



2021  
**North West**  

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Regional Report

Putting our region's  
cancer needs first





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cancer  
needs first

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# Executive summary

Since 1948, North West Cancer Research has been independently funding research and strategies designed to support those living with and beyond cancer in the North West of England and North Wales.

Tackling the challenge of cancer requires a multifaceted, localised approach that understands the unique nature of each region’s villages, towns and cities. This is why we’ve invested over £40 million in the last two decades on a wide range of innovative projects, from laboratory studies to education and outreach, aimed at ultimately creating cancer-free communities for future generations.

There’s still a long way to go, as nationally one in two people will develop some form of cancer during their lifetime and an estimated 2.89 million people in the UK were living with cancer last year. Research suggests that this number is likely to increase to 4 million by 2030.

For a regional charity such as ours, it’s important to explore the similarities and differences between the national picture of cancer prevalence and what it looks like at a local level. This is especially pertinent for our work, as residents in the North West of England and North Wales are 25% more likely to be diagnosed with cancer than in the rest of the UK.

While often considered as a singular challenge, there are actually over 220 different forms of cancer each requiring different treatments and impacting people in different ways, depending on demographics and lifestyles – all of which will mean that tackling the causes, improving care and finding cures for each community will require different approaches.

Understanding the impact of cancer on our region therefore requires a granular knowledge of the places we live and work in. We believe this can only be done by assessing communities independently to inform our allocation of resources and energy, making sure that our work is as effective as possible and that it helps those that need it most.

This is illustrated by a recent study we undertook in the Morecambe Bay area which looked at environmental, social and economic factors to find out how they affect cancer diagnosis. By analysing a huge amount of comparable patient data, the researchers were better able to see patterns such as the correlation between potential causes and common types of cancer. Knowing this is an important step in designing new interventions to better tackle the most prevalent forms of cancer in Morecambe Bay.

This ethos of providing vital insights at a very local level informed the approach taken for this report. We have assessed the available data to explore the levels of cancer afflicting people in the North West of England and further broken this down to a county level, covering Greater Manchester, Cheshire, Merseyside, Cumbria, and Lancashire.

This targeted and strategic method means that we can achieve a better understanding of how communities are affected by the disease and show which conditions are placing the most burden on our regions, the healthcare infrastructure and the people living with cancer.

This research will further our knowledge of key cancer trends across the North West and help us know where there are specific needs. This includes identifying the counties with the highest

incidences of specific cancers and combining this with socio-economic information, providing a fully rounded picture of each area that takes into account multiple data points.

The impact of the 25 cancers across the North West for which data is recorded by the NHS were assessed. Of these cancers, the North West exhibits higher incidence rates for 16 of them when compared to the English average, meaning that these cancer types are more common than we would expect from national data.

We also discovered significant differences when it came to health outcomes across the region, with particularly large variations for the types of cancer that have the most serious consequences. Some of the alarming regional disparities that were uncovered include the fact that lung, trachea and bronchus cancers are 20% higher in the North West compared to the rest of England.

This report has also identified the specific cancers that are most affecting communities in the North West. Oesophageal cancer is shown to be a particular issue, with all five North West counties recording higher than average rates. In addition, the prevalence of head and neck cancers is significantly above the English average, with rates 21% higher than the rest of the country.

Due to this research we now also know that some cancers specific to women are found at notably higher levels in the North West. This was especially evident with cervical cancer rates, which are 19% higher than the English average.

The insights we’ve revealed outline the important health challenges the North West will need to overcome. By showcasing how localised cancer

variations can be, we hope that businesses and community groups will add to our work and help grow our collective understanding of why places in the North West are impacted by specific cancers at a much more pronounced rate than the rest of the country. Advancing this vital work will ensure that each area has the knowledge, skills and support it requires.

This report marks the starting point of a journey towards cancer-free communities. To reach the destination, we all need to work together to understand the cancer related questions facing our regions and to collectively uncover the answers.

*Alastair Richards*

**Alastair Richards,**  
**North West Cancer Research CEO**

**Data Source Overview:**

We assessed the 25 key cancers across the North West for which NHS data is available. Population, employment, household religion and ethnicity data was obtained from the UK Office for National Statistics via Nomis ([www.nomisweb.co.uk](http://www.nomisweb.co.uk)). The latter two were taken from the 2011 Census returns. Data for cancer rates (incidence/prevalence) was obtained from the National Cancer Registration and Analysis Service ([www.ncin.org.uk](http://www.ncin.org.uk)).



# NORTH WEST

## Regional overview

**The North West has a significant cancer burden compared to the rest of England, with an overall cancer incidence rate six per cent higher than the national average.**

The region over-indexes on 16 of the 25 key cancers surveyed compared to the national average. This means people living in the North West face a higher risk of developing these cancers than the rest of the UK.

Factors such as population make-up, the environment and the levels of deprivation experienced by communities can impact the types of and incidence rates of cancer that they experience.

Our research shows that compared to the national average, communities in the North West face significantly higher rates of deprivation than the national average. Across the region, people living in Merseyside experience the highest levels of deprivation in the North West, while Cheshire is the most affluent county within the region.

Overall, Cumbria experiences lower levels of deprivation than the rest of the country and is 10% less deprived than the rest of the North West. However, higher levels of poverty are recorded in Barrow and Copeland compared to more affluent areas of the county such as Eden and South Lakeland, which track above the national average.

Lancashire is the region's most economically diverse county, with pockets of significant wealth coupled with areas which experience extreme poverty.

Greater Manchester's economic landscape is also mixed, with richer areas such as Trafford and Tameside, sitting alongside deprived communities in Manchester's inner-city, one of the poorest areas in the country.

Population demographics also have a significant impact on each county's health outcomes; areas with older populations often experience significantly higher incidence rates for a wide range of cancers.

With the youngest population in the region, Greater Manchester has the lowest rates of cancer in the region and the county records cancer rates that are **4%** below the national average. Greater Manchester's population demographics are key to shaping its cancer incidence rate profile, with **73%** per cent of people living in Greater Manchester aged under 54, a factor which arguably influences the disease profile of the population.

