014

The following analysis breaks the results down by CCG. Overall Airedale Wharfedale and Craven have the lowest adult smoking prevalence, Bradford city has the highest.

Chart 49: Smoking Prevalence by CCG

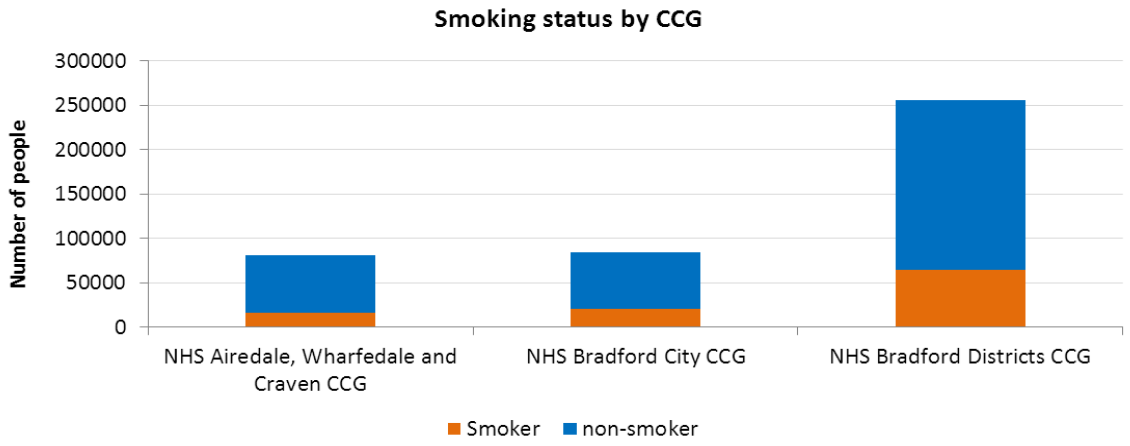


Source: Data Supplied by WSYBCSU Analysed by Public Health Analysis Team CBMDC, 2014

The chart above shows that the overall prevalence between Bradford City and Bradford Districts, however if we look at the actual number of smokers we see a different picture. Bradford District CCG has a significantly higher number of smokers compared to AWC and Bradford City CCGs; this is due to the smaller overall numbers within these CCGs with a

recorded smoking status. The sample size for Airedale, Wharfedale and Craven CCG is least representative of its population compared to Bradford District and Bradford City CCGs.

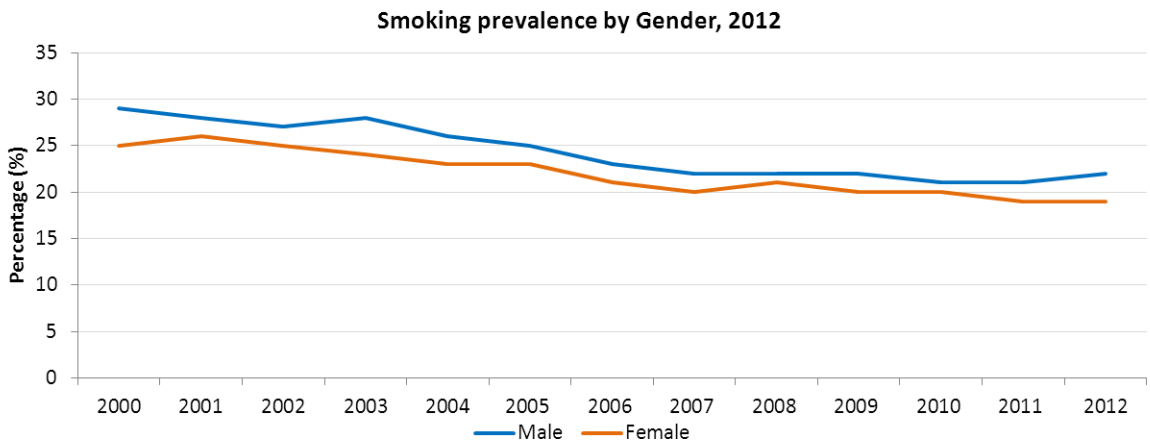
Chart 50: Number of smokers and non-smokers by CCG



Source: Data Supplied by WSYBCSU Analysed by Public Health Analysis Team CBMDC, 2014

Smoking prevalence nationally has been declining steadily over the last 10 years; prevalence is similar between males and females however it remains slightly higher for men than women, however the gap is closing.

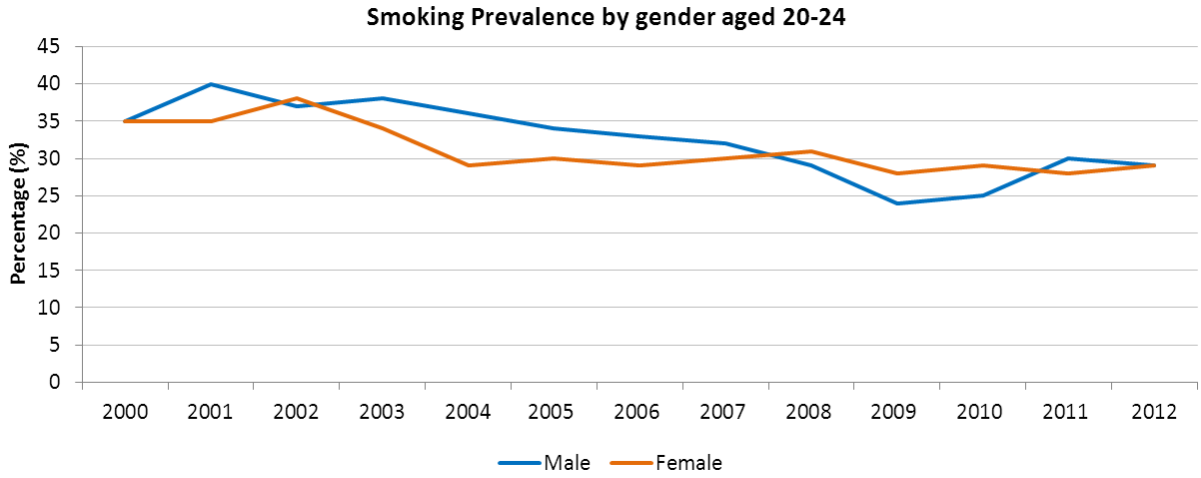
Chart 51: Smoking prevalence by Gender, National



Source: Statistics on smoking England, 2014

Lowest rates of smoking are among those aged 60 and over, with highest rates of smoking among those aged 20-24, (this is the same locally) the chart below highlights the smoking prevalence year on year for 20-24 year olds split by gender, for both there shows a downward trend with slight fluctuations year on year. The current prevalence among 20-24 year olds is 29% which is the same for both males and females.

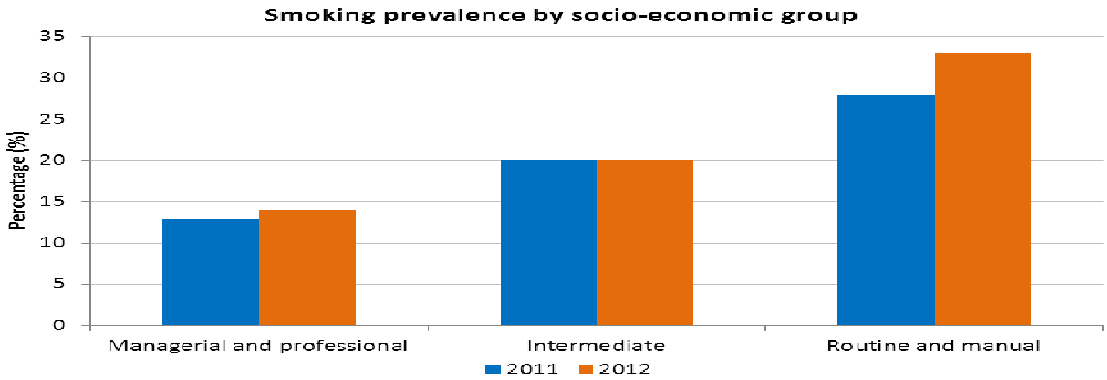
Chart 52: Smoking prevalence of 20-24 year olds in England



Source: Statistics on Smoking England, 2014

Smoking prevalence nationally is higher among the routine and manual socio economic group, with people in deprived circumstances not only more likely to take up smoking but start younger, smoke more heavily and are less likely to quit, each of which increases the risk of smoking related disease. Approximately half of all smokers in England work in routine and manual occupations. The poorer and more disadvantaged you are, the more likely you are to smoke and suffer smoking related illnesses. Smoking accounts for a significant proportion of inequalities in life expectancy. Smoking is lowest among the managerial and professional group nationally and this is the same locally in Bradford.

Chart 53: Smoking prevalence by socio economic group, National



Source: Statistics on Smoking England, 2014

Smoking and Health

Smoking is one of the largest causes of premature death and illness in the UK, with around 100,000 premature deaths each year being due to smoking, with further deaths as a result from smoking related illnesses.

Smoking increases the risk of developing over 50 serious conditions and this next section will look at the more serious conditions including; Lung Cancer, Coronary Heart Disease, Chronic Obstructive Pulmonary Disease and Stroke.

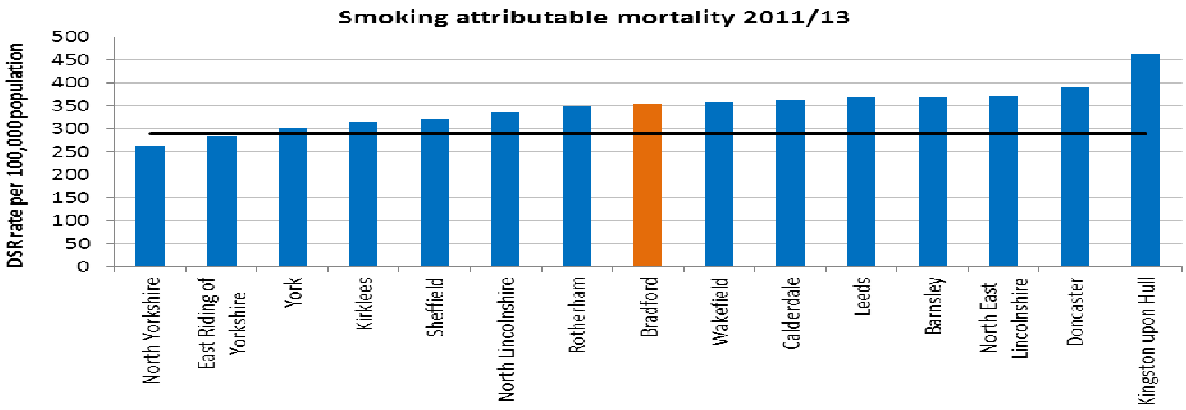
The following table shows the number of smoking attributable deaths in Bradford broken down by disease area, in total there were 743 deaths which were attributable to smoking during 2012, 309 as a result of cancer, the second highest was due to respiratory disease with 235.

Table 4: Smoking attributable deaths

Diagnosis	Attributable deaths
All deaths	743
All cancers	309
All respiratory diseases	235
All circulatory diseases	167
All diseases of the digestive system	11

Bradford is above the national and regional average for all smoking attributable mortality.

Chart 54: Smoking attributable mortality 2011/13 by Local Authority



Source: Local Tobacco Control Profiles, 2015

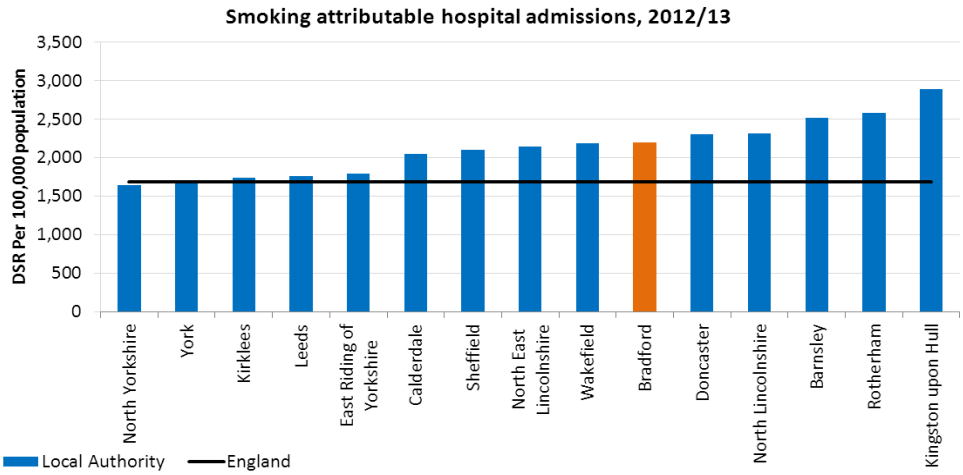
The next table looks at smoking attributable hospital admissions within Bradford during 2012/13, again broken down by disease area. In total there were 6,199 admissions attributed to smoking; this puts a large burden on the NHS.

Table 5: Smoking attributable hospital admissions

Diagnosis	Attributable admissions
All admissions	6,199
All cancers	2,236
All respiratory diseases	1,561
All circulatory diseases	1,579
All diseases of the digestive system	186

Bradford is higher than the national average and 6th highest among its neighbouring authorities for hospital admissions related to smoking.

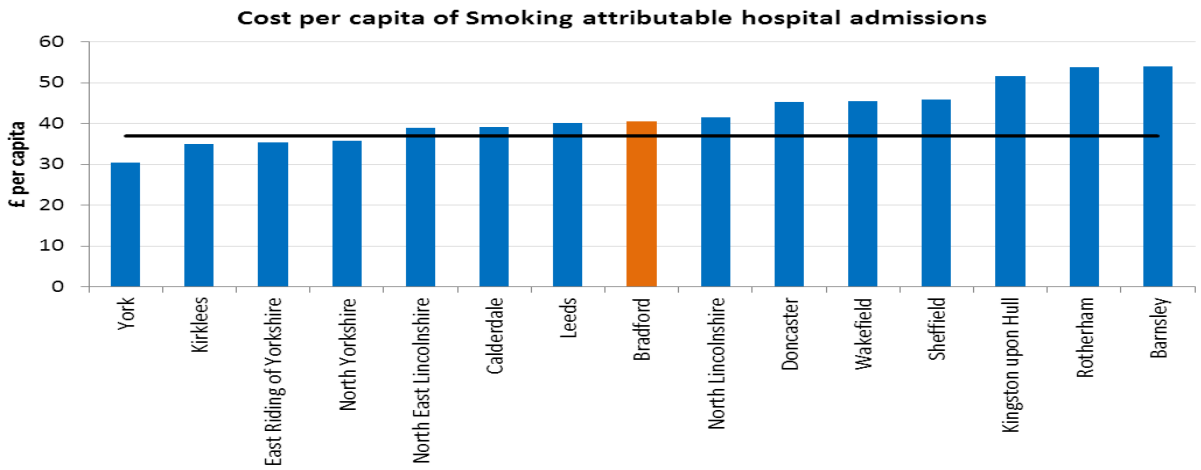
Chart 55: Smoking attributable hospital admissions 2012/13



Source: Local Tobacco Control Profiles, 2015

The costs of hospital admissions attributed to smoking in Bradford (2010/11 figure for over 35 year olds) is £40.55 per person, using this figure and the total number of hospital admissions during 2012/13 we can estimate a total cost of £251,369.45 for these admissions. Bradford is higher than the national average, and in line with the regional average.

Chart 56: Cost per capita of smoking attributable hospital admissions



Source: Local Tobacco Control Profiles, 2015

Lung Cancer

Smoking causes over 80% of all Lung Cancers in the UK, this also includes a small number of those who have been exposed to passive smoking (secondhand smoke). Lung Cancer is the second most common cancer, has one of the lowest survival rates of all cancers and is the leading cause of cancer death in the UK. Most of these deaths are preventable by giving up smoking in time (Cancer Research UK, 2014). Current smokers are fifteen times more likely to die from Lung Cancer than life-long non-smokers (ASH, 2011).

Tobacco smoke contains more than 70 different substances that are thought to cause cancer when inhaling smoke. The chemicals enter the lungs and spread around the rest of the body. Scientists have shown how these chemicals can damage DNA and change important genes, causing cancer by making cells grow and multiply out of control.

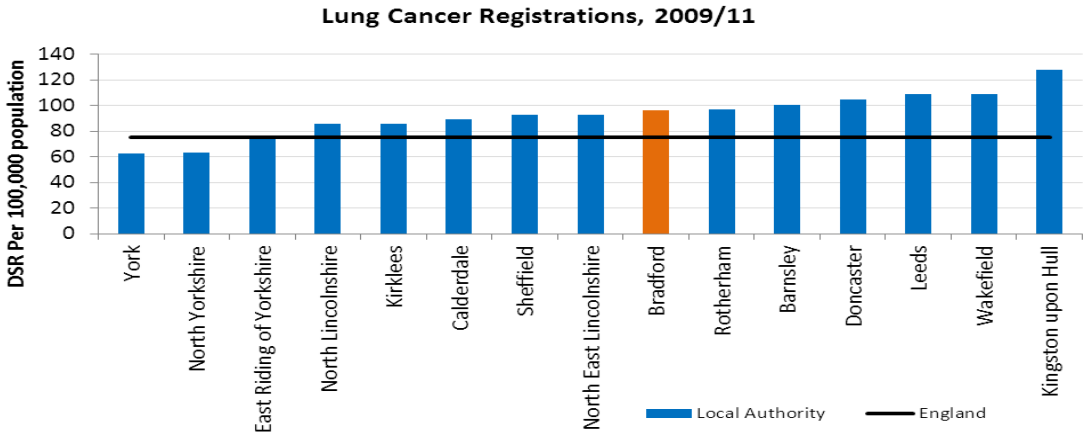
Research has shown it can take years for cancer to develop because the human body can cope for a time with some of the harmful chemicals in tobacco smoke. This is why it is generally unusual to see under 35 year olds with the disease. A smokers' risk of cancer and other diseases increases the more a person smokes per day, in addition the length of time an individual has been a smoker increases their risk even greater. The main age a smoker may be affected with Lung Cancer is between the ages of 35 – 69. Therefore quitting smoking at any age reduces the risk of Lung Cancer, the earlier a person quits the greater the reduction in risk.

Secondhand smoke (passive smoking) has also been shown to increase a non-smokers risk of developing Lung Cancer, cancer of the larynx and pharynx. Side stream smoke from the tip is four times more toxic than mainstream smoke (the smoker inhales) containing higher levels of the many poisons and cancer causing chemicals.

This section will look at the number of Lung Cancer registrations, the number of admissions to hospital and the number of deaths from Lung Cancer, although this is all Lung Cancers and not just those attributable to smoking. With over 80% of cases being attributable to smoking it gives us a clear indication of the issues faced in Bradford.

The number of Lung Cancer registrations in 2009/11 was higher than the national and regional average, cancer registrations are new cancers which have been diagnosed within the reporting period, this doesn't account for any registered prior to the reporting period or those which are recurrences. Therefore this isn't a true picture of the current number of people suffering from Lung Cancer; however it does show that more new people are being diagnosed within Bradford than the England average and the regional average.

