Directly age-standardised incidence rate of lung cancer in females under 75 yrs - 2002-04 to 2011-13 (3-year pooled data)

**England, South East Region, Oxfordshire and districts within Oxfordshire**

**Key**
- England
- South East Region
- Prospering Southern England
- Oxfordshire
- Cherwell
- Oxford City
- South Oxfordshire
- Vale of White Horse
- West Oxfordshire

**Definition**
Directly age-standardised registration rates for lung cancer per 100,000 female population aged under 75 years.

**Source**
Health & Social Care Information Centre Indicator Portal

**Numerator**
Cancer registrations for lung cancer (ICD10: C33) in the respective calendar years. Females aged under 75 years.

**Denominator**
Office for National Statistics (ONS) latest revision of mid-year population estimates for females aged under 75 years in the respective calendar years.

**Strengths and limitations**
1. The European Standard Population (ESP) is an artificial population structure which is used in the weighting of mortality or incidence data to produce Directly Standardised Rates (DSRs), also known as age-standardised rates (ASRs). The ESP is divided into quinary age bands, which correspond to the age bands used by the observations and population figures. Each age band is assigned a value which is used to standardise the rate obtained from the observations and population.
2. Eurostat, the statistical institute of the European Union, decided at the end of 2012 to bring this population structure up to date. Up to 2014, indicators were directly standardised against ESP released in 1976. From 2014 onwards, they are directly standardised against ESP released in 2013.
3. There is a significant increase in many standardised cancer incidence rates using 2013 ESP. The incidence rate in England in 2010 for all cancer sites combined was 424.4 per 100,000 males using the 1976 ESP, but rose to 468.2 per 100,000 using the 2013 ESP. The impact is smaller for females. The percentage increase varies by cancer site, with a small decrease for testicular cancer, a cancer more common in younger men. The highest increases are found in bladder, stomach, colorectal and lung cancer for both men and women (increases between 58% and 76%). The main female cancers (ovaries, ovary and breast) show increases of 38%, 36% and 36% respectively.
4. 3-year rolling data are used to create a smoother line which is easier to interpret and less susceptible to annual fluctuation.
5. Current results may differ from those previously issued because of changes in methodology to extract data by area, and also because of data enhancements by ONS. Cancer registrations are also continuously being updated retrospectively and ONS records may have been updated since previous analysis.
6. Skin cancers other than melanoma (ICD-10 C44, ICD-9 173) are believed to be greatly under reported. The registration of such cancers varies widely between the regional registries and depends on their ability to access out-patient records and general practitioners. Following ONS practice, the figures presented for incidence of all cancers exclude skin cancers other than malignant melanoma.

**Latest available data**
2011-13

**Next available data**
2012-14

**Time trend**
1. The national and regional trend show slight increases in the incidence of lung cancer in females under 75 years of age during this time period. It is more difficult to see how the trend is continuing due to the change in the European Standard Population.
2. Oxfordshire was also showing an upward trend but relates to a much lower number of cases. The most recent data point (2011-13) indicates that the incidence rate is decreasing but it is too early to tell if this is a new trend.

**Benchmarking outside Oxfordshire**
1. Oxfordshire has a significantly lower incidence rate of lung cancer in females than England.
2. West Oxfordshire has consistently had significantly lower incidence rates than England. Vale of White Horse experienced significantly lower incidence at the beginning of this time period but this is no longer the case.
3. South Oxfordshire experiences lower incidence rates at certain points during this time period.
4. Oxford City shows no significant difference to the national average and neither does Cherwell in more recent years.

**Benchmarking within Oxfordshire**
1. There is some fluctuation in the incidence rate within local authorities - these are not significant and will be due, in part, to the small numbers involved.

**Expert interpretation and conclusions with additional information**
1. In the UK lung cancer is the second most common cancer after breast cancer.
2. Many cases of lung cancer in the UK are linked to major lifestyle and other risk factors - 89% (91% in males and 87% in females) each year in the UK. Smoking is the main avoidable risk factor for lung cancer, linked to an estimated 80% of lung cancer cases in the UK. A diet high in fruit and vegetables may protect against lung cancer – insufficient fruit and vegetables intake is linked to an estimated 8% of lung cancer cases in the UK.
3. Almost 9 in 10 lung cancer cases occur in people aged 60 and over.
4. In Oxfordshire each year approximately 110 men and 80 women under 75 years are diagnosed with lung cancer.
5. There is evidence for a strong association between lung cancer incidence and deprivation for both males and females in England. Whilst the higher rates in Cherwell and Oxford City could be explained by this, the numbers are too low and fluctuate too much year on year to come to any firm conclusions.
6. The Public Health department commissions Stop Smoking and Tobacco Control Services in Oxfordshire and these support people to quit smoking. It is important that the service continues to target lower socioeconomic groups and others with higher smoking rates.
7. We are concerned that the data previously indicated an increasing rate in the county and it is difficult to tell if this has levelled off now. Therefore this should be monitored closely to see if the recent decrease is sustained.
8. The RAG rating for this indicator is therefore AMBER.

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**Incidence lung cancer females under 75 yrs**

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**Figure**
- In England.
- UC is lower limit of 95% confidence interval.
- UCI is upper limit of 95% confidence interval.

**Key**
- Suggests significantly higher rate compared to England rate.
- Suggests significantly lower rate compared to England rate.