

**North East Lincolnshire and  
North Lincolnshire  
Annual Health Protection Report  
2021/22**

**Public Health**

## Contents

Introduction .....	3
What is health protection?.....	3
Health Protection in Northern Lincolnshire .....	3
Who covers health protection responsibilities?.....	4
Structure of this Report.....	5
Health Protection Outcomes.....	6
Immunisation .....	6
Vaccine Preventable Disease .....	8
Gastrointestinal Infections, including Food related incidents .....	9
Sexually Transmitted Infections, including HIV.....	10
Respiratory Infections .....	13
Hepatitis.....	14
Climate Change (CO <sub>2</sub> emissions).....	16
Air Pollution.....	17
Screening.....	19
Other Health Protection Outcomes.....	20
Conclusion .....	23

## Introduction

### What is health protection?

Health protection has been defined as “public health activities intended to protect individuals, groups, and populations from infectious diseases and environmental hazards. Hazards can be biological, chemical, physical or from radiation, and result in exposures through food, water, air, animals, the environment, and person to person”<sup>1</sup>. Health protection includes planning for and responding to threats to the health of the population which would require an emergency response<sup>2</sup>. A hazard is a potential source of harm or adverse health effect on a person or persons and are often capable of affecting large groups of the population in a short period of time<sup>3</sup>. Often the route of an exposure may be unclear and health protection therefore requires a capacity to handle risk and uncertainty as well as a capacity to respond urgently when required to manage outbreaks and other incidents which threaten public health, including new and emerging infections identified by the World Health Organisation.

There have been considerable changes to how health protection is managed and delivered since the implementation of the Health and Social Care Act 2012. This placed a duty on local authorities in England to protect the health of the local population, discharged through their director of public health. As a result of changes to NHS and local authority structures and their roles and accountabilities, there has been a lack of clarity across the health protection system. This has necessitated several exercises in recent years to test how the system will respond in the event of a health protection incident. In the last year we have undertaken exercises associated with a school-based outbreak of meningitis, an exercise on an outbreak of hepatitis A and an exercise looking at the arrival of clandestine entrants believed to be carrying a communicable disease at the Northern Lincolnshire ports. The learning from these exercises has helped to address areas of uncertainty and the actions and guidance that has been implemented has improved our health protection working arrangements.

### Health Protection in Northern Lincolnshire

Health protection responsibilities and functions sit across a large number of different organisations so it is generally recognised that the responsibility can be exercised, especially in smaller local authorities, by ensuring that the local authority director of public health, on behalf of the council, is assured that the systems and organisations in place to protect the health of the population in their area are operating effectively.

Locally, directors of public health across the Humber, York and North Yorkshire areas have established a DPH Health Protection Assurance Framework and on a twice-yearly basis they come together with representatives of partner organisations to review performance and challenges relating to their health protection responsibilities. The agreed outline for this framework is based on the five building blocks of public health protection. These are:

- Communicable Diseases
- Environmental Hazards and Control
- Screening and Immunisations
- Infection, Prevention and Control

---

<sup>1</sup> HM Government (1984) *Public Health (Control of Disease) Act 1984*

<sup>2</sup> HM Government (2004) *Civil Contingencies Act 2004*

<sup>3</sup> Health and Safety Executive (2016) *Controlling the risks in the workplace*.

- Emergency Preparedness, Resilience and Response.

Whilst this provides a significant level of regional assurance it does not provide a specifically local focus. Therefore in 2015 a North East Lincolnshire Health Protection Assurance Group was established on a bi-annual basis by the deputy director of public health to provide an opportunity to review issues specifically related to North East Lincolnshire. A Northern Lincolnshire Infection Prevention and Control Group was also established by the CCG around this time. In addition the deputy director of public health reports on health protection matters to the council's Clinical Governance Board, where there are opportunities to escalate areas of concern.

During 2018/19 we decided to extend the remit of the Health Protection Assurance Group to encompass North Lincolnshire and we have also decided to merge the work of the health protection group and the infection control group commencing in November 2019.

## **Who covers health protection responsibilities?**

**North and North East Lincolnshire Councils** - has a number of public health responsibilities primarily discharged through the Environmental Regulation, Food Hygiene and air quality teams. The council now has increased responsibilities for health protection including an assurance role that the director of public health discharges on the council's behalf.

**Public Health England Health Protection Teams**- provides a local health protection team which has responsibility for providing specialist advice and expertise for managing health protection issues to the director of public health, environmental health teams, the public and other organisations. Specialist advice and support on more unusual hazards such as chemical and radiation issues is provided by teams in partner organisations such as the Centre for Radiation Chemical and Environmental Hazards (CRCE), a division of Public Health England.

**Public Health England Screening and Immunisation Team** - co-ordinates routine screening and immunisation programmes which are commissioned by NHS England (NHSE). They are therefore embedded within NHS England in order to inform the commissioning of these programmes. These are outlined in Section 7a of the NHS public health functions agreement 2015-164.

**North and North East Lincolnshire Clinical Commissioning Groups (CCGs)** are responsible for commissioning healthcare services to meet the reasonable needs of the persons for whom they are responsible. This includes the treatment of infectious diseases. The CCGs have a duty to obtain appropriate advice to enable the CCG to discharge its functions effectively from people who (taken together) have a broad range of professional expertise in the prevention, diagnosis or treatment of illness and in the protection or improvement of public health. In respect of this the CCGs work in close partnership with local public health teams and, when required, specialist infection prevention and control advisors. The CCGs have both planning and monitoring duties to ensure quality provision is received by the persons for who they are responsible. In respect of health protection the CCGs monitor and scrutinise investigations and learning from specific healthcare infections, for example MRSA and C-difficile, seeking learning for the system to help prevent future infections.

