PETERBOROUGH
CITY COUNCIL

Cardiovascular Disease Joint Strategic Needs Assessment Summary

2015

Contents -

1. INTRODUCTION AND BACKGROUND TO THE CVD JSNA

1.1 Joint Strategic Needs Assessments

Joint Strategic Needs Assessments (JSNA) analyse the health needs in a population to inform the development of health and wellbeing strategies and the commissioning of health and social care services. The JSNA process identifies current and future health and wellbeing needs and priorities. Peterborough has a programme to develop JSNAs on priority topics identified by the Health and Wellbeing Board which will inform its health and wellbeing strategy and the commissioning of services by Peterborough City Council and Cambridgeshire and Peterborough Clinical Commissioning Group (CCG).

Cardiovascular disease (CVD) was identified as a priority by the Peterborough Health and Wellbeing Board in 2014; a workshop was held in January 2015 and a JSNA requested in spring 2015.

This summary is supported by further data and analysis in the Cardiovascular Disease Joint Strategic Needs Assessment, 2015, available on the Peterborough City Council web site. It does not aim to replicate the information in the JSNA Core Data Set.

1.2 CVD

CVD is an umbrella term for all disease of the circulatory system including coronary heart disease (CHD), heart failure, stroke and peripheral arterial disease. Heart disease and stroke and their risk factors are the focus of this JSNA. CVD causes more than a quarter of all deaths (160, 000) in the UK each year and there are an estimated 7 million people living with CVD in the UK.

CVD is generally due to reduced blood flow to the heart, brain or part of the body caused by atheroma (fatty deposits) or thrombosis (blood clots) which block the arteries. Having one cardiovascular condition increases the risk of developing another. The assessment and management of risk and access to prevention and treatment services influences mortality rates and need for care and support.

1.2.1 Risk factors for CVD

A number of common risk factors are recognised as increasing the likelihood of developing CVD:

- Fixed factors such as family history, gender, ethnicity and ageing;
- Lifestyle factors such as smoking, obesity, nutrition, lack of physical activity, high alcohol consumption;
- Wider determinants such as deprivation, poverty, poor education and working conditions;
- Physiological/ metabolic risk factors, which may develop in response to those above, such as high blood pressure (hypertension), diabetes (high blood sugar), and hyperlipidaemia (high blood fats).

There is evidence that interventions at the level of the population at risk, and with individuals, can be effective in changing behaviour; clinical interventions and treatments can be effective in managing the metabolic risk factors.

1.3 Services and interventions

General Practitioners and others working in primary care manage the majority of treatment and prevention in CVD and support people living with the conditions.

Peterborough City Council commissions NHS Health Checks for all people aged 40-74, not known to have a condition, to identify risk factors for cardiovascular and kidney disease and diabetes with referral to a general practitioner or a lifestyle service, as appropriate, for those found to be at risk. Cambridgeshire and Peterborough Clinical Commissioning Group commissions hospital and community services. Peterborough City Council supports those with continuing care needs and commissions lifestyle services e.g. smoking cessation. The level and detail of information on services varies and selected information is discussed in the JSNA.

2 SUMMARY OF KEY FINDING IN THE CVD JSNA

2.1 Population

- The population of Peterborough is predicted to rise by 23% from 176,300 in 2010 to 217,000 by 2021. Population growth to 2021 is expected to be high for men aged 85+ (90%) and 70—74 (57%); and women aged 70-74 (57%) and 85+ (56%).
- The majority of the population is registered with the 20 GP practices in the Peterborough Local Commissioning Group (LCG) and the 10 practices in the Borderline LCG. 17 of these practices fall in the most deprived quintile (20%) of Cambridgeshire and Peterborough Clinical Commissioning Group based on the registered population's level of deprivation compared to England.
- 12.7% of the Peterborough registered population is aged 65+, compared to 15.9% within the CCG as a whole i.e. Peterborough has a relatively young population.
- Peterborough has a relatively high proportion of black and minority ethnic (BME) residents.
- In the 2011 census, 17.5% of residents identified themselves as BME compared to 14.6% nationally.
- The best available data, which are not drawn from exactly equivalent population groups or timeframes, suggest that the number of people estimated to have CVD in Borderline and Peterborough LCGs will rise from 21,674 in 2015 to 24,405 by 2021 and 27,570 by 2031.

To summarise, information on the composition (age, ethnicity) of the population and the best estimates for the future show that Peterborough has a growing and ageing population which will increase the need for services.

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2.2   Epidemiology

- Peterborough has significantly[1] high mortality rates for cardiovascular deaths under the age of 75 and for all causes of mortality considered preventable.

- The prevalence of CVD rises with age and is also higher in more deprived populations. South Asian populations in the UK are known to have higher rates of premature coronary heart disease (CHD).

- Although the mortality rates from circulatory diseases for men and women of all ages have fallen substantially in recent years, bringing Peterborough close to the national rates, the mortality rates for circulatory disease in men and women under the age of 75 remain above England rates.

- Mortality rates, standardised for age, for coronary heart disease are also raised compared to England for men and markedly so for women.

- The standardised mortality rates from stroke at all ages and for women under 75 is similar to the England rates; for men under 75, rates have fallen and were better the England rate in 2013.

- Data on the prevalence of cardiovascular disease and risk factors from practices in Borderline and Peterborough LCGs show that whilst the prevalence of some CVD is lower in the two LCGs than the CCG as a whole, the prevalence of risk factors such as smoking, diabetes and obesity is statistically significantly higher. This may partially be explained by the relatively low proportion of the population in these LCGs over the age of 65 and the relatively higher proportion of the population in the more deprived LCGs.

- Smoking prevalence data suggests that 45,850 people registered with Borderline and Peterborough practices were smokers in 2013/14.

- The combined percentage of patients recorded by GP practices as being obese is significantly higher in Borderline and Peterborough LCG registered patients than in the CCG as a whole (10.2% vs 8.7%). However, GP recording is known to underestimate overall rates of obesity in the population. The most recent estimates released by Public Health England (based on the 2012 Active People Survey) suggest the actual percentage of adults classified as obese in Peterborough to be 24.1%, 2.5% higher than the estimate for Cambridgeshire (21.6%). The Public Health Outcomes Framework also includes an estimated percentage of adults classified as either overweight or obese; in Peterborough, this figure is 65.5% whereas in Cambridgeshire it is 65.0%.

- The data on prevalence shows that CVD risk factors are relatively high in the relatively younger and more deprived population in Borderline and Peterborough LCGs, who may not be diagnosed with CVD yet, but are at high risk of developing disease and requiring services as they age.

Statistical significance[1]

Comparisons of local values to the national average in the Health Profiles are made through an assessment of 'statistical significance'. For each local indicator value, 95% confidence intervals are calculated which provide a measure of uncertainty around the calculated value which arises due to random variation. If the confidence interval for the local value exceed the value for the benchmark, the difference between the local value and the benchmark is said to be 'statistically significant'.

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The epidemiology identifies substantial inequalities in health:

- Circulatory diseases (including coronary heart disease and stroke) contribute a third of the gap in life expectancy between Peterborough and the national average for men, and half for women.
- Whilst mortality rates from all circulatory diseases under the age of 75 (premature mortality) are above the national rates for men and women, the gap appears to be widening in women.
- Borderline & Peterborough practices comprise the majority (17/22, 77.3%) of practices in the most deprived quintile within the CCG. Within this quintile, prevalence is significantly higher than the CCG for CVD, CHD and diabetes despite a lower proportion of population being aged 65 or older.
- There are also statistically significantly higher numbers of population that smoke and are recorded by GP practices as obese in comparison to the CCG within this quintile.
- In Peterborough, smoking prevalence was 34.7 % in people in routine and manual occupations, the highest in the east of England in 2013.
- Hospital admissions and deaths data for circulatory diseases in Peterborough show a correlation with wards with a high proportion of BME groups. These wards are also the most deprived, and there is a known relationship between deprivation and CVD, as well as the known relationship between South Asian ethnicity and CHD. Central, Park, Ravensthorpe, West, East, North and Dogsthorpe wards have higher % BME, % living in income deprived households, standardised mortality ratios for deaths from circulatory diseases and coronary heart disease (all ages) and higher standardised emergency admission ratios for coronary heart disease.

2.3   Services

- Data on services is variable with the most robust data relating to acute care.
- National audit data provides a means to benchmark services against national standards and other organisations.
- Whilst Peterborough compares well to England in offering eligible 40-75 year olds a NHS Health Check, the conversion rate (i.e. the number of those invited who attend) is disappointing at 47.9% in 2014-5. 777 of 6042 (13%) of those attending for a Health Check in 2013-4 had a 20% 10 year risk of CVD.
- The standardised admissions rate for coronary heart disease in 2014-5 for Borderline and Peterborough LCGS is statistically similar to the CCG as a whole.
- Standardised admission rates for CHD, all ages and under 75, show a correlation with deprivation, being statistically higher for the more deprived populations.
- Emergency admission rates for coronary heart disease were highest in the areas of greatest deprivation.
- It was not possible to assess CHD hospital admission rates for different ethnic groups because of data quality issues
- There were 392 admissions with a diagnosis of stroke from Borderline and Peterborough LCGs in 2014-5.
- Admission rates for stroke are similar to those for the CCG as a whole.

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- Patients with a diagnosis of stroke were discharged to their normal place of residence in 57.1% of cases. Data from Peterborough City Council Adult Social Care shows 22.1% (151/681) of assigned social care packages were necessitated by a CVA/Stroke condition, with the overall annual cost mounting to £4.02 million.
- Further work is needed to better understand the range of services for prevention, treatment, rehabilitation and continuing support for people with CVD across sectors and to map pathways of care against quality standards and needs. Consideration of user views and equity in access and outcomes will be central to this work programme.

3   PETERBOROUGH'S POPULATION

Peterborough has a growing and ageing population which will increase the need for services**.**

Figure 1: Peterborough population pyramid and projections, by age group, 2001-2031
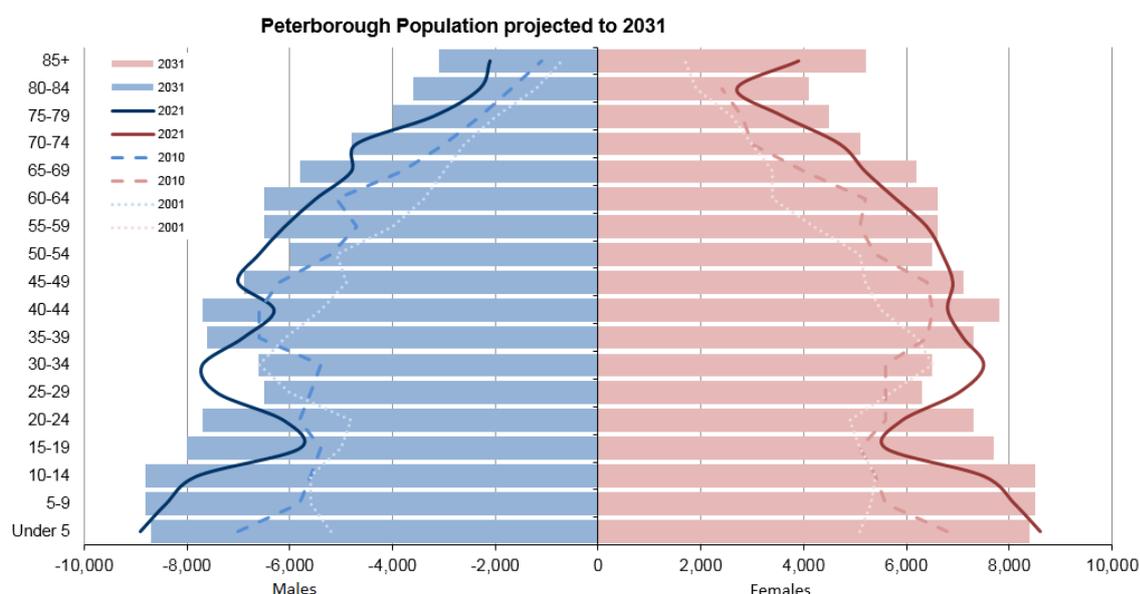
Source: Cambridgeshire County Council Research Group

- The population of Peterborough is predicted to rise by 23% from 176,300 in 2010 to 217,000 by 2021.
- Population growth to 2021 is expected to be high for men aged 85+ (90%) and 70—74 (57%); and women aged 70-74 (57%) and 85+ (56%).
- The majority of the population is registered with the 20 practices in the Peterborough Local Commissioning Group (LCG) and the 10 practices in the Borderline LCG.
- 17 of these practices fall in the most deprived quintile of Cambridgeshire and Peterborough Clinical Commissioning Group (CCG) based on the registered population's level of deprivation compared to England as calculated by English Indices of deprivation 2010 (which uses data on income, employment, health/disability, education, crime, housing/services and living environment).

