Coronary heart disease (CHD)

This pack includes data on: GP registered CHD prevalence; revascularisation rates; myocardial infarction (heart attack); and CHD mortality.

Headlines

- Rates for premature mortality due to CHD are decreasing, but the gap between Leeds and Deprived Leeds remains.
- Effective early identification programmes such as the NHS Health Check , initially targeted in the most deprived areas of Leeds , must maintain a focus on ensuring that those most in need come forward.
- There needs to be a close alignment between this work and broader work to improve people's health and wellbeing

Why is this important?

Coronary heart disease (CHD) is one of the main causes of premature mortality within the spectrum of cardiovascular disease (CVD) in Leeds. CHD is also a key contributor to the gap in life expectancy between Leeds overall and Deprived Leeds. CHD is due to an abnormality of the arteries that supply blood and oxygen to the heart. It includes angina, heart failure and abnormal heart rhythms as well as many other heart conditions. Many premature deaths due to CHD could be prevented by lifestyle change – stopping smoking, reducing alcohol intake, eating healthily, increasing physical activity levels – and, if appropriate, medication. There is a strong association between premature death due to CHD and deprivation. This is due to complex factors including lifestyle, early interventions and appropriate access to services.

Story for Leeds

The situation in Leeds reflects the national picture. By age standardising the prevalence data to take into account the different age profile of particular populations, we can see that the areas with the highest prevalence of CHD are the most deprived areas of Leeds. This information is now available in each of the Middle Super Output Area (MSOA) area profiles and can therefore be compared directly with mortality figures within the same population. We are currently conducting an audit of everyone who died prematurely from cardiovascular disease (which includes CHD) within a given time period and analysing their previous medical history.

GP reported CHD prevalence

Prevalence of CHD is the number of people who are recorded on a GP register as having a diagnosis of CHD at any one time. However we also need to consider the age standardised data which shows that age is a key factor in the number of people diagnosed with CHD. Age is also a factor in the differences in CHD prevalence between the deprivation quintiles. When the age factor is removed from the data we get a different view of CHD in the various areas, with highest prevalence in the most deprived areas.

Key programmes of work to reduce these rates include the roll-out of the NHS Health Check – a vascular risk assessment programme for all those between the ages of 40 and 75. The programme identifies those who are at more than 20% risk of CHD and ensures they are appropriately managed and offered primary prevention. They are then reviewed yearly. Those at lower risk will be recalled for an assessment every five years and will also be offered tailored lifestyle advice and /or referral to specialist agencies. The Health Check was initially implemented in those practices where more than 30% of the practice population live within the most deprived areas of Leeds, because of the growing relative gap between these areas and Leeds as a whole.

Revascularisation

Revascularisation describes the process of restoring the blood supply, usually when this

has been blocked by fatty deposits and blood clots in the arteries supplying the organ. There are two ways of restoring blood supply to the coronary arteries which supply the heart:

- surgery – coronary artery bypass graft (CABG), colloquially known as a 'cabbage'
- primary coronary angioplasty (PCA) – a less invasive approach that involves introducing a support known as a stent through an artery in the leg .

Together these are known as coronary revascularisation. Only very high-risk situations tend to get surgery. Most treatment is initially via a PCA, usually carried out by a cardiologist.

The National Service Framework (NSF) for Coronary Heart Disease, published in the UK in 2000, gave target intervention rates of 1,500 procedures per million population for revascularisation procedures. Many people live with 'stable angina' and manage their conditions with drugs and lifestyle change. For others, PCA or heart bypass surgery (i.e. coronary revascularisation) may be required to relieve angina symptoms more effectively and, for some people, this may prolong life. The aim is to reduce waiting times for these procedures and increase the number of procedures carried out.

The situation in Leeds reflects the national picture. Premature mortality from CHD in Deprived Leeds is significantly higher than for Leeds overall. A similar pattern would be expected for revascularisation rates. In 2010 a CHD needs assessment was completed for Leeds which described in detail the data relating to revascularisation. This looked at data up to 2008 and showed that the rate of emergency admission for angioplasty was significantly higher for Deprived Leeds and that the relative gap was increasing. Since 2008 rates of revascularisation have fallen across Leeds. Although rates are still higher in Deprived Leeds, they have fallen faster here than in Leeds overall. CHD remains predominantly a disease of men, although rates are beginning to climb in women.

Myocardial infarction

Myocardial infarction (MI) is commonly known as a heart attack. It happens when the blood supply to a part of the heart is interrupted causing heart cells to die. This is usually due to blockage of a coronary artery leading to a restriction on the blood supply and oxygen shortage. If left untreated for a sufficient period of time, this can cause damage or death of heart muscle tissue. Symptoms of acute MI include sudden chest pain, shortness of breath, nausea, vomiting, palpitations, sweating, and anxiety, but approximately one quarter of all MIs are 'silent', without chest pain or other symptoms.

Heart attacks are one of the main causes of premature mortality within the spectrum of CVD in Leeds. The number of admissions has decreased over the last four years which is reflected in the decrease in mortality rates for CVD. This could be due to early identification and better management within primary care but could also be due to lifestyle changes. However the admission rate for MI is significantly higher in deprived areas of Leeds than Leeds overall and the gap is increasing. This mirrors the life expectancy gap between Leeds overall and Deprived Leeds for mortality from CVD.