---

<sup>4</sup> Department of Health (2014) *NHS public health functions agreement 2015-16*

## **Structure of this Report**

In most instances this report will provide intelligence on current health protection outcomes for North East Lincolnshire and North Lincolnshire and these will be compared with outcomes for England and for the Yorkshire and Humber region. The intelligence contained in the report comes from a number of sources, but the main source is Public Health England's Fingertips website. For some outcomes the intelligence is not as up to date as we would like. However, we are dependent on the time it can take for national verification to be undertaken. When information is out of date, we will wherever possible provide local indications of current performance.







# Health Protection Outcomes

## Immunisation

### Introduction

Immunisation is one of the most effective ways of protecting public health and is particularly important for babies and young children. Despite challenges associated with poor media reporting over the last 20 years immunisation remains an overwhelmingly popular primary health service with take up of most childhood vaccinations exceeding 90% across the country. The success of the programme is shown by the fact that once commonplace diseases such as polio, measles, mumps, and rubella that were associated with childhood mortality, poorly children, congenital abnormalities and permanent disability are now extremely rare or completely eradicated. Immunisation is also an important public health intervention for older people and adults with long term health conditions with programmes covering diseases such as flu and shingles and targeted vaccination programmes for tuberculosis and Hepatitis A/B for people with particular risk factors.

## Outcome Performance

Indicator	Age	Year	England uptake (%)	Y&H uptake (%)	NEL uptake (%)	NL uptake (%)
Dtap / IPV / Hib	1	20/21	92.0	93.1	94	94.6
PCV	1	19/20	93.2	94.2	96.7	94.6
Rotavirus	1	20/21	90.2	91.3	91.4	91.3
Men B	1	20/21	92.1	93.3	94.6	92.6
Dtap / IPV / Hib	2	20/21	93.8	95.1	96.7	95.1
MMR	2	20/21	90.3	92.3	95.3	92.2
Hib/ Men C	2	18/19	90.4	93.0	95.8	91.5
PCV	1	19/20	93.2	94.2	96.7	94.6
PCV	2	20/21	90.1	92.4	95.2	92.5
Men B	2	20/21	89.0	91.3	94.0	91.5
Dtap / IPV Booster	5	20/21	85.3	89.2	92.4	89.1
MMR1	5	20/21	94.3	95.8	97.3	94.9
MMR2	5	20/21	86.6	90.0	94.2	89.8
Hib/ Men C	5	17/18	92.4	93.8	96.5	94.6
 >95% Green; 90-95 amber <90% red						
HPV (girls)	13/14	20/21	60.6	69.3	70.9	83.9
 >90% Green; 80-90% amber <80% red						
Flu	2-3	21/22	50.1	48.2	50	45.7
Traffic light criteria >40% Green; 30-40% amber <30% red						
Flu	65+	21/22	82.3	84.4	82.5	83.6
 75% Green; 70-75% amber <70% red						
Flu at risk	All	21/22	52.9	54.9	53.2	56.1
 >55% Green; 50-55% amber <50% red						
PPV	65+	20/21	70.6	72.3	62.5	64.1
 >75% Green; 65-75% amber <65% red						
Shingles	71	19/20	48.2	49.3	41.0	46.2
 >60% Green; 50-60% amber <50% red						

## Local Summary

North East Lincolnshire once again performed very strongly in childhood immunisation, with higher coverage than regional and national comparators for every vaccination except flu, and nine out of sixteen vaccinations exceeding herd immunity levels (>95%), which is the coverage we aim for in order to prevent community outbreaks. By contrast, performance in adult immunisation was disappointing. This pattern of excellent childhood coverage and disappointing adult coverage has continued for many years.

North Lincolnshire's performance was less strong for childhood immunisation, with only one vaccination achieving 95% coverage. However, England's uptake was exceeded for every childhood vaccination except Flu. Performance in adult immunisations exceeded North East Lincolnshire's performance slightly.


## Vaccine Preventable Disease

### Introduction

Vaccine preventable diseases are those infections which our immunisation programmes are designed to prevent. These diseases have in the past been associated with deaths in childhood and/or long-term health problems secondary to the infections. Some immunisation programmes have been so successful that the diseases have been eradicated from Britain, e.g., polio, but the vaccine is still provided due to the risk of these diseases making a comeback as they remain endemic in some parts of the world.

### Outcome Performance

Indicator	Year	England	Y&H	North East Lincolnshire	North Lincolnshire
Mumps incidence rate/ 100,000	2018	1.9	1.0	0.0	0.0
Measles Incidence rate/ 100,000	2020	0.1	0.0	0.0	0.0
Measles 5 yr incidence rate/ 100,000	2014-18	0.7	0.5	0.0	0.0
Pertussis incidence rate/ 100,000	2021	0.1	0.0	0.0	0.0

 OHID ratings that vary for every Local Authority based on population size etc.. National and regional figures are not traffic lighted.

### Local Summary

Reflecting the long-term success of the childhood immunisation programme, North and North East Lincolnshire have a very low number of vaccine preventable diseases, with zero cases of measles in the period between 2014 and 2018, and zero cases of all other vaccine preventable diseases, giving a low incidence compared to regional and national comparators. This is a particularly strong performance given the that the number of cases of measles has fluctuated in many parts of England in recent years, leading to the loss of our status as a measles free country in 2019.



## Gastrointestinal Infections, including Food related incidents

### Introduction


Gastrointestinal infections can be viral, bacterial, or parasitic and have a range of transmission methods but poor hygiene, particularly with regards to food is a high risk for several of these infections. Illnesses can be mild or severe and can be particularly serious in older people or those with underlying health problems.

Under the Public Health (Control of Disease) Act 1984, registered medical practitioners have a legal duty to notify the proper officer within their local authority or local health protection team of suspected cases of certain infectious diseases, including food poisoning. Normally, these notifications are referred to local authority environmental health services for investigation to establish possible sources and links between different cases.