Cumbria meanwhile experiences the highest rates of cancer across the region with rates **12%** higher than the regional average and **18%** higher than the national average. The county also has one of the oldest populations in the North West, with almost **40%** of its population aged over 55 years old.

Merseyside, Lancashire, and Cheshire all recorded cancer rates broadly in line with the regional average, tracking seven per cent higher than the rest of the country.

### Cancers impacting women

Across the North West, some cancers which impact women tracked significantly higher than in the rest of England. Cervical cancer rates, in particular, are

notably high across the region as a whole, with rates recorded **19%** above the national average. Cumbria records rates of cervical cancers **35%** above the national average, while Merseyside's rates are **31%** higher than the rest of England. Lancashire also has a high burden of disease with cervical cancer rates at **21%** above the national average, while Greater Manchester has an incidence rate of **7%** above the rest of England.

Rates of ovarian cancer and cancer of the uterus are also high across the North West. Ovarian cancer rates track at **12%** above the English average, while rates of ovarian cancer are **12%** higher in the North West than the rest of the country. Lancashire has the highest incidence rates of ovarian cancer at **16%** higher than the national average, with rates in Greater Manchester tracking at **13%** higher than the rest of England. Cumbria has the highest incidence rates for uterine cancer at **26%** above the national average, Lancashire also has a high burden of disease, with incidence rates **12%** above the rest of the country.

Female breast cancer is the most prevalent recorded cancer across every North West county – this is broadly in line with the national incidence rate; the North West's incidence rate for breast cancer is **4%** over that of the rest of England. Cumbria and Cheshire experience markedly higher rates of breast cancer than the rest of the North West counties, with recorded incidence rates **16%** and **13%** higher than the national average, respectively.



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**Population demographics also have a significant impact on each county's health outcomes; areas with older populations often experience significantly higher incidence rates for a wide range of cancers.**

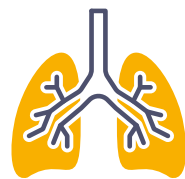
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Cancers impacting Men

Similarly to the high levels of cancers experienced exclusively by women, some male specific cancers were also recorded in high levels in the North West.

Prostate cancer is the second most prevalent cancer recorded across every North West county, this is broadly in line with rates recorded across the rest of the country. Lancashire, in particular, records high levels of prostate cancer compared to the national average, with rates **7%** higher than the rest of England. Cheshire is close behind, with recorded rates of prostate cancer **5%** higher than the English average.

Testicular cancer also poses a challenge for the region – incidences of testicular cancer in the North West are **4%** higher than the rest of England, and it is the 14th most prevalent cancer across the region.



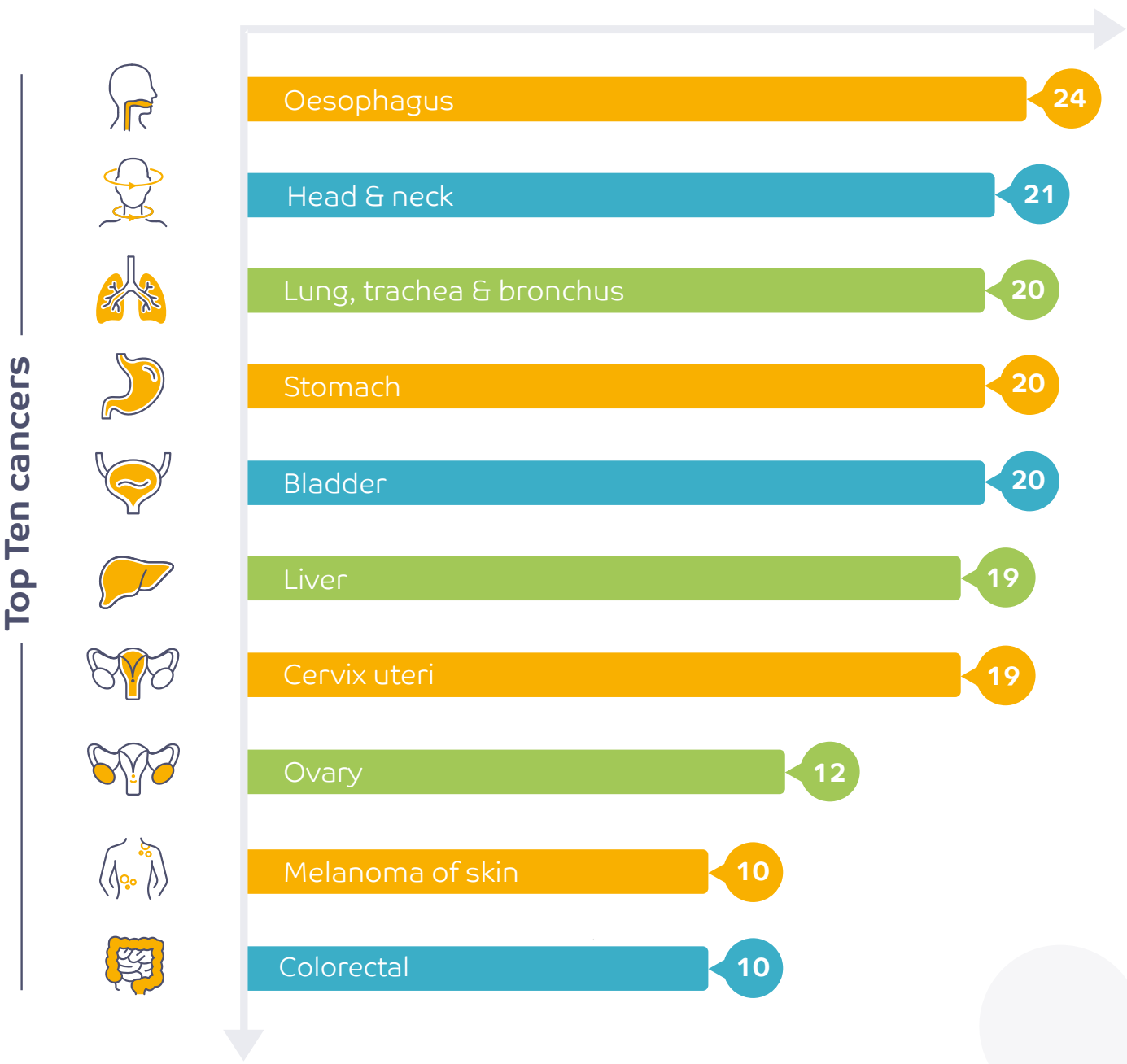
Lung cancer rates across the region are **59%** higher than the national average

