



Director of Public Health Annual Report – RBWM

Lise Llewellyn

2017



Avoidable and preventable mortality

Life expectancy has improved through the ages. In the middle ages the average life expectancy was thought to be around 35 years, rising to 47 in 1900, 65 in the 1950's, and 65 in 1971 and in 2015 it was 79 (men) ¹.

Now the focus is on reducing avoidable deaths. Avoidable deaths can be divided into 2 major areas: amenable and preventable deaths. Avoidable deaths in general focus on those deaths that occur prematurely before 75 years.

“
People who die prematurely from avoidable causes lose
an average of 23 potential years of life
”

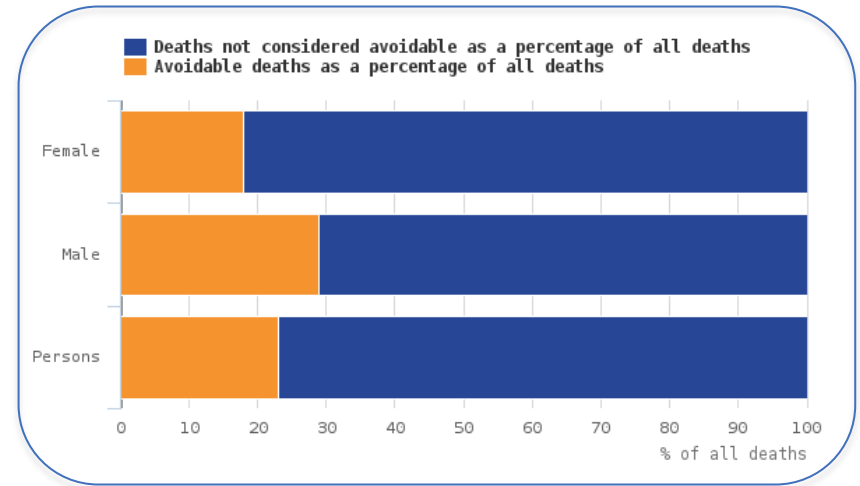
In 2014, nearly a quarter of all deaths (23%; 116,489 out of 501,424) in England and Wales were from causes considered potentially avoidable either through timely and effective healthcare (amenable) or public health interventions (preventable) ².

While we may say that a particular condition can be considered avoidable, this doesn't mean that every death from that condition could be prevented. Analysis focuses on deaths prior to 75 years.

Males were more likely to die from an avoidable cause than females and accounted for approximately 60% of all avoidable deaths.

Approximately 29% of all male deaths were from avoidable causes (70,108 out of 245,142 deaths) compared with 18% of all female deaths (46,381 out of 256,282 deaths).

Figure 1: Percentage of deaths nationally that are avoidable



Source: [ONS: Avoidable Mortality England and Wales 2014](#)

Cancers were the leading cause of avoidable deaths accounting for 35% of all avoidable deaths in England and Wales in 2014.

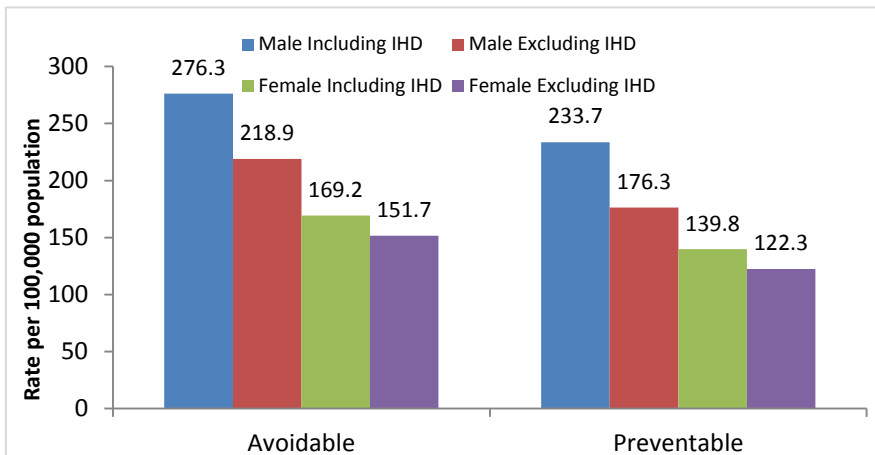
Ischaemic heart disease is the most common single disease that leads to avoidable death.

Amenable deaths are those where the causes of death are amenable (treatable) if, in the light of medical knowledge and technology at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided through good quality healthcare.

Preventable deaths are those that through our understanding of the determinants of health at time of death, all or most deaths from that Cause (subject to age limits if appropriate) could be avoided by public Health interventions in the broadest sense.

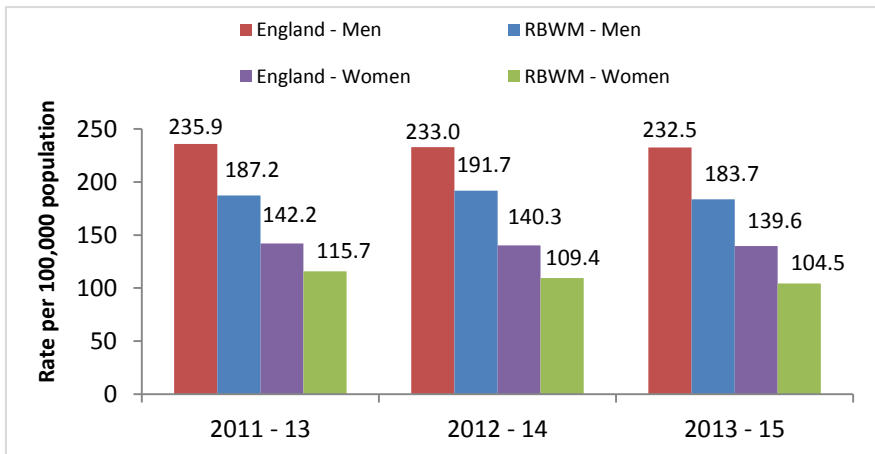
Local preventable deaths

Figure 2: Rates of avoidable and preventable deaths



Source: [PHE: Public Health Outcomes Framework](#)

Figure 3: Mortality rate from causes considered preventable 2011-2015



Source: [PHE: Public Health Outcomes Framework](#)

As shown in **(Fig 2)**, addressing these would have the biggest impact on reducing total numbers of avoidable deaths.

We can measure preventable death rates in our own locality. The England age standardised rate for preventable deaths is 184 deaths per 100,000, with the rate in RBWM being lower at 150 per 100,000 (2013-2015) meaning fewer preventable deaths in RBWM **(Fig 3)**.

We can see that the rate of preventable deaths is lower than the national average, and reducing, in both men and women in RBWM.

These figures could be expected given that RBWM has a low rate of premature deaths 266/100,000 (2013-15)²⁶, the 9th best in England.

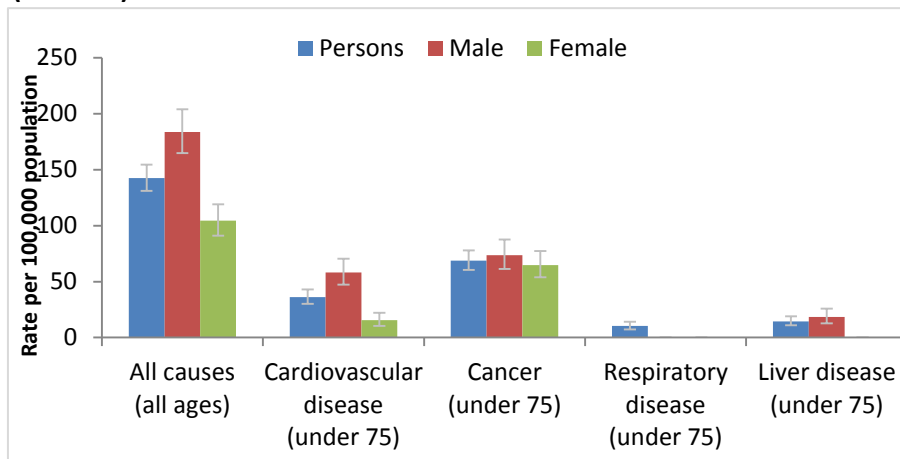
Nevertheless the impact on health, early death and the use of health care by more sustained application of public health measures by health and social care organisations, communities and individuals will reduce early deaths and hence also the demand on our services, and improve health considerably at the local level.

Causes

If we look at the major causes of early preventable death within RBWM, we see a similar picture to that seen nationally with the biggest generic cause being cancer for all persons and impact being greater for all preventable causes on male deaths **(Fig 6)**.

Local preventable deaths

Figure 4: Preventable mortality per 100,000 population in RBWM (2013-15)



Source: [PHE: Public Health Outcomes Framework](#)

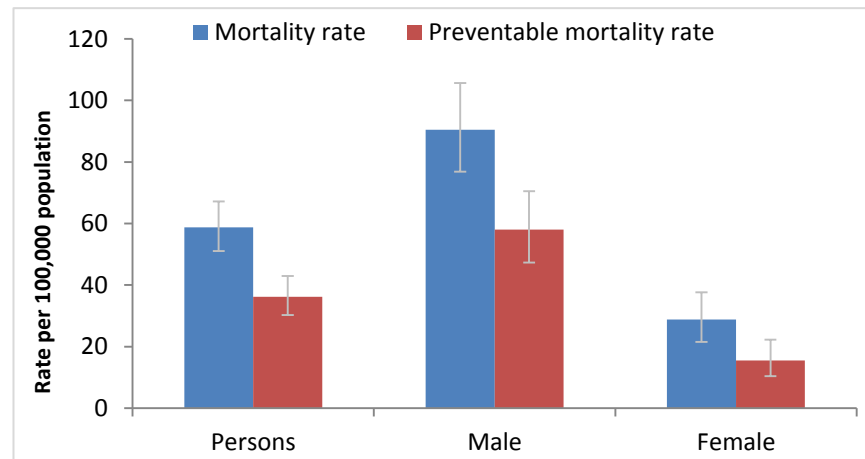
If we examine premature preventable mortality in RBWM in more detail by clinical groups then we see that mortality rates are higher in men.