### Outcome Performance

Indicator	Year	England	Y&H	North East Lincolnshire	North Lincolnshire
Typhoid & paratyphoid incidence rate/100,000	2018	0.61	0.61	0.0	0.0
Campylobacter incidence rate/100,000	2017	96.6	97.1	108.1	106.6
Non-typhoidal Salmonella incidence rate/100,000	2017	15.7	16.3	15.1	12.3
Giardia incidence rate/100,000	2017	8.5	5.7	6.3	3.5
Cryptosporidium incidence rate/100,000	2017	7.3	8.3	3.8	3.5
Shigella incidence rate/100,000	2017	3.5	1.8	0.0	0.6
STEC* serogroup O157 incidence rate/100,000	2018	1.0	1.4	1.9	0.0
Listeria 5-year incidence rate/100,000	2014-18	0.27	0.31	0.63	0.47

\*Shiga toxin-producing Escherichia coli

 Based on OHID ratings

## Local Summary

Current performance for prevention of gastrointestinal infections in North and North East Lincolnshire is similar to national and regional performance and represents generally satisfactory performance.

## Sexually Transmitted Infections, including HIV

### Introduction

Chlamydia is the most common Sexually Transmitted Infection (STI) in the UK, with 159,448 cases in 2021. Left untreated, it can result in reproductive ill-health such as pelvic inflammatory disease, ectopic pregnancy, and infertility. 65.3% of new presentations are female in North East Lincolnshire, though this figure is only 53.1% for England. The national incidence of new presentations of chlamydia fell from 2013 to 2017, rose to 2019, and then fell massively into 2020 and 2021, though the data reported in 2020 and 2021 is notably lower than previous years due to the reconfiguration of SHSs during the national response to the COVID-19 pandemic<sup>5</sup>. Gonorrhoea is the second most common STI with 51,074 new cases in 2021 in England, which is an increase of 1.7% on 2020, but it is a decrease of 28.0% on 2019<sup>6</sup>. Left untreated, it can result in reproductive ill-health such as pelvic inflammatory disease, ectopic pregnancy, and infertility. Nationally, 22.3% presentations are female. The national incidence of gonorrhoea has increased significantly since 2012 – a trend seen more amongst men than women – but it fell to just below the 2018 figure during the pandemic. Syphilis is a less common STI with 7,506 new presentations in 2021 in England. Left untreated it can result in serious neurological and cardiovascular problems. 87.3% of new presentations are male. The national incidence of syphilis increased year-on-year up to 2019, decreasing in 2020 at the Covid19 pandemic's onset. Like Gonorrhoea, the 2021 value (13.3) is more comparable to the 2018 value (13.2). Human immunodeficiency virus (HIV) is a serious condition that can lead to AIDS (acquired immunodeficiency syndrome) which results in approximately 530 – mostly male – deaths per year in England<sup>7</sup>. 88.6% of HIV presentations in the UK in 2021 acquired the condition sexually. The diagnosis rate nationally has fallen since 2012 but the number of people living with the disease is increasing. HIV is now a manageable disease but requires lifelong treatment.

---


<sup>5</sup> UK Health Security Agency (2022) Sexually transmitted infections (STIs): annual data tables

<sup>6</sup> UK Health Security Agency (2022) Sexually transmitted infections (STIs): annual data tables

<sup>7</sup> UK Health Security Agency (2022) HIV: annual data tables

## Outcome Performance

Indicator	Year	England	Y&H	North East Lincolnshire	North Lincolnshire
New STI diagnoses (exc chlamydia aged <25) / 100,000	2021	394	285	223	257
Syphilis diagnostic rate / 100,000	2021	13.3	5.8	2.5	3.5
Gonorrhoea diagnostic rate / 100,000	2021	90	62	43	60
Chlamydia detection rate / 100,000 aged 15-24	2021	1334	1464	2631	1775
Chlamydia proportion aged 15-24 screened (%)	2021	14.8	15.3	14.8	16.2
Genital herpes diagnosis rate / 100,000	2021	38.3	32.5	24.5	38.2
Genital warts diagnosis rate / 100,000	2021	50	40	27	33.6
New HIV diagnosis rate / 100,000	2021	4.8	4.3	1.9	2.9
HIV diagnosed prevalence rate / 1,000 aged 15-59	2021	2.32	1.54	0.82	0.9
HIV late diagnosis (%) <sup>8</sup>	2019-21	43.4	50.2	25	30
HIV Testing Coverage (%) <sup>9</sup>	2021	45.8	44	32.2	32.6
Repeat HIV testing in MSM (%)	2021	45.3	39.8	12.3	17
Prompt ART initiation in people of all ages newly diagnosed with HIV (%) <sup>10</sup>	2019-21	83.5	84.5	84.6	64.3

 Based on OHID ratings, except HIV diagnosed prevalence rate / 1,000 aged 15-59, where <2 Green; 2-5 amber; ≥5% red, and HIV late diagnosis (%), where <25% Green; 25%-50% amber; ≥50% red. OHID does not provide traffic light ratings for Chlamydia detection rate / 100,000 aged 15-24.

## Local Summary

There is lower uptake and coverage of HIV testing across all groups, including those most at risk. Although it has been suggested that the low rate of HIV testing in North East Lincolnshire and North Lincolnshire may be due to data processing errors, so these figures may be better

<sup>8</sup> Percentage of adults (aged 15 years or more) diagnosed with a CD4 cell count less than 350 cells per mm<sup>3</sup> among all newly diagnosed adults with CD4 cell count available within 91 days of diagnosis.

<sup>9</sup> The proportion of 'Eligible new attendees' amongst whom a HIV test was accepted.