Key Challenges:

- Specific cancers impact communities more starkly than others. Oesophageal cancer, in particular, is a key challenge for the North West counties – with all five recording higher than average rates of this cancer. Cumbria experiences the highest incidence rate for oesophageal cancer at **54%** higher than the national average, closely followed by Merseyside at **39%**, Cheshire at **33%**, Lancashire at **19%**, and Greater Manchester at **8%** higher than the rest of England.
- Lung cancer rates across the region are also high, and peak in the largely urban conurbation of Merseyside, where rates are **59%** higher than the national average. Lung cancer also impacts communities across Greater Manchester, with rates **24%** higher than the national average, while Cheshire experiences lung cancer rates at **14%** higher than the English average.
- Head and Neck cancers are also a key challenge across the region. Merseyside records the highest rates of this cancer at **32%** above the national average, while Cumbria and Greater Manchester also experience a significant impact at **25%** and **20%** above average, while Lancashire tracks **19%** above the rest of England’s average.
- Melanoma, or skin cancer, is another commonly shared challenge across the regions – possibly due to lifestyle or outdoor occupations, which mean populations are more at risk. Cumbria has the highest levels of melanoma across the region, with an incidence rate **27%** higher than the rest of England. Cheshire also experiences high rates of melanoma, with its communities reporting cases at a rate **22%** higher than that experienced nationally. Lancashire and Merseyside also record above average rates for this cancer.

North West

% higher than the rest of England



The North West’s ten most common Cancers

1. Breast	6. Uterus
2. Prostate	7. Head and Neck
3. Colorectal	8. Lung, Trachea, Bronchus
4. Melanoma	9. Bladder
5. Non-Hodgkin Lymphoma	10. Kidney, renal pelvis, ureter

# MERSEYSIDE: County Overview

Cancer rates in Merseyside are in line with the cases reported across the North West – with overall recorded cancer cases tracking seven percent higher than that of the national population.

The county is the most deprived in the North West, with significantly high levels of deprivation compared to both the regional and national average. Merseyside’s population is relatively young, with **69%** of the population living within the Liverpool City Region aged under 54.

Around **28%** of the population in the Liverpool City Region are employed in routine or manual roles, while **26%** have managerial, administrative, or professional occupations. Students make up **10%** of the Liverpool City Region population, while **8%** of people living in the area are long term unemployed or have never worked.

Across the county, a varied picture of cancer rates emerges, with Sefton recording the highest peak rates in the county at **22%** over the national average, and urban communities living in Liverpool City Centre recording the lowest cancer rates – **10%** below the regional average.

Oesophageal, stomach, and bladder cancers pose a significant health burden for the county, with rates tracking significantly higher than the rest of the country. In common with Manchester, lung cancer is a significant issue for Merseyside, with recorded rates almost **60%** higher than the national average.

Although rare, the county also struggles with an extremely high incidence of liver cancer that dwarfs rates recorded across the rest of England.

### County-specific breakdown: Merseyside

Top Five Areas of Need

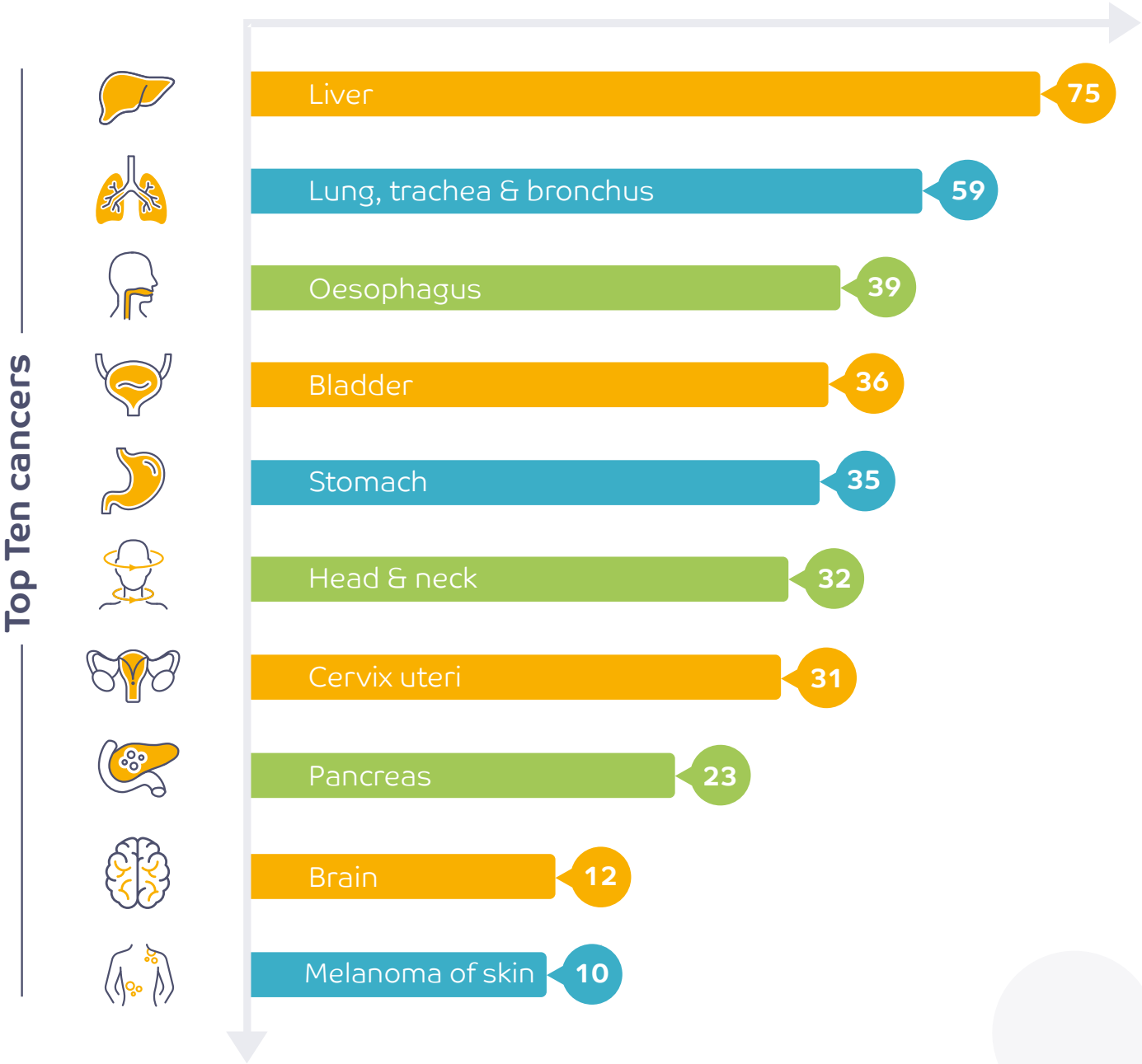
- Incidences of liver cancer in Merseyside are **75%** higher than the rest of England.
- Merseyside has extremely high rates of lung, trachea, and bronchus cancers, with rates at **59%** higher than the national average.
- Oesophageal cancer rates high across the North West and Merseyside has a significant burden of disease with a **39%** higher incidence rate than the rest of the country.
- Merseyside’s bladder cancer rates are concerning – the county over-indexes by **36%** compared to the English average.
- Cases of stomach cancer are high in Merseyside, with incidence rates charting **35%** above the rest of the country.