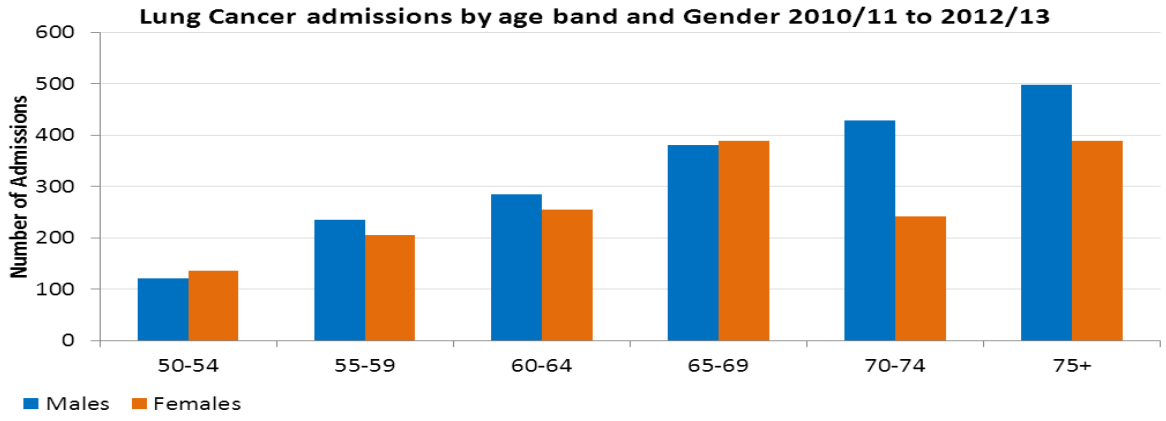
Chart 57: Lung Cancer registrations 2009/11 by local authority



Source: Local Tobacco Control Profiles, 2014

The following chart looks at the number of hospital admissions for Lung Cancer during the financial year 2010/11 to 2012/13, broken down by age band and gender. It indicates that admissions increase with age, there is a considerable difference in the number of admissions for males in the 70-74 age groups than females, with almost half the amount of admissions for females of the same age group.

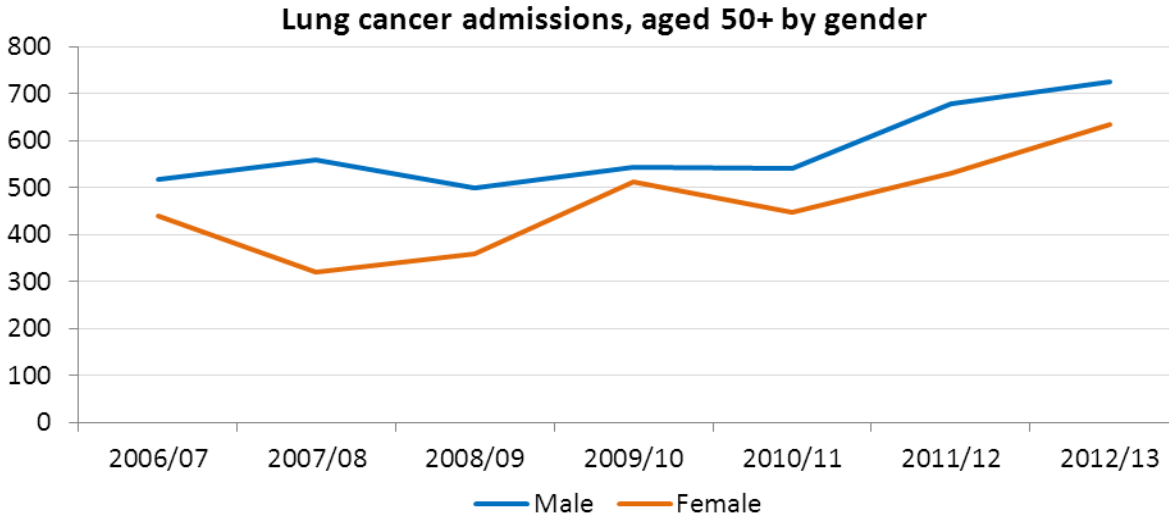
Chart 58: Lung Cancer admissions by age band and gender



Source: Public Health Analysis team, CBMDC, 2014

Admissions have increased over the last 7 years, in particular in 2009/10 where there was a peak in admissions for females, each year males have consistently had greater admissions than females.

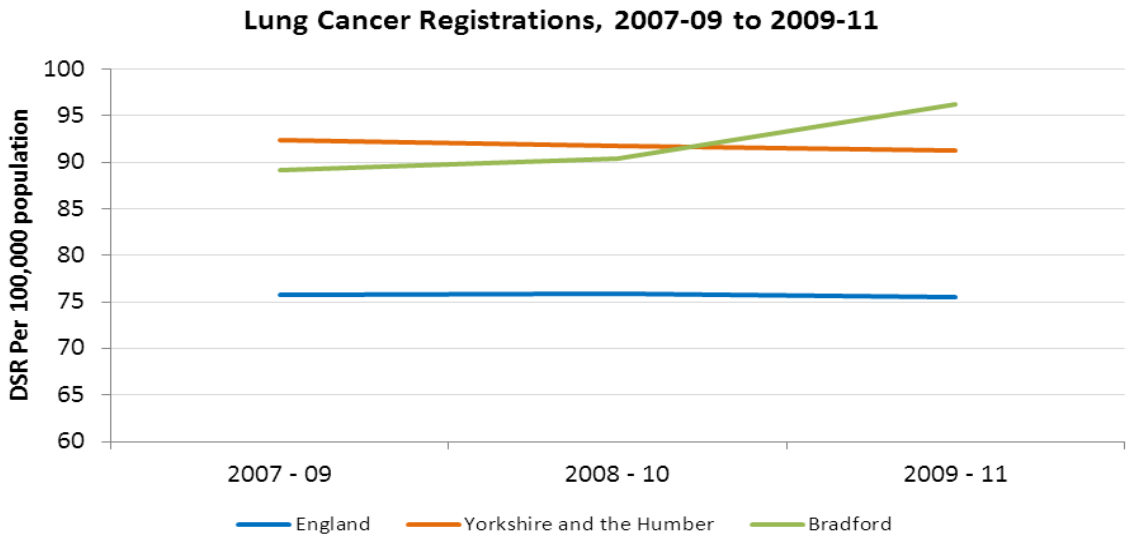
Chart 59: Lung Cancer admissions aged 50+ by gender



Source: Public Health Analysis team, CBMDC 2014

The number of cancer registrations also spiked in 2009/11 unfortunately we do not have this information by gender so we are unable to see whether this is linked to the rise in admissions for females.

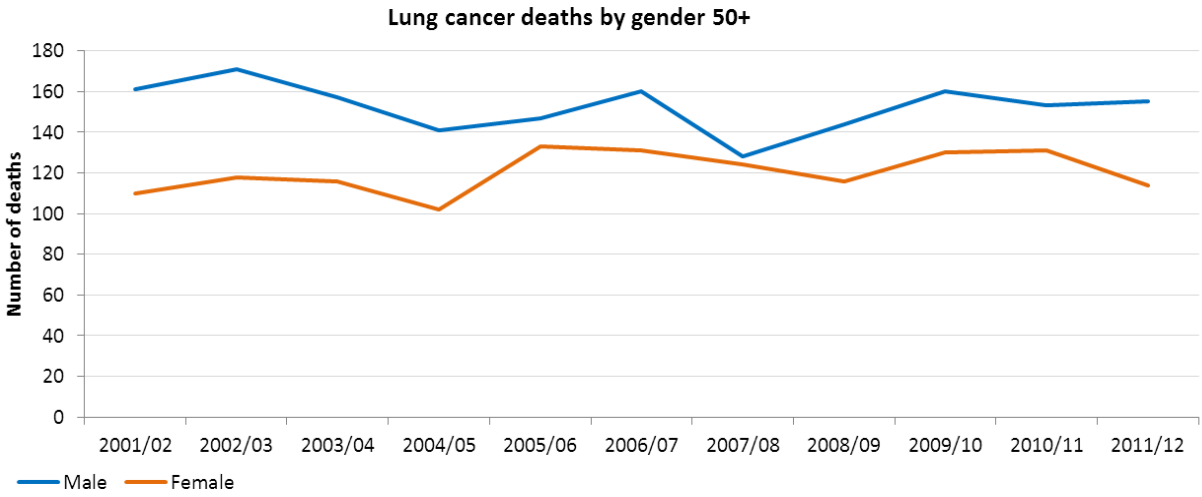
Chart 60: Lung Cancer registrations



Source: Local Tobacco Control Profiles, 2014

The chart below shows the number of Lung Cancer deaths year on year for the last 10 years for those aged 50 and above. More males than females have died as a result of Lung Cancer; the last year has shown a decline in deaths among females but a slight increase in deaths among males.

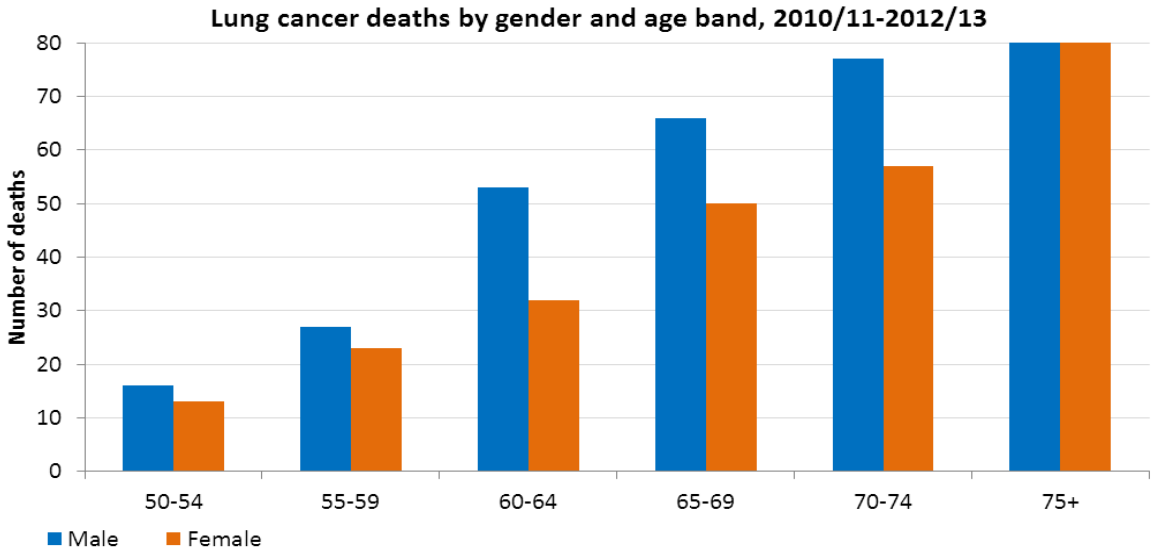
Chart 61: Lung Cancer deaths by gender 50+



Source: Local Tobacco Control Profiles, 2014

Deaths from Lung Cancer are higher among males than females, which correspond with the number of admissions for males; therefore more males than females are suffering with Lung Cancer. This is expected due to smoking prevalence being higher among males in Bradford. As with admissions deaths for Lung Cancer increase with age which is the same for both males and females.

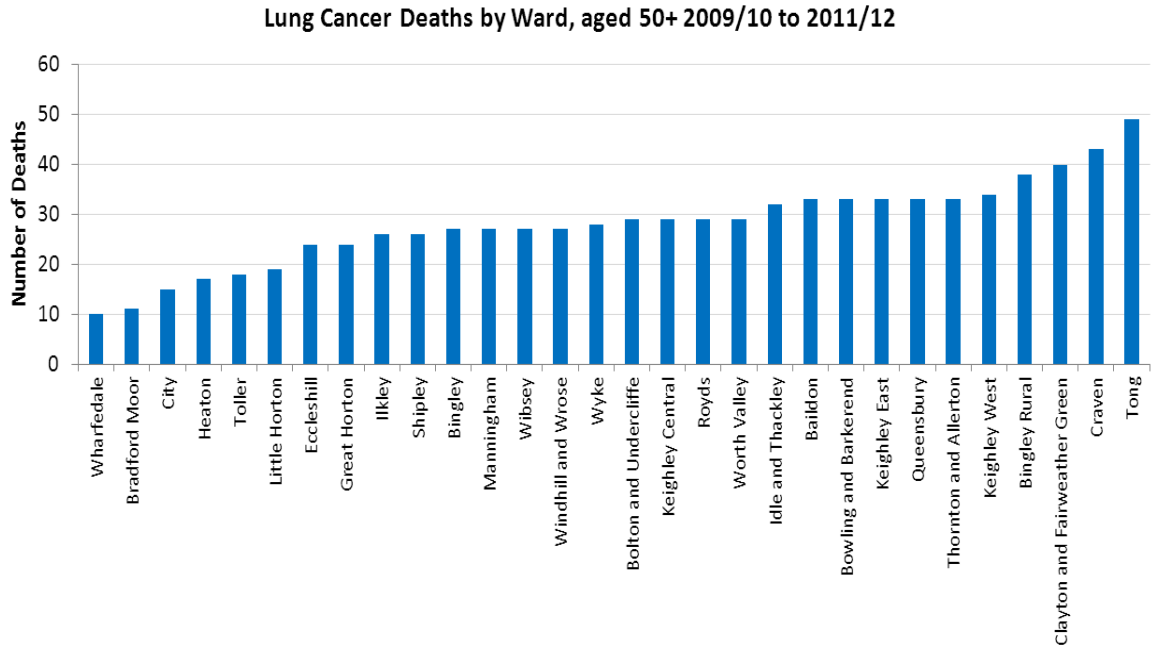
Chart 62: Lung Cancer deaths by gender and age band



Source: Public Health Analysis team, CBMDC 2014

The highest number of Lung Cancer deaths was Tong ward. This area has high levels of deprivation, which is in line with smoking prevalence among routine and manual groups. The current deaths from Lung Cancer are as a result of those who have been smoking 20 or more years, therefore looking at current smoking prevalence by area we would expect to see a shift from district to City over the next 15 to 20 years if these people continue to smoke.

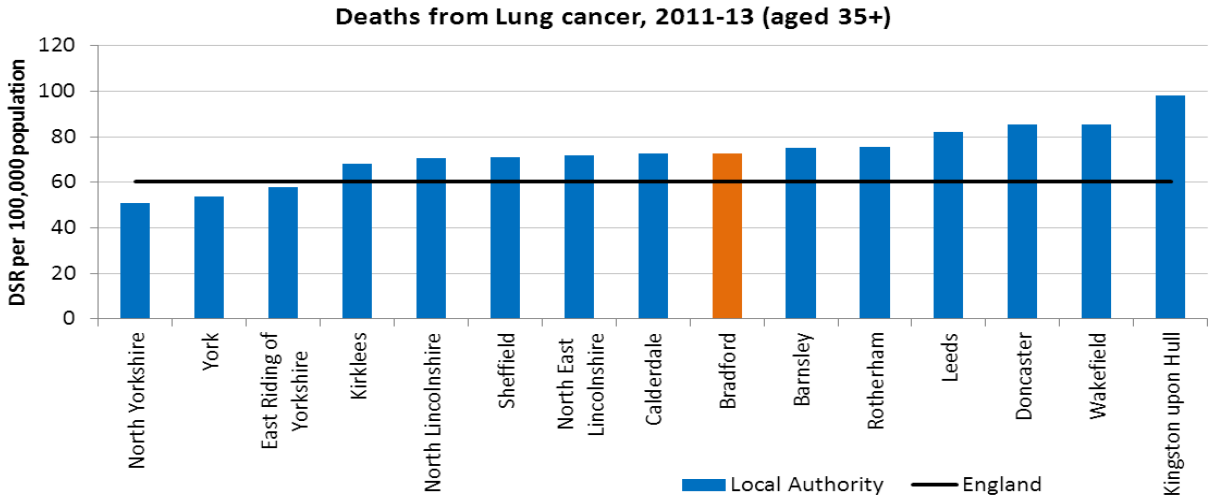
Chart 63: Lung Cancer deaths by ward aged 50+



Source: Public Health Analysis team, CBMDC 2014

Deaths from Lung Cancer are higher than the national and regional average, with Hull having the highest death rate and North Yorkshire having the lowest.

Chart 64: Deaths from Lung Cancer, 2011-13 aged 35+



Source: Local Tobacco Control Profiles, 2014

Overall rates of Lung Cancer within Bradford almost mirror the smoking prevalence figures; this is expected with such high levels of Lung Cancers resulting from smoking.

Cardiovascular Disease (CVD)

Cardiovascular disease (CVD) includes all the diseases of the heart and circulation including coronary heart disease (CHD), angina, heart attack, congenital heart disease and stroke. It is also known as heart and circulatory disease.

Smoking is a first degree risk factor in developing CVD independent of any other risk factor, and for smokers their chances of developing CHD are increased by 24% compared to those who do not. The effects of smoking are strong, consistent and dose related from the first cigarette and along with other risk factors the chemicals in the cigarette can cause injury to the lining of the arteries. Blood cells are more likely to stick to the damaged lining of the arteries; this is the very start of the condition called atheroma which is also known as atherosclerosis 'hardening of the arteries'. Smoking stimulates the smooth muscle of the artery to grow over the plaque, narrowing the arteries and making it difficult for the blood to flow through them. Smoking makes the blood stickier increasing the risk of blood clots leading to heart attack.

Carbon monoxide in cigarettes attaches itself to red blood cells carrying oxygen so that less oxygen is carried (15%) compared with non smokers, increasing breathing difficulties for those

with angina, lung disease and in addition increases blood pressure. Nicotine is a stimulant and can make the heart work faster and increase the risk of abnormal heart rhythms and smoking can also increase the heart rate by up to 10 – 20 beats per minute. To summarise, all of these combine to give premature narrowing of the arteries, which is made worse by the blood being sluggish and carrying less oxygen than it should.

There are a number of diseases caused by atheroma such as heart pains which are otherwise known as angina are caused by narrowing of the coronary arteries. Cerebrovascular disease means a disease of the arteries in the brain and this can cause a stroke and a transient ischaemic attack (TIA). A stroke means that part of the brain is suddenly damaged and will be discussed in more detail later on in this section. Peripheral arterial disease is narrowing due to atheroma of arteries other than those in the heart or brain with arteries that take blood to the legs most commonly affected, eventually making legs cold and walking difficult and painful.

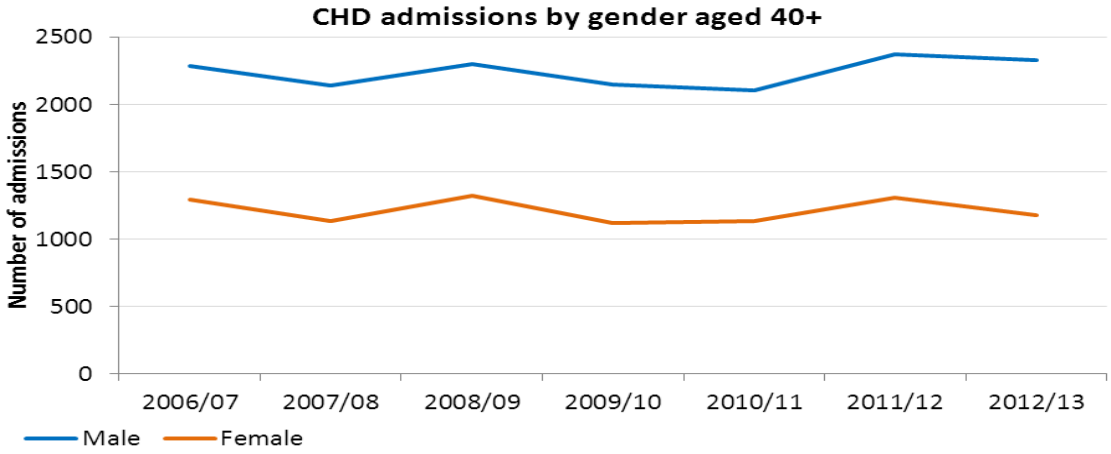
There is also a link between secondhand smoke and CHD, exposure can cause a 25% increased risk. Even small exposures to tobacco smoke can trigger acute cardiac events. It can contribute to the process of atherosclerosis, increase stroke risk and also the size of heart attacks when they do occur. Complete avoidance of secondhand smoke exposure is important especially for patients with established coronary artery disease.

Heart disease risk associated with smoking begins to decrease soon after quitting and continues to decrease over time. The risk is cut in half one year after quitting and if you have not developed heart disease within 15 years of quitting, the risk is nearly the same as the risk in someone who has never smoked. Deaths from heart disease are reduced by one third in people who quit smoking compared with people who continue smoking and repeat heart attacks are reduced by about the same amount. Quitting smoking can lower your risk of developing heart disease as much as, or more than, common medicines used to lower heart disease risk, including aspirin, statins, beta-blockers, and ACE inhibitors. People who smoke and already have heart disease lower their risk of sudden cardiac death, second heart attacks, and death from other chronic diseases by as much as half if they quit smoking.