CHD mortality

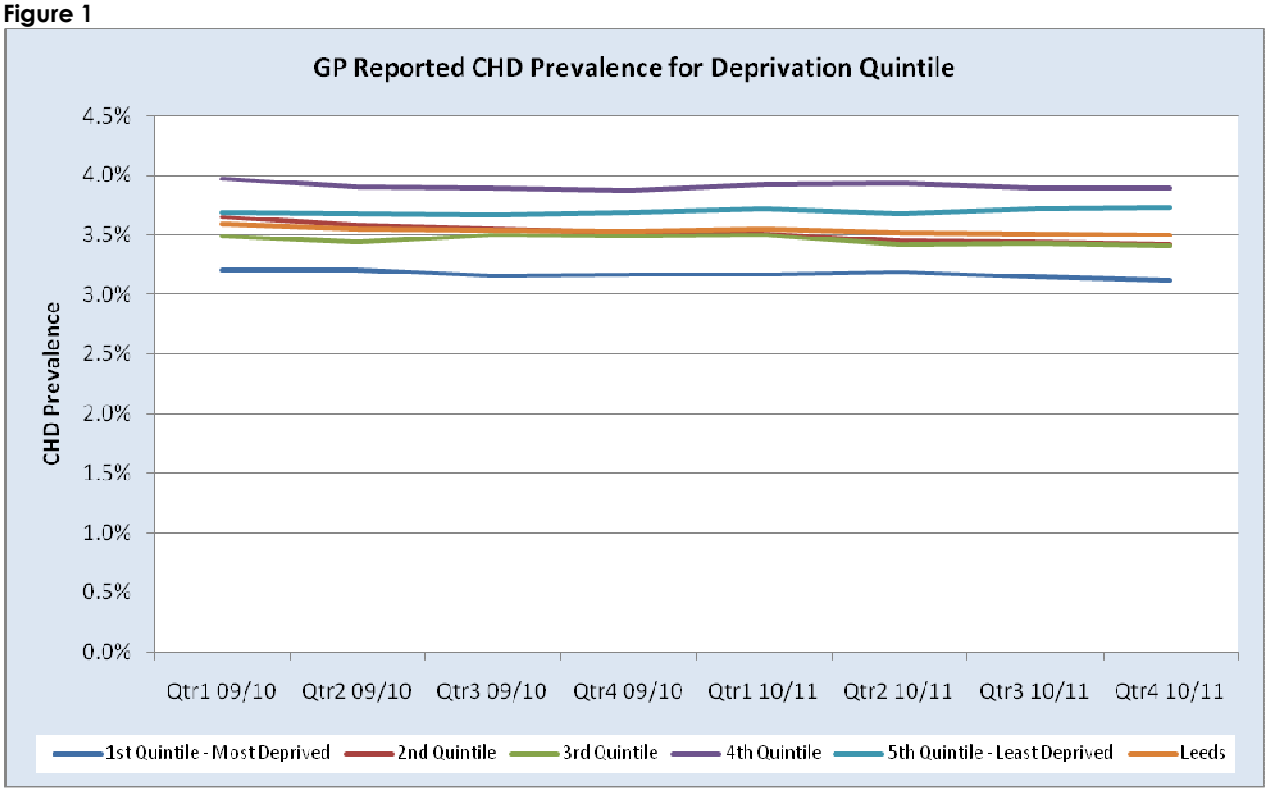
Premature mortality from CHD within Leeds matches the national picture. Levels of premature mortality from CHD in Deprived Leeds are significantly higher than for Leeds overall. Although the gap between Deprived Leeds and Leeds overall has fallen since 2006, it may be starting to rise again. The CHD needs assessment highlighted the fact that, although rates were decreasing overall, there were 32 SOAs where they had remained the same. It also showed that the rate of decrease was slower for men compared to national figures. These figures need to be

viewed within the context of prevalence of CHD on GP systems. This information is now available in each of the MSOA profiles and can therefore be compared directly with mortality figures within the same population.

Key programmes of work to decrease premature death rates focus on making sure secondary prevention programmes such as cardiac rehabilitation are targeted at those most in need. The CHD needs assessment highlighted the importance of locating clinics according to need. In the longer term the mortality figure needs to be related to the impact of primary prevention initiatives on smoking, alcohol intake and weight management. Early analysis of the current mortality audit on CVD shows that early identification and appropriate management within primary care is making a key positive difference to both life expectancy and disability-free life years. We therefore need to ensure that primary care is identifying all those people at high risk of developing one of these conditions or who are unaware that they already have them. Analysis also identified that the majority of people have more than one long term condition so there is a need to manage people holistically rather than along separate disease pathways.

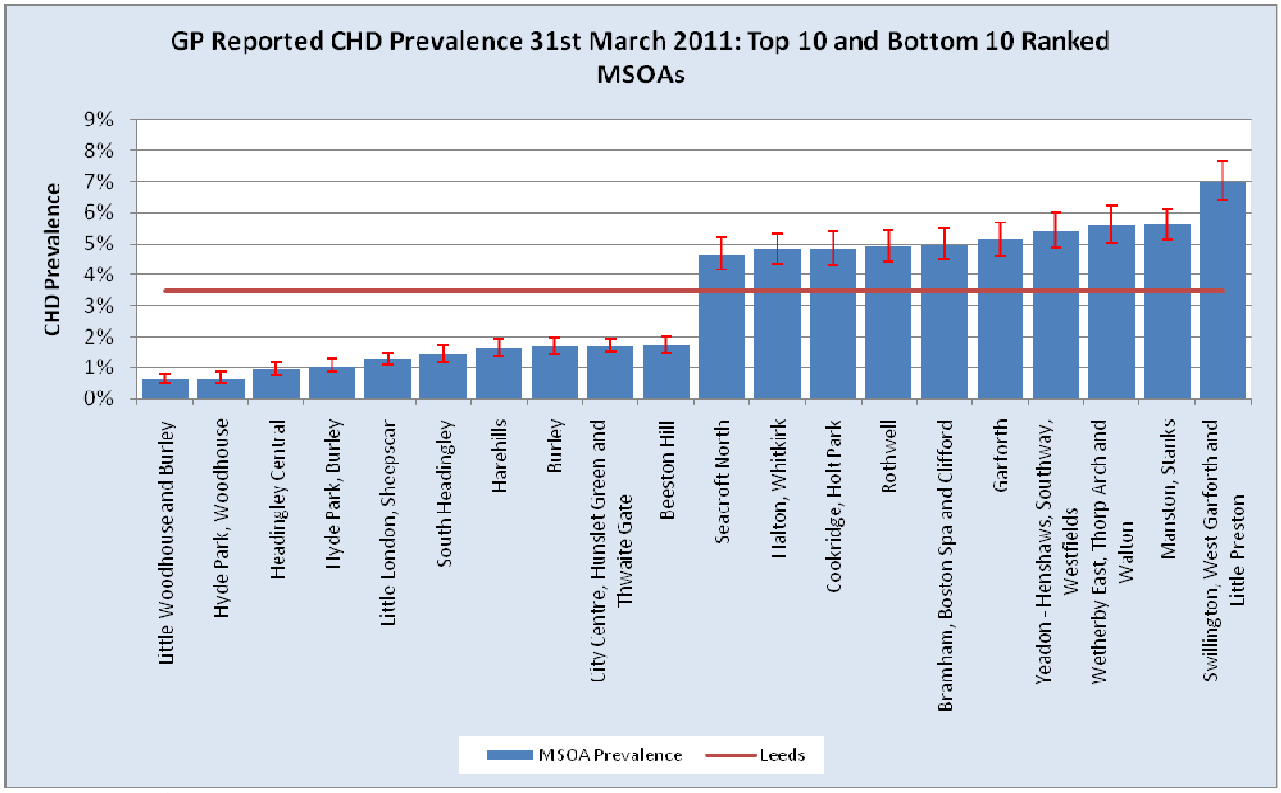
Where is this causing the greatest concern?