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- GP practices collect data on the number of people with CVD and the risk factors (prevalence) as part of the Quality and Outcomes Framework (QOF).
- The prevalence of CVD rises with age and is also higher in more deprived populations; this is reflected in the practice prevalence data.
- The best available data, which are not drawn from exactly equivalent population groups or timeframes, suggest that the number of people estimated to have CVD in Borderline and Peterborough LCGs will rise from 21,674 in 2015 to 24,405 by 2021 and 27,570 by 2031.

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4 SUMMARY OF CARDIOVASULAR DISEASE EPIDEMIOLOGY

The Public Health Outcomes Framework (PHOF) data for 2011-13 summarises the population health outcomes and mortality rates from preventable mortality and CVD. It shows that Peterborough compares unfavourably with England and local authorities in the east of England. The under 75 mortality rate from CVD is significantly higher for both men and women living in Peterborough.

4.1 Mortality from CVD

Figure 2: Public health outcome framework-health care and premature mortality

Indicator	Period		England	East of England region	Bedford	Cambridgeshire	Central Bedfordshire	Essex	Hertfordshire	Luton	Norfolk	Peterborough	Southend-on-Sea	Suffolk	Thurrock
4.03 - Mortality rate from causes considered preventable (Persons)	2011 - 13	◁▷	183.9	162.4	176.5	149.1	159.7	162.3	155.5	207.2	164.0	215.1	184.5	154.1	183.9
4.03 - Mortality rate from causes considered preventable (Male)	2011 - 13	◁▷	233.1	201.8	216.4	186.0	195.1	200.7	194.4	253.1	204.1	283.2	218.1	192.3	232.1
4.03 - Mortality rate from causes considered preventable (Female)	2011 - 13	◁▷	138.0	125.4	138.3	113.7	125.3	127.3	120.1	161.3	126.0	150.8	153.1	118.0	138.0
4.04i - Under 75 mortality rate from all cardiovascular diseases (Persons)	2011 - 13	◁▷	78.2	69.9	73.1	59.5	62.6	66.7	71.6	110.4	69.5	98.4	84.7	63.8	95.7
4.04i - Under 75 mortality rate from all cardiovascular diseases (Male)	2011 - 13	◁▷	109.5	97.6	92.1	84.3	83.0	94.1	100.8	150.6	95.0	134.5	119.0	92.8	134.6
4.04i - Under 75 mortality rate from all cardiovascular diseases (Female)	2011 - 13	◁▷	48.6	43.7	54.6	35.5	42.8	41.5	44.4	71.5	45.2	64.1	52.6	36.1	59.2
4.04ii - Under 75 mortality rate from cardiovascular diseases considered preventable (Persons)	2011 - 13	◁▷	50.9	45.2	49.5	38.6	43.8	42.0	43.9	79.4	45.4	68.0	55.3	41.5	62.6
4.04ii - Under 75 mortality rate from cardiovascular diseases considered preventable (Male)	2011 - 13	◁▷	76.7	67.6	64.4	59.3	59.5	64.1	65.3	113.7	67.8	104.3	78.8	63.8	98.5
4.04ii - Under 75 mortality rate from cardiovascular diseases considered preventable (Female)	2011 - 13	◁▷	26.5	24.0	35.2	18.6	28.6	21.7	24.0	46.3	24.1	33.3	33.3	20.3	29.0

Source: Public Health and Outcomes Framework

Life expectancy at birth is lower for Peterborough residents than in England. The life expectancy gap is 1.3 years for men (Peterborough 77.9 years; England 79.2) and 0.5 years in women (82.5, Peterborough; 83.0, England). Public Health England estimates that circulatory disease is a major contributing factor to the gap in life expectancy, explaining a third of the gap for men and half of the gap in women in Peterborough.

Figure 3: Breakdown of the life expectancy gap between Peterborough and England by broad cause of death, 2010-12
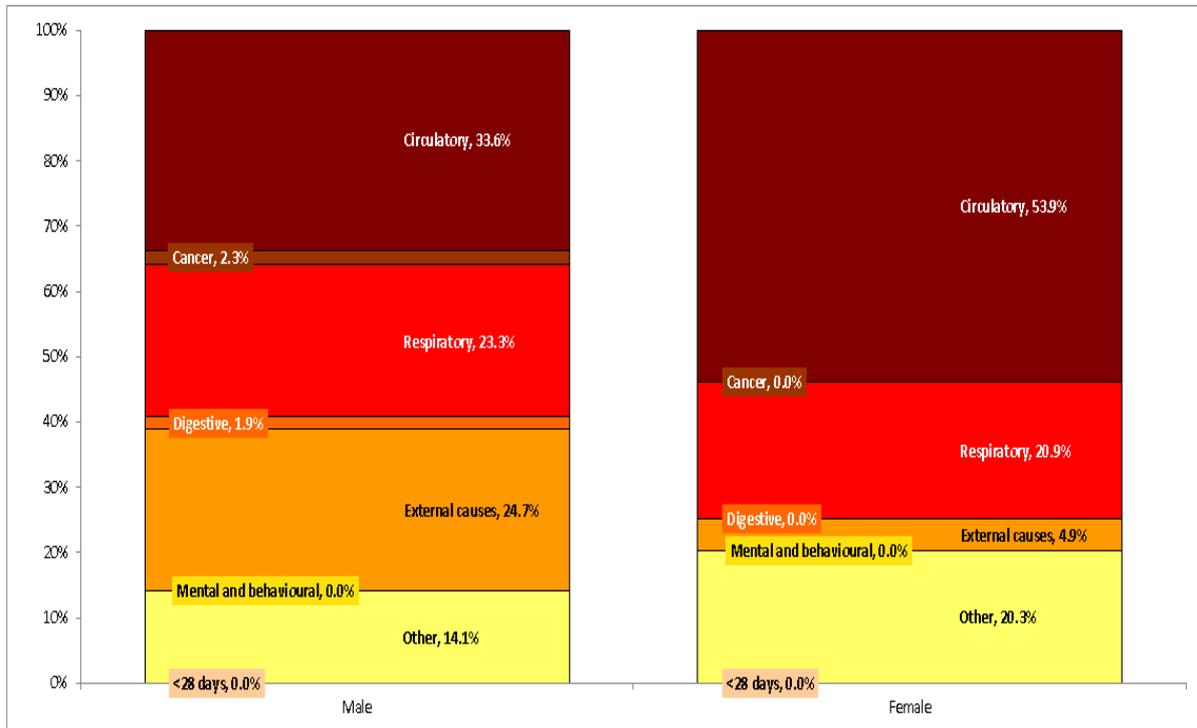
Source: Segment tool, PHE

Figure 4: Mortality from all circulatory diseases under age 75, DSR, 1995-2013
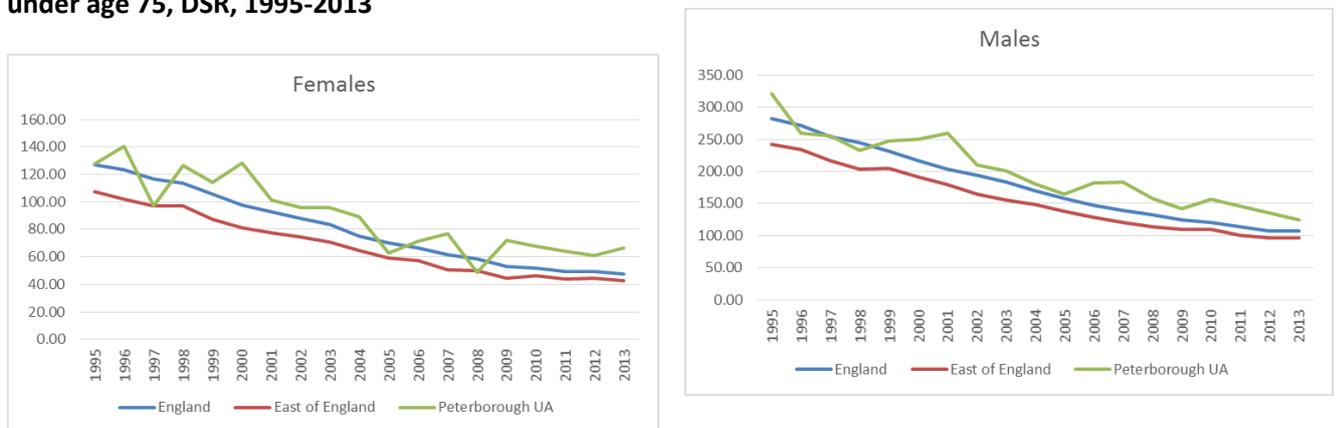
Source: Health and Social Care Information Centre, Indicator Portal

Whilst the directly age standardised mortality rates (DSR) from circulatory diseases, all ages, have fallen substantially over the last three years and are now similar to England, the mortality rates for men (124.12/100,000 vs 107.5/100,000) and women (66.4/100,000 vs 47.3/100,000) under the age of 75 in Peterborough are above the national rates.

In addition, the graph suggests a widening gap in premature CVD mortality in women which needs to be addressed and monitored.

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Figure 5: Mortality from Coronary Heart Disease, DSR, 1995-2013
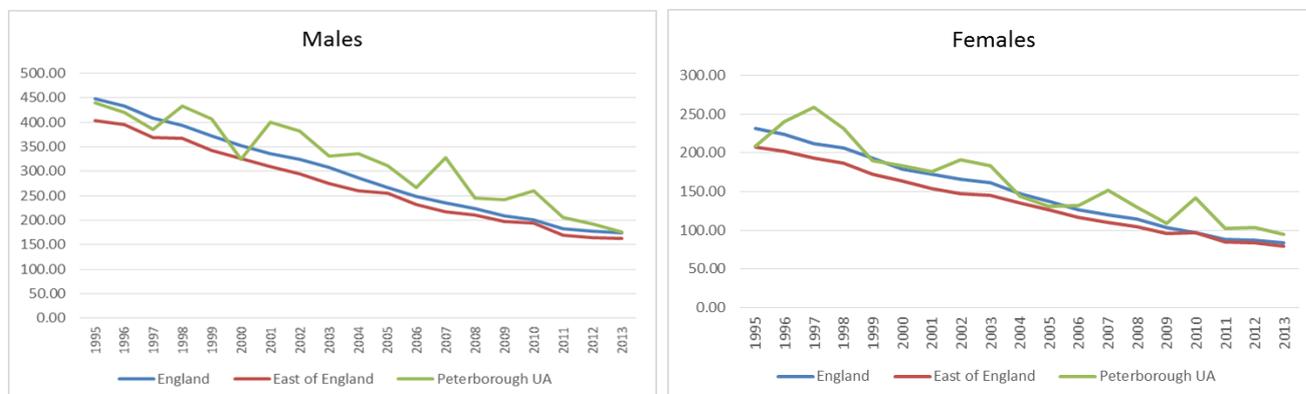
Source: Health and Social Care Information Centre, Indicator Portal

Mortality rates (DSR) for coronary heart disease are also raised compared to England for men and markedly so for women. (Men 176.1/100,000 vs 174.7 nationally; women 94.6 vs 83.4/100,000).

