Cancer and health inequalities: An introduction to current evidence

“...need not, then, accept the present size of the social gradient in health as fixed. If it can change, and we can understand why, action is possible to reduce it.”

Michael Marmot, 2006
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Executive summary

The health of the UK population has been gradually improving since the Second World War. Life expectancy is at an all time high, and is expected to continue increasing. Analysis of cancer survival by Cancer Research UK found that:

- Cancer death rates began to fall in the late 1980s and since then they have dropped by more than 17 per cent.
- More people than ever before are surviving cancer; the proportion of patients surviving beyond five years has increased from only 28 per cent in the early 1970s to around 50 per cent today.
- Survival rates have improved for almost all of the 20 most commonly diagnosed cancers.

The overall picture is therefore positive, but at the same time there are some groups who do not have access to the information, resources and services required to take full advantage of these improvements in health.

The focus of this report is inequalities as they relate to cancer, with the inequalities of a range of groups being discussed; although most attention is given to those communities experiencing deprivation and BME groups. In part this is due to the availability of evidence, but also illustrates the focus of our ‘Goals’ up to 2020. The overarching areas covered within the report are:

Cancer incidence, mortality and survival
Evidence given supports an inverse correlation between socioeconomic status and cancer incidence and mortality (with particular focus upon the impact of tobacco consumption) and evidence of differing rates of cancer among Black and Minority Ethnic communities, other harder to reach groups and the general population.

Lifestyle factors
This section focuses upon those lifestyle behaviours which have been found to have a positive impact upon cancer incidence and mortality and gives evidence of differential levels of engagement in such behaviours between socioeconomic (and some harder to reach groups) and the general population.

Perceptions of cancer risk
Cancer Research UK’s Reduce the Risk survey found that there was a socioeconomic gradient to knowledge of all the major risk factors relating to cancer; with the wealthier more likely to have knowledge of cancer risk factors compared to those lower down the socioeconomic scale. There are also differing levels of awareness between BME communities and the general population.

Levels of cancer symptom recognition
Early diagnosis of cancer is a critical factor which determines the types of treatment available to an individual and their chances of survival. Awareness of cancer symptoms is a crucial factor in early diagnosis as people who recognise that their symptoms may be serious are more likely to visit their GP. There is evidence of lower cancer symptom awareness amongst those experiencing deprivation and those from BME communities.

Awareness and uptake of health services
A range of harder to reach groups have unmet need relating to information, support and cancer services. There is evidence of inequalities at each stage of the patient pathway, from information provision through to palliative care.

The report concludes with a look at the work that Cancer Research UK is currently doing to reduce health inequalities and how the introduction of our ‘Goals’ will affect our work in this important area.

Our Goals
In order to support our vision ‘together we will beat cancer’ Cancer Research UK created ten ambitious new goals that, together with our partners, we are aiming to achieve by 2020.

The goals are wide ranging and seek to clarify our priorities and enable us to demonstrate our progress and impact in a range of areas including reducing cancer incidence, ensuring patients have access to the information they need and reducing cancer inequalities (for more information about the goals that relate to cancer inequalities please see the final chapter of this report).
Recommendations
There are currently gaps in our knowledge relating to potential inequalities within cancer and harder to reach groups. It is therefore essential that work is undertaken to increase our knowledge of the communities and groups who are experiencing such inequalities; in order that we can develop methods of effectively meeting their needs and improving health outcomes. Included at the end of each chapter are recommendations for taking forward this work. These are:

• Smoking is a major cause of inequalities in cancer incidence and mortality. Further work should therefore be undertaken to reduce the inequalities in tobacco consumption rates between groups and communities. Research should also be undertaken which aims to understand which interventions are effective at producing behaviour change. A further consideration is to ensure that policies and interventions do not exacerbate inequalities.

• Health information and support should be targeted at those groups with the worst cancer incidence and mortality rates, to ensure that their service needs are met.

• Research should be undertaken which explores how sociodemographic and socioeconomic information could be collected within cancer services. This would enable a national picture of cancer incidence and mortality, within harder to reach communities. This could then form the basis of further work to address existing cancer inequalities.

• The evidence contained in this report shows that those from harder to reach groups are more likely to adopt lifestyle behaviours which could positively impact upon cancer rates. Targeted health information and support should be developed that increases knowledge of healthy lifestyles and encourages healthy behaviour.

• Programmes should be developed and evaluated which seek to create sustained behaviour change within communities and groups with poorer cancer outcomes than the general population.

• Levels of symptom recognition have been found to relate to cancer outcomes. It is therefore essential that services, through the provision of appropriate information, meet the needs of the UK’s diverse population.

• Good practice, in terms of increasing cancer awareness, should be developed using examples from successful campaigns in cancer and other disease areas.

• Appropriate and targeted service provision is central to the reduction of cancer inequalities. It is therefore essential that information and support is provided which effectively meets the needs of harder to reach groups.

• The Equality Act 2006 makes it unlawful to discriminate on the grounds of race, age, gender, sexual orientation and religion in the provision of goods, facilities and services. Research should be developed to better understand how discrimination, and inequalities in the provision of services, impacts upon the experiences of harder to reach groups within such services and how inequitable access to services influences cancer incidence and outcomes.

• Health care professionals should, as part of their ongoing career development, receive training in communication skills (with a focus upon harder to reach communities and groups).

This report is accompanied by Equal and Inclusive: Government policy targeted at reducing health inequalities and social exclusion which focuses upon government policy aimed at reducing health inequalities, relevant to cancer. The aim of both reports is to give an idea of the range of issues that are relevant to Cancer Research UK’s ongoing work to reduce inequalities within cancer. It is our intention for this report to be used as a reference for those wishing to better understand cancer inequalities within the UK.

Cancer Research UK would like to thank Paul Haezewindt, for the extensive initial research he carried out for this report and a number of Cancer Research UK staff whose input has been invaluable.
Inequalities in cancer incidence and mortality

Introduction

Life expectancy, at birth, in the UK has increased steadily to reach an all time high of 76.96 years in men and 81.29 years in women.\(^6\) While the upward trend is positive there remain underlying inequalities; for example the gap in life expectancy between the highest and lowest socioeconomic groups is increasing in the UK. For men the gap increased from 5.5 years in 1972/76 to 7.4 years in 1997/99 and for women the gap increased from 5.3 to 5.7 years.\(^7\) At an international level, although cancer survival rates increased during the 1990s, the UK failed to close the gap with the European countries with the best cancer outcomes. In response to this trend the NHS Cancer Plan\(^8\) (2000) was published and since this time mortality rates have been moving more in line with the rest of Europe and other developed countries.

Cancer is a major cause of illness with more than 280,000 people diagnosed each year in the UK; it is also the biggest cause of death in the UK, accounting for 1 in 4, or around 125,000 individuals a year. There are significant inequalities in cancer incidence, mortality and survival. The risk of being diagnosed with certain cancers is greater among the most deprived families and communities and, for most types of cancer, survival rates for the most deprived patients are worse.

Survival rates for most types of cancer have risen steadily since the 1970s. However because rates have increased faster among more affluent groups the survival gap between the least and most deprived patients has increased.\(^9\) There are a range of ‘harder to reach’ groups who are not benefiting as much as the general population from improved cancer outcomes.

Annex 1 illustrates differences in survival rates between most and least deprived groups, by cancer type, between 1980 and 1999.

Socioeconomic

The relationship between deprivation and cancer is complex and multifaceted. Certain types of cancer - such as lung, mouth and oesophagus – are more likely to be diagnosed in the most deprived groups. For other types of cancer – such as breast and prostate – death rates are higher among the most deprived despite the fact that incidence rates are lower.