In RBWM, liver mortality has much more impact on men, with over 70% of male mortality being preventable. The female figure is too low to be calculated. This is the same for respiratory disease where the numbers of preventable deaths in males and females is too small to be calculated

For cardiovascular causes, male preventable mortality rate is 3.7 times that of females (**Fig 5**).

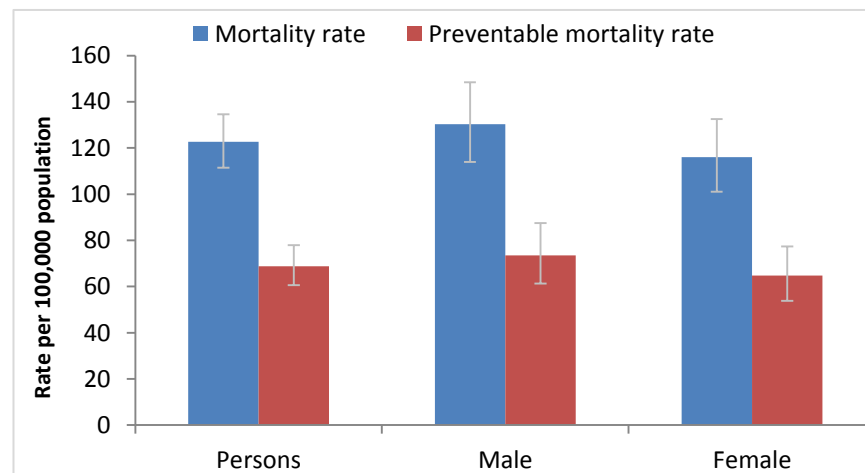
In cancer locally we see that the percentage of preventable cancers is similar to the national picture for persons with a greater percentage being preventable in men (74%) versus women (65%). This is against the national trend (**Fig 6**).

Figure 5: Under 75 mortality rates for Cardiovascular disease in RBWM (2013-15)



Source: [PHE: Public Health Outcomes Framework](#)

Figure 6: Under 75 mortality rates for Cancer in RBWM (2013-15)



Source: [PHE: Public Health Outcomes Framework](#)

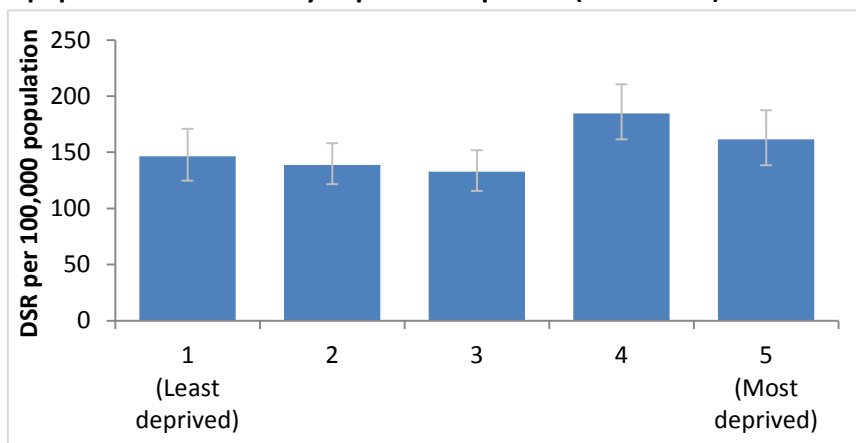
Preventable deaths

The impact of premature mortality from preventable causes can be examined by geography and deprivation. Across all preventable deaths there is a link with deprivation when we group wards by their level of affluence ³. However this is not clearly seen within RBWM, though groups 4&5 do have higher rates.

The evidence shows a consistent pattern in the prevalence of multiple unhealthy behaviours, at the core of preventable causes of ill health, with men, younger age groups and those in lower social classes and with lower levels of education being most likely to have exhibited these multiple lifestyle risks ⁴.

In 2008 4.2% of professional men exhibited all 4 unhealthy lifestyle behaviours, compared to 8.4% of male unskilled manual workers. Similarly, 3.1% of professional women exhibited these behaviours, compared to 7.0% of female unskilled manual workers.

Figure 7: All cause preventable mortality rate per 100,000 population in RBWM by deprivation quintile (2011-2015)



Source: NHS Digital (2016); Primary Care Mortality Database – Restricted

Worryingly this pattern is persisting with improvement in lifestyle being greatest in those in most affluent groups so the gap is widening ⁴.

The strongest risk factors for avoidable hospital admission are age and deprivation ⁵.

Clustered poor health behaviours are associated with increased risk of hospital admissions among older people in the UK. Life course interventions to reduce the number of poor health behaviours could have substantial beneficial impact on health and use of healthcare in later life ⁶. Studies have shown that among men and women, an increased number of poor health behaviours was strongly associated ($p < 0.01$) with a greater risk of long stay and emergency admissions and 30-day emergency readmissions.

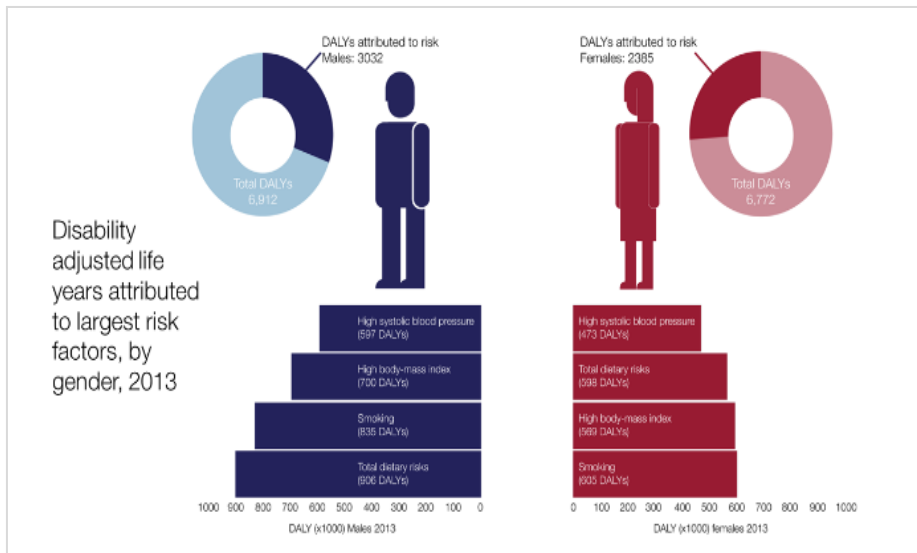
Those with three to four poor health behaviours were, in men, 1.37 [95% CI:1.11,1.69] times more likely to be admitted to hospital than those with no poor health attributes. In women, this figure was 1.84 [95% CI:1.22,2.77]. Associations were unaltered by adjustment for age, BMI and co-morbidity.

The impact of improving lifestyle behaviours is not restricted by age. In a study of over 65 year olds that examined the impact of having higher self-care confidence and being on an exercise program on decreasing avoidable hospitalizations, it was found that starting an exercise program at an older age decreased hospital admissions and utilization of emergency services in the short and medium term ⁷.

Addressing early preventable deaths

There are eight commonly agreed risk factors that if addressed would reduce preventable deaths; alcohol use, tobacco use, high blood pressure, high body mass index, high cholesterol, high blood glucose, low fruit and vegetable intake and physical inactivity.

Figure 8: Disability adjusted life years attributed to largest risk factors, 2013



Source: [PHE: Burden of Disease Study for England](#)

It is estimated that 80% cases of heart disease, stroke and type 2 diabetes, and 40% of cases of cancer could be avoided if common lifestyle risk factors were eliminated (WHO 2005).

An estimated 42% of cancer cases each year in the UK are linked to a combination of 14 major lifestyle and other factors⁸. The proportion is higher in men (45%) than women (40%), mainly due to gender differences in smoking (CRUK).

The impact of these lifestyle factors is not only key in causing early death within our communities but also as a major cause of illness it drives our increasing utilisation of health and care resources.

In the following section we will briefly review five of the major lifestyle and risk factors for preventable deaths, where there is significant evidence regarding interventions that make a difference. We will briefly describe the pattern of these factors in our community, the impact of each in terms of illness and death, but also in terms of impact on our services.

It should be noted that whilst we look at each individually there is data that shows that risky health behaviours interact and have a multiplicative rather than simply additive impact. That is, they have a greater effect together than the sum of each individual risk⁹.

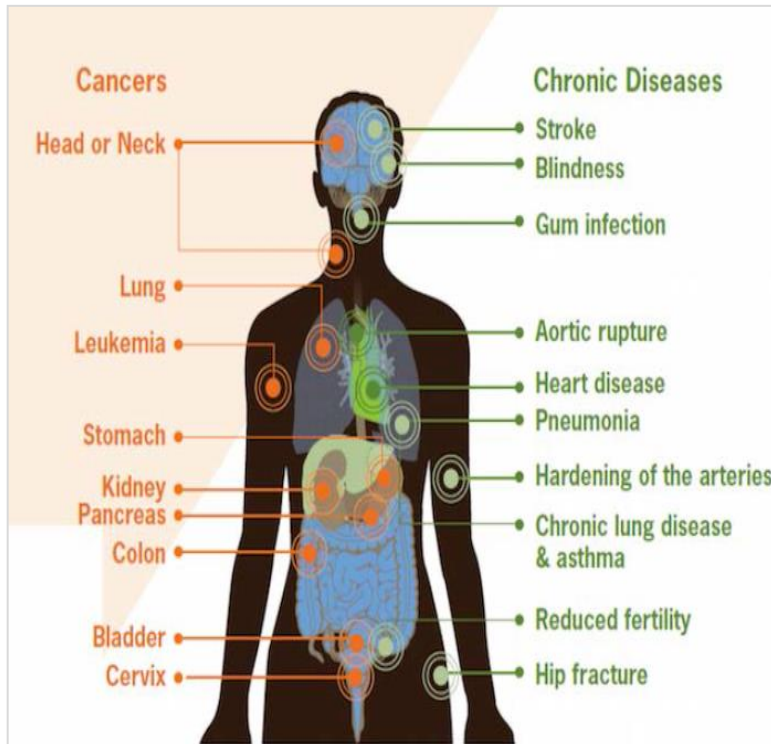
Or alcohol and smoking, which together are associated with a greater combined risk for cancer than the sum of the two individual effects¹⁰. This may be one reason why we see greater alcohol related harm in socioeconomically deprived groups compared to affluent groups, even when the level of alcohol consumption is held constant. It's because the more deprived groups are more likely to be engaging in multiple risky lifestyle behaviours.

