

ANNEX B: Trends in Health Inequalities in Cambridgeshire

1. BACKGROUND

- 1.1 Reducing the gap in life expectancy between areas of lower life expectancy and the England average has been a focus of national policy for many years. For example, in 2004, Spearhead Primary Care Trusts were identified to pilot initiatives such as health trainers and enhanced smoking cessation services with an aim of tackling health inequalities¹. In 2005 there was a 'local spearhead' target introduced in Fenland, which aimed to identify measures to reduce the gap in male expectancy compared with England. Local work identified that accidents in young males were statistically significantly higher than the national figure and impacting on life expectancy figures. Because of the way that life expectancy is calculated, deaths in younger age-groups have a large effect. An action plan was developed in Fenland, which included a focus on road traffic accident prevention, since this was identified as a key problem.
- 1.2 The *Cambridgeshire Strategy to Tackle Health Inequalities* (2008) monitored life expectancy at birth in males and females in Fenland from a 2006-2008 baseline. In addition, the metrics included a measure of all age all cause mortality (AAACM), which monitored the mortality experience of the 20% most deprived areas compared, with the Cambridgeshire average.
- 1.3 In 2010, work was undertaken to explore the reasons why life expectancy in males in Cambridge City had not been increasing at the same rate as other districts in Cambridgeshire, or as in England. The impact of deaths amongst the homeless population and other drug and alcohol deaths was examined in detail.
- 1.4 Achieving a 'reduction in the gap in life expectancy' is an overarching theme of the NHS Outcomes Framework and the Public Health Outcomes Framework (PHOF). Key interventions to reduce this gap are in tackling lifestyle factors and ensuring early intervention and prevention of key diseases.
- 1.5 This report updates the latest life expectancy figures for 2011-2013 and demonstrates the local picture in relation to the 'gap' in life expectancy between the 20% most deprived areas in Cambridgeshire and the remaining 80% of areas. The key diseases contributing to this difference are demonstrated by the *Segment Tool*, produced by Public Health England, using data for 2010-2012. Recent trends are shown for some key lifestyle factors.

¹http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publicationsandstatistics/Pressreleases/DH_4095409

2. MAIN ISSUES

Life expectancy at birth

- 2.1 Life expectancy at birth is the average number of years of additional life that can be expected, on average, in a given population. It is defined as 'The average number of years a baby born in a particular area or population can be expected to live if it experiences the current age-specific mortality rates of that particular area or population throughout its life'.²
- 2.2 There are significant inequalities nationally and locally in life expectancy at birth by socio-economic group. Certain sub-groups, such as people with mental health problems and people who are homeless, also have lower life expectancy than the general population. There is variation in life expectancy at birth between and within areas of Cambridgeshire. In 2011-2013, South Cambridgeshire has the highest life expectancy in England for males (83.0 years) and the fifth highest for females (85.9) years.
- 2.3 Within Cambridgeshire, in 2011-2013, there is a difference of -3.5 years in males and -3.1 years in females between life expectancy at birth in Fenland and South Cambridgeshire. Life expectancy at birth is increasing in Cambridgeshire and nationally; the latest figures for 2011-2013 show that life expectancy at birth in Cambridgeshire continues to increase overall and is 81.2 years in men and 84.6 years for women, both statistically significantly higher than the England figures (79.4 for men and 83.1 for women in 2011-2013). In Cambridgeshire there is an indication that the female increase has stabilised between 2009-2011 and 2011-2013.
- 2.4 Life expectancy at birth has increased in districts in Cambridgeshire although the rate of increase has been slower in Cambridge City than in other districts over the last decade; on the most recent data for 2010-2012 and 2011-2013 this increase appears to have largely levelled out. Fenland has statistically significantly lower life expectancy at birth for both males and females (79.5 for males and 82.8 years for females) than the Cambridgeshire average and is similar to England in 2011-2013.