Figure 6: Mortality from stroke (under 75), DSR, 1995-2013
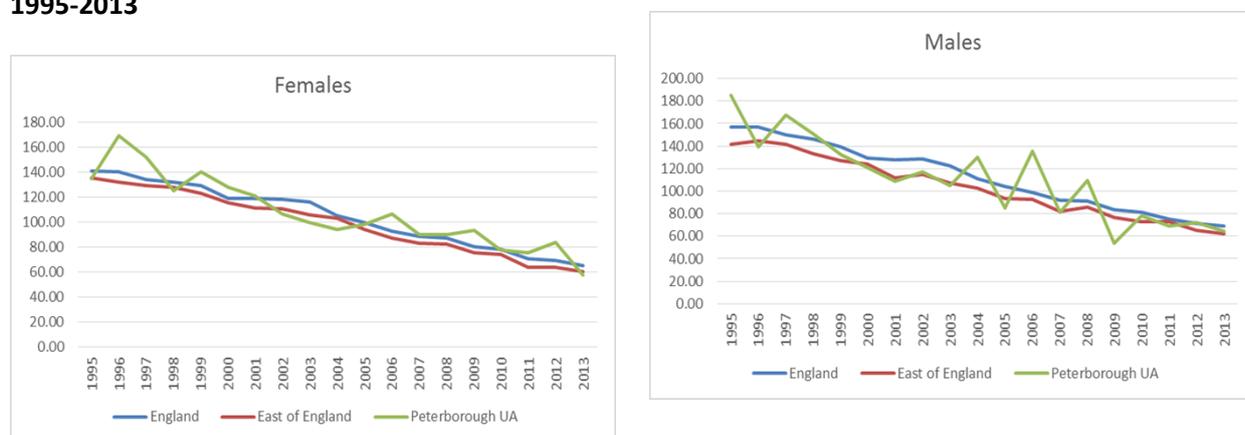
Source: Health and Social Care Information Centre, Indicator Portal

The all age mortality rate (DSR) from stroke in Peterborough is marginally below the England rate for men (64.1 vs 68.7/100,000) and women (57.6 vs 65.1/100,000).

Peterborough mortality rates from stroke under age 75 are similar to England for females (11.8/100,000 vs 11.6/100,000 nationally).

For males, the Peterborough rate fell substantially from 17.5/100,000 in 2012 to 10.9/100,000 in 2013, which is better than the England rate of 16.0/100,000.

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4.2   **Prevalence of CVD**

QOF (quality and outcomes framework) data are collected by primary care services (general practices). They represent GP diagnosed disease and hence GP recorded levels of illness (prevalence), rather than true population prevalence which would include undiagnosed disease. QOF data are not available by age and hence a practice, or a geographic area, with a relatively older population would expect to have a higher level of disease than an area with a younger population, for most cardiovascular diseases.

Observations are said to be statistically significant when they are unlikely to be due to chance. The threshold for calculating this is usually set at 1:20 or a probability (p) value of 5%. As such, there is a level of confidence that the value presented is an accurate estimation of the true value which falls within the range established by the confidence intervals. (Differences in observations or the results of trials may be statistically significant but not important in practice).

QOF data from general practices show that the Borderline LCG has a statistically significantly low prevalence (green) of atrial fibrillation and a statistically significantly high prevalence (red) of stroke, diabetes, hypertension, smoking and obesity in comparison to Cambridgeshire and Peterborough Clinical Commissioning Group. Peterborough LCG has a statistically significantly low prevalence of CHD, stroke, hypertension and atrial fibrillation and a statistically significantly high prevalence of diabetes, smoking and obesity. Peterborough's significantly low prevalence of conditions such as CHD and stroke may be partially explained by only 12.7% of registered population being aged 65+, compared to 15.9% within the CCG as a whole.

Table 1: Prevalence of CVD and risk factors by LCG, Cambridgeshire and Peterborough CCG, 2013/14

LCG	Age 65+	Age 85+	CVD	CHD	Stroke	Heart Failure	Diabetes	Hypertension	Atrial Fibrillation	Smoking	Obesity
BORDERLINE	16.2%	2.1%	2.6%	3.0%	1.6%	0.7%	6.2%	14.3%	1.3%	19.7%	9.6%
CAM HEALTH	13.9%	2.5%	2.1%	2.4%	1.3%	0.6%	4.3%	10.7%	1.5%	15.8%	6.1%
CATCH	15.0%	2.1%	2.4%	2.4%	1.2%	0.5%	4.0%	10.9%	1.4%	13.7%	6.1%
HUNTS CARE PARTNERS	19.2%	2.4%	3.2%	3.6%	1.7%	0.7%	6.6%	15.0%	1.9%	18.2%	10.0%
HUNTS HEALTH	16.2%	1.9%	3.0%	3.1%	1.5%	0.6%	5.8%	14.3%	1.7%	18.2%	9.3%
ISLE OF ELY	18.0%	2.2%	2.8%	3.3%	1.5%	0.7%	6.5%	13.5%	1.7%	18.5%	9.7%
PETERBOROUGH	12.7%	1.7%	2.6%	2.7%	1.3%	0.6%	6.4%	12.2%	1.0%	25.5%	10.7%
WISBECH	19.8%	2.5%	3.5%	3.9%	2.0%	0.7%	7.3%	15.1%	1.8%	26.7%	12.1%
CCG	15.9%	2.1%	2.7%	2.9%	1.5%	0.6%	5.6%	12.8%	1.5%	18.6%	8.7%

Source: QOF Prevalence data 2013/14

Borderline and Peterborough practices comprise the majority (17/22, 77.3%) of practices in the most deprived quintile within the CCG. Within this quintile, prevalence is significantly higher than the CCG for CVD, CHD and diabetes despite only 14.6% of population being aged 65 or older, 1.3% lower than the CCG. There are also statistically significantly higher numbers of population that smoke and are obese in comparison to the CCG within these quintiles. Prevalence of CVD, CHD, stroke, heart failure, hypertension and atrial fibrillation are also statistically significantly high in the least deprived quintile, although this may be in part due to having 19.1% of population aged 65 or older (vs 15.9% across the CCG). This shows that the prevalence of CVD risk factors is relatively high in the relatively younger and more deprived population in Borderline and Peterborough LCGs, who may not be diagnosed with CVD yet, but are at high risk of developing disease and requiring services as they age.

Table 2: Prevalence of CVD and risk factors by deprivation quintile, Cambridgeshire and Peterborough CCG, 2013/14

Quintile	Age 65+	Age 85+	CVD	CHD	Stroke	Heart Failure	Diabetes	Hypertension	Atrial Fibrillation	Smoking	Obesity
5 - Most Deprived	14.6%	1.9%	2.8%	3.1%	1.5%	0.6%	6.8%	13.0%	1.2%	26.7%	11.0%
4	16.1%	2.2%	2.5%	3.2%	1.5%	0.7%	6.1%	13.5%	1.5%	21.7%	10.2%
3	14.6%	2.0%	2.5%	2.7%	1.3%	0.6%	5.0%	11.9%	1.4%	16.1%	7.6%
2	16.0%	2.1%	2.6%	2.6%	1.4%	0.5%	4.7%	11.8%	1.5%	13.4%	6.6%
1 - Least Deprived	19.1%	2.6%	3.0%	3.1%	1.6%	0.7%	5.1%	14.0%	1.8%	13.4%	7.8%
CCG	15.9%	2.1%	2.7%	2.9%	1.5%	0.6%	5.6%	12.8%	1.5%	18.6%	8.7%

Source: QOF prevalence data, 2013-14

With an overall prevalence of 1.3%, Peterborough LCG is one of three LCGs to be statistically significantly better than the CCG prevalence of 1.5% for stroke. The Borderline LCG prevalence is 1.6%, statistically significantly high; collectively the two LCGs have a prevalence of 1.4%.

As we would expect, the data show evidence of a correlation between prevalence and age, with the LGCs with statistically significantly higher prevalence of stroke also having a higher percentage of registered residents aged 65+. Peterborough LCG has a stroke prevalence 0.2% lower than the CCG but also 3.2% fewer registered persons over 65 and 0.4% fewer persons over 85. Stroke prevalence is statistically significantly high in the least economically deprived quintile, potentially as a result of a high proportion of older people.

Similarly, heart failure prevalence is statistically significantly high in the least economically deprived quintile, however this may be as a result of 19.1% of the population within the quintile being aged 65 or older, compared to 15.9% across the CCG as a whole.

5   RISK FACTORS, LIFESTYLE AND CVD

A number of common risk factors are recognised as increasing the likelihood that an individual will develop CVD:

- **Fixed factors** such as family history, gender, ethnicity and ageing;
- **Wider determinants** such as deprivation, poverty, education, housing and environmental factors and (un)employment;
- **Modifiable risk factors**
  - Lifestyle factors such as smoking, obesity, nutrition, lack of physical activity, high alcohol consumption;
  - Physiological/ metabolic risk factors, which may develop in response to those above, such as high blood pressure (hypertension), diabetes (high blood sugar), and hyperlipidaemia (high blood fats).

The fact that multiple risk factors can cause CVD underpins the need for an integrated approach to prevention and risk reduction at both an individual and a population level. It is estimated that in over 90% of cases, the risk of a first heart attack is related to one or more of the potentially modifiable risk factors-smoking, poor diet, physical inactivity, obesity, high blood pressure, diabetes, alcohol consumption, high blood cholesterol and psycho-social stress.

5.1 Ethnicity and inequalities

Nationally the prevalence of CVD, and its risk factors, varies with ethnicity. For instance, Black Caribbean, Indian, Pakistani and Bangladeshi men have a higher prevalence of diabetes, a risk factor for CVD, than the general population. Premature coronary heart disease rates are higher in South Asian populations in the UK than in white ethnic groups, while stroke incidence rates are higher in Black ethnic men and women. The reasons for this are complex including genetic, cultural and behavioural factors, and are not fully understood.

Peterborough has a relatively high proportion of black and minority ethnic (BME) residents. In the 2011 census, 17.5% of residents identified themselves as BME compared to 14.6% nationally.

Hospital admissions and deaths data for circulatory diseases in Peterborough show a correlation with wards with a high proportion of BME groups. These wards are also the most deprived, and there is a known relationship between deprivation and CVD.

Central, Park, Ravensthorpe, West, East, North and Dogsthorpe wards have higher % BME, % living in income deprived households, standardised mortality ratios for deaths from circulatory diseases and coronary heart disease (all ages) and higher standardised emergency admission ratios for coronary heart disease

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5.2   Lifestyle risk factors

5.2.1   Smoking

Smoking remains the major cause of preventable death and disease in Peterborough as in England and is a leading cause of health inequalities and ill health. It is the primary risk factor in 'years of life lost' in the United Kingdom.