Smoking

Smoking remains the biggest single lifestyle cause of preventable mortality and morbidity in the world. The Tobacco Control Plan for England states that it accounts for 1 in 6 of all deaths in England.

Its impact is seen on every organ of the body.

Figure 9: Health Effects of Tobacco Use



Source: [CDC: Smoking & Tobacco Use - Health Effects of Tobacco Use](#)

Nationally the prevalence of smoking is decreasing; 19% of people smoked in 2016 v 46% at its peak in 1976 and average daily consumption is also reducing; 11 cigarettes a day in 2016 from 16 in 1974.

Smoking is more prevalent in adult men (20% v 17%), more prevalent deprived communities (30% routine and manual v 11% professional) and more prevalent in those with less formal education (9% in those with degrees). Younger people are more likely to smoke (9255 16-34 v 11% >60). In children and young people, more girls smoke regularly and the major influence is smoking in the home¹¹.

Figure 10: Local Tobacco Profiles Annual Population Survey

2015/16	RBWM	England
Never smoked (APS*)	49.5%	48.6%
Adult current smokers prevalence (APS*)	13.0%	16.9%
Manual and routine smoking rate (APS*)	19.5%	26.5%
Current smokers aged 15 – 2014/15 (WAY Survey)	7.6%	8.2%
Smoking in residents with severe mental illness - 2014/15	31.7%	40.5%

Source: [PHE: Local Tobacco Control Profiles for England](#)

*APS – Annual Population Survey

It is recognised that smoking has a profound impact on health inequalities. There is greater health inequality between smokers and people who have never smoked than between people of the same sex and smoking status but different social positions.

In both women and men, people who are the most deprived in our society who had never smoked had substantially better survival rates than smokers in even the highest social classes¹². 85% of the observed inequalities between socioeconomic groups can be attributed to smoking¹³.

Smoking - impact

In 2012-14, there were 275 smoking attributable deaths per 100,000 population in England. The rate in RBWM was 224 per 100,000, aged 35+.

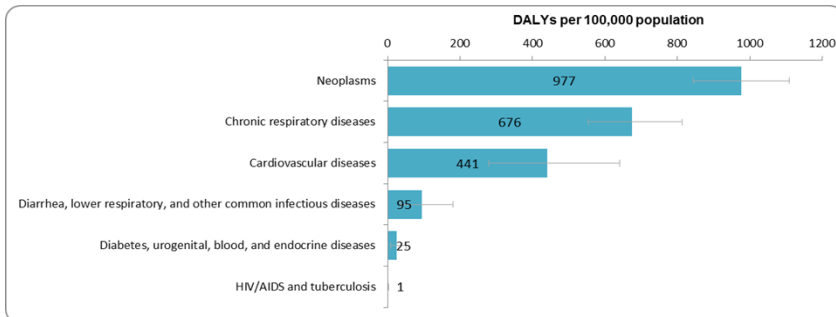
In 2012/14 551 deaths were attributed to smoking in RBWM. That's 3.5 deaths a week.

Disability adjusted life years (DALYs) are an important measure used in health care as they not only measure the number of years of life lost (early deaths) but also the number of years lived with disability – so give an assessment of the impact on the life of the individual affected and the impact on health and care service usage. This analysis is now available for the South East.

Smoking is the most significant single lifestyle factor that causes the highest number of DALYs lost both regionally and nationally. 9.1% of DALYs in the South East Region were attributable to smoking in 2013 (2,215 per 100,000 population).

Figure 11 shows the wide impact of tobacco in the South East¹⁴. The largest numbers of DALYs attributable to smoking in general causes were for cancers, chronic respiratory diseases and cardiovascular diseases.

Figure 11: DALYs attributable to smoking in South East England (2013)



Source: [Global Burden of Disease \(GBD\)](#)

If we look at data for specific clinical illnesses and the impact of smoking on each of these then we see a different pattern; smoking accounts for at least 56% of all chronic lung disease conditions, 70% of COPD and 80% of lung cancer¹⁴.

23% of DALYs for neoplasms were attributable to smoking. Again, this was higher for certain cancers; 79% of DALYs for tracheal, bronchus and lung cancer, 54.1% lip and oral cavity cancer, 53% oesophageal cancer.

We know that smoking prevalence is greater in men and in the most deprived communities and its impact increases over time.

If we look at men aged 55-79, smoking is, as could be expected, the single largest cause of DALYS (accounting for 12 – 14%) in the most affluent areas. In the most deprived communities however smoking accounts for 19 – 21% of DALYS which translates into one in five. This is significantly more than in wealthier areas. A similar pattern is seen in women.

In a study which looked at chances of survival and smoking after 28 years, people in the lowest socioeconomic groups who had never smoked had substantially better survival rates (56% women and 36% of men) than smokers in the highest social classes (41% women and 24% men)¹².

Tobacco accounts for 90% of health inequalities

Smoking - impact

With the major impact on illness, it is not surprising that smoking is also responsible for significant care use both in primary and hospital settings. Tobacco use accounts for approximately 5.5% of the NHS budget.

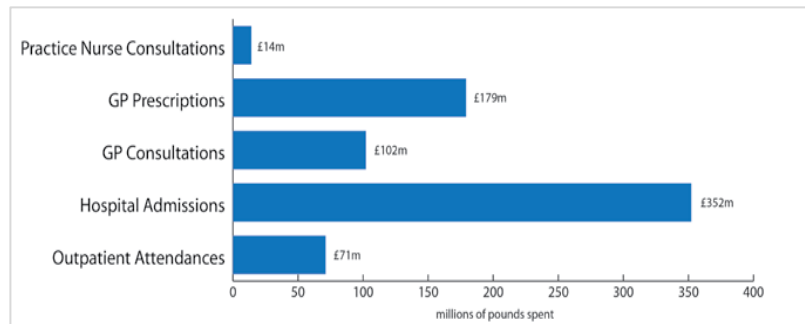
There were 1.7 million admissions in 2014/15 across the UK for conditions that could be caused by smoking, an increase of 22% from 2004/5. With 475,000 hospital admissions attributable to smoking in 2014/15, up from 452,000 in 2004/05. This represents 4% of all hospital admissions (6% of male admissions and 3% of females)^{14,16}.

23% of respiratory, 15% of cardiac and nearly 10% of Cancer admissions are attributable to smoking.

Individuals with mental health problems smoke more heavily than the general population, contributing to as much as 43% of tobacco consumption in the UK¹⁶ and it is estimated 3 million UK adults with mental health disorders who are also smokers incur Total smoking-attributable costs of £2.34 billion .

A total of £719 million was spent treating smoking-related disease among people with mental health disorders of which £352m were due to hospital admissions, while other cases were treatments of cancer, cardiovascular disease and respiratory diseases¹⁸.

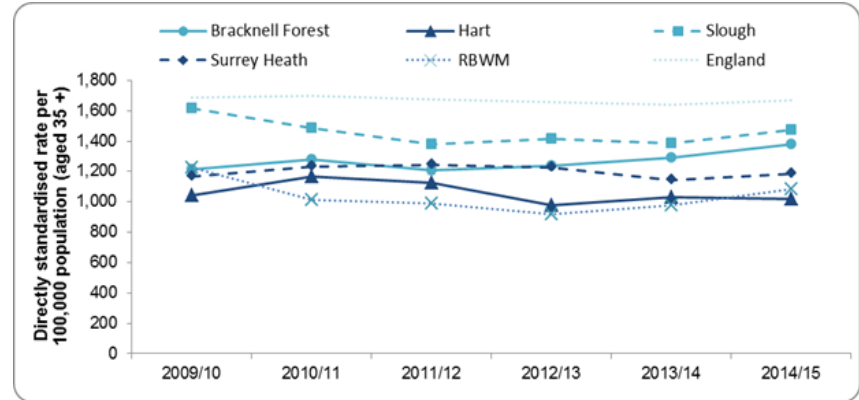
Figure 12: Costs due to smoking-related diseases among people with mental health conditions (2009/10)



Source: [Ash: The Stolen Years, the mental health and smoking action report](#)

Locally, in line with the lower prevalence of smoking (and our lower than average admissions in general) our rates of smoking related admissions are lower than the England average^{15,17}.

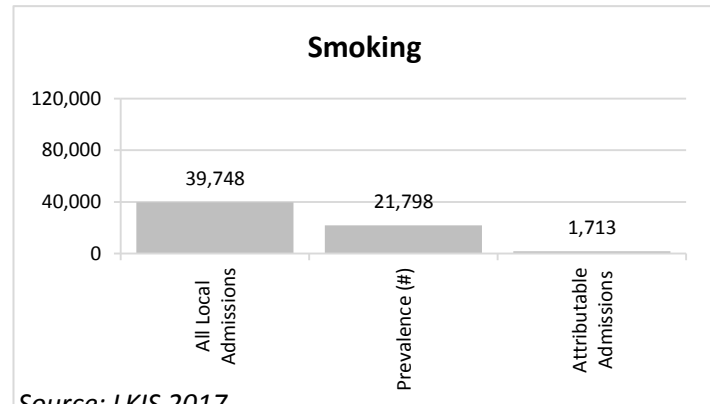
Figure 13: Smoking attributable hospital admissions in people aged 35 and over



Source: [PHE: Local Tobacco Control Profiles for England](#)

Though in RBWM it can be seen that over 1700 admissions a year are solely attributable to the effects of smoking¹⁶.

