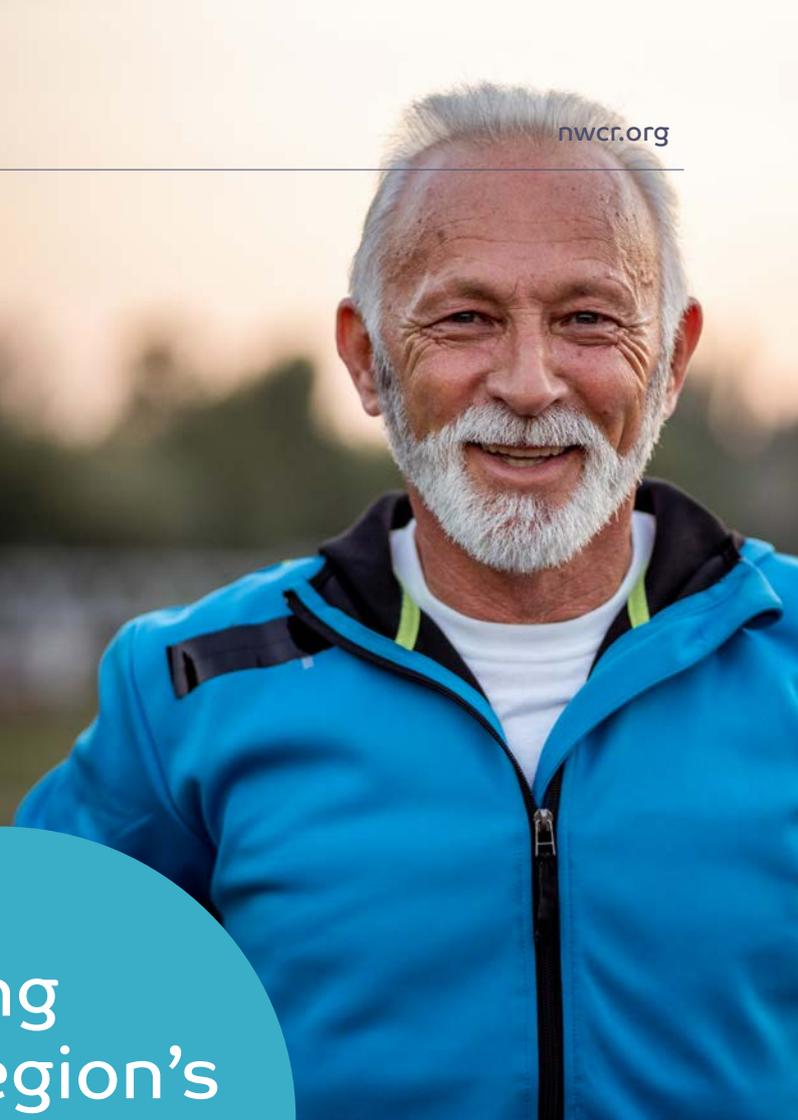




Regional Report

Putting our region's
cancer needs first



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cancer
needs first





Contents:

4-5 Executive Summary

6-7 Regional Overview: North West

- 08 Merseyside
- 09 Cumbria
- 10 Lancashire
- 11 Greater Manchester
- 12 Cheshire

13-14 Regional Overview: North Wales

- 16 Flintshire
- 18 Wrexham
- 20 Conwy
- 21 Denbighshire
- 22 Gwynedd
- 23 Anglesey

Executive summary

North West Cancer Research has been funding life-saving research into cancer across the North West of England and North Wales for over 70 years.

Cancer is one of the greatest health challenges of our age and we are proud that since 2000, we have invested over £40 million in tackling the cause, improving the care, and finding the cure for cancer.

One in two people will develop some form of cancer during their lifetime and an estimated 2.5 million people in the UK were living with cancer in 2015. Research suggests that the number of people facing the disease could rise to 4 million by 2030.

Across the UK, the four most common types of cancer are breast cancer, lung cancer, prostate cancer and bowel cancer.

Although there are naturally a number of parallels between the national and regional picture of cancer prevalence, for a charity like ours with a specific regional focus, exploring the impact that cancer has on communities across the North West and North Wales is critical.

We believe assessing communities independently is key to enabling the formation of a clear, accurate overview of the disease's impact. This allows us to ensure we are directing resource and energy to tackling cancer in the areas and communities that need it most.

In order to gain a greater understanding of how communities are being impacted by the disease and to explore which conditions place the greatest burden on our regional communities, we have conducted an extensive, data-led research project to explore the levels of cancer afflicting people living in the North West of England and across North Wales.

Our research has brought to light a number of key trends and highlighted the areas of specific need across the North West and North Wales. We have also identified the counties which struggle with the highest incidences of specific cancers and plotted these against a socio-economic backdrop, which helps to provide a more holistic, informed picture of each community at a county and regional level.

A targeted and strategic approach has enabled us to measure and assess the specific cancers that place the greatest burden of need on the North West and North Wales. We have also taken this to a county level, in order to further break down and explore how specific communities are being impacted by certain types of cancer.

Our research has unearthed large disparities across the region in terms of health outcomes, with significant regional variations with regard to the types of cancer that are having the greatest impact at a regional level.