The following section looks at CHD within Bradford. It is important to note that not all cases of CHD are as a result of smoking, there are other factors to take into consideration; ethnicity is a big risk factor as those from BME groups are more susceptible to CHD, hence results are higher among South Asian communities.

Hospital admissions for CHD are significantly higher among males than females, the chart below shows the number of hospital admissions each year for the last 7 years, there has been little change year on year and the gap between males and females has remained the same.

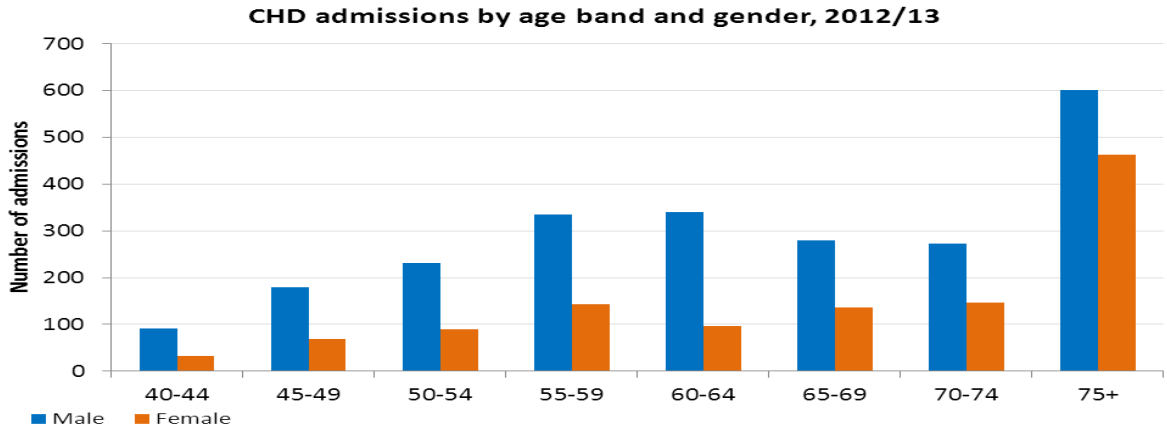
Chart 65: Coronary Heart Disease hospital admissions, by gender aged 40+



Source: Public Health Analysis team, CBMDC 2014

Hospital admissions for CHD peak between the ages of 55 and 64, and then begin to decline. This could be due to less people presenting themselves at hospital prior to this time.

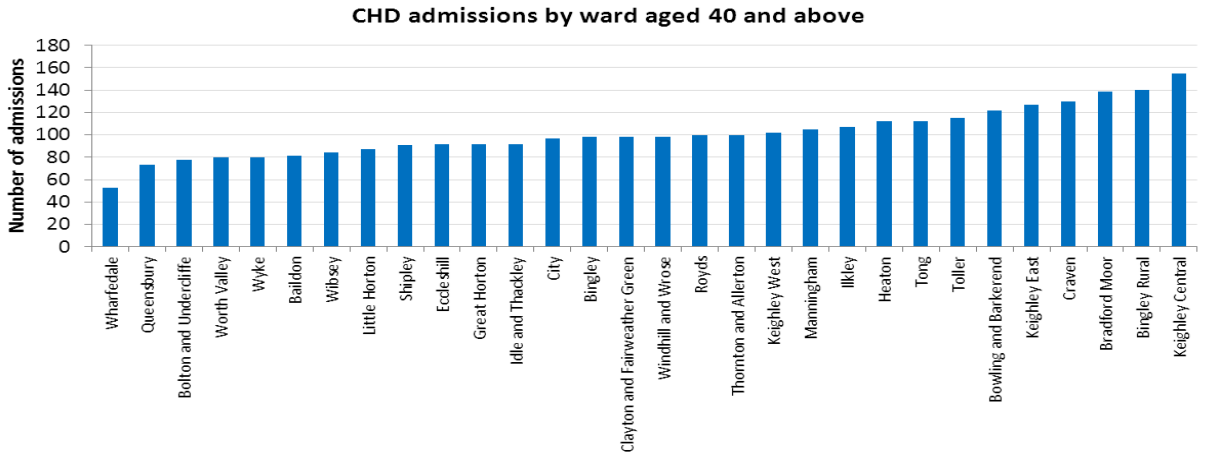
Chart 66: Coronary Heart Disease hospital admissions, by age band and gender 2012/13



Source: Public Health Analysis team, CBMDC 2014

In 2012/13 admissions were highest in Keighley Central, within this ward there is a high percentage of residents with a Pakistani heritage. The area also has high levels of deprivation. Wharfedale had the lowest admissions; this area is predominately white British and also has lower levels of deprivation.

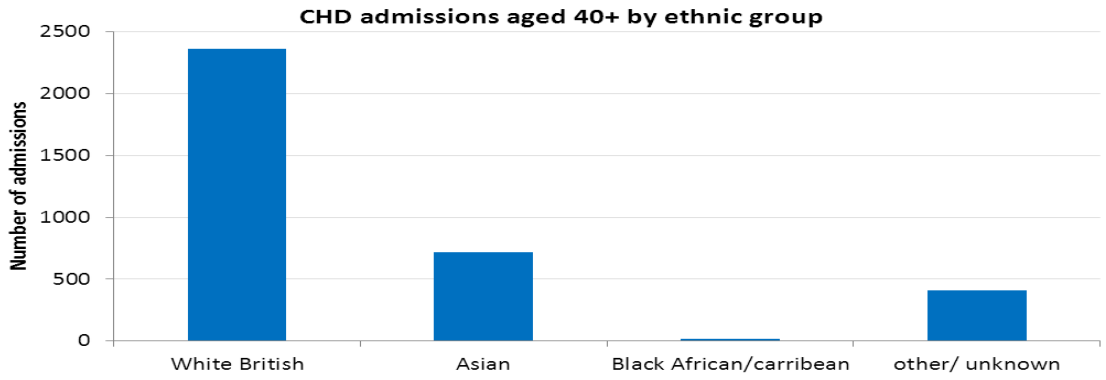
Chart 67: Coronary Heart Disease hospital admissions by ward aged 40+



Source: Public Health Analysis team, CBMDC 2014

Admissions are highest among White British residents.

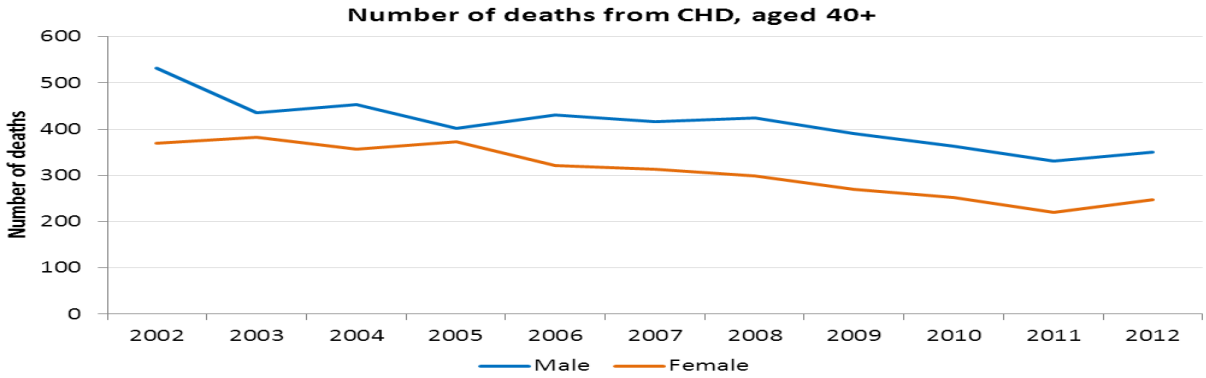
Chart 68: Coronary Heart Disease hospital admissions aged 40+ by ethnic group



Source: Public Health Analysis team, 2014

Deaths from CHD have shown a gradual decline over the last 10 years, more males die each year from CHD compared to females. The decline has been greater among males than females.

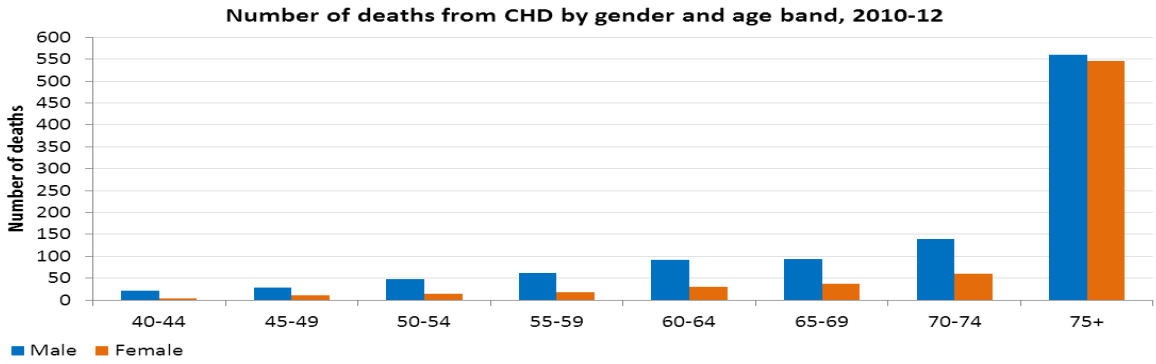
Chart 69: Deaths Coronary Heart Disease aged 40+



Source: Public Health Analysis team, CBMDC 2014

The number of deaths from CHD increases with age; this is the same for both males and females, however it is more significant among males, the chart below highlights these differences and notably deaths were greatest in those aged 75 and above. However these may have had a number of episodes prior to death in the 70+ age groups but survived as a result of the treatment and medication available.

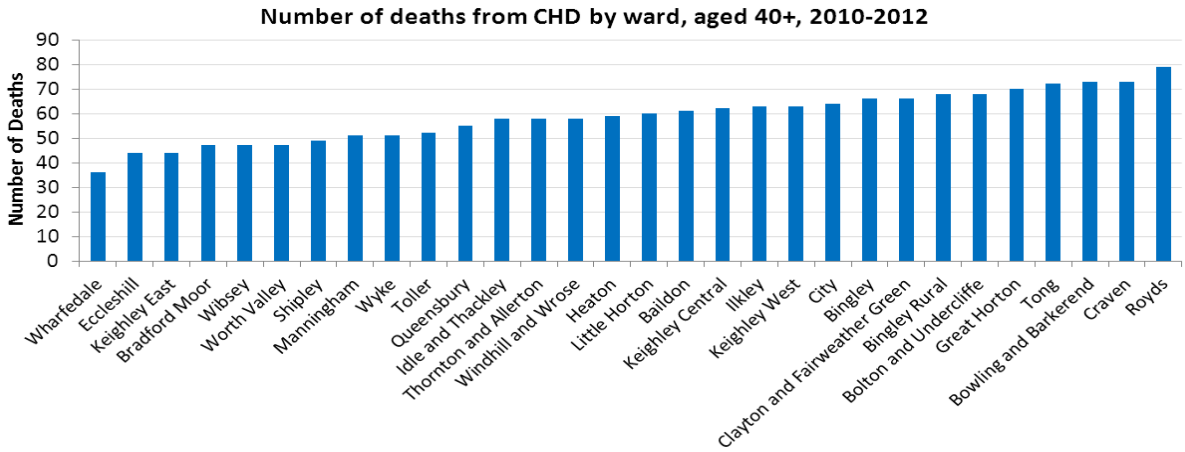
Chart 70: Deaths from coronary heart disease by gender and age band, 2010-12



Source: Public Health Analysis team, CBMDC 2014

The highest number of deaths during the years of 2010 to 12 came from the Royds ward; this ward is predominantly white.

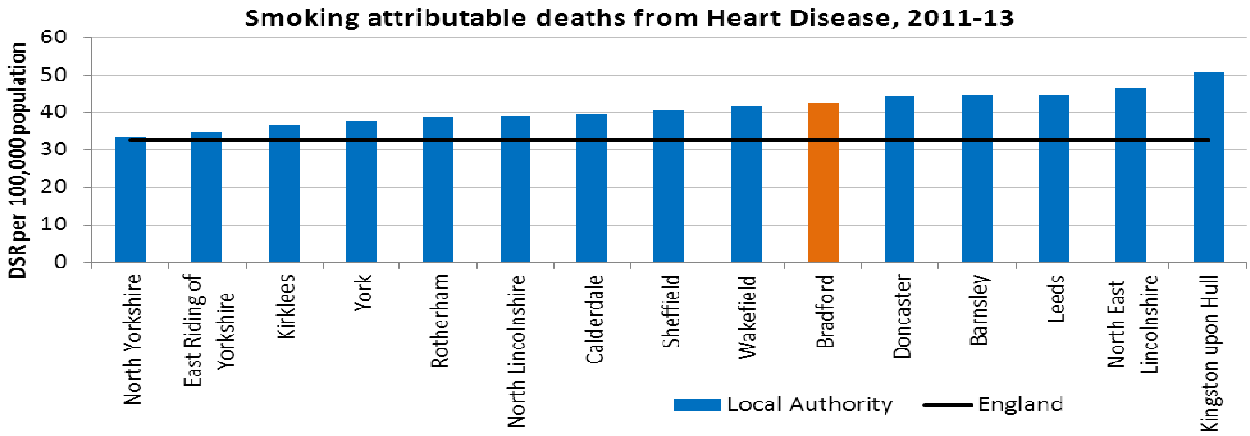
Chart 71: Number of deaths from Coronary Heart Disease by ward, aged 40+



Source: Public Health Analysis team, CBMDC 2014

Deaths attributable to smoking from heart disease are higher in Bradford than the national and regional average, with Bradford ranking 6th highest among its neighbouring authorities.

Chart 72: Smoking attributable deaths from heart disease



Source: Local Tobacco Control Profiles, 2014

Chronic Obstructive Pulmonary Disease (COPD)

COPD is a long-latency disease, meaning cases tend to develop a number of years after the first exposure to the particular causative agent; the most important causative factor is smoking and is thought to be responsible for a high percentage of cases. In many cases symptoms manifest during mid-life or later. Most people develop COPD symptoms after the age of 40 and it is likely that over a million individuals currently have the disease in Great Britain as COPD is accountable for a substantial number of deaths. NICE reports that COPD accounts for 30,000 UK deaths every year of which 85% could be attributed to smoking; almost double the European average. It consistently gives rise to between 25,000 and 30,000 deaths each year of the last 25 years.

COPD is a serious long term lung disease in which the flow of air into the lungs is gradually reduced by inflammation of the air passages and damage to the lung tissue. There are two main common types of COPD chronic bronchitis and emphysema. People with chronic bronchitis have intermittent attacks of obstructed breathing during which the bronchioles (airways) of the lungs constrict and become inflamed and clogged with mucus. This means that less air can reach the lungs. Emphysema refers to the permanent destructive enlargement of the alveoli (airsacs) within the lungs. It is progressive and causes irreversible damage resulting in the decline in lung function.

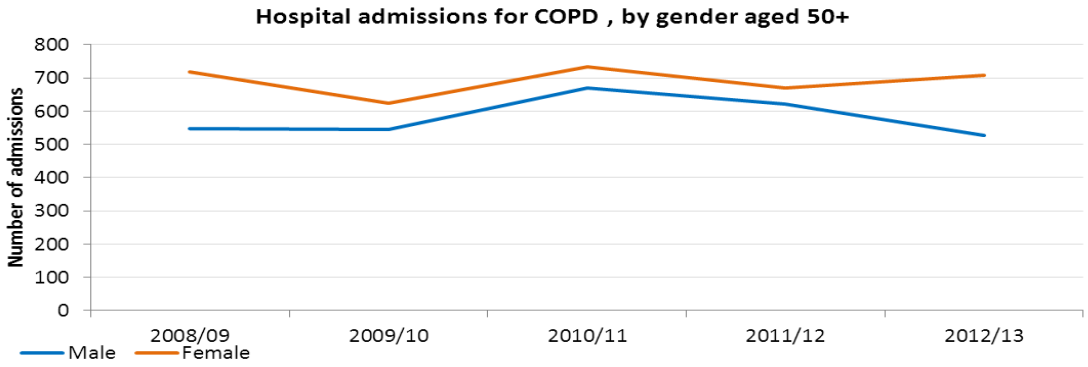
Smoking is the main cause of COPD and the risk increases the more you smoke and the longer you smoke for. However past occupational exposures to fumes and chemicals including welding fumes and isocyanates, dusts including coal, grain and silica, as well as genetic susceptibility and environmental pollution will also contribute to causing many currently occurring cases including secondhand smoke. Occupational hazards do not necessarily cause COPD but they can

increase the risk for smokers. Research has shown that approximately 15% of COPD is likely to be work related and therefore suggests there are approximately 4,000 occupational COPD deaths each year. The best prevention is to stop smoking, if this applies.

Approximately 900,000 people are diagnosed in the UK; however the Department of Health (DH) estimates that the true figure is closer to three million because the condition is vastly under diagnosed. COPD is the second most common cause of emergency admission to the hospital and fifth largest cause of readmission.

There has been very little trend in hospital admissions for COPD in the last 5 years, there was a substantial increase in the number of admissions in 2010/11 for females. Admissions were higher among females than males.

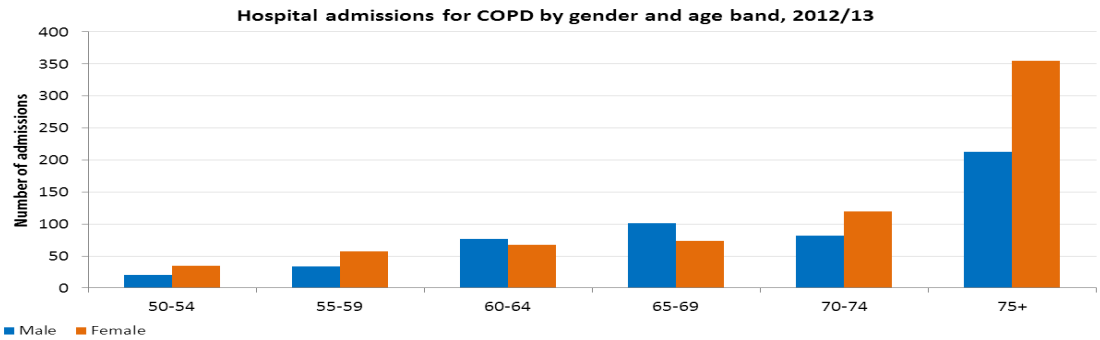
Chart 73: Hospital admissions for Chronic Obstructive Pulmonary Disease (COPD,) by gender aged 50+



Source: Public Health Analysis team, CBMDC 2014

Hospital admissions for COPD increase with age, with higher admissions for males aged 60-69.

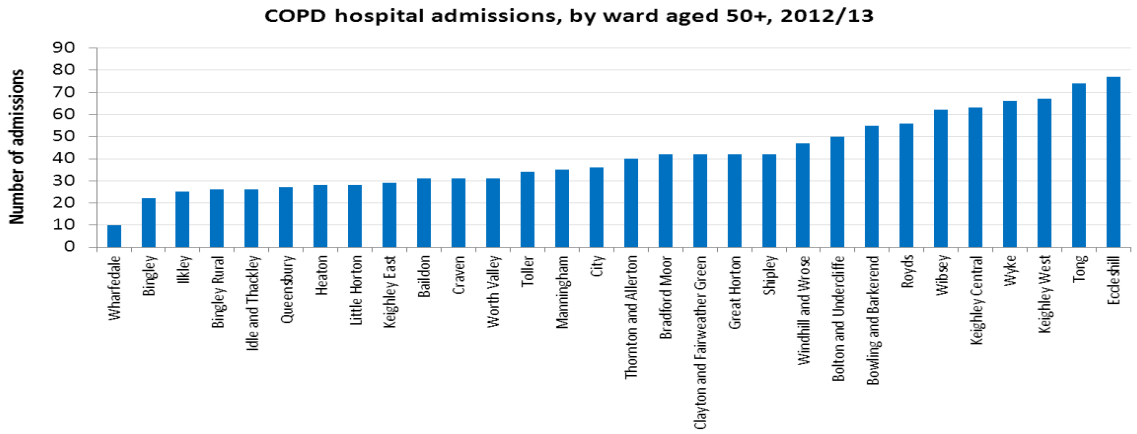
Chart 74: Hospital admissions for COPD by gender and age band



Source: Public Health Analysis team, CBMDC 2014

The largest number of admissions was from Eccleshill, this ward has higher female to male ratio, and it has a high white population, with low levels of deprivation.