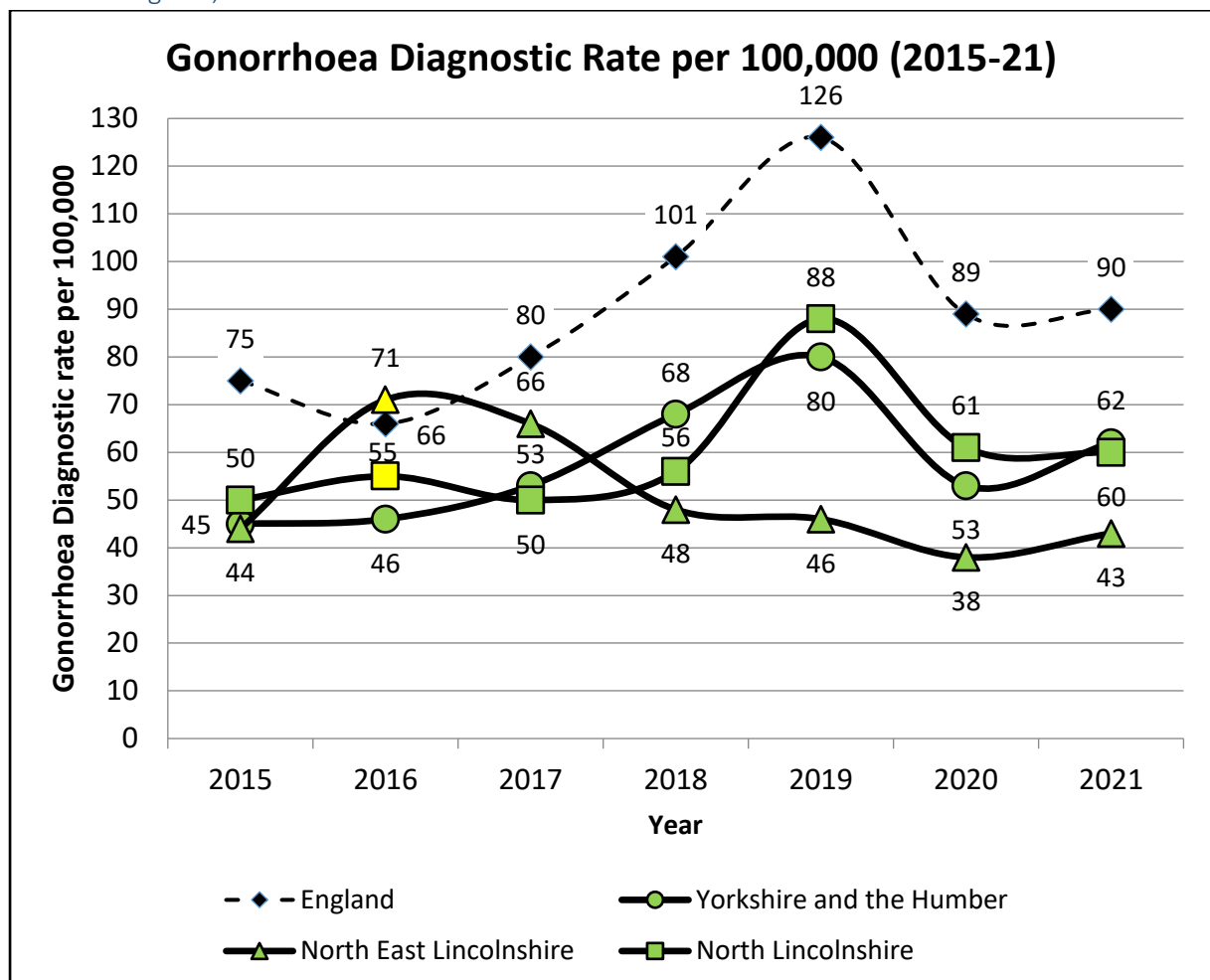
<sup>10</sup> Proportion of people who started antiretroviral Therapy (ART) within 91 days of their HIV diagnosis.

than they appear here. This is being investigated. The sexual health risk from HIV in North East Lincolnshire and North Lincolnshire is very low.

Current data from the Office for Health Improvement and Disparities<sup>11</sup> shows that North East Lincolnshire performs well in some areas against both the national and regional values, with low diagnosis rates for syphilis and HIV, and good detection rate and screening rates for chlamydia in young people. In 2021, the diagnosis rate for gonorrhoea rose for the first year since 2016. It is statistically significantly lower than the England average, though the number of cases is still almost five times that in 2012. North Lincolnshire has higher diagnostic rates for syphilis and gonorrhoea and a lower detection rate for chlamydia. Diagnosis rates for genital herpes are low in North East Lincolnshire, and not significantly different to the England value in North Lincolnshire.

The next chart illustrates the pattern in the diagnostic rate of gonorrhoea regionally, nationally, and across our areas since 2015.

Figure 1: Diagnoses of gonorrhoea, per 100,000 residents, North East Lincolnshire, North Lincolnshire, Y&H and England, 2015-2021



Based on OHID ratings

Source: Public Health England – Fingertips – Sexual and Reproductive Health Profiles.

<sup>11</sup> Office for Health Improvement and Disparities (2021) *Sexual and Reproductive Health Profiles*

# Respiratory Infections

## Introduction


Respiratory infections are commonplace, but there are serious and preventable respiratory infections that are a major threat to health, and outbreaks can reflect a breakdown in the health protection system.

Tuberculosis is an airborne, infectious, bacterial disease primarily affecting the respiratory system. It is endemic in much of the developing world, with particularly high rates in sub-Saharan Africa and South East Asia<sup>12</sup>. Historically Tuberculosis was associated with high rates of morbidity and mortality in this country, but social and medical advances made the disease relatively uncommon in this country during the second half of the 20<sup>th</sup> century. The emergence of multidrug resistant TB, increasing immigration, and other factors contributed to an increase in TB notifications in the UK between 2000 and 2011 but a national public health focus has helped to ensure a substantial reduction in cases and the rate of TB reached an all-time low in 2018.