Figure 1



Source: GP audit data

Figure 2



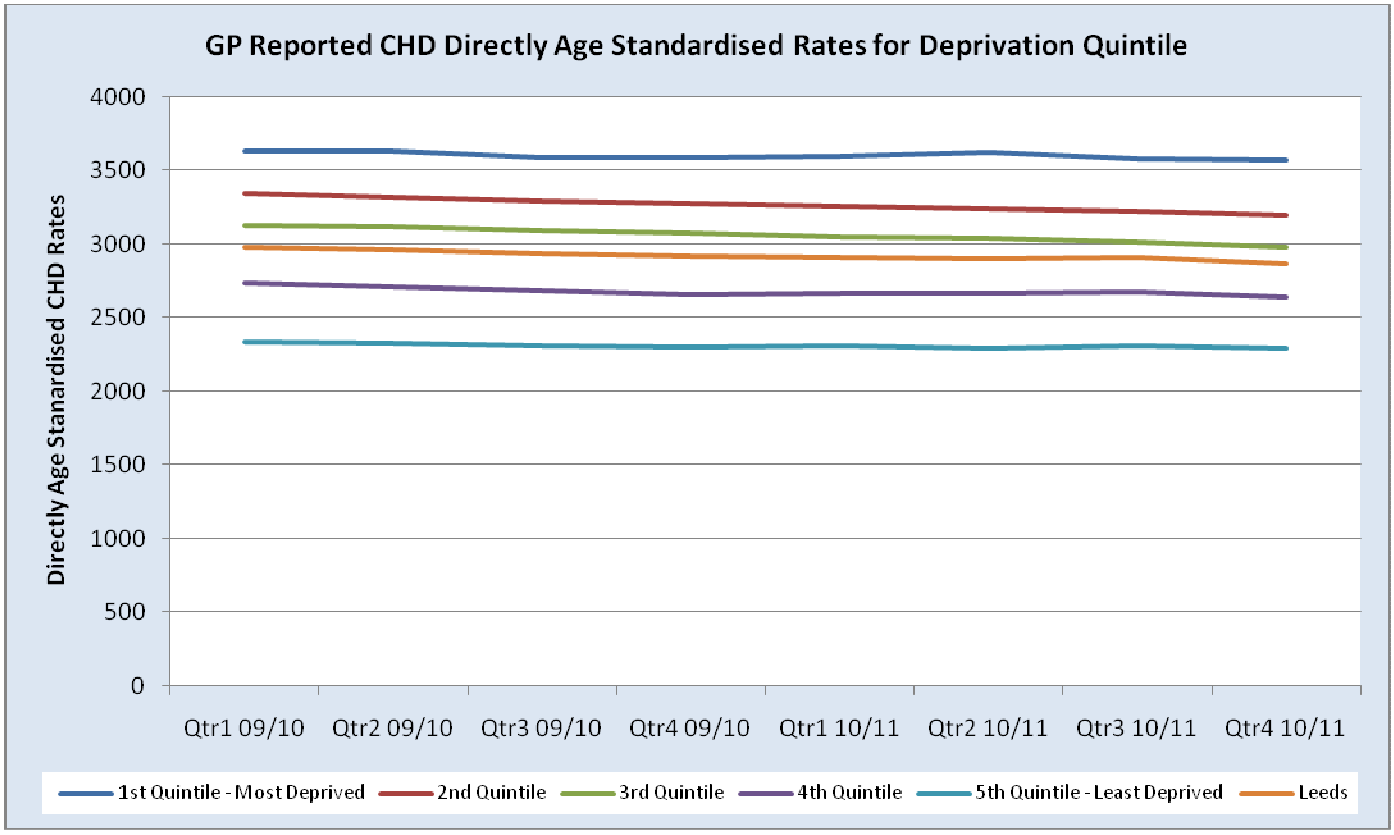
Source: GP audit data

Figure 1 shows that GP reported CHD prevalence in the Middle Super Output Areas (MSOA) deprivation quintiles has fallen slightly over the last two years in all quintiles except the least deprived where there has been a slight rise. The graph shows that there is a higher prevalence of CHD in the less deprived areas of Leeds with the second least deprived quintile having the highest prevalence, followed by the least deprived quintile.The most deprived quintile has the lowest GP reported prevalence of CHD.

Figure 2 shows that the MSOA with the lowest GP reported CHD prevalence in Leeds is Little Woodhouse and Burley. The confidence intervals show that this is not significantly different to the three MSOAs, Hyde Park, Woodhouse, Headingley Central and Hyde Park, and Burley.

The difference between the top 10 and bottom 10 MSOAs in terms of GP reported CHD prevalence is approximately 3%. The MSOA with the highest CHD prevalence is Swillington, West Garforth and Little Preston. This MSOA is significantly higher than all the other MSOAs.

