

Lung Cancer Insight Pack

North Lincolnshire JSNA

North Lincolnshire Public Health Intelligence Team

Version 1.5

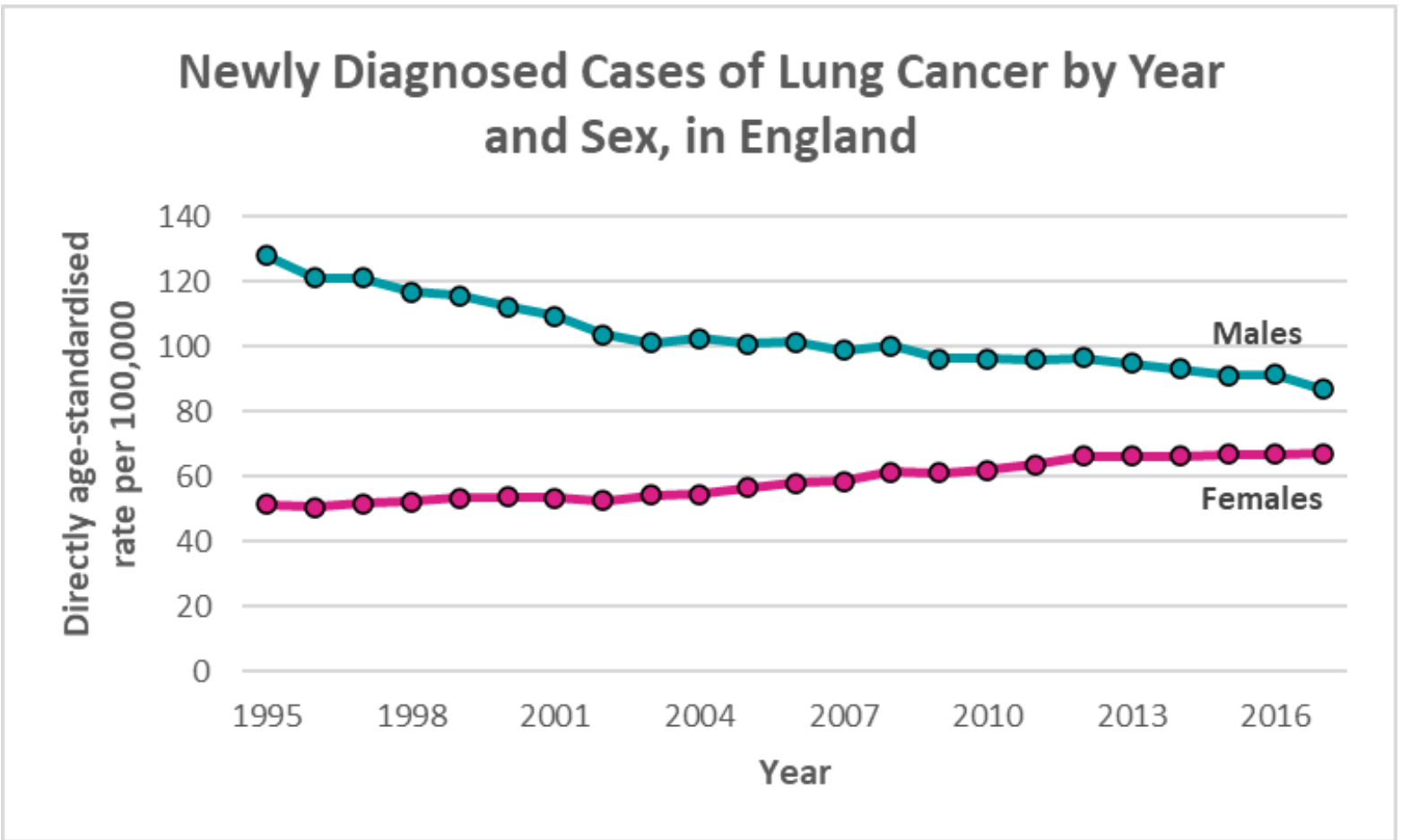
**North
Lincolnshire
Council**

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Lung Cancer

- Lung cancer is the third most common type of cancer in England and is common in both males and females.¹ Whilst lung cancer can affect people of any age, it most frequently occurs in people aged over 40, and 44% of cases arise in people aged 75 and over.²
- In the early stages of lung cancer, signs or symptoms are not usually present, making it hard to detect, but as the disease progresses symptoms become more prevalent and can include a persistent cough, coughing up blood, persistent breathlessness, unexplained tiredness, unexplained weight loss and an ache or pain when breathing or coughing.²
- The treatment offered to lung cancer patients will depend upon the stage and type of lung cancer, as well as other health factors, but common treatments include surgery, chemotherapy, radiotherapy, immunotherapy and targeted therapy drugs.³
- Smoking is the biggest risk factor for lung cancer, with 90% of people who get lung cancer being smokers or ex-smokers and 72% of lung cancer cases in the UK being caused by smoking. For people who quit smoking, their risk of lung cancer decreases over time.⁴ Whilst smoking is the main risk factor, other risks and causes include occupational risks from asbestos, silica and diesel exhaust fumes, air pollution, prior lung disease such as COPD, exposure to radon gas and a family history of lung cancer.⁵

Newly Diagnosed Cases, of Lung Cancer, by Year and Sex in England



- Over the last 20 years newly diagnosed cases of lung cancer have **fallen in males but increased in females.**
- In **2017**, the rate for newly diagnosed cases in **males remained higher** than for females, although the gap appears to be beginning to close.
- In **2017**, the rate for **males** was **86.9 per 100,000**. A fall of 41 per 100,000 since 1995.
- In **2017**, the rate for **females** was **67 per 100,000**. An increase of 15.6 per 100,000 since 1995.

Lung cancer registrations here represented by malignant neoplasm of trachea, bronchus and lung

North Lincolnshire Lung Cancer Registrations per 100,000 (3 Year Range)

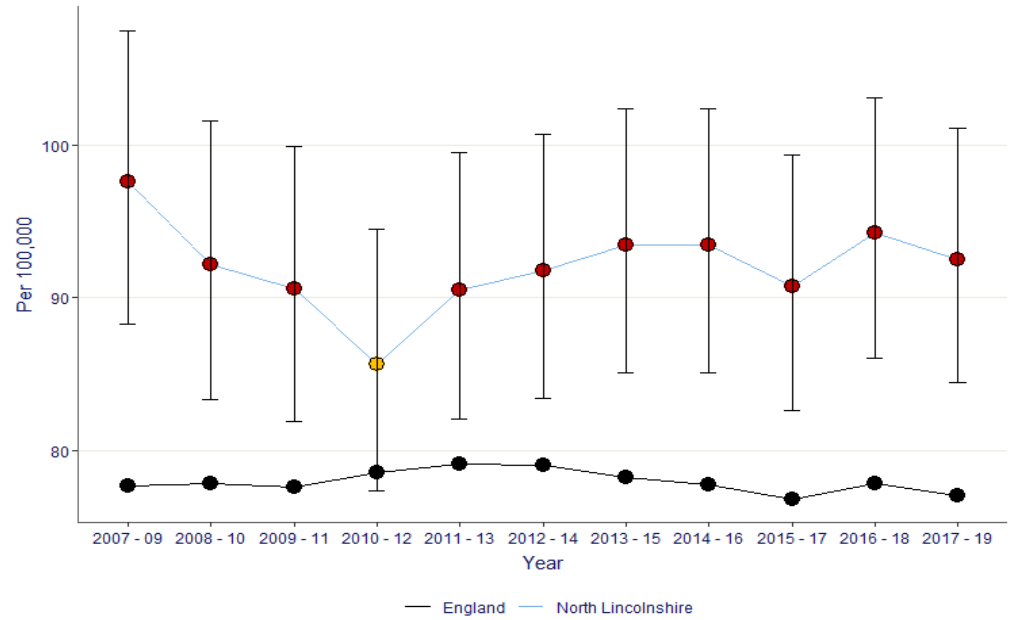
Lung Cancer Registrations in the Yorkshire and Humber Region (2017-2019)

Area	Recent Trend	Count	Value
England	-	119,263	77.1
Yorkshire and the Humber region	-	14,008	90.9
Kingston upon Hull	-	802	132.3
Leeds	-	2,103	112.5
Wakefield	-	1,026	103.0
Doncaster	-	914	102.8
North East Lincolnshire	-	495	101.8
Rotherham	-	792	101.5
Barnsley	-	710	99.8
Sheffield	-	1,414	98.1
North Lincolnshire	-	503	92.5
Calderdale	-	518	88.8
Kirklees	-	994	85.3
Bradford	-	1,038	84.1
North Yorkshire	-	1,473	66.6
East Riding of Yorkshire	-	858	66.4
York	-	368	63.7

Source: National Cancer Registration and Analysis Service retrieved from the Cancer Analysis System (CAS), NHS Digital

Lung Cancer Registrations in North Lincolnshire (3 Year Range)

Source: OHID 2023

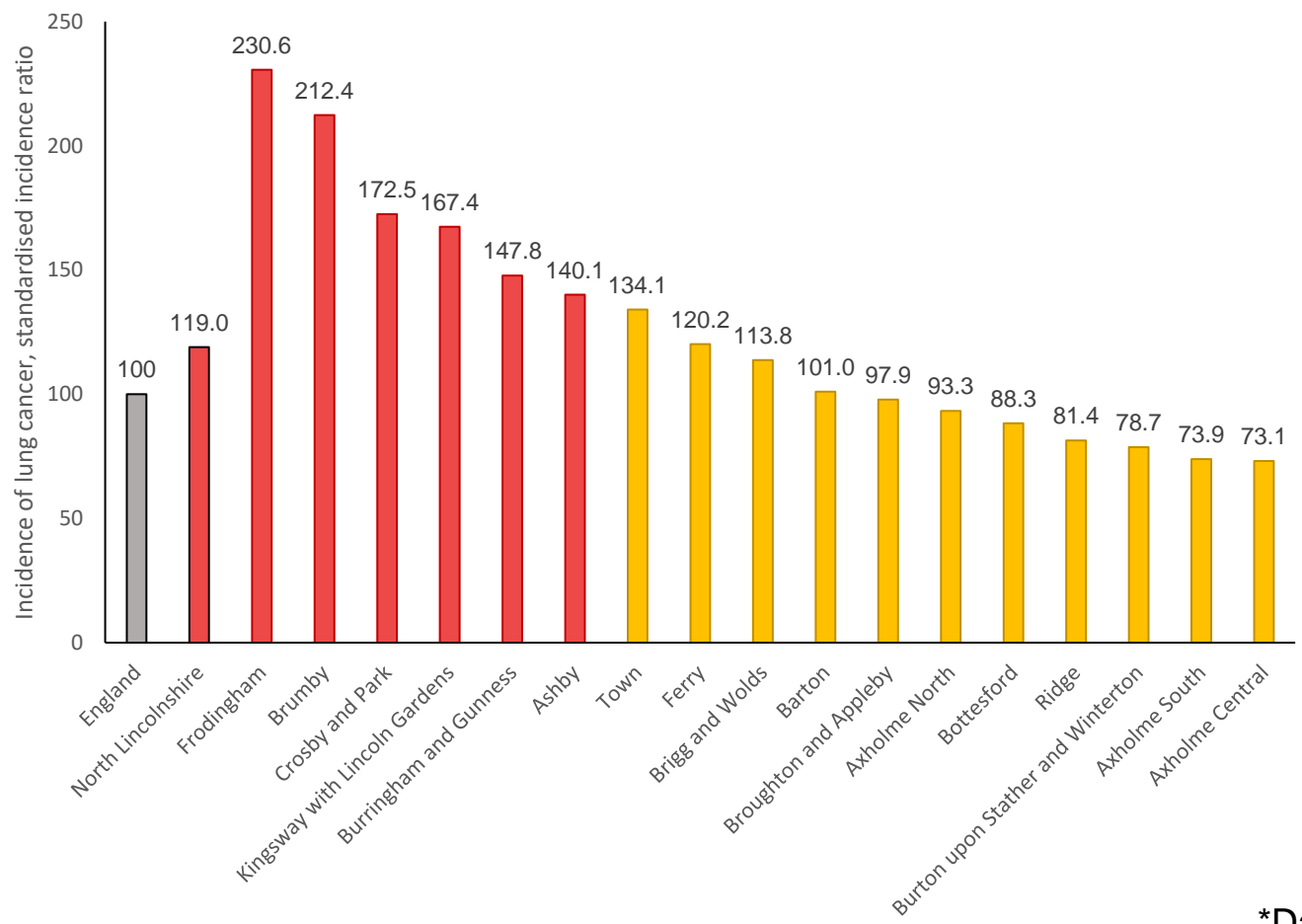


- North Lincolnshire had the **9th highest** number of Lung Cancer registrations in the Yorkshire and Humber Region, in the three-year combined period **2017 to 2019**, with **92.5 registrations per 100,000**.
- This was higher than both the **England average of 77.1** per 100,000 and the Yorkshire and Humber **region average of 90.9** per 100,000.
- Since the three-year period, 2011-13, lung cancer registration in North Lincolnshire have consistently remained statistically significantly higher than the England average.