Table 1: Male and female life expectancy (LE) at birth, Cambridgeshire and Districts 2011-2013

Area	Male LE at birth		Female LE at birth	
	Life expectancy at birth (years)	95% Confidence Interval (CI)	Life expectancy at birth (years)	95% Confidence Interval (CI)
Cambridge	80.0	(79.3 - 80.7)	84.4	(83.8 - 85.0)
East Cambridgeshire	81.8	(81.1 - 82.5)	85.6	(85.0 - 86.2)
Fenland	79.5	(78.8 - 80.1)	82.8	(82.2 - 83.4)
Huntingdonshire	81.0	(80.5 - 81.5)	84.3	(83.9 - 84.8)
South Cambridgeshire	83.0	(82.5 - 83.5)	85.9	(85.4 - 86.4)
Cambridgeshire	81.2	(80.9 - 81.5)	84.6	(84.3 - 84.8)
England	79.4	(79.4 - 79.4)	83.1	(83.1 - 83.2)

Source: ONS

²For a description of 'life expectancy' and issues around its calculation see <http://tinyurl.com/pykjo49>. Julian Flowers et al.. (2004) *INphoRM 3: Life expectancy* [Online].

Reducing inequality in life expectancy at birth

2.5 Table 2 shows the trend in life expectancy at birth for males in Cambridgeshire and Fenland since 2000-2002. Between 2000-2002 and 2011-2013 there has been an increase in life expectancy in males of +4.8 years in Fenland and +4.0 years in Cambridgeshire. The life expectancy 'gap' in 2011-2013 is reduced by -0.8 years. However it is clear that there has been fluctuation over time.

Table 2: Male life expectancy at birth and life expectancy gap, Cambridgeshire and Fenland 2000-2002 to 2011-2013

Area	Male life expectancy at birth (years)											
	2000-2002	2001-2003	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013
Fenland	74.7	75.0	76.1	76.4	77.4	77.4	77.3	77.3	77.6	78.3	79.1	79.5
Cambridgeshire	77.2	77.5	77.9	78.3	78.6	79.0	79.3	79.7	80.1	80.6	81.0	81.2
Inequality gap	-2.5	-2.5	-1.8	-1.9	-1.2	-1.6	-2.0	-2.4	-2.5	-2.3	-1.9	-1.7
<i>England</i>	<i>76.0</i>	<i>76.2</i>	<i>76.5</i>	<i>76.9</i>	<i>77.3</i>	<i>77.6</i>	<i>77.9</i>	<i>78.2</i>	<i>78.5</i>	<i>78.9</i>	<i>79.2</i>	<i>79.4</i>

Source: ONS

2.6 Table 3 shows the trend in life expectancy at birth for females in Cambridgeshire and Fenland since 2000-2002. Whilst life expectancy at birth has increased in females by 2.6 years over the period, there has been little change in the 'gap' in life expectancy in females.

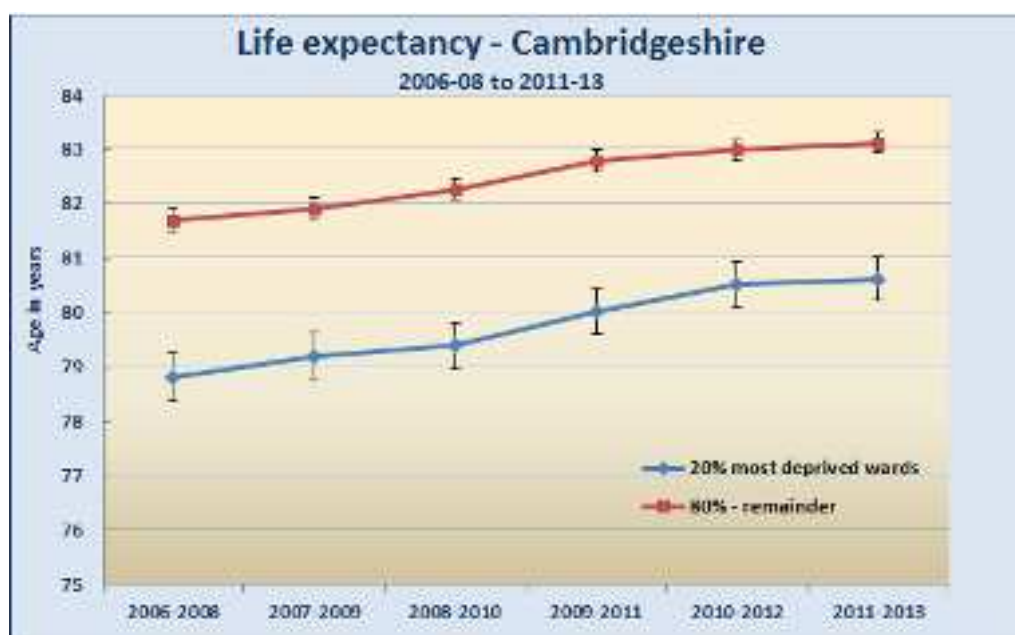
Table 3: Female life expectancy at birth and life expectancy gap, Cambridgeshire and Fenland 2000-2002 to 2011-2013