We assessed the impact of the 25 key cancers across the North West and the 37 key cancers across North Wales. Of the cancers we looked at, the North West over-indexed on 14 key cancers. While North Wales over-indexed on 23 key cancers.

Some of the findings were particularly alarming and highlight significant regional disparities. We found, for example, that incidences of lung, trachea and bronchus cancers are 26% higher in the North West compared to rates across the rest of England. Lung cancer is also a key challenge for North Wales, with an incidence rate 12% higher than the Welsh average.

Head and neck cancers are a particular burden for North Wales with four of the six counties showing significantly higher rates than those recorded across the rest of the country. The North West also records higher rates of head and neck cancers with a rate 18% higher than the average for England.

Bladder cancer is another area of concern, both North Wales and North West England showed markedly higher rates of this disease than the national rates across Wales and England. North Wales recorded an incidence rate 18% higher than the national average, while communities across the North West showed a 13% higher rate than the rest of England, with four of its five counties recording higher than average incidences of the disease.

Our report aims to strategically assess key areas of need across our region, providing a comprehensive overview of the key health challenges faced by the North West and North Wales.

We hope businesses and the community will join with us in this vital work to understand why communities in the North West and North Wales are overly impacted by specific cancers and support us as we work to provide the insights, awareness,

and understanding to empower communities to tackle cancer.

This is the start of the journey for us, we need your support in helping us first understand and then tackle the cause, improve the care, and find the cure for cancer across our regions.



Alastair Richards,
North West Cancer Research CEO

Data Source Overview:

We assessed 25 key cancers across the North West and the 37 key cancers across Wales according to available data. Population, employment, household religion and ethnicity data was obtained from the UK Office for National Statistics via Nomis

(www.nomisweb.co.uk). The latter two were taken from the 2011 Census returns. Welsh data for cancer rates (incidence/prevalence) was obtained from the Welsh Cancer Intelligence and Surveillance Unit for Wales (www.wcisuwales.nhs.uk/home) and the National Cancer Registration and Analysis Service (www.ncin.org.uk) for England

NORTH WEST: Regional Overview

Compared to the national picture, the North West of England has specific areas of need. The region has a high proportion of older people, with approximately 30% of the population over 55. Around 8% of these are over 75 years of age.

Although the make-up of each county differs, the North West as a whole also has a high percentage of people in the most economically challenged socio-economic groups – with almost half (49%) of the region's residents unemployed or working in skilled, semi-skilled, or unskilled manual occupations.

The region over-indexes on 14 key cancers 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.

The top 14 cancers impacting the region are: liver; lung, trachea, and bronchus cancers; oesophageal cancer; stomach cancer; cervical cancer; head and neck cancers; bladder cancer; brain cancer; ovarian cancer; other cancers; colorectal cancer; cancer of the kidney, renal, pelvis, ureter; testicular cancer; skin melanoma.

Across the region, a varied picture emerges. At a county level, Cumbria experiences the highest incidence of cancer of all North West counties. With the highest rates of breast cancer, colorectal cancer, skin cancer, oesophageal cancer, stomach cancer, and cancer of the uterus – the county has an extremely high burden of disease.

Merseyside is also strongly affected, with the highest rates of bladder cancer, head and neck cancer, cervical cancer and testicular cancer. Incidences of liver cancer are 100% higher than the national average, and the county has a 76% higher rate of lung, trachea, and bronchus cancer than the rest of England.

Lancashire's cervical cancer rates are 21% higher than the rest of England, while incidences of bladder cancer are 18% higher than the rest of the England.

Lung, trachea and bronchus cancer rates are 26% higher in the North West than the rest of England.