Incidences of liver cancer in Merseyside are **75%** higher than the rest of England

## Merseyside

% higher than the rest of England



### Merseyside’s ten most common cancers

1. Breast	6. Uterus
2. Prostate	7. Head and Neck
3. Colorectal	8. Lung, Trachea, Bronchus
4. Melanoma	9. Kidney, renal pelvis, and ureter
5. Non-Hodgkin Lymphoma	10. Bladder



## Head and neck cancer: Our work

Head and neck cancer rates in particular are of huge concern to the North West region and demonstrate a startling local health disparity, with incidence rates **32%** higher in Merseyside compared to the national average.

There are more than 30 areas within the head and neck where cancer can develop. This includes, mouth and lips, larynx, throat, salivary glands, nose, and sinuses, with mouth cancer being the most common type. Men are more likely to be diagnosed with head and neck cancer, which make this disease and its treatment especially pertinent for male healthcare in the North West.

Radiotherapy is still the most effective treatment for a number of different cancers, including head and neck cancer. Recently there has been a growing use for proton beam therapy worldwide, as it can precisely deliver the radiation dose to the tumour and limit the unnecessary irradiation of surrounding normal tissues. This approach therefore reduces the adverse side-effects frequently observed with conventional radiotherapy techniques.

However, understanding of the specific effects of protons at a biological level is still not clear. We have recently demonstrated that protons have different effects on the DNA of cancer cells and conventional x-ray radiation. Our aim is now to expand on this knowledge and to identify specific proteins within head and neck cancer cells which, when targeted with drugs or inhibitors, can limit the repair of DNA damage caused by proton beam therapy leading to increased cancer cell killing.

This work is vital in the development of new treatments in combination with proton beam therapy which are actively being sought for improving the effective treatment of head and neck cancer.



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**Men are more likely to be diagnosed with head and neck cancer, which make this disease and its treatment especially pertinent for male healthcare in the North West**

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## CUMBRIA: County Overview

**Cumbria's cancer incidence rate is significantly higher than the rest of the North West and the county records 12% higher rates of cancer than the rest of the region.**

Aligned with its high cancer incidence rates, Cumbria has one of the oldest population profiles in the North West; **39%** of its population is over 55 years old with **11%** aged over 75.

Overall, Cumbria experiences lower levels of deprivation than the rest of the country and is **10%** less deprived than the rest of the North West, however pockets of the region do experience longstanding deprivation, with high levels of poverty recorded in Barrow and Copeland compared to more affluent areas of the county such as Eden and South Lakeland, which track above the national average.

Around **31%** of the population in Cumbria are employed in routine or manual roles, while **28%** have managerial, administrative, or professional occupations. Students make up **5%** of population, while **4%** of people living in the area are long term unemployed or have never worked.

Despite its relatively affluent population, the county has the highest rates in the North West for a number of cancers. Cancers which present a significant challenge for the region include stomach cancer rates that are **75%** higher than the rest of England. Oesophageal cancer rates in the region are also troubling and track at more than double the national average at **54%**.

Colorectal cancer in the region is also significantly higher than the rest of the country with an incidence rate of **37%** above the national rate. While cervical cancer rates in Cumbria also track at **35%** above the English average.