Area	Female life expectancy at birth (years)											
	2000-2002	2001-2003	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013
Fenland	80.2	80.4	81.0	80.7	80.6	80.9	81.2	82.0	82.4	82.8	82.8	82.8
Cambridgeshire	82.0	81.9	82.1	82.3	82.7	82.9	83.1	83.5	83.9	84.5	84.6	84.6
Inequality gap	-1.8	-1.5	-1.1	-1.6	-2.1	-2.0	-1.9	-1.5	-1.5	-1.7	-1.8	-1.8
<i>England</i>	<i>80.7</i>	<i>80.7</i>	<i>80.9</i>	<i>81.1</i>	<i>81.5</i>	<i>81.8</i>	<i>82.0</i>	<i>82.3</i>	<i>82.5</i>	<i>82.9</i>	<i>83.0</i>	<i>83.1</i>

Source: ONS

2.7 A scoping paper (January 2014) outlined the options for monitoring life expectancy locally using more timely data. The scoping work confirmed that the preference was to be using 'real-time' data, for the 20% most deprived areas based on electoral wards. The gap in life expectancy between the 20% most deprived areas of Cambridgeshire and the remainder has been reducing over time, whilst life expectancy figures have continued to increase. Although the figures for the earlier period (to 2009-2011) show a downward trend and a reduction in the gap, the later data appear to have stabilised.

Figure 1: Life expectancy at birth in Cambridgeshire, 2006-2008 to 2011-2013

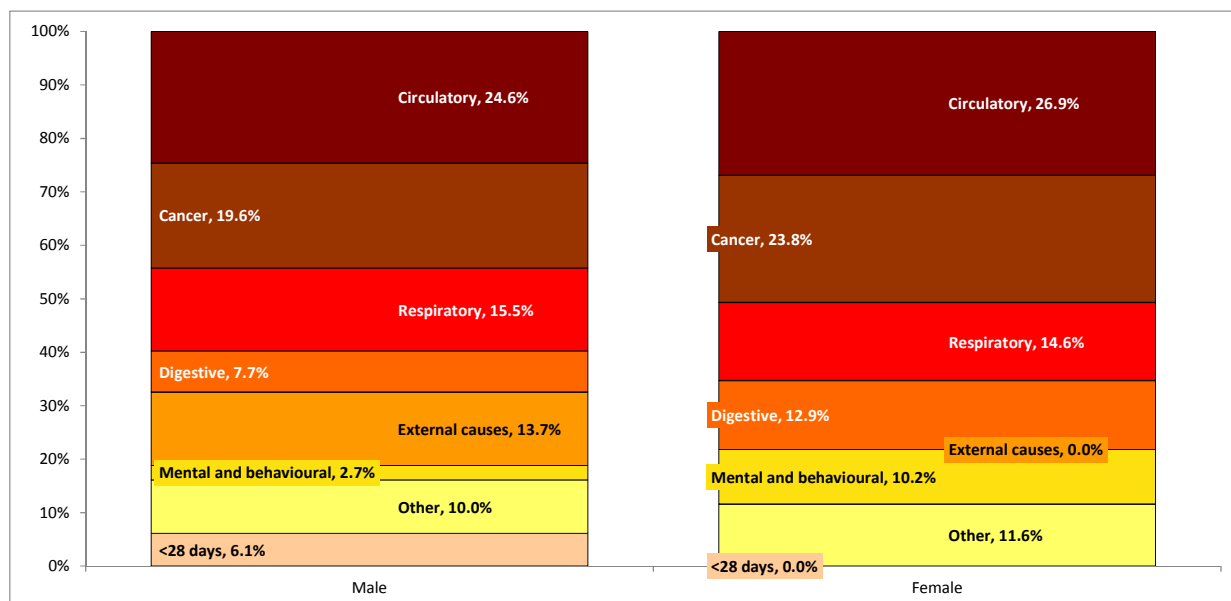


Source: Primary Care Mortality Database (PCMD) and ONS population data for electoral wards.