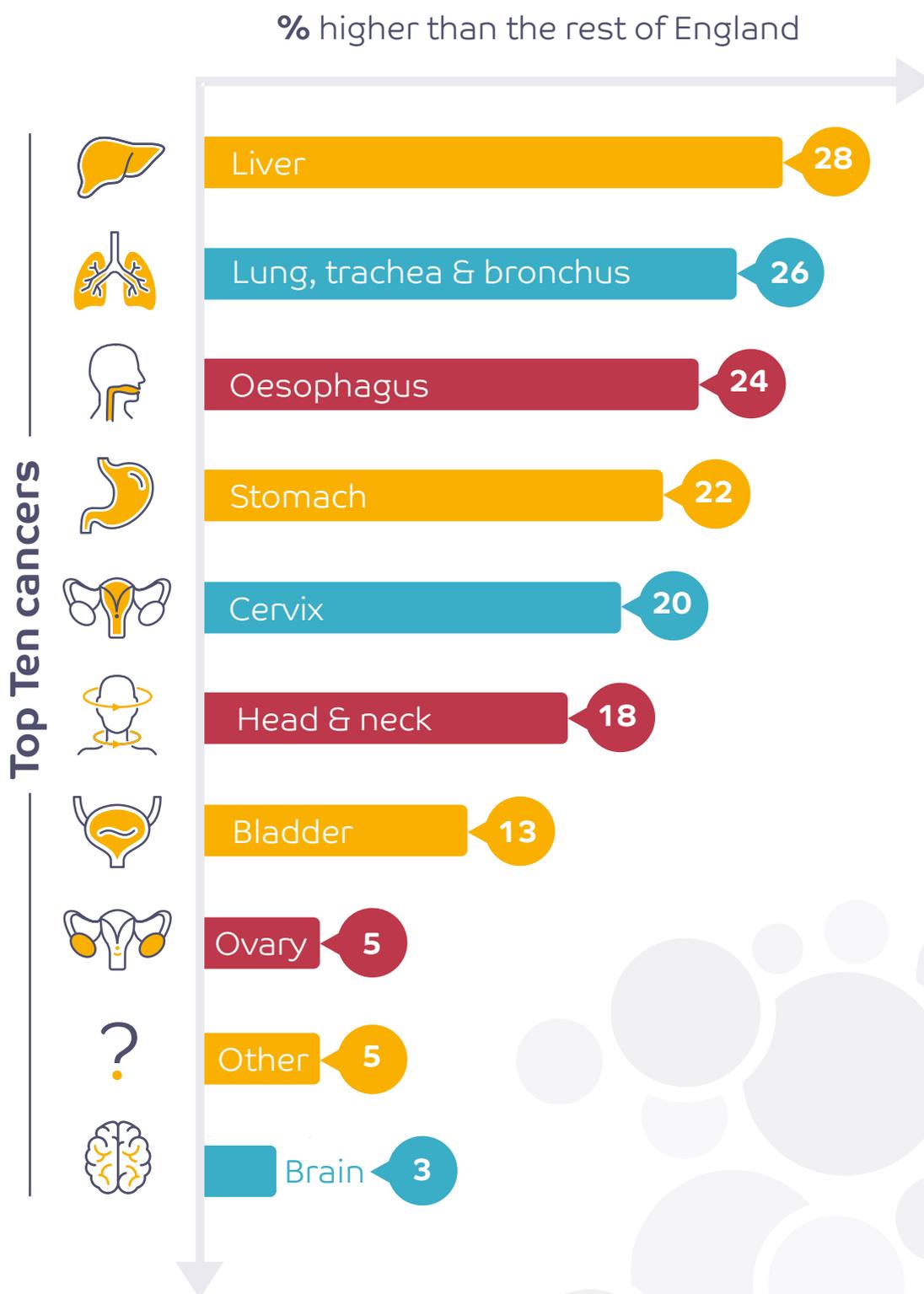
The situation in Merseyside is particularly concerning: the region records 75% more cases of this cancer than the rest of England.

Stomach cancer rates are also high in the North West, with a 23% higher incidence compared to the national average. Cumbria suffers particularly high rates of the disease with a 67% higher incidence rate than the rest of the country.

Cervical cancer is another area of concern for the North West. The region has a 20% higher rate of cervical cancer than the rest of England, with four of the five counties showing higher than average rates of this disease. Cumbria and Merseyside have particularly high rates of cervical cancer, with rates 35% higher than the national average.

Head and neck cancers are of particular concern for the region. All five North West regions record higher incidences than the national average with 18% higher levels of head and neck cancers recorded. Within the North West, Merseyside is most affected, with a 30% higher incidence of the condition than the national average. Cumbria also experiences higher levels of the condition at 21% higher than the rest of England.

Bladder cancer is also a particularly challenging cancer for the North West. Overall, incidences of bladder cancer are 13% higher than the rest of England. Four of the five North West counties assessed scored above average for incidences of bladder cancer. Within the region, Lancashire records particularly high levels at 18% higher than the national average incidence rate.



MERSEYSIDE: County Overview

Cancer rates in Merseyside are the second highest in the North West, with an average incidence rate of 1,781 compared to the North West average of 1,751 per 100,000 population per year.

Merseyside's population is broadly in line with wider North West demographics, with 30% of the population aged over 55 and 8% over 75. However, the region has high rates of cancer across a number of areas, with particularly concerning incidence rates of liver and lung cancer.

As a broad indicator of relative deprivation across the county, Merseyside has the highest percentage of people who are unemployed or in semi-skilled or unskilled manual roles, at 32%. This is exacerbated by the fact that only 16% of people in Merseyside fall into the top socio-economic band, which tracks those employed in senior level managerial, administrative, or professional roles.

Cancers of the head and neck, cervical cancer, and bladder cancer index significantly higher than the rest of England, with high levels reported. Although rare, incidence rates for liver cancer are most concerning – with rates double the average across the rest of England.

Lung cancer is also a challenge for Merseyside, with extremely high incidence rates reported across the county, which are 75% higher than the national average.

County-specific breakdown: Merseyside:

Top Five Areas of Need

- Incidences of liver cancer in Merseyside are double the number recorded in the rest of England
- The rate of lung, trachea and bronchus cancers in Merseyside are particularly concerning: the region records 75% more cases of LTB cancer than the rest of England
- Head and neck cancers are of particular concern for the region. Merseyside is most affected, with a 30% higher incidence of the condition than the national average
- Merseyside records a 35% higher incidence rate of cervical cancer than the rest of England
- Bladder cancer is another key burden for Merseyside - with a rate of incidences 17% higher than the rest of England

Cancer rates in Merseyside are the second highest in the North West

Liver cancer

Our work

Although the exact cause of liver cancer is unknown, the majority of cases are associated with liver damage and scarring.