Cancer mortality rates are higher for deprived groups. Unskilled workers are twice as likely to die from cancer as professionals, and while mortality rates vary widely across the country, they tend to be highest in areas with significant levels of deprivation.\(^7\) Much of these inequalities relate to higher smoking prevalence among the most deprived populations which leads to a greater incidence of smoking related diseases including cancer. Jarvis and Wardle estimate that smoking accounts for over half of the difference in the risk of dying early between socioeconomic groups.\(^8\)

Before the dangers of smoking were widely known, smoking prevalence varied little by socio-economic group.\(^9\) Today there are clear differences due to the differential decline in smoking by social class that occurred in the 1970s and 1980s.\(^10\) By 2005, 29 per cent of adults in manual occupations smoked compared to only 19 per cent of those in non-manual occupations.\(^11\) Diabetes UK found that individuals in lower socio-economic groups were fifty per cent more likely to smoke compared to those in higher groups.\(^12\) The result is that premature death, from lung cancer, among unskilled workers is five times higher than their professional counterparts\(^13\) and higher rates for other smoking related cancers are also found in lower socioeconomic groups.\(^14\)

Around 90 per cent of lung cancer cases in the UK are caused by tobacco smoking and, in addition, the 2002 IARC Working Group concluded that tobacco smoking can also cause cancers of the following sites: upper aerodigestive tract (oral cavity, nasal cavity, nasal sinuses, pharynx, larynx and oesophagus), pancreas, stomach, liver, lower urinary tract (renal pelvis and bladder), kidney, uterine cervix and myeloid leukaemia.\(^15\)

Lung cancer incidence and mortality rates are associated with socio-economic deprivation. The differences in survival between the most and least affluent, while only being one per cent, is considerably when the number of patients involved is taken into account.\(^16\) In the early 1990s incidence rates were around 2.5 times higher in the most deprived male groups compared to the least deprived – the difference for women was even greater at three times.\(^17\) However, more recent data from the West Midlands records that between 1981-2004 lung cancer rates for the most affluent men remained stable, while in
In the most deprived male group, they dropped by 56 per cent. While the deprivation gap remained substantial it was reduced from 1981 (from 200 per cent to 50 per cent greater). In women, lung cancer incidence increased more for affluent women than deprived women between 1981 and 2004.

In addition to a greater likelihood of being diagnosed with certain cancers, people from the most deprived communities have poorer outcomes once they have been diagnosed. The biggest gap in survival rates for patients diagnosed 1996-99 was for laryngeal cancer: for every 100 patients there were 16 more deaths in the most deprived patients compared with the least deprived group. For some cancers, such as lung cancer, even very small differences in survival rates are of concern because of the large numbers of patients involved. If survival rates across all socioeconomic groups matched those of the most affluent patients then around 3,200 deaths would be avoided every year in England and Wales.

Between 1986-90 and 1996-99 the gap in survival rates between most and least deprived groups increased for 19 out of 33 cancer types and stayed the same or decreased for the remaining 14 cancer types. For men 12 out of 16 cancers experienced an increase in the survival gap, while for women this occurred for nine out of 17 cancers.

Other groups

As ethnicity has not been systematically recorded by cancer registries in the UK there are no reliable data on patterns of cancer incidence, mortality and survival specific to Black and Minority Ethnic (BME) communities living in the UK. However there is growing evidence, often from smaller scale studies, that BME communities may experience differing rates of some cancers. For example:

- Breast cancer in South Asian women appears to be lower than the rate found in the general population
- Prostate cancer among Black Caribbean and African men appears to be higher
- Mouth cancer among South Asians appears to be higher

It is often the case that BME communities are composed of more people in the younger age groups. It may be therefore be the case that cancer rates will increasingly resemble those of the general population as these individuals age.

In some instances it also appears to be the case that specific cancers affect BME communities at different ages. Rowen et al. found that women of African and West Indian descent were being diagnosed with breast cancer on average 21 years earlier than their white counterparts. Further to this, the type of cancer that was being diagnosed within this group was more likely to be an aggressive form of the disease which was unresponsive to newer drug regimens and had poorer outcomes.

Cancer mortality among those with learning disabilities is, generally, similar to the general population. There is evidence of differing rates of cancers of the oesophagus, stomach and gallbladder which are thought to be linked to increased rates of related illnesses such as gallstones and oesophageal reflux among those with learning disabilities. Howells and Wilson and Haire identified high rates of unmet need and poorly managed conditions, including cancers, among those with learning disabilities. Horwitz et al. supported the finding that a range of health conditions were not being properly addressed and that those with learning disabilities were not receiving preventative services.

There are a number of factors related to inequalities in cancer outcomes, discussed above, between groups within the UK population. The following chapters of this report will focus upon the available evidence regarding the presence of such lifestyle factors.

**Recommendations**

- Smoking is a major cause of inequalities in cancer incidence and mortality. Further work should therefore be undertaken to reduce the inequalities in tobacco consumption rates between groups and communities. Research should also be undertaken which captures smoking rates, and other lifestyle factors which increase the risk of developing cancer, within harder to reach communities and which identifies those interventions are effective at producing behaviour change in this regard.
- Health information and support should be targeted at those groups with the worst cancer incidence and mortality rates to ensure that their needs for such services are met.
- Research should be undertaken which explores how sociodemographic and socioeconomic information could be collected within cancer services. This would enable a national picture of cancer incidence and mortality, within harder to reach communities, which could then form the basis of further work to address existing cancer inequalities.
Cancer Research UK estimates that around half of all cancers could be prevented by changes to lifestyle. Differential levels of exposure or engagement in risky health behaviours are the most significant cause of inequalities in the likelihood of developing cancer. The following section details the behaviour and exposures that contribute to inequalities in cancer incidence and mortality.

**Tobacco consumption**

There are large differences in smoking rates within the UK. Tobacco causes around nine out of ten cases of lung cancer in the UK as well as a range of other cancers including mouth and oesophagus. Inequalities in smoking rates therefore impact cancer rates in different communities. The following section details smoking rates among such groups.

**Socioeconomic**

Smoking is the main cause of differences in illness and death between the poor and wealthy. Gruer et al. (2007) found that:

- If smoking as a factor is removed the differences in survival between the wealthiest and those living in deprivation is relatively small
- Those in the lowest socioeconomic group have better survival than the most affluent smokers.
- In order to reduce health inequalities policy must aim to enable the less well off to stop smoking or never start.

The mapping project for Securing Good Health for the Whole Population found that overall 26 per cent of the general adult population smoked but that rates differed enormously by ward. For example, in the Princess ward of Knowsley, one of the most deprived areas of the UK, 52 per cent of the population smoked. This compared to a smoking rate of 12 per cent of the population in Keyworth North, one of the least deprived wards in England. The Director of Action on Smoking and Health (ASH) concluded that “Smoking is the biggest killer in England, and it kills more people in poorer communities than in richer ones”. A further study looking at the contribution of smoking to socio-economic inequalities in male death rates concluded that “most, but not all, of the substantial social inequalities in adult male mortality...were due to the effects of smoking”.

**Rates (percent) of smoking by social group**

While the desire and motivation to give up smoking appears not have a socioeconomic gradient, people from the most deprived areas have lower smoking cessation rates. Jarvis also found smoking cessation rates of around 55 per cent in the most affluent smokers compared to 5 per cent in the most deprived. A 2003 study found that “Deprivation was negatively associated with cessation at four weeks”. If this situation continues health inequalities related to smoking may widen further.

**BME**

The table below illustrates the varied rates of smoking among the different communities within the UK population. Rates among ‘Other White’, ‘White’ and ‘Black African’, ‘Other Mixed’ and ‘Bangladeshi’, ‘Chinese and Other’ groups are considerably higher among men compared to the ‘White British’ population. Rates among ‘Indian’, ‘African’ and ‘Other Black’ men are much lower. Among women, smoking rates tend to be lower among BME communities, apart from the ‘Mixed’ sub-group.
A further issue for some BME groups is the chewing of tobacco and related products. Although overall UK rates are very low, among the Bangladeshi population it is estimated that around 9 per cent of men and 16 per cent of women chew tobacco. A small scale study also found that Paan, a mixture of ingredients that often includes tobacco, was chewed by 78 per cent of Bangladeshi adults and that women were more likely to add tobacco to their Quid/Paan and chew more frequently than men. Further to this the study concluded that there were a number of barriers preventing those from the Bangladeshi community using dental practices to access oral cancer screening and oral health services. These included the attitudes of the community towards asymptomatic use of such services and language issues.

Higher smoking rates among some BME communities may be related more to their economic status within the wider UK population than their BME status. This may also explain the high rates of tobacco consumption among Black Caribbean and Bangladeshi communities; within these groups around half of the former and two thirds of the latter were found to be living in low income households, compared to 21 per cent of the White population.

There is evidence of under-reporting of smoking behaviour among some BME communities. The Health Survey for England (2004) used saliva cotinine samples and estimated that around 60 per cent of men and 35 per cent of women from the Bangladeshi community personally consumed tobacco.