Smoking rates in Peterborough have been declining in recent years but still remain high. In 2010, one in five (25.2%) adults in Peterborough smoked, whilst in 2013 this rate had declined to one in four (20.8%) adults smoking, a reduction of 4.4%. In comparison the England average rate had reduced 2.4% to 18.4% and the East of England average rate had reduced 2.1% to 17.5% over the same period.

Figure 7: Public Health Outcomes Framework 2.14 – Smoking prevalence among persons aged 18 years and over Trend 2010-2013 (%)
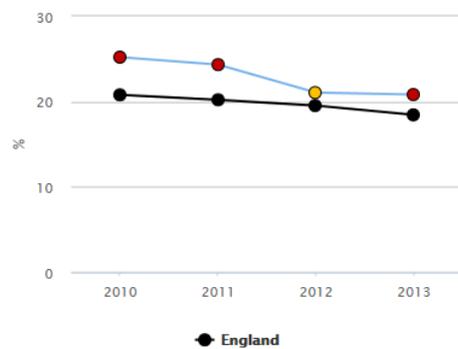
| Period	Sig	Count	Value	Lower CI	Upper CI	East of England	England
2010	●	-	25.2	23.0	27.4	19.6	20.8
2011	●	-	24.3	22.0	26.7	20.0	20.2
2012	○	-	21.1	18.7	23.4	18.7	19.5
2013	●	-	20.8	18.6	23.1	17.5	18.4

Source: Integrated Household Survey. Analysed by Department of Health and published by Public Health England.

Smoking prevalence data suggests that 45,850 people registered with Borderline and Peterborough practices were smokers in

Source: PHOF, PHE

In Peterborough, smoking prevalence was 34.7% in 2013 (the latest available data) in people in routine and manual occupations, the highest in the east of England. Prevalence has been falling nationally over the period 2011-13 but rose in Peterborough from 34.3% in 2012 to 34.7% in 2013. The east of England average in 2013 was 28.4% and in England it was 28.6% for the same year.

Figure 8: Public Health Outcomes Framework 2.14 – Smoking prevalence among persons working in 'routine and manual' occupations Trend 2011-2013 (%)
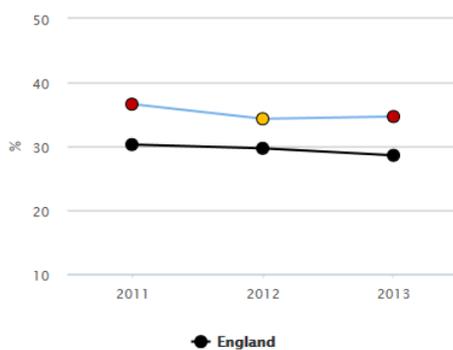
Period	Sig	Count	Value	Lower CI	Upper CI	East of England	England
2011	●	-	36.6	31.4	41.8	30.9	30.3
2012	○	-	34.3	29.0	39.7	29.8	29.7
2013	●	-	34.7	29.4	40.0	28.4	28.6

Source: Integrated Household Survey. Analysed by the Department of Health and published by Public Health England

Source: PHOF, PHE

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Smoking status of residents registered with GP practices in 2013/14 shows an association between high levels of deprivation and high levels of smoking.

There is also a strong relationship between smoking and people living with mental health problems. People with mental health conditions are twice as likely to be smokers; and depression is two to three times more common in people with a range of cardiovascular diseases.

Figure 9: Smoking Prevalence, Cambridgeshire & Peterborough CCG, 2013-14
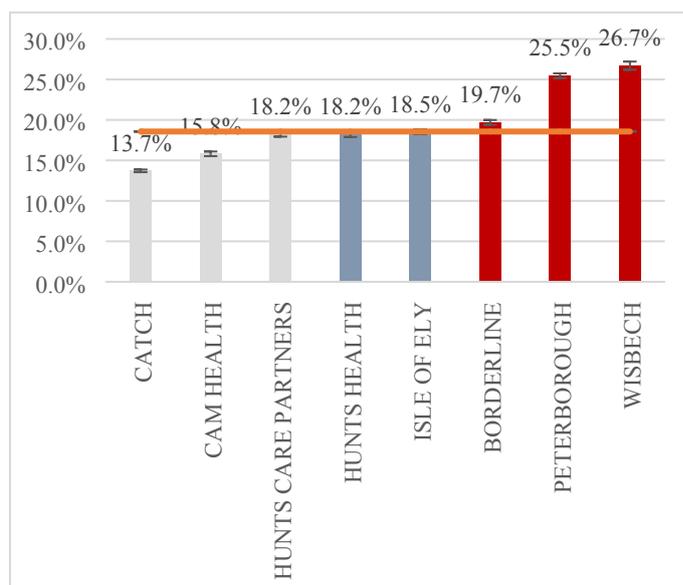
Data show that both Borderline and Peterborough LCGs have a statistically significantly high level of smoking prevalence, with a collective prevalence of 22.9% vs 18.6% across the CCG as a whole.

Source: QOF data CCG CVD profiles

5.2.2   Physical inactivity

There is growing evidence that sedentary behaviours (e.g. sitting for long periods at work, for travel, study and 'screen time') is independently and adversely linked to all-cause mortality, cardiovascular deaths, type 2 diabetes, some cancers and depression[2]. The increase in sedentary behaviour is linked to a range of social and cultural factors including a decrease in manual jobs, use of technology for work and leisure and less active travel.

Studies show that doing more than 150 minutes of moderate physical activity or 75 minutes of vigorous physical activity every week reduces the risk of coronary heart disease by approximately 30%[3]. Physical activity promotes cardiovascular health through regulating weight and the body's use of insulin, as well as providing health benefits relating to blood pressure, blood lipid levels, blood glucose levels, blood clotting factors and the health of blood vessels.

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[2] 'Start active, stay active'- a report on physical activity and health from the four home countries' Chief Medical Officers,
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216370/dh_128210.pdf

[3]'Start active, stay active'- a report on physical activity and health from the four home countries' Chief Medical Officers,
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216370/dh_128210.pdf

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The percentage of adults who are physically active in Peterborough (54.6%) is lower than the East of England average (57.8%) and the England average (56.0%).

The cost of physical inactivity in terms of expenditure on related ailments in Peterborough in 2009/10 financial year was estimated to be over £2.7 million. More than half of the estimated expenditure (£1.4 million) was on coronary heart disease.

Table 3: Health costs of physical inactivity, split by disease type, 2009-10

Disease category	Peterborough	East of England	England
Coronary heart disease	£1,463,791	£60,186,615	£491,095,943
Diabetes	£787,339	£19,484,702	£190,660,420
Cerebrovascular disease e.g. stroke	£267,574	£11,718,678	£134,359,285
Cancer lower GI e.g. bowel cancer	£133,227	£5,853,928	£67,816,189
Breast Cancer	£94,798	£5,755,887	£60,357,887
Total Cost	**£2,746,729**	**£102,999,810**	**£944,289,723**

Source: Sport England Local Sport Profiles, 2014

5.2.3 Poor diet

Evidence shows that the risk of a new major cardiac event can be reduced up to 73% by consuming a diet low in saturated fats and including substantial amounts of fresh fruit and vegetables

A diet high in trans fats (e.g. fast food, cakes) and saturated fats (e.g. cheese, butter, processed foods) increases levels of cholesterol and can contribute towards abnormal blood lipid levels, which have a strong correlation with the risk of coronary artery disease.[4] It is recommended that the average man should eat no more than 30g of saturated fat per day and the average woman no more than 20g.

Similarly, high consumption of salt/ sodium is linked to high blood pressure, a major risk factor for CVD. It has been estimated that a universal reduction in dietary intake of sodium by approximately 1g of sodium per day (about 3g of salt) would lead to a 50% reduction in the number of people needing treatment for hypertension, a 22% drop in the number of deaths from strokes and a 16% fall in deaths from coronary heart disease.

Government guidance suggests that people should consume at least 5 portions of fruit and vegetables per day to maintain their health. Local data (CVD JSNA full dataset) shows a correlation between the percentage of residents within each of Peterborough's wards who self-reported consuming at least 5 portions of fruit and vegetables per day and the number of emergency hospital admissions and deaths in under 65s and under 75s.

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Of 11 wards with a lower percentage of healthy eating adults, 8 have higher rates of emergency hospital admissions and deaths amongst both the under 65s and under 75s.

Data show a clear correlation between high levels of economic affluence, high levels of healthy eating and low levels of emergency hospital admissions and deaths. Conversely, where deprivation is high, levels of healthy eating tend to be relatively low and hospital admission rates are high.

5.2.4 Obesity

Obesity, defined as a Body Mass Index (BMI weight /height^2 ≥30 for adults) can lead to ill health including type 2 diabetes, CVD and obstructive sleep apnoea as well as psychological problems and poor quality of life. Moderate obesity (a BMI of 30-35) was found to reduce life expectancy by an average of three years, while morbid obesity (a BMI of 40-50) reduces life expectancy by 8-10 years. Public Health England predicts that 70% of adults will be overweight or obese by 2034-approximatley 170,000 people in Peterborough if the Cambridgeshire Research Group population predictions prove accurate.

The most recent estimates released by Public Health England (based on the 2012 Active People Survey) suggest the actual percentage of adults classified as obese in Peterborough to be 24.1%, 2.5% higher than the estimate for Cambridgeshire (21.6%). The Public Health Outcomes Framework also includes an estimated percentage of adults classified as either overweight or obese; in Peterborough, this figure is 65.5% whereas in Cambridgeshire it is 65.0%.

Area	% of adults classified as obese*	% of adults with excess weight**
Peterborough	24.1%	65.5%
Cambridgeshire	21.6%	65.0%

*Active People Survey 2012

**PHOF indicator 2.12, 2012

The Quality & Outcomes Framework (QOF) for GPs also includes a measure from which the prevalence of patient obesity may be calculated; however, as this is based on actual in-practice measurement within the preceding 12 months, prevalence figures are lower than the above estimates and should therefore be treated with a degree of caution.

Figure 10: Obesity Prevalence aged 16+, as recorded by GP practices, Cambridgeshire & Peterborough CCG LCGs, 2013-14
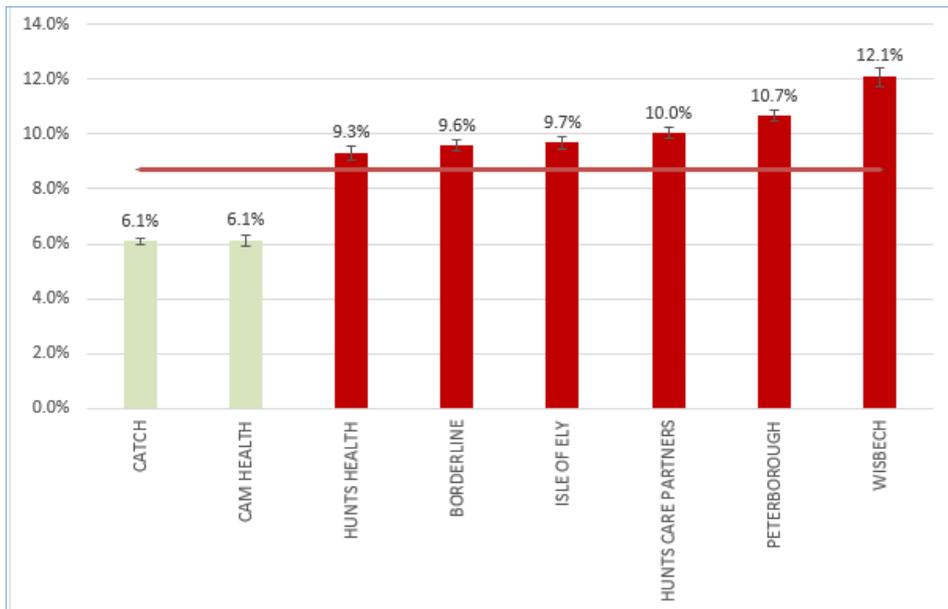

The prevalence of obesity as recorded by GP practices across the CCG is 8.7%.