Figure 14: Smoking figures



Source: [LKIS 2017](#)

Smoking - impact

The costs of smoking to the NHS and to the economy in general are well understood, however, there are also costs to the social care system, which are less well known¹⁹.

Recent research, based on adults over 50, compared the care needs of current and former smokers with those of never smokers. The key findings were that whilst no difference could be seen in use of residential care (small sample size), smokers were more likely to have difficulties in the majority of activities of daily living and so were at double the risk of developing care needs. In just over half of the activities of daily living, ex-smokers also showed more difficulties.

The impact of smoking related ill health on the social care system, is estimated to be a cost of £1.4 billion every year, up from £1.1 billion in 2014. This is made up of £760 million in costs borne by local authorities, with a further £630 million being spent by those who have to self-fund their care.

Figure 15: Smoking Cessation figures

2015/16	Rates per 100,000 population (actual numbers)		
	Setting quit date	Successful quitters	Validated quitters (CO)
England	862	440	314
South East	674	375	271
RBWM	937 (1,105)	675 (796)	443 (522)

Source: Calculated figures from [PHE: Local Tobacco Control Profiles for England](#) and ONS 2015 Mid Year Estimates

Interventions - What Works

The biggest short-term savings opportunity lies in helping smokers who are in contact with the NHS to quit. The greatest long-term savings would come from preventing people from ever smoking altogether. Prevention of smoking requires strong partnership working including the promotion of smoke free environments and reducing counterfeit and illegal tobacco sales.

Smoking cessation services are widely available and the RBWM service continues to see more residents than the England average. In 2015/16, 937 per 100,000 set a quit date (v 862 England) and 675 per 100,000 reporting quitting at 4 weeks (v 440 England)²⁰.

Interventions - Local Gaps

Although we offer some support to patients within health care settings to give up smoking, we have still to maximise this approach.

Recently Berkshire Healthcare Foundation Trust have been proactive in ensuring that all mental health facilities are smoke free, with patients being offered nicotine replacement therapy. However all smokers should be identified during treatment and at minimum offered brief intervention and advice to promote smoking cessation as part of their treatment plans. Pregnant women should be screened via carbon monoxide screening and offered specialist support²⁰ as a matter of course²¹.

For those unable or unwilling to stop smoking permanently then temporary abstinence supported by nicotine replacement medication will deliver harm reduction. Smokers having elective surgery are six times more likely to have a surgical site infection and so have lengthier post operative stays and recovery periods. Simply supporting abstinence prior to surgery can reduce this risk, improve outcomes and reduce costs associated with care .

Lifestyles – High blood pressure

Blood pressure is recorded with two numbers. The systolic pressure (higher number) is the force at which your heart pumps blood around your body. The diastolic pressure (lower number) is the resistance to the blood flow in the blood vessels. They are both measured in millimetres of mercury (mmHg).

As a general guide:

- high blood pressure is considered to be 140/90mmHg or higher
- ideal blood pressure is considered to be between 90/60mmHg and 120/80mmHg

High blood pressure is normally distributed in the population and the risk associated with increasing blood pressure is progressive, with each 2 mmHg rise in systolic blood pressure being associated with a 7% increased risk of death from ischaemic heart disease and a 10% increased risk of mortality from stroke.

Risk factors for high blood pressure

Overweight or obese
Poor diet: high salt & less than 5 a day fruit and vegetables
Low physical activity levels
High alcohol use
Smoker
Over the age of 65
Don't get much sleep or have disturbed sleep
African or Caribbean descent
Family history of high blood pressure

At least one quarter of adults (and more than half of those older than 60) have high blood pressure²².

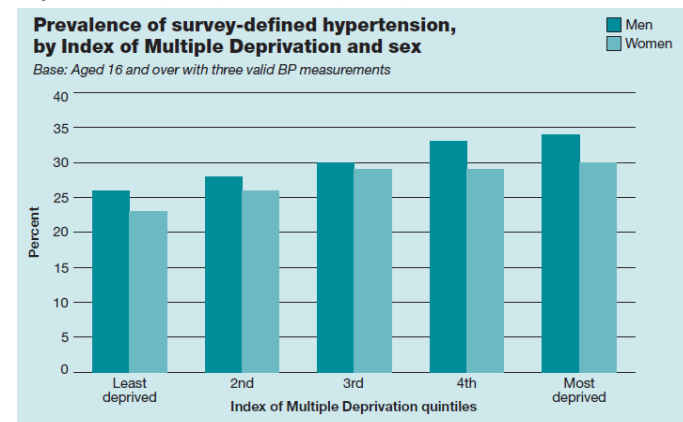
Over 24% of people in England are estimated to have high BP and it is one of the leading causes of premature death and disability in England. At least half of all heart attacks and strokes are associated with high BP and it is a major risk factor for chronic kidney disease, heart failure, stroke, myocardial infarction and vascular dementia.

Lowering blood pressure per se reduces risk for myocardial infarction by 20% - 25%²³.

High BP costs the NHS an estimated £2bn, while social care and productivity costs are likely to be much higher.

High BP is much more common in deprived communities. The Department of Health's 2010 'Health Survey for England' noted that prevalence increased from 26% of men and 23% of women in the least deprived fifth of the population to 34% and 30% respectively in the most deprived 20%.

Figure 16: Prevalence of hypertension by Index of Multiple Deprivation (IMD) and sex (2011)



Source: [NHS Digital: Health Survey for England \(2011\)](#)

High blood pressure

For every ten people diagnosed with high BP, seven remain undiagnosed and untreated - this is more than 5.5 million people in England. Those in more deprived communities are less likely to have high BP detected though with the introduction of the quality scheme this gap has reduced^{24,25}. In addition we can see the percentage of those in treatment and also adequately controlled reduces with increasing deprivation²⁵.

Figure 17: High Blood Pressure

Income level	n	Aware (%)	Treated (%)	Controlled (%)
High	6263	49.0	46.7	19.0
Upper Middle	18123	52.5	48.3	15.6
Lower Middle	23269	43.6	36.9	9.9
Low	10185	40.8	31.7	12.7
Total	57840	46.5	40.6	13.2

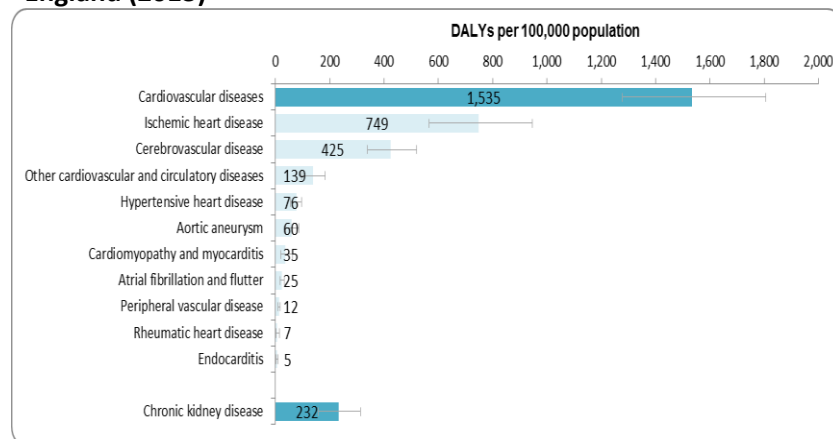
Source: [PHE: Health matters: combating high blood pressure](#)

13.1% of all deaths in South East England were attributable to high blood pressure¹⁴.

7.2% of all disability-adjusted life years (DALYs) in the South East Region were attributable to high blood pressure in 2013 (1,766 per 100,000 population).

The largest number of DALYs attributable to high blood pressure were for cardiovascular diseases and chronic kidney disease. Within the cardiovascular diseases group, ischemic heart disease and cerebrovascular disease had the largest number of DALYs attributable to high blood pressure.

Figure 18: DALYs attributable to High Blood Pressure in South East England (2013)



Source: [Global Burden of Disease \(GBD\)](#)

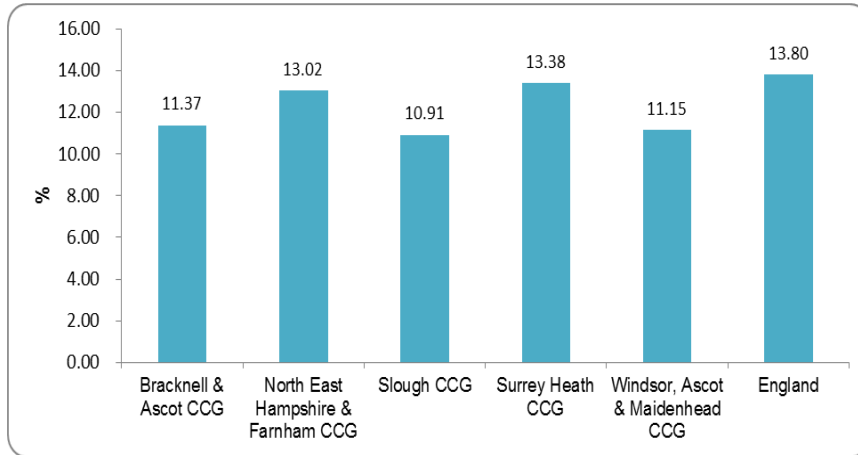
For all cardiovascular events high systolic BP accounts for 43% DALYs; 1,535 per 100,000.

In reviewing premature deaths (deaths before age 75) RBWM fares well with regards to heart disease and stroke being ranked 14th out of 150 authorities, with 59 deaths per 100,000 (2013-2015) and ranked 10th out of 15 in comparison to similar local authority areas²⁶.

High blood pressure - Impact

Across Windsor and Maidenhead (WAM) CCG, there are estimated to be 31,000 people with high blood pressure, with 17,3000 currently being treated. This means that there are 14,000 people unaware of their high BP.

Figure 19: High Blood Pressure Prevalence by CCG



Source: [NHS Digital: Quality and Outcomes Framework 2014/15](#)

In addition, of those that are being treated by their GP not all are achieving target BP control: 555 patients²⁷.