### Rates (percent) of smoking by Black and Minority Ethnic status

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White British</td>
<td>27</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>Other White</td>
<td>34</td>
<td>26</td>
<td>30</td>
</tr>
<tr>
<td>Mixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White and Black Caribbean</td>
<td>25</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>White and black African</td>
<td>38</td>
<td>26</td>
<td>33</td>
</tr>
<tr>
<td>White and Asian</td>
<td>31</td>
<td>33</td>
<td>32</td>
</tr>
<tr>
<td>Other Mixed</td>
<td>39</td>
<td>26</td>
<td>31</td>
</tr>
<tr>
<td>Asian or Asian British</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian</td>
<td>17</td>
<td>4</td>
<td>10</td>
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<tr>
<td>Pakistani</td>
<td>25</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>45</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>Other Asian</td>
<td>26</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>Black or Black British</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caribbean</td>
<td>31</td>
<td>19</td>
<td>24</td>
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<tr>
<td>African</td>
<td>18</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Other Black</td>
<td>19</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Chinese or Other ethnic group</td>
<td></td>
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<tr>
<td>Chinese</td>
<td>34</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>Other</td>
<td>33</td>
<td>19</td>
<td>27</td>
</tr>
</tbody>
</table>

Source: General Household Survey 2005; ONS, 2006
Mental health
Smoking rates are higher among those with mental health problems. The presence of a neurotic disorder was found to double the chances of an individual being a smoker in a national study. Among those with schizophrenia smoking rates have been found to be as high as 80 per cent, while Meltzer et al. found that over 70 per cent of those living in an institution with a psychotic disorder were smokers.

Other groups
It is estimated that a higher percentage of gay and lesbian teenagers and adults are smokers compared to the general population and that among the latter a high proportion are heavy smokers. Current estimates put smoking rates at between 41 and 25 per cent among lesbians and gay men.

Research suggests that smoking rates in people with learning disabilities are similar to the general population. Around 80 per cent of prisoners smoke, as well as 75 per cent of lone parents on state benefits and over 90 per cent of homeless individuals. These groups make up some of the ‘hardest to reach’, in terms of traditional methods of healthcare provision, and it is likely that intensive information and support is required if cessation rates are to be improved within these communities.

Poor Diet
Around a third of all cancer deaths have been linked to diet. Diet can have an impact upon the risk of cancers of the bowel, stomach, mouth, larynx and oesophagus – plus breast and prostate cancer. Diets rich in fat and excess sugars, combined with non-active lifestyles, have resulted in greater prevalence of obesity in nearly all developed countries.

Socioeconomic
The significant differences in food consumption between more and less affluent groups are linked to the availability and cost of food and knowledge of healthy eating. The result is that “Higher income families tend to consume healthier versions of most foods compared to lower income families” (National Food Alliance, 1997, p.2).

Lower income households are less likely to meet government guidelines for eating fruit and vegetables. Around forty per cent of women in the highest income quintile group consume five or more portions of fruit and vegetables compared to only 17 per cent in the lowest income group. For men, 27 per cent consumed at least five portions a day in the most affluent group compared to 14 per cent in the lowest income group.

People from lower income groups eat less white meat and oily fish and fibre. Overall, only 28 per cent of British men and 13 per cent of women meet the recommended daily intake of fibre.

BME
In 2004 the Health Survey for England found higher rates of fruit and vegetable consumption among BME communities. Compared to rates in the general population of 23 per cent of men and 27 per cent of women eating 5+ daily portions, the rates were nearly 40 per cent among Indian and Chinese men, 42 per cent in Chinese women and 36 per cent in Indian women. For some communities consumption rates were lower; for example, Irish men (26 per cent) and Bangladeshi women (28 per cent). The survey also found that fat intake was higher among the general population, but that the use of salt in cooking was higher among all ethnic groups.

Physical activity
A lack of physical activity increases the risk of a number of cancers such as colon and breast cancer and is linked to cancers of the womb, lung and prostate. Inactive lifestyle is estimated to account for around five per cent of all cancer deaths. Low levels of physical activity combined with a poor diet can also lead to obesity which is thought to increase cancer risk.

Ten top tips
Cancer Research UK, in partnership with Weight Concern, has developed ‘Ten Top Tips’ to help people maintain a healthy weight. The tips encourage individuals to make lifestyle changes that include consuming fewer calories and burning more through exercise. The tips are also aimed to be simple habits that everyone can permanently fit into their daily lives; as well as being provided in easy-to-understand language.

For further information see: http://info.cancerresearchuk.org/healthyliving/reducetherisk
Socioeconomic
Men involved in manual employment tend to be more active than those in non-manual jobs, mainly due to the physical nature of their occupations. At the same time, participation in physical activity outside of work, such as involvement in sports teams or clubs and walking, is strongly related to household income, with those in higher income households more likely to participate. This may combine with the healthier diets of those from higher socioeconomic groups to counterbalance the effects of sedentary employment.

BME
Low levels of activity (defined as participation in less than one 30 minute moderate or vigorous activity session a week) were found to be more common among those from some BME communities, particularly Bangladeshi and Pakistani men and women.

Children
Brodersen et al. (2006) found higher rates of sedentary behaviour among children from lower socioeconomic groups; and that a reduction in physical activity occurred between the ages 11-12 and 15-16. A study of Italian children also found a positive relationship between socioeconomic group and physical activity; these findings are backed up by a number of American studies which indicate increased inactivity among children from lower socioeconomic groups (as well as more children from the highest socioeconomic group falling into the highest category of physical activity). This is matched with higher rates of television watching among those from lower socioeconomic groups.

Weight and obesity
It is estimated that 12,000 cases of cancer could be avoided if the population maintained a healthy body weight. For non-smokers, a key avoidable or modifiable risk factor for cancer is obesity. Being obese increases the risk of cancer of the womb, kidney, colon and oesophagus and is linked to breast cancer in post-menopausal women. The Million Women Study found that in middle aged and older women around five per cent of all cancers, around 6000 cases, were caused by being overweight or obese. And that for 10 of the 17 types of cancer studied an increase in Body Mass Index was associated with an increased risk of developing the disease.

Obesity levels have tripled over the last twenty years. In 1980, six per cent of men and eight per cent of women were obese. By 2002, 22 per cent of men and 23 per cent of women were obese. For children, obesity levels have risen from three to almost six per cent in boys from 1995 to 2002, and from five to eight per cent in girls over the same time. If these trends continue, by 2020 a third of adults and half of all children will be obese.

Socioeconomic
Adult obesity is strongly related to social class (with the strongest association in women). Thirty five per cent of women from routine occupations were obese in 2002, compared to 16 per cent from managerial/professional occupations.

Obesity in childhood is linked to social class for girls (ranging from five per cent for girls from managerial/professional backgrounds to eight and nine per cent for girls from intermediate and routine/semi routine backgrounds respectively). There is no statistically significant variation for boys. Research indicates that the likelihood of adult obesity is already established by the age of 11. Few children move into overweight or obesity between the ages of 11 and 16, while equally few overweight or obese children lose weight between these ages. Highest rates of obesity were found among black girls (38 per cent) and children from deprived backgrounds in general (31 per cent).

BME
Obesity rates vary by BME group, particularly for women. Black African (38 per cent), Black Caribbean (32 per cent) and Pakistani (28 per cent) women are more likely to be obese than women from the general population (21 per cent). Differences were less marked for men, though Bangladeshi (five per cent) and Chinese (six per cent) men are much less likely to be obese compared to men from the general population (19 per cent).

Other groups
Higher rates of obesity and overweight have been found in those with learning disabilities and mental health problems. Among lesbians there is mixed evidence relating to overweight and obesity, with a number of studies finding increased rates within this group, one American study found that lesbians had twice the odds of being overweight, while others found no correlation between sexual orientation and overweight/obesity. Conversely among gay men there is evidence of higher rates of eating disorders, such as bulimia, compared to heterosexual men.

Alcohol consumption
Excessive alcohol consumption can cause a range of diseases including liver diseases such as cirrhosis, heart disease and strokes. Alcohol has also been linked to increased risk of cancer of the mouth, larynx, oesophagus, liver, breast and bowel.
The Government has set benchmarks of the recommended safe maximum amount to drink in a day: three-four units of alcohol for men and two-three units for women. Cancer Research UK further recommends that men should be drinking a maximum of three units a day, while women should drink no more than two.

Socioeconomic
Excessive drinking does not follow the pattern of smoking or obesity by being more prevalent in poorer groups. People from managerial and professional occupations are more likely to report exceeding government benchmarks for safe drinking than those from routine and manual households (32 per cent compared to 29 per cent respectively). Findings from the General Household Survey (2005) found that those who were in employment were more likely to report having drunk in the previous week compared to the economically inactive (for men 77 per cent and 62 per cent respectively and for women 67 per cent and 47 per cent).\(^7\) Frequency of drinking was also found to be related to income; with those earning more than £800 more likely to report having drunk on five or more days in the previous week than those on less than £200 a week (32 per cent of men and 21 per cent of the latter group).\(^8\)

The cumulative cancer risk of combining smoking and drinking has been found to be greater than the sum of each separate risk factor.\(^9\) While there are no large socioeconomic differences in terms of overall drinking, there are marked differences in those who participate in both smoking and drinking; with those from lower socioeconomic groups most likely to do both.

