## Section 7: CARDIO VASCULAR DISEASE (CVD)

**Introduction**

Cardiovascular disease (CVD) describes the group of diseases affecting the circulatory system, including Coronary Heart Disease (CHD), hypertension and stroke, often referred to as circulatory diseases. CVD is the main cause of death and premature death in the UK and is strongly associated with inequalities in health. In 2008 there were over 147,000 CVD deaths in England; over 37,000 of these were premature (under 75 years of age).

About half of all deaths from CVD are from CHD with more than a quarter from stroke. CVD is also a major contributor to health inequalities.   Approximately 30% of the gap between the national average life expectancy and that in the quintiles with lowest life expectancy (i.e. Spearhead areas) is attributable to CVD mortality.

**The levels of need**

- CVD prevalence is greater in Darlington than England. The CHD and hypertension practice registers all show greater prevalence in Darlington at 4% than England with 3.3%. CHD prevalence is more than 20% greater than the England value.
- Over 4,269 people in Darlington are on the CHD register (2013/14 QOF).
- Over 15,983 people in Darlington are on the hypertension register (2013/14 QOF).
- 24,864 people in Darlington are identified as smokers with their GP (YHPHO).

**Fig 108:  Disease prevalence/risk factors for CHD**
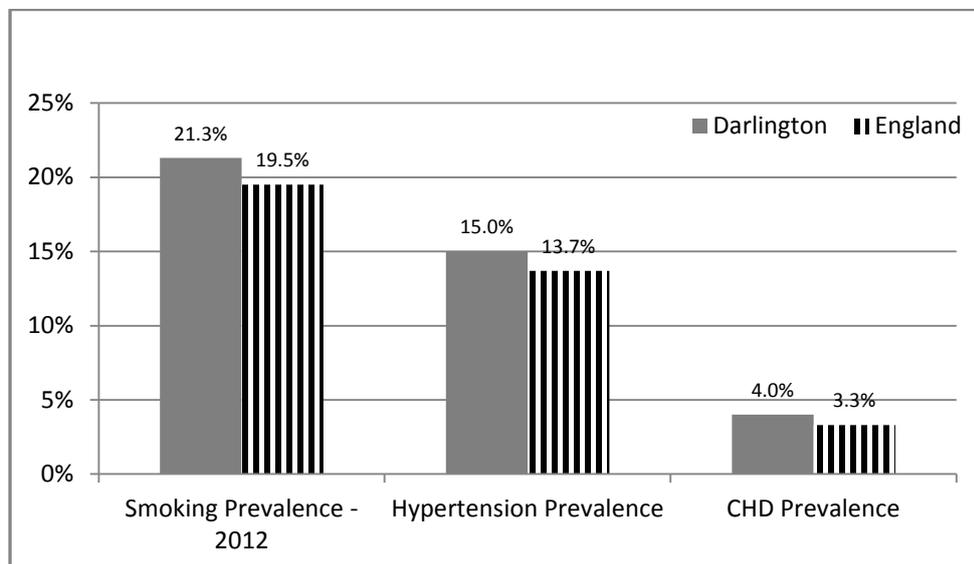
Source: HSCIC – QOF 2013-14

- Darlington has lower than expected admissions compared to England for both emergency and elective admissions.
- Darlington has higher than expected deaths from CHD compared to England.
- Middle Super Output Areas North Lodge Park and Firth Moor experience higher than expected CHD emergency and elective admissions and higher than expected CHD deaths.