Figure 3



Source: GP audit data

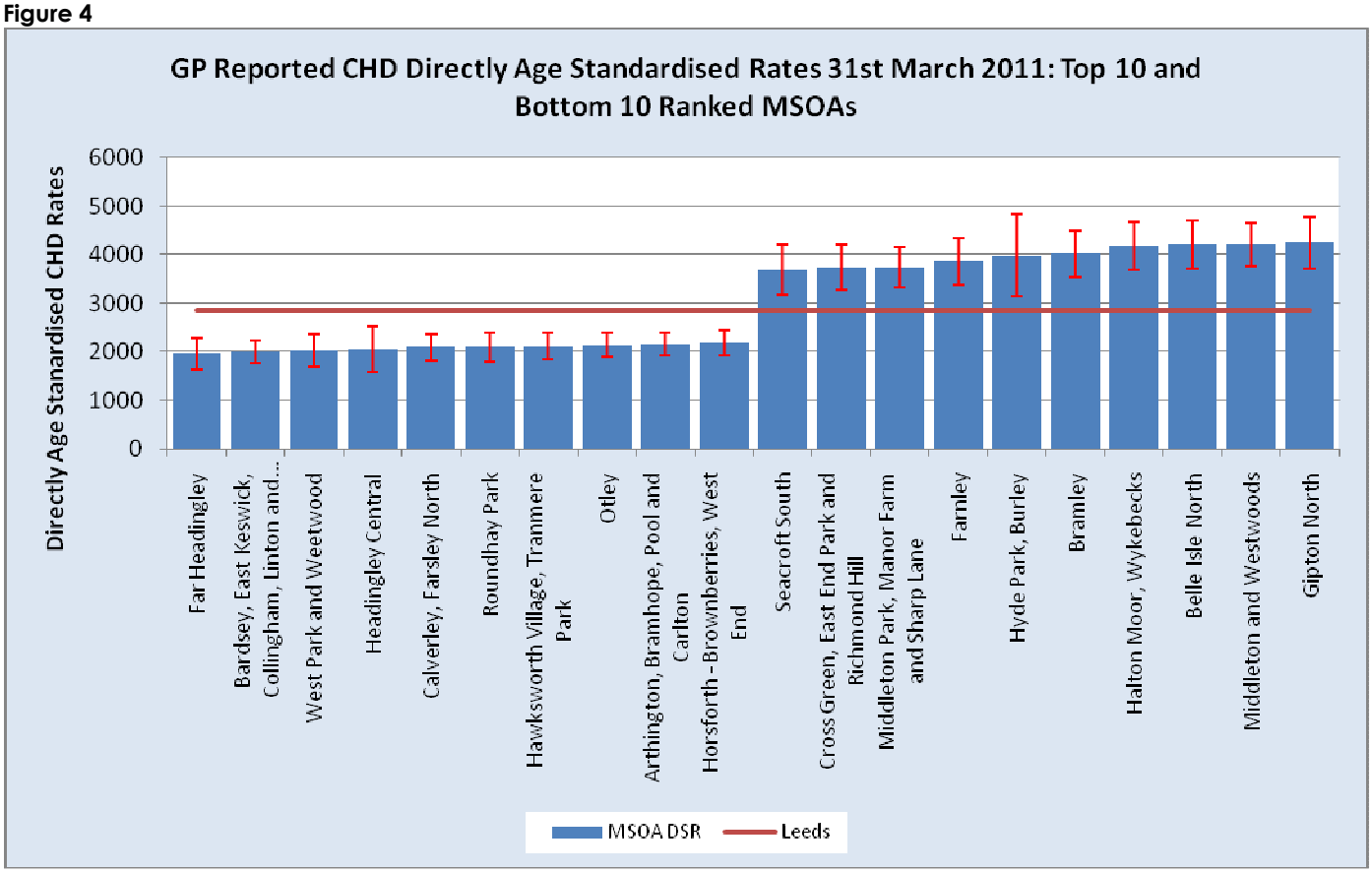
Figure 3 shows that, after direct age standardisation, the order of the MSOA deprivation quintiles changes to show the highest CHD rates for the most deprived areas and the lowest rates for the least deprived areas. This shows that age is a factor in the differences in CHD prevalence between the deprivation quintiles; when the age factor is removed from the data we get a different view of CHD across the deprivation quintiles.

The rates have decreased slightly across all the deprivation quintiles over the last two years.

Figure 4 shows that the MSOA with the lowest age standardised CHD rate is Far Headingley. However, the confidence intervals show that this is not significantly different to any of the ten lowest MSOAs at the 95% confidence level.

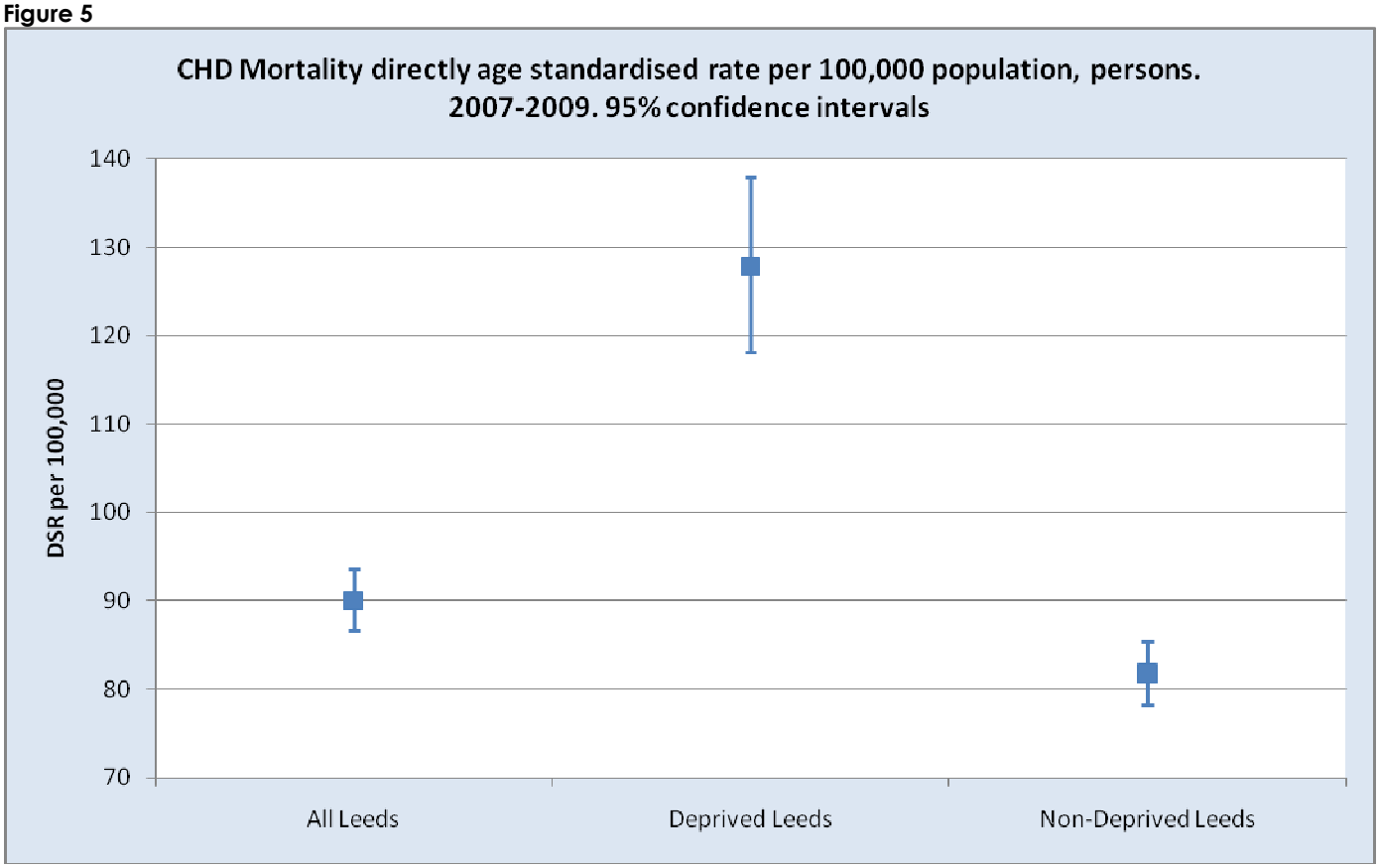
The difference between the top 10 and bottom 10 MSOAs in terms of CHD rates is approximately 1,500 per 100,000 population. The MSOA with the highest CHD rate is Gipton North, but this MSOA is not significantly higher than any other of the highest ten MSOAs.