BME
Almost all BME groups are less likely to binge drink than the general population,\(^10\) except those from the Irish community. Among Irish men 71 per cent exceed recommended drinking levels, while for women the figure is 53 per cent.\(^11\) The table below illustrates the percentage of those who are non-drinkers for different BME communities; among the general population 7 per cent of men and 12 per cent of women fall into this group. This indicates that, apart from the Irish community, those from BME communities are far more likely to report being non-drinkers.

<table>
<thead>
<tr>
<th>Group</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>General population</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Irish</td>
<td>5</td>
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<tr>
<td>Black Caribbean</td>
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<td>N/A</td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>96</td>
<td>99</td>
</tr>
</tbody>
</table>

Source: Alcohol Concern, Acquire, 2003

Other groups
Men tend to drink more than women; with a higher percentage exceeding the government benchmarks for safe drinking in the previous week compared to 48 per cent of women.\(^12\) Among the lesbian and gay community evidence suggests a higher rate of alcohol consumption than the general population;\(^13\)\(^14\) as well as greater levels of difficulties related to alcohol consumption.\(^15\)\(^16\) For example Creith\(^17\) found over 37 per cent of lesbians drank over the recommended level compared to 11 per cent of women in the general population.

Sun and Ultraviolet (UV) exposure
Sunlight is the most important preventable cause of skin cancer. Incidence rates have increased dramatically since the 1970s.\(^18\) Incidence is expected to triple over the next 30 years if people continue to sunbathe and use sun beds.\(^19\)\(^20\)

SunSmart
SunSmart is Cancer Research UK’s national skin cancer campaign (funded by UK health departments). Part of the campaign is the SunSmart code which is:

- Spend time in the shade between 11 and 3
- Make sure you never burn
- Aim to cover up with a t-shirt, hat and sunglasses
- Remember to take extra care with children
- Then use factor 15+ sunscreen

It is also recommended that individuals report any mole changes or unusual skin growths to their doctor.
Socioeconomic

Historically skin cancer has been linked to more affluent groups, probably due to higher frequency of foreign holidays. While evidence shows that wealthier individuals are still more likely to develop skin cancer, the overall pattern is changing as increasing numbers of people can afford to holiday abroad or use sunbeds.

People from disadvantaged groups are less knowledgeable about skin cancer prevention, practice less protective behaviour, and are less likely to check their skin. As a result of poor awareness and lower levels of protective behaviour, people from disadvantaged groups are more likely to be diagnosed with advanced stage tumours and have poorer survival outcomes.

There is concern that sunbed salons, particularly coin-operated sunbeds, are predominantly located in deprived areas and therefore most often used by people from disadvantaged groups. This may contribute to cancer inequalities. Cancer Research UK has funded research to further explore the link between sunbeds and social deprivation.

Results from Cancer Research UK's SunSmart survey indicated that age of leaving full-time education, as a proxy for deprivation, was a strong indicator of sun awareness and protective behaviour (i.e. leaving school at an early age is linked to higher levels of deprivation). Those who stayed in education beyond age 19 mentioned, on average, awareness of 2.4 protective behaviours compared to 1.8 behaviours among those who left school before the age of 14. Only 21 per cent of those who had left school before age 14 reported using high factor sunscreen (SPF 15+) compared to 45 per cent of those leaving school between 19 and 25.

People working outdoors are more at risk of sun exposure. Outdoor workers receive on average three to four times more UV exposure each year than those who work indoors. People from lower social class groups, particularly men, are more likely to work outside and are therefore, more at risk for certain skin cancers than those from higher social class groups.

Perceptions of cancer risks

A Cancer Research UK survey of 4000 people found that cancer was feared most among a list including Alzheimer’s and terrorist attacks. People’s health behaviours are based on a combination of their perceptions/knowledge, attitude and intentions. Perceptions of risk allow people to make informed choices about their health behaviour. For example, when tobacco was shown to cause lung cancer in the early 1950s, those most informed of the risks (largely those from higher social classes) were the first to quit smoking.

Results from the 2004 Cancer Research UK Reduce the Risk Survey show that large numbers of people were not aware of the risks associated with developing cancer. For example, two-thirds of adults aged over 15, were unaware of the risks concerning alcohol consumption, diet and being overweight/obese. While awareness of risk factors for smoking and getting sunburnt were higher, still almost a tenth and a quarter of adults respectively claimed to be unaware of those risks.

Key messages

Cancer Research UK believes that half of all cancers could be prevented by changes in lifestyle. Our key messages relate to five ways that individuals can lower their risk. These are:

- Stop smoking
- Stay in shape
- Eat and drink healthily
- Be SunSmart
- Look after number one (know your body and see your doctor about anything unusual)

Socioeconomic

For all the main risk factors, the wealthier an individual, the more likely they are to be aware of its link to cancer (see the graph below). The biggest difference was for fruit and vegetable consumption, with twice as many affluent people being aware of the link between this and cancer compared with the most deprived.

![Graph showing awareness of cancer risks by socioeconomic group (percent)](source: Reduce the Risk Survey (2004) Cancer Research UK)
Those living in deprivation were found to be less willing to make lifestyle changes in order to reduce their risk of cancer. Overall, around half the population would be willing to make some changes to their lifestyle to reduce the risk of cancer, and a quarter would change all their unhealthy habits for healthy ones. People from the most deprived group were twice as likely as those from the least deprived group to report that they were not willing to make any changes to their lifestyle.

Almost a third of overweight people describe themselves as having a normal weight. Obese and very obese people tend to be least able to describe their correct body weight. Only eight per cent of obese people correctly described themselves as obese (92 per cent of obese people underestimate their weight and consequently the risks associated with being obese).

Unsurprisingly, people who already engaged in a healthy lifestyle were more likely to be knowledgeable about reducing their cancer risk through changes to lifestyle. For example, people who ate more than five portions of fruit and vegetables were more likely to know that half of all cancers can be prevented by lifestyle choices.

Recommendations

- The evidence above shows that those from harder to reach groups are more likely to undertake lifestyle factors which could negatively impact upon cancer rates. Targeted health information and support should be developed that increases knowledge of healthy lifestyles.

- Programmes should also be developed and evaluated which seek to create sustained behaviour change within communities and groups with poorer cancer outcomes than the general population.

Other groups

Hill found differing rates of awareness of risk factors among BME communities. Knowledge on the risks of smoking and not taking exercise was poor, while there was found to be greater knowledge of, and desire for further information, related to healthier diets. Interestingly, the study also found that among some South Asian and Caribbean communities there was a belief that cancer was a disease of white people.
Inequalities in symptom recognition and awareness

Introduction
For the majority of cancers, early diagnosis is a critical factor which determines the type of treatment received and the responsiveness of the cancer to such treatment; and ultimately the likelihood of surviving the disease. Being aware and recognising potential cancer symptoms is very important, in terms of encouraging individuals to seek early medical attention. Research indicates that awareness of cancer symptoms in the general population is low, for example:

- Older women had poor levels of breast cancer symptom recognition, even though their risk of developing breast cancer was higher than younger women.\(^{128}\)
- 24 per cent of respondents could not identify any warning signs for colorectal cancer.\(^{129}\)
- A survey of men found that only a quarter considered that they knew ‘a lot’ or ‘a fair amount’ about prostate cancer.\(^{130}\)

Socioeconomic
Cancer Research UK’s Reduce the Risk Survey shows low awareness of cancer symptoms; particularly among people from the most deprived groups and communities.\(^{131}\) Twice as many people from the most deprived group could not name any cancer symptoms (20 per cent) compared to those from the least deprived group (9 per cent). People from the least deprived group were three times more likely to mention ‘change in moles’ and a ‘pain/ache’ than those from the most deprived group.

Awareness of cancer symptoms by socioeconomic group (percent)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Least deprived</th>
<th>Most deprived</th>
<th>Difference (% points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lump/bump</td>
<td>53</td>
<td>46</td>
<td>7</td>
</tr>
<tr>
<td>Weight loss/gain</td>
<td>21</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Moles/change in moles</td>
<td>18</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Pain/ache</td>
<td>16</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Blood in stools/urine</td>
<td>13</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Tiredness/fatigue</td>
<td>12</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Don’t know</td>
<td>9</td>
<td>20</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: Reduce the Risk Survey 2005, Cancer Research UK

BME
Breast Cancer Care (2005) found that 43 per cent of BME women indicated that they had never practised breast awareness, compared to 11 per cent of the general population. Among this group 53 per cent of BME women said that they had not done so because they were unsure what to look for. The survey also found a higher proportion of BME women believed that a lump was the only symptom of breast cancer, 38 per cent compared to 22 per cent of the general population

Hill\(^{132}\) in interviews with cancer outreach and information workers, found low levels of knowledge relating to cancer signs and symptoms among their clients. Most were aware that a lump could be caused by cancer, but were unsure of other potential signs or symptoms. The workers interviewed also commented on the low levels of body awareness among their clients, often due to cultural factors which discouraged the building of body awareness through touching and looking.