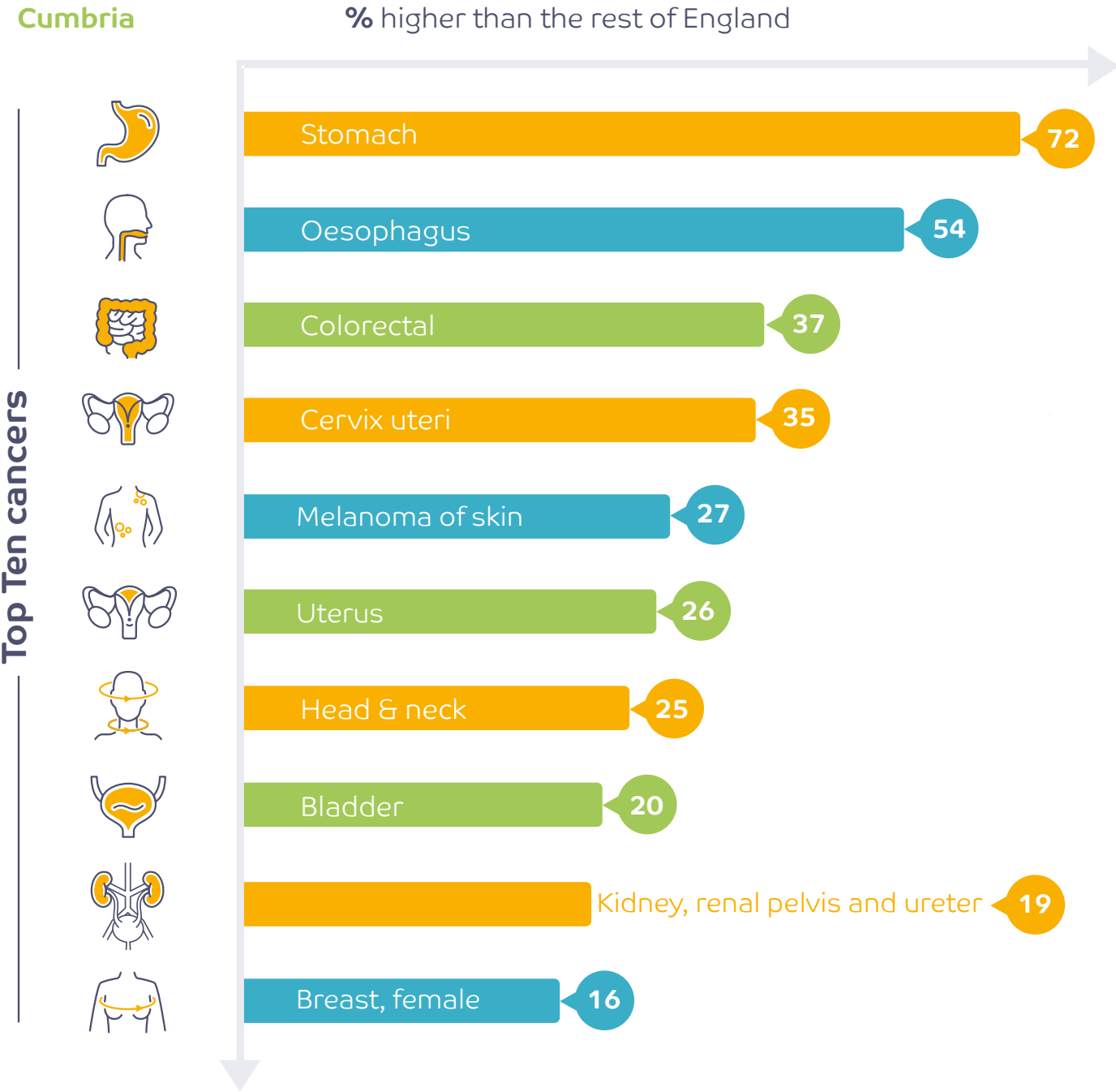
### County-specific breakdown: Cumbria

#### Top Five Areas of Need

- Stomach cancer rates are **72%** higher than the rest of the country.
- Rates of oesophageal cancer are **54%** higher than the rest of England.
- Incidence rates for colorectal cancer are **37%** higher than the national average.
- Cervical cancer rates in Cumbria are **35%** higher than the rest of England.
- Melanoma of the skin: Cumbria has high melanoma rates at **27%** higher than the national average.



**Stomach cancer rates are 72% higher than the rest of the country**



**Cumbria's ten most common cancers**

1. Breast	6. Head and Neck
2. Prostate	7. Lung, Trachea, Bronchus
3. Melanoma	8. Kidney, renal pelvis, ureter
4. Non-Hodgkin Lymphoma	9. Bladder
5. Uterus	10. Leukaemia

**Early detection: Our work**

We've been working with a taskforce of experts on a major investigation into the prevalence of cancer within communities to help improve early detection rates.

The majority of previous studies have considered cancers as single disjointed entities. Instead, this project will look at the presence of more cancers in the same area in order to provide answers around the wider causes of the disease.

The study will take place in the Morecambe Bay area, where it will analyse and map different factors including environment, social and economic factors and how they impact on cancer diagnosis. Researchers will take advantage of a huge comparable patient data set in the region, meaning that patterns should be seen more clearly and around which new interventions can be designed.

The results from this research will give us a detailed picture of where there are correlations between potential causes and common types of cancer in the region, on both a micro and macro level.

It is hoped that the project and its methodology will then be disseminated to other regions and the wider country to support enhanced detection rates on a national scale.



“The results from this research will give us a detailed picture of where there are correlations between potential causes and common types of cancer in the region, on both a micro and macro level”



# LANCASHIRE: County Overview

Rates of cancer in Lancashire are 7% higher than the national average and overall cancer rates are broadly in line with average cancer rates across the North West.

Economically, the county is the most diverse in the region and is home to both Blackpool, with some of the most deprived communities in England, and the Ribble Valley, one of the country's wealthiest areas. The county's under-55s make up approximately 68% of the population, with 19% of the population aged over 65.

Around 27% of the population in Lancashire are employed in routine or manual roles, while 27% have managerial, administrative, or professional occupations. Students make up 9% of population, while 6% of people living in the county are long term unemployed or have never worked.

Incidences of lung cancer are 9% above the national average in Lancashire, but this still tracks well below the North West's lung cancer rates which are 20% higher than the English average. Lancashire also has a much lower liver cancer incidence rate than the North West average, with liver cancer cases in line with the national average.

Bladder and cervical cancer rates in Lancashire are significantly greater than the national average, at 26% and 21% respectively. The county is also challenged with high rates for head and neck cancers, which track at 19% higher than the national average.