Main causes of 'gap' in life expectancy in Cambridgeshire

- 2.8 Public Health England has produced a new *Segment Tool* which provides detailed information on those causes of death that are contributing to health inequalities at a local authority level. Targeting the causes of death which contribute most to life expectancy 'gaps' should have the biggest impact on reducing health inequalities. The *Segment Tool* produces detailed information on the 'gap', i.e. the difference, in life expectancy between the 20% most deprived areas within Cambridgeshire and the 20% least deprived.
- 2.9 For Cambridgeshire, the key causes of death which contribute to inequalities are circulatory disease, which includes coronary heart disease and stroke, cancer and respiratory disease. These causes of death contribute 60% of the gap in life expectancy in males and 65% of the gap in females, between the most and least deprived areas. If the most deprived areas in Cambridgeshire had the same mortality experience for these conditions as Cambridgeshire's least deprived areas then 3.0 years of life would be gained by males and 2.2 years by females. In addition, in males the broad category of 'external causes', which includes deaths from injury, poisoning and suicide, accounts for an additional 14% of the gap in life expectancy between the most and least deprived areas. In females, digestive related causes, including alcohol related conditions such as chronic liver disease and cirrhosis, make up an additional 13%.

Figure 2: Main causes of death in males and females, 2010-2012, that contribute to the 'gap' in life expectancy between the 20% most deprived areas and the 20% least deprived areas



Source: PHE Segment Tool

Tackling lifestyle factors in Cambridgeshire

- 2.10 Progress is reported on key lifestyle factors; smoking prevalence, childhood obesity and sexual health (including teenage conceptions)

Smoking prevalence

- 2.11 Table 4 shows smoking prevalence across Cambridgeshire in 2013 as reported by the *Integrated Household Survey*, which has been conducted annually since 2010 on a sample of the population. Smoking prevalence is highest in Fenland and is statistically significantly higher than both Cambridgeshire and England as a whole.

Table 4: Estimated prevalence of smoking based on the Integrated Household Survey, all adults aged 18+, Cambridgeshire and Districts 2013

Local authority	Prevalence (%)	95% Confidence Interval (CI)	Estimated number of smokers (18+)
Cambridge	9.5%	(5.7% - 13.3%)	10,004
East Cambridgeshire	18.1%	13.2% - 23.0%)	12,025
Fenland	21.9%	(16.2% - 27.7%)	16,983
Huntingdonshire	11.6%	(8.4% - 14.8%)	15,671
South Cambridgeshire	11.4%	(8.1% - 14.6%)	13,373
Cambridgeshire	13.5%	(11.7% - 15.3%)	67,895
England	18.4%	(18.3% - 18.6%)	-

Source: Integrated Health Survey (IHS) 2013. Estimated number of smokers by applying smoking prevalence to ONS mid-2013 population estimates.

Table 5: Estimated prevalence of smoking based on the Integrated Household Survey, all adults aged 18+, Cambridgeshire and Fenland 2010 – 2013