This scarring, or cirrhosis, can have many different causes including: alcohol abuse; high fat diet, leading to fatty liver; hepatitis infection and chemotherapy side effects. Because of poorer diets and difficulties with treatment, liver cancer is becoming increasingly common in the UK.

Patients diagnosed with early stage liver cancer are often treated with surgery in order to remove the section of the liver that contains cancer. The removal of cancer is possible as the liver is able to re-grow itself after surgery. This is better known as liver regeneration. However, despite being a common, and fairly simple operation, some patients suffer from severe liver failure and eventually death. In most cases, this liver failure is caused by slow or inefficient liver regeneration. Because of this, there is a need to make the liver regenerate faster and more efficiently in patients that have surgery to remove cancer from the liver.

My research therefore involves trying to find a way to make faster, and more efficient, liver regeneration possible and safe. I have been testing this by giving a drug, called CDDO-Me, alongside surgery.

This drug works by increasing the levels of antioxidants in the liver, which then increases the liver's ability to defend and protect itself. Because the liver is more protected, liver regeneration can occur faster and more efficiently. As well as trying to improve liver regeneration, my research involves making sure this drug is safe in humans, and that it does not cause further growth or spread of the liver cancer.

By improving liver regeneration safely and efficiently, the risk of liver failure after surgery will be significantly reduced. This will therefore reduce the risk of death associated with surgical removal of liver cancer, and may allow surgery to be carried out in patients with late stage liver cancer, which is currently inoperable.



Tobias Bundy

Researcher

CUMBRIA: County Overview

Cumbria has the highest reported incidence of cancer in the North West, with an average rate of 1,927 compared to the national average of 1,726 per 100,000 per year.

Compared to the North West, the county has the highest rates of uterus cancer, stomach cancer, oesophageal cancer, mesothelioma, skin melanoma; kidney, renal, pelvis and ureter cancer; Hodgkin Lymphoma, colorectal cancer, and breast cancer.

Aligned with its high cancer incidence rates, Cumbria has the oldest population profile in the North West; 37% of its population are over 55 years old with 10% aged over 75. As could be expected from a region with a strong rural, agricultural and visitor-economy, 26% of the population work in skilled manual positions. While 28% are employed in semi-skilled or unskilled manual roles.

Key challenges for the county include the second highest cervical cancer rates in the North West, with a 35% higher incidence rate than the national average. The county's rates of colorectal cancer are also significantly higher than average – with rates 27% higher than the rest of England.

Cumbria also has much higher rates of breast cancer than the rest of the North West. While Merseyside, Lancashire, and Manchester under-index for breast cancer, and Cheshire is just above the national average, Cumbria significantly over-indexes, with breast cancer rates 9% higher than the national average.

County-specific breakdown: Cumbria:

Top Five Areas of Need

- Cervical cancer rates are 35% higher than the rest of the country
- Rates of colorectal cancer are 27% higher than the rest of England
- Incidence rates for head and neck cancers are 21% higher than the national average
- Overall cancer rates in Cumbria are 11% higher than the rest of England
- Breast cancer: Cumbria has the highest rates in the region - 9% higher than the national and regional average.



Rates of colorectal cancer are 27% higher than the rest of England

LANCASHIRE: County Overview

Lancashire is broadly in line with the average rates for cancer across the North West, but tracks above average for 15 of the 25 cancers surveyed.

The county has a relatively balanced socio-economic weighting; while 27% of the population is unemployed or employed in semi-skilled or unskilled manual roles, the county also has the second highest percentage of people employed in higher or intermediate managerial, administrative or professional occupations at 20%.

The county's over-55s make up approximately 33% of the population, with 9% of the population aged over 75.

Cervical cancer rates are 21% higher in Lancashire than the national average, and the county also struggles with above average incidences of bladder cancer – with rates 18% higher than the rest of the country.

County-specific breakdown: Lancashire:

Top Five Areas of Need

- Cervical cancer rates are 21% higher in Lancashire than the rest of the country
- Bladder cancer rates are 18% higher in Lancashire than the rest of England
- Incidence rates for head and neck cancers are 14% higher than the national average
- Lung, trachea and bronchus cancer rates are 10% higher than the rest of England
- Ovarian cancer rates are 10% higher than the national average

Dr Nikki Copeland received a five-year fellowship from NWCR worth £317,336 in 2011. It enabled him to set up his own research laboratory at Lancaster University and build a body of evidence for the role of cyclin A-CDK2 in regulating cell division. The long-term goal is to identify differences between regulation of DNA replication in cancerous cells and normal tissues, to identify new therapeutic targets.

“

“The support provided by NWCR, has been fundamentally important for the establishment of my research group. NWCR kick started my independent research career and also enabled me to supervise the new research stars of the future.”

Dr Nikki Copeland

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GREATER MANCHESTER: County Overview

Greater Manchester appears to have the lowest overall cancer incidence rate in the North West, with the lowest numbers of cancers recorded across the region.

The county under-indexes on 18 of the 25 cancers assessed, with significantly lower figures recorded for a number of the cancers we surveyed.