## County-specific breakdown: Lancashire

Top Five Areas of Need

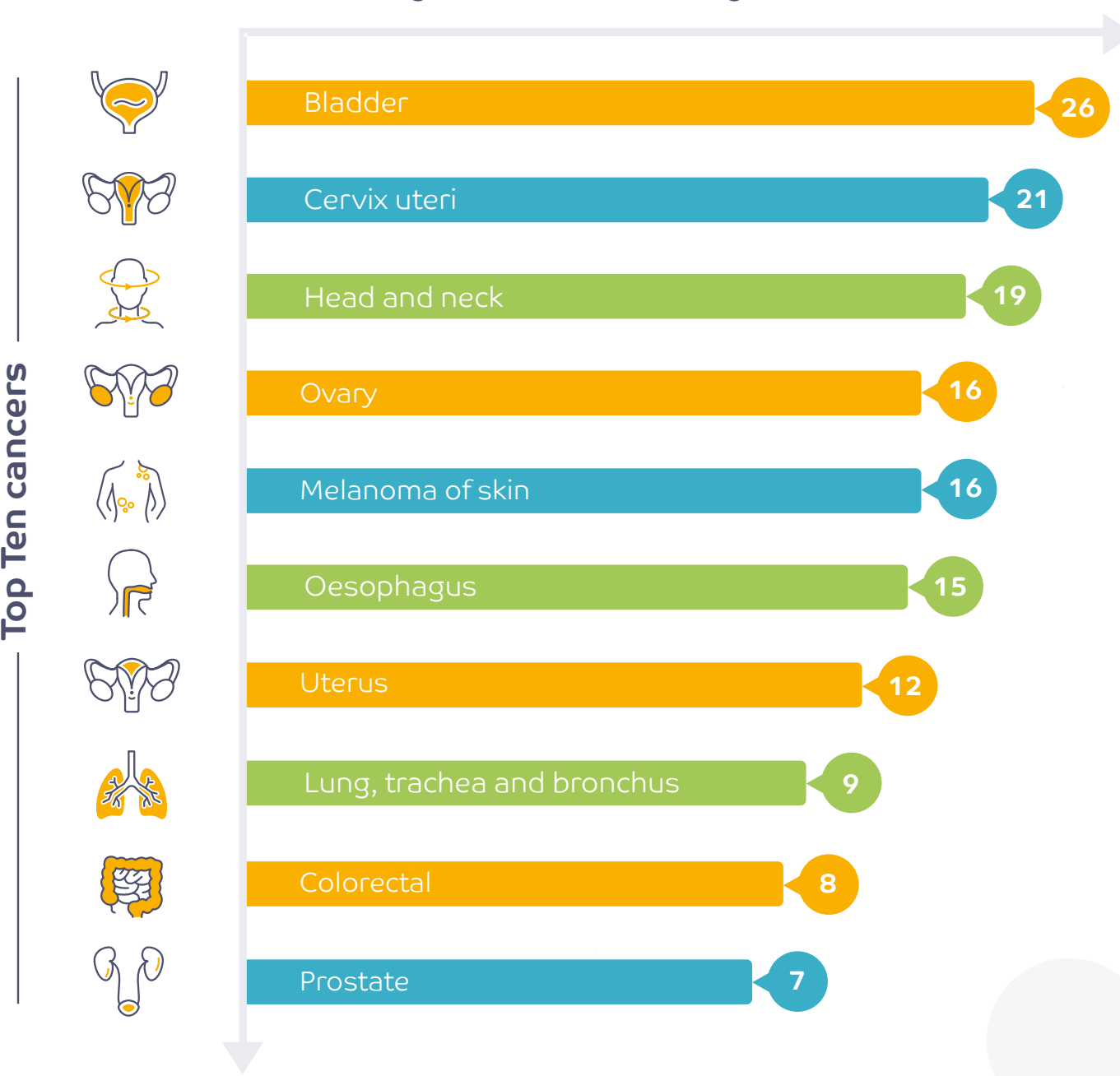
- Bladder cancer rates are 26% higher in Lancashire than the rest of the country.
- The county's rates of cervical cancer are 21% higher than the English average.
- Incidence rates for head and neck cancers are 19% higher than the national average.
- Melanoma rates in Lancashire are 16% higher than the rest of the country.
- Ovarian cancer rates are 10% higher than the rest of the country.



Bladder cancer rates are 26% higher in Lancashire than the rest of the country

## Lancashire

% higher than the rest of England



## Lancashire's ten most common cancers

1. Breast	6. Uterus
2. Prostate	7. Head and Neck
3. Colorectal	8. Lung, Trachea, Bronchus
4. Melanoma	9. Kidney, renal pelvis, ureter
5. Non-Hodgkin Lymphoma	10. Bladder

## Lung cancer: Our work

Lung cancer remains the third most common cancer in the UK, and whilst national rates have fallen, those within the Blackpool area have remained consistently above average.

The most common way people discover they have lung cancer is through attendance at A&E which sadly means that diagnosis is often at a late stage of the disease.

The Blackpool area has recently been selected by NHS England as one of the first sites to develop the new proposed national screening programme for lung cancer. People thought to be at risk of lung cancer will be invited to a lung health check and some of them will be sent for a CT scan.

Our study aims to test a new method of detection for lung cancer which we hope could be used in the future as part of a screening test to improve survival rates for people with lung cancer. This new approach is designed to pick up lung cancer earlier, maybe even before someone starts to display symptoms, allowing people to be treated sooner.

Participants will be asked to provide a saliva sample in a pot. The saliva is then tested using a hand-held infrared spectrometer to generate a 'fingerprint' of the saliva. Following computer analysis, it is possible to identify those participants with cancer and those who are cancer free. The results from this test would be compared to a CT scan performed earlier to see if this new tool is able to detect those participants with cancer.

If successful, this could be used as a screening test to help easily identify those people who require referral to hospital for further investigation in order to diagnose and treat their cancer.



“It’s an exciting time to be able to work on this study that could improve the survival rates of lung cancer for the whole region.”

”  
Danielle Bury, Consultant Histopathologist at Blackpool Teaching Hospital NHS Trust, is leading the new research into lung cancer in the Blackpool area.

## GREATER MANCHESTER: County Overview

**Although the county is challenged with a high burden of disease for a number of key cancers, Greater Manchester has the lowest cancer incidence rate in the North West.**

With the youngest population in the region, **73%** per cent of people living in Greater Manchester are aged under 54, a factor which arguably influences the disease profile of the population.