Locally it is possible to measure the impact high BP has on disease and deaths but we can also estimate the impact of reducing high BP by 10 mm Hg in those with this condition in WAM CCG. Every 10 mmHg reduction in systolic BP reduces the risk of major cardiovascular events by 20%.

Thus it is possible to calculate the impact of this improvement on Cardiovascular disease locally.

Figure 20:

Condition	Current number of events	Current number if treated	Reduction in number of deaths
Stroke	172	126	46
Heart failure	117	84	33
Cardiovascular disease	293	243	50
Deaths	1,119	974	135

Source: [British Heart Foundation: How can we do better?](#)

However, treatment is not simply reliant on medication. Across the long term conditions, more than half of all patients do not take their medication as prescribed. Modification of lifestyle factors can have a major impact on high BP with no side effects (and additional positive health impacts).

Studies show this impact and in one, the clear results were that in those who changed lifestyle behaviour for a period of 10 weeks a significant percentage achieved a 10 mmHg reduction in BP:²⁸

- Weight reduction 40%
- Increased physical activity 30%
- More relaxation 25%
- Reduced alcohol intake 30%
- Reduced salt intake 25%

Advice given during the consultation for high BP is likely to be acted upon. Compared with those who did not recall being given advice, adults with high BP who recalled being given advice were more likely to change their eating habits, reduce salt, exercise and reduce alcohol consumption²⁹.

Indeed lifestyle modification is indicated for all patients with high BP, regardless of drug therapy, because it may reduce or even abolish the need for antihypertensive drugs.

High blood pressure - Intervention

High blood pressure management in the community from a long term perspective is focussed on reducing the risk factors within the population; obesity, physical inactivity, smoking and high salt intake. However in the short and medium term there are clear programmes that can reduce the impact of high BP²¹.

A clear priority is to reduce the number of patients with known high blood pressure for whom treatment is not adequate. This can be achieved by annual audits of GP practice registers to identify affected patients and develop the role of pharmacists and other professionals to maximise achievement of treatment goals through lifestyle changes and drug therapy. A 20% improvement in blood pressure control can be cost saving within 5 years.

Another key priority is the wider use of self-monitoring by patients. They can be encouraged to develop the skills and understanding to monitor their blood pressure in their daily lives to minimise false readings.

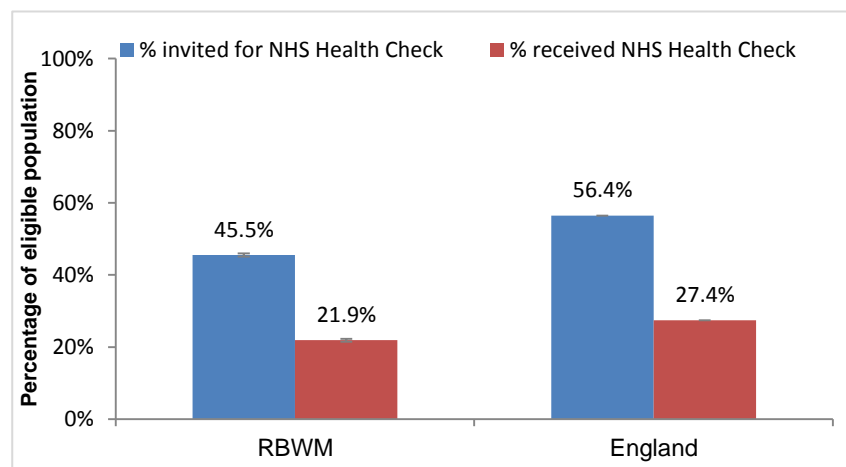
Of course it is also key to identify residents in the community who are unaware that they have high blood pressure. Programmes such as NHS Healthchecks identify those with high blood pressure and support them to make lifestyle changes or provide them with medical management will help to prevent longer term damage and reduce demands for more specialist health and social care.

Figure: 21 The number of people who were invited/received an NHS Health Check from 1st April 2013 to 31st March 2016.

	Invited for NHS Health Check (2013/14 to 2015/16)		Received NHS Health Check (2013/14 to 2015/16)	
	No. of people	% of eligible population	No. of people	% of eligible population
RBWM	20,122	45.5%	9,674	21.9%
England	8,792,518	56.4%	4,271,889	27.4%

This is cumulative, as part of the 5-year cycle of the programme.

Figure: 22 Percentage of eligible population who were invited/received an NHS Health Check from 1st April 2013 to 31st March 2016.



Source: PHOF 2017

Lifestyle - Alcohol

It is known that alcohol is harmful to health and the CMO guidelines to reduce risk state that it is safest for men and women not to drink more than 14 units a week on a regular basis. These should be spread over 3 or more days^{29,30}.

Alcohol is measured in units - one unit is 10ml or 8g of pure alcohol. Since drinks differ in the proportion of alcohol the number of units varies. Alcohol drinks are often described as alcohol by volume percentage e.g. some wines are 11% ABV - this means that a 1 litre bottle contains 11 units .

Therefore one 125ml glass contains 1.64 units, a 175 ml glass has 1.9 units and a 250 ml glass has 2.5 units.
A pint of 4% beer has 2.3 units³⁰.

To keep to safe limits, an adult in a week should not drink more than

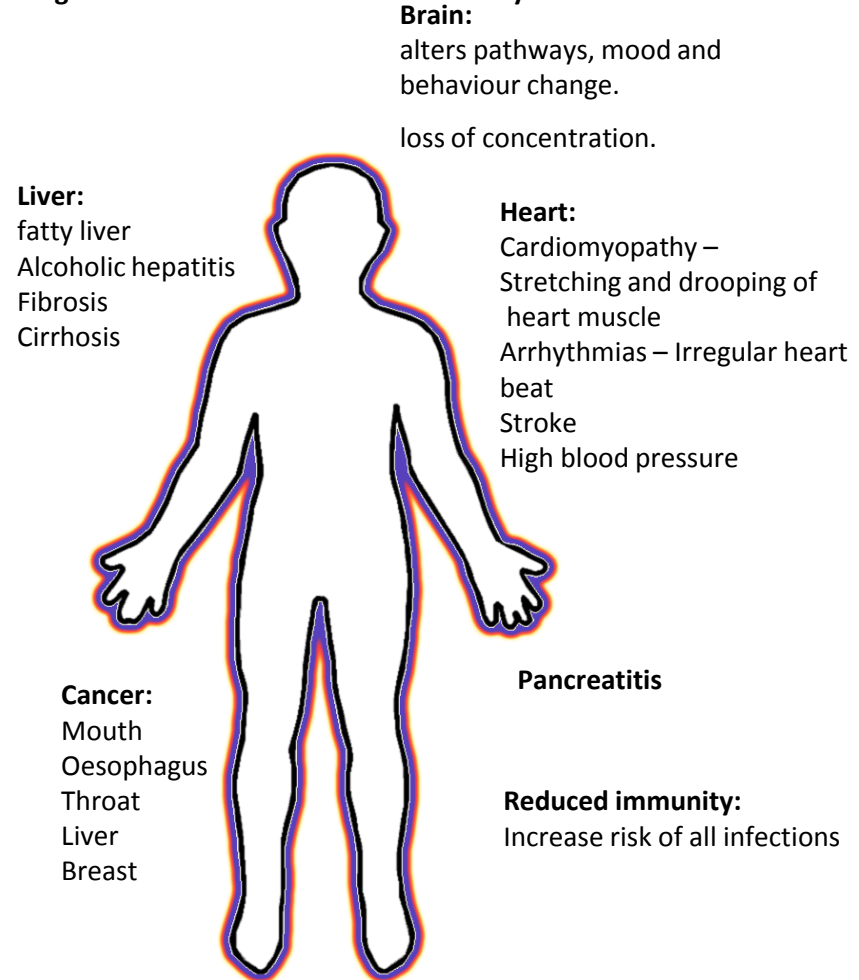
Figure 23: Alcohol limits and unit guidelines



Source: Drinkaware.co.uk: Alcohol limits and unit guidelines

Alcohol is the leading cause of death among 15 to 49 year olds and heavy alcohol use has been identified as a cause of more than 200 health conditions³¹.

Figure 24: Effects of Alcohol on the body



Alcohol - Impact

The burden of health, social and economic alcohol-related harm is substantial, with estimates placing the annual cost to be between 1.3% and 2.7% of annual GDP.

Currently over 10 million people are drinking at levels that increase their risk of harm to their health.

- 5% of the heaviest drinkers account for one third of all alcohol consumed

Alcohol caused more years of life lost to the workforce than from the 10 most common cancers combined. In 2015 there were 167,000 years of working life lost³².

Among those aged 15 to 49 in England, alcohol is now the leading risk factor for ill-health, early mortality and disability.

With increasing consumption, there is increasing risk. For example, all alcohol-related cancers exhibit this relationship³³.

Figure 25: Alcohol Harm Map

Condition		
	3 units of alcohol per day	6 units of alcohol per day
Liver disease	3 times	7 times
Mouth cancer	2.5 times	5 times
Throat cancer	1.8 times	3 times
Breast cancer	1.3 times	2 times
Hypertension	1.7 times	3 times
Ischaemic stroke	No change	2 times
Haemorrhagic stroke	1.8 times	3 times
Pancreatitis	1.3 times	2 times

Source: [Alcohol Concern: Alcohol Harm Map](#)

The health and social harm caused by alcohol is determined by:

- the volume of alcohol consumed
- the frequency of drinking occasions
- the quality of alcohol consumed

In addition a number of individual risk factors moderate alcohol-related harm, such as³⁴:

- age: children and young people are more vulnerable
- gender: women are more vulnerable
- familial risk factors: exposure to abuse and neglect as a child and a family history of alcohol use disorders (AUD)

Also in the English population, rates of alcohol-specific and related mortality increase as levels of deprivation increase and alcohol-related liver disease is strongly related to the socioeconomic gradient³².