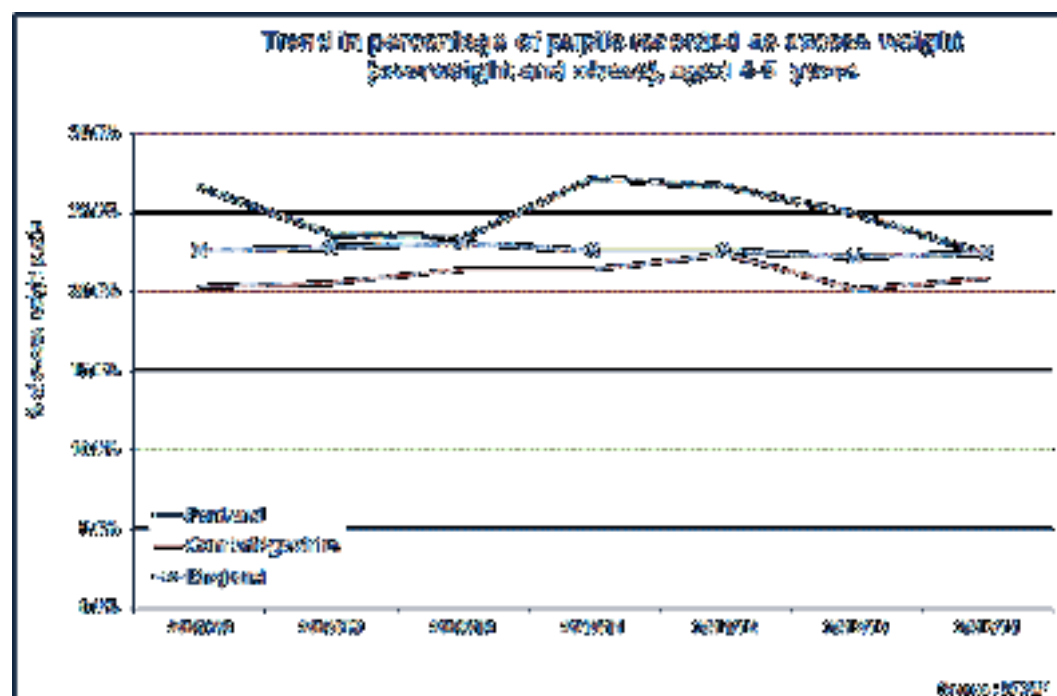
Area	Smoking prevalence			
	2010	2011	2012	2013
Fenland	25.9%	27.4%	29.5%	21.9%
Cambridgeshire	19.0%	19.2%	17.9%	13.5%
Inequality gap	6.9%	8.2%	11.6%	8.4%
<i>England</i>	<i>21.1%</i>	<i>20.2%</i>	<i>19.5%</i>	<i>18.4%</i>

Source: Integrated Health Survey (IHS) 2013

Childhood obesity

2.12 There is some evidence of improvement in the gap for children aged 4-5 classified as overweight or obese in Fenland compared with the rest of the county in the most recent data. However trends in the gap between the 20% most deprived areas in Cambridgeshire and the rest of the county for children recorded as very overweight do not appear to be moving positively, with inequality appearing to widen for the youngest age group.

Figure 3: Children aged 4-5 years classified as overweight or obese in Cambridgeshire and Fenland 2007/08 – 2013/14



Source: PHOF. Note PHOF data are based on postcode of school.

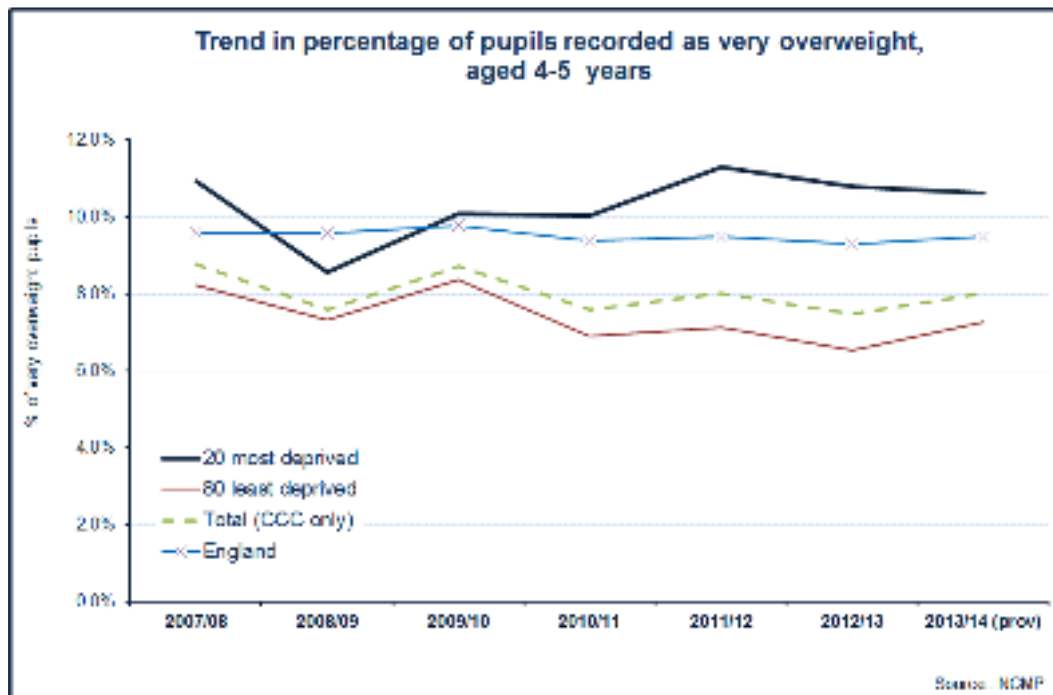
Table 6: Children aged 4-5 years classified as overweight or obese in