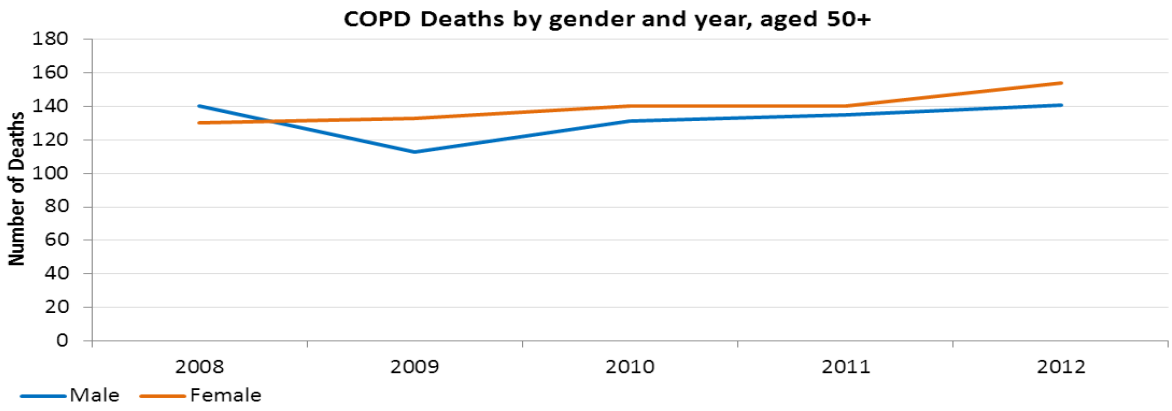
Chart 75: Hospital admissions for COPD by ward aged 50+



Source: Public Health Analysis team, CBMDC 2014

Deaths from COPD decreased in 2009 for males but have steadily increased since, and over 5 years overall there has been very little change, COPD deaths for females have shown a steady increase.

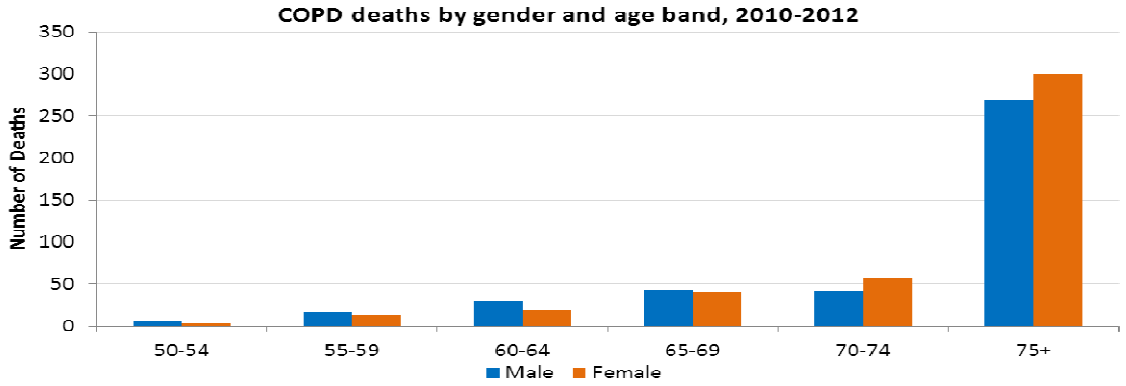
Chart 76: COPD deaths by gender and year, aged 50+



Source: Public Health Analysis team, CBMDC 2014

The chart below shows the number of deaths from COPD during the years 2010 to 2012 by gender and age band. It highlights that deaths are similar among males and females, with more males dying at a younger age.

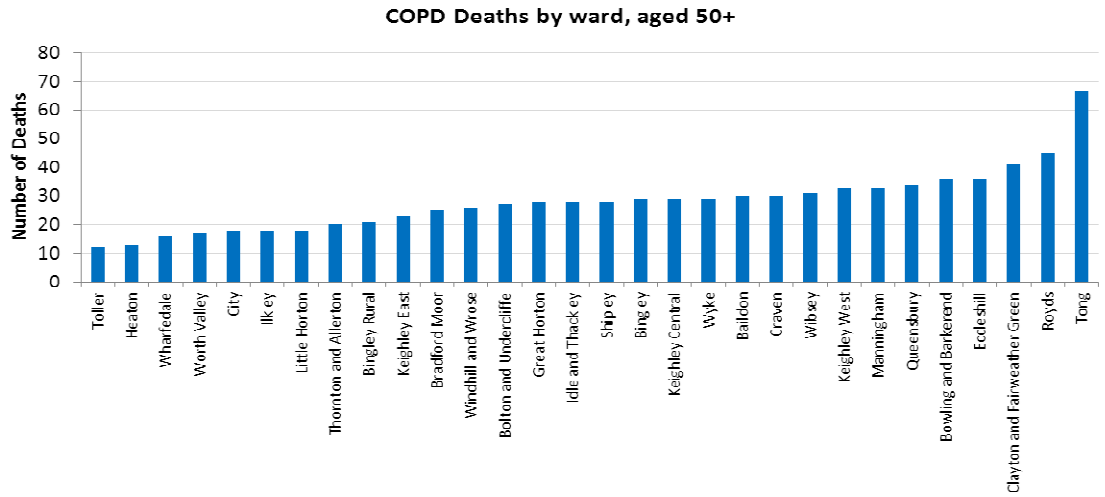
Chart 77: COPD deaths by gender and age band, 2010-2012



Source: Public Health Analysis team, CBMDC 2014

Deaths from COPD were highest among those from Tong ward. Tong has very high levels of deprivation, and also has one of the highest smoking prevalence rates among the wards of Bradford. Surprisingly Toller had the lowest number of deaths as they had the highest smoking prevalence, however as previously mentioned diseases from smoking are not instantaneous, smoking related diseases tend to be from persistent smoking over a long period of time, therefore in the next 20 to 30 years we may see an increase in COPD cases and deaths among residents of Toller.

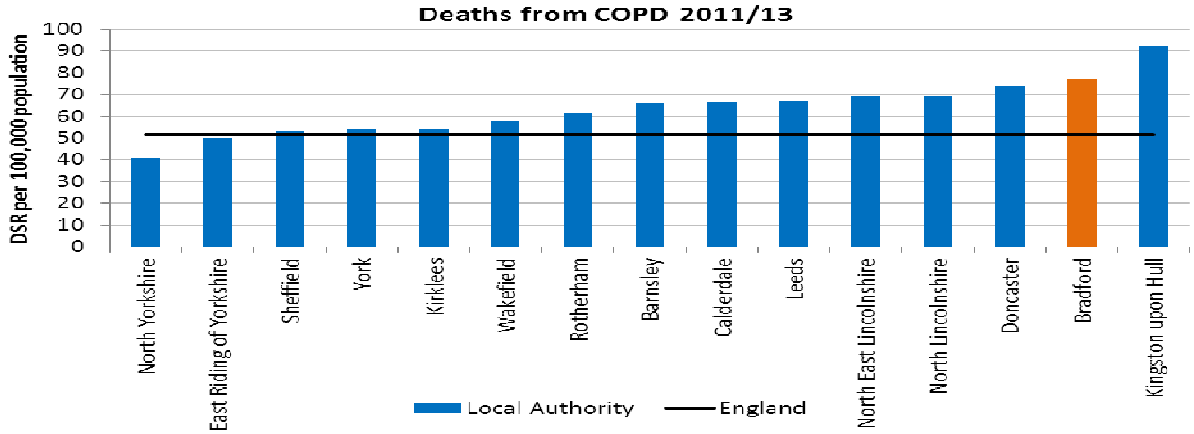
Chart 78: COPD deaths by ward aged 50+



Source: Public Health Analysis team, CBMDC 2014

Deaths from COPD in Bradford are higher than the national and regional average, and second highest among its neighbouring authorities.

Chart 79: Deaths from COPD 2011/13



Source: Local Tobacco Control Profiles, 2014

Stroke

Approximately 100,000 smokers die each year in the UK because of their habit. The majority of these deaths are due to lung cancer and other chest diseases, such as bronchitis and emphysema. Smoking also significantly increases the risk of heart disease and stroke. In fact, smokers are three times more likely to have a stroke than non-smokers. The more you smoke, the more this risk increases. If you smoke 20 cigarettes a day, you are six times more likely to have a stroke compared to a non-smoker.

Each year in England approximately 110,000 people have a first or recurrent stroke and a further 20,000 people have a transient ischaemic attack (TIA) or mini stroke. More than 900,000 people in England are living with the effects of stroke with half of these being dependant on other people for help with everyday activities (NICE guidance [CG68], 2008).

Stroke is a preventable disease and over the past two decades a growing body of evidence has overturned the traditional perception that stroke is simply a consequence of aging that inevitably results in death or severe disability.

When smoking, tobacco smoke is inhaled, this contains over 7,000 toxic chemicals including carbon monoxide, formaldehyde and hydrogen cyanide. These chemicals are transferred from the lungs into the bloodstream, changing and damaging cells all around the body. The changes that these chemicals cause can increase the risk of stroke.

Cigarette smoke can affect the body's cholesterol levels. Cholesterol is a type of fat carried around the body in particles called lipoproteins. Smoking reduces the levels of 'good' cholesterol (also called HDL cholesterol) in the bloodstream and increases levels of 'bad' cholesterol (also called LDL cholesterol). Higher levels of 'good' cholesterol decreases the risk of having a stroke.

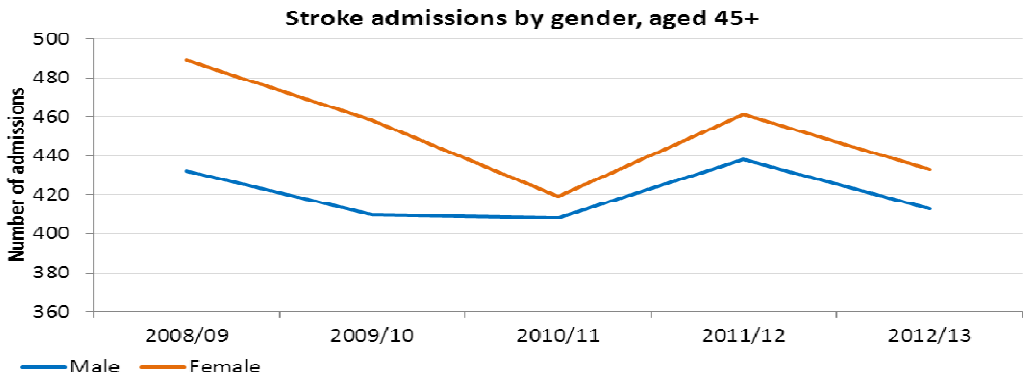
Carbon monoxide inhaled from cigarette smoke increases levels in the blood making it more likely for artery walls to become damaged. The chemicals inhaled also affect the stickiness of the blood and production of a type of blood cell called a platelet. This increases the blood's tendency to form clots.

These factors increase the smokers risk of developing atherosclerosis whereby arteries become more narrow and 'furred up.' This reduces the blood flow through them so blood clots are more likely to form. If a clot forms in an artery leading to the brain, it can then cause a blockage, cutting off the blood supply and causing a stroke. This type of stroke is known as an ischaemic stroke. Smoking nearly doubles the risk of having an ischaemic stroke.

Smokers are also more likely to develop high blood pressure a major risk factor for stroke. Smoking is particularly dangerous for people who have high blood pressure. High blood pressure contributes to damage to the arteries. A smoker with high blood pressure is also fifteen times more likely to have a subarachnoid haemorrhage (a type of stroke caused by a bleed) than those who have never smoked or do not have high blood pressure. If someone has had a stroke, it is strongly recommended that they stop smoking to help prevent any further strokes. Research has shown that they are at greatest risk of another stroke shortly after the first (Stroke Association, 2012).

The following chart shows the number of admissions for stroke over the last 5 years; it shows there is a slight downward trend for both males and females. More males than females are admitted as a result of a stroke compared to males; this was more significant in 2008/09 however the gap is closing.

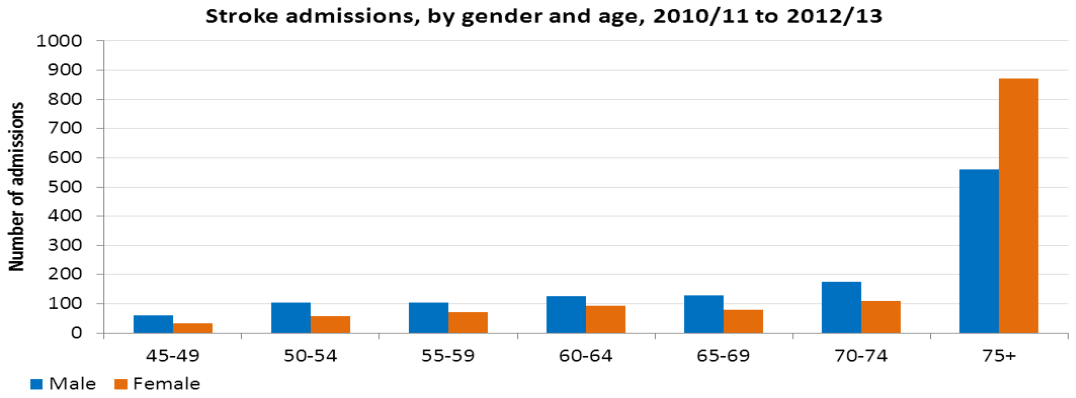
Chart 80: Hospital admissions for stroke by gender aged 45+



Source: Public Health Analysis team, CBMDC 2014

Admissions for stroke in earlier years is higher among males, more females are admitted later on (75+.)

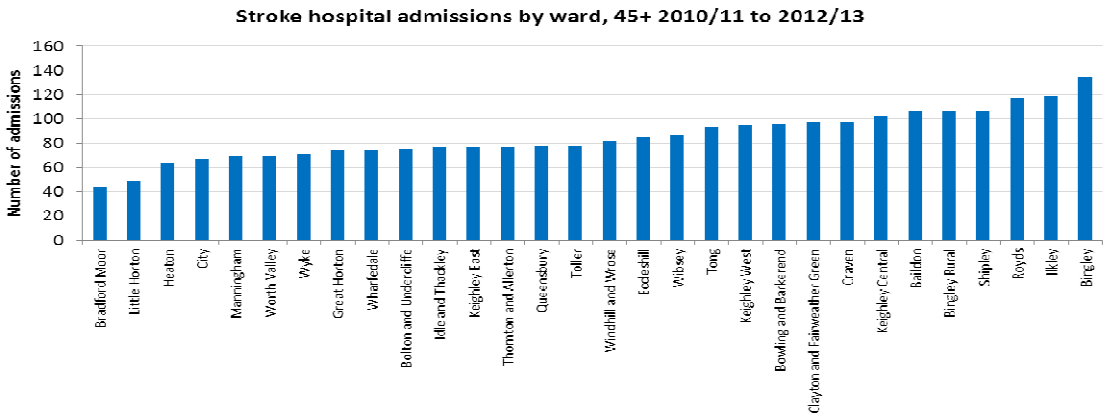
Chart 81: Hospital admissions for Stroke by gender and age



Source: Public Health Analysis team, CBMDC 2014

Admissions were highest from the Bowling and Barkerend ward, this area has quite high deprivation. Ilkley has the lowest admissions; an area with low levels of deprivation in comparison.

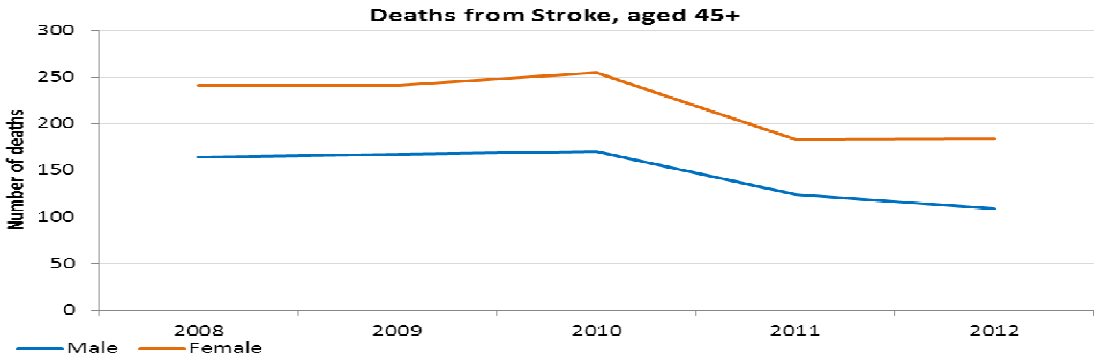
Chart 82: Stroke hospital admissions by ward, 45+



Source: Public Health Analysis team, CBMDC 2014

Deaths from stroke have shown a decline over the last 3 years, deaths are higher among females than males, and the gap between gender groups has remained the same over the last 5 years.

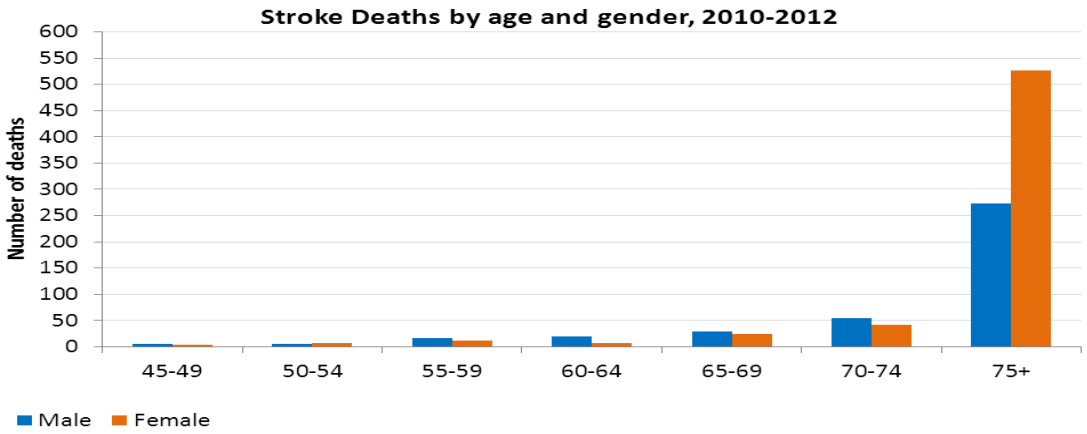
Chart 83: Deaths from Stroke aged 45+



Source: Public Health Analysis team, CBMDC 2014

Premature deaths from stroke are higher among males than females, with more males dying at a younger age, deaths among females increase more significantly with age.