Figure 4



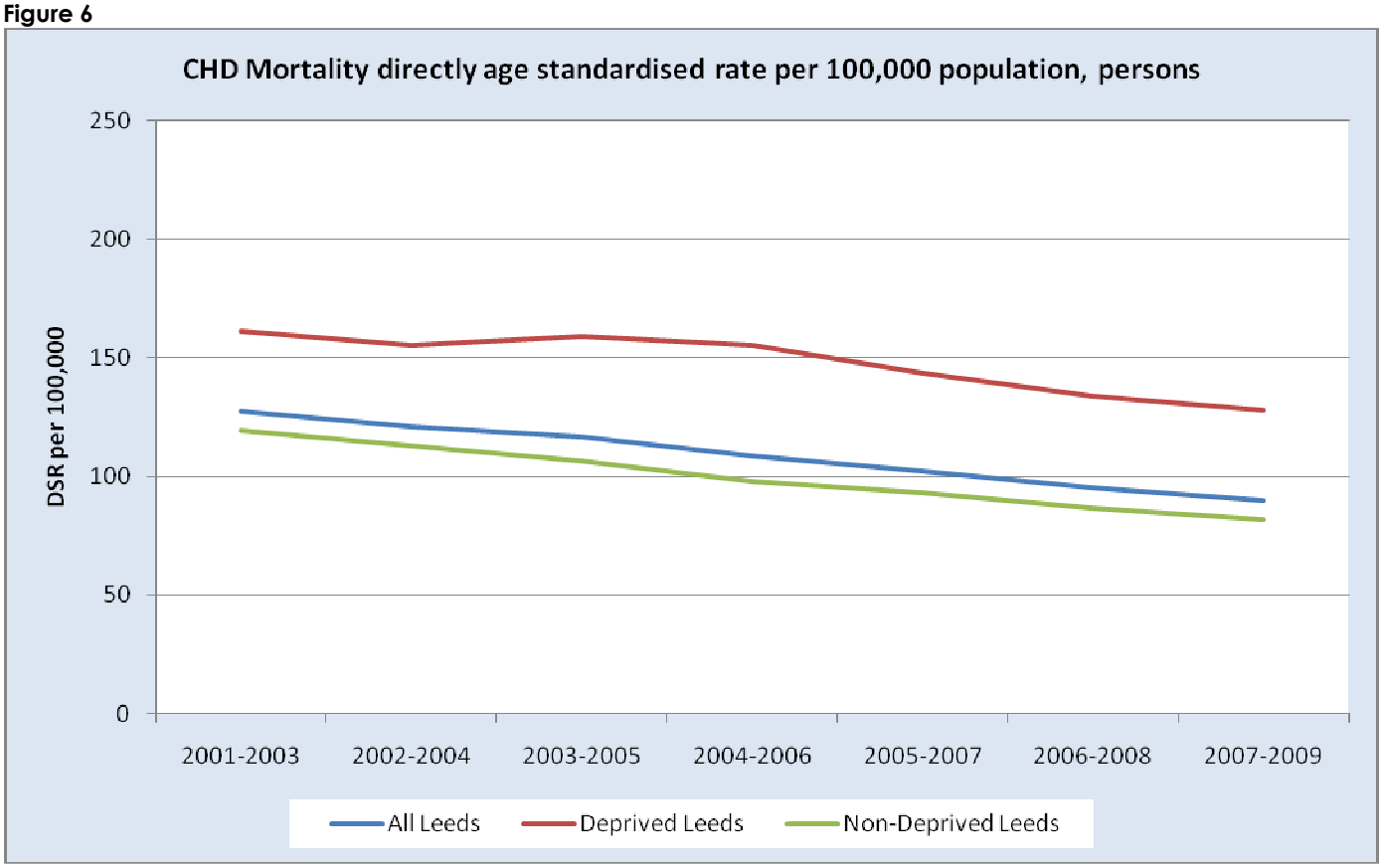
Source: GP audit data

Figure 5



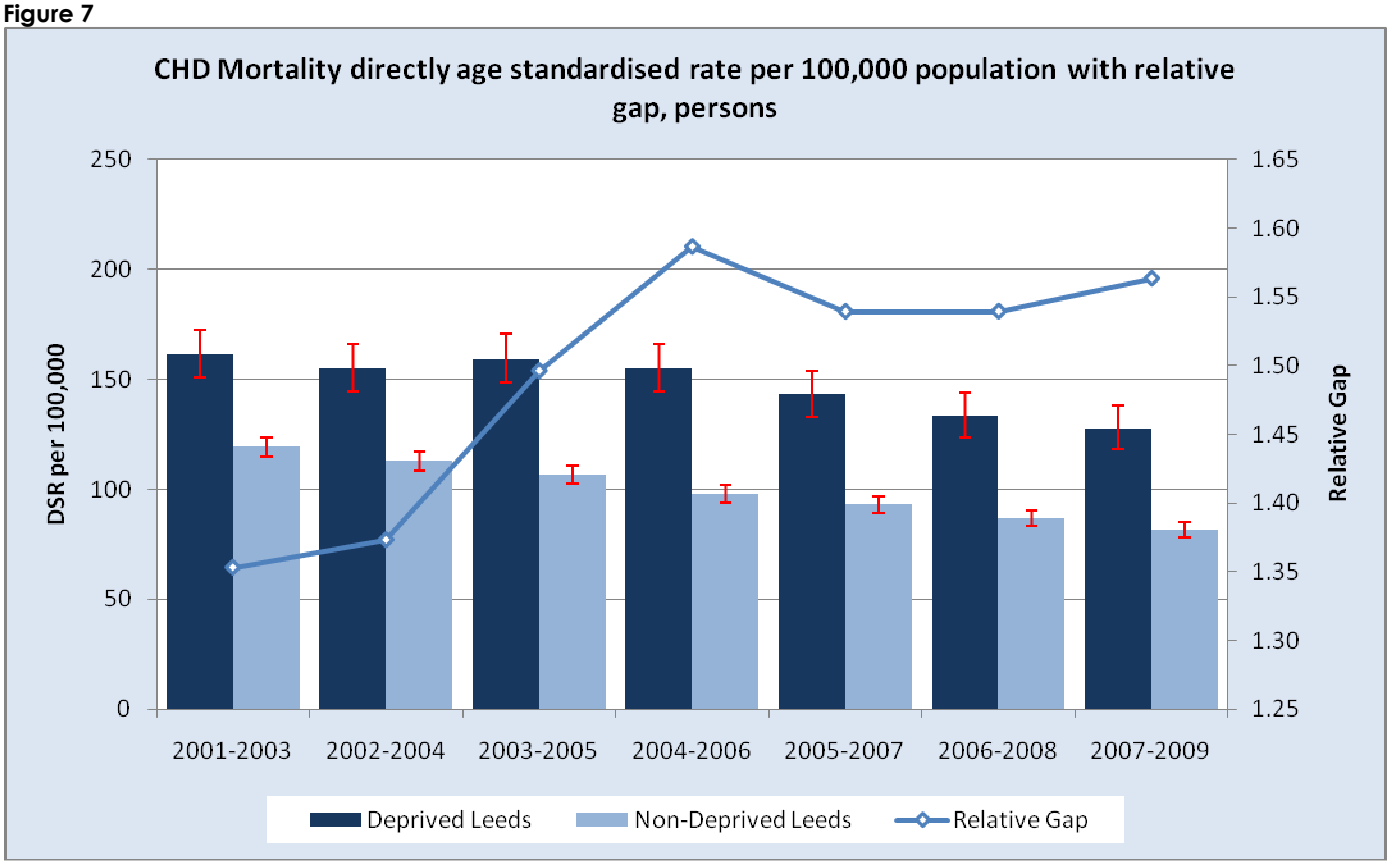
Source: Hospital Episode Statistics (HES); GP registered populations