Legionnaires' disease is a serious pneumonia caused by the Legionella bacteria. People become infected when they inhale water droplets from a contaminated water source such as cooling towers, air conditioning systems and spa pools. Isolated cases may occur due to poorly maintained domestic water supplies, but serious outbreaks sometimes occur in hospitals or in community settings.

## Outcome Performance

Indicator	Year	England	Y&H	North East Lincolnshire	North Lincolnshire
Legionnaires' disease confirmed incidence rate / 100,000	2016	0.61	0.57	1.26	1.76
TB incidence (three year average) <sup>13</sup>	2018-20	8.0	5.9	1.7	3.5
Scarlet fever notification rate aged 0-9yrs / 100,000	2016	230	288	393	159

 Based on OHID ratings

## Local Summary

North and North East Lincolnshire continue to have a low incidence of tuberculosis. Current data from the Enhanced Tuberculosis Surveillance System (ETSS)<sup>14</sup> shows that between 2018 and 2020 there were 8 recorded cases of tuberculosis in North East Lincolnshire and 18 cases in North Lincolnshire, with an average rate of 1.7 and 3.5 cases per 100,000 residents respectively. The apparently strong performance on this outcome in part reflects the relatively

<sup>12</sup> World Health Organisation/Public Health England (2018) *Tuberculosis rates by country in 2017*

<sup>13</sup> Three year average incidence of TB per 100,000 population

<sup>14</sup> Office for Health Improvement & Disparities (2020) *Tb incidence (three year average)*

low rate of immigration to our communities when compared with other parts of the country. In 2021, 66.0% of cases of TB reported in North East Lincolnshire were in people born outside of the UK, while this figure was 73.6% for England<sup>15</sup>. There are also local vulnerabilities – a study undertaken by public health in North East Lincolnshire identified that the large majority of TB cases in North East Lincolnshire are UK born and usually from a deprived background, with homelessness and heavy alcohol use being common co-presenting factors. Often diagnosis was made late with poor outcomes for the individuals affected. There is a risk that late diagnosis will lead to epidemics in some communities, and we are exploring the possibility of some targeted TB screening in some communities. It is important that people diagnosed with TB commence treatment quickly to obtain the best outcome. Local data was last published in 2016, when 71.4% of people diagnosed with pulmonary TB started treatment within four months of symptom onset; data for Yorkshire and the Humber was last published in 2020, giving a figure of 74.2%, while the England value is 67.6% for the same year.

Cases of Legionnaires' disease in North and North East Lincolnshire currently exceed the national and regional average due to two unexplained outbreaks, but the overall caseload is very small.

## **Hepatitis**

### **Introduction**

Hepatitis B is a blood borne infection of the liver caused by the hepatitis B virus (HBV). The virus can provoke an acute illness characterised by nausea, malaise, abdominal pain, and jaundice but can also produce a chronic persistent infection that is associated with an increased risk for chronic liver disease and hepatocellular carcinoma. Transmission is by parenteral exposure to infected blood and body fluids contaminated by blood, most often through sexual contact, blood to-blood contact and perinatal transmission from mother to child. HBV infection can be prevented by immunisation and in the UK, immunisation is recommended for individuals at high risk of exposure to the virus e.g., people who inject drugs (PWID), healthcare workers and household contacts of people who are acutely and persistently infected with hepatitis B.

Hepatitis C infection (HCV) is a blood borne virus that can cause life-threatening liver disease, but thanks to new treatments it can be cured. HCV largely affects people from under-served and marginalised groups, such as people who inject drugs. New estimates suggest that around 81,000 people in England are living with chronic HCV infection; a figure which is down by 37% on 2015. There has also been a 35% fall in deaths reported between 2016 and 2020, and the World Health Organisation target of reducing HCV-related mortality by 10% by the year 2020 has been exceeded three-fold and three years early in England. Of those living with HCV, Public Health England's 2019 estimates suggest that around 95,600 are undiagnosed, and this underlines the importance of continued efforts to find and treat those people before chronic and irreversible problems emerge. It is also equally important to help those who are diagnosed but untreated so that they engage with treatment services<sup>16</sup>.


---

<sup>15</sup> Public Health England (2020) *Tuberculosis (TB) in England: surveillance data*

<sup>16</sup> UK Health Security Agency 2022, Hepatitis C in England 2022: Working to eliminate hepatitis C as a public health problem

## Outcome Performance

Indicator	Year	England	Y&H	North East Lincolnshire	North Lincolnshire
Acute hepatitis B incidence rate / 100,000	2018	0.69	0.88	0.63	3.5
Hepatitis C detection rate / 100,000	2017	18.4	-	30.3	20.8
Persons entering drug misuse treatment - Percentage of eligible persons completing a course of hepatitis B vaccination (%)	2016/17	8.1	7.6	15.1	48.4
Under 75 mortality rate / 100,000 from hepatitis C related end-stage liver disease/ hepatocellular carcinoma <sup>17</sup>	2017-19	0.53	0.47	0.69	0.43
Persons in drug misuse treatment who inject drugs - Percentage of eligible persons who have received a hepatitis C test <sup>18</sup> (%)	2017/18	84.2	83.6	77.0	87.0

 Based on OHID ratings; for Hepatitis C detection rate / 100,000, significantly above the England average is light blue, no significant difference is amber, & significantly below the England average is dark blue.

## Local Summary

Diagnosed cases of HBV in North East Lincolnshire are currently below the national and regional average, whereas North Lincolnshire is significantly above England's value. There was a dramatic improvement in mortality associated with HCV in both North and North East Lincolnshire in 2016-18, which reflected recent treatment developments, but while North Lincolnshire's mortality remained the same into 2017-19, North East Lincolnshire's value rebounded to half of the 2015-17 value, which was a twenty-year high. Our rate is now slightly above national and regional rates again, after having been considerably above the national average in previous years. It remains important that high risk persons are screened for HCV to ensure they are able to access treatment to cure their condition. Drug services should be supported to improve their capacity for HCV screening. Both commissioned services continue to encourage clients to have the HBV test/vaccination and be tested for HCV – carrying out both one-to-one work as well as regular universal campaigns.