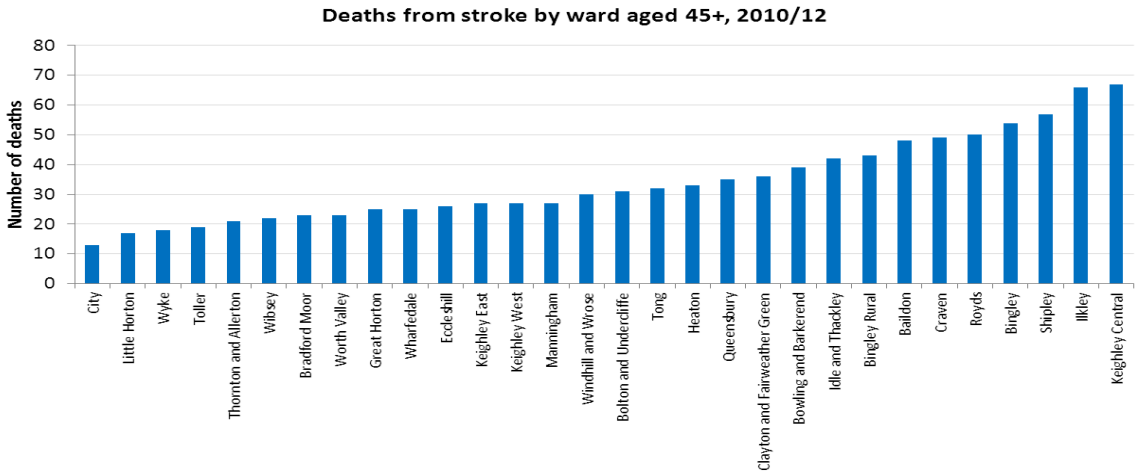
Chart 84: Deaths from Stroke by age and gender



Source: Public Health Analysis team, CBMDC 2014

When we look at premature deaths from stroke, deaths were higher in Keighley Central, Bowling and Barkerend. These have the highest number of deaths and Keighley central is about average across all the wards, this possibly highlights that deaths in Keighley central are more likely to be those aged over 75. Depending on the severity of the stroke, individuals may have some degree of rehabilitation following a stroke and some may rely heavily on support from others, it also increases your risk of more severe strokes in the future. Therefore it is imperative to reduce the risk of premature stroke.

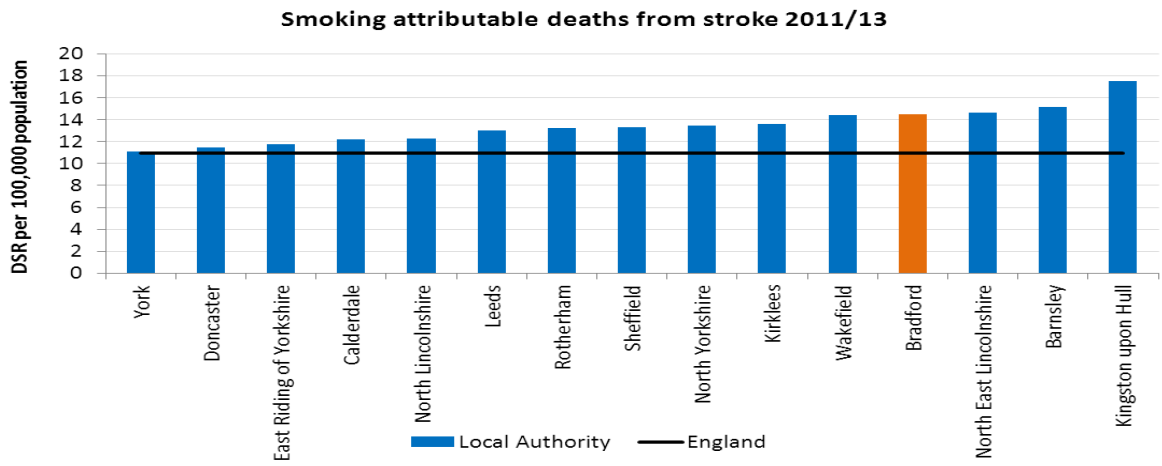
Chart 85: Deaths from stroke by ward aged 45+



Source: Public Health Analysis team, CBMDC 2014

Bradford is higher than the national and regional average for stroke deaths attributable to smoking and fourth highest among its statistical neighbours.

Chart 86: Smoking attributable deaths from stroke 2011/13



Source: Local Tobacco Control Profiles, 2014

Smokeless Tobacco

Smokeless tobacco (ST) is a very broad term that refers to over 30 different types of products. Smokeless tobacco products, such as paan, paan masala, gutkha, zarda and supari, are traditionally used by the UK's South Asian population. These products, which contain a variety of ingredients, including betel leaf, tobacco, areca (betel) nut, slaked lime, sweeteners, spices, flavouring, and perfumes are easily available in Bradford.

Smokeless tobacco products, contain addictive levels of nicotine, many carcinogens, heavy metals and other toxins (WHO, 2006) and are a common risk factor for a range of chronic

diseases prevalent in the UK's South Asian population including - Leukoplakia, Submucous fibrosis and Oral cancer; Cardiovascular disease and Diabetes.

Smokeless tobacco products also cause numerous oral and dental diseases, such as severe gum recession and bone loss. Tobacco and areca (betel) nut act synergistically as a carcinogen. However, the perception of the risk of getting cancer from betel / smokeless tobacco is low in many areas. The areca nut, an active ingredient in betel quid/ paan, can cause oral submucous fibrosis (SMF), even after a short period of use (ASH, 2001). Submucous Fibrosis is a debilitating, non-reversible and pre-cancerous disease, which produces a hardening of the lining of the mouth, making it progressively more difficult to open. (WHO, *Tobacco: deadly in any form*, 2006) The health impacts of smokeless tobacco are not widely acknowledged amongst the general public. Ignorance of the risks is more likely to result in late diagnosis of disease and reduced rates of successful recovery. Smokeless tobacco campaigns and interventions need to take into account the important sociocultural and religious role of smokeless tobacco for the South Asian population.

Smokeless tobacco products are required to have health warnings under the terms of the 2001 EU Tobacco Products Directive 2001/37/EC. However many fail to comply. A study on the accessibility of chewing tobacco products in England found that less than half of chewing tobacco purchased had any form of health warnings with only 15% of products complying with the current legislation of health warnings for tobacco products (Journal of Public Health, 2010).

Chewing tobacco is most commonly used by the Bangladeshi community with 9% of men and 19% of women reporting that they use chewing tobacco. However these figures may reflect a degree of under-reporting by some respondents. For example, self-reported use of all tobacco products was 44% and 17% among Bangladeshi men and women respectively. Including respondents with a saliva cotinine level indicative of personal tobacco use, the estimates rise to 60% of men and 35% of women. A separate study which explored under reporting among Bangladeshi women found that 15% of women under-reported their personal tobacco use (Journal of Public Health, 2009).

It is important that we do have a better understanding of the use of smokeless tobacco products within Bradford and local dental practices have started to record smokeless tobacco use amongst their patients, however this information is not robust enough to use for analysis. With the evidence both nationally and internationally we can say that we would expect usage among our ethnic minority population, which in Bradford is relatively high.

Almost 90% of oral cancers are associated with tobacco use. A study in India found that males who chewed betal quid with tobacco had a relative risk of oral cancer varying from 1.8 to 5.8, pregnant women who chewed tobacco had a threefold risk of still birth and a two-threefold increase of a low birth weight (smoking in pregnancy will be discussed in detail in the next section).

A study into the incidence of oral cancer among South Asians and other ethnic groups by sex in West Yorkshire and England between 2001 and 2006 identified 2157 cases within West Yorkshire in which 138 were South Asian (6.4%), 63 of which were male (45.7%) and 75 were female (54.3%). Overall incidence of oral cancer was higher in West Yorkshire than the whole of England. South Asian women in West Yorkshire were more likely to suffer from Oral Cancer compared with other Ethnic Groups and other South Asian women in England. Cancers of the lip and mouth were significantly higher among South Asian women than women from different Ethnic groups. This research shows that areas with a high population of South Asians there may be a high incidence of oral cancer; this is quite likely to be as a result of chewed tobacco use. The risk factors for oral cancer such as smokeless tobacco products are an increased priority for national bodies. The biggest risk factors for the development of oral cancer are tobacco and alcohol. Smokers are 7 to 10 times more likely to develop it than those who have never smoked. For long term smokeless tobacco use the risk is increased to 11.4 times that of a non-user. Data for oral cancer varies across the world with higher rates in South Asian countries. Within India oral cancer counts for 20-30% of all cancers where smokeless tobacco use is widespread.

Public Health have a Smokeless Tobacco advisor who in line with NICE guidance [PH39] (2012) carries out key recommendations with an aim to reduce the use of Smokeless Tobacco (ST) through awareness training to health organisations such as dental practices, pharmacies, GP practices, health centres and hospitals. Additionally educational institutions, children's centres and religious settings such as mosques, madrassahs and community centres will receive smokeless tobacco training and awareness sessions. These incorporate; increasing awareness on ST products and usage, health risks associated with usage and how to refer users for support to quit.

Brief intervention (BI) training including a section on Mental Health and smoking and Smokeless Tobacco awareness has been included as part of the syllabus for student nurses at the University of Bradford and the Stop Smoking Service has been invited to deliver this to the students.

The Bradford Stop Smoking Service is supporting researchers from York University who are carrying out a study on behavioural support to help South Asians to quit smokeless tobacco. They will explore the advice and support that is currently being offered from the four teams supporting this research; Bradford, Tower Hamlet, Leicester and Leeds. The aim of the study is to investigate and explore the possible gaps in the standard treatment program for smoking cessation and recommend appropriate modifications to make it relevant for cessation of smokeless tobacco products, used by South Asian communities in the UK.

Secondhand Smoke

Throughout the document references have been made to the impact of breathing secondhand smoke or passive smoking and how it can affect the health of people who do not smoke. With reference to adults, it can exacerbate respiratory symptoms and trigger asthma attacks. Longer term, it increases the risk of lung cancer, respiratory illnesses (especially asthma), heart disease and stroke (International Agency for Research on Cancer, 2002; Scientific Committee on Tobacco and Health, 2004). Key messages around the harmful effects of exposure to secondhand smoke underpins work carried out by the Stop Smoking Service and is covered along with smokefree homes (SFH) and cars in all training delivered across the district.

As part of the Black and Minority Ethnic (BME) work being carried out in Bradford 'Inspire a Smokefree Generation' project was undertaken, as mentioned in section one (children and young people) to target families to become smokefree or quit smoking. Pledges were collected from parents signing up to smoke more responsibly around other members of the family, especially children. This will take place again in 2015 during the Ramadan campaign and target another area of Bradford with high prevalence of smoking within BME communities.

Reasons for smoking

Research has identified that most adults start to smoke as children and young people, with few taking up the habit later in life. Most adults will say they wish they had never taken up smoking in the first instance with many from families where smoking was typical. Evidence suggests that the longer someone smokes the more likely they are to suffer ill health and subsequent early death as a consequence of their addiction. Many adults are from a generation when smoking rates were very high and also when very little was known or published about the damaging effects of smoking and tobacco use.

Within Bradford work is currently being carried out at a local level to reduce health inequalities and poor healthy life expectancy in addition to preventing children and young people from

taking up the habit. It is therefore imperative that the stop smoking service works together in collaboration with their partners and that they all strive for a smokefree future by utilising current research and education which is encouraging many adults to quit smoking. However much work is still needed amongst a cross section of the population where prevalence within sub groups of the community is shown to be higher than in the general population.

Current Recommendations

There are several NICE guidance documents which are referred to within this section (and document as a whole) where guidance and recommendations highlight the various challenges of reducing smoking prevalence within the adult population. The guidelines are valuable in supporting the stop smoking service by providing up to date research and give direction and guidance to the work needed to reduce health inequalities for smokers within England and importantly transferring this to work at a local level in Bradford District. The stop smoking service also works in collaboration with the National Centre for Smoking Cessation and Training (NCSCT) and is guided by the NCSCT Local Stop Smoking Service, Service and Delivery Guidance (2014).

What is happening in Bradford

Stop Smoking Service

A network of Stop Smoking Services has existed in England since 1999. These services are proven to be highly cost-effective and have been shown to effectively assist in reducing the health inequalities caused by smoking. An effective way of reducing the rate of children and young people taking up smoking is to support adult smokers to stop and these high quality, evidence based services will also contribute to preventing the initiation of smoking. The Public Health Stop Smoking Service is no longer driven to achieve a 4 week quit target, creating capacity within the specialist team to focus tobacco control work on addressing smoking prevalence.

Within the service there are stop smoking specialists who focus on priority areas of work such as Secondary Care, Mental Health, Training and commissioning of services, Black and Minority Ethnic (BME) communities and Smokeless Tobacco. These do not work in isolation but together they compliment and reinforce the concerted efforts to reduce the prevalence of smoking within Bradford District. Through partnership working and network building the aim is to reduce health inequalities faced in local communities.

Training

Within the Bradford Stop Smoking Service training is provided by the Stop Smoking Specialists and Training Lead, to raise awareness of the harmful effects of smoking and secondhand smoke, providing brief interventions (BI) training or training health and social care professionals to support smokers to quit (Level 2 advisors). NICE guidance [PH10] (2008), describes the training as:

Brief Interventions (BI)

Brief interventions should involve opportunistic advice, discussion and negotiation or encouragement and referral to more intensive treatment. This can be delivered by primary and community care professionals in typically less than 10 minutes. The BI training is a classroom based interactive training session and aims to equip those who come into contact with smokers or families of smokers to raise the issue of smoking in a confident non-judgemental way.

The stop smoking service provides tailored training aimed at for example young people, mental health or smokeless tobacco and if there are big groups of staff or health care professionals within an organisation, in-house training can be arranged.

The 3 A's (Ask, Advise, Act) is the quickest way to ascertain someone's smoking status, Ask and record, Advise about the health consequences of continuing to smoke and Act, refer either into the local stop smoking clinic if in a GP practice for example, or give details of the Stop Smoking Service. Many smokers want to quit smoking and with each 3 A's intervention, one could prove to be the right time to engage a smoker to quit.

Alternatively the NCSCT provide an online training package on either Very Brief Advice on smoking or Very Brief Advice on Secondhand smoke: promoting smokefree homes and cars.

Level 2 advisors

Level 2 is individual behavioural counselling. Level 2 can include health care professionals within a GP, Pharmacy or Dental setting and would usually be face to face meetings with smokers wanting support to quit. Often weekly sessions over a period of 4+ weeks after a quit date is set and is normally, although not always, combined with pharmacotherapy.

Examples of organisational staff currently trained to level 2 include primary care staff, health care assistants and practice nurses, pharmacists and pharmacy technicians, dental nurses and hygienists and children centre staff.

Training a cross section of health professionals enables a wider spread of provision across the district with a range of venues, appointment or drop-in times which are accessible to smokers across the Bradford District.

Commissioning Services

Pharmacies

Central Government recognise pharmacists and pharmacy teams as a valuable and trusted public health resource that can make a significant contribution to improving the health and wellbeing of the local population (DH, 2008). Historically NHS Bradford and Airedale established a local enhanced service (LES) for level 2 (one to one) stop smoking support within community pharmacies in Bradford in 2008. Following the transition of Public Health to the City of Bradford Metropolitan District Council (CBMDC) in April 2013, twenty three pharmacies continued to be commissioned to deliver a stop smoking service.

Working in partnership with the Community Pharmacy West Yorkshire (CPWY) this provision is now being reviewed to enable:

- The identification of gaps in access to stop smoking support
- Targeting services to areas and communities identified as having a higher smoking prevalence
- Review access to stop smoking medication
- Review the support provided to pharmacy level 2 stop smoking advisors

GP Practices

Primary Care is a key setting for stop smoking interventions with the majority of four week quits across the district coming via this service, it is an important source of referrals to Bradford's Stop Smoking Services. Helping smokers to quit is a key part of the remit of all primary care staff via brief interventions. Within the Bradford District there are 55 Primary Care General Practices (GP's) with trained advisors at Level 2 providing a commissioned stop smoking service, practices provide one to one cessation support to individuals registered within their practice.

Dental Practices

There are 7 funded Dental Practices currently within the Bradford District that provide a practice based stop smoking service providing one to one smoking cessation to patients. This

service again enhances service provision across the district and presents an ideal opportunity for a brief intervention with patients smoking and presenting with poor oral health.

Nicotine Replacement Therapy (NRT) and Pharmacotherapy

Smoking cessation advisers and healthcare professionals may recommend and prescribe nicotine replacement therapy (NRT), varenicline or bupropion as an aid to help people to quit smoking, along with giving advice, encouragement and support, or referral to a smoking cessation service. Before prescribing a treatment, they take into account the person's intention and motivation to quit and how likely it is they will follow the course of treatment. They should also consider which treatments the individual prefers, whether they have attempted to stop before (and how), and if there are medical reasons why they should not be prescribed particular pharmacotherapies (NICE, 2007).

Secondary Care

Stopping smoking at any time has considerable health benefits and for people using secondary care services, there are additional advantages including shorter hospital stays, lower drug doses and fewer complications (NICE guidance (PH48), 2013). Following surgery, smoking contributes to lower survival rates, delayed wound healing and post-operative respiratory complications (US Department of Health and Human Services, 2004). As a result of the NICE recommendations to promote healthy behaviour among people who use or work in their services, our two local hospitals Bradford Royal Infirmary (BRI) and Airedale General Hospital (AGH) have an on-site stop smoking clinic delivered by a Stop Smoking Specialist. At the BRI only staff can access this clinic, however at AGH both staff from the hospital and patients who have either been discharged back out into the community or any smoker from the locality who is able to access the hospital can attend for support to quit smoking .

In addition with regards to patients admitted to the hospitals, the dedicated Stop Smoking Specialist, with the support from the Stop Smoking Advisor, routinely carries out ward rounds to key areas such as respiratory wards, coronary care and vascular wards to identify people who smoke, offer advice, initial support to stop smoking and access to pharmacotherapy. Once patients are discharged they are then followed up to continue their support and to monitor and ensure continued access to stop smoking medication to complete their course of treatment. To compare the data showing referral rates over 2013/2014 with ones for 2014/2015, there is an increase of 66% from 173 to 287 (consecutively) referrals into the stop smoking service. Sequentially the overall quit rates have shown an increase of 8.6% from 16.8% to 25.4%.

NICE guidance (PH48) recommends hospital staff should be trained to support people to quit smoking however secondary care are not currently carrying out this recommendation .

To facilitate in developing pathways within the hospitals, the Secondary Care Lead attends ward and department meetings to update staff on referral pathways and to feed back on progress and outcomes from the service provided to smokers. In addition, to enhance this service there is regular communication with the hospital pharmacy to review NRT stock and distribution of pharmacotherapy to support smokers to quit.

To support referral pathways staff at both hospitals (BRI and AGH) are invited to attend Brief Intervention (BI) training. This provides an ideal opportunity for the stop smoking service to build links into other departments i.e. dieticians, physiotherapy etc. who may require referral pathways for their patients and staff.

Mental Health

NICE guidance [PH48] (2013), secondary care also refers to all publically funded secondary and tertiary care facilities, including buildings, grounds and vehicles. It covers inpatient residential and long term care for severe mental illness in hospitals, psychiatric and specialist units and secure hospitals for planned specialist medical care or surgery.

There is growing evidence to show a strong association between smoking and mental health disorders. It is estimated that of the ten million smokers in the UK, about three million have a mental disorder (Royal College of Physicians, 2013).

Smoking prevalence is significantly higher in people with mental health problems than among the general population. People with psychotic disorders who live in institutions are particularly vulnerable with over 70% of this group smoking, including 52% who are very heavy smokers (ASH, 2013). It is not clear however whether smoking is the cause or effect of mental illness.

Ongoing research shows that there is some evidence that smoking could act as a trigger for mental health and further research suggests that smoking may play a role in the onset of mental illness (Royal College of Physicians, 2013). Additional to this, tobacco interacts with some psychiatric medication making it less effective, resulting in increased dosages and more side effects associated with these drugs (Campion et al., 2008). Tobacco use contributes significantly to the main causes of ill health and mortality in people with mental health disorders and given

that half of all long term smokers will die of a smoking related illness, it is unsurprising that there are high levels of smoking related mortality amongst the mentally ill (Doll et al., 2004).

In contrast to the marked decline in smoking prevalence in the general population, smoking among those with mental disorders has changed little, if at all, over the past 20 years. There is a long standing misperception that people with a mental health illness are less able or less willing to quit smoking and historically much less likely to succeed in any quit attempt. However they are frequently motivated to quit but are more likely to be heavily addicted to nicotine and to anticipate difficulty quitting smoking but are generally able to do so provided they are given evidence based support and may require more intensive support and a combination of nicotine replacement therapy to support a quit attempt (The Royal College of Physicians, 2013).