7- OHID 2023

Ward Level Lung Cancer Incidence

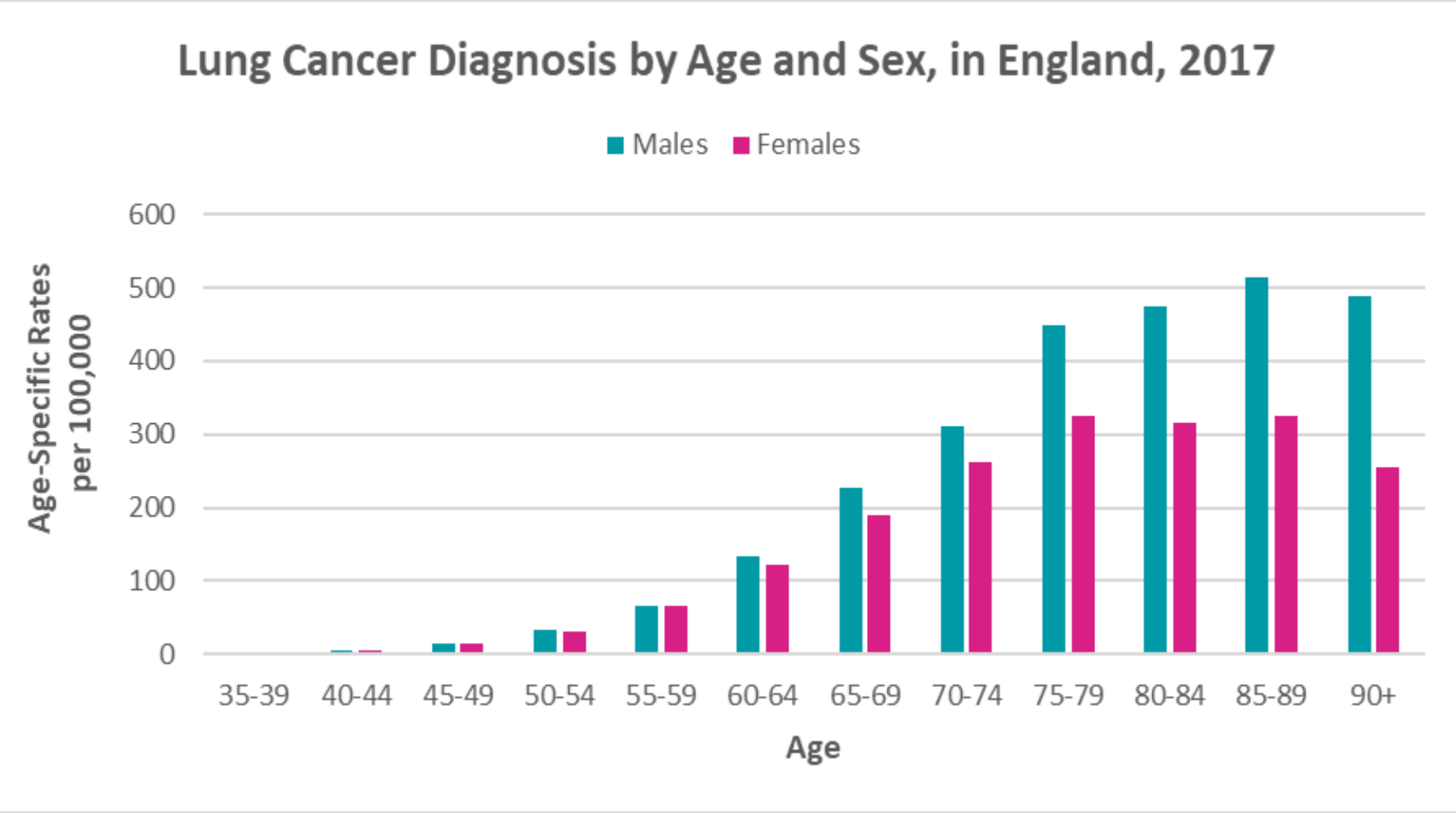
Incidence of lung cancer, standardised incidence ratio (2015-2019) LA and Ward*



- The incidence of lung cancer between 2015 and 2019 was significantly worse in North Lincolnshire than in England as a whole.
- Frodingham and Brumby wards had an incidence ratio over twice that of England in the same period. In all, 6 North Lincolnshire wards had an incidence ratio significantly worse than England.
- 7 North Lincolnshire wards had an incidence ratio below that of England, however none of these were considered statistically different.

*Data only available currently for pre-2023 wards – 8 - OHID Fingertips

Lung Cancer Newly Diagnosed by Age and Sex, in England, 2017



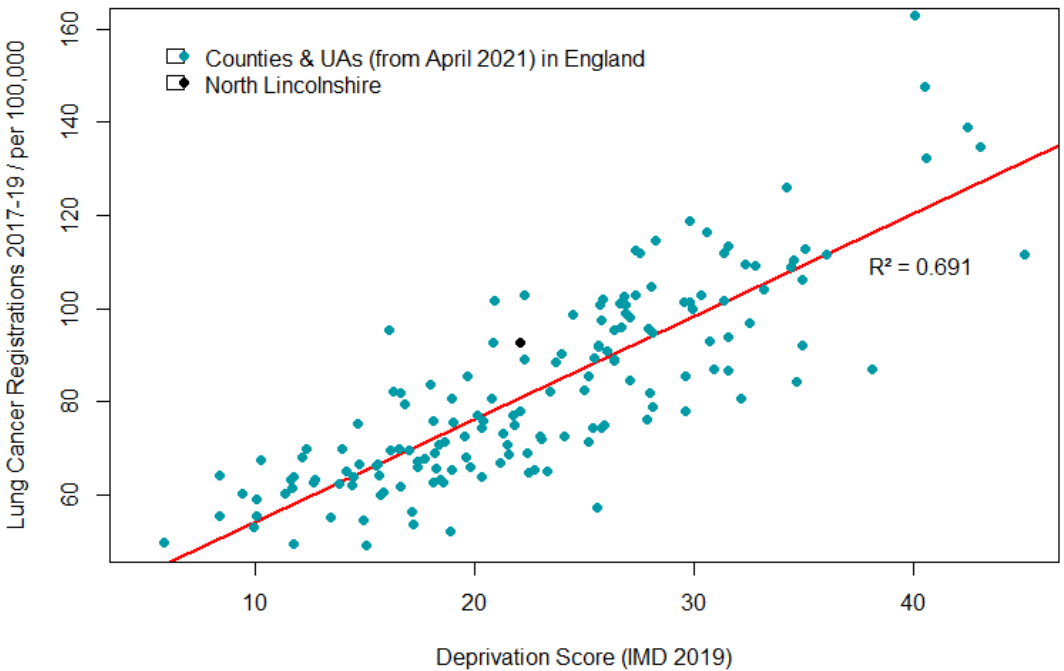
- In **2017**, the rate for newly diagnosed lung cancer **increased with increasing age**, with the highest rates for both males and females seen in the **85-89** age group.
- **513.9** per 100,000 **males** and **326.1** per 100,000 **females**, aged 85-89 were diagnosed in 2017.

Lung cancer registrations here represented by malignant neoplasm of trachea, bronchus and lung
 Rates for ages under 35 have been suppressed due to low numbers.

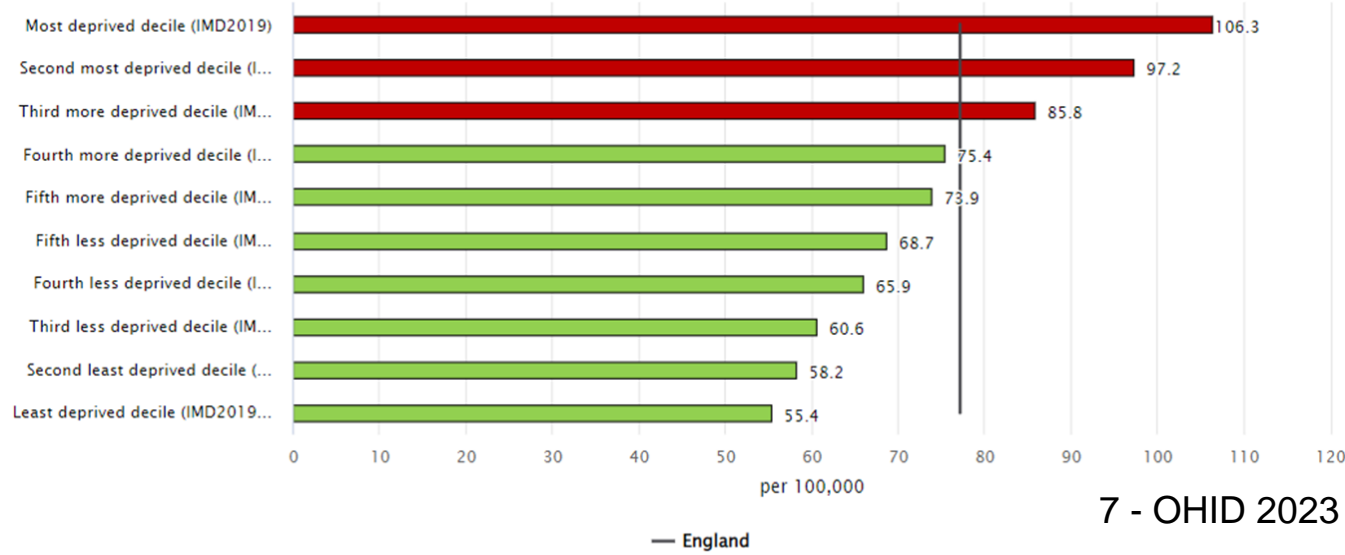
6- ONS 2019

Lung Cancer Registrations and Deprivation in England (2017-19)

Relationship Between Lung Cancer Registrations and Deprivation in England



Lung Cancer Registrations by Deprivation Decile (2017-19)
District and UA deprivation deciles in England (IMD2019, 4/21 Geography)



7 - OHID 2023

- There is a **strong positive correlation** between lung cancer registrations and deprivation, with **more deprived** areas having **increased rates of lung cancer** registrations, compared to less deprived areas which had less.
- In England, there were **106.3 registrations per 100,000** in the **most deprived** decile, compared to just **55.4 per 100,000** in the **least deprived** decile, in the three year period 2017-19.
- This is just over half the rate of the most deprived areas.