<sup>17</sup> Crude rate of mortality from hepatitis C related end-stage liver disease/hepatocellular carcinoma in persons less than 75 years of age per 100,000 population.

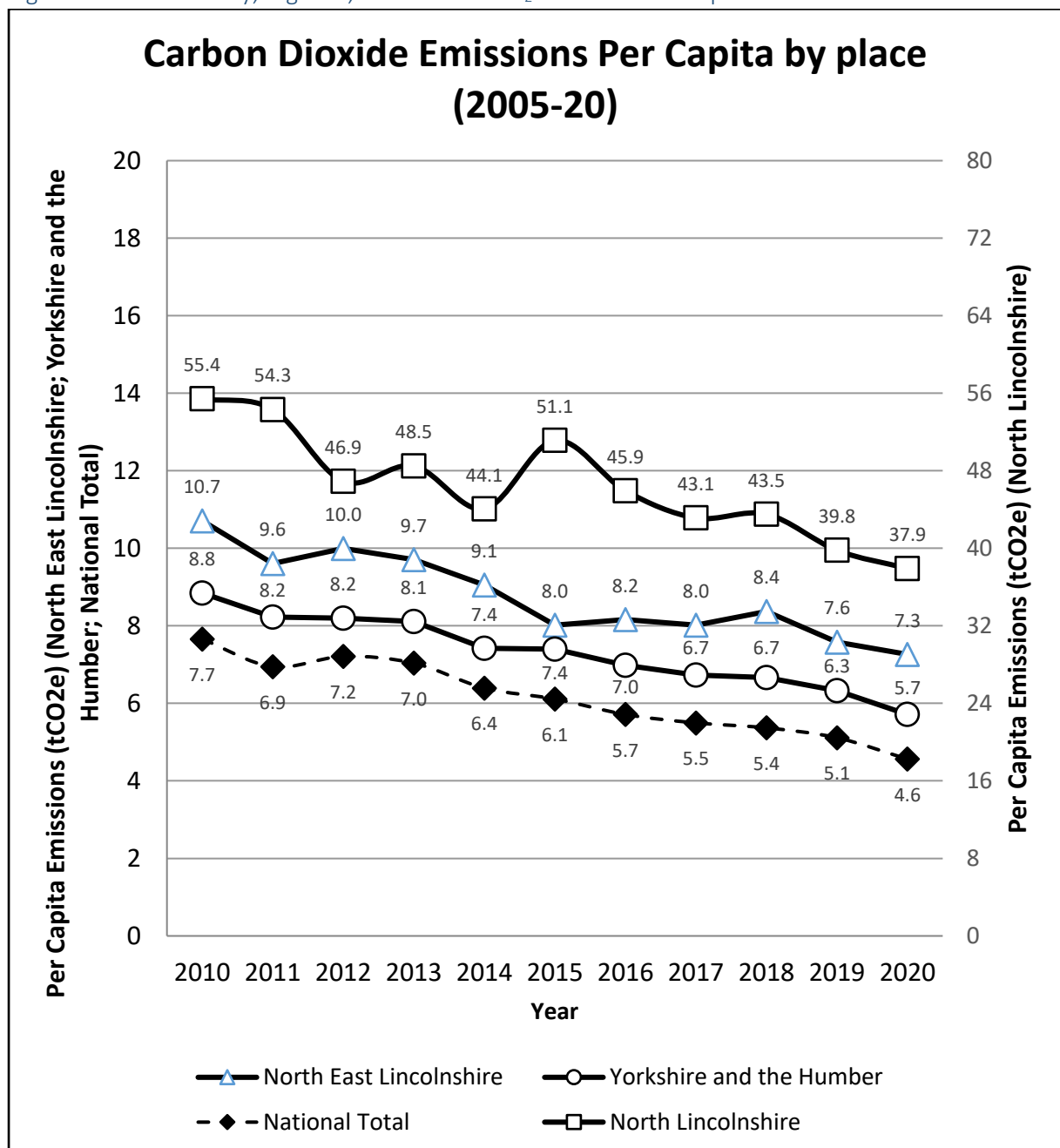
<sup>18</sup> Person in drug misuse treatment who currently inject, or have previously injected, drugs - Percentage of eligible persons receiving a hepatitis C.

# Climate Change (CO<sub>2</sub> emissions)

## Introduction

It is increasingly recognised that climate change is one of the biggest threats to health in this country. Threats will come in many forms including adverse weather, extreme weather events, threats to food production, flooding, droughts, the spread of vector borne diseases, and potentially new diseases. Reducing Carbon Dioxide (CO<sub>2</sub>) emissions associated with industry, agriculture, transport, and domestic energy is believed to be one of the most effective ways that local areas can contribute towards reducing this threat.

Figure 2 Local Authority, regional, and national CO<sub>2</sub> Emissions Per Capita 2010-2020





## Local Summary

North Lincolnshire has the third highest per capita emissions of CO<sub>2</sub> of any local authority in England, behind only Neath Port Talbot and City of London. This is mainly a legacy of heavy industry such as the presence of one of the biggest remaining steelworks in the country. However, levels of CO<sub>2</sub> have fallen slowly since 2005 in both North and North East Lincolnshire. Most of the fall in both areas is associated with reductions in industrial and domestic CO<sub>2</sub> emissions. Between 2005 and 2020, Industrial emissions have fallen by 46.9% in North East Lincolnshire and by 40.8% in North Lincolnshire; domestic emissions have fallen by 44.0% in North East Lincolnshire and by 40.6% in North Lincolnshire. However, transport emissions have only fallen by 19.4% in North East Lincolnshire and by 12.6% in North Lincolnshire. Overall progress in this area is falling short of expectations and we have a long way to go to dramatically reduce our carbon emissions.