At 7%, Greater Manchester has the lowest population percentage of people aged over 75, while 19% of the population is aged 55 to 74. Over 30% of the population in Greater Manchester are unemployed or in semi-skilled or unskilled manual roles. While 19% of the population is employed in skilled manual occupations.

Perhaps due to its position as an urban conurbation, Greater Manchester is the only county in the region to under-index on incidences of skin melanoma.

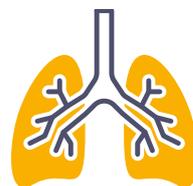
The county also has the lowest rates in the region for testicular cancer, and is the only county surveyed that is in line with the national average rate for oesophageal cancer.

Although rates are broadly positive, the county still records rates of liver cancer that are significantly higher than the national average at 28%, lung, trachea and bronchus cancer rates are also significantly higher than the rest of England, and head and neck cancer than the national average.

County-specific breakdown: Greater Manchester:

Top Five Areas of Need

- Greater Manchester has a 28% higher incidence rate of liver cancer than the rest of England
- Rates of lung, trachea and bronchus cancers are 24% higher than the national average
- Greater Manchester has high rates of head and neck cancer, with rates 16% higher than the rest of England
- Incidences of ovarian cancer are 7% higher in Greater Manchester than the national average
- Rates of stomach cancer in Greater Manchester are 6% higher than England's average



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

CHESHIRE: County Overview

Cheshire has the highest proportion of people employed in managerial, administrative, and professional occupations of the North West counties, with a quarter of the population in the AB socio economic group – significantly higher than the rest of the region.

This high proportion of high-earning professionals is matched with the lowest percentage (24%) of people who are unemployed, or in semi-skilled or unskilled manual labour roles.

The county has a relatively high percentage of older residents; 33% of the population is over 55 years old, with 9% over 75.

Cheshire under-indexes for 12 of the key cancers impacting the region. However, the region's rates spike for a number of cancers, including oesophageal cancer, which has 26% higher incidence rate than the national average.

Liver cancer rates are also 24% higher than the national average, while lung, trachea, and bronchus rates are 16% above average for the country.

County-specific breakdown: Cheshire:

Top Five Areas of Need

- Incidences of oesophageal cancer in Cheshire are 26% higher than the national average
- Cheshire has a 24% higher incidence rate of liver cancer than the rest of the country
- Cheshire experiences relatively high rates of lung, trachea and bronchus cancers compared to the rest of England, with a 16% higher incidence rate
- Incidences of bladder cancer are 13% higher than the national average
- Rates of stomach cancer are 7% higher than the rest of England



**Cheshire has a 24%
higher incidence rate
of liver cancer**

NORTH WALES: Regional Overview

North Wales has a number of specific health challenges and over-indexes on 17 cancers compared to the Welsh average.

This means people living in North Wales face a higher risk of developing these cancers than the rest of the country.

With 35% of the population across the region over 55 years old, and 10% of these over 75 years old, the region has a high proportion of elderly people, which often links to higher rates of many of the cancers surveyed.

North Wales also has high levels of relative deprivation. Our study shows that just over half the population (54%) are unemployed, or in skilled, semi-skilled, or unskilled manual occupations. High levels of manual labour can be correlated to certain types of the cancers we surveyed - such as skin melanoma for rural labourers, for example.

Key areas of concern emerged from our research, with particular cancers posing key concerns for communities across North Wales.

Head and neck cancers are a key challenge for North Wales, which has an 18% higher average incidence rate for these diseases than the rest of Wales.

Four of the Welsh counties surveyed recorded higher rates of head and neck cancer than the national average, while Conwy recorded a 50% higher incidence rate than the rest of Wales.