For all groups, lower knowledge of cancer signs and symptoms may be related to a lack of support and information. The next chapter explores potential inequalities in the provision of such services.
Recommendations

- Levels of symptom recognition have been found to relate to cancer outcomes. It is therefore essential that services, through the provision of appropriate information, meet the needs of the UK’s diverse population.

- Good practice, in terms of increasing community level cancer awareness, could be developed using examples from successful campaigns in cancer and other disease areas.

Open Up to Mouth Cancer campaign pilots

Cancer Research UK has been running a targeted campaign aimed at raising the profile of mouth cancer among those groups most at risk of developing the disease. We have been providing information to health professionals and the public through our website, leaflets and posters.

Two pilot projects were based in communities with particular issues relating to mouth cancer. The first, in Tower Hamlets in London, sought to raise awareness amongst the Bangladeshi community. This involved providing bilingual information, working with community leaders and networks and providing mouth cancer check up sessions.

The second in Gateshead targeted older men and women who were heavy smokers and drinkers. This provided mouth cancer check ups through the use of a free voucher system.

For further information please go to: http://info.cancerresearchuk.org/healthyliving/openuptomouthcancer/
Inequalities in the use of health services

Introduction

There is a substantial amount of evidence relating to the impact that a range of socioeconomic and sociodemographic factors have upon uptake of cancer services, from screening through to palliative care. The following chapter details this research.

Information

The UK population is diverse and includes a range of communities with varied needs for information. Even within a specific community or group there can be considerable variation in the type of information that individuals are able to utilise. The unavailability and/or inappropriateness of health information is a critical driver of risky health behaviour, poor use of health services and poorer health outcomes. Many people have additional communication needs, which can act as a barrier to accessing written information and hamper communication with health professionals.

Health information is crucial for people to be able to raise their awareness of cancer risks and symptoms, make informed lifestyle choices, identify and navigate health services and act upon treatment advice. Information can help empower people and improve wellbeing by reducing anxiety about health problems.

Socioeconomic

People from disadvantaged groups can face difficulties in communicating with health professionals. Difficulties reading official letters from service providers can mean that letters are often ignored or action delayed until a friend or relative can help. This could lead to missed hospital appointments. Among disadvantaged groups there is a perception that voluntary and community sector organisations are more trusted and provide information more effectively, particularly among ethnic minorities and disabled people.

However, awareness about what Cancer Research UK does among people from disadvantaged groups is lower than among more affluent groups.

Literacy

The majority of health information is text based. Letters, leaflets, and websites are sometimes produced in small print and written in complex language that people find difficult to understand. Research suggests that one in six patient information leaflets produced by hospices and palliative care units can only be read by 40 per cent of the population, and that only 30 per cent of GP surgeries have accessible information for people with learning disabilities.

A key factor in the low take up of financial benefits is a lack of information. Research indicates that around three quarters of cancer patients report not being given benefits information by anyone. A third of cancer patients — likely to be those most in need and least able to get information themselves — stated that they would have liked such advice.

BME

Language can be a significant barrier to accessing cancer services for many people from BME groups, particularly (but not limited to) asylum seekers and refugees. The report Focus on social inequalities found that 41 per cent of people with additional language needs had no one to help with interpreting when visiting a GP or health centre.
(43 per cent relied on relatives or friends and
16 per cent on staff at the surgery or health centre).\(^{139}\)
Perhaps as a result of this lack of information and support
a further study found that cancer patients from BME
groups were less likely to understand their diagnosis and
treatment options.\(^{140}\)

Among older generations in BME communities low literacy
may be a barrier to accessing information;\(^{141}\) this is
likely to be compounded when an individual is not fluent
in spoken English and therefore cannot talk about their
concerns with a health professional without the use of
translation support.

Word of mouth as a means of communication has both
advantages and disadvantages. It is an important
source of information, but information passed on may
be limited, incorrect or out of date. In close-knit
communities such as certain minority ethnic communities,
misconceptions and misunderstandings about cancer and
cancer services can be widespread and reinforced through
community networks.\(^{142}\)

Many hospitals outside large urban areas reported that
they did not hold information in other languages and relied
upon ad hoc solutions.\(^{43}\) Translating leaflets does not
always solve the problem, as they are sometimes of poor
quality, or inappropriate for people who cannot read their
mother tongue or have a culture of oral communication.\(^{144}\)
Documents written in plain English have been found, in
some situations, to be more beneficial than translated
material, particularly where languages are difficult to
translate effectively.\(^{45}\)

It is also important to remember that BME communities
contain a diverse array of individuals with information
needs ranging from those similar to the general population
to those requiring more specialised support in order to
utilise health information.

Other groups
Research indicates that a third of deaf or hard of hearing
patients are unclear about their condition (not specifically
cancer) and are unclear about medication or have taken
the wrong dose because of communication problems with
their GPs and hospital staff.\(^{146,147}\)

Screening

Screening Matters Campaign
Cancer Research UK is currently undertaking a
campaign asking UK governments to commit to:

- Screen at least three million more people over the
  next five years
- Reduce the variation in screening across the UK
- Reach out to people eligible for screening who
  aren’t taking part
- Provide the best possible screening programmes
  through funding, staffing and measuring success.

Members of the public who sign up to support to
the campaign also pledge to attend screening when
invited and encourage those close to them to do
the same.

For more information about our campaign please
go to: http://info.cancerresearchuk.org/cancercampaigns/
screeningmatters/

Early diagnosis of cancer is likely to increase an individual’s
chance of surviving the disease, for example women who
are diagnosed at the earliest stage of breast cancer are 26
times more likely to survive than those diagnosed at the
latest stage.\(^{148}\) Screening is one such way that this can be
achieved. It is estimated that:

- Around 1,400 lives are saved each year by the NHS
  breast screening programme\(^{149}\)
- The bowel screening programme, when fully rolled
  out, will reduce mortality from the disease by an
  estimated 16 per cent (preventing one in six deaths
  from bowel cancer)\(^{150}\)
- Since 1988 the cervical screening programme has saved
  around 5,000 each year.\(^{151}\)
Socioeconomic
Cancer Research UK’s (BMRB) annual UK survey indicates that women from more deprived areas are less likely to attend screening. For cervical screening 34 per cent of women with manual/routine occupations reported irregular or non attendance; this compared to 17 per cent of women with professional or managerial occupations. For breast screening the figures were 31 per cent and 12 per cent respectively.

Baker and Middleton\textsuperscript{152} found reduced uptake of cervical screening among lower socioeconomic groups and those living in deprived areas in England 1991–1999. Target levels of 80 per cent uptake were reached by a higher proportion of providers in wealthy, as opposed to deprived, areas.

Henley et al\textsuperscript{153} found that uptake of breast screening in Glasgow was lowest among those groups who were experiencing socioeconomic deprivation. This finding is supported by a range of research carried out both within the UK and internationally\textsuperscript{154, 155, 156}.

The Social Exclusion Unit\textsuperscript{157} reported that disadvantaged groups were less likely to take up discretionary health services, such as screening, compared to wealthier cohorts. This was especially the case when admission to the services was dependent upon a referral by a gatekeeper, for example a GP.

The table below indicates awareness of current cancer screening programmes and illustrates the differing levels between socioeconomic groups; with the most deprived having the least awareness. Interestingly a fairly large minority from both groups indicated a belief that there were screening programmes in prostate, lung, and ovarian.

### Awareness of cancer screening programme among most and least deprived (percent)

<table>
<thead>
<tr>
<th>NHS Cancer screening</th>
<th>Least deprived (%)</th>
<th>Most deprived (%)</th>
<th>Difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>94</td>
<td>84</td>
<td>10</td>
</tr>
<tr>
<td>Cervical</td>
<td>57</td>
<td>40</td>
<td>17</td>
</tr>
<tr>
<td>Bowel/colorectal</td>
<td>16</td>
<td>18</td>
<td>-2</td>
</tr>
<tr>
<td>Ovarian</td>
<td>14</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>3</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Prostate</td>
<td>33</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Lung</td>
<td>21</td>
<td>26</td>
<td>-5</td>
</tr>
</tbody>
</table>

Source: Reduce the Risk Survey 2004\textsuperscript{158}

### International findings
Lorant et al\textsuperscript{159} undertook a study in Belgium\textsuperscript{160} and found that women from lower socioeconomic groups were less likely to have had a test for cervical cancer. Reasons for these differing uptake rates were felt to be related to:

- Cost (financial and psychological)
- Beliefs (attitudes of both patients and physicians)
- Behaviours (support and information seeking)
- Importance of asymptomatic screening for those dealing with day to day concerns.