## Air Pollution

### Introduction

Air pollution is created when chemicals and particles considered harmful to human health or ecosystems, are released into the atmosphere<sup>19</sup>. The Department for Environment, Food and Rural Affairs (DEFRA) consider traffic emissions to be the major source of air pollution<sup>20</sup>. The Royal College of Physicians attribute up to 40,000 deaths per year to outdoor air pollution<sup>21</sup>.

Since December 1997 each local authority in the UK has been carrying out a review and assessment of air quality in their area. This involves measuring air pollution and trying to predict how it will change in the next few years. The aim of the review is to make sure that the national air quality objectives<sup>22</sup> will be achieved throughout the UK. These objectives have been put in place to protect people's health and the environment.

If a local authority finds any places where the objectives are not likely to be achieved, it must declare an Air Quality Management Area (AQMA) there. This area could be just one or two streets, or it could be much bigger. Then the local authority will put together a plan to improve the air quality - a Local Air Quality Action Plan.

### Outcome Performance

Indicator	Year	England	Y&H	North East Lincolnshire	North Lincolnshire
Fraction of mortality attributable to particulate air pollution <sup>23</sup> (new method) (%)	2020	5.6	5.0	4.7	4.5

<sup>19</sup> North East Lincolnshire Council (2016) *Joint Strategic Needs Assessment*.

<sup>20</sup> Department for Environment, Food and Rural Affairs (2011) *Causes of air pollution*

<sup>21</sup> Royal College of Physicians (2016) *Every breath we take: the lifelong impact of air pollution*

<sup>22</sup> [https://uk-air.defra.gov.uk/assets/documents/National\\_air\\_quality\\_objectives.pdf](https://uk-air.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf)

<sup>23</sup> Fraction of annual all-cause adult mortality attributable to anthropogenic (human-made) particulate air pollution (measured as fine particulate matter, PM<sub>2.5</sub>).

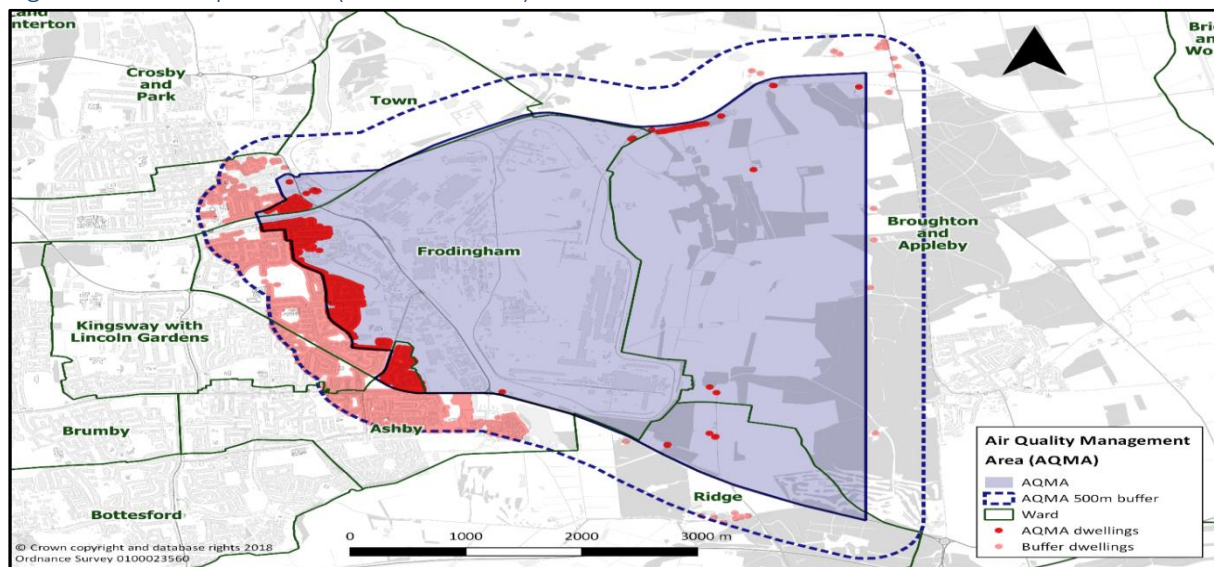
OHID does not provide traffic light ratings for Fraction of mortality attributable to particulate air pollution<sup>24</sup> (new method) (%)

## Local Summary

There are currently two active Air Quality Management Areas in Northern Lincolnshire.

In North Lincolnshire the AQMA is associated with the steelworks in Scunthorpe. Around 4000 people live within this area, most within the relatively deprived Frodingham ward. The Council has been working with industry, health professionals and the Environment Agency for several years to implement actions on the Steelworks Site. Monitoring data shows the level of PM<sub>10</sub> and PAH (Polycyclic Aromatic Hydrocarbons), and that they have reduced.