Deprivation levels across Greater Manchester paint a mixed picture, with richer areas such as Trafford and Tameside, sitting alongside deprived communities in Manchester's inner-city, one of the poorest areas in the country.

Around **28%** of the population in Greater Manchester are employed in routine or manual roles, while **27%** have managerial, administrative, or professional occupations. Students make up **10%** of population, while **7%** of people living in the area are long term unemployed or have never worked.

With an overall incidence rate lower than its neighbours, Greater Manchester has the lowest rates in the region for testicular cancer and is the only North West county to under-index on incidences of breast cancer.

However, the county still records rates of lung trachea and bronchus cancer that are **24%** higher than the national average. Liver cancer rates in Greater Manchester are also stark with a **23%** higher incidence rate than the rest of England.

Head and neck cancer rates in the county index at 20% higher than the national average too.

### County-specific breakdown: Greater Manchester

#### Top Five Areas of Need

- Rates of lung, trachea and bronchus cancers are **24%** higher than the national average.
- Greater Manchester has a **23%** higher incidence rate of liver cancer than the rest of England.
- Greater Manchester has high rates of head and neck cancer, with rates **20%** higher than the rest of England.
- Incidences of ovarian cancer are **13%** higher in Greater Manchester than the national average.
- Rates of stomach cancer in Greater Manchester's are **10%** higher than England's average.

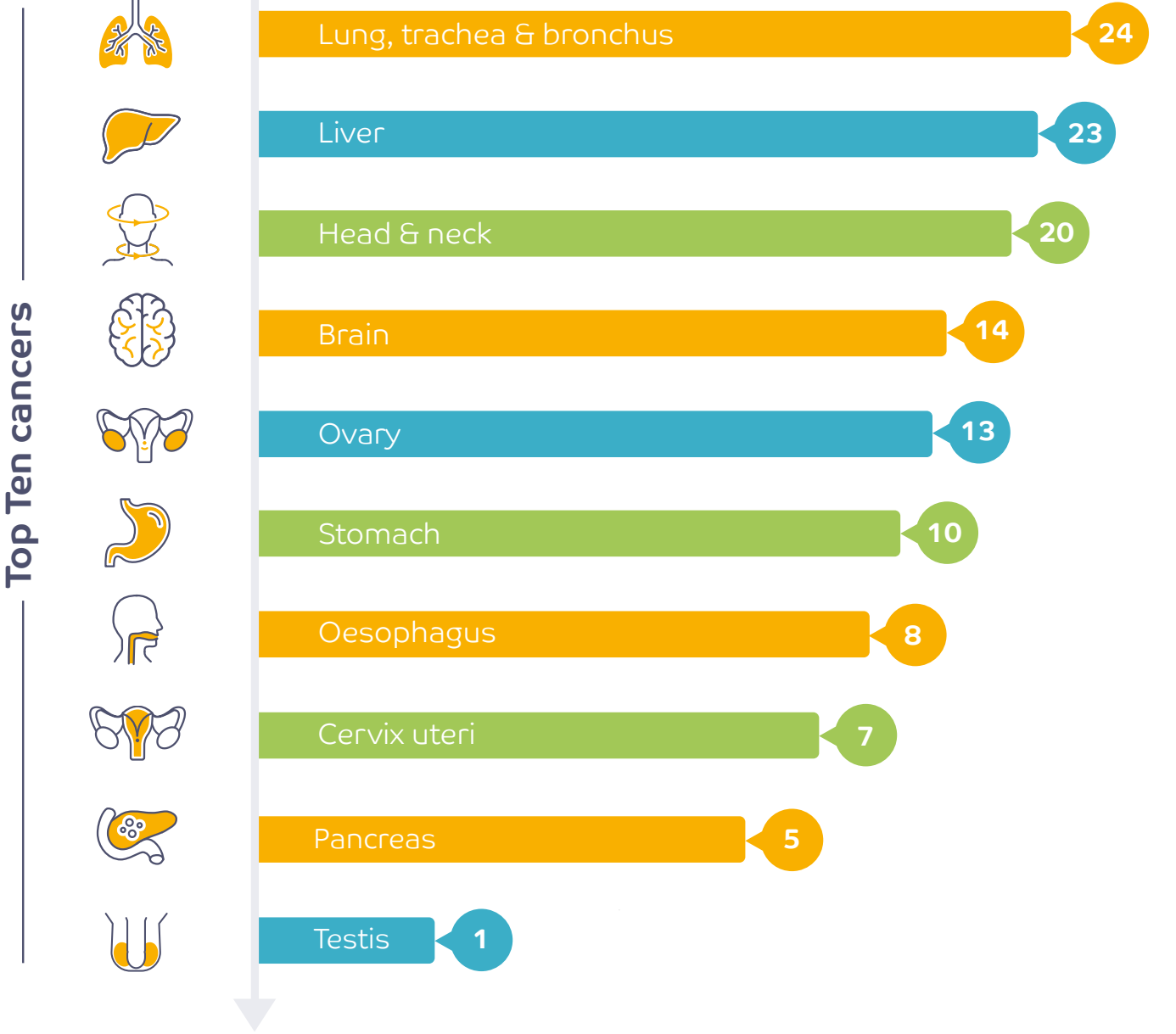


**Rates of lung, trachea and bronchus cancers are 24% higher than the national average**



Greater Manchester

% higher than the rest of England



Greater Manchester's ten most common cancers

1. Breast	6. Uterus
2. Prostate	7. Head and Neck
3. Colorectal	8. Lung, Trachea, Brochus
4. Melanoma	9. Kidney, renal pelvis, and ureter
5. Non-Hodgkin Lymphoma	10. Bladder

# CHESHIRE: County Overview

Cheshire is the most affluent region in the North West, with low levels of deprivation compared to the national average.

Around **36%** of the population in Cheshire are employed in managerial, administrative, or professional roles, while **25%** have routine or manual occupations. Students make up **7%** of population, while **4%** of people living in the area are long term unemployed or have never worked.