Victora et al\textsuperscript{161} attempted to explain health inequalities by proposing the ‘inverse equity hypothesis’. They postulated that when new public health programmes are introduced they are initially taken up by those from the higher socioeconomic groups and this (temporarily) increases health inequalities. Following this initial phase these groups reach a plateau of improved health, while at the same time those from lower socioeconomic groups begin to utilise the programmes at increasing rates. At this stage the initial inequality begins to narrow. This could go some way to explaining why the Baker and Middleton study mentioned above found that between 1991 and 1999 coverage of cervical screening services improved at a faster rate, from lower levels, within deprived areas compared to more affluent ones.

### Age
There are differences in screening uptake by age. The table below indicates lower uptake of cervical screening at each end of the eligible age group. Among those who are 25-34 or 55-64 coverage is six and five per cent lower respectively compared to those who are 35-44.

### Uptake of cervical screening by age (percent)

<table>
<thead>
<tr>
<th>Age</th>
<th>Great Britain Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1999</td>
</tr>
<tr>
<td>25-34</td>
<td>82</td>
</tr>
<tr>
<td>35-44</td>
<td>87</td>
</tr>
<tr>
<td>45-54</td>
<td>87</td>
</tr>
<tr>
<td>55-64</td>
<td>80</td>
</tr>
<tr>
<td>All aged 25-64</td>
<td>84</td>
</tr>
</tbody>
</table>

\textsuperscript{1} March 2002 for England.
\textsuperscript{2} 20-34 for Wales and Scotland.
\textsuperscript{3} 55-60 for Scotland.
\textsuperscript{4} 20-64 for Wales and 20-60 for Scotland.

Source: National Statistics Statistical Bulletin Cervical Screening Programme
The NHS Health and Social Care Information Centre found consistently lower levels of breast screening uptake among women in the older age group. The table below indicates that women in the older age group are considerably less likely to attend for breast screening even though the chance of having breast cancer increases with age.

**Uptake of breast screening by age (percent)**

![Graph showing breast screening coverage for women 53-64 and 65-70 in England 2002 to 2005.](image)

**Source:** Breast Screening Programme, England, 2004-2005 NHS Health and Social Care Information Centre, 2006

**BME**

A study focusing upon South Asian communities in the UK found evidence of lower uptake of cervical screening services, compared to the general population (although they did find higher uptake rates among second and third generation women). Further to this, while around 84 per cent of the population now took part in the screening programme, among those who were born overseas uptake was below 60 per cent and one-third were recorded as ‘never screened’. They concluded that the current challenge is to focus upon identifying and targeting services at those groups who have lower uptake rates.

Breast Cancer Care (2005) found that around three quarters of the women in their study stated they had not received an invite to attend breast screening; they also found low levels of breast cancer awareness among this group. UK and internationally based studies have also found that women from BME communities had lower rates of uptake compared to the general population.

Atri et al found that, among multiethnic communities, a modest increase in breast screening uptake could be achieved if GP receptionists were trained to contact patients. The study found that the increase was most marked when the receptionist shared the same linguistic and cultural background as the potential attendee. Although it would not be practical to create a ‘fit between each different community and GP staff, research such as this is useful in terms of better understanding what measures could be useful in increasing service use among harder to reach communities.

Gatrell et al and Majeed et al. also found that the presence of a female GP could increase cervical screening uptake.

Not understanding the purpose of preventative services, such as cancer screening, is also a barrier to uptake among some BME communities. The concept of screening for disease before any symptoms, or of using health services when well, is often not understood. Fear can also stop individuals from attending health services as they may not want to know if they are ill. Other barriers include fear of being stigmatised by being given a diagnosis of cancer, and embarrassment regarding medical procedures/screening practices.

**Learning disabled**

Women with learning difficulties have been identified as a group with consistently low uptake of screening programmes. Stein and Allen found that only 13 per cent of women falling into this group had had a smear test; while Biswas et al found that 16 per cent were having regular tests. Evidence for the Cancer Reform Strategy puts the figure even lower than this at around 3 per cent.

An earlier study by Pearson et al found that around 24 per cent of eligible women with a learning disability had undertaken a smear test in the past five years. The studies indicated that the assumptions and attitudes of health professionals towards individuals with learning difficulties (for example that this group did not require cervical screening services because they do not participate in sexual intercourse) may be negatively impacting upon uptake rates for this group. Other contributing factors include (although they may not be relevant for each individual):

- Low demand for services among this group
- Consent issues
- Inaccessible appointment systems and waiting facilities
- Lack of ‘joined-up’ working combined with uncertainty over service provider responsibilities
- Lack of communication training for health professionals
- Limited time/resources and pressures from other groups of patients.

Although the evidence base in this area is limited, work is often qualitative and small scale; breast screening uptake rates for those with learning disabilities appears to be at similar rates to the general population.
Mental health
There are mixed findings for those with mental health problems in terms of their uptake of screening services. A study of three London boroughs found that patients with a history of multiple detentions, relating to mental health problems or psychosis, were significantly less likely to attend breast screening.\(^{179}\) The study also found that age and social deprivation were independent predictors of non-attendance. Contradicting this work, Harris et al found that measures of mental health were not independent predictors of mammography uptake.\(^{180}\) There appears to be a current lack of evidence surrounding uptake of screening services for this group and further work is required in order to understand the patterns of service use, and information and support requirements, among those with mental health issues.

Lesbians and women who sleep with women
Within the health community, and among lesbian women, there is some confusion over whether or not this group need to undergo routine cervical screening; with the result that uptake of such services is often low in this group. Although research in this area is limited, evidence suggests that transmission of HPV (the main cause of cervical cancer), is possible within this group and therefore that regular cervical testing is required.\(^{181}\)

Literacy
In the UK, 5.2 million adults have low literacy skills.\(^{182}\) The average reading age in the UK is nine years old (or years 4/5 at school),\(^{183}\) and research into online health information regarding other health matters found that the majority of sites required an average reading age well above this level. For example, the NHS Direct website was found to require an average reading age of almost 17 years.

There is some evidence that those with low literacy are less likely to attend screening\(^{184}\); with some commentators arguing that this has a greater influence over health behaviours than the factors discussed above (Garner, 2003). The Social Exclusion Unit found that those with low literacy were six per cent less likely to attend cervical screening than women with higher basic skills.\(^{185}\) Lindau et al state that “Adult literacy is an independent and important predictor of health behaviour”.\(^{186}\) They also found that low literacy was a better predictor of cervical screening knowledge than ethnicity or education; in another study Lindau et al found that patients with low literacy were also less likely to follow up after an abnormal pap smear.\(^{187}\)\(^{188}\)

Among women under the age of 65 Lagerlund et al found that a range of factors were independent predictors of mammography uptake.\(^{189}\) These included:
- Being employed
- Being married
- Having had a cervical smear
- Alcohol and/or tobacco consumption
- Regular contact with a doctor

Diagnosis
Socioeconomic
Neal and Algar found that those from lower socioeconomic groups had a longer delay for diagnosis of prostate cancer.\(^ {190}\) They did not find any socioeconomic differences in diagnosis delay in cancer of the colon, lung, ovaries, breast, and non-Hodgkin’s lymphoma.

BME
The same study also found that BME status was a significant factor in delay to diagnosis for breast cancer and that BME status had a significant negative effect for delays within secondary care. The researchers commented that this delay may be caused by “primary care being slow to provide accessible care appropriate to the needs of minority ethnic populations”.\(^ {191}\) An earlier study found similarities, in the use of cancer services, between BME communities and those from lower socioeconomic groups.\(^ {192}\)

Primary care services
Use of primary health care services, such as GP surgeries and health centres, plays an important role in the diagnosis of illness and as a gateway to referral for cancer services and treatment. An individual’s involvement in primary care also enables access to other services such as smoking cessation, healthy eating advice, and counselling which may aid the reduction of cancer risk.

Socioeconomic
Certain groups of people are less likely to visit a GP which can delay a diagnosis of cancer. Take up of primary care services can reflect either the extent of health problems in a population or the extent to which populations are seeking help for health problems. Disadvantaged groups often use NHS services less in relation to need.\(^ {193}\)
People from disadvantaged groups are less likely to be satisfied with their experience of health services and outcomes. Satisfaction affects willingness to approach and utilise services. People who report poor health are much less satisfied with health services than those in good or excellent health. Individuals experiencing deprivation often feel that they do not get enough time with their GP. Evidence suggests that for every point down a seven-point scale of deprivation GPs spend 3.4 per cent less time with their patient.