Lung Cancer Registrations by Stage

- The stage of a cancer at time of diagnosis is an important factor that affects eventual outcomes. Earlier cancer diagnosis, particularly within stages 1 or 2, before cancer spreads, is generally associated with better prognosis.
- Overall, 52.3% of cancers in England were diagnosed at stages 1 or 2 in 2020*
- For lung cancer specifically, fewer cancers are diagnosed at stages 1 and 2, 33% of females and 27% of Males newly registered with lung cancer in England in 2020** were registered as being in stages 1 or 2.
- Overall, for England, in 2020** 71% of new lung cancer registrations were stages 3 or 4. ¹¹
- **Within Sub ICB group 03K (North Lincolnshire) in 2020**, 77% of new lung cancer registrations were in stages 3 or 4.**

Cancer Stages₁₀

stage 1 – the cancer is small and hasn't spread anywhere else

stage 2 – the cancer has grown, but hasn't spread

stage 3 – the cancer is larger and may have spread to the surrounding tissues and/or the lymph nodes (or "glands", part of the immune system)

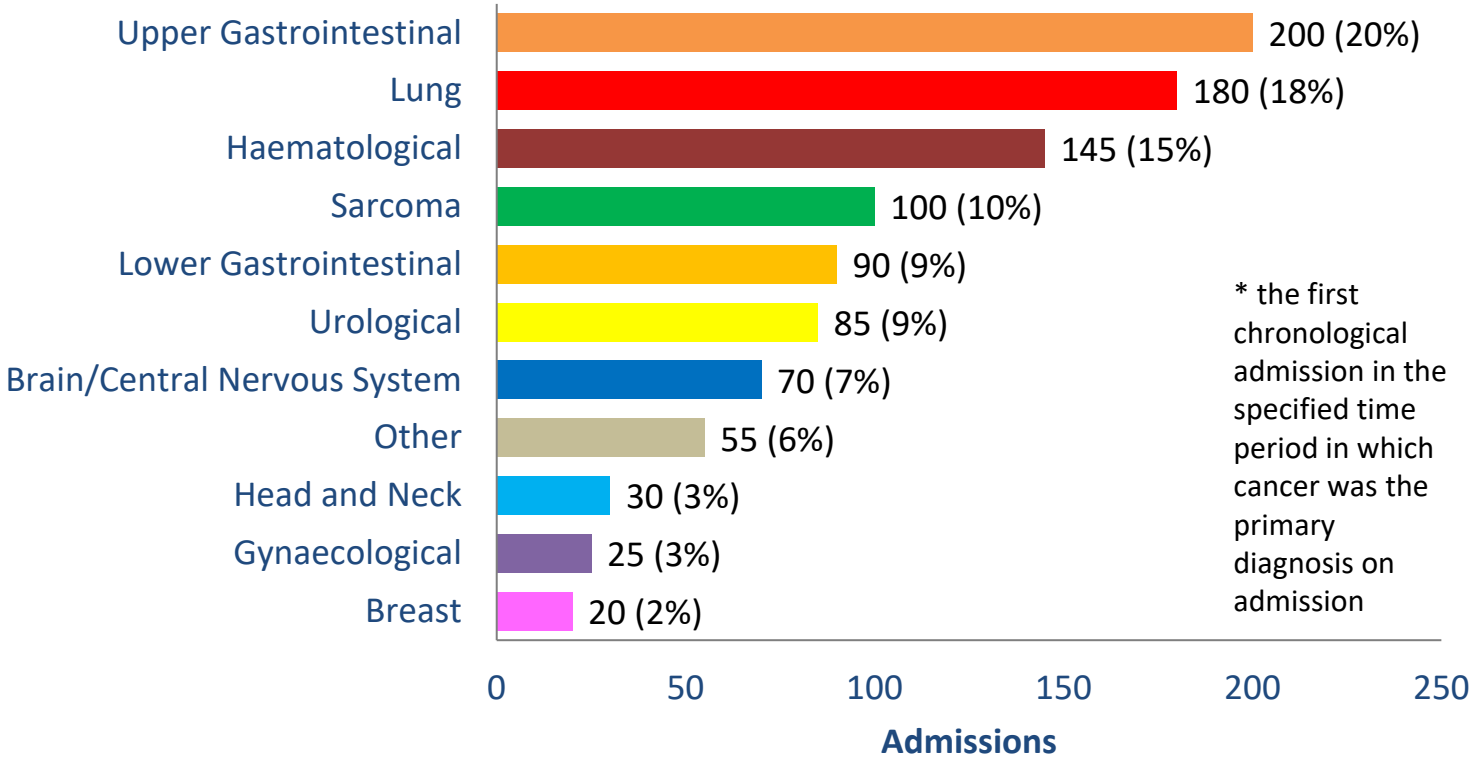
stage 4 – the cancer has spread from where it started to at least 1 other body organ, also known as "secondary" or "metastatic" cancer

** where stage was known

* New cases of cancer diagnosed at stages 1 and 2 as a percentage of all new cases of cancer diagnosed at any known stage (1, 2, 3, and 4) for the following cancer sites: invasive malignancies of lung, oesophagus, colon, rectum, pancreas, invasive melanomas of the skin, breast, uterus, ovary, prostate, testis, kidney, bladder, Hodgkin Lymphoma, larynx, oropharynx, oral cavity, and non-Hodgkin lymphoma.

Lung Cancer hospital presentations

First* emergency hospital admissions for a primary diagnosis of cancer
North Lincolnshire 03K (persons, 2020/21-2022/23)



Between 2020/21-2022/23, of all first emergency admissions primarily for cancer, lung cancer was the second most common, with 18% of such admissions.

Between 2020/21 and 2022/23, around 60 people are admitted in an emergency with a first diagnosis of lung cancer per year, with about 56% being men.

Emergency admissions constituted 37.1% of all the first admissions for lung cancer (including planned visits to hospital) between 2020/21 and 2022/23.

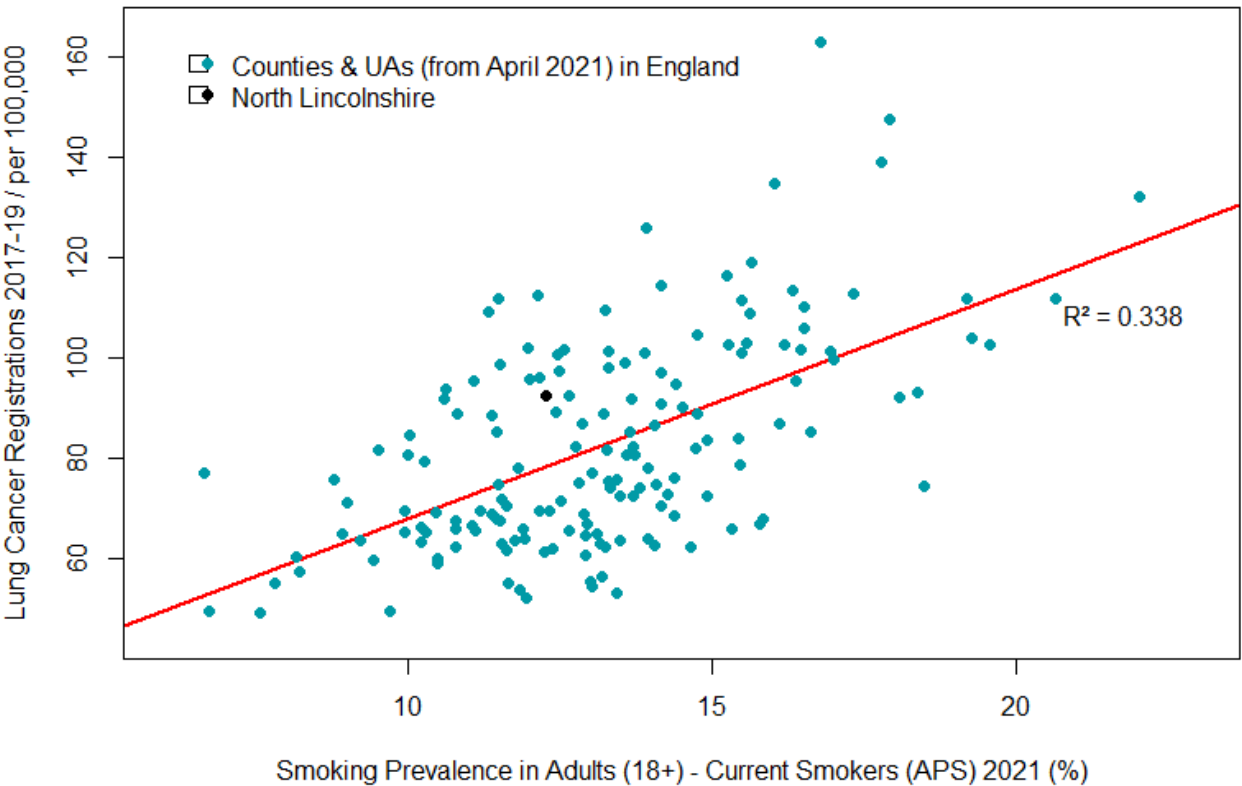
Emergency presentation is an important predictor of cancer outcomes, patients with diagnosed with cancer who present for the first time via emergency admission can have poorer prognosis.**

Source: HES / NHS Digital

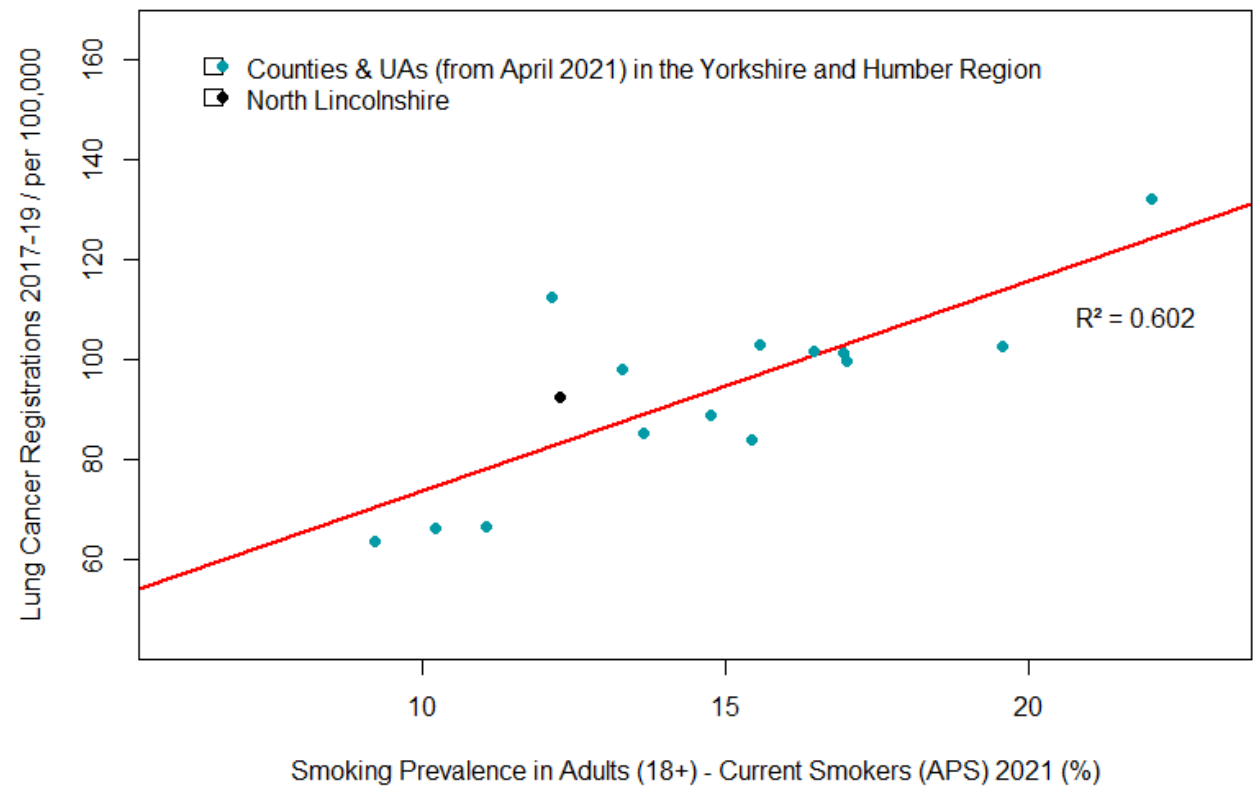
**This metric estimates the proportion of emergency presentations using first admissions to hospital via emergency route as a proxy for emergency diagnosis. See references – emergency presentations for cancer for description 12

Lung Cancer Registrations and Smoking

Relationship Between Lung Cancer Registrations and Smoking Prevalence in England



Relationship Between Lung Cancer Registrations and Smoking Prevalence in the Yorkshire and Humber Region