Both Borderline & Peterborough LCGs have a prevalence recorded by GP practices which is statistically significantly higher than the CCG, with the combined prevalence for the two LCGs standing at 10.2% (19,964).

Source: QOF from local CCG CVD profiles

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5.2.5 Alcohol Peterborough Unitary Authority's directly age standardised rate of hospital admissions for alcohol-related CVD (all persons) has been statistically significantly higher than the England rate for the six consecutive years spanning 2008/09 – 2013/14. The local rate has, however, remained relatively consistent over the past three years, during which time the England rate has increased. The rates for both males and females are each statistically significantly high in Peterborough for each year between 2008/9 and 2013/14.

Figure 11: Alcohol Related CVD Hospital Admissions, All Persons, 2008/09 – 2013/14 (Directly Standardised Rate per 100,000)[5]
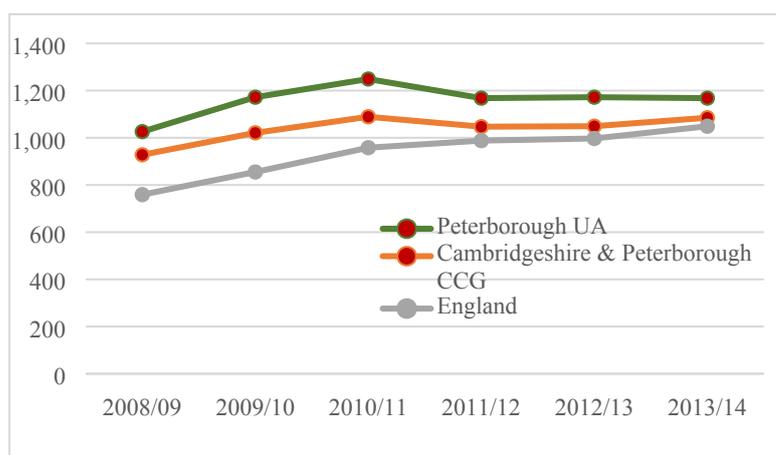
5.2.6 Diabetes

Diabetes occurs when the body doesn't produce, or respond to, the hormone insulin which regulates blood glucose levels**.** There are two main types of diabetes. In Type I diabetes, the cells in the pancreas which produce insulin are damaged by the immune system. This type of diabetes usually develops before the age of 40 and requires insulin injections. Type 2 diabetes accounts for about 90% of cases and occurs when there is a relative lack, or resistance to, insulin. It can be managed with diet and exercise and often progresses to need drugs or insulin. It is more common with age and in people who are overweight or obese-including increasing numbers of young people.

Ethnicity is a key factor for the development of Type 2 diabetes with South Asians having a 50% higher lifetime risk than the white European population. It develops at a younger age and at a lower level of obesity.

People living in deprivation are 2.5 times more likely to develop diabetes on average –associated with higher levels of obesity and physical inactivity.

There is a strong correlation between diabetes and CVD. Heart disease and stroke are the major causes of death and disability in people with Type 2 diabetes-at least 65% of people with diabetes die from some kind of heart disease or stroke. Diabetes is often associated with other risk factors for CVD.

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Figure 12: East of England Diabetes Profile, 2013-14

Indicator	Period	England	East of England region	Bedford	Cambridgeshire	Central Bedfordshire	Essex	Hertfordshire	Luton	Norfolk	Peterborough	Southend-on-Sea	Suffolk	Thurrock
Good blood sugar control in people with diabetes	2013/14	61.5	59.3	54.8	58.3	60.1	60.1	62.0	59.4	59.1	47.9	60.1	58.1	62.7
Good blood pressure control in people with diabetes	2013/14	71.9	69.9	66.4	67.2	69.6	70.6	72.4	66.1	70.5	61.5	72.0	69.4	72.5
Good cholesterol control in people with diabetes	2013/14	72.3	70.6	70.9	68.7	70.4	70.4	72.7	67.0	71.6	70.1	70.4	69.5	71.1
People with diabetes meeting treatment targets	2012	36.0	34.9*	30.8	30.2	30.8	37.3	36.2	33.4	33.9	30.2	39.7	35.9	38.7
BMI recorded in the previous 15 months	2012/13	91.7	91.6*	92.3	92.3	93.6	90.9	92.2	92.1	91.6	90.5	88.4	91.8	90.4
Foot check	2013/14	82.1	82.2	83.2	84.0	85.6	81.0	83.3	82.2	82.2	81.6	80.2	81.1	81.7
Tested for protein in the urine	2013/14	80.6	77.2	79.4	78.4	79.7	73.1	80.7	75.1	80.9	75.0	74.3	76.7	73.4
Smoking cessation advice and treatment	2013/14	93.1	-	-	-	-	-	-	-	-	-	-	-	-
Flu vaccination	2013/14	78.4	77.9	79.3	78.5	80.7	77.2	80.0	77.8	77.6	77.2	73.8	77.4	73.5
Eye screening	2013/14	82.6	82.6	84.9	79.6	84.4	82.2	88.0	79.3	83.7	74.2	74.8	81.1	83.8
People with diabetes having all check-ups	2012	59.5	54.6*	45.9	54.9	45.9	-	52.1	60.4	62.2	54.9	53.4	51.6	55.2

Source: Fingertips Diabetes Profile, Public Health England

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Figure 13: Diabetes prevalence, Cambridgeshire and Peterborough CCG, 2013-14
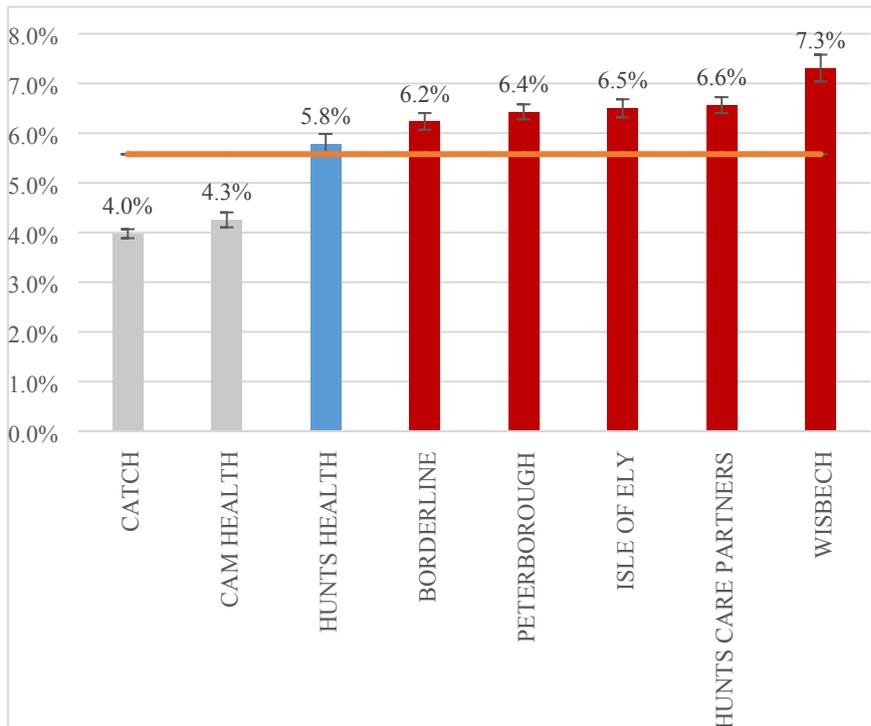
Both Borderline and Peterborough LCGs have a statistically significantly high prevalence of diabetes compared to the CCG as a whole, with 12,244 people registered with practices in these two LCGs having diabetes in 2013/14.

Source: QOF from CCG CVD profiles

6   SERVICES FOR CVD

6.1 Health Checks in Primary Care

Everyone aged 40-75 who does not have a pre-existing condition is offered an NHS Health Check every five years to identify those with risk factors for cardiovascular and kidney disease and diabetes. Older people, aged over 65 years, are provided with information on the signs and symptoms of dementia and on local services.

Figure 14: Observed Number of People Invited for an NHS Health Check Q1 2013/14 – Q3 2014/15
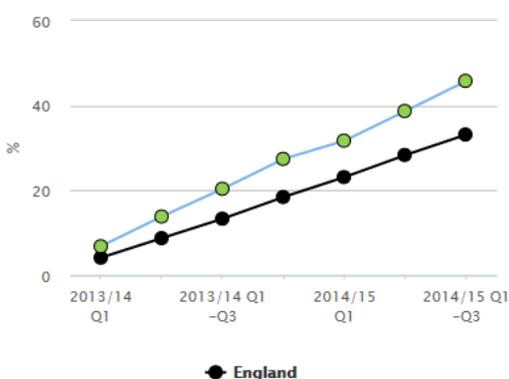
Period		Count	Value	Lower CI	Upper CI	East of England	England
2013/14 Q1	●	3,279	6.8	6.6	7.0	-	4.1
2013/14 Q1-Q2	●	6,666	13.8	13.5	14.2	-	8.7
2013/14 Q1-Q3	●	9,818	20.4	20.0	20.8	-	13.3
2013/14 Q1-Q4	●	13,216	27.4	26.9	27.9	-	18.4
2014/15 Q1	●	15,555	31.7	31.2	32.2	-	23.1
2014/15 Q1-Q2	●	18,977	38.7	38.2	39.1	-	28.3
2014/15 Q1-Q3	●	22,462	45.8	45.3	46.2	-	33.1

Source:
Public Health England

Source: PHOF, PHE

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22,462 people have now been invited for an NHS Health Check in Peterborough; 45.8% of the eligible population. This figure is statistically significantly better than the percentage observed in England overall which stands at 33.1%.

However, the proportion taking up the tests remains disappointing. Only 10,769 eligible people in Peterborough took up an NHS Health Check in 2014/5, 47.9% of the total of invites (22,462). This number is statistically similar to England; in the previous six periods of measurement, Peterborough has been statistically significantly worse than England with regards to converting invitations in to Health Checks.

Figure 15: Outcome of NHS Heath Checks, 2013-14

In 2013/14, Peterborough planned to undertake health checks on 6,059 registered patients aged 40-74. GP practices participated in the programme with individual targets supported by clinical coaching and Public Health events across all communities.

The programme has achieved 99.7% of the target (6042 completed checks against a target of 6059). This is 12% increase on the number of completed health checks compared to the 2012/13 programme.

Based on national and regional statistics Peterborough City Council is 22nd out 151 LAs and second across Eastern LAs. This is an excellent effort from all GP practices working in partnership with the local authority to reduce the prevalence of chronic disease.
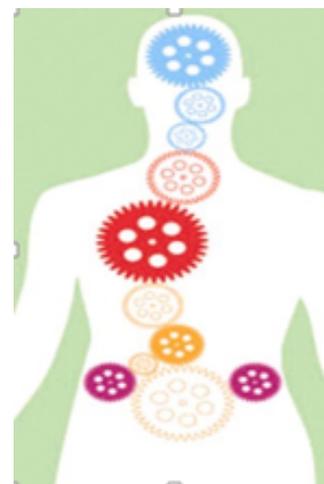
Specific outcomes for Peterborough include:
- 777 patients assessed with a CVD risk of more than 20% (10 year risk of developing a chronic disease.
- 164 Hypertensive patients identified (high blood pressure)
- 54 Diabetics diagnosed
- 495 patients referred to weight management programmes
- 1840 patients received dementia awareness advice
- 2003 patients received Alcohol Audit C assessment
- 557 patient referred to physical activity programme
- 471 patients prescribed statins to lower cholesterol.