People from disadvantaged groups are less likely to benefit from reforms extending choice in accessing primary health services. Disadvantaged groups tend to be less articulate and less able to navigate the health system. They may also be less aware of new services such as NHS Direct.

Among disadvantaged groups there is evidence of misunderstanding and fear about cancer: This could result in people being reluctant to seek medical attention. People from deprived groups are the most likely to delay seeking medical advice and therefore more likely to present at health services (and be diagnosed) when their cancer is at a more advanced stage. A skin cancer study found that 30 per cent of men reported that they would not go to the doctor if they noticed changes to any moles.

BME

For disadvantaged groups with transitory lifestyles - such as Gypsies, Travellers, asylum seekers and refugees - difficulty registering with a GP is a barrier to accessing primary care. There is also some evidence that health care providers, and staff working within primary care settings, may restrict access to such services for certain communities.

GP consultation rates vary considerably by ethnic group. Many people from minority ethnic groups visit their GP more often than the general population. Particularly high rates of GP contact are found for Pakistani women and Bangladeshi men. Contact rates among ethnic groups may reflect higher rates of general ill health among certain BME groups. There are also differing rates of satisfaction with primary care services among BME groups. For example, Pakistanis and Bangladeshis are less likely to report getting an appointment on the day they wanted, felt the doctor did not answer their questions and were more likely to have been put off going to see a GP due to inconvenient surgery hours.
Other groups

For those with mental health problems the assumptions made by health professionals, particularly ‘diagnostic overshadowing’ (where symptoms are attributed to the mental illness without further investigation) may make it more difficult to get possible cancer symptoms recognised. At the same time, communication difficulties make incorrect diagnosis or unmet need for this group more likely. Those with mental health problems have been found to experience difficulties when attempting to re-register with a GP, having previously been struck off.207

Cancer treatment

Inequalities in cancer treatment are quite difficult to identify given the options available to people according to the type of cancer they are diagnosed with, the stage of disease at diagnosis and the way the disease develops. It is perhaps for this reason that there are mixed findings about the relationship between socioeconomic or sociodemographic factors and cancer treatment.

Socioeconomic

People with the same cancer, at the same stage of development, often do not receive the same type of treatment. Much of this can be explained by the increased presence of co-morbidities among those living in deprived areas208 and the extent to which other health and lifestyle factors (e.g. poor diet, tobacco use etc) render people less physically able to face or survive cancer treatment.209

Downing et al focused upon women with breast cancer and found that those living in deprived areas were:

- More likely to be diagnosed with advanced cancer
- More likely to have a mastectomy, rather than breast conserving surgery210
- Less likely to receive radiotherapy
- Less likely to have surgical treatment
- Less likely to have survived five years211

Woods et al concluded that “Differences between socioeconomic groups in the stage of disease at diagnosis and in access to optimal treatment clearly explain at least part of the association between social deprivation and cancer survival”.212

Macleod et al found that women living in affluent areas did not receive better treatment and care within the NHS, but that women from deprived groups had increased rates of hospital admission and GP consultations related to the presence of co-morbidities.213 They therefore concluded that any differences in cancer mortality were due to increased rates of co-morbidities, and other negative health outcomes, in deprived groups rather than differences in breast cancer management. In support of this work, Henley et al found that, in Glasgow, women from deprived areas
were more likely to receive a mastectomy than women from affluent areas but that this was related to women from the former areas having larger and symptomatic tumours.214

Older Patients
There is some evidence that older patients receive differing care to their younger counterparts. Evidence, given in the Cancer Reform Strategy, found that older women were less likely to receive standard management, such as radiotherapy, for their breast cancer even after taking account of tumour type215 and that older patients with lung cancer were less likely to receive radical treatment for their disease.216 At the same time, even though cancer incidence is higher with older groups, it is often the case that clinical trials are focused upon those under 65 years. Therefore less is known about the efficacy of newer drugs on older cancer populations and lack.

Palliative care
There is evidence to suggest that people from deprived areas are less likely to use palliative services217 and those who do are less likely to do so in their own home. Causes of inequality in access to palliative care include: shortages of specialist staff, increased demand for services and lack of knowledge about the needs of patients from deprived areas or BME communities.218

BME groups are less likely to be referred and use hospice cancer services.219 A number of studies have found that BME cancer patients and their carers were not using available palliative services because they were less likely to meet their needs.220,221 They also found that there was a need for palliative services to be provided in more culturally sensitive ways in order to meet the needs of BME patients.

Other factors relating to health service use
Rural/Urban inequalities
Access to services is often worse for those living in rural areas which can lead to poorer outcomes for these communities.222 This could relate to a lack of infrastructure in rural areas. For example public transport facilities are often lacking (around 50 per cent of rural households are more than a 13 minute walk to a bus stop and 29 per cent of rural settlements have no bus stop).223 These factors could pose particular problems for older or disabled individuals. There is also some evidence that those living in rural areas are more likely to have co-morbidities which could affect their eligibility for particular forms of treatment which in turn decrease their chances of survival.224

Individuals living in rural areas often take longer to present for treatment of health problems and as a result have been found to be diagnosed at a later cancer stage; this in turn has an impact on the mortality of those living in rural, as opposed to urban, areas.225,226,227,228 Jack et al. found inequality in the treatment given to lung cancer patients and postulated that this could be a consequence of variations in access to oncology services.229

Campbell et al. found that patients living in rural settings were more likely to delay seeking medical attention because they did not want to be an inconvenience to their GP.230 The study undertaken in Scotland also found that urban dwellers were more experienced at asking for what they wanted and dissatisfied with delays.

Patient experience
Research indicates that there is little difference in patient experience of cancer services between more and less affluent groups. However, people from minority ethnic groups have lower levels of satisfaction.231

People from minority ethnic groups are more likely to have negative experiences of waiting times, understanding explanations, trust in doctors and nurses, being treated with respect and dignity, and help with pain relief.232 South Asian cancer patients are twice as likely to report being in pain during their first hospital treatment.233 Patients from BME communities are also less likely to feel involved in decisions about their care.234

Recommendations
- Appropriate and targeted service provision is central to the reduction of cancer inequalities. It is therefore essential that information and support is provided which effectively meets the needs of harder to reach groups.

- The Equality Act 2006 makes it unlawful to discriminate on the grounds of race, age, gender, sexual orientation and religion in the provision of goods, facilities and services. Research should be developed to better understand how discrimination, and inequalities in the provision of services, impacts upon the experiences of harder to reach groups within such services and how inequitable access to services influences cancer incidence and outcomes.

- Health care professionals should, as part of their ongoing career development, receive training in communication skills (with a focus upon harder to reach communities and groups).
As the largest charity in the UK, Cancer Research UK has a role to play in contributing to the health inequalities policy agenda, especially when such policies are likely to impact upon cancer incidence and outcome. The following section details the work the charity is undertaking in this regard and what our aims are for the coming years.

**Our health inequalities goals**

In 2007 Cancer Research UK launched ten goals to measure our success in beating cancer over the years up to 2020. A number of these relate to or will have an impact upon health inequalities and the work that Cancer Research UK will be undertaking in this area. Our commitment to achieving these goals means that the charity will work hard to keep cancer related inequalities on the policy agenda. Although these goals are specifically influencing the work of the charity, we have shared them with the wider cancer community and will work collaboratively to achieve them.

The goals with particular relevance to cancer and health inequalities are:

- **We will especially tackle cancer in low-income communities**
  The differences in the risk of dying from cancer between the most affluent and the least affluent will be reduced by half.

- **People will know how to reduce their risk of cancer**
  Our goal is that three-quarters of the UK public will be aware of the main lifestyle choices they can make to reduce their risk of getting cancer.

- **The number of smokers will fall dramatically**
  Four million fewer adults will be smokers, preventing thousands of new cases of cancer every year.

- **People with cancer will get the information they need**
  At least nine out of ten patients will be able to access the information they need at the time of diagnosis and during treatment.

- **Cancer will be diagnosed earlier**
  Two-thirds of all cancer cases will be diagnosed at a stage when the cancer can be successfully treated.

**What is Cancer Research UK currently doing to reduce health inequalities?**

**Our work so far**

**Increasing uptake of health services**

As well as providing information about cancer to groups with traditionally low uptake of health services, Cancer Research UK is carrying out a campaign to increase the number of people accepting an offer to attend cancer screening. For more information go to: [http://info.cancerresearchuk.org/cancercampaigns/](http://info.cancerresearchuk.org/cancercampaigns/)

**Information provision and awareness-raising**

We aim to increase people's knowledge of cancer through a number of methods including our website CancerHelp ([www.cancerhelp.org.uk](http://www.cancerhelp.org.uk)).