Figure 6



Source: Hospital Episode Statistics (HES); GP registered populations

Figure 7



Source: Hospital Episode Statistics (HES); GP registered populations

Figure 5 shows the three-year average directly age standardised rates of CHD mortality for Leeds overall, Deprived Leeds and non-deprived Leeds for 2007/09. These data show that CHD mortality rates for

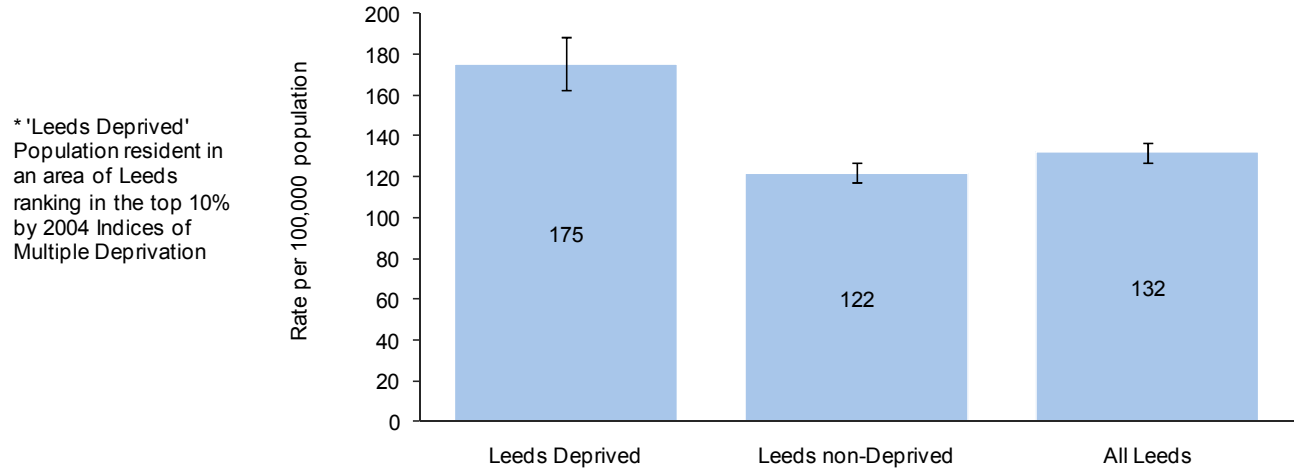
under 75s are significantly higher for residents of Deprived Leeds.

Figure 6 shows rates falling over time, with rates for residents of Deprived Leeds higher than for Leeds overall.

Figure 7 shows that the gap between Deprived and non-deprived Leeds is significant. The relative gap increased sharply from 2002/04 to 2004/06, but has fallen since.

Figure 8

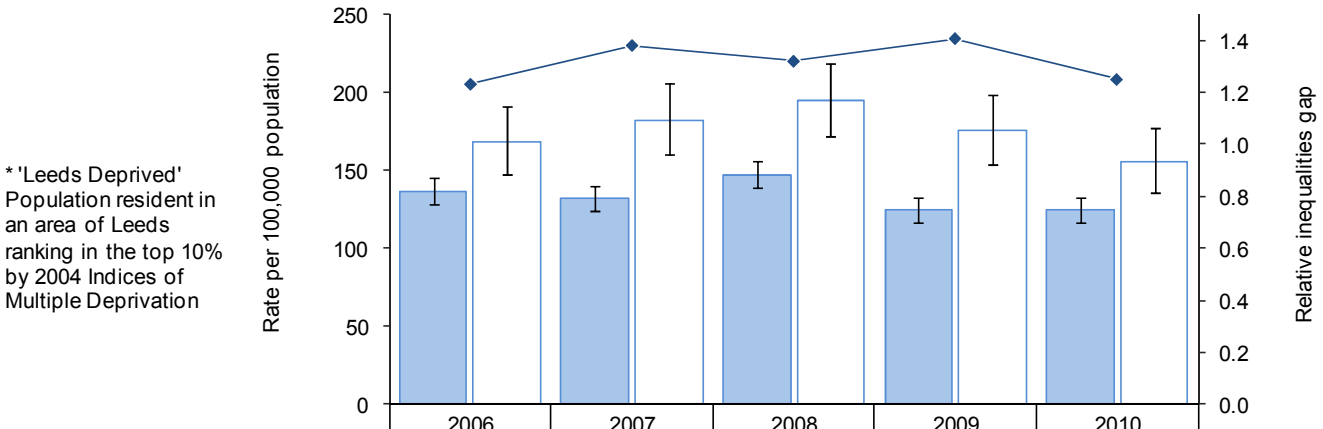
Revascularisation episodes (all age), DSR, with 95% confidence limits, 2008-2010, Leeds Deprived, Non-deprived and Leeds



data source: Hospital Episode Statistics (HES); GP registered populations

Figure 9

Revascularisation episodes (all age), DSR, with 95% confidence limits, 2006-2010, Leeds, Leeds Deprived