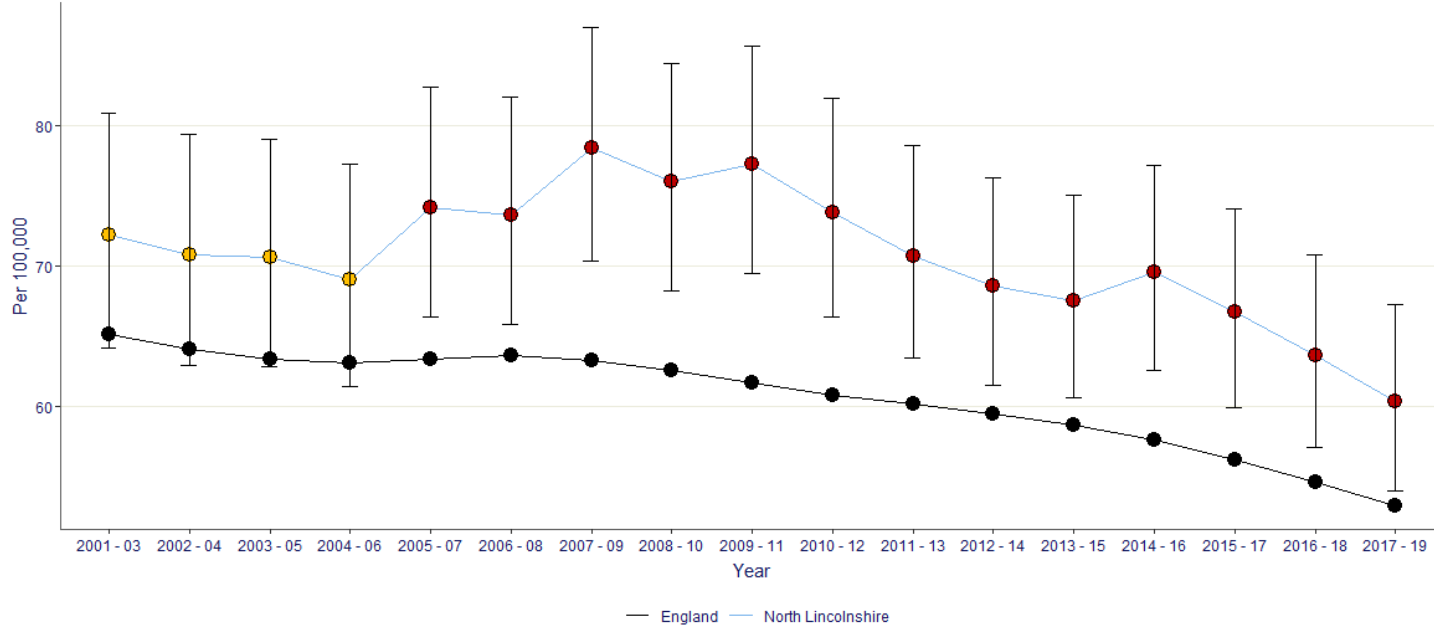


- There is a positive correlation between lung cancer registrations and smoking, with **higher rates of smoking** directly associated with **increased rates of lung cancer** registrations. 7

Mortality Rate from Lung Cancer (Persons, 3 Year Range)

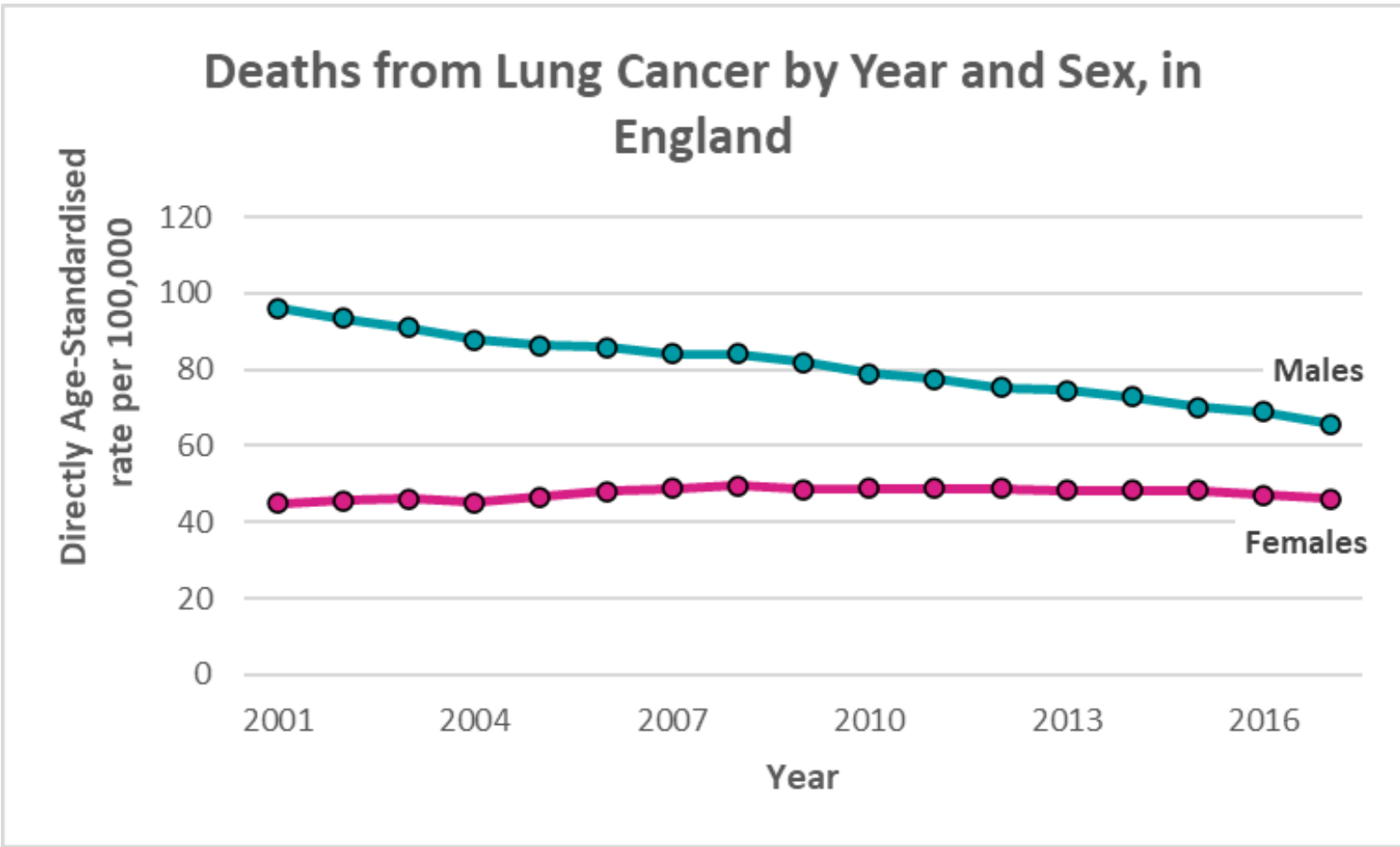
Mortality Rate from Lung Cancer in North Lincolnshire (Persons, 3 Year Range)

Source: OHID 2023



- Since 2005-07, the mortality rate for lung cancer in North Lincolnshire over a 3 year range has remained **statistically significantly higher** than the England Average.
- In the 3 year range **2017-19**, the mortality rate in **North Lincolnshire** was **60.4** per 100,000.
- The **England** average for the same time period was **53** per 100,000.
- Since 2009-11, the mortality rate for North Lincolnshire has seen a steady decline, with the exception of a small rise in 2014-16 before the rate continued to fall the following year.

Deaths from Lung Cancer, by Year and Sex in England



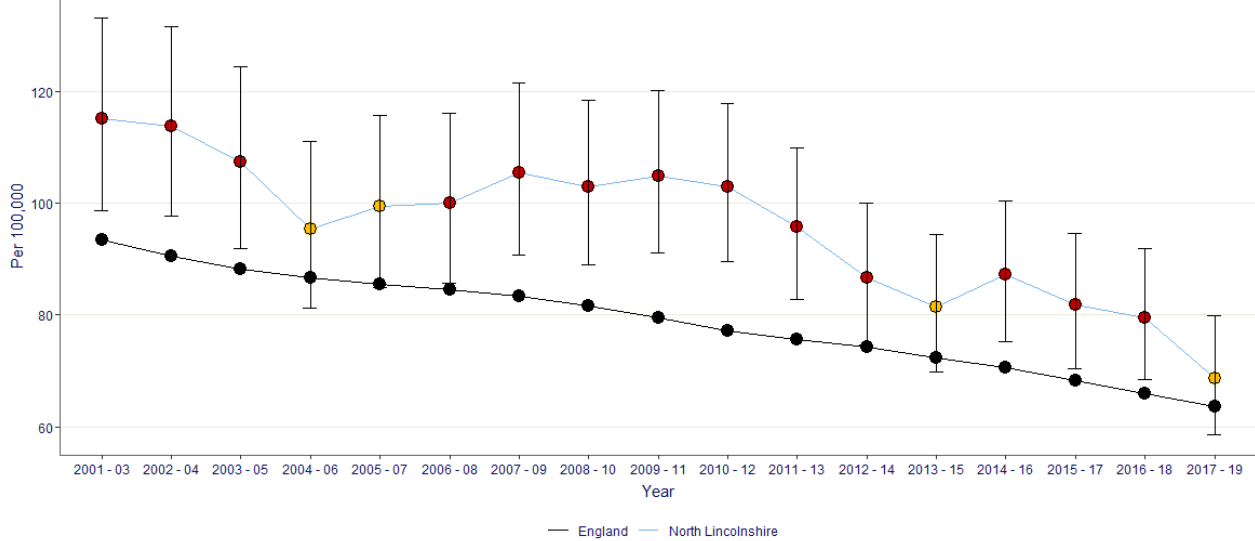
- Since 2001, lung cancer deaths in **males** have fallen by 30.4 per 100,000 to **65.8 per 100,000** in 2017.
- The rate for **female** deaths from lung cancer showed an initial increase between 2001 and 2008 before remaining constant and then beginning to show a **slight decline since 2014**.
- In **2017**, the rate for **female** mortality from lung cancer was **46.1 per 100,000**.

Lung cancer registrations here represented by malignant neoplasm of trachea, bronchus and lung

North Lincolnshire mortality Rate from Lung Cancer by Sex (3 Year Range)

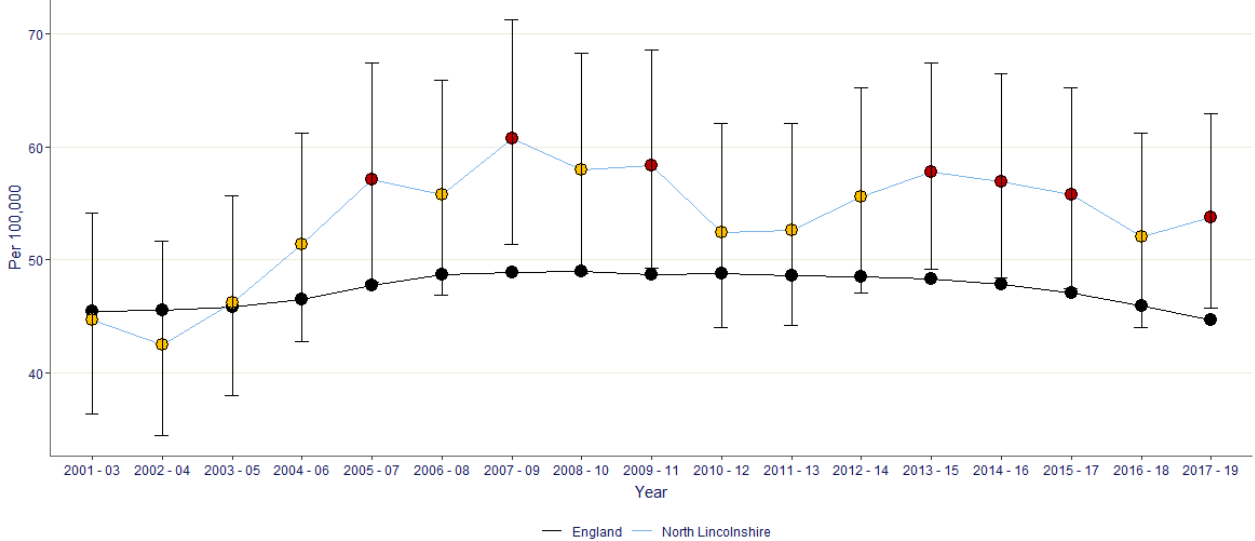
Mortality Rate from Lung Cancer in North Lincolnshire (Males, 3 Year Range)

Source: OHID 2023



Mortality Rate from Lung Cancer in North Lincolnshire (Females, 3 Year Range)