Within the Mental Health setting in Bradford the stop smoking specialist, Mental Health Lead, has developed and agreed a referral pathway between the secondary mental health service and the stop smoking service. Twenty three members of staff, from each ward, are trained up to level two to support patients to quit smoking within these settings. This hospital provides accommodation for people who require nursing or personal care and provides assessment or medical treatment for persons detained under the 1983 Act. This includes caring for people whose rights are restricted under the Mental Health Act, dementia, diagnostic and screening procedures, eating disorders, learning disabilities, mental health conditions, substance misuse problems, treatment of disease, disorder or injury. The premises became smokefree on the 1st July 2015. In addition the stop smoking service offer stop smoking clinics for staff based at both Airedale General Hospital and Lynfield Mount Hospital to provide support for them to stop smoking.

Recommendations from NICE guidance [PH48] (2013) aim to support smoking cessation, temporary abstinence from smoking and smokefree polices in all secondary care settings and recommends that premises remain smokefree, provide an on-site stop smoking service and identify people who smoke, offer advice and support to stop.

The association between smoking and mental disorders is complex and further work is needed to fully understand it. Mental health student nurses at the University of Bradford have as part of their studies a lecture delivered by Public health on 'Mental Health and Smoking' to educate and provide future health care professionals the insight into this very complex relationship between smoking and people with mental health disorders.

5.3 Tobacco and Pregnancy

Introduction

Over 12% of women in England are recorded as smoking at the time of delivery (SATOD) and although this has reduced over time, it still equates to 83,000 children born to mothers who have smoked during pregnancy. This of course varies throughout England and is much higher, for example, in the North East with 20% of women recorded as smoking at the time of delivery (The Health and Social Care Information Centre, 2013).

At 15.9% Bradford smoking rates at the time of delivery are also higher than the England average. Bradford's infant mortality rate (IMR) is one of the highest in England and Wales and nearly double the national rate with between 60 and 70 babies dying every year (1%), which although small in numbers, is still high compared to other districts with a similar population (HM government, 2011). There has been a slight decrease in the number of stillbirths from 2002 but Bradford continues to have the highest stillbirth rate within West Yorkshire.

Smoking in pregnancy remains a key public health concern and is the single most preventable risk factor for adverse outcomes in pregnancy. Smoking during pregnancy contributes to a wide range of health problems for the expectant mother, their unborn baby and their families. Increasing healthy life expectancy and reducing inequalities are the government's two public health priorities.

Method

Nationally smoking during pregnancy is monitored by recording smoking at the time of delivery (SATOD.) Data from the Bradford Teaching Hospital Foundation Trust and the Airedale Foundation Trust was obtained to analyse SATOD and Smoking at booking, this data was for 2012/13. For Historical and current data the Health and Social Care Information Centre (HSCIC) was used to identify SATOD figures for Bradford, the Public Health Outcomes Framework was used to compare rates against National, Regional and Neighbouring Local Authorities.

Findings

The National Tobacco Control Plan (2011) set out a target to reduce smoking at the time of delivery (SATOD) to 11% or less by the end of 2015.

This section will look at smoking in pregnancy and the implications this has on the unborn child, the mother's health and also the child's health during the early years.

In the UK, smoking in pregnancy causes up to 2,200 premature births, 5,000 miscarriages and 300 perinatal deaths every year (Royal College of Physicians, 2010).

Key Public Health Outcome (The National Tobacco Control Plan for England: Healthy Lives, Healthy People, 2011).

- To reduce rates of smoking throughout pregnancy from 14% (in March 2011) to 11% or less by the end of 2015 (measured at time of giving birth).

Some of the risk factors associated with smoking include stillbirth and low birth weight. This has reduced since the high rates in 2000-2002 but overall the rates remain high and the differences between the least and the most deprived populations within Bradford district persist (Bradford Joint Strategic Needs Assessment (JSNA), 2014).

As a result, an independent report was initiated and the Infant Mortality Commission (IMC) was set up in 2004 to investigate why some of the babies born in the Bradford district die during their first year of life. This permitted an in depth analysis to be undertaken on White and Pakistani mothers, two groups of women of different ethnic origins, where numbers were sufficient to enable significant differences to be detected.

In 2006, the Bradford IMC published its report and recommendations, with findings, showing that both these populations were at higher risk of poor infant health and both groups' experienced diverse risk factors. Overall, poverty and deprivation underlies the higher than average IMR. Increased risk factors were identified within the white population as a result of having higher rates of preterm births, teenage pregnancies, smoking, alcohol and non-prescriptive drugs. This contrasted against the Pakistani population who were shown to have higher rates of congenital abnormalities.

The findings showed that causes of infant deaths over recent years demonstrated a strong link with deprivation and a wide range of risk factors, of which smoking is one (Bradford IMC, 2006). In relation to factors that contribute to infant mortality for specific groups of our population, recommendation number six *Reducing the number of women who smoke or have high levels of use of alcohol and/or non-prescribed drugs in pregnancy* influences the work of the Commission which continues as part of the Every Baby Matters (EBM) agenda which focuses on ten recommendation areas detailed in the IMC report.

As a result of these findings an operational steering group has been developed 'Every Baby Matters' this leads on reducing infant mortality rates. This incorporates collaborative working with local partners to drive down the IMR.

Reducing infant mortality is a priority and the Smoking in Pregnancy Action Plan (2013–15) aims to reduce the rate of smoking throughout pregnancy and promote smokefree homes (SFH) across the Bradford and Airedale district.

Smoking in pregnancy has substantial adverse effects on the foetus. Many of the 4,000 chemicals in tobacco smoke can cross the placental barrier and have a direct toxic effect on the foetus; therefore stopping smoking in pregnancy is the single most effective step a woman can take to improve her health and the health of her baby.

A report carried out by Action on Smoking and Health (ASH) looked at smoking cessation in pregnancy in 2013 and made various recommendations, these included that data on smoking throughout pregnancy needed to be reported accurately and validated using carbon monoxide (CO) testing. Another important issue regarding the validity of data is the reliability of health professionals asking about smoking status at the time of delivery (SATOD) and women being honest with their response. One recommendation on how the inaccuracies can be reduced is to change the measurement and to record smoking status at 35 weeks.

More women quit smoking when they are pregnant than any other time during their lives (Murin et al., 2011). Pregnant smokers are twice as likely to attempt to quit smoking as non-pregnant women, with only about half of pregnant women actually stop smoking during pregnancy (Chen X et al., 2006). In 2011–12 in the UK, 26,080 pregnant women set a quit date with the Stop Smoking Services and 45% of them (11,623) successfully quit (Health and Social Care Information Centre, 2012).

What are the health implications?

Maternal smoking is a potential cause of major morbidity to the foetus and new born baby. Parents who choose to smoke are possibly not aware of, or deny the negative effects of passive smoking on their offspring. The adverse effects of passive smoking on the health of the foetus and child are thought to be common knowledge, and yet mothers still choose to smoke whilst pregnant. There are endless amounts of literature describing the adverse effects of smoking during pregnancy, including an increased risk of miscarriage, spontaneous abortion, stillbirth, complications during labour and premature birth, low birth weight (LBW) and sudden infant

death syndrome (SIDS), as well as effects on a baby's growth and development. Smoking in pregnancy increases infant mortality by about 40% (Department of Health, 2007).

Research also suggests that maternal smoking appears to be one of the most relevant risk factors associated with a number of obstetric complications. Smoking by the mother at any time during pregnancy is a risk factor for maternal colonisation of group B streptococcus, with a colonisation rate of 33% for smokers versus 16% for non-smokers. Chorioamnionitis, which has group B streptococcus as a key pathogen, is responsible for a significant number of midgestational abortions, abruptio placentae, preterm deliveries and infections, such as neonatal pneumonia and early neonatal sepsis (Nabet et al., 2007).

Low Birth Weight (LBW)

Infant birth weight is determined by many factors, including the physical stature and nutritional status of the mother at conception. However, evidence suggests that babies born to women who smoke are on average 200 – 250g (approximately 8oz) lighter than babies born to mothers who do not smoke (British Medical Association (BMA), 2007). The more cigarettes smoked, the greater the probable reduction in birth weight, which can increase the risk of death (stillborn and SIDS) and ongoing ill health or disease in childhood (Bradford JSNA, 2014). Reducing smoking during pregnancy will reduce the number of LBW and preterm births and has been identified as the key intervention to reduce overall health inequalities. Evidence in the Marmot Review (2010) also states that LBW in particular is associated with poorer long-term health outcomes.

Perinatal mortality includes still-birth (loss of the foetus after the 24th week of pregnancy) and neonatal death (death of the newborn within the first four weeks of life). It is estimated that about one-third of all perinatal deaths in the UK are caused by maternal smoking. This equates to approximately 300 deaths per year.

Preterm birth (birth before the 37th week of pregnancy) is a major clinical problem accounting for about half of all neonatal deaths (ASH 2013). Preterm birth is a major cause of infant mortality and can affect physical and mental development during childhood and even into adulthood (Royal College of Physicians, 2010).

Sudden Infant Death Syndrome (SIDS)

More than one quarter of the risk of death due to Sudden Infant Death Syndrome (cot death) is attributable to smoking during pregnancy and exposure to secondhand smoke, particularly in

the home. The risk of cot death has shown to be trebled in infants whose mothers smoke both during and after pregnancy with the greater the number of cigarettes smoked, the higher the risk of cot death (ASH, 2013).

A study in Sweden in 2010 by Dr Gaultier has found that infants whose mothers smoked during pregnancy face a higher risk of SIDS and new research using mice provide a potential insight into how nicotine may increase this risk. Researches have suggested that nicotine affects the functioning of certain proteins in the body and these proteins appear to help arouse baby mice during the brief pauses in breathing that often occur during sleep. Infants who stop breathing momentarily during sleep will experience a decrease in the delivery of oxygen to the organs and tissues, which they need to 'escape' with a gasp in order to stay alive. Nicotine may cause changes in the body that result in the decrease in functioning of these proteins, preventing babies from breathing normally, gasping and snapping out of the apnoea (Buckinghamshire Healthcare NHS Trust, 2010).

However Gaultier states that SIDS does not likely have one cause, for babies never exposed to cigarette smoke can die suddenly in their sleep. However, smoking plays an important role and to reduce the numbers of women smoking throughout their pregnancy will undoubtedly reduce the number of SIDS.

Health effects for the mother

Research has established that smoking can have a negative impact on female fertility. Women who smoke can take longer to conceive than women who do not smoke as smoking affects the ability of women to produce healthy eggs. The substances absorbed through smoking interfere with the normal balance of hormones in both men and women. This imbalance contributes to couples taking longer to conceive (by up to 20- 30%). Smoking can also cause early onset menopause due to the toxins in tobacco leading to premature egg cell death. Additionally, fertility in male smokers shows they have a decrease in sperm count and smoking inhibits the sperm's 'motility' (or the ability for them to move or swim), even light smoking can reduce fertility in men (ASH, 2013).

The placentas of women who smoke tend to be much thinner, and spread further across the wall of the uterus, as the baby grows. This is thought to be nature's way of trying to obtain as much blood flow and oxygen as possible for the baby, by 'spreading out' further, in search of extra blood supply. Women who smoke during pregnancy are more likely to experience bleeding during pregnancy, or a complication where the placenta lifts off the wall of the uterus during

pregnancy or labour (known as a 'placental abruption'). This is a life-threatening complication for both the mother and her baby.

For women who experience heavy bleeding with placental problems, or need to recover from a Caesarean operation, smoking can hinder the woman's recovery. Women, who smoke, are also more likely to develop blood clots in a vein, either during the pregnancy, or in the 4 to 6 weeks after the birth. This is again a life-threatening condition.

Health effects for the baby

Infant outcomes related to women smoking during pregnancy include an increased risk of preterm delivery, low birth rate, sudden infant death syndrome, perinatal mortality, otitis media and upper and lower respiratory infections. Not only can smoking whilst pregnant seriously affect the unborn child, but can also have an impact on future fertility of the child. Fertility can be affected from as early as when the baby is in the womb. A mother smoking whilst pregnant with a female baby can affect the development of cells for reproduction and growth that form in the developing foetus. For males whose mothers smoke whilst they are in the uterus can result in smaller testes and a lower sperm count (Mamson, et al., 2010).

Women who smoke when they are pregnant are more likely to have babies who have breathing problems, including asthma. Being exposed to tobacco smoke in the womb whiles the babies lungs are developing, babies are likely to experience wheezing and associated illness in childhood (ASH, 2015). According to the Royal College of Physicians, a report found that prenatal smoking increases the risk of developing asthma in the first two years by around 90% (RCP, 2010).

Other forms of birth defects associated with smoking during pregnancy are found to be missing or deformed limbs, clubfoot, facial disorders and gastrointestinal problems; these are some of the most common. Babies born to mothers, who smoked up until they were born, may also experience withdrawal symptoms in the week after birth. This is usually seen as the baby crying more, sleeping less and being more difficult to comfort. In addition smoking in pregnancy may be a contributing factor to some known learning difficulties such as Attention Deficit and Hyperactivity Disorder (ADHD).

Learning difficulties

Smoking during pregnancy is thought to be linked to high foetal testosterone which leads to an increased risk for autism, attention deficit and hyperactivity disorder (ADHD), conduct disorder

and antisocial behaviour. There have been numerous studies which explore the link between maternal smoking and ADHD and the increased risk of learning difficulties. ADHD has also been linked to secondhand smoke exposure in the home, in addition to maternal smoking during pregnancy (Tiesler et al., 2011). In line with previous studies Langley et al., (2011) found an association between maternal smoking during pregnancy and offspring ADHD symptoms.

Tobacco smoking during pregnancy is known to adversely affect development of the central nervous system in babies of smoking mothers by restricting utero-placental blood flow and the amount of oxygen available to the foetus. Evidence suggests that prenatal exposure to tobacco smoke in otherwise healthy babies is linked with significant changes in brain physiology associated with basic perceptual skills that could place the infant at risk for later developmental problems (Key et al., 2007). One of the most consistent neurobehavioral findings is the association between maternal smoking and children's lower performance on arithmetic and spelling tasks (Batstra et al., 2003). Findings in their study showed the detrimental effect of smoking mothers on their child's educational performance.

Observations suggest that smoking more than 10 cigarettes per day during pregnancy was associated with reduced babbling behaviour in infants and almost doubled the risk of the infant not becoming a babbler by 8 months of age (Obel et al., 1998).

Health effects and Smokeless Tobacco

Although smoking rates among the Asian population of Bradford may be low, the use of smokeless tobacco (ST) is a concern. There have been several studies carried out, mainly in India, which have looked at whether smokeless tobacco use in pregnancy is linked to any adverse health effects on an unborn foetus.

Tobacco in smokeless form contains several carcinogenic and toxic substances. Exposure to cotinine has been shown in foetuses of mishri (pyrolysed and powdered tobacco) uses, which indicates that nicotine and other toxic substances can cross the placental barrier (Gupta and Sreevidya, 2004). They are readily available, poorly regulated, and are increasing in popularity among people of South Asian origin in England, according to the South Asian Health Foundation.

Gupta and Subramoney (2006) carried out a study in India and found that smokeless tobacco use in pregnancy increases stillbirth risk, with a risk at least as great as that associated with maternal cigarette smoking. The risk of stillbirth associated with smokeless tobacco use was found to be greater in earlier gestational periods.

The findings showed that babies born to mothers using smokeless tobacco were on average 105g lighter than those of non-users. Women using smokeless tobacco gave birth on average 6.2 days earlier than non-users showing that the trend of increasing preterm births with increasing smokeless tobacco use was highly significant.

Smokeless tobacco use in pregnant women has been shown to reduce birth weight and increase the number of low birth weight babies. It could also shorten the gestational period and increase the number of preterm deliveries. These adverse outcomes are dose dependent and similar to those associated with maternal smoking.

Health costs

In addition to the health costs there are also financial costs of treating the complications associated with smoking during pregnancy. Each year it costs the NHS between £20 million and £87.5 million. Smoking in pregnancy imposes a considerable economic burden on society with the total cost nationally to the NHS estimated to be £64 million for treating mothers and £23.5 million for treating infants (0-12 months) in their first year alone.

Low birth weight (LBW) babies are admitted to neonatal intensive care units at a higher rate than normal weight babies. Data from the Neonatal Research Network showed that babies born before 26 weeks' gestations spend at least 111 days in hospital during infancy and incur costs of more than £100,000. There may also be an emotional and financial burden placed on families and community support systems (Yeaney et al., 2009).

Secondhand Smoke (SHS)

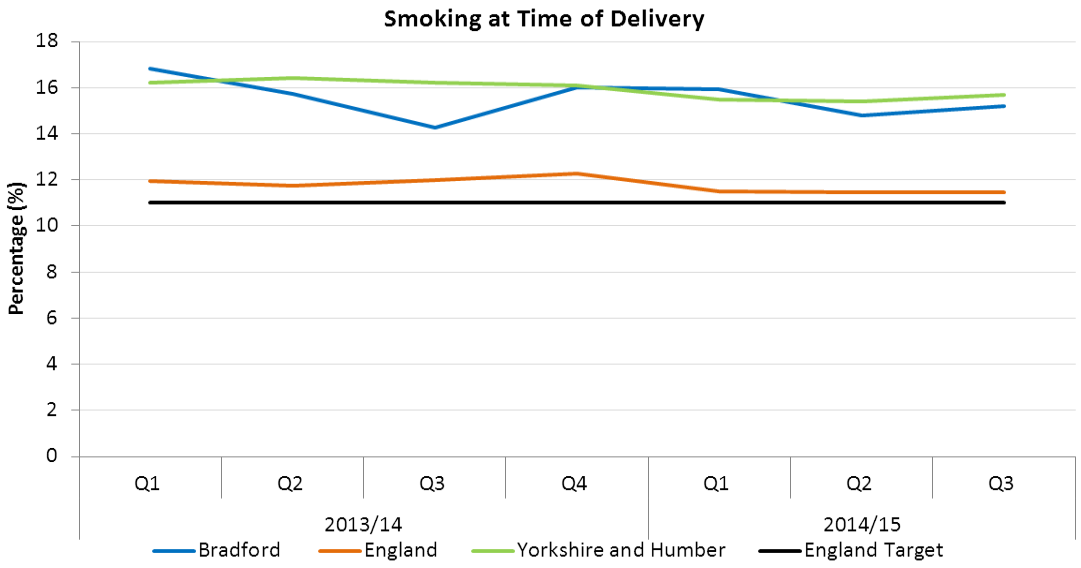
Although secondhand smoke has been covered in depth within the first section of this report (tobacco use among children and young people) there are health risks for women who are pregnant and for newborn babies exposed to secondhand smoke. Tobacco smoke contains over 4000 chemicals in the form of particles and gases (ASH, 2014) and can be inhaled in significant quantities if exposed regularly or for long periods of time. Research has highlighted there are risks to babies associated with SHS and these can include low birth weight, smaller head circumferences and congenital anomalies. However there are studies that would suggest a higher risk of still birth and congenital malformation for mothers exposed to SHS (Leonardi-Bee et al., 2011). The study highlights the importance of preventing the exposure of SHS in women before and during pregnancy and after the birth of the baby.

In the first two years of life, passive smoking is associated with a higher incidence of respiratory infections in general, including respiratory syncytial virus bronchiolitis. In addition, passive smoking is a risk factor for developing pulmonary tuberculosis in children immediately following infection, and a risk factor in meningococcal disease. This could possibly be the result of a direct effect of cigarette smoke on host defences since smoking is negatively associated with cell mediated and humoral immunity, smoking increases bacterial adherence and the risk of inflammation and other infections. The observation that smokers are more likely to be carriers of meningococci is consistent with the increased risk of invasive meningococcal disease.

Smoking at time of delivery (SATOD)

SATOD is higher in Bradford than the England average as mentioned previously. The chart below illustrates the results for each quarter in 2013/14 and up to quarter 3 in 2014/15; it shows the Bradford results in comparison with the England average and the National target for 2015. It highlights that there was a reduction each quarter until quarter 4 which showed a marked increase similar to that of the start of the year, the overall prevalence for 2013/14 was 15.7% which is lower than the rates for Yorkshire and Humber (16.2%).