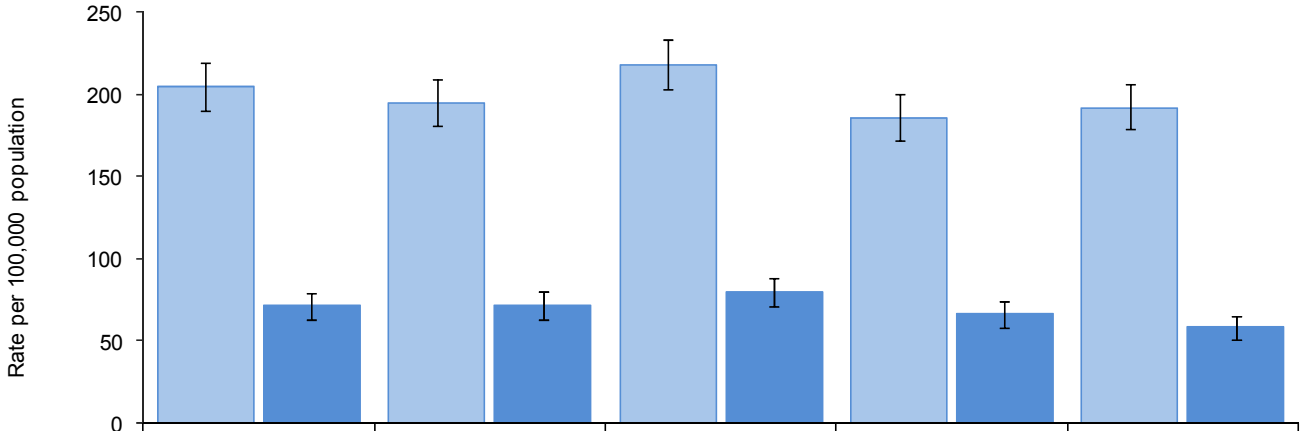


	2006	2007	2008	2009	2010
Leeds	136	132	147	125	124
Leeds Deprived population	168	182	194	175	155
Relative Gap Leeds Deprived* vs Leeds	1.23	1.38	1.32	1.41	1.25

data source: Hospital Episode Statistics (HES); GP registered populations

Figure 10

Revascularisation episodes (all age), DSR, with 95% confidence limits, 2006-2010, Leeds



	2006	2007	2008	2009	2010
Male	204	195	218	186	192
Female	72	72	80	66	58

data source: Hospital Episode Statistics (HES); GP registered populations

Data link: L:\Public Health\Health Development & Performance Management\Intelligence Information\JSNA\2011_fw Aug update REVASC\Revascularisation CHARTS.xls

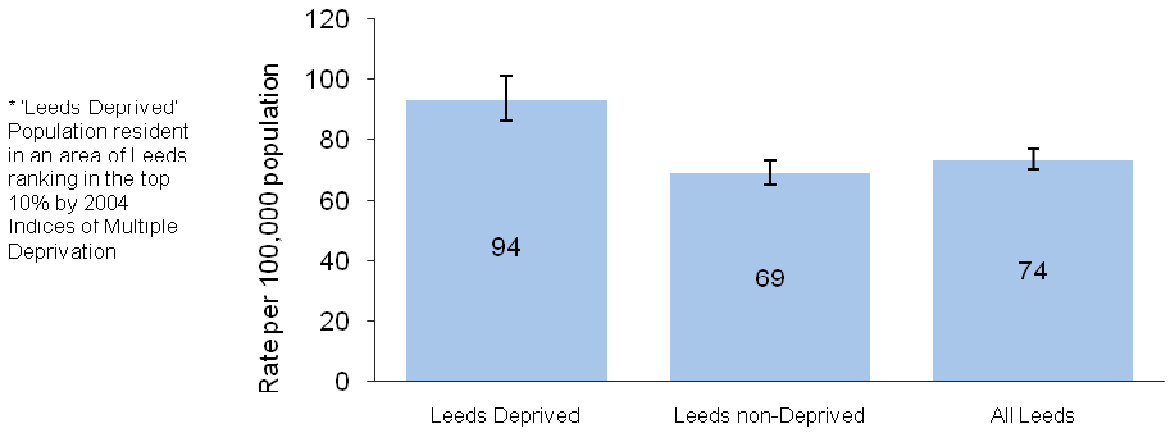
Figure 8 shows that three-year average rates of revascularisation episodes for residents in Deprived Leeds are significantly higher than Leeds overall.

Figure 9 shows local trends in rates of revascularisation. Rates for the residents of Deprived Leeds are significantly higher than Leeds overall throughout the time period 2006/10. Overall there is a steady reduction in rates of revascularisation for Leeds. Rates for residents of Deprived Leeds peaked in 2008 but have since fallen faster than for Leeds overall. The relative gap in rates fluctuates over the time period, showing no clear trend.

Figure 10 shows data from Figure 9 disaggregated for males and females. Rates for males are significantly higher than for females. In 2010 men were over three times more likely to have had revascularisation than women.

Figure 11

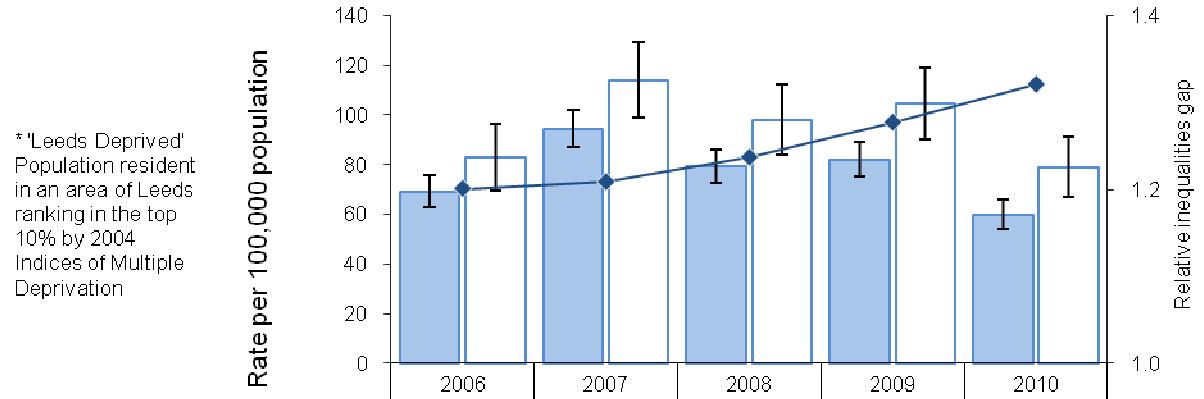
MI episodes (all age), DSR, with 95% confidence limits, 2008-2010, Leeds Deprived, Non-deprived and Leeds



data source: Hospital Episode Statistics (HES); GP registered populations

Figure 12

MI episodes (all age), DSR, with 95% confidence limits, 2006-2010, Leeds, Leeds Deprived