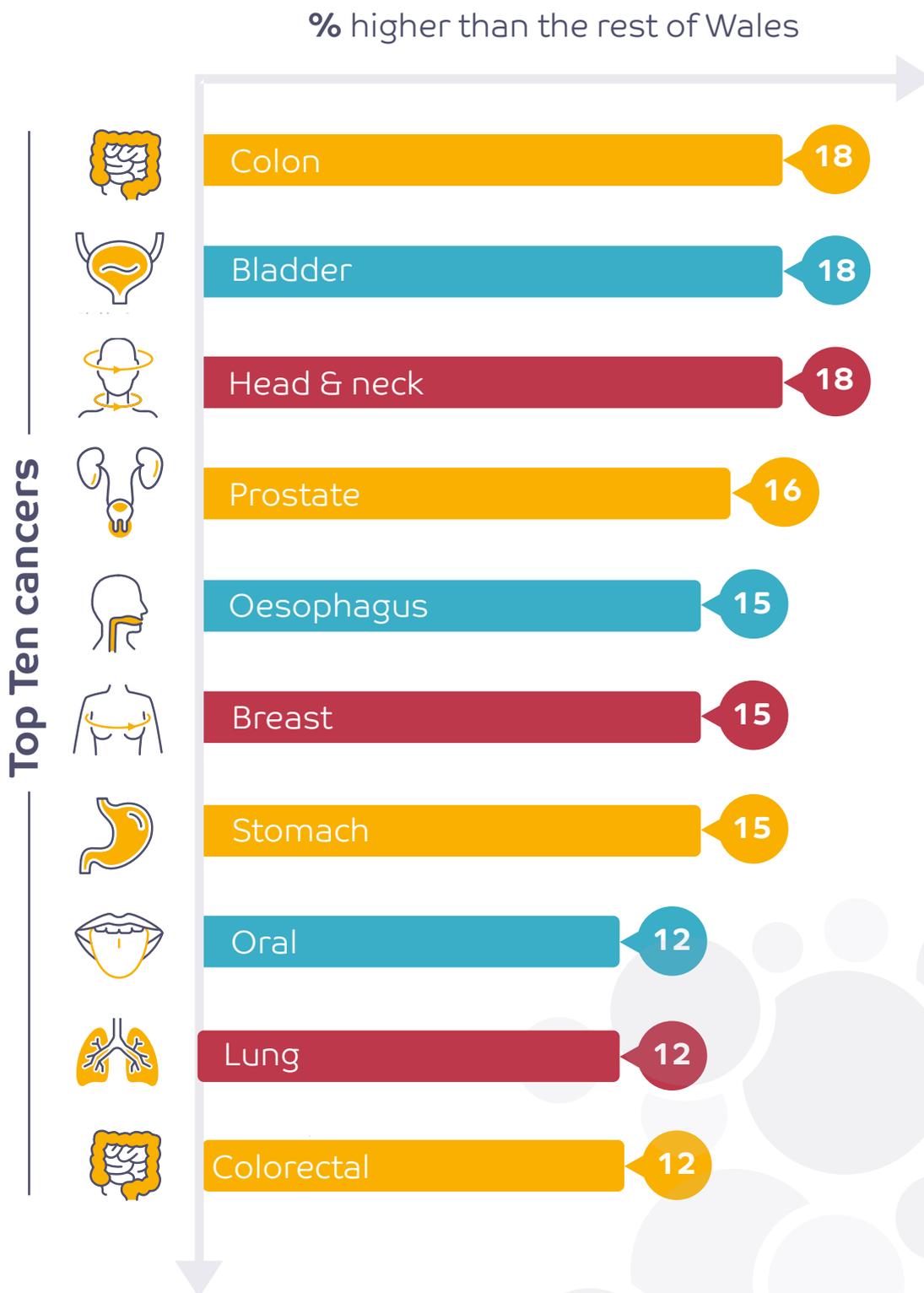
Bladder cancer is another disease which charted above average across North Wales, the region recorded an 18% higher incidence rate than the national average. The study also recorded spikes in bladder cancer across counties, with Conwy recording a 76% higher incidence rate than the national average, and Denbighshire recording a 64% higher average rate.

North Wales also has significantly higher rates of colon cancer than the rest of the country, with an 18% higher average rate of incidence. Gwynedd has the highest incidence of colon cancer in the region, with a 48% higher incidence rate than the national average.

Prostate cancer is another challenge for the region, with a significantly high incidence rate that is 16% higher than the rest of Wales. Five of the six regions record higher incidence rates than the national average, with Denbighshire the highest, with a 34% higher incidence rate of prostate cancer than the Welsh average.

Three of the six counties surveyed has markedly higher rates of breast cancer than the national average, with overall rates of breast cancer in North Wales 15% higher than the national average.

Anglesey has a significantly higher incidence than the rest of Wales – with a 57% higher incidence rate than the rest of the country.



FLINTSHIRE: County Overview

Flintshire records lower rates of cancer overall than the rest of North Wales, and over-indexes on 14 of the 37 cancers assessed.

Over 32% of Flintshire's population is over 55, with 8% aged over 75. A quarter of the county's population are skilled manual labourers, while a relatively high 45% are professionals or employed in managerial and administrative occupations. 28% of the population are unemployed, or in semi-skilled or unskilled manual occupations.

Oesophageal cancer is one of the top 10 cancers which afflict North Wales and Flintshire has significantly high rates – with an incidence rate 55% higher than the national average.

Although rare, the county also records the highest incidences of anal cancer in North Wales, with rates 77% higher than the national average, while rates of colon cancer are also significantly higher than the national average.

A number of the North Wales counties suffer high incidence rates of lung cancer and Flintshire records a rate almost 30% higher than those recorded for the rest of Wales.

County-specific breakdown: Flintshire:

Top Five Areas of Need

- Incidences of oesophageal cancer are 55% higher in Flintshire than the rest of the country
- Rates for cancer of the anus are 77% higher than the national average
- There is a 33% higher incidence rate of brain and central nervous system cancers in Flintshire compared to the national average
- Rates of colon cancer are 34% higher in Flintshire than the national average
- Lung cancer rates were 28% higher in Flintshire than in the rest of Wales



There is a 33% higher incidence rate of brain and central nervous system cancers in Flintshire compared to the national average

Pancreatic cancer

Our work

Dr Ainhoa Mielgo and her team at Liverpool have a tough fight on their hands.

Dr Mielgo's team works on pancreatic cancer, one of the deadliest cancers in the world with a particularly high incidence in the North West of England. Pancreatic cancer is highly metastatic (which means it spreads easily to other organs in our body), causes up to 8,000 death per year in the UK, and only 6 out of 100 patients with pancreatic cancer survive for more than 5 years.