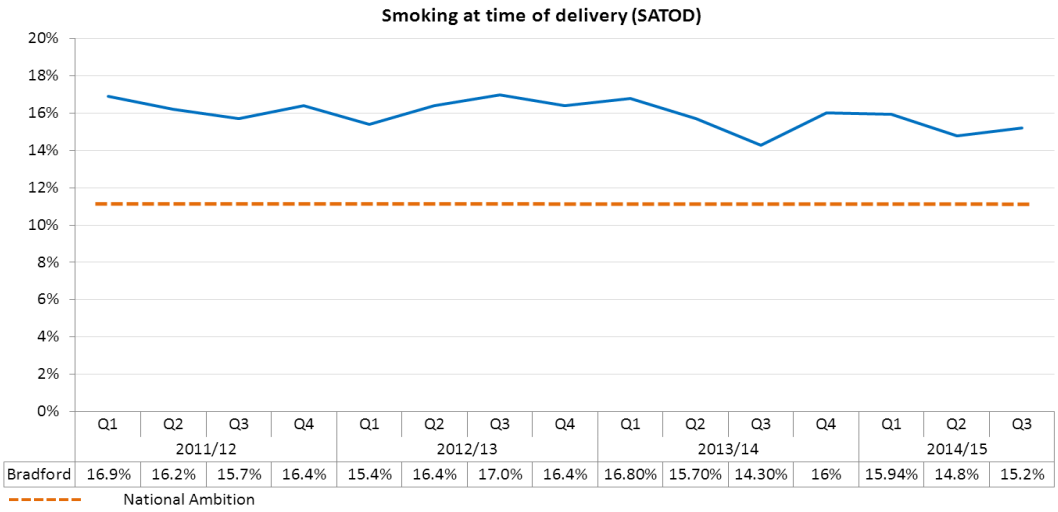
Chart 87: Smoking at time of delivery, National and Regional comparison



Source: HSCIC, 2014

The following table shows the trend over the last three years by quarter. There has been very little difference in smoking at time of delivery over the last 3 years with the last quarter showing an increase, overall due to the reduction in quarter 3 the overall result for 2013/14 is slightly lower than that of 2012/13 at 15.9% overall. Quarter 1 2014-15 has shown a slight decrease, which is lower than the percentage from Q1 in the previous year.

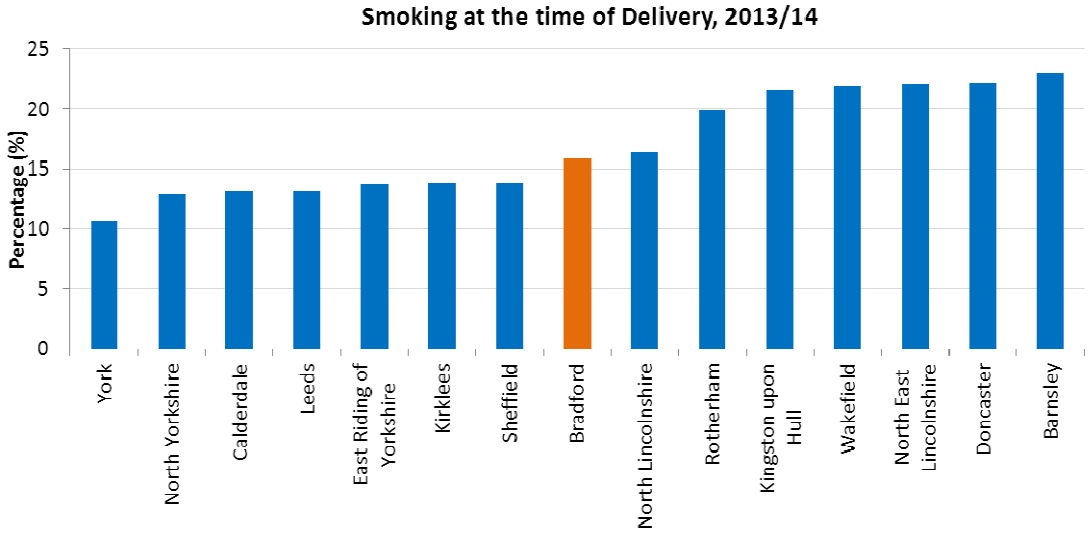
Chart 88: Smoking at time of delivery



Source: HSCIC, 2014

Despite Bradford being higher than the National average for smoking at time of delivery, results are below the regional average, with Barnsley having the highest rate at 23% and York having the lowest at 10.6%.

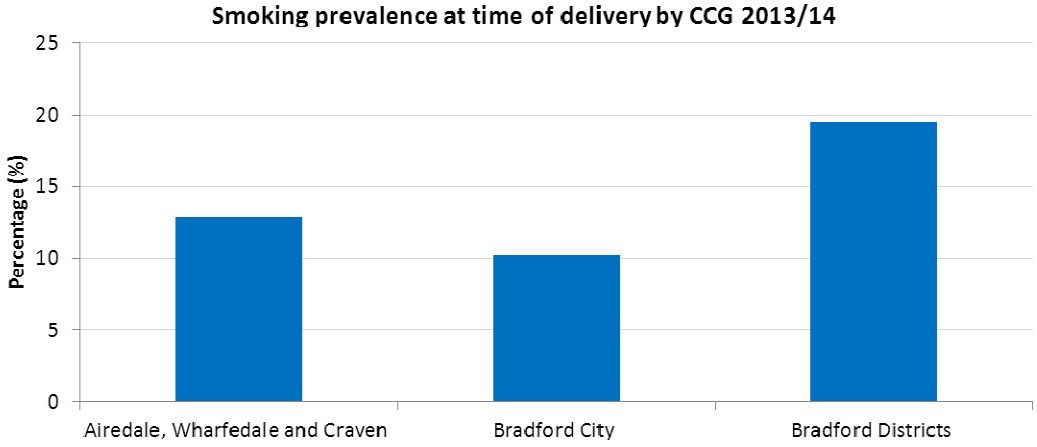
Chart 89: Smoking at time of delivery, 2013/14



Source: PHOF, 2015

The following chart breaks the results down by Clinical Commissioning Group (CCG); with the highest smoking prevalence at time of delivery among women in Bradford District. Bradford District also had the highest number of maternities during this time period.

Chart 90: Smoking prevalence at the time of delivery by CCG

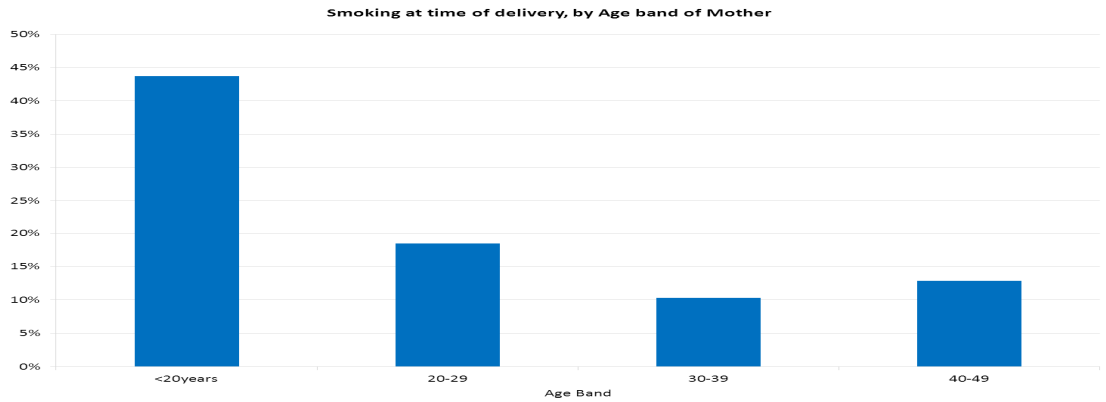


Source: HSCIC, 2013

The above data is nationally produced. The following is local level data which has been analysed directly from the hospital trusts. Due to the data requiring some level of data cleansing the overall results may differ from that recorded nationally, however it is important that we use this data, to do more in depth analysis locally, looking at the age of the mother, where they live (deprivation,) and ethnicity in order to target services appropriately.

44% of maternities to mothers under the age of twenty were smoking at the time of delivery. 18% of mothers aged between twenty and twenty nine smoked at the time of delivery, this age group had the highest number of maternities during 2012-13. The percentage of mothers smoking at the time of delivery reduced with age, this could be due to older women being better educated on the dangers surrounding smoking during in pregnancy. There were 64 maternities recorded to mothers aged seventeen and under with 57.81% of these smoking at the time of booking, this reduced to 51.56% at the time of delivery. Rates of smoking in pregnancy are higher among teenagers who are more than three times as likely to smoke before or during pregnancy as mothers aged thirty five years or over.

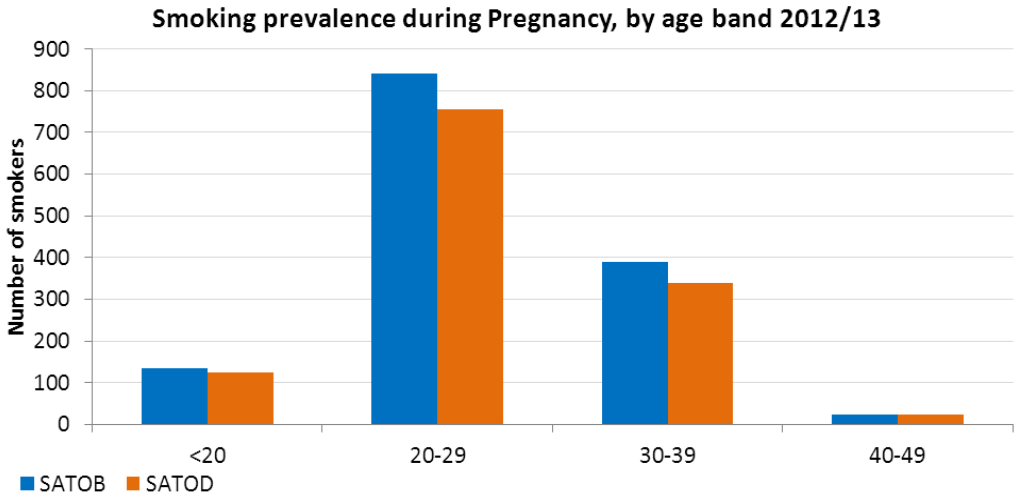
Chart 91: Smoking at time of delivery by age band of Mother



Source: Public Health Analysis team, CBMDC 2014

The chart below gives a breakdown of smoking at the time of booking and smoking at the time of delivery. It is displayed as number of smokers as opposed to percentage of smokers this gives a clearer indications of the differences in terms of individual people. Smoking reduced slightly among all of the year groups, more so for those aged 20-29 however this group had the highest number of maternities.

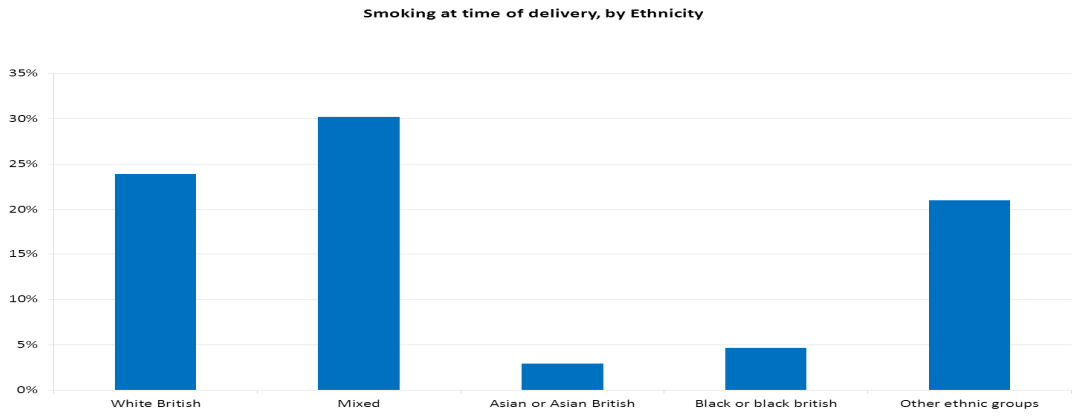
Chart 92: Smoking prevalence during Pregnancy, by age band 2012/13



Source: Public Health Analysis team, CBMDC 2014

SATOD as a percentage was highest among mothers with a mixed ethnicity; however this was quite possibly due to having a very small number of maternities from this group. Mothers with a White ethnicity had the second highest percentage SATOD; this was also the group with the largest number of maternities with Asian being the second highest, however Asian mothers had the lowest SATOD (3%) rate. Asian women may be more likely to chew tobacco which is not recorded and will not show up on CO tests; the effects of chewing tobacco on the unborn child are detailed at the beginning of this section.

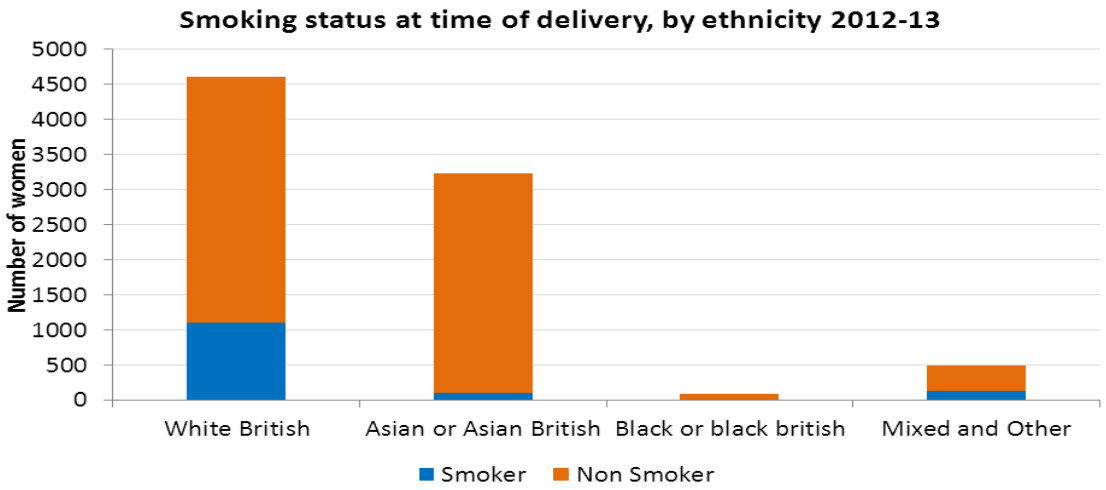
Chart 93: Smoking at time of delivery by ethnicity



Source: Public Health Analysis team, CBMDC 2014

The following chart highlights the number of maternities per ethnic group, and the proportion from each group that smoke. There is a wide ethnic variation in smoking in pregnancy with low rates reported in some population groups especially south Asian (Department of Health, 2011). Anecdotal evidence through discussions with local professionals indicate that there are a growing number of women from Eastern European countries reported to be smoking whilst pregnant, including women from Latvia and Poland.

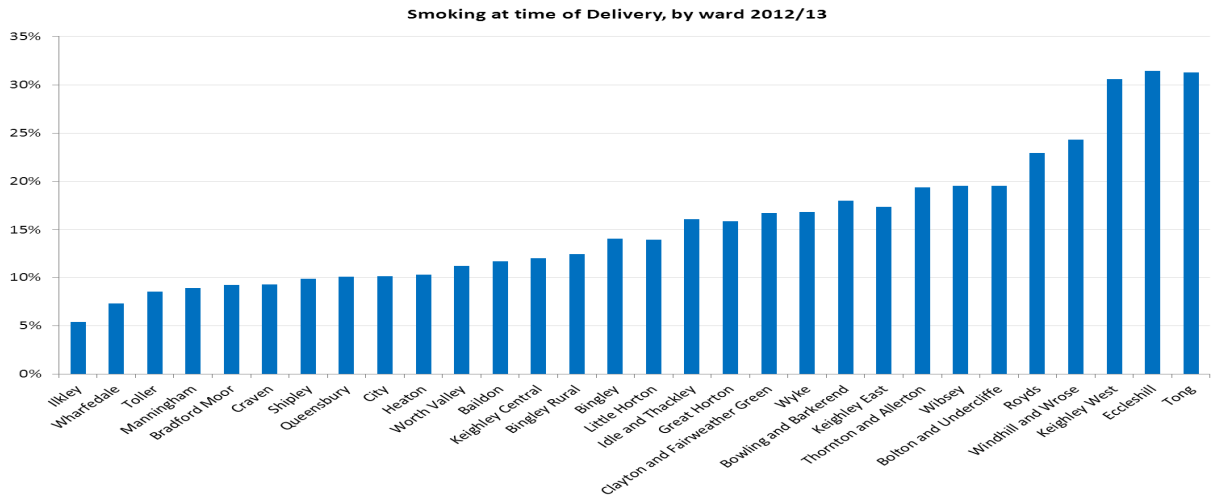
Chart 94: Smoking status at time of delivery by ethnicity



Source: Public Health Analysis team, CBMDC 2014

Highest rates of SATOD were in Tong ward (32%) with Eccleshill having similarly high results (31%) these areas have high levels of deprivation, the lowest rates were from Ilkley (5%) which has relatively low levels of deprivation.

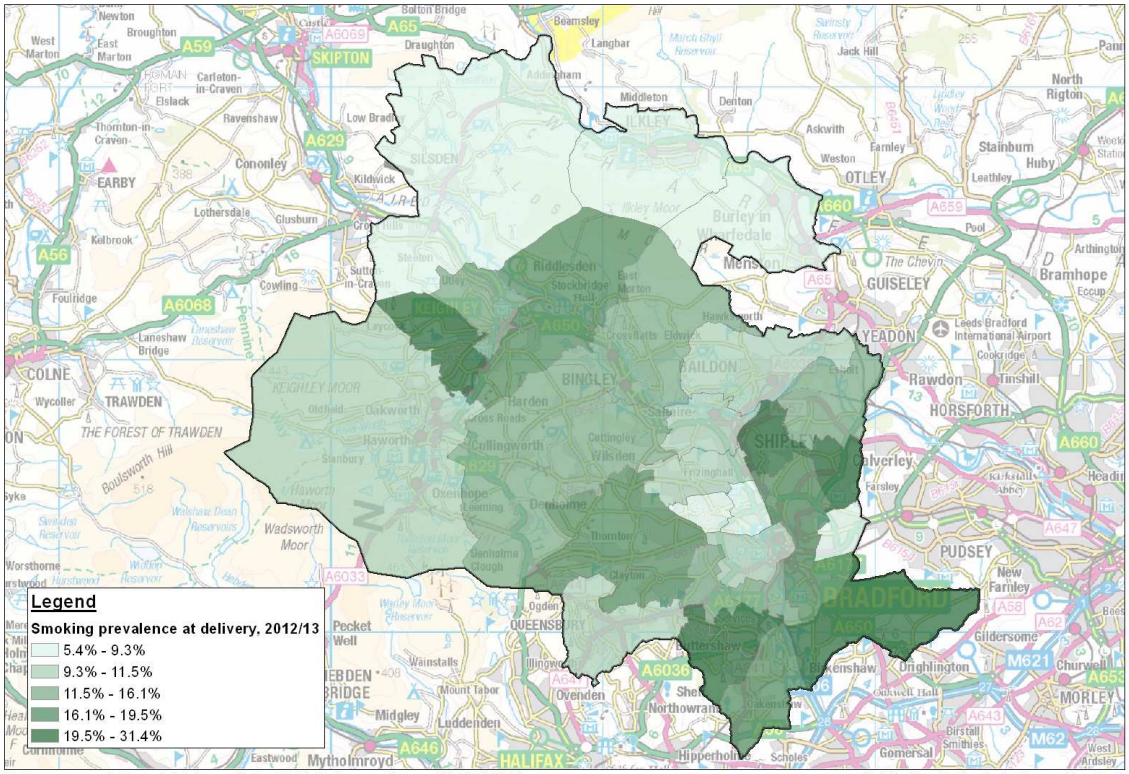
Chart 95: Smoking at time of delivery by ward



Source: Public Health Analysis team, CBMDC 2014

The following map highlights the areas with the highest rates of smoking prevalence at the time of delivery. The areas a darker shade of green have the highest rates and those with the lightest shade the lowest.