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**Fig 109: Standardised admission ratio (SAR) for emergency and elective CHD admissions 2007/08-2011/12 pooled), Darlington and Darlington middle super output area (MSOA).**
[Source: APHO Local Health]
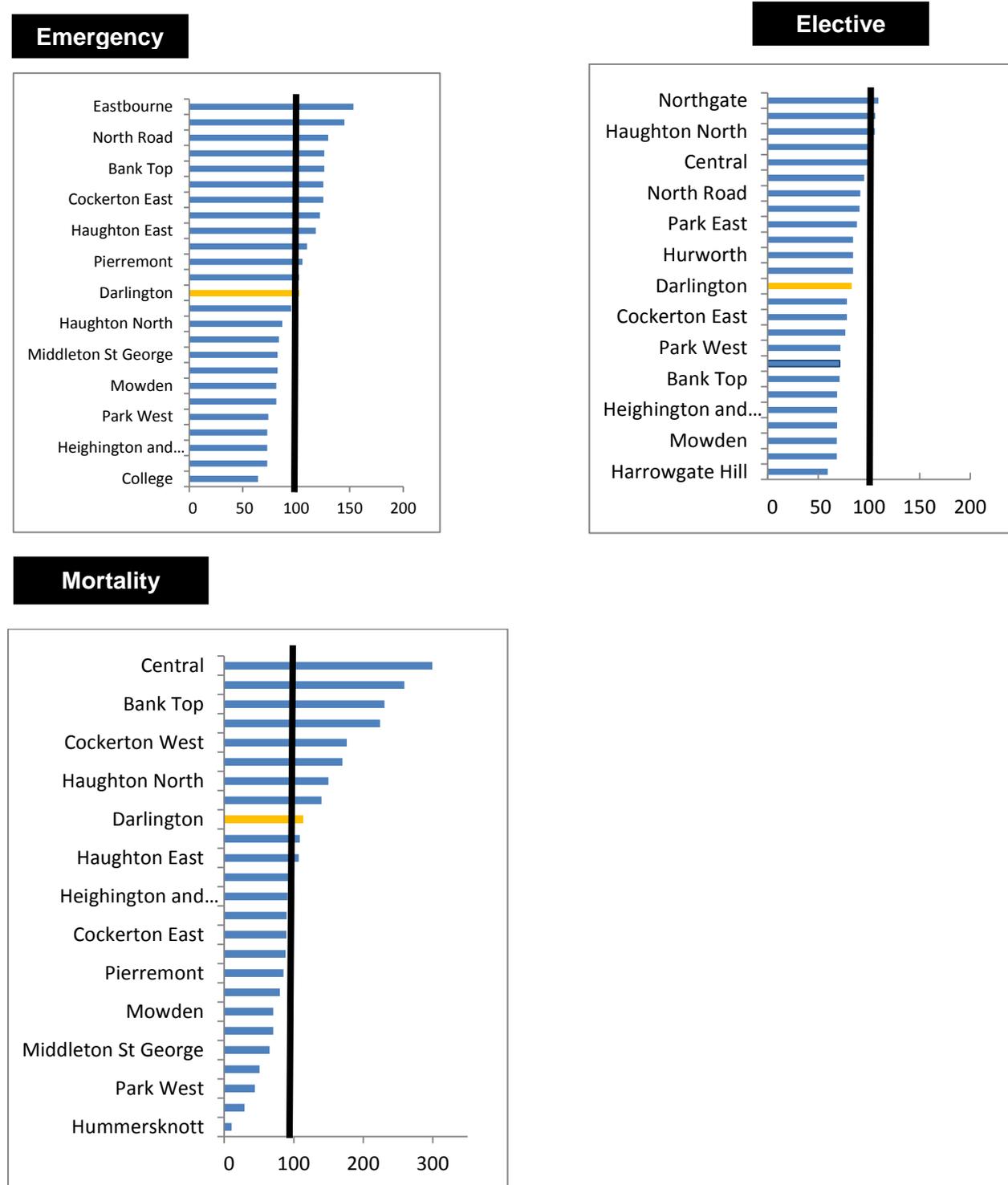


Standardised Admission Ratios (SARs) and Standardised Mortality Ratios (SMRs) are the ratio of the observed number of admissions (or deaths) to the expected number. This is the ratio of the observed number of events relative to the number of events that would be expected if standard age-specific rates were applied to the particular observed population's age structure. The ratio is expressed as an index where the expected value equals 100. Hence values greater than 100 suggest a higher than expected number of admissions, while values less than 100

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suggest fewer admissions than expected. These measures cannot be measured against anything other than the denominator population, in this case England. The value for England is always 100.