Source: Tackling Inequalities in Coronary Heart Disease programme update 3, May 2014

6.2 Hospital Admissions

6.2.1 Coronary Heart Disease

In 2014/15, there were 1,108 admissions of patients, of all ages, from Borderline and Peterborough LCGs with coronary heart disease as the primary cause (544 of these were emergency admissions). 772 of these admissions (nearly 70%) were in people under the age of 75; and 349 of these were emergency admissions.

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Table 4: Coronary Heart Disease Admissions (All Admission Types, All Ages) 2014/15, Cambridgeshire & Peterborough CCG LCGs, Directly Standardised Admission Rate per 100,000

Area	Observed Admissions	DSR	LI	UI	65+	+85+
CATCH	759	419.8	390.2	451.0	15.1%	2.1%
CAM HEALTH	294	453.1	401.9	509.0	13.9%	2.5%
PETERBOROUGH	562	556.4	510.6	605.1	12.5%	1.8%
BORDERLINE	546	568.2	521.1	618.3	16.6%	2.1%
ISLE OF ELY	528	593.7	543.9	646.9	18.4%	2.3%
HUNTS CARE PARTNERS	772	641.8	597.2	688.9	19.5%	2.4%
HUNTS HEALTH	392	645.1	582.3	712.9	16.8%	1.9%
WISBECH	335	708.9	634.7	789.3	19.9%	2.6%
BORDERLINE AND PETERBOROUGH LCGS	1,108	562.8	529.8	597.3	14.3%	1.9%
ALL OTHER LCGS	3,080	546.6	527.3	566.3	16.8%	2.3%
C&P CCG	4,188	551.2	534.5	568.2	16.1%	2.2%

Source: Cambridgeshire and Peterborough CCG Commissioning Data Set (CDS) & HSCIC GP registered population data, April 2014

The standardised admission rate for 2014/15 for CHD is statistically similar to the CCG for both Borderline and Peterborough LCGs.

The standardised admission rates for CHD, both all ages and aged under 75, show a correlation with deprivation with significantly higher rates for the more deprived quintiles and a significantly lower rate in the more affluent. Similarly, emergency admission rates for CHD are highest in areas of economic deprivation.

It was not possible to reliably assess the relationship between ethnicity and risk of admission for coronary heart disease under age 75 due to data quality issues.

Table 5: Coronary Heart Disease Admissions (All Admission Types, Under 75 Only) 2014/15, Cambridgeshire & Peterborough Quintiles of Deprivation, Directly Standardised Admission Rate per 100,000

Quintile	Observed Admissions	DSR	LI	UI	65+	85+
5 – Most deprived	727	496.2	460.5	533.9	14.6%	1.9%
4	628	440.6	406.7	476.6	16.1%	2.2%
3	573	392.9	361.1	426.7	14.6%	2.0%
2	468	347.1	316.2	380.2	16.0%	2.1%
1 – Least Deprived	412	295.4	267.4	325.6	19.1%	2.6%
C&P CCG	**2,808**	**395.6**	**381.0**	**410.6**	15.9%	2.1%

Source: Cambridgeshire and Peterborough CCG Commissioning Data Set (CDS) & HSCIC GP registered population data, April 2014

6.2.2 Stroke

There was a total of 392 stroke admissions in patients registered with Borderline and Peterborough LCGs in 2014-15 and 195 of these admissions were in patients aged under 75 years (approximately half).

The collective directly standardised admission rate for stroke for Borderline and Peterborough LCGs stands at 200.7/100,000 which is statistically similar to the CCG rate of 187.5/100,000. Although the DSR as a result of stroke falls as economic affluence increases, no quintile is statistically significantly different to the CCG admission rate of 187.5/100,000.

Table 6: Stroke Admissions (All Admission Types, All Ages) 2014/15, Cambridgeshire & Peterborough CCG LCGs, Directly Standardised Admission Rate per 100,000

Area	Observed Admissions	DSR	LI	UI	65+	+85+
CATCH	286	159.0	140.9	178.6	15.0%	2.1%
CAM HEALTH	113	164.0	134.6	197.8	13.9%	2.5%
HUNTS HEALTH	103	177.8	144.9	215.9	16.2%	1.9%
ISLE OF ELY	168	191.7	163.7	223.1	18.0%	2.2%
BORDERLINE	**186**	**197.0**	**169.5**	**227.7**	16.2%	2.1%
HUNTS CARE PARTNERS	238	200.5	175.7	227.7	16.2%	1.9%
PETERBOROUGH	**206**	**204.5**	**177.1**	**234.9**	12.7%	1.7%
WISBECH	120	253.4	209.9	303.3	19.8%	2.5%
Borderline and Peterborough LCGs	**392**	**200.7**	**181.1**	**221.8**	14.3%	1.9%
All Other LCGs	1,028	182.6	171.6	194.2	16.6%	2.2%
C&P CCG	1,420	187.5	177.8	197.6	15.9%	2.1%

Source: Cambridgeshire and Peterborough CCG Commissioning Data Set (CDS) & HSCIC GP registered population data, April 2014

The patient was discharged to their normal place of residence in 57.1% (872/1528) of cases. Data from Peterborough City Council Adult Social Care shows 22.1% (151/681) of assigned social care packages were necessitated by a CVA/Stroke condition, with the overall annual cost amounting to £4.02 million.

6.3 Hospital services –quality standards and national audit data

The majority of Peterborough residents are admitted to Peterborough and Stamford Hospitals NHS Foundation Trust with cardiovascular conditions. The hospital participates in the national audits of treatments for heart disease and stroke.

However, patients with acute chest pain are taken to Papworth Hospital, the specialist cardiac hospital. Peterborough doesn't offer emergency treatment to restore the blood flow in the coronary arteries and there is some evidence that specialist centres, with high numbers of cases, achieve better outcomes for patients.

6.3.1 Coronary heart disease

MINAP, the Myocardial Ischaemia National Audit Project, analyses data from ambulance and hospital services on the process and outcomes of care to inform the public, clinicians and commissioners on the quality of local care by publishing an annual report.

Heart attack or myocardial infarction is part of a spectrum of conditions know as acute coronary syndrome. The term includes both ST-elevation myocardial infarction (STEMI- named for the ECG changes seen) where emergency re-perfusion of the coronary arteries with primary percutaneous intervention (PCI) or thrombolytic drugs is indicated in eligible patients; and non-ST-elevation myocardial infarction (nSTEMI) which is more common and requires different treatment.

The vast majority of patients (99.8%) with STEMI admitted to Papworth, (not just Peterborough residents) received primary PCI in 2013-14 (1) and 30 day mortality unadjusted rates were below the national average (6.3% vs 7.2% in primary PCI capable centres, 2011-14). [1]

Data for non-STEMI patients is more likely to be incomplete, particularly if they are not admitted to a cardiac ward. In Peterborough, as in England, 94% were seen by a cardiologist or a member of their team. Of those admitted to Peterborough hospital, all who were eligible were referred for angiography with increasing numbers receiving this during their admission.

Table 7: Primary PCI in hospitals in England, Wales and Belfast (extract of local data)

	Proportion of nSTEMI patients seen by a cardiologist or a member of team	Number of all nSTEMI patients	Proportion of nSTEMI patients admitted to cardiac unit or ward	Number of all nSTEMI patients	Proportion of nSTEMI patients who were referred for or had angiography during admission	Number of all nSTEMI patients eligible for angiography	Proportion of nSTEMI patients who were referred for or had angiography during admission including angiography planned after discharge	Number of all nSTEMI patients eligible for angiography	Proportion of nSTEMI patients seen by a cardiologist or a member of team	Number of all nSTEMI patients	Proportion of nSTEMI patients admitted to cardiac unit or ward	Number of all nSTEMI patients	Proportion of nSTEMI patients who were referred for or had angiography during admission	Number of all nSTEMI patients eligible for angiography	Proportion of nSTEMI patients who were referred for or had angiography during admission including angiography planned after discharge	Number of all nSTEMI patients eligible for angiography
Year	2012/13								2013/14							
	Seen By Cardiologist [%]	Out of [N]	Admitted To Cardiac Ward [%]	Out of [N]	Had Angiography Before Discharge [%]	Out of [N]	Had Angiography At Any Time [%]	Out of [N]	Seen By Cardiologist [%]	Out of [N]	Admitted To Cardiac Ward [%]	Out of [N]	Had Angiography Before Discharge [%]	Out of [N]	Had Angiography At Any Time [%]	Out of [N]
Papworth Hospital, Cambridge		<20		<20		<20		<20								<20?
Peterborough City Hospital, Peterborough	94.2	411	63	411	26.4	394	60.2	394	93.9	461	58.1	461	33.7	457	58.2	457

Source: MINAP 2014

Use of secondary prevention medication after the acute admission is proven to improve outcomes for patients with either STEMI or n-STEMI by reducing the risk of a further heart attack or complications such as heart failure. NICE Clinical Guidance 48 supports the use of combinations of drugs in all eligible patients who have had a heart attack. The audit also collects information on the percentage of patients with an acute coronary syndrome and eligible for each secondary prevention medication who are discharged on that treatment. (Patients are not included if they die, are transferred to another hospital, are not eligible for a medication or decline treatment).

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Table 8: Secondary prevention medication eligibility, 2012/13 and 2013/14 (extract of local data)

Year	Proportion of all patients who were **not** eligible to receive any secondary prevention medication	Proportion of patients who were eligible for **one** secondary prevention medication who received it	Proportion of patients who were eligible for **two** secondary prevention medications who received them	Proportion of patients who were eligible for **three** secondary prevention medications who received them	Proportion of patients who were eligible for **four** secondary prevention medications who received them	Proportion of patients who were eligible for **five** secondary prevention medications who received them	Proportion of patients who received **all** secondary prevention medications for which they were eligible	Number of all patients eligible to receive secondary prevention medication	Proportion of all patients who were **not** eligible to receive any secondary prevention medication	Proportion of patients who were eligible for **one** secondary prevention medication who received it	Proportion of patients who were eligible for **two** secondary prevention medications who received them	Proportion of patients who were eligible for **three** secondary prevention medications who received them	Proportion of patients who were eligible for **four** secondary prevention medications who received them	Proportion of patients who were eligible for **five** secondary prevention medications who received them	Proportion of patients who received **all** secondary prevention medications for which they were eligible	Number of all patients eligible to receive secondary prevention medication
	2012/13								2013/14							
	None	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	All (%)	N	None	1	2	3	4	5	All	N
England & Wales	1.1	10.2	55.7	68	78	84.2	81.2	60012	2.7	68.5	86.2	85.4	88.5	88.2	87.9	59368
England	1.1	10.2	56.2	68.3	78.6	84.4	81.5	57959	2.1	67.9	87.2	85.6	88.7	88.6	88.3	57301
Addenbrooke's Hospital, Cambridge	0.4	0	27.3	77.8	73.3	82.3	73.4	268	2.4	100	78.6	93.3	89.3	77.8	83	247
Papworth Hospital, Cambridge	0.4	100	75	81.2	88.4	85.5	85.7	686	0	16.7	75	83.3	87.9	91.7	90.2	687
Peterborough City Hospital, Peterborough	0	0	76.9	91.9	88.4	95.5	89.2	332	0.9	0	41.2	76.5	92.9	97.1	89.1	343

Source: MINAP 2014

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6.3.2 Stroke

The Sentinel Stroke National Audit Programme (SSNAP) aims to improve the quality of stroke care by auditing stroke services against evidence based standards, and national and local benchmarks.