The county has a relatively high percentage of older residents with approximately **36%** of the population aged over 55, and **10%** over 75 years old.

Within the region, a varied picture of cancer incidence emerges. Warrington has the lowest cancer incidence within Cheshire at **97%** of the national average, while Cheshire East's cancer rate per 100,000 people is **10%** higher than the national average, and Cheshire West and Chester has a cancer incidence **16%** higher than the rest of England and 10% higher than the regional average.

The region's rates spike for a number of cancers, including oesophageal cancer, which has **33%** higher incidence rate than the national average. Melanoma is another cancer which afflicts people living in Cheshire in high numbers– with rates **22%** higher than the rest of the country.

Liver and bladder cancer rates are **20%** higher than the national average, and incidences of brain cancer are **15%** more prevalent in Cheshire, while lung

trachea and bronchus cancer rates are **14%** higher than the rest of England.

Other cancers which have higher incidence rates in Cheshire than the rest of England include cancer of the pancreas, breast cancer, colorectal cancer, and prostate cancer.

County-specific breakdown:  
Cheshire

Top Five Areas of Need

- Incidences of oesophageal cancer in Cheshire are **33%** higher than the national average.
- Rates of melanoma are **22%** higher than the rest of England.
- Cheshire has a **20%** higher incidence rate of liver cancer than the rest of the country.
- Incidences of bladder cancer are **20%** higher than the national average.
- Brain cancer rates are **15%** higher in Cheshire than the rest of England.

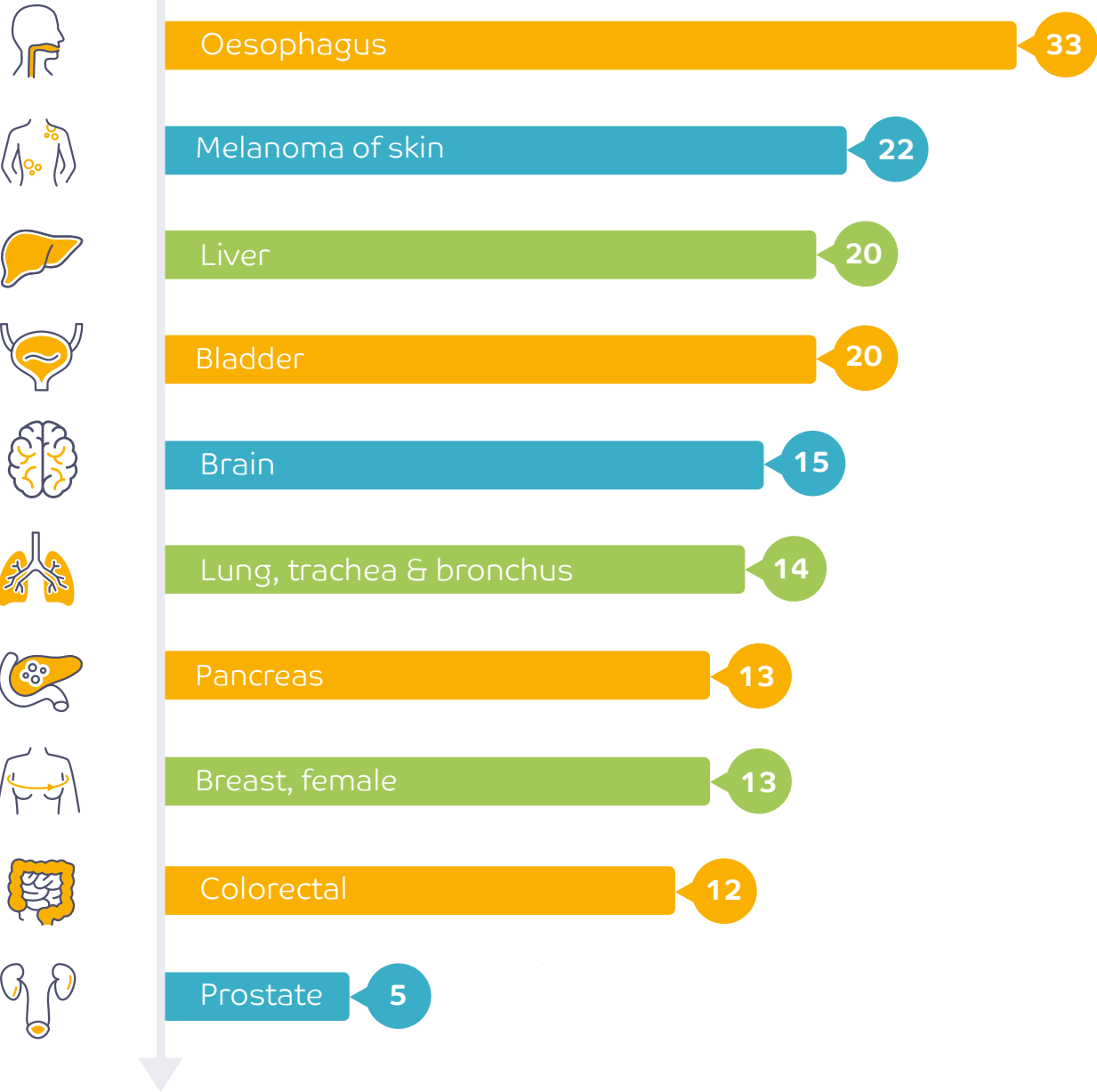
Incidences of oesophageal cancer in Cheshire are **33%** higher than the national average



Cheshire

Top Ten cancers

% higher than the rest of England



Cheshire's ten most prevalent cancers

- |                         |                                     |
|-------------------------|-------------------------------------|
| 1. Breast               | 6. Uterus                           |
| 2. Prostate             | 7. Head and Neck                    |
| 3. Colorectal           | 8. Lung, Trachea, Brochus           |
| 4. Melanoma             | 9. Kidney, renal pelvis, and ureter |
| 5. Non-Hodgkin Lymphoma | 10. Bladder                         |



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## Get in touch

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