A characteristic of solid tumours such as pancreatic cancer is that they are surrounded by a variety of non-cancerous cells called stromal cells that include fibroblasts, immune cells and a dense extracellular matrix, which form what is known as the tumour stroma. The tumour stroma can act as a double-edged sword and either support or restrain tumour progression, metastasis and drug resistance. Dr Mielgo's team uses a variety of cutting-edge lab technologies to investigate the mechanisms by which the tumour stroma supports cancer with the aim to find new targets to treat this devastating disease.



Dr Ainhoa Mielgo

WREXHAM: County Overview

As the county with one of the youngest and most relatively economically challenged populations in North Wales, Wrexham has a number of healthcare challenges. However – our study shows that the county under-indexes on average overall cancer incidence rate compared to the rest of the region.

31% of the population in Wrexham is aged over 55, making it one of the youngest populations surveyed. The county also has one of the biggest populations of people aged 35 to 54 at 26%, which could account for the lower levels recorded for a number of cancers.

However, Wrexham faces relatively high levels of deprivation and has the highest number of people who are unemployed, or employed in skilled, semi-skilled or unskilled manual jobs. Only half this number, 16%, are categorised in the higher earning rankings which include people employed in managerial or professional positions.

Pancreatic cancer is a key challenge for the region, with incidence rates 37% higher than the national average. The region also records significantly high rates of testicular cancer, with 45% more cases recorded than the national average.

While Wrexham still records lower rates of prostate cancer than the national average, high incidences of the disease across Wales mean this is still a pressing area of concern for the region.

County-specific breakdown: Wrexham:

Top Five Areas of Need

- Incidences of pancreatic cancer are 37% higher than the national average
- Hepatocellular carcinoma rates are 55% higher in Wrexham than the national average
- Rates of testicular cancer are higher than average too by 45%
- Rates of leukaemia are 20% higher in Wrexham than in the rest of Wales
- Although slightly lower than the national average, the county still experiences high levels of prostate cancer, with a recorded 173 incidences for the period (2016)



Incidences of pancreatic cancer are 37% higher than the national average

Jayne's story

Jayne Dickson, 53, from Wrexham, was diagnosed with malignant melanoma (a form of skin cancer) in 2013, after noticing what she thought was a verruca on the sole of her right foot.

She consulted her GP and after a small biopsy under local anaesthetic was shocked to learn that it was a malignant melanoma. Jayne underwent initial surgery to remove the tumour, but unfortunately the cancer had spread and she required a second operation to remove her lymph nodes.

Fortunately, both operations were a success, removing all traces of the cancer and meaning she didn't have to undergo chemotherapy or radiation treatment.

Jayne said: "Being told I had skin cancer was incredibly difficult but I was lucky enough to have been diagnosed when I was and have received, and continue to receive, excellent care from Whiston and Wrexham hospitals.

"Following my diagnosis, I wanted to raise money for a local charity where a large percentage of fundraiser's money goes directly to research being carried out in the region. NWCR fitted this description as they fund life-saving cancer research in Bangor, Liverpool and Lancaster. I then found out that my own consultant, Mr Rowan Pritchard-Jones, who supported me throughout my diagnosis



and subsequent operations was a NWCR funded researcher himself. In the five years since my diagnosis he had made some exciting, ground breaking progress in this area."

It has been five years since Jayne had her first operation and she was recently given the five year all clear from her cancer, which is a significant milestone. Jayne still has to be highly vigilant and regularly checks herself for changes in her skin.

She now spends her time leading a small fundraising committee for NWCR in Wrexham with her husband Ray. Over the past four years, they have helped fund vital cancer research projects across North Wales and the North West of England.

CONWY: County Overview

Conwy has the second highest incidence rate overall across the six North Wales counties, and over indexes on more cancers than any other North Wales county surveyed.

It is the county with the oldest population surveyed, with 13% of its residents aged over 75. This also boosts its population of over 55s to 41% - the highest proportion of this age group in North Wales. While Conwy has one of the smallest populations of 18 to 34 year olds in the region at 16%.

Conwy's population includes a high proportion (29%) of residents employed in supervisory, clerical and administrative roles. The county also has a high number of residents who are unemployed or in semi-skilled or unskilled manual roles – with 28% of people falling in this category.

The county over-indexes on 25 out of the 37 key cancers surveyed. Although the county does not have the highest overall incidence rate, there are a number of key cancers where it over-indexes significantly.

Rates of bladder cancer in Conwy are particularly high, with an average rate that is 76% higher than the national average.

Conwy is also one of three North Wales counties that over-index for testicular cancer, with rates 73% higher than the national average.

While rare, the county records higher than average rates of acute myeloid leukaemia, which is more commonly found in older people.

County-specific breakdown: Conwy:

Top Five Areas of Need

- Conwy ranked higher than the Welsh average for 25 of the 37 cancers referenced
- Rates of bladder cancer in Conwy are 76% higher than the national average
- Testicular cancer rates are 73% higher than the rest of Wales
- Incidences of acute myeloid leukaemia are 67% higher in Conwy than the rest of Wales
- Conwy also recorded high rates of melanoma, with an average rate 54% higher than the rest of Wales



**Rates of bladder cancer
in Conwy are 76%
higher than the national
average**

DENBIGHSHIRE: County Overview

23% more cases of cancer are recorded overall in Denbighshire than any other North Wales county.