Map 1: Map to show smoking delivery at time of delivery



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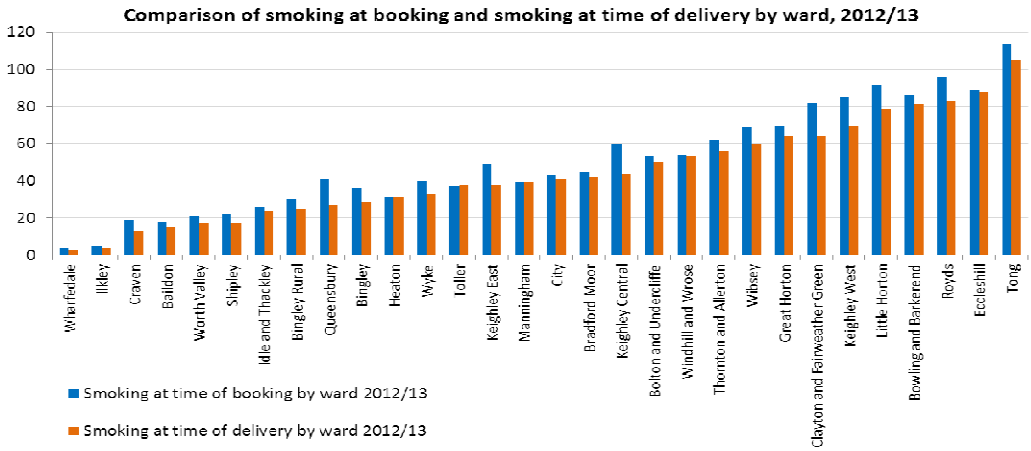
Below gives a breakdown of the changes from those who were smoking at the time of booking and those smoking at the time of delivery, Toller showed a very slight increase, and Heaton and Manningham showed no change at all. The largest decrease was seen in Clayton and Fairweather Green, Keighley Central and Keighley West.

Chart 96: Smoking at time of booking and delivery by ward



Source: Public Health Analysis team, CBMDC 2014

Overall highest prevalence of smoking during pregnancy was among women in Tong and Eccleshill. The largest reduction in women smoking by the date in which they deliver their baby is highest among Clayton and Fairweather Green and Keighley Central and East. Highest number of smokers were White mothers, and lowest among Asian mothers. The prevalence reduced between the time of booking and the delivery date among all age groups.

Reasons for smoking

There may be several reasons why pregnant women continue to smoke. Research has shown links between pregnant women with complex social factors such as poverty, being under 20 years of age, suffering domestic abuse and substance misuse are more likely not to access healthcare services and will usually require tailored support (NICE, 2010).

The prevalence of maternal smoking is strongly and inversely associated with age and occupation. Women in routine and manual work are four times as likely to smoke throughout pregnancy as women in management or professional work (smoking prevalence 29% and 7% respectively)(Coleman et al., 2007). Young, socially disadvantaged women who are less educated and live in rental accommodation are highly likely to smoke through pregnancy with less than half of women who smoke being successful in quitting smoking before or during pregnancy (NICE, 2010).

Mothers aged 20 years or under are five times more likely than those aged 35 years or above to have smoked throughout their pregnancy (45% and 9%) (British Market Research Bureau, 2007). NICE (2010) have found that some pregnant women find it difficult to say they smoke and therefore it is imperative that services are extensive to support these women. Additionally those whose partners also smoke find it harder to quit and if they do quit are likely to relapse (Fang et al., 2004).

Current Recommendations

The National Institute for Health and Care Excellence (NICE) (2010) provide guidance on interventions aimed at stopping smoking in pregnancy and following childbirth (PH26). This nationally produced guidance underpins the work that is currently being undertaken within the Bradford District. Local action plans are formulated for collaborative working between agencies that support pregnant women with social and complex and emotional needs. These include midwives, family nurse partnerships, health visitors, children's centres, youth and teenager pregnancy support and mental health services.

Findings from the Public Health Interventions Advisory Committee (PHIAC) suggested that only a small number of pregnant women take up the offer of help during and after birth to quit smoking and almost 9 in 10 (87%) mothers who smoked before and during their pregnancy said they received advice and information (BMRB, 2007).

Various intervention methods have been shown not to be particularly effective such as giving pregnant women feedback on the effects of smoking on the unborn child or even on their own health. Additionally using the 'stages of change' model has been shown to have mixed success (NICE (PH26), 2010).

Midwives are key in accessing pregnant women and NICE (PH26) (2010) recommend that at their first appointment, at time of booking, all pregnant women are asked about their smoking status and a carbon monoxide (CO) reading should be taken using a carbon monoxide monitor. This is a routine screening for all women (not just smokers) in the same way a blood or urine test is carried out. Some women may opt out but again this would be the same for any screening they may choose to opt out of. The CO testing is an immediate non-invasive biomechanical method of ascertaining smoking status and to encourage a dialogue regarding smoking, quitting and a referral into the stop smoking service. Notably a CO reading can provide positive feedback when the pregnant woman has quit during and after pregnancy. Additionally if non-smoking women are found to have a high CO reading, the midwife can discuss if there are other smokers in the home and suggest ways of making the home smokefree.

CO is a colourless, odourless and tasteless poisonous gas which can kill people. It is present in exhaust fumes, faulty gas appliances, coal/wood fires, oil burning appliances and cigarette smoke. It is especially dangerous during pregnancy because it deprives the baby of oxygen, slows growth and development, and increases the risk of miscarriage, stillbirth and sudden infant death. It is important to offer and encourage CO testing as it is a key screening for all pregnant women regardless of whether that are a smoker or not.

The guidelines recommend midwives are trained to assess and record women's smoking status and readiness to quit. This could also include other health professionals such as obstetricians, paediatricians and sonographers. Any midwives who deliver one to one or group support should be trained up to the same level as a stop smoking specialist (level 3 – minimum standard set by the National Centre for Smoking Cessation Training (NCSCT). Research suggests that pregnant smokers (as with all smokers) should be advised to quit and not just cut down. Cutting

down is more likely to encourage a smoker to inhale deeper from each cigarette and inhale for longer, smoking each cigarette all the way to the bottom with no evidence of harm reduction.

If women are only given advice on quitting then they are more likely to quit (36%) compared to given advice on cutting down where they are less like likely to quit (8%). The same research revealed that if only advised to cut down they are more likely to take this option (69%) and less than 1% tried to quit (British Market Research Bureau, 2007). If pregnant women are only advised to cut down this doesn't actually reduce the intake of toxins and many of the complications during pregnancy and birth and harm to the unborn baby may still harbour increased risks, as in pregnant smokers.

Following regional research into barriers faced by midwives when discussing smoking with pregnant women, Sunderland has supported the Northeast in implementing a co-ordinated approach to reducing maternal smoking levels across the region. This approach, "babyClear", has been developed by the Tobacco Control Collaborating Centre (TCCC) and implemented in localities previously, but never on a regional footprint.

What is happening in Bradford?

Improving health for mothers and their babies is a priority programme for Bradford Council and within all three Clinical Commissioning Groups. Service developments to improve maternal and infant health are taken forward by the Joint Maternity and Children's Board and the Maternity Network which reports to the Board. In addition, it is a priority within the partnership arena and much key work is taken forward through the ten recommendations of the Every Baby Matters (EBM) Steering Group which leads on reducing infant mortality rates – recommendation six focuses on reducing smoking in pregnancy. A sub group of this, the EBM Joint Maternity Smoking Group, chaired by the Public Health (PH) Tobacco lead is represented by Midwifery, Children's Centre and Health Visitor leads, and drives and reports back actions at an operational level.

Reducing SATOD is a priority for the district and is identified in the Health Inequalities Action Plan 2013-17 under priority two 'Reducing Infant Mortality'. The Still Birth action plan for the district identifies actions to reduce smoking in pregnancy to prevent and reduce the number of still births.

Within the City of Bradford MDC Public Health, the Smoking Cessation Service have in place a smoking in pregnancy team comprising a Stop Smoking Specialist pregnancy lead, with a

mandate to collaborative working with a range of health professionals, all working to reduce smoking in pregnancy, promote smokefree homes and cars and provide ongoing training and support. This is supported by a smoking in pregnancy advisor plus administrative support.

In line with NICE guidance all referrals into the stop smoking service are contacted within 24/48 hours and offered an appointment to discuss their quit attempt and receive ongoing support by a stop smoking advisor. Having implemented the recommendations within NICE guidance (PH26) this has not had a significant impact on reducing SATOD and following a midwifery referral, attendance at appointments remains a challenge.

Home visits are currently being piloted in areas of high deprivation to increase the number of pregnant smokers engaging with the quit programme. BD4, BD5 and BD6 are being trialled and monitored to assess the efficacy of this option to support pregnant smokers to quit. Alongside this the Bradford Stop Smoking Service are piloting the effectiveness of supporting pregnant smokers to quit, throughout the whole of the pregnancy, to prevent relapse in the first instance but also to remain smokefree after the baby is born. Relapse is high within six months of giving birth, for those who quit, so interventions need to be effective in relapse prevention.

Bradford Royal Infirmary have implemented procedures for a stop smoking specialist to visit the ante/post natal maternity wards to discuss a quit attempt with pregnant smokers and new mothers who continue to smoke to engage them in a support programme that can be continued post discharged from hospital.

Bradford Stop Smoking Service has consistently made available a range of stop smoking groups, as per NICE recommendations, to encourage pregnant women to engage in a supportive, non-judgemental environment to quit smoking. Evaluations have presented a recurring theme within the Bradford district showing that pregnant smokers do not appear to engage with these services, albeit several groups were incentive based, as recommended.

Despite this, evidence suggests that interventions to encourage pregnant women to quit smoking is cost effective, however the data from the Public Health Interventions Advisor Committee (PHIAC) did not include impact on subsequent infant mortality and quality of life or healthcare costs for children over 5 years old. If this had been included in the analysis PHIAC believe the intervention would have been even more cost effective.

Nicotine Replacement Therapy (NRT)

All nicotine replacement therapy (NRT) products are available and can be used in pregnant women, however NICE (PH26) (2010), recommends that a quit attempt should initially be undertaken without the use of NRT and only if the pregnant smoker feels unable to quit this way, can they be offered a form of NRT or combination therapy. There is mixed evidence found on the effectiveness of NRT. A robust trial has found no evidence that it is effective (or that it affects the child's birth weight). The British National Formulary (BNF) states that intermittent therapy is preferable and if patches are used they should be removed at night when the foetus would not normally be exposed to nicotine.

In addition there are no adequate data from the use of preparations containing glycyrrhizin in pregnant and lactating women. Liquorice gum should therefore not be used during pregnancy and lactation. Where use of nicotine replacement therapy is recommended the use of other flavoured nicotine gums (e.g. fruit or mint) may be considered.

With regards to Varenicline (Champix) and Buprorion (Zyban) there are no adequate data from the use of champix and zyban in pregnant women. The potential risk for humans is unknown therefore Varenicline and BUPROPRION cannot be offered to pregnant or breastfeeding women and should not be used during pregnancy.

Commissioned Services

babyClear

The Bradford JSNA states, with reference to stillbirths, that although there has been a slight decrease in the number of stillbirths from 2002, Bradford continues to have the highest rate of stillbirths in West Yorkshire. Some of the risk factors associated with stillbirth include smoking and low birth weight.

A major initiative to protect thousands of unborn babies from harm, caused by smoking and to tackle the worst rates of smoking during pregnancy in the country is being rolled out across the North East. BabyClear, led by Fresh and the Tobacco Control Collaborating Centre (TCCC), aims to reduce premature births, stillbirths, miscarriages and complications after labour due to smoking.

Funding is now in place for this and babyClear will provide training and resources to front-line staff, supporting a quality, structured pathway for pregnant women to receive stop smoking

support; this will cover the period from first booking appointment, through subsequent midwifery appointments, and includes the provision of Stop Smoking support. The gold standard will be that any women still smoking at the time of the dating scan (around 12 weeks) will be given a more detailed explanation of the potential harm to the foetus as a result of exposure to carbon monoxide and other poisons contained in tobacco smoke. Women will then be referred back to the stop smoking service for support to quit.

Specialist Midwife

Reducing the number of women smoking at the time of delivery remains a challenge, and to further embed intensive smoking cessation into routine antenatal care the Stop Smoking Service is currently working with the Bradford Teaching Hospital Foundation Trust (BTHFT) to commission a midwife, based in the hospital, to provide a stop smoking service to pregnant women. Their role will contribute to the provision of a comprehensive and accessible stop smoking service for pregnant women giving birth at Bradford Royal Infirmary providing specialist knowledge, expertise, advice and guidance to women and their families to enable them to stop smoking in pregnancy.

In addition the Specialist Midwife will act as a source of expertise and advice for Midwives and other health care professionals, providing stop smoking advice and education to work within a multidisciplinary team and wider partners in health, to provide optimal care through a pathway, in both hospital and community settings.

Midwives

In line with the NICE guidelines (PH26) (2010), all Midwives in Bradford and Airedale are trained in Brief Interventions as part of their mandatory training and will give brief advice to all pregnant women who are smokers. They are able to assess and signpost pregnant smokers into the stop smoking service where an opt out referral system is in place with a target to refer a minimum of 90% of those with a CO reading of 4ppm or higher. All midwives are provided with a carbon monoxide (CO) monitor to enable routine screening of all pregnant women as part of their booking appointment (recording Smoking At Time Of Booking (SATOB)).

Student midwives as part of their training timetable receive training from the smoking specialist pregnancy lead, with information on smoking in pregnancy and smokefree homes and cars included.

Family Nurse Partnerships (FNP)

The Family Nurse Partnership (FNP) is a preventive programme offered to young mothers, 19 years and under, having their first baby. It begins in early pregnancy and is oriented to the future health and well-being of the child. The Family Nurses who deliver the programme come mainly from health visiting and midwifery.

The FNP is based on the theories of human ecology, attachment and self-efficacy and has three overarching goals:

- To improve antenatal health
- To improve child health and development
- To improve economic self-sufficiency

They provide high levels of support and for those who smoke (and are pregnant) there are currently six members of the team who are trained stop smoking advisors, trained to level 2 who will support pregnant women through their quit attempt. Five members of the team have been trained in BI's and will either refer into their own team or the stop smoking service. Initial discussions are underway on how the stop smoking service can work with and support future training with the FNP Team.

Children's Centres

Children's centre staff have had Brief Intervention (BI) training and information on smokefree homes and cars. In addition to this there are members of staff trained as advisors to Level 2 who can support pregnant smokers to quit in five of the children's centres in Woodside BD6, Parklands BD10, Allerton BD15, Wyke BD12 and Rainbow BD22. Smokefree champions are also active in promoting smokefree homes and cars in eight children's centres throughout Bradford and Airedale. These are important resources to promote SFH and cars to other members of the family who smoke.

5.4 Summary of tobacco use in Bradford District

The incidence of smoking in Bradford District continues to remain high at 22.6% when compared to all adults in England with figures of 18.4%. Analysis at sub group level reveals that smoking in Bradford among young people is 'highest' regionally and nationally. Likewise adults from the routine and manual subgroup and mental health remain the highest prevalence and remain a challenge. Pregnant women of the white Caucasian group have very low attendance rates at smoking cessation clinics with quit rates remaining low also.

Diseases related to smoking are highest in the country with lung cancers seeing the highest mortality rates.

The Stop Smoking Service continues to work with a variety of partners which is resulting in many programmes being rolled out to tackle the high prevalence in Bradford District. By working together to reduce the number of young people who might start smoking and educating those adult smokers to become responsible smokers by providing a smokefree environment around babies, children and young people. A zero tolerance to secondhand smoke remains a high priority as we know the impact this has on those vulnerable sub groups including adults with COPD.

5.5 Conclusion

Smoking and tobacco use remains a significant Public Health problem within the Bradford District and health inequalities persist. Smoking rates within certain minority and deprived communities can be exceptionally high such as the long term unemployed, those suffering from mental health disorders, Lesbian, Gay, Bisexual and Transgendered (LGBT) communities, and some minority ethnic groups. If we can reduce the number of young people taking up smoking initially then maybe fewer adults across all communities will go on to develop life shortening illnesses and diseases. Hence lessening the health inequalities gap and increasing the healthy life expectancy of the people in Bradford District.

Section 6: Recommendations

6.1 Introduction

The epidemiological health needs assessment combined with the corporate needs assessment carried out for tobacco use and prevalence highlighted many inter-related issues for example how the task of denormalising smoking / tobacco use in public places and the lack of no smoking policies in organisations where children and young people are cared for or educated highlighted the need for partnership working closely together.

The aim of this report is to reduce smoking prevalence and subsequently improve the health of the population within Bradford District in line with recommendations from key national guidance documents, with the long term aim of a smokefree Bradford for the generations of the future.

By undertaking a health needs assessment on Tobacco in Bradford District, several issues have been highlighted and based on the findings, the following recommendations have been made, with the overall aim of reducing prevalence and uptake of smoking within the population of Bradford District.

6.2 Children and Young People Recommendations

The NICE guidance [PH14, 2010] concentrates on helping young people to develop the confidence and skills to consider or challenge peers and family norms on smoking. Education professionals have a vital role in ensuring that rates of smoking in young people continue to fall. Work should therefore begin in primary school and continue throughout the child's time in secondary school and college. Evidence suggests that smoking initiatives should be factual and entertaining and schools and colleges should endeavour to work with local partners such as Stop Smoking Services to deliver engaging interventions that help children and young people fully understand the harm that tobacco use causes.

1. De-normalise smoking in public spaces (i.e. play areas, school entrances) and around children and young people by exploring opportunities to ensure smokefree environments.
2. Ongoing reviews of legislation i.e. smoking ban, smokefree homes, smokefree cars, these have highlighted how crucial the need for policy implementation for smokefree areas spanning all organisations involved in the care or education of young people and children.

6.3 Adults Recommendations

1. Within secondary care more work needs to be done to ensure more health professionals are able to refer smokers via a referral care pathway into the stop smoking service.
2. Within primary care all health and social care services need to play a key role in identifying smokers and making every contact count to ensure that smokers access the most effective stop smoking support options available. Formalised referral systems, electronic or otherwise, enable the monitoring of referral sources (i.e. settings) and the identification of areas in which referral rates could be improved.
3. Ensure all national and regional campaigns are well publicised and resources made available to primary and secondary care health and social care professionals. (i.e. Stoptober, Health Harms, Smokefree homes and cars). Local services and marketing need to be supported by local intelligence and research on local knowledge.
4. Clinical Commissioning Groups (CCG's) commission many programmes including secondary care, which is managed by them. It is paramount that closer partnership working is undertaken to ensure smokers are being offered referrals into the stop smoking service.
5. Workplace health and wellbeing teams need to be targeted to assist in making access to the stop smoking services for routine and manual workers.

6.4 Pregnancy Recommendations

No specific recommendations have been made for those planning a pregnancy or who have recently given birth due to the lack of evidence available on stop smoking interventions for these groups, however NICE (PH26, 2010) guidelines should benefit women who smoke, who are planning/already pregnant/or have infants 12 months or under. NICE guidance also suggested through their research that relapse is high and within six months of giving birth women will relapse and start smoking again. Interventions need to be effective in relapse prevention.

1. A focus group is required to identify and explore the needs of pregnant women with regards to service access and provision.
3. Due to high relapse within six months, health visitors and professional groups need to maintain the smokefree work to deliver the smokefree messages.
4. In line with NICE guidance (PH26), there needs to be a requirement to link into fertility clinics (family planning and pre-conceptive advice). Brief Intervention training would give those professionals working in this setting the ability to ask women if they smoke, brief

advice about the link between smoking and low fertility with a referral via a care pathway into the stop smoking service.

5. An intervention is required to be in place for all contact with pregnant women to include messages to encourage partners / supportive others to attend appointments to quit smoking.
6. Campaigns and social media to advertise the service within maternity settings on televisions/ electronic boards.

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