Figure 3 Scunthorpe AQMA (amended 2018)

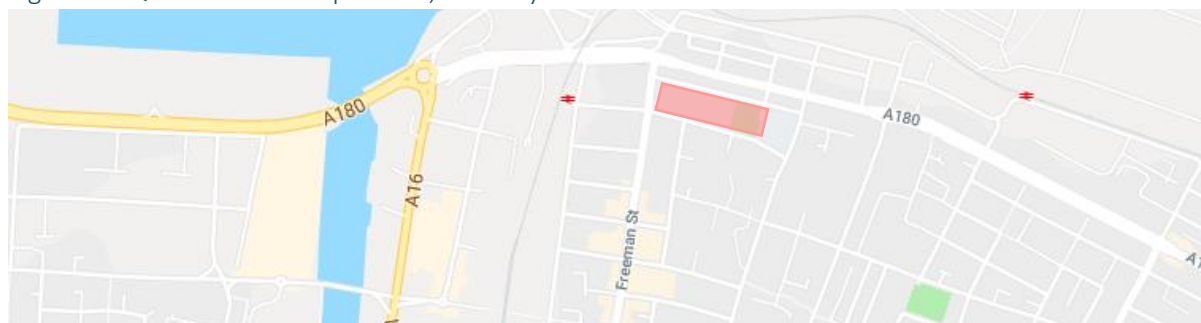


In North East Lincolnshire the active Air Quality Management Area (AQMA<sup>25</sup>) is situated on the section of the A180 (Cleethorpe Road, Grimsby) between Freeman Street and Bridge Street North. This is situated in one of the most deprived Lower Super Output Areas in the country and has been active since August 2010. Efforts to improve air quality in that area are hampered by the fact that it is the main route from the A180 to Cleethorpes, it has a large amount of traffic coming from Grimsby Docks, it is situated on a busy junction, the road is narrow, and the buildings nearby are high, so there is little opportunity for pollution to diffuse into surrounding areas. Monitoring data shows the level of NO<sub>2</sub>.

<sup>24</sup> Fraction of annual all-cause adult mortality attributable to anthropogenic (human-made) particulate air pollution (measured as fine particulate matter, PM<sub>2.5</sub>\*).

<sup>25</sup> North East Lincolnshire Council (2016) *Air quality management areas*

Figure 4 AQMA on Cleethorpe Road, Grimsby



Source: DEFRA (2019), Google Maps

## Screening

### Introduction


Cancer screening programmes are provided to ensure that cases of cancer are identified at an early stage in order to ensure that effective treatment can be provided. In this way they protect health and prevent major treatment costs to the NHS further down the line. Cervical screening can identify potential cancers in a pre-cancerous stage and thereby prevent the cancer from ever developing.

Several other screening programmes operate. Abdominal aortic aneurysm screening is a way of checking if there is a bulge or swelling in the aorta. This bulge or swelling is called an abdominal aortic aneurysm and can eventually rupture if it is not spotted early. Diabetic retinopathy screening is a test to check for eye problems caused by diabetes. These can lead to sight loss if not identified early. New-born screening are tests performed on new babies to identify potential health problems as early as possible to enable interventions to be put in place that may prevent disability or death.

### Outcome Performance

Indicator	Year	England	Y&H	North East Lincolnshire	North Lincolnshire
Cancer screening coverage- breast (%)	2021	64.1	64.3	44.3	69.4
Cancer screening coverage - cervical aged 25-49yrs (%)	2021	68.0	70.7	74.0	71.3
Cancer screening coverage- cervical aged 50-64yrs (%)	2021	74.7	76.2	75.9	76.0
Cancer screening coverage- bowel (%)	2021	65.2	66.8	64.4	65.2
Diabetic eye (%)	2017/18	82.7	74.1	Humber prog.	84%
Abdominal aortic aneurysm (%)	2020/21	55.0	56.0	30.0	38.4
New-born blood spot (%)	2017/18	96.7	94.7	96.0	96.4
New born hearing (%)	2020/21	97.5	97.6	99.4	99.2

New born physical examination (%)	2020/21	97.3	97.3	98.4	97.9
-----------------------------------	---------	------	------	------	------

 Based on OHID ratings

## Local Summary

While the uptake of bowel cancer screening has been trending upwards in England since 2010, there has been a general downward trend in the uptake of Breast and Cervical cancer screening. Reasons for this downturn are unclear. Local performance in North and North East Lincolnshire has tended to mirror this situation, but our performance has remained above the England average for the most part, though breast cancer screening in North East Lincolnshire fell by 29.2 percentage-points to 44.3% from 2020-21, which is much further than England's 10 percentage-point fall to 64.1%. Going forwards, efforts need to be focused on stemming this decline and addressing inequalities in the uptake of cancer screening between affluent and more deprived groups and addressing low uptake in some specific groups in the population, e.g., people with learning disabilities. There is a particular focus on promoting the uptake of national cancer screening programmes through the newly established Primary Care Networks of GP Practices working closely with Cancer Research UK, local cancer collaboratives and community champions to target geographical areas where take up is low and can be improved.

Other screening programmes are mainly performing in line with the national and regional average with generally good uptake.


## Other Health Protection Outcomes

### Introduction

There are several other important health protection outcomes that do not fit into previous categories, but which are important indicators of an effective health protection system. These include the observable number of excess winter deaths, deaths from drug misuse, injuries associated with violent crime and the extent of injuries and deaths associated with road traffic accidents. Also included is an outcome on antibiotic prescribing in primary care. It is now recognised that over prescribing of antibiotics is a major health protection threat as it increases the propensity of bacterial infections to become resistant to antibiotics. There are also many community and healthcare infection control related indicators. Many of these are not suitable for comparison across different areas and organisations, so are not included in this report, but they provide good indicators of local performance and changes over time. Current performance is available through the Office for Health Improvement and Disparities' fingertips tool (<https://fingertips.phe.org.uk/profile/amr-local-indicators/>).

## Outcome Performance

Indicator	Year	England	Y&H	North East Lincolnshire	North Lincolnshire
Antibiotic prescribing in primary care by the NHS / STAR-PU <sup>26</sup> *	2021	0.74	0.81	0.9	0.82
Excess Winter Deaths Index (single year) <sup>27</sup> (%)	2019/20	17.4	16.6	16.4	25.2
Killed and seriously injured casualties on England's roads / billion miles <sup>28</sup>	2020	86.1	89.7	118.4	85.5
Children killed and seriously injured on England's roads / 100,000 <sup>29</sup>	2018-20	15.9	24.9	35.5	30.3
Deaths from Drugs Misuse <sup>30</sup>	2018-20	5.