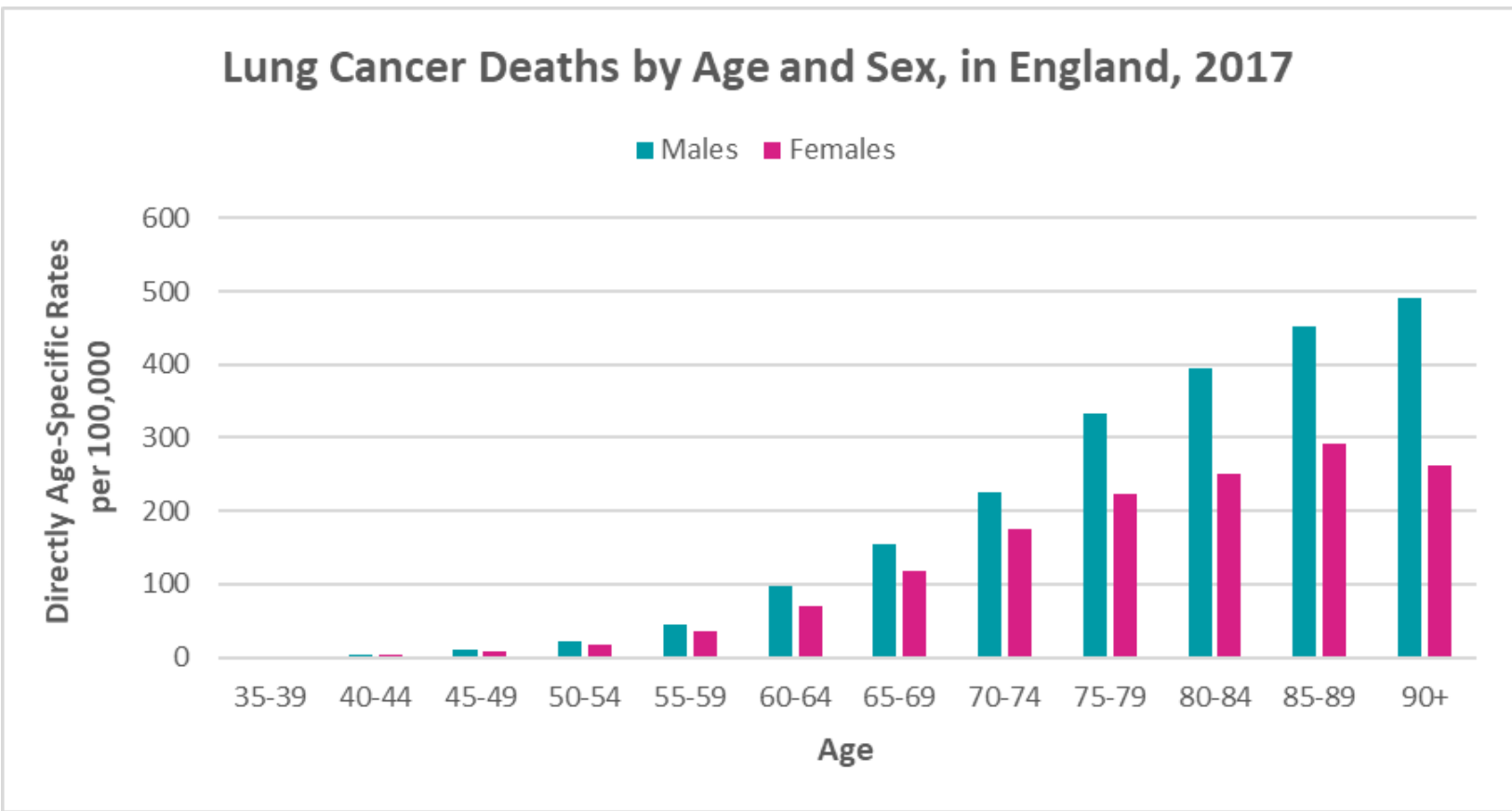
Source: OHID 2023



- The mortality rate for **males** from lung cancer over a 3 year period has shown a **steady overall decline**, with the North Lincolnshire frequently remaining statistically significantly higher than the England Average.
- In **2017-19** the rate for **North Lincolnshire** was **68.6 per 100,000**, which was **statistically similar** to the England average.

- The mortality rate for **females** from lung cancer over a 3 year period has remained constant with rates showing an **initial increase** between 2001-03 and 2005-07. Rates then remained fairly constant and between 2013-15 and 2016-18 showed a **slight decline**.
- In **2017-19** the rate for **North Lincolnshire** had increased to **53.8 per 100,000**, which was **statistically significantly higher** to the England average.

Lung Cancer Deaths by Age and Sex, in England, 2017

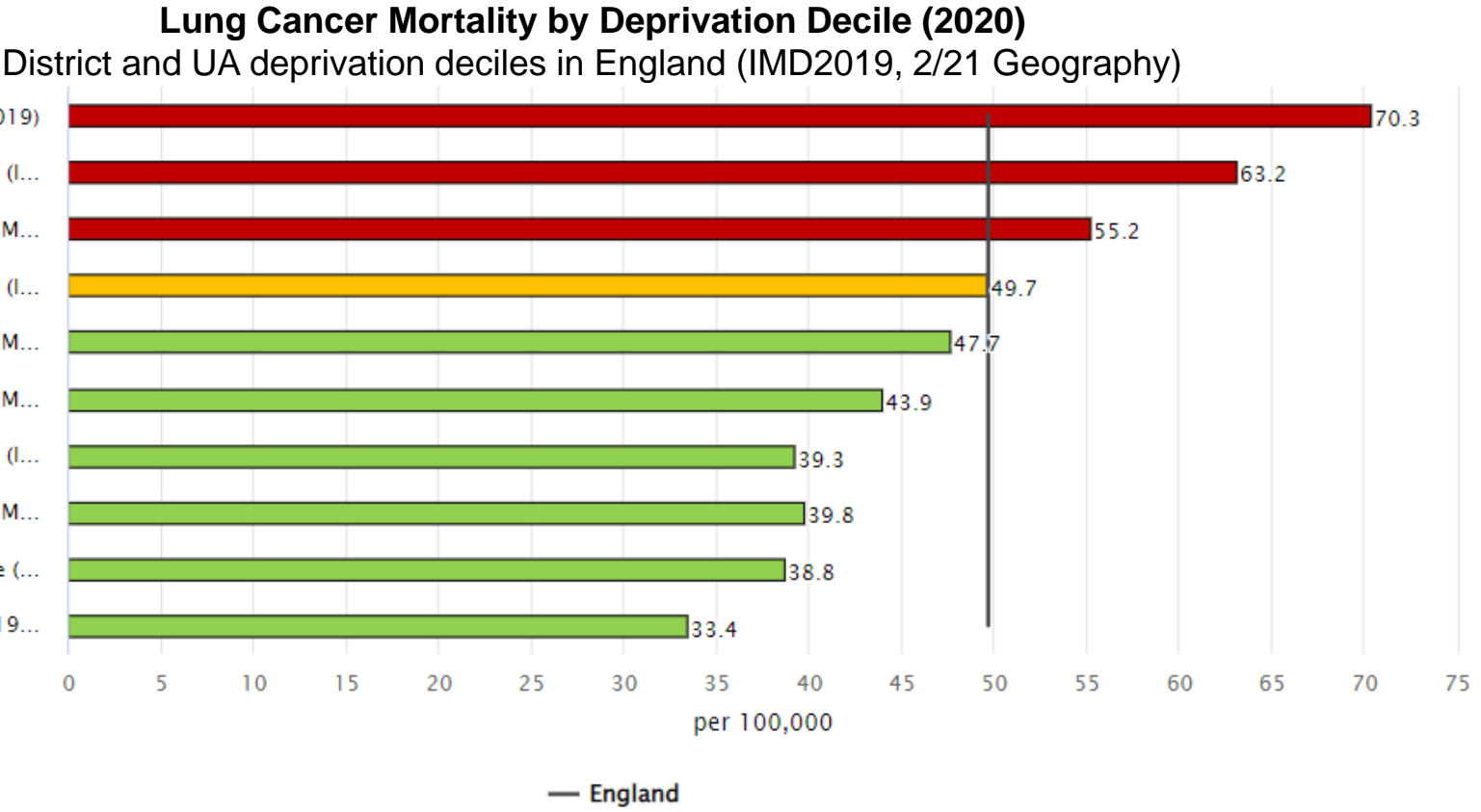


- The rate of deaths from lung cancer **increases with increasing age** in both males and females with a slight decline for females aged 90+.
- Deaths in **males aged 90+** were more than 5 times higher than rates in males aged 60-64, with **491.7 deaths per 100,000**.
- Deaths in **females aged 85-89** were more than 4 times higher than rates in females aged 60-64, with **292.4 deaths per 100,000**.

Lung cancer registrations here represented by malignant neoplasm of trachea, bronchus and lung

6 -ONS 2019

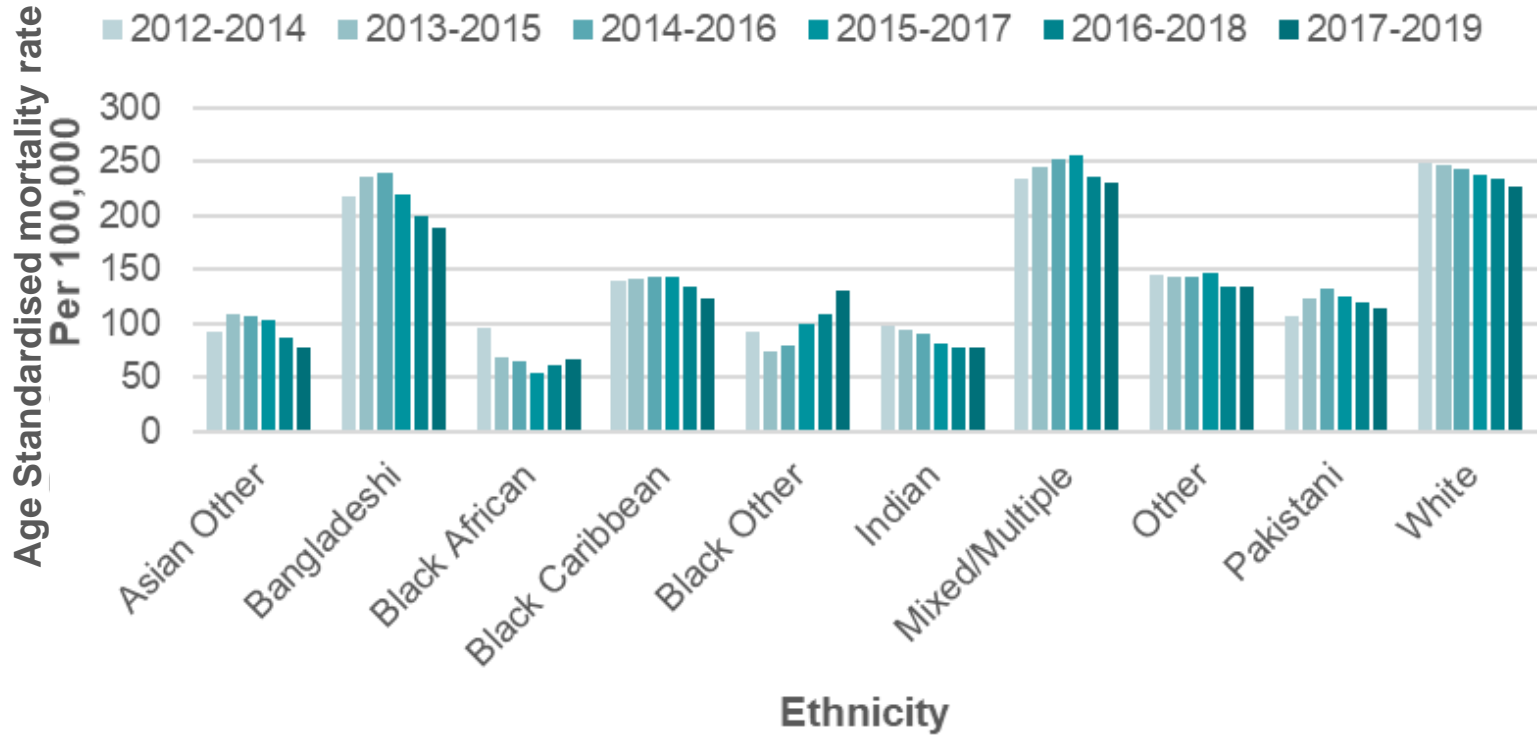
Lung Cancer Mortality by Deprivation Decile in England (2020)



- The lung cancer mortality rate in the **most deprived decile is more than double** the rate in the **least deprived**.
- The rate in the **most deprived decile is 70.3** per 100,000, compared to **33.4** per 100,000 in the **least deprived decile**, a **difference of 36.9** per 100,000.