The county has one of the highest levels of relative deprivation, with 29% of the population either unemployed, or employed in semi-skilled or unskilled manual occupations. While 17% of the population is employed in managerial, professional and administrative roles.

Denbighshire also has one of the oldest populations in North Wales, with around 37% of its population aged over 55, the second highest percentage in North Wales. Around 10% of the population is aged over 75. While people aged 18 to 34 make up around 17% of the population.

Bladder cancer is a key issue across North Wales, and Denbighshire is no exception. The region has significantly high levels of bladder cancer, with rates 62% above the average for Wales recorded.

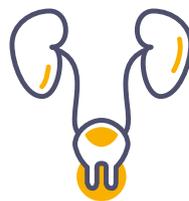
Ovary and fallopian tube and breast cancer rates are also extremely high, and rates for both cancers are recorded at a 47% higher rate than the national average for Wales.

Prostate cancer is another significant healthcare burden for North Wales, and Denbighshire records high incidences, with rates significantly higher than the national average.

County-specific breakdown: Denbighshire:

Top Five Areas of Need

- Rates of bladder cancer are 62% higher than the average incidence in Wales
- Ovary and fallopian tube and breast cancer rates are both 47% higher than the national average
- The county has a high incidence of prostate cancer, with over 240 cases recorded in 2016. This is 34% over the national average
- Rates of cancer of the uterus are also significantly high, with 43 cases recorded, 35% over the national average in 2016
- Overall incidences of cancer in Denbighshire are 23% higher than across the rest of the country



The county has a high incidence of prostate cancer, with over 240 cases recorded in 2016

GWYNEDD: County Overview

Gwynedd has the lowest recorded cancer incidence rate of all the North Wales counties. The county over-indexes on 15 of the 37 cancers surveyed.

Of the counties surveyed, Gwynedd has the highest percentage of people aged between 18 and 34 at 23%, while 34% of Gwynedd's population is over 55, 10% of whom are over 75 years old.

27% of people living in Gwynedd are unemployed or in semi-skilled or unskilled manual occupations, while half the population are employed in supervisory or clerical roles, or are skilled manual labourers.

While the county reports a lower number of cancers than many of its neighbours, there are a number of key diseases where it has a disproportionately high incidence rate and a significant burden of disease.

While cervical cancer is not one of North Wales' most common cancers, Gwynedd has a significantly higher incidence rate of cervical cancer than any other county and its rate is 93% higher than the rest of Wales.

In common with many other North Wales counties, Gwynedd faces high levels of oesophageal cancer, with incidence rates 65% higher than the Welsh average. This is the highest incidence rate for this key cancer across the region.

Gwynedd also has the highest rate of colorectal cancer across the North Wales counties. The county records an incidence rate that is 41% higher than the Welsh average.

The county's incidence rates are significantly higher than the national average, and it records the second highest incidence rates of prostate cancer across the region.

County-specific breakdown: Gwynedd:

Top Five Areas of Need

- Incidences of cervical cancer in Gwynedd were 93% higher than the rest of the country
- Incidences of cancer of the oesophagus in Gwynedd was 65% higher than average
- People in Gwynedd also demonstrated a 41% higher incidence rate of colorectal cancer
- Incidences of cancer of the larynx were 62% higher than the average for Wales
- Average prostate rates were 31% higher than the national average



People in Gwynedd also demonstrated a 41% higher incidence rate of colorectal cancer

ANGLESEY: County Overview

After Conwy, Anglesey has the highest proportion of people aged over 75, with 11% of the population falling into this category.

Around 39% of people in the county are aged over 55 with only 16% aged between 18 and 34.

A quarter of the population is employed in skilled manual roles, while 29% are in semi-skilled, unskilled manual roles or unemployed - this is in line with the North Wales average.

Anglesey records the highest rates of breast cancer in North Wales and significantly over-indexes compared to the rest of the country, with a rate 57% higher than the national average.

Bladder cancer is also a key burden for the county, with markedly higher bladder cancer rates than many of its neighbours, the county is one of three in North Wales which over-indexes for this disease.

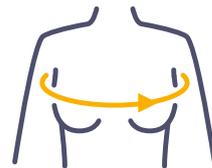
Anglesey also has high incidences of prostate cancer. The disease is one of the top four cancers that impacts North Wales and Anglesey has an 11% higher incidence rate than the rest of the country.

Leukaemia is also a challenge for the county, with rates 25% higher than the rest of the country.

County-specific breakdown: Anglesey:

Top Five Areas of Need

- Breast cancer rates are 57% higher than the rest of Wales
- Myeloma rates are 45% greater than the Welsh average
- Bladder cancer rates are 39% higher than the national average
- Leukaemia rates are 25% higher than the rest of the country
- Incidences of prostate cancer are high with a rate 11% higher than the national average



**Breast cancer rates
are 57% higher than
the rest of Wales**



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