There are six domains for acute stroke care, each scored into five bands. The total organisational score is obtained by calculating the average of the 6 domain scores, which are divided into bands A-E, with A as the highest performance band. These results reflect the stroke service audit data of July 2104.

Table 9: The six domains of stroke services organisation, SNAPP, 2014

6 domains of stroke service organisation

D1-Acute care: Presence of up to 7 features representing quality of care of stroke units treating patients within the first 72 hours of stroke; level of thrombolysis provision; nurse staffing levels at 10am weekends per ten beds

D2-Specialist roles: Frequency of consultant ward rounds; presence of senior nurses and/or therapists; access within 5 days to all of: social work expertise, orthotics, orthoptics, podiatry; palliative care patients treated on Stroke unit; access to clinical psychologists and aspects of care provided; provision of services which supports stroke patients to remain in, return to or withdraw from work and/or education or vocational training; patients staying in bed until assessed by physiotherapist

D3-Interdisciplinary services: Ratio of nurses and therapists to beds on the stroke unit(s); 6 or 7 days working for therapists; frequency and membership of formal team meetings

D4-TIA/Neurovascular clinic: Time TIA service can see, investigate and initiate treatment for all high- and low-risk patients; waiting time for carotid imaging (high- and low-risk patients)

D5-Quality improvement, training & research: Report on stroke services produced for trust board; presence of a strategic group responsible for stroke and membership; funding for external courses and number of days funded for nurses and therapists; clinical research studies; formal links with patients and carer's organisations; patient/carer views sought on stroke services; report produced in past 12 months which analysed views of patients

D6-Planning and access to specialist support: Patient information on: social services, benefits agency, secondary prevention advice and patient version of stroke guidelines/reports; personalised rehabilitation discharge plan given to patients; access to stroke/neurology specialist early supported discharge and community team for longer term management

Source: Sentinel Stroke National Audit Programme (SNAPP), RCP, regional results, 2014

Local hospitals, including Peterborough and Stamford Hospitals NHS Foundation Trust participate in the audit. Peterborough City Hospital provided acute stroke care, including thrombolysis available 24/7 for eligible patients, a 36 bed stroke unit with access to a range of specialist staff and prompt access to investigate and initiate treatment in high risk transient ischaemic attacks (TIA).

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Table 10: Stroke national acute organisational audit, east of England, 2014

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational band	Domain 1* Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
East of England - East of England SCN								
Basildon and Thurrock University Hospitals NHS Foundation Trust	47	B	B	D	B	A	C	A
Bedford Hospital NHS Trust	16	D	D	D	D	C	C	C
Cambridge University Hospitals NHS Foundation Trust	36	D	D	C	D	C	A	E
Colchester Hospital University NHS Foundation Trust	33	B	C	C	B	A	A	A
East and North Hertfordshire NHS Trust	26	E	D	D	C	A	E	D
Hinchingbrooke Health Care NHS Trust	25	E	E	D	E	A	E	D
Ipswich Hospital NHS Trust	32	B	B	B	C	A	A	B
James Paget University Hospitals NHS Foundation Trust	30	C	C	D	E	A	D	A
Luton and Dunstable University Hospital NHS Foundation Trust	30	D	C	D	E	A	C	E
Mid Essex Hospital Services NHS Trust	25	C	B	C	D	A	D	C
Norfolk and Norwich University Hospitals NHS Foundation Trust	48	C	E	B	C	B	A	A
Peterborough and Stamford Hospitals NHS Foundation Trust	36	E	D	D	D	D	E	B
Princess Alexandra Hospital NHS Trust	22	D	D	E	C	B	C	B
Queen Elizabeth Hospital King's Lynn NHS Trust	29	A	B	A	B	A	A	A
Southend University Hospital NHS Foundation Trust	40	A	A	A	B	A	A	A
West Hertfordshire Hospitals NHS Trust	36	C	C	D	C	C	B	D
West Suffolk NHS Foundation Trust	24	D	D	D	C	C	A	E

Source: Sentinel Stroke National Audit Programme (SNAPP), RCP, regional results, 2014

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6.4   Tackling Coronary Heart Disease inequalities programme

Recognising the challenge in inequalities in coronary heart disease, the Borderline and Peterborough LCGs instigated a programme of work to improve population outcomes. The programme had four areas of activity:

- Smoking cessation
- Health checks
- Cardiac rehabilitation
- Primary care and prevention.

Physiological/metabolic risk factors are generally managed in primary care with support from hospital services and clinicians. It was not possible to include information on the management of high blood pressure, hypercholesterolaemia, atrial fibrillation etc. or these services in this JSNA although some data is included in the quality and outcomes framework.

Following Peterborough City Council prioritising CVD, the programme is reviewing its remit and with a view to including the detection and management of atrial fibrillation, a risk factor for strokes and transient ischaemic attacks. Across Cambridgeshire and Peterborough CCG, the East Midlands Strategic Clinical Network model suggests that 348 strokes and 115 deaths per year could be prevented by optimum management of atrial fibrillation compared to the 134 strokes and 44 deaths per year prevented by current management.
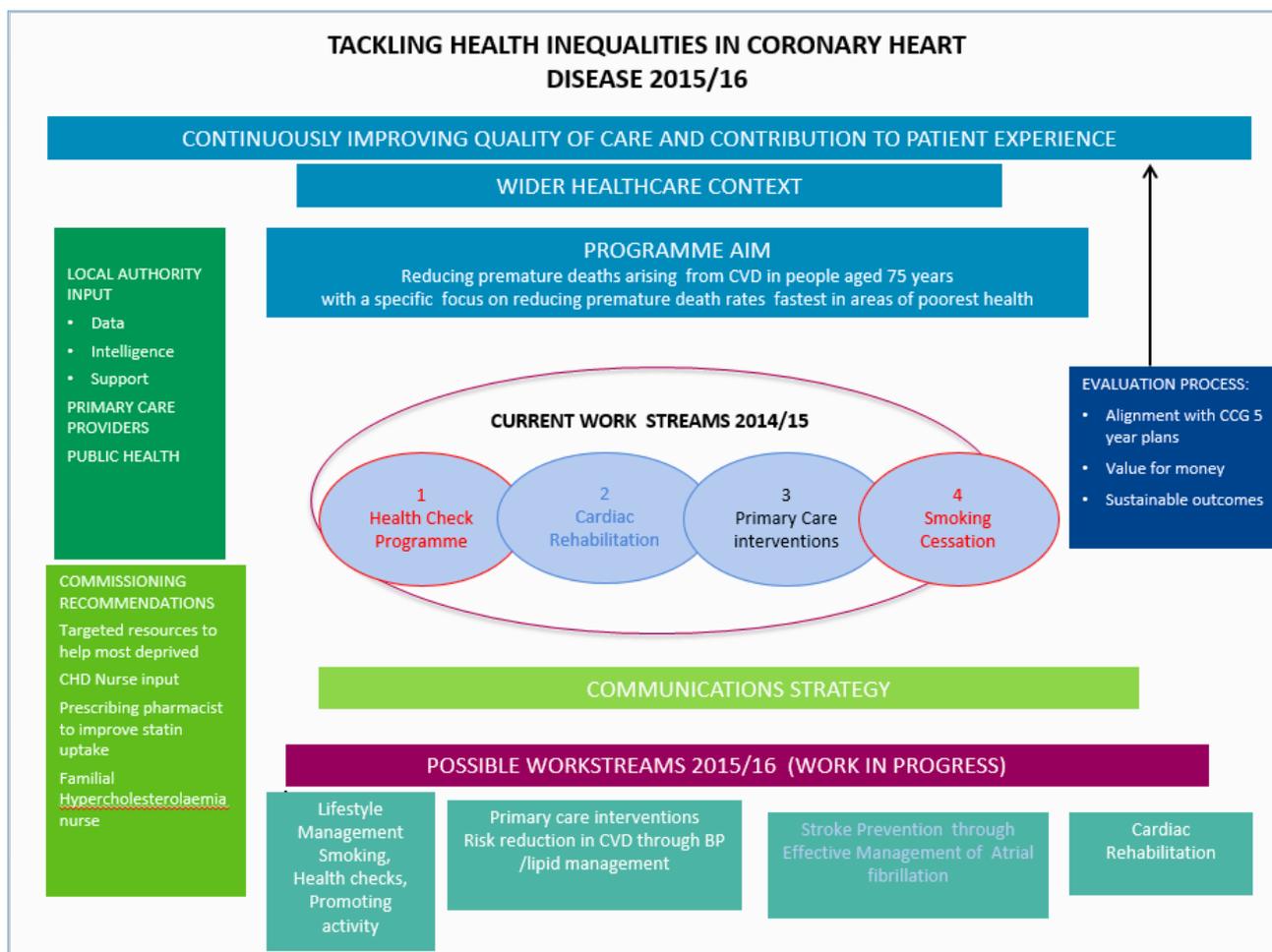
Source: Tackling Inequalities in Coronary Heart Disease Board, 2015

6.5   Service Gaps

Further work is needed to better understand the range of services for prevention, treatment, rehabilitation and continuing support for people with CVD across sectors and to map pathways of care against quality standards and needs.

Consideration of equity and inequalities in access and outcome should be central to this work.

The views of users –and those who don't take up services, such as the offer of an Health Check-and an understanding of barriers to accessing services particularly for BME and deprived communities should be considered.

The process of engagement through the CVD JSNA steering group and workshops is central to developing this programme of work.

7   EVIDENCE

Guidance for local authorities on developing joint strategic needs assessments references the need to consider evidence of effectiveness-good practice reviews, literature and the National Institute for Health and Care Excellence guidelines and quality standards. These inform the quality standards for

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the national service audits, local commissioning specifications and professional practice. Evidence of effectiveness and guidance is available for population interventions and individual treatment and care. Interventions are needed at individual and population level to tackle the burden of CVD, its risk factors and inequalities in health in the population.

7.1 Population Level Interventions

These are interventions also focusing on modifiable risk factors but at population-level which could lead to further substantial reduction in cardiovascular disorders. These can be achieved in a number of ways but must be supported by national and/or local policies and legislation.