We have a contract with Language Line (which provides a translation service) to ensure that those, who are more comfortable communicating in a language other than English, are able to take advantage of the information and support we provide. Our free-phone number is accessible free of charge to landlines and most mobile phones (unlike traditional 0800 numbers). Deaf, and hard of hearing, individuals can either use type talk operators or minicom when they require our cancer information.

We also have guidelines relating to the provision of information by email to ensure that, when using this format, our health information is free from medical jargon and written (and formatted) in an easy to understand manner. Publicity materials, for our information services, are available via our shops. Providing information in these ways ensures that we reach a diverse demographic with differing needs for information and support.

The anonymous nature of accessing health information by telephone or email means that those who would not normally access face-to-face information are more likely to contact us for assistance. Because individuals can also access our information from their own homes those with mobility issues are able to contact us more easily than traditional health services.

Cancer Research UK's 'Open Up to Mouth Cancer' Campaign worked specifically in the North of England and Tower Hamlets to increase knowledge of mouth cancer among communities with both unmet need and increased risk factors associated with mouth cancer. We are currently looking at ways of increasing the areas this project covers.

As part of our cancer risk reduction work Cancer Research UK introduced cancer awareness units, which specifically aim to travel to areas with high proportions
of the population from C2, D, E socioeconomic groups, the units have also been found to be popular among men. Offering advice about the avoidable risks of cancer and the importance of taking part in the screening programmes in this way enables us to offer information and support to communities and individuals who may not be accessing more traditional health services.

All our health information resources and campaigns aim to preferentially target C2, D, E socioeconomic groups, who tend to have lower levels of health awareness combined with higher cancer incidence and mortality. Our Open up to Mouth Cancer, SunSmart and Smoke is Poison campaigns (as well as the majority of our websites and cancer awareness leaflets) were all written using accessible English. We will continue to work in this way in order to ensure that our services can be accessed by the largest percentage of the UK population possible.

Cancer Research UK has funded a research project which created the PROCEED (Professionals Responding to Cancer in Ethnic Diversity) training programme. The resource is a multimedia training tool to be used by those working to develop the communication skills of health professionals so that they are able to respond to the needs of diverse patient populations. By working closely with a variety of health professionals the resource fits with the training needs of those providing services.

In the last year we have made our resources available free of charge to ensure our messages reach the people with the greatest need for information about cancer prevention and early detection.

Working in partnership
The complex nature of health inequalities means that in order to tackle the problem a multi-sector, multi-agency approach is required. Cancer Research UK is taking the opportunities available to the charity to work in partnership and influence government policy. Working in this way also ensures that there is less replication of service provision and will enable good practices to be developed across all agencies. Presently we are involved in a strategic partnership with the newly merged Cancerbackup and Macmillan to develop information prescriptions (this will enable greater individualisation of information which could go some way to meeting the needs, information and support needs of diverse populations). We are also working with a wide range of health and social care organisations to provide policymakers with information about how best to tackle health inequalities.

Encouraging healthy lifestyles
Currently a higher percentage of people from lower socio-economic communities, and some BME communities, are tobacco users. Part of our work has been to lobby the Government to introduce comprehensive smoke-free legislation in public places which is now in place in England, Scotland, Wales and Northern Ireland.

We run mass media anti-smoking advertising campaigns with funding from the Department of Health to raise awareness of the dangers of smoking. Most recently, we have worked to raise awareness of the toxic content of cigarette smoke. We are currently working with Channel 4 to encourage young people to share their ideas with us about smoking and how to encourage other young people not to smoke. This will involve the production of six viral films for use on social networking sites such as Myspace and Youtube. Evidence also suggests high smoking rates among the gay, lesbian, bisexual and transgender communities. In order to raise awareness of the cancer risks related to smoking we have worked in partnership with Gaydar radio to disseminate a positive message about the smoke-free legislation. As with our other campaign work, we are using tailored information and new media techniques to reach our target audience.

We are also committed to supporting research and clinical trials testing the success of cessation methods and programmes.

Supporting research and new initiatives
At present there are gaps in our knowledge in terms of the causes of health inequalities, as well as effective methods of addressing them. Cancer Research UK aims
to enable research in these areas and use this to influence government programmes. One particular area of interest is in understanding which methods are most effective in improving health among the least affluent. The setting up of the Cancer Research UK Cancer Inequalities Group allows us to combine our knowledge in related issues to more effectively contribute to the development of policy.

We fund and commission an array of research, as well as being involved in other work related to reducing health inequalities. Recent projects include:

- Michel Coleman and his team undertaking research to better understand why people living in deprivation have lower cancer survival rates than the general population. They are using a variety of analytical methods and sources of information, including exploring the views of patients, carers and health professionals regarding the route to cancer diagnosis.

- A previous study by Michel Coleman sought to understand socio-economic inequalities in cancer survival through analysis of MRC clinical trial populations.

- Neil Campbell and his team are running a programme to explore the potential for primary care to tackle cancer inequalities in colorectal cancer patients and their quality of life and survival rates.

- An earlier project by Neil Campbell aimed to a) assess whether inequalities in cancer survival, between rural and deprived communities and the general population could be explained by later presentation at health services by the former b) what patient factors are associated with such a delay and if these factors influence GP behaviour.

- Anne Taylor’s work is an exploration of the needs of patients with cancers of the head and neck, with particular focus on the outcomes and experiences of those from deprived communities. Interviews with patients, carers and health professionals are being used to explore the route to diagnosis and awareness, among professionals, of cancer care referral guidelines.

- The Veronica Project, led by Sheila Hollins is seeking to understand the experiences of those with learning disabilities who have cancer. The project involves interviews with individuals from this cohort and seeks to detail the barriers to cancer and palliative care services, and produce policy guidance to improve access to these services for those with learning disabilities.

- Funding Action on Smoking and Health (ASH). ASH is a campaigning public health charity working towards a sharp reduction, and eventual elimination, of the health problems and inequalities caused by tobacco.

- Contributing to the Prostate Cancer Advisory Group pilot study which seeks to raise awareness of the disease among men over 50, with particular focus on groups with increased risk (such as men of African origin). A further intention of the pilot is to raise awareness amongst groups experiencing health inequalities and reduce the gap between areas with the best and worst disease outcomes.

- Cancer Research UK has funded Warwick Medical School to look at ways of improving the collection of cancer statistics based around BME status. Currently data is not routinely collected linking BME status to cancer incidence and this project aims to gather evidence, identify best practice and produce clear recommendations in order to improve data collection of this nature.

- Cancer Research UK funded a research project which created the PROCEED training tool for health professionals (see above for further information).

- In 2004 Cancer Research UK hosted the conference ‘Equality in Cancer Prevention’ in order to explore some of the challenges in the provision of cancer prevention to diverse communities (A full report of the conference is available).

We also frequently carry out qualitative research with our C2, D, E target audiences to ensure that our resources and campaign activities are appropriately targeted and address their needs.

**Lobbying government**

As this report illustrates, a lot of policy has been developed with the intention of tackling health inequalities. Cancer Research UK continues to play an active role in lobbying UK governments and the EU to introduce policies which address health inequalities as they relate to cancer.

Cancer Research UK will also be closely involved in the work outlined in the Cancer Reform Strategy (the current five year strategy for cancer in England which was published in 2007). This includes the National Awareness and Early Detection Initiative and the National Cancer Equality Initiative.

Our work in all of these areas, and contributing to the wider debate surrounding health inequalities, will enable us to achieve our aim ‘Together we will beat cancer’.
Annex 1: Differences in cancer survival rates between most and least deprived groups for 1986-1990 and 1996-1999* (England and Wales)

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* Table ranked according to deprivation gap in 1996-1999. Figures shown in bold indicate poorer survival rates for deprived groups, while those underlined indicate poorer survival rates for affluent groups, or no difference.

Source: Cancer Research UK; see: http://info.cancerresearchuk.org/cancerstats/survival/survivaldeprivation
Annex 2: References

2. For further information about Cancer Research UK’s 'Goals' please see the box below and the final chapter of this report. Alternatively go to: http://www.cancerresearchuk.org/aboutus/whoweare/ourgoals/
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Comparison of social class groups A/B and E as proxy for affluence level, where A/B = least deprived and E = most deprived.


Although findings from other countries are not entirely transferable to the UK screening situation, they do give an indication of some of the issues that affect uptake rates among different socioeconomic groups and BME communities.


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