Area	Children aged 4-5 classified as overweight or obese (%)						
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Fenland	26.6%	23.7%	23.4%	27.2%	26.7%	24.9%	22.4%
Cambridgeshire	20.3%	20.6%	21.4%	21.4%	22.4%	20.2%	20.9%
Inequality gap	-6.3%	-3.1%	-2.0%	-5.8%	-4.3%	-4.7%	-1.5%
<i>England</i>	22.6%	22.8%	23.1%	22.6%	22.6%	22.2%	22.5%

Cambridgeshire and Fenland 2010-2013

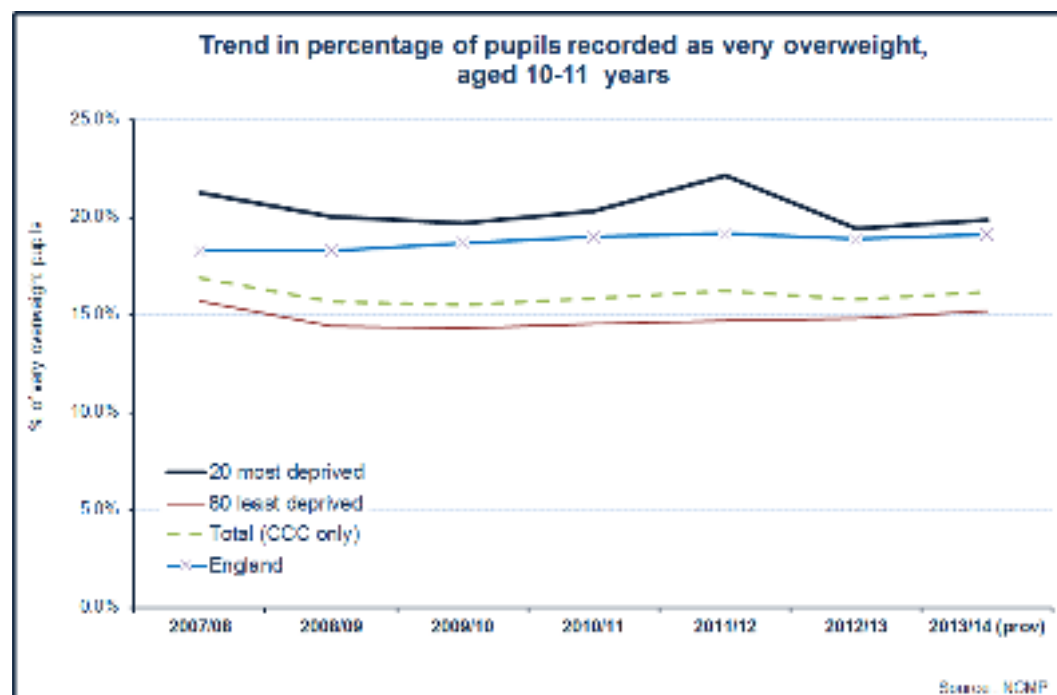
Source: PHOF. Note PHOF data are based on postcode of school.

Figure 4: Trend in percentage of pupils in Reception years, children aged 4-5 years, recorded as very overweight 2007/08 – 2013/14



Source: National Childhood Measurement Programme (NCMP)

Figure 5: Trend in percentage of pupils in Year 6, children aged 10-11 years, recorded as very overweight, 2007/08 – 2013/14



Source: National Childhood Measurement Programme (NCMP)