Lung Cancer Mortality and Ethnicity (Ages 65+)

Lung Cancer Mortality Rate by Ethnicity All Persons Aged 65+



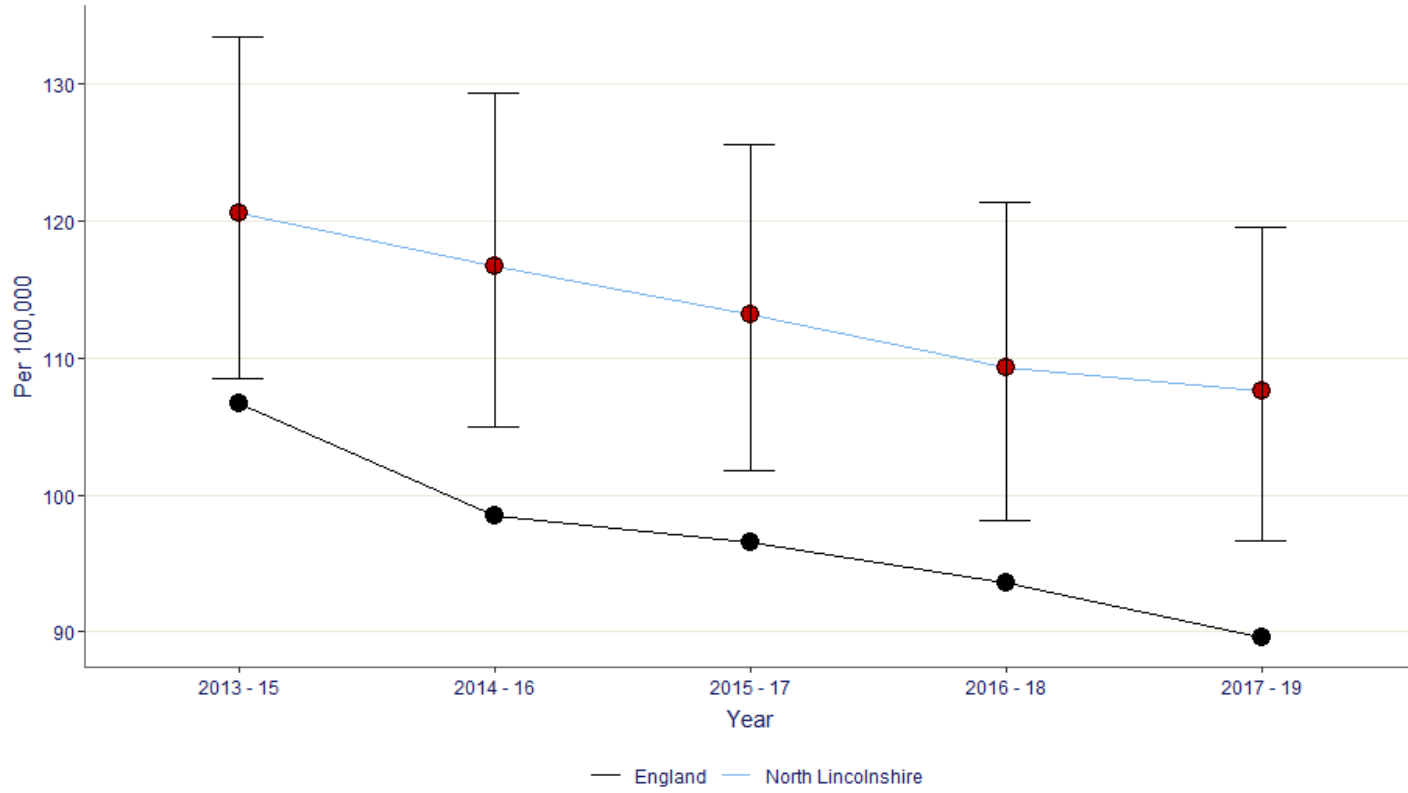
- Lung cancer mortality for people aged 65 and over is **highest in people of Bangladeshi, Mixed/Multiple and White** ethnicities with **more than 150 deaths per 100,000** by 3 year range.
- Since 2014-2016 lung cancer **mortality rates have fallen** in the majority of ethnic groups. However, mortality rates have **increased in Black African and Black Other** ethnicities.

Lung cancer registrations here represented by malignant neoplasm of trachea, bronchus and lung

Smoking Attributable Deaths from Cancer *

Smoking Attributable Deaths from Cancer in North Lincolnshire (3 Year Range)

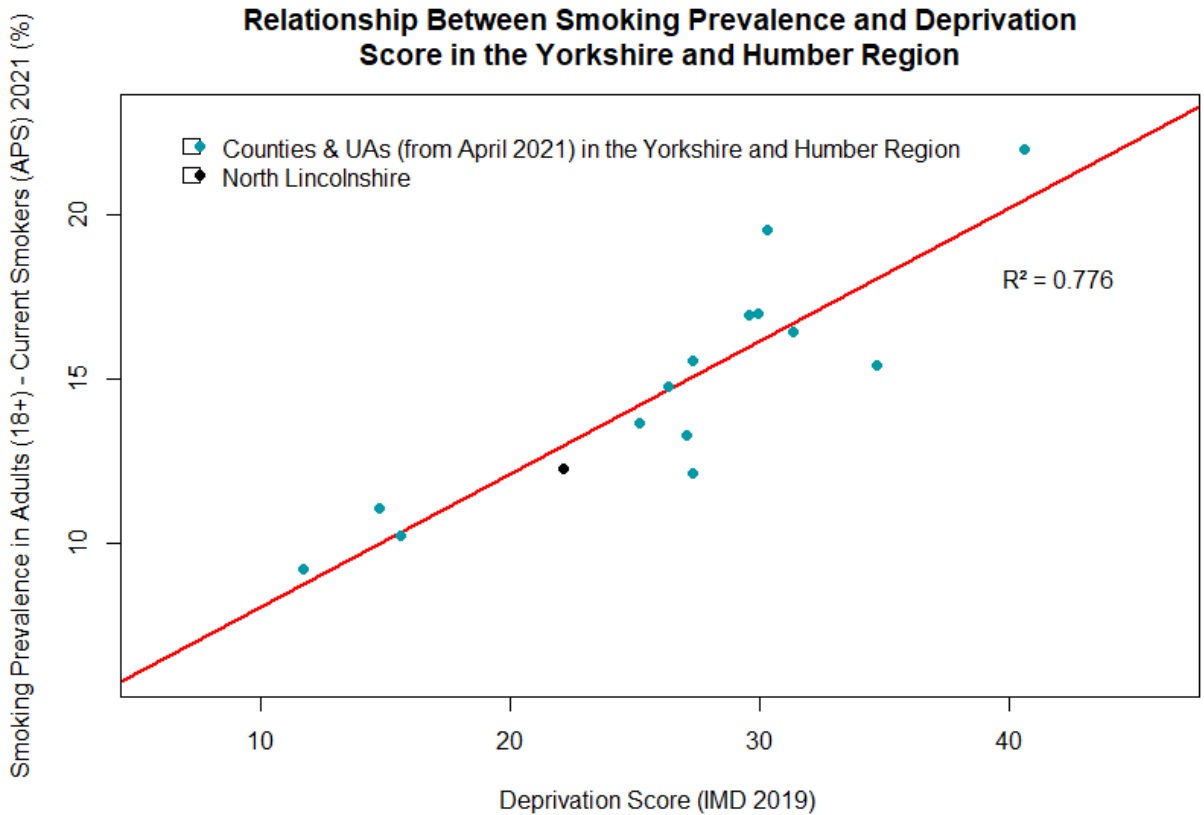
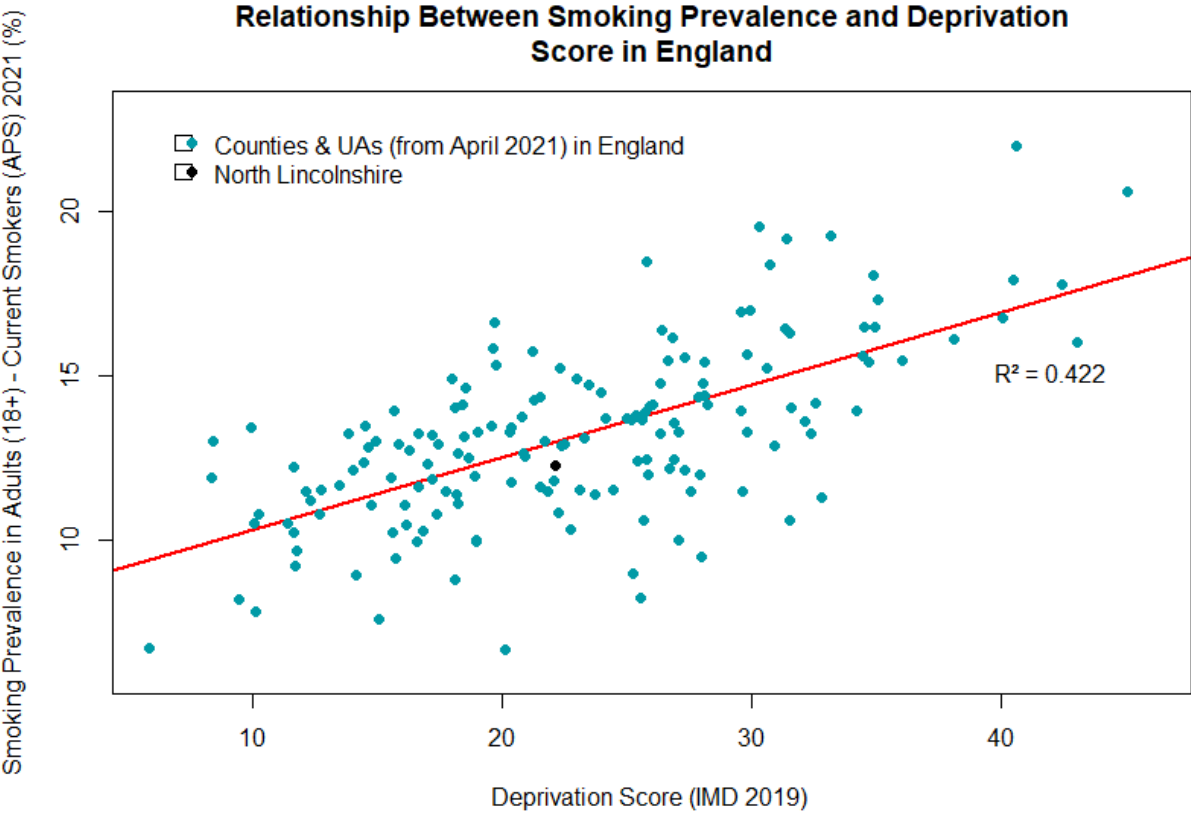
Source: OHID 2023



- Since 2013-15, smoking attributable deaths from cancer have **fallen year on year**, in both North Lincolnshire and England.
- Rates in North Lincolnshire have consistently remained **statistically significantly higher** than the England Average.
- In **2017-19**, the rate for **North Lincolnshire** was **107.6 per 100,000**, compared to the **England** average which was **89.6 per 100,000**.

* The number of cancer deaths attributable to smoking includes all deaths with the following cancer diagnosis codes as the underlying cause of death: Malignant neoplasms: Lung(C33-C34), Nasal synuses & nasopharynx(C11,C30-C31), Oral cavity(C10), Pharynx (C14), Larynx(C32), Oesophagus (C15), Stomach (C16), Pancreas (C25), Liver (C22), Colorectal (C18-C20), Kidney (C64), Lower urinary tract (C65-C66), Bladder (C67), Breast (C50), Cervix (C53), Acute myeloid leukaemia (C92), Malignant melanoma (C43-C44) [OHID 2023]