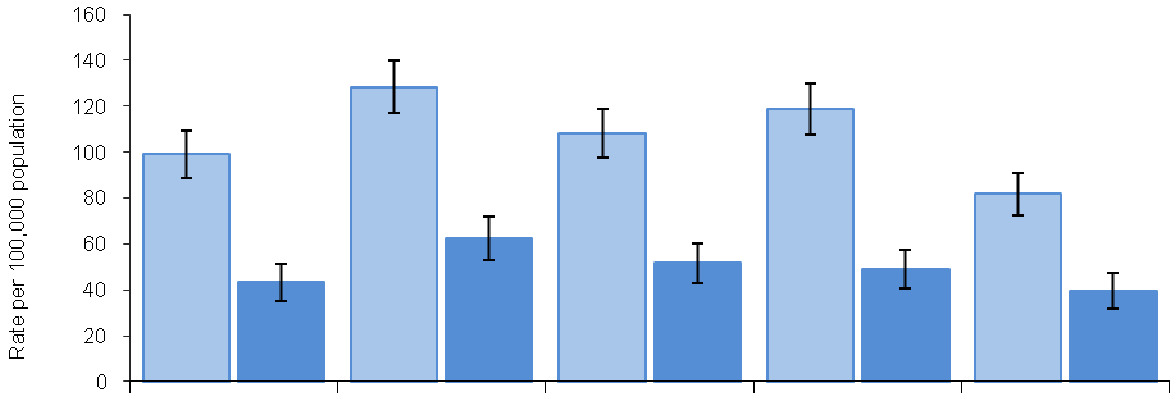


	2006	2007	2008	2009	2010
Leeds	69	94	79	82	60
Leeds Deprived population	83	114	98	105	79
Relative Gap Leeds Deprived* vs Leeds	1.20	1.21	1.24	1.28	1.32

data source: Hospital Episode Statistics (HES); GP registered populations

Figure 13

MI episodes (all age), DSR, with 95% confidence limits, 2006-2010, Leeds



	2006	2007	2008	2009	2010
Male	99	128	108	119	82
Female	43	62	52	49	40

data source: Hospital Episode Statistics (HES); GP registered populations

Figure 11 shows that three-year average rates of hospital admission for MI in Deprived Leeds are significantly higher than for Leeds overall.

Figure 12 shows local trends in rates of MI-related hospital admission. Rates for the residents of Deprived Leeds are higher throughout the time period but not significantly so. Annual rates for Leeds and Deprived Leeds fluctuate. The relative gap in rates has climbed steadily over the time period, showing a clear trend upwards.

Figure 13 shows the Figure 12 data disaggregated for males and females. Rates for males are significantly higher than for females. In 2010 men were more than twice as likely to be admitted for MI than women.

Views of local people*

* An initial selection of surveys and focus group outputs were gathered to enable inclusion of public opinion data within the JSNA. Please note as this is only an initial selection. It is not a comprehensive data set and therefore may not be representative of the whole population of Leeds. This part of the data set is under development for future versions of the Joint Strategic Needs Assessment.

Cardiac Services Review PPI Report – May 2010

Cardiac services generally received very good feedback from all patients involved in the Cardiac Survey. While performance targets such as waiting times and practical issues like parking are important to patients, this review suggests that patients place more emphasis on the personal side of health care. Staff at all cardiac services are regarded highly by patients. Their skills in oral communication, empathy and involving significant others were all picked out by patients as being of a very high standard and made a significant difference to patients' experience.

While communication within the cardiac team appears to be good, some patients stressed that this team was set within a complex integrated care system within which communication occasionally broke down. However, the cardiac teams did appear to address this by providing patients with a direct point of contact for queries and concerns.

Another common theme between services was the lack of service literature. Patients could not remember getting any literature about the cardiac services and many did not know which service they were accessing. In this aspect of care there appeared to be an assumption that patients had a good understanding of often complex and changing NHS structures and processes.

A number of the criticisms received during the review were aimed at hospital care. Although some people had a good experience of being in hospital, the majority had been unhappy with numerous aspects of the care. Familiar concerns such as problems with access and parking were expressed by patients. Participants also talked about questionable 'bedside manner' and concerns around mixed wards.

There were some specific points raised about particular cardiac services. The cardiac rehabilitation programme was described by many patients as being central to their physical and emotional recovery. Patients accessing the heart failure service valued their home monitoring service. A number of these patients are very unwell and struggle to leave the house for any reason. They saw home visits as 'reassuring' and helpful in reducing anxiety and considered them an important part of their treatment. Only one patient had experience of using Telemedcare. They valued this service and explained that it was very reassuring to know that they were being monitored.

Every Child Matters Survey 2007–09

The Every Child Matters Survey 2007–09 asked children and young people about various lifestyle factors associated with CHD. The survey found that only a quarter of young people are eating the recommended five portions a day of fruit and vegetables, with over a third eating an average of three or more snacks a day.

Among secondary pupils, 10% drank alcohol two to three times a week or every day, with over a third of year 11 pupils drinking at least once a week. A quarter reported that they would not know where to get help or advice about alcohol.

Considerations for the future

Priorities for reducing premature mortality from CHD are:

- Wider programmes that impact on health and wellbeing – focusing on children, the impact of poverty, housing, education, transport, etc.
- Primary prevention programmes – focusing on smoking, alcohol intake and weight management, including physical activity. This includes broader issues such as access to green spaces, teaching cooking skills, etc.

- Early identification programmes – ensuring all those eligible for the NHS Health Check take up the invitation.
- Increasing public awareness of symptoms – targeted within deprived communities.
- Secondary prevention programmes – ensuring all those on GP registers are managed effectively, and have access to secondary prevention programmes such as cardiac rehabilitation.
- Reducing the number of people who die before getting access to revascularisation procedures.
- Moving towards the holistic management of people with long term conditions rather than along specific disease pathways, focusing instead on the individual and their needs.
- Co-production including self-care – an overall principle running throughout the whole approach of 'no decision about me without me', ensuring that patients have a better experience of care that promotes personalisation, choice and control.

All of these programmes should be assessed for their impact on inequalities in health.