This despite the fact that lower socioeconomic groups often report lower levels of average consumption. This gives rise to what has been termed the 'alcohol harm paradox' whereby disadvantaged populations who drink the same or lower levels of alcohol, experience greater alcohol-related harm than more affluent populations. The reason for this is not known but may be due to a greater impact of alcohol due to lower resilience: possible higher rates of binge drinking or poorer access to services

Public Health England has estimated the increase on average life expectancy for men and women if all alcohol-related deaths were prevented. Nationally, this would be 12 months for men and 5.6 months for women (Source: Alcohol Concern, Alcohol Harm Map).

Alcohol - Impact

Figure 26:

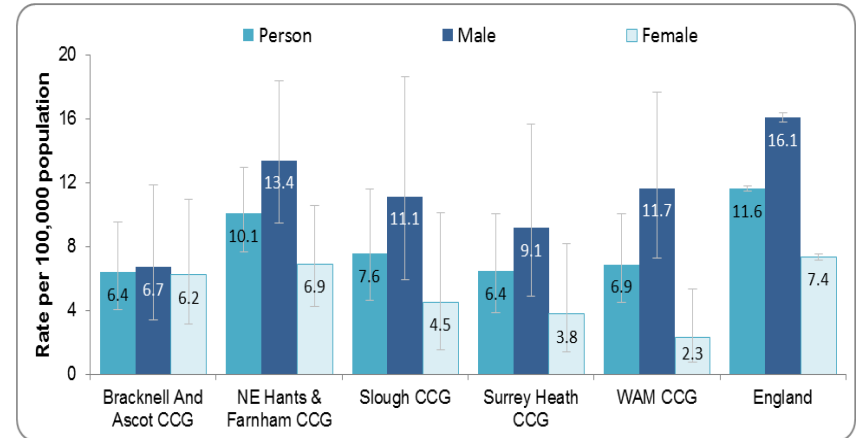
Cause of death	No. of deaths	Average age at death
All causes (England & Wales)	501,424	77.6
All alcohol-specific causes	4,329	54.3
Mental and behavioural disorders due to use of alcohol	489	57.5
Toxic effects of alcohol (unspecified)	395	42.4
Accidental poisoning by exposure to alcohol	369	49.1

3.9% of all early death and poor health (DALYs) in the South East Region were attributable to alcohol use in 2013 (965 per 100,000 population)¹².

The largest number of DALYs attributable to alcohol use were for cancers, cirrhosis, mental and substance use disorders and unintentional injuries.

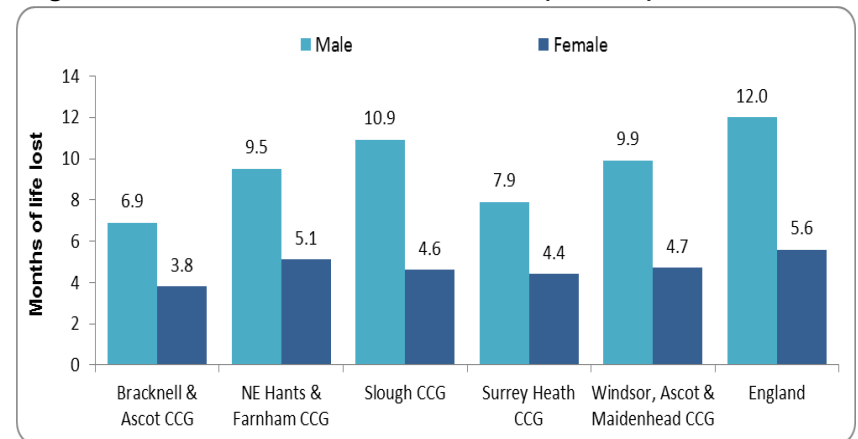
In 2012-14, 153 people died from alcohol-specific conditions in the Frimley Heath STP footprint, 75% of these were men. The rate of deaths per 100,000 population varied in the area but was 6.9 per 100,000 population in Windsor and Maidenhead CCG²⁷.

Figure 27: Alcohol-specific mortality per 100,000 population (2012-14)



If we look at the months of life lost due to alcohol locally then we can see a similar picture where men in RBWM lose 6.9 months – (Fig. 28)

Figure 28: Months of life lost due to alcohol (2012-14)



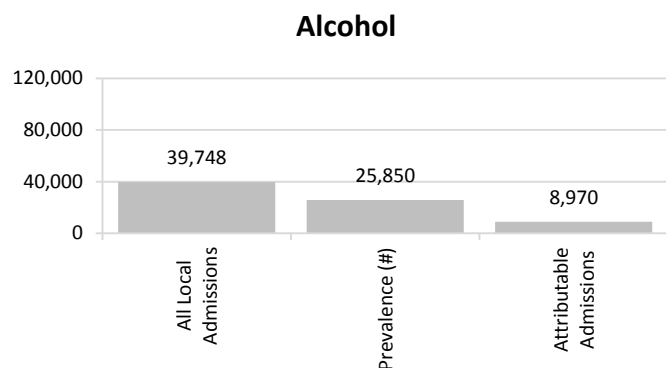
Source: Public Health England (2016); Local Alcohol Profiles for England

Alcohol - Interventions

With such an impact on early death and illness alcohol has a significant impact on hospital use. Nationally alcohol related and attributable admissions have been rising: According to the broad measure, admissions for cardiovascular disease account for almost half of all alcohol-related admissions in 2014/15. For the narrow measure, hospital admissions for cancer represent the most common condition for admissions accounting for 23% of all alcohol-related conditions.

Within RBWM there are over 25,000 residents who consume alcohol and just under 9,000 admissions annually due to alcohol - not unexpected since alcohol accounts for 3% of all NHS costs ¹⁶.

Figure 29: Alcohol figures



Source: LKIS 2017

The impact of alcohol in our society is driven by a variety of factors including limited awareness of health risks from alcohol consumption, addictive nature of alcohol, failure of health professionals to address alcohol as a causal factor in patients' ill health and lack of local system join-up ^{34,31}.

The public health ambition for alcohol is to reduce excessive alcohol consumption and therefore the associated burden on NHS and local authorities and the wider society ³¹.

This will result in:

- A reduction in alcohol-related hospital admissions, re-admissions, length of stay and ambulance call-outs
- A reduction in the burden on NHS, police and social care services from high volume service users
- A reduction in the impact of parental alcohol misuse on children

Much of the work on addressing alcohol needs to be done at a national level: continued media and awareness raising on safe alcohol consumption, national policy changes in minimum pricing, taxation and licensing of alcohol.

However there are further key actions that can be taken forward locally including:

Screening patients throughout health care settings to deliver a brief intervention, including giving advice to raise knowledge on safe alcohol levels, potential harm and ways to reduce alcohol intake ²¹.

The development of alcohol care teams, to support patients admitted to hospital through alcohol with specialised support, coupled with assertive outreach and case management for patients and residents in whom alcohol is causing repeated hospital admissions or use of other services.

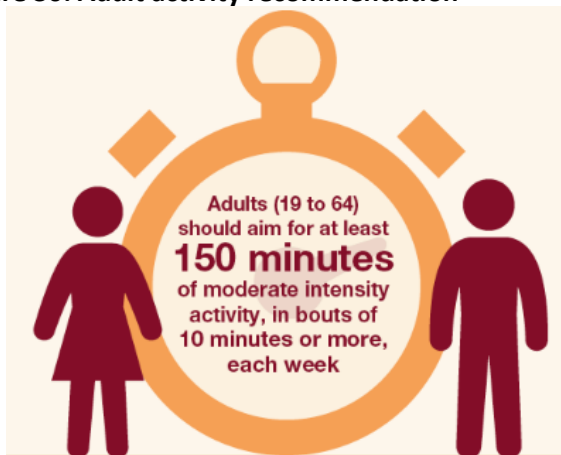
Lifestyle - Physical Activity

Physical Activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure

Physical activity levels can be measured either through asking people to report how much exercise they do, or by objectively measuring the amount of exercise a person is doing. Most reports use self reported activity.

Physical inactivity is defined as less than 30 minutes of physical activity a week. The Chief Medical Officer guidelines for physical activity not only suggest recommended activity levels but also recommend the amount of time in which we are sedentary, and encourage weight bearing exercise ³⁵.

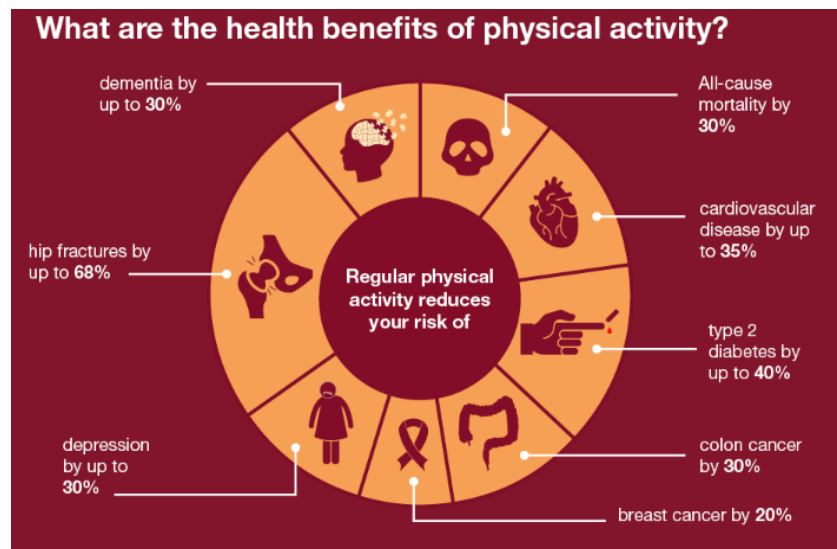
Figure 30: Adult activity recommendation



Source: [Health matters: getting every adult active every day](#)

The link between physical inactivity and obesity is well known, but physical activity is not just a way of addressing obesity. Low physical activity is one of the top 10 causes of disease and disability in England.

Figure 31: Health benefits of physical activity



Source: [Health matters: getting every adult active every day](#)

UK studies have estimated that around 1% of cancers in the UK (around 3,400 cases every year) are linked to people doing less than the recommended 150 minutes of physical activity each week.

1 in 8 women in the UK are at risk of developing breast cancer at some point in their lives. By being active every day they could reduce their risk by up to 20% ³⁶.