- Premature CVD mortality rates for the period 2008-12 were significantly higher in Darlington than England for both males and females.
- Between 2008 and 2012, 189 men and 91 women died under the age of 75 from CVD. This equates to an annual average of 93 people dying prematurely from CVD (63 men and 30 women).

**Fig 110: Directly age standardised mortality rates per 100,000 for CVD, 2008-10 pooled, males and females, Darlington, North East and England**
[Source: Health & Social Care Information Centre (HSCIC)]
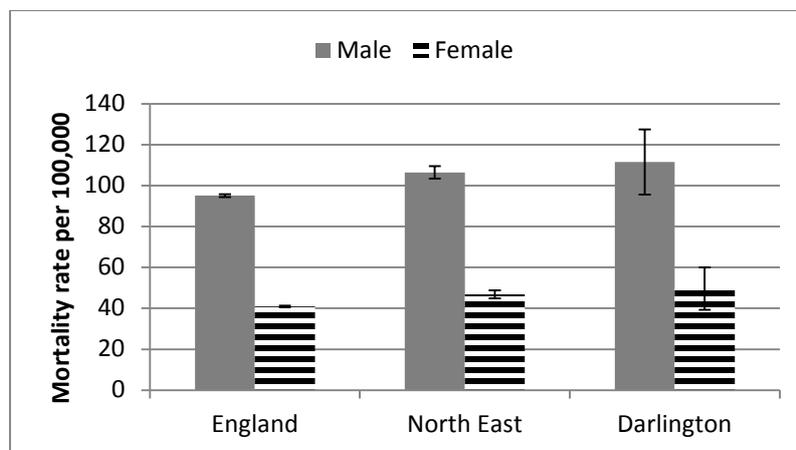


- CVD mortality rates have been reducing over time in Darlington and are now similar to England

**Fig 111: Directly age standardised mortality rates per 100,000 for CVD, 1995-2013, persons, Darlington and England. Source: Health & Social Care Information Centre (HSCIC).**
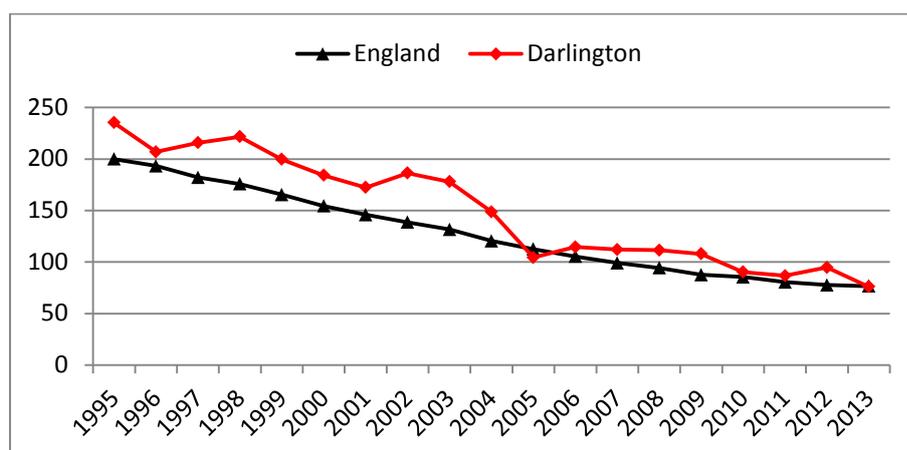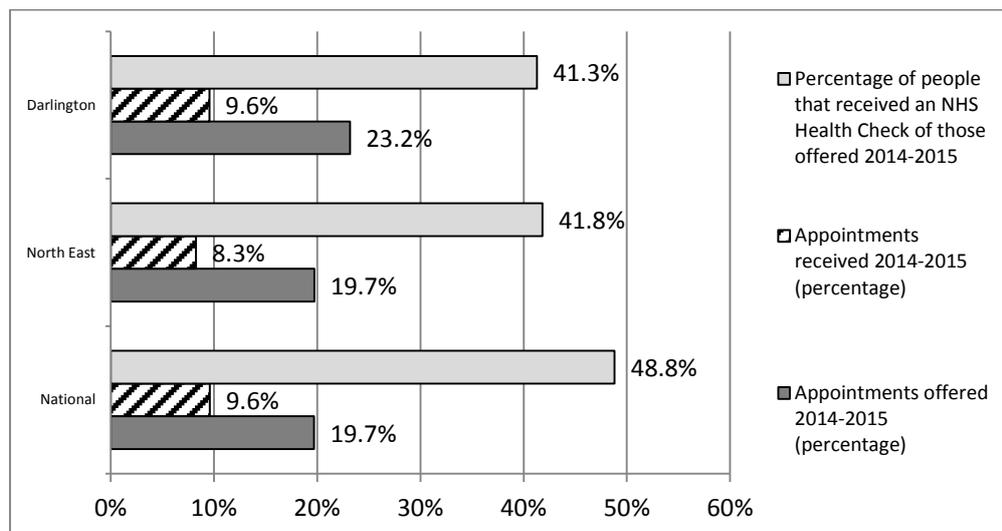