Teenage conceptions

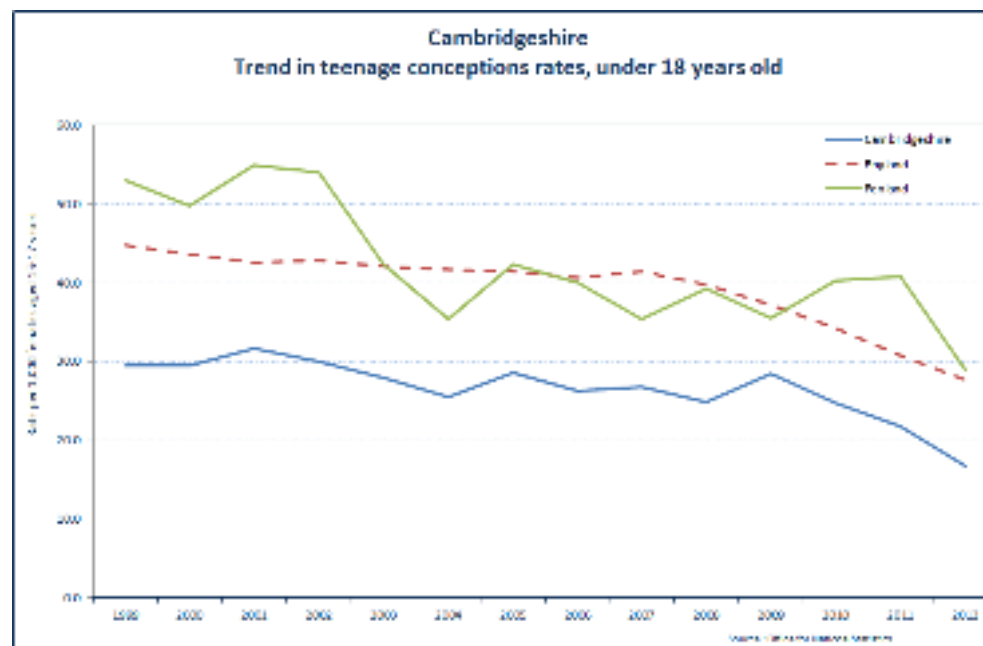
- 2.13 On average there are 228 conceptions a year in Cambridgeshire (2010-2012). The Cambridgeshire rate is statistically significantly lower than the England Rate. Fenland has the highest rate in Cambridgeshire with a rate that is statistically significantly high compared to Cambridgeshire but not England. All other districts have statistically significantly low rates compared to England.
- 2.14 All districts have experienced decreases in their rates between 1999 and 2012 and at a county level there was a noticeable drop in rates between 2011 and 2012. In 2012 Fenland had noticeably the highest rates on conceptions and those that led to abortions or maternities. The wards of Abbey and King's Hedges in Cambridge City, Clarkson, Hill and Lattersey in Fenland, St Neots Priority Park in Huntingdonshire and Soham North in East Cambridgeshire had statistically significantly high rates compared to Cambridgeshire in 2010-2012. Waterlees and Clarkson in Fenland and Abbey in Cambridge City had the highest rates.

Table 7: Teenage conceptions under 18 years old, Cambridgeshire and districts, 2010-2012

Local Authority	Average number of conceptions per year	Rate per 1,000 female population aged 15-17 years	95% Confidence Intervals (CI)
Cambridge	36	21.8	(17.9 - 26.3)
East Cambridgeshire	23	15.7	(12.2 - 19.9)
Fenland	63	35.7	(30.8 - 41.2)
Huntingdonshire	62	19.4	(16.7 - 22.4)
South Cambridgeshire	44	15.9	(13.3 - 18.8)
Cambridgeshire	228	21.0	(19.5 - 22.6)
England	29,292	30.9	(30.7 - 31.1)

Source: ONS

Figure 6: Trend in teenage conceptions under 18 years old in Cambridgeshire, Fenland and England, 1999-2012



Source: ONS

Source Documents	Location
Annual Public Health Report 2013-14, Cambridgeshire County Council	http://www.cambridgeshire.gov.uk/downloads/file/2944/annual_public_health_report
Public Health Outcomes Framework	https://www.gov.uk/government/publications/healthy-lives-healthy-people-improving-outcomes-and-supporting-transparency
PHOF updates	http://www.phoutcomes.info/
A PDF overview of Cambridgeshire's <i>Segment Tool</i>	http://www.lho.org.uk/LHO_Topics/AnalyticTools/Segment/Documents/LA_E1000003.pdf .
The Government's <i>Segment Tool</i> press release	https://www.gov.uk/government/news/new-tool-shows-causes-of-death-that-most-contribute-to-differences-in-life-expectancy
Detailed description of life expectancy: calculation and issues	http://tinyurl.com/pykjo49 . Julian Flowers et al.. (2004) INphoRM 3: Life expectancy [Online].
Cambridgeshire Insight Health and Wellbeing Atlas	http://www.cambridgeshireinsight.org.uk/health