Physical activity is also important for people diagnosed with cancer and cancer survivors. Not only increasing ability to manage recovery but also reducing rate of recurrence in key cancers.

Macmillan has estimated that in the 2 million cancer survivors in the UK - 1.6 million do not meet the recommended levels of physically active ³⁷.

Physical Activity

One in four women and 1 in 5 men are inactive. Only 24% of women and 34% of men do muscle strengthening exercises twice a week. Men are more likely to be sedentary for more than 6 hours a Day³⁶.

Levels of activity are reducing. People in the UK are around 20% less active now than in the 1960s. This pattern is also seen in children and young people with the proportion who met the weekly physical activity guidelines falling between 2008 and 2012³⁶.

People living in the least prosperous areas are twice as likely to be physically inactive as those living in more prosperous areas³⁸.

South East England has the highest proportion of both men and women meeting recommended levels of physical activity, while North West England has the lowest.

Age

Physical activity declines with age to the extent that by 75 years only 1 in 10 men and 1 in 20 women are sufficiently active for good health.

Disability

Disabled people are half as likely as non-disabled people to be active. Only 1 in 4 people with learning difficulties take part in physical activity each month, compared to over half of people without a disability.

Race

Only 11% of Bangladeshi women and 26% of Bangladeshi men are sufficiently active for good health, compared with 25% of women and 37% men in the general population.

Sex

Men are more active than women in virtually every age group, with 6 in 10 women not participating in sport or physical activity³⁸.

Sexual orientation and Gender Identity

Over a third of lesbian, gay, bisexual and transgender youth do not feel they can be open about their gender identity in a sports club²⁶.

Lack of physical activity is costing the UK an estimated £7.4 billion a year, including £0.9 billion to the NHS alone³⁶.

Inactivity causes 9% (range 5.1–12.5) of premature mortality, or more than 5.3 million of the 57 million deaths that occurred worldwide in 2008¹⁴.

Physical inactivity in developed countries is responsible for :
an estimated:

- 22-23% of CHD
- 16-17% of colon cancer
- 15% of diabetes
- 2-13% of strokes and
- 1% of breast cancer¹⁶

It is estimated that physical inactivity contributes to almost one in ten premature deaths (based on life expectancy estimates for world regions) from coronary heart disease (CHD) and one in six deaths from any cause.

Persuading inactive people (those doing less than 30 minutes per week) to become more active could prevent:

- one in ten cases of stroke and heart disease in the UK and
- one in six deaths from any cause³⁸.

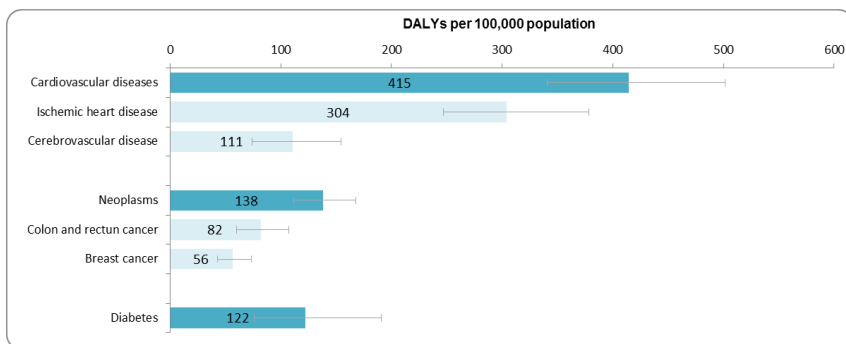
Physical Activity - Interventions

In the UK the Global Burden of Diseases found physical inactivity to be the fourth most important risk factor in the UK for limiting illness and early death¹⁴.

In the South East, 2.8% of all disability-adjusted life years (DALYs) in the South East Region were attributable to low physical activity in 2013 (675 per 100,000 population)¹².

The largest number of DALYs attributable to low physical activity were for cardiovascular diseases, neoplasms and diabetes

Figure 32: DALYs attributable to low physical activity in South East England (2013)



Source: [Global Burden of Disease \(GBD\)](#)

The Health Impact of Physical inactivity (HIPI) tool quantifies the impact of physical inactivity for people aged 40 – 79. Within RBWM each year if 100% of this group were active then:

- 82 annual deaths (40-79) could be prevented
- 18 out of 92 annual cases of breast cancer could be averted
- 719 new cases of diabetes could be prevented

A body of evidence now exists that links physical inactivity to increasing risk of hospital admission - emergency and other use of health and social care³⁹.

In Scotland it was shown that minutes of moderate-to-vigorous physical activity (MVPA) per day predicted subsequent numbers of prescriptions: those with less than 25 minutes of moderate to vigorous physical activity per day had 50 per cent more prescriptions over the following four to five years.

Similarly the number of steps taken per day and MVPA also predicted unplanned hospital admissions. Those in the most active third of the sample were at half the risk of emergency hospital admissions than those in the low active group⁴⁰.

The solution is clear: Everybody needs to become more active, every day³⁶. Physical activity does not need to be strenuous, it can be 30 minutes of brisk walking, a swim, gardening or dancing .

Each ten minute bout that gets the heart rate up has a health benefit. Being active is not just about moving more, we need to build our muscle strength and skills.

In addition adults need twice a week muscle strength and stability improvements which helps prevent the development of musculoskeletal disease.

A number of common characteristics are apparent in effective action to increase population levels of physical activity. These include two common factors: persistence and collaboration⁴⁰.

Four areas of action are identified by Public Health England, at national and local level.

- active society: changing our attitude to physical activity
- moving professionals: professionals across all sectors promoting activity in their work
- active lives: creating environments that make activity easy
- moving at scale: scaling up interventions that make us active

Lifestyle - Obesity

Being overweight or obese is when a person has more body fat than is optimally healthy. Poor diet and physical inactivity are causal factors of obesity with excess weight being caused by an imbalance between energy consumed and energy expended.

In the UK obesity is estimated to affect around one in every four adults and around one in every five children aged 10 to 11.

The annual costs associated with obesity to the NHS and social care systems are estimated to be £6.1 billion a year and £352 million respectively⁴¹.

For most adults, BMI measures are :

- healthy weight 18.5 to 24.9 kg/m₂
- overweight 25 to 29.9 kg/m₂
- obese 30 to 39.9 kg/m₂
- severely obese 40 or above kg/m₂

Another simple measure of excess fat is waist circumference. Normal waist size values are for men - 94cm (37in) or more For women - 80cm (31.5in). If these measures increase an individual is more likely to develop obesity-related health problems.

Obesity prevalence increased steeply between 1993 and 2000. Rates of obesity and overweight were similar in 2013 to recent years. *Health Survey for England 2013*⁴¹.

Mortality

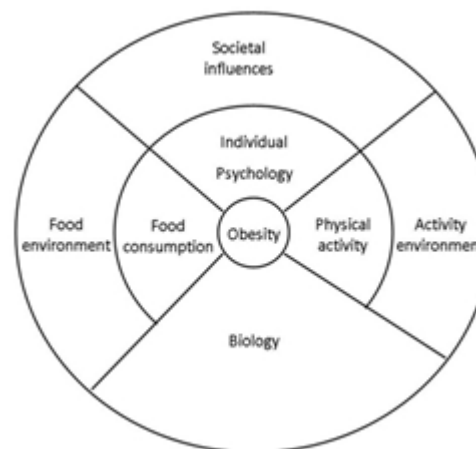
9.0% of all deaths in South East England were attributable to a high body-mass index (GBD2013) . This was the 3rd most important risk after smoking and high blood pressure (12).

The impact of weight on life expectancy is linked to the levels of excess weight.

**People with a BMI of 22 – 25 kg/m₂ have the best life expectancy: obese individuals live 2 – 4 years less
People with BMI of over 40 live 8 – 10 years less⁴²**

Increased mortality is as a result of higher rates of cardiovascular disease, high BP and type 2 diabetes and hormone sensitive cancer - e.g. breast .

Figure 33: Foresight Obesity Systems Map (2007)

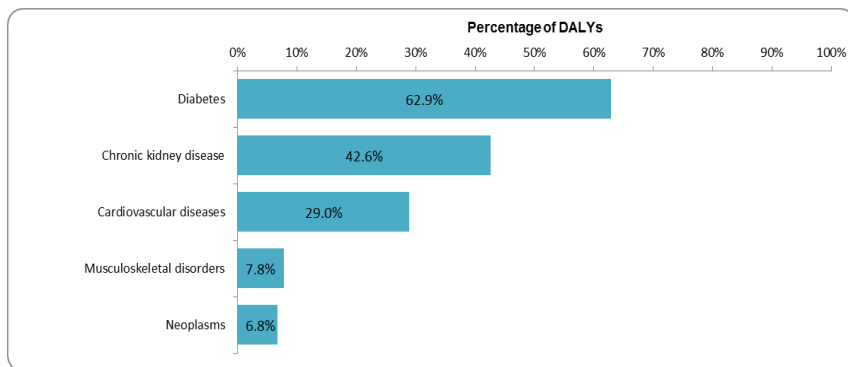


Source: [Foresight Systems Map \(2007\)](#)

Obesity – local impact

Obesity causes 9% of all DALYs lost in the South East of England, with most overall impact being seen through cardiovascular disease and diabetes. But its impact as a cause of diabetes (63%), chronic kidney disease and cardiovascular disease due to high BP (56%) is very stark ¹⁴.

Figure 34: Percentage of DALYs attributable to High BMI in South East England by cause (2013)



Source: [Global Burden of Disease \(GBD\)](#)

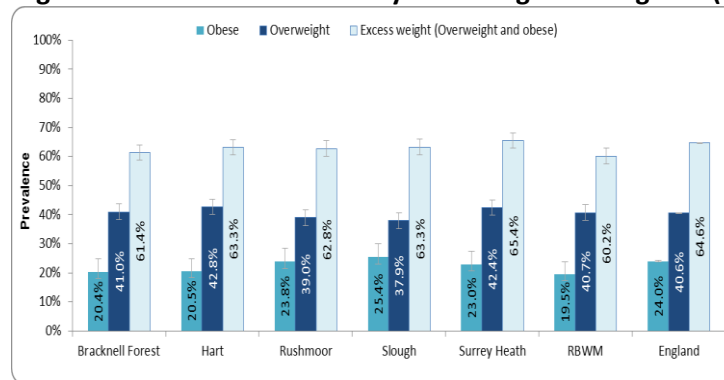
Obesity levels in the population vary with a variety of factors e.g. obesity levels increase until late middle age and then reduce in old age. More women in communities with higher deprivation are obese (NICE guidelines 2014).