The NHS Health Checks Programme aims to identify those at high risk of developing CVD aged between 40-74 years and to offer appropriate interventions to manage that risk.
- 7,450 people in Darlington were offered NHS Health Checks of which 3,075 were carried out in the year 2014-15.


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Not everyone in the 40 to 74 year age group is eligible for a health check.  It is estimated that about 31% of people in this age group already have some type of cardiovascular disease.  Not everyone invited for a health check will take up the opportunity for one reason or another and it is estimated that about 75% of those offered a health check by their practice will actually attend.  As this is a five year programme 20% of eligible patients would be expected to have a health check each year.

The total eligible population for the period 2013-2018 is 32,330 with 20,060 appointments offered.  For the period April to October 2015, the actual coverage of the programme was 4,710 in Darlington.

**Fig 112: NHS Health Checks Programme 2014-15**



Darlington: 41.3%, 9.6%, 23.2%
North East: 41.8%, 8.3%, 19.7%
National: 48.8%, 9.6%, 19.7%

Legend:
- Percentage of people that received an NHS Health Check of those offered 2014-2015
- Appointments received 2014-2015 (percentage)
- Appointments offered 2014-2015 (percentage)

[Source: YHPHO 2015]

**Which groups are most vulnerable?**

Risk factors for CVD can be divided into two separate groups: modifiable and non-modifiable (or fixed) risks. Individual and potentially reversible behaviours (lifestyle) are an important determinant of CVD and include smoking, unhealthy eating and insufficient physical activity. These modifiable or potentially reversible behaviours account for a large proportion of the risk of CVD.

**Fig 113: Modifiable and non-modifiable risk factors for CVD**

| CVD Risk Factors | |
|---|---|
| Non-modifiable | Modifiable |
| Age (older people) | Smoking |
| Sex (Male) | Obesity |
| Ethnicity | Physical inactivity |
| Family history | Excess alcohol consumption |
| | High blood pressure |
| | Socio-economic deprivation (poverty, poor housing, education) |
| | Diabetes |
| | Low birth weight |

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Non-modifiable risk factors

- *Age:* Apart from rare inherited disorders, age is the most important determinant of an individual's risk of cardiovascular disease.
- *Sex:* At all ages, men have a higher risk of cardiovascular disease than women, although from 75 years of age, the risk of stroke is greater in women.
- *Ethnicity:* The risk for cardiovascular disease differs among ethnic groups.  Only in men of South Asian origin is the difference so large that the risk estimated by a Framingham-based calculator should be multiplied by an adjustment factor. South Asia includes India, Pakistan, Bangladesh, and Sri Lanka.
  People of Afro–Caribbean origin have a higher risk of stroke but a lower risk of ischaemic heart disease compared with white European people.
- *Family history:* Many genes are responsible for an individual's risk of cardiovascular disease. The increased risk associated with premature cardiovascular disease in close relatives is usually polygenic.

The modifiable risk factors can be useful in assessing the risk of cardiovascular disease, targeting interventions, and monitoring response.

**Data Sources:**
Public Health England – www.phe.org.uk
HSCIC – www.hscic.gov.uk
YHPHO - CVD Intelligence Pack 2015 –
http://www.yhpho.org.uk//resource/item.aspx?RID=208022

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