Table 11: Summary of NICE guidance: Prevention of CVD (PH25)

Issue	Summary of rationale	Policy Goal
Salt	High levels of salt in the diet are linked with high blood pressure which, in turn, can lead to stroke and coronary heart disease. High levels of salt in processed food have a major impact on the total amount consumed by the population.	To reduce population-level consumption of salt.
Saturated Fats	Reducing general consumption of saturated fat is crucial to preventing CVD.	To reduce population-level consumption of saturated fats including the continued promotion of semi-skimmed milk for children aged over 2 years.
Trans fats	Industrially-produced trans fatty acids (IPTFAs) constitute a significant health hazard..	Ensure all groups in the population are protected from the harmful effects of IPTFAs. This includes establishing guidelines for local authorities to monitor independently IPTFA levels in the restaurant, fast-food and home food trades using existing statutory powers (in relation to trading standards or environmental health).
Marketing and promotions aimed at children	Eating and drinking patterns get established at an early age so measures to protect children from the dangers of a poor diet should be	Ensure children and young people under 16 are protected from all forms of marketing, advertising and promotions (including product placements) which encourage an

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and young people	given serious consideration.	unhealthy diet.
Commercial Interests	If deaths and illnesses associated with CVD are to be reduced, it is important that food and drink manufacturers, retailers, caterers, producers and growers, along with associated organisations, deliver goods that underpin this goal.	Ensure dealings between government, government agencies and the commercial sector are conducted in a transparent manner that supports public health objectives.
Product labelling	Clear labelling which describes the content of food and drink products is important because it helps consumers to make informed choices. It may also be an important means of encouraging manufacturers and retailers to reformulate processed foods high in saturated fats, salt and added sugars.	Evidence shows that simple traffic light labelling consistently works better than more complex schemes and should be encouraged.
Health impact assessment	Policies in a wide variety of areas can have a positive or negative impact on CVD risk factors and frequently the consequences are unintended. The Cabinet Office has indicated that, where relevant, government departments should assess the impact of policies on the health of the population.	Use a variety of methods to assess the potential impact (positive and negative) that all local policies and plans may have on rates of CVD and related chronic diseases. Take account of any potential impact on health inequalities.
Physically active travel	Travel offers an important opportunity to help people become more physically active. However, inactive modes of transport have increasingly dominated in recent years.	Ensure guidance for local transport plans supports physically active travel. This can be achieved by allocating a percentage of the integrated block allocation fund to schemes which support walking and cycling as modes of transport. Create an environment and incentives which promote physical activity, including physically active

		travel to and at work. Consider and address factors which discourage physical activity, including physically active travel to and at work. An example of the latter is subsidised parking.
Public sector catering guidelines	Public sector organisations are important providers of food and drink to large sections of the population. It is estimated that they provide around one in three meals eaten outside the home. Hence, an effective way to reduce the risk of CVD would be to improve the nutritional quality of the food and drink they provide.	Ensure publicly funded food and drink provision contributes to a healthy, balanced diet and the prevention of CVD. Ensure public sector catering practice offers a good example of what can be done to promote a healthy, balanced diet.
Take-aways and other food outlets	Food from take-aways and other outlets (the 'informal eating out sector') comprises a significant part of many people's diet. Local planning authorities have powers to control fast food outlets.	Encourage local planning authorities to restrict planning permission for take-aways and other food retail outlets in specific areas (for example, within walking distance of schools). Help them implement existing planning policy guidance in line with public health objectives.
Monitoring	CVD is responsible for around 33% of the observed gap in life expectancy among people living in areas with the worst health and deprivation indicators compared with those living elsewhere in England.	Independent monitoring, using a full range of available data, is vital when assessing the need for additional measures to address such health inequalities, including those related to CVD. Use available data to assess the need for additional measures to address health inequalities related to CVD.

Source: https://www.nice.org.uk/guidance/ph25

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7.2 Individual Level Interventions

These are interventions focussing on modifiable (CVD) risk factors and aim at changing an individual's behaviour. They are supported by a range of existing NICE guidance listed below.

Table 12: NICE guidance: CVD prevention, individual level interventions

Risk Factor	Rationale	NICE guidance
Alcohol	Excessive alcohol can cause abnormal heart rhythms, high blood pressure, damage to heart muscle and lead to a stroke.	Alcohol-use disorders: preventing harmful drinking. NICE public health guidance 24 (2010). https://www.nice.org.uk/guidance/ph24
Physical Activity	Lack of regular exercise increases the risk for developing high blood pressure, high cholesterol levels, high stress levels and being overweight. All of which are risk factors for CVD.	Promoting physical activity for children and young people. NICE public health guidance 17 (2009). https://www.nice.org.uk/guidance/ph17 Promoting physical activity in the workplace. NICE public health guidance 13 (2008). https://www.nice.org.uk/guidance/ph13 Physical activity and the environment. NICE public health guidance 8 (2008). https://www.nice.org.uk/guidance/ph8 Four commonly used methods to increase physical activity. NICE public health guidance 2 (2006). https://www.nice.org.uk/guidance/ph2
Obesity in BME groups	The prevalence of conditions such as Type 2 diabetes , CHD and stroke is up to 6 times higher (and they occur at a younger age) among BME groups. Lifestyle interventions targeting sedentary lifestyles and weight have reduced the incidence of diabetes	Body mass index thresholds for intervening to prevent ill health among black, Asian and other minority ethnic groups 2014 http://www.publications.nice.org/lgb13

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	by 50% in high risk individuals. BMI thresholds recommended as a trigger to intervene to prevent ill health among adults from black, Asian and other ethnic groups : • Increased risk chronic conditions BMI 23 kg/m^2 • High risk of chronic conditions BMI 27.5KG/m^2	
Hypertension	High blood pressure (hypertension) can damage artery walls and increase the risk of developing a blood clot and eventually a stroke. Usually a normal blood pressure reading should be below 130/80mmHg.	Hypertension: Clinical management of primary hypertension in adults. NICE clinical guideline 127 (2011). https://www.nice.org.uk/guidance/cg127

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Health Checks	Local authorities and their partners should encourage people to have NHS health checks and support them to change their behaviour to reduce their risk factors. • NHS health checks should be offered to each eligible person aged 40-75 once every 5 year, with recall every 5 year if still eligible; • People having a health check should be told their cardiovascular risk score and other results; • And provided with individually tailored advice which will motivate them and support any necessary lifestyle changes to help them manage risk.	Encouraging people to have NHS Health Checks and supporting them to reduce risk factors [LBG15] 2014 https://www.nice.org.uk/advice/lgb1
Identifying and supporting people most at risk of dying prematurely	Aims to support the identification and provision of services to people who are disadvantaged and most at risk of dying early from heart disease. The risk of dying early can be reduced by providing services to help people stop smoking and the treatment of high cholesterol and other conditions which increases the risk of heart disease. • GPs and other NHS staff and local authorities should set up systems to identify people who are disadvantaged and at high risk of heart disease. • NHS organisations and the local authority should work	Identifying and supporting people most at risk of dying prematurely [PH15] 2008 https://www.nice.org.uk/guidance/ph15

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together to provide flexible services to improve the health of these people; • The NHS and local authorities should ensure that services aiming to improve the health of people who are disadvantaged are coordinated and that there are enough people trained to run them.	

7.3 Clinical guidance and quality standards

Clinical guidelines, based on the evidence of effectiveness of treatments and interventions, inform clinical practice and quality standards for services.

Table 13: NICE clinical guidelines and quality standards for the management of CVD

Issue	Summary of rationale and recommendations	Guidance
Atrial Fibrillation (AF)	AF is the most common heart irregularity and prevalence increases with age. It is a risk significant risk factor for strokes. Personalised packages of care should be offered to those in AF to include consideration of • Anticoagulants • Drugs or cardio-version to correct heart rhythm • Those with a $CHA_2DS_2\text{-}VASC_2$ score of 2 or above should be offered anticoagulation with a NOVAC, taking risk of bleeding into account • Do not offer aspirin monotherapy solely for stroke prevention.	Atrial fibrillation: the management of atrial fibrillation [CG180] http://www.nice.org.uk/guidance/cg180
Acute coronary events	Makes recommendations on referral, assessment, diagnosis, investigation and management.	Chest pain of recent onset: assessment and diagnosis of recent onset chest pain and discomfort of suspected cardiac origin [CG95] 2010

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		https://www.nice.org.uk/guidance/cg95
Unstable angina and STEMI	Guidance on the investigation, management and assessment of risk and prevention of future events in angina and non-ST segment elevation myocardial infraction.	Unstable angina and STEMI [CG 94] 2010 https://www.nice.org.uk/guidance/cg94
Myocardial infarction with ST-segment elevation	Guidance on assessment & investigation (coronary angiography) for immediate reperfusion by percutaneous coronary intervention [PCI] within 120 minutes or fibrinolysis within 12 hours of presentation.	Myocardial infarction with ST-segment elevation: the acute management of myocardial infarction with ST segment elevation [CG 167] 2013 https://www.nice.org.uk/guidance/cg167
Myocardial infarction - secondary prevention	Recommends cardiac rehabilitation (with an exercise component) and lifestyle changes, psychological support and medication following an MI.	MI-secondary prevention: secondary prevention in primary and secondary care for patients following a myocardial infarction, 2013 https://www.nice.org.uk/guidance/cg172
Chronic Heart Failure	Recommends evidence –based management and treatment for people with chronic heart failure, including offering a group based exercise programme as part of the cardiac rehabilitation programme and planning for end of life care.	Chronic heart failure: management chronic heart failure in adults in primary and secondary care [CG108] 2010 https://www.nice.org.uk/guidance/cg108 NICE Clinical knowledge summaries, Heart Failure-chronic, revised May 2015 http://cks.nice.org.uk/heart-failure-chronic#!changes
Stroke and TIA –initial management	Stroke is preventable and treatable. Half of the people living with a stroke need assistance with activities of everyday living. In a TIA (transient ischaemic attack, symptoms	Stroke: diagnosis and acute management of stroke and TIA [CG 68] https://www.nice.org.uk/g

	resolve within 24 hours. • A screening test such as FAST (the Face, arm, speech test) should be used outside hospital; • People who have had a TIA should be assessed for stroke risk with a validated scoring system such as ABCD^2 and referred for specialist assessment and prevention • People with acute stroke should be cared for in specialist acute stoke units; receive urgent brain imaging and be assessed for thrombolysis with alteplase and anti-platelet drugs.	uidance/cg68
Stroke – rehabilitation	Makes recommendations on organising health and social care for people needing rehabilitation after a stroke • Initially in a dedicated stroke inpatient unit • From a specialist stroke team in the community • Offering early supported discharge • 6 month and then annual reviews • Strength, fitness, speech and language training; assessment of cognitive and visual impairment; depression; return to work and long term health and social support.	Stroke rehabilitation: long term rehabilitation after stroke [CG 162] https://www.nice.org.uk/guidance/cg162
Stroke services-quality standard	Services should be commissioned from and coordinated across agencies. An integrated approach to service provision is fundamental to high quality care. 11 quality statements including: 1.ambulance staff to screen those with neurological symptoms with a validated tool for stroke and TIA and transfer to stroke unit within 1 hour 2. acute stroke patients to receive brain imaging within 1 hour of arrival ; 3. admit to a specialist stroke unit assess for	Stroke quality standard[QS2] 2010 https://www.nice.org.uk/guidance/qs2

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	thrombolysis	47
	4. screen for swallowing reflex within 4 hours	
	5. assessment and management by a specialist stroke team	
	6. in-patient rehabilitation on a specialist stroke unit.	

7.4 Effective CVD Prevention Programmes

NICE recommends the following six components for effective CVD prevention programme.

Table 14: NICE good practice principles for an effective CVD prevention programme

1. Good practice principles

Programmes should comprise intense and multicomponent interventions that address identified risk factors.

They should be sustainable for a minimum of five years and should be allocated adequate resources.

2. Preparation

Programme leads should gain a good understanding of local CVD prevalence, existing risk factors and ongoing intervention's.

3. Programme development

Programmes should adopt a population based approach underpinned by a proven theoretical model.

Programmes should link with other existing interventions e.g. NHS Health Checks.

Programmes should take account of existing NICE guidance.

4. Resources

Ensure programmes last a minimum of 5 years and are allocated adequate financial and human resources.

5. Leadership

Identify senior figures in the local community and request them to act as champions for CVD prevention.

6. Evaluation

Ensure evaluation is built in and results are freely available and are shared with partner organisations.

NICE: Prevention of CVD: https://www.nice.org.uk/guidance/ph25

8   References

References are included in the full CVD JSNA data set available on the PPC website.

Additional references for this summary document are listed below:

- Statutory Guidance on Joint Strategic Needs Assessments for Joint Health and Wellbeing Strategies, Department of Health, 2012.

- Atrial Fibrillation, Cambridgeshire and Peterborough CCG; based on modelling from the CVD Group, East Midlands Strategic Clinical Network and QOF data, March 2014. Personal communication.

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31/08/15

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