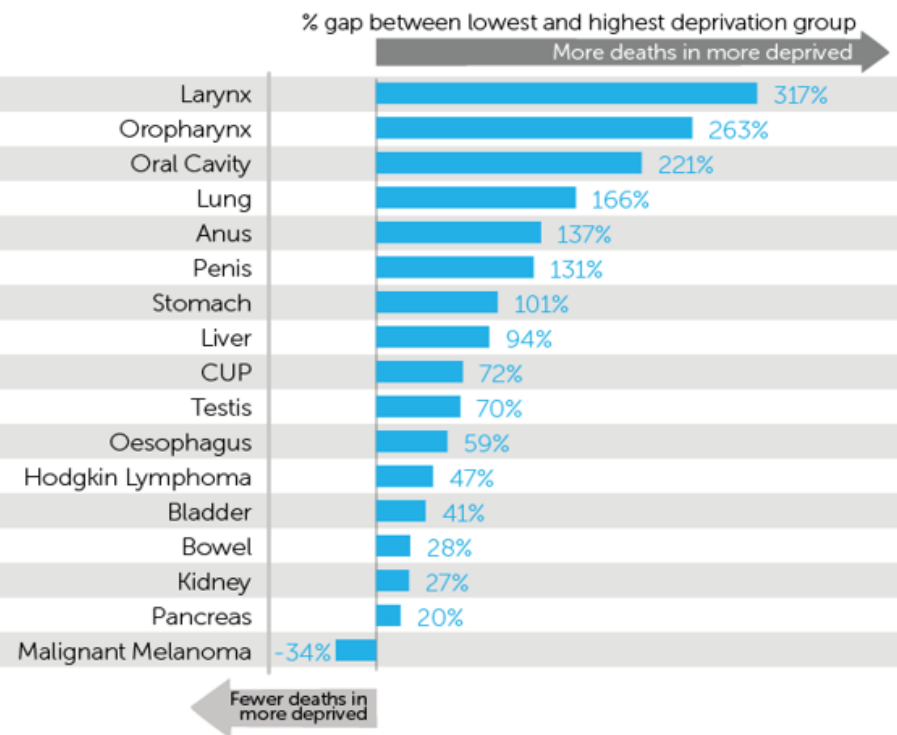
Smoking and Deprivation



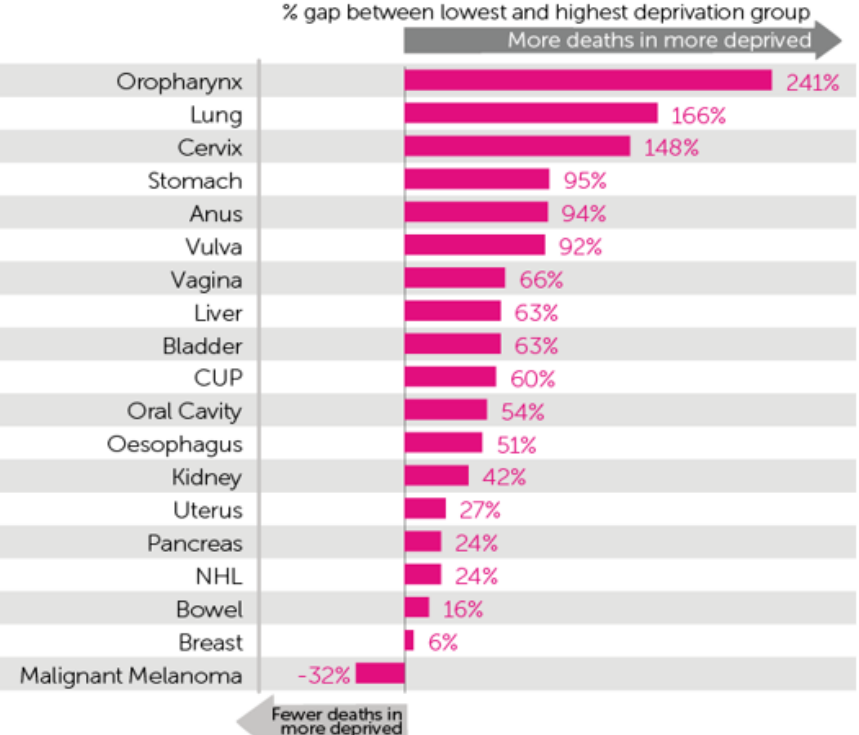
- There is a **positive correlation** between **smoking and deprivation** with **higher levels of smoking prevalence in more deprived areas** and **lower rates of smoking in the least deprived areas**. The correlation is stronger in Yorkshire and Humber than for all Counties and UAs as a whole.

Percentage Deprivation Gap in European Age-Standardised Mortality Rates

Statistically Significant Cancers, Males, England, 2007-2011



Statistically Significant Cancers, Females, England, 2007-2011



- Cancer Research UK have analysed the **deprivation gap** for cancer mortality in **England between 2007 and 2011**.
- For both males and females, there were **166% more deaths** from lung cancer in the **more deprived** groups.
- The deprivation gap is **greatest in cancers related to smoking**, reflecting the higher prevalence of smoking in the more deprived groups.

CUP = Cancer of unknown primary
 AML = Acute Myeloid Leukaemia
 ALL = Acute Lymphoblastic Leukaemia

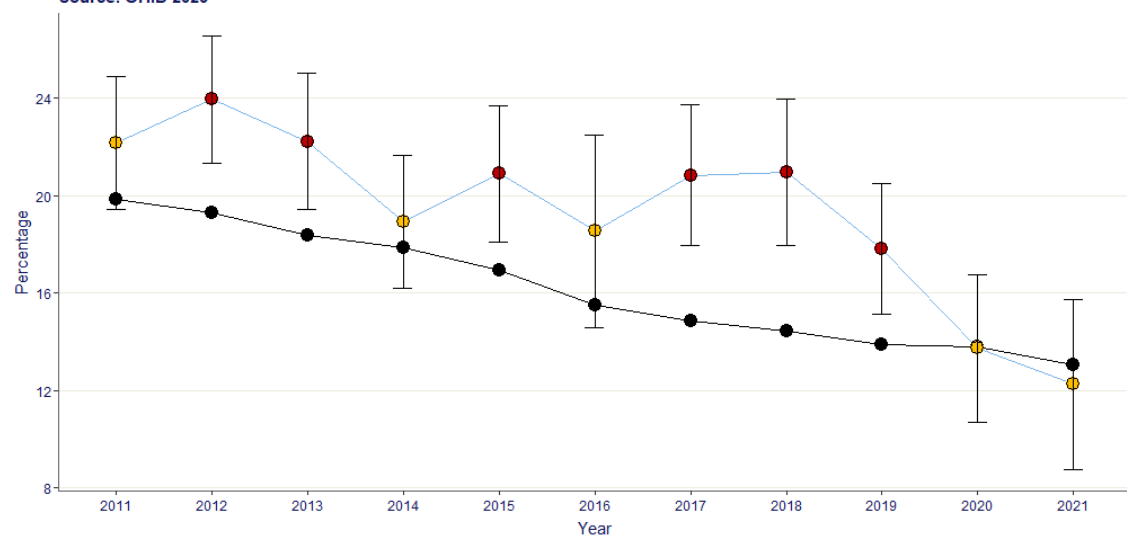
CUP = Cancer of unknown primary
 AML = Acute Myeloid Leukaemia
 ALL = Acute Lymphoblastic Leukaemia

Cancer Research UK, [Deprivation gradient for cancer mortality | Cancer Research UK](#), Accessed January 2023

Smoking Prevalence in Adults 18+ (Annual Population Survey) 16

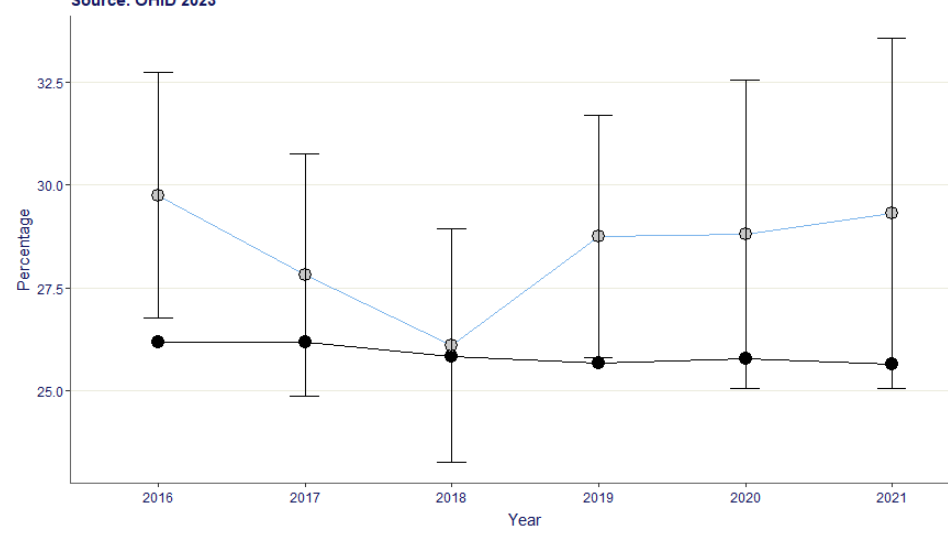
Smoking Prevalence in Adults (18+) in North Lincolnshire - Current Smokers (APS)

Source: OHID 2023



Smoking Prevalence in Adults (18+) in North Lincolnshire - Ex Smokers (APS)

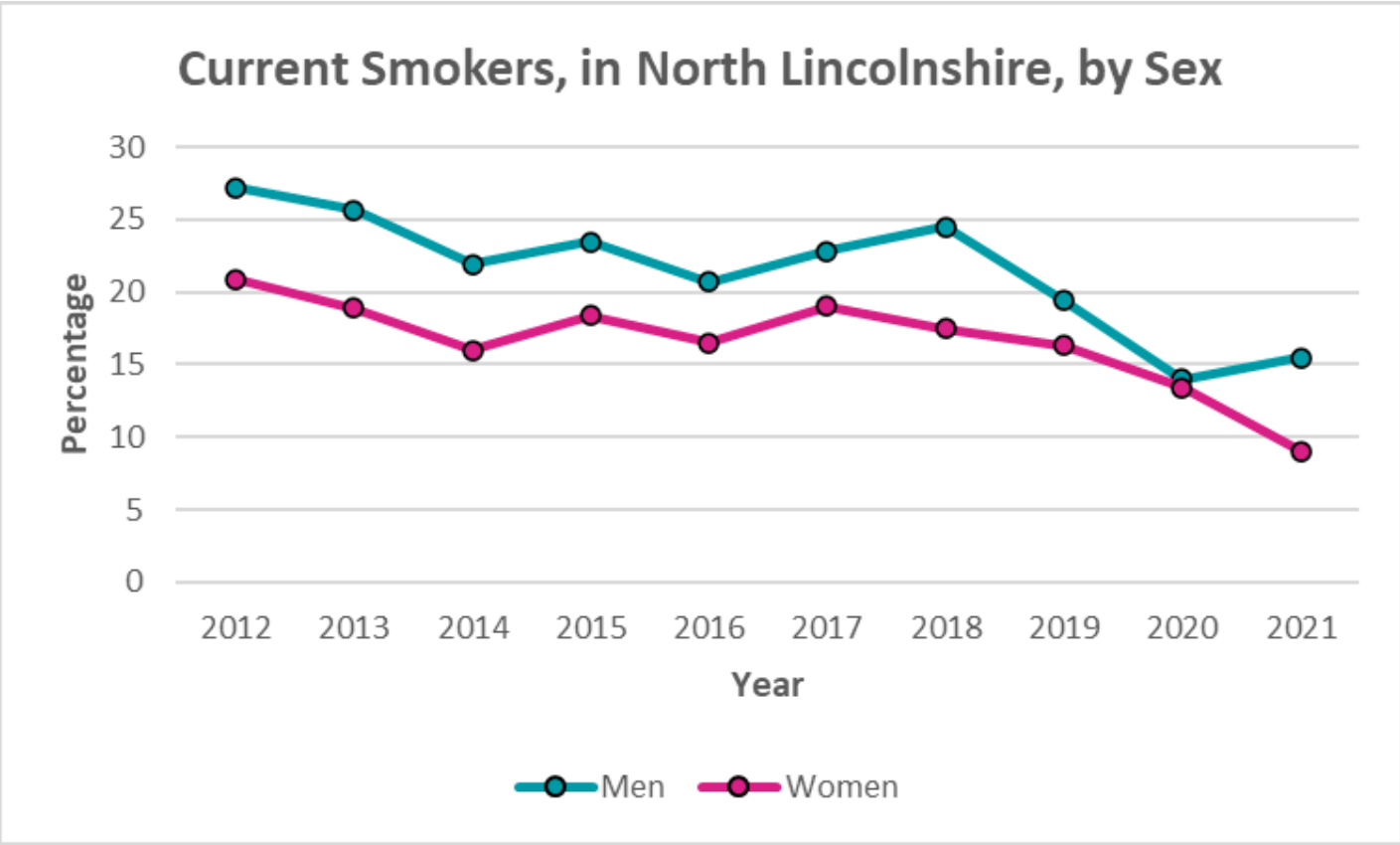
Source: OHID 2023



- Prevalence of **current smokers** in **England** has shown a year on year **decline**, reducing by 6.3 percentage points over the last decade, falling to **13% in 2021**.
- Current smoking rates in **North Lincolnshire** have also seen an **overall decline** but rates have shown small fluctuations. Since 2018, rates have shown a year on year decline, and in **2021**, North Lincolnshire's rate was **12.3%**, which was statistically **similar to the England** average.