Women from the higher socioeconomic groups have the lowest prevalence of obesity while those in the lowest groups consistently have the highest prevalence of obesity ^{42,43}. This is not seen in men, though for both men and women obesity is significantly reduced in those with a degree or equivalent.

Prevalence of obesity is highest in women from Black African, Black Caribbean and Pakistani ethnic groups.

Locally in RBWM Forest we can see that we are below the national average with regards to obesity levels, however we exceed the national average for percentage of residents who are overweight. Whilst obesity has more adverse health effects, maximum life expectancy is seen with a normal BMI.

Figure 35: Prevalence of obesity and being overweight in (2012-14)



Source: [Active People Survey \(2012-14\)](#)

In our children the figures are a concern. In RBWM in 2015/16 17.9% of children in reception were measured as overweight or obese, rising to 25.8% in year 6 (England figures were higher at 22.1% and 34.2% respectively).

We know that obesity is linked to health conditions and so impacts on hospital admissions. We would therefore expect that with our lower rates of obesity, this would have less of an impact on our adult hospital admissions. However even with our lower than average obesity levels RBWM still have just over 4,700 admissions being attributable to obesity ¹⁶.

Obesity - Interventions

Interventions to reduce obesity are less visible and accepted than others such as smoking cessation. There are a number of ways that can be adopted to reduce the burden of obesity for the individual and the community.

Our environments tend to promote obesity: encouraging high calorie food intake and physical inactivity. Local government partners, employers and communities can work together to change this. Promoting active travel and ensuring healthy food options in work are two examples of work to address our environment.

In addition we need to ensure our weight management services are evidence based and cost effective. However the first step is for professionals to consistently raise the issue of weight at every opportunity. There is evidence that professionals believe programmes to have no lasting impact. However the evidence from published research is that interventions do work, with community based approaches being more effective than those based in primary care (44). Primary care can increase the effectiveness of community based approaches through discussion and referral. People referred via primary care had greater weight loss⁴⁵ - 50%, but even just mentioning weight loss as part of a consultation results in weight loss still seen at 2 years⁴⁵.

One other reason given for reluctance to refer is the belief that impact is short lived, whilst weight does gradually increase weight loss is still seen at 2 years and crucially even in patients who regain their weight the incidence of diabetes is significantly reduced at 10 years - the impact of the weight loss outlives the actual weight loss⁴⁷.

Furthermore Health professionals do not routinely address weight loss issues as some voice concern about the impact of the topic on the clinical relationship. However research on patients receiving weight loss advice showed that less than 2% found it to be unacceptable or unhelpful and over 40% very helpful. Moreover 77% accepted the referrals to weight management services with nearly 50% completing the course⁴⁷.

It should be remembered that weight management interventions aim to have lifelong benefits. In Berkshire in the second year of a locally developed intervention, Eat for Health, 529 people have attended courses with more than 50% losing more than 3% of their original body weight. 197 people with high BP attended and 55 (28%) lost weight with a resultant return to normal levels in their BP, needing no on-going medication and achieving significant on going health benefits.

A brief intervention, resulting in 1.5 kg weight loss, delivered once a year to all eligible people visiting their GP, could halve the prevalence of obesity by 2035 (Jebb 2017).

References

- 1 *A brief history of life expectancy in Britain* by Tim Lambert
- 2 Statistical bulletin : Avoidable mortality in England and Wales: 2014
- 3 LOCAL
- 4 11 Source: Buck, D et al (2012); *Clustering of unhealthy behaviours over time: Implications for policy and practice; The King's Fund*
- 5 Purdey S¹, Huntley A. Predicting and preventing avoidable hospital R Coll Physicians Edinb 2013; 43:340–4
- 6. Holly E Sydel, Ph *Understanding poor health behaviours as predictors of different types of hospital admission in older people: findings from the Hertfordshire Cohort Study*,¹ Leo D Westbury, MSc, Shirley J Simmonds, MSc, Sian Robinson, PhD, Professor of Human Nutrition, Cyrus Cooper, DM FRCP FMedSci, Professor of Rheumatology, Director,^{1,2,3} and Avan Aihie Sayer, PhD FRCP, Professor of Geriatric Medicine^{1,2,4,5,6}
- 7 *Effects of self-care behaviours on medical utilization of the elderly with chronic diseases - A representative sample study.*
Chen IH¹, Chi MJ².
- 8 CRUK website - lifestyle impacts
- 9 Hart CL, Morrison DS, Batty GD, Mitchell RJ, Davey Smith G. *Effect of body mass index and alcohol consumption on liver disease: analysis of data from two prospective cohort studies.* BMJ. 2010;340:c1240
- 10 Tuyns AJ, Esteve J, Raymond L, Berrino F, Benhamou E, Blanchet F, et al. *Cancer of the larynx/hypopharynx, tobacco and alcohol: IARC International Case-control Study in Turin and Varese (Italy), Zaragoza and Navarra (Spain), Geneva (Switzerland) and Calvados (France).* Int J Cancer. 1988;41:483–91
- 11 NHS digital report on smoking cessation services
- 12 *Effect of tobacco smoking on survival of men and women by social position: a 28 year cohort study* BMJ 2009; 338 doi: <http://dx.doi.org/10.1136/bmj.b480> (Published 18 February 2009) Cite this as: BMJ 2009;338:b480 Laurence Gruer, Carole L Hart, David S Gordon, Graham C M Watt
- 13 Law M, Morris J. *Why is mortality higher in poorer areas and in more northern areas in England and Wales?* J Epidemiol Community Health 1998;52:344-52
- 14 Global Burden Of Disease 2015
- 15 Berkshire shared service report on lifestyle and DALYS
- 16 *PHE attributable admissions analysis 2106 KIT*
- 17 *PHOF outcomes*
- 18 Tobacco Control (Wu et al, 2014)
- 19 *The Cost of Smoking to the Social Care System in England* January 2017, ASH in 2014 Carole L Hart, research fellow, David S Gordon, Graham C M Watt,
- 20 Local tobacco profiles and Berkshire contract data
- 21 PHE menu of interventions
- 22 British Hypertension Society

- 23 *Blood pressure lowering for prevention of cardiovascular disease and death: a systematic review and meta-analysis* Dena Ettehad, Connor A Emdin, Amit Kiran, Simon G Anderson, Thomas Callender, Jonathan Emberson, Prof John Chalmers, Prof Anthony Rodgers, Prof Kazem Rahimi, [http://dx.doi.org/10.1016/S0140-6736\(15\)01225-8](http://dx.doi.org/10.1016/S0140-6736(15)01225-8)
- 24 *Effect of social deprivation on blood pressure monitoring and control in England: a survey of data from the quality and outcomes framework* Mark Ashworth, Jibby Medina, Myfanwy Morgan, *BMJ* 2008;337:a2030
- 25 Prevalence, awareness, treatment, and control of hypertension in rural and urban communities in high-, middle-, and low-income countries CK Chow, KK Teo, S Rangarajan, S Islam, R Gupta... *JAMA*. 2013;310(9):959-968. doi:10.1001/jama.2013.184182
- 26 PHE longer lives
- 27 British Heart foundation : how can we do better CCG profile 2016
- 28 *Lifestyle modifications to lower or control high blood pressure: is advice associated with action? The behavioural risk factor surveillance survey.* Viera AJ¹, Kshirsagar AV, Hinderliter AL.
- 29 UK CMO guidelines on alcohol intake 2016
- 30 Drinkaware.co.uk
- 31 The Public Health Burden Of Alcohol: Evidence Review
- 32 Bagnardi V, Rota M, Botteri E, Tramacere I, Islami F, Fedirko V, et al. *Alcohol consumption and site specific cancer risk: a comprehensive dose-response meta-analysis.* *Br J Cancer*. 2015;112:580–93
- 33 National Cancer Institute
- 34 Global status report on alcohol and health World Health Organization; 2014
- 35 Health matters: getting every adult active every day July 2016
- 36 Everybody Active Everyday PHE UK
- 37 Macmillan UK cancer and physical activity
- 38 *Physical Activity Statistics 2015 British Heart Foundation Centre on Population Approaches for Non-Communicable Disease Prevention.* Nuffield Department of Population Health, University of Oxford
- 39 *Disease activity and low physical activity associate with number of hospital admissions and length of hospitalisation in patients with rheumatoid arthritis* George S Metsios Antonios Stavropoulos-Kalinoglou, Gareth J Treharne, Alan M Nevill, Aamer Sandoo, Vasileios F Panoulas, Tracey E Toms, Yiannis Koutedakis and George D Kitas.
- 40 *Objectively Assessed Physical Activity and Subsequent Health Service Use of UK Adults Aged 70 and Over: A Four to Five Year Follow Up Study* Bethany Simmonds, *Fox, Davies, Powen Ku, Gray et al
- 41 HSCIC Health survey England 2013
- 42 NOO : Obesity And Health Matters 2016
- 43 General household survey 2014
- 44 *Meta analysis of weight intervention* Hartmann-Boyce, Johns, Jebb, Summerbell, Aveyard. *Obes Rev*. 2014 Nov; 15 (11):920-32
- 45 Jebb et al *Lancet*. 2011;378 (9801): 1485-92
- 46 DPP. *Lancet*, 14 (2009), pp. 1677–1686
- 47 *Ettehad et al 2016: [http://dx.doi.org/10.1016/S0140-6736\(15\)01225-8](http://dx.doi.org/10.1016/S0140-6736(15)01225-8) Data -NHS digital 2015