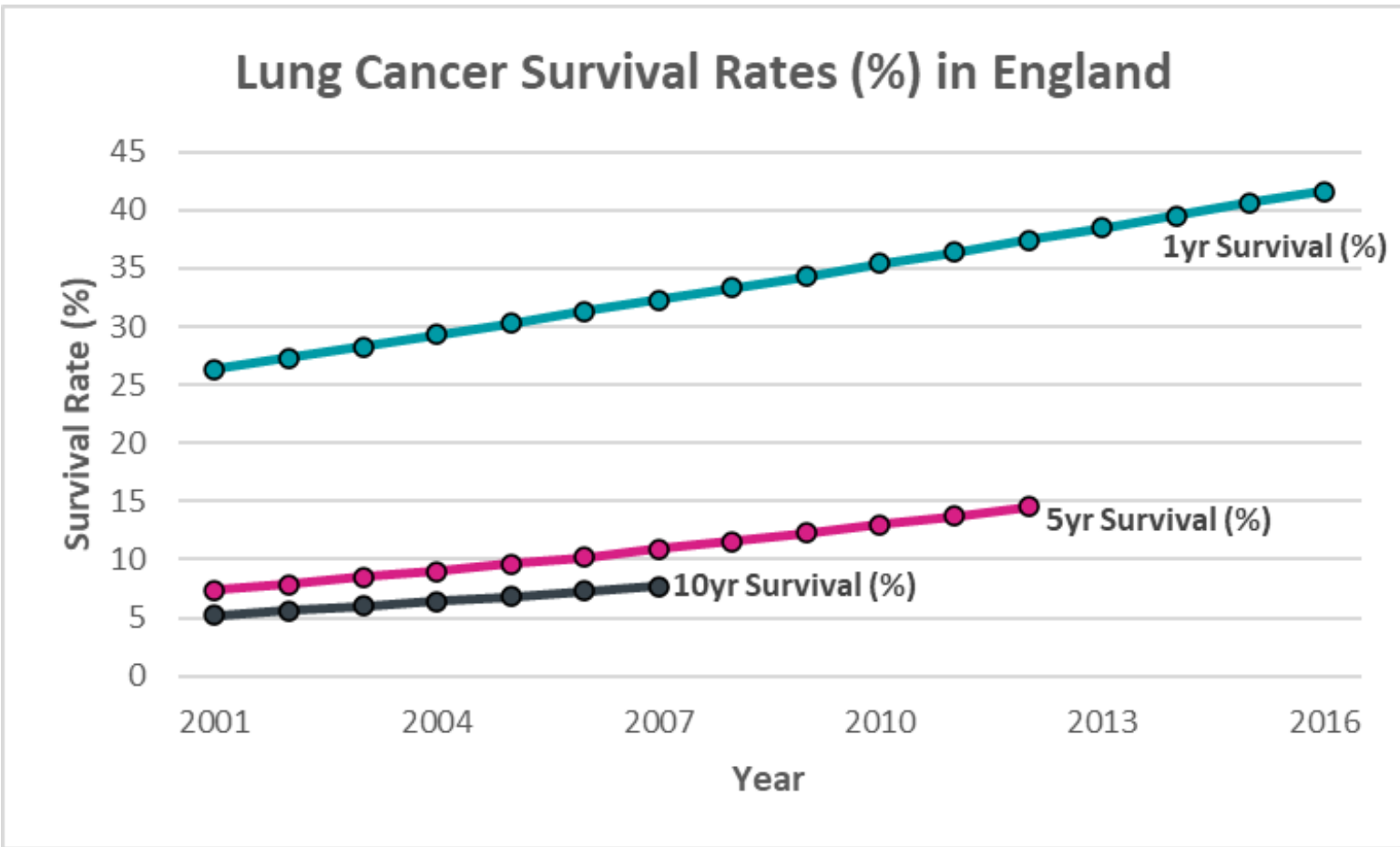
- The rate of adult **ex smokers** in North Lincolnshire fell between 2016 and 2018, before showing a slight gradual increase in the most recent 3 years. However, these changes have not been statistically significantly different.
- In **2021**, the rate in **North Lincolnshire** was **29.3%** which was above the **England average of 25.7%**.

Smoking Prevalence in North Lincolnshire by Sex



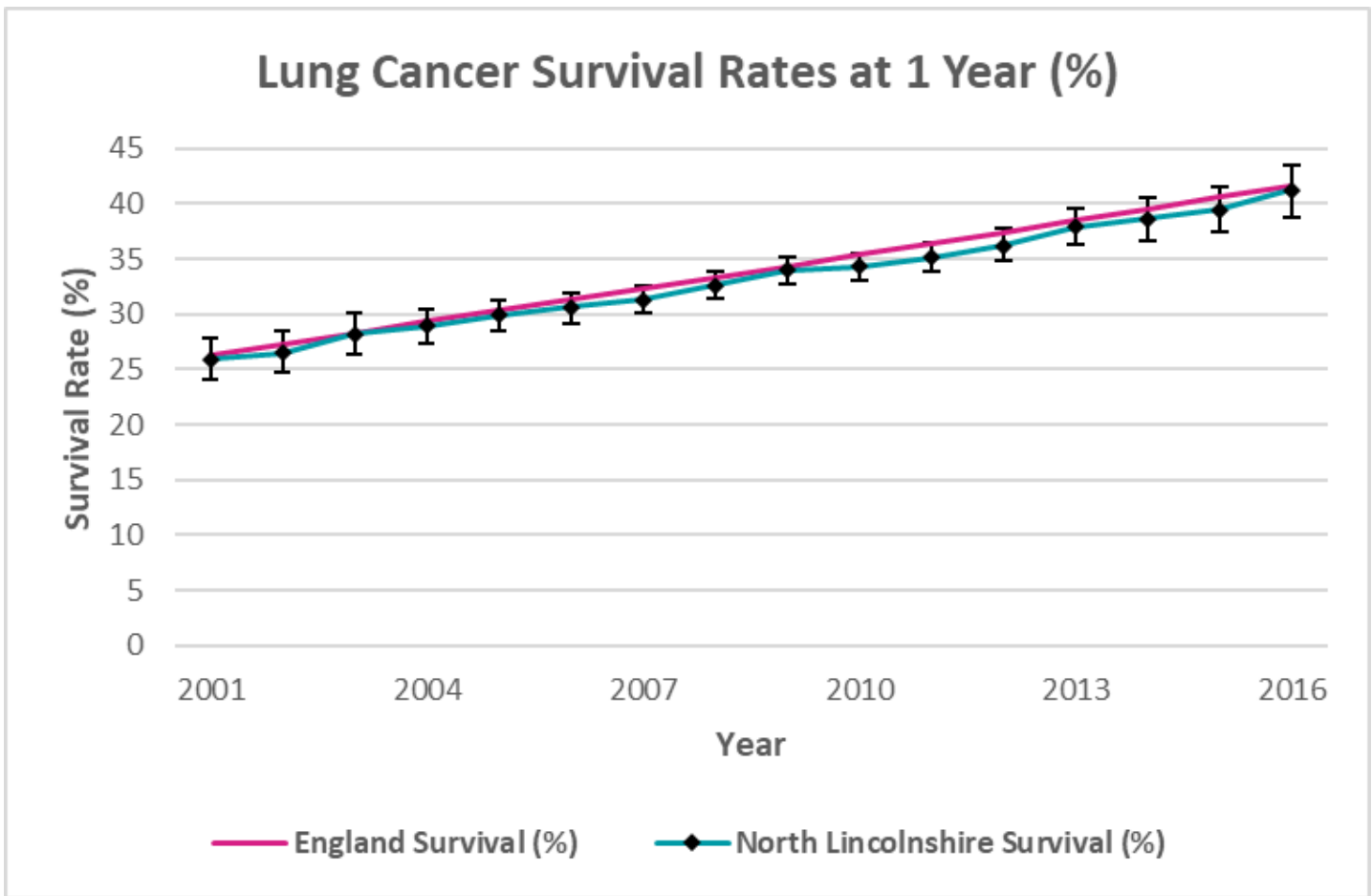
- The percentage of **current smokers** in North Lincolnshire has seen an **overall decline** between 2012 and 2021, with **males rates consistency higher** than females.
- **Male** rates have fallen by 11.7 percentage points, from 27.2% in 2012 to **15.5% in 2021**.
- **Female** rates have fallen by 11.9 percentage points, from 20.9% in 2012 to **9% in 2021**.

Lung Cancer Survival Rates in England



- Lung cancer **survival rates** at 1 year, 5 years and 10 years have all **increased** year on year.
- Survival rates at **1 year** have increased by 15.3 percentage points from 26.3% in 2001 to **41.6% in 2016**.
- Survival rates at **5 years** have almost doubled in 11 years, from 7.4% in 2001 to **14.5% in 2012**.
- Rates at **10 years** have also increased from 5.2% in 2011 to **7.7% in 2007**.

Lung Cancer Survival Rates in North Lincolnshire at 1 Year



- Lung cancer survival rates at 1 year, in North Lincolnshire, have increased by 15.3 percentage points from 25.9% in 2001 to **41.2% in 2016**.
- Over this 15 year period survival rates in North Lincolnshire have remained statistically similar to the England average.

17- ONS 2019

Screening Programmes

- Free NHS Targeted Lung Health Checks are currently being introduced through a phased approach across the Humber and North Yorkshire area starting initially in Hull, as part of a pilot scheme, due to the city having one of the highest lung cancer mortality rates in England , before receiving additional funding to support delivery of the programme in North East Lincolnshire too.
- The programme targets people who have been identified as being at the most risk of developing lung problems, including lung cancer, with the aim of detecting any issues early when treatment is likely to be more successful and simpler. Anyone who is aged between 55 and 74, is a current or ex smoker, and is registered with a local GP practice could be eligible for a check.
- Eligible residents are contacted by their GP to make an initial Lung Health Check appointment, which will be carried out over the phone with a nurse, and lasts about 40 minutes. If any risks are identified, the patient will be offered a low dose CT scan of their lungs, which can take place in a community location, such as a supermarket car park or a sports centre, to make it as accessible as possible. Patients will receive their results within 4 weeks and given advice regarding next steps if necessary
- Lung Health Checks are not yet available in North Lincolnshire, but through the development of the programme it is hoped that they will be by 2026.

18 - Humber and North Yorkshire Cancer Alliance, n.d.

References

- [1\) Lung cancer | Macmillan Cancer Support](#) accessed September 2023
- 2) NHS. (2022). Overview lung cancer. [Lung cancer - Causes - NHS \(www.nhs.uk\)](#). Accessed Jan 2023.
- 3) NICE. (2023). Treatment for lung cancer. [Treatment for lung cancer | NICE](#)[Impact lung cancer | Reviewing the impact of our guidance | Measuring the use of NICE guidance | Into practice | What we do | About |](#). Accessed Jan 2023.
- 4) Macmillan Cancer Support. (2020). Causes and risk factors of lung cancer. [Causes and risk factors of lung cancer | Macmillan Cancer Support](#). Accessed Jan 2023.
- 5) Cancer Research UK. (2019). Lung cancer: risks and causes. [Risks and causes | Lung cancer | Cancer Research UK](#). Accessed Jan 2023.
- 6) [Cancer registration statistics, England - Office for National Statistics](#)
- 7) [Public health profiles - OHID \(phe.org.uk\)](#)
- 8) [Local Health. Public Health Data for small geographic areas - Data - OHID \(phe.org.uk\)](#)
- 9) Public Health England. (2020). Cancer registration statistics England: final release, 2018. [Cancer registration statistics, England: final release, 2018 - GOV.UK \(www.gov.uk\)](#).
- [10\) What do cancer stages and grades mean? - NHS \(www.nhs.uk\)](#)
- [11\) Cancer incidence by stage - NDRS \(digital.nhs.uk\)](#)
- [12\) Emergency presentations of cancer: data up to December 2020 - GOV.UK \(www.gov.uk\)](#)
- [13\) Public health profiles - OHID \(phe.org.uk\)](#)
- [14\) Mortality from leading causes of death by ethnic group, England and Wales - Office for National Statistics \(ons.gov.uk\)](#)
- [15\) Public health profiles - OHID \(phe.org.uk\)](#)
- [16\) Public health profiles - OHID \(phe.org.uk\)](#)
- [17\) Cancer survival in England - Office for National Statistics \(ons.gov.uk\)](#)
- 18) Humber and North Yorkshire Cancer Alliance (n.d.). Targeted lung health check programme. [Lung Health Checks - Humber and North Yorkshire Cancer Alliance \(hyncanceralliance.org.uk\)](#). Accessed Feb 2023.

[Cancer statistics explained: different data sources and when they should be used - Office for National Statistics \(ons.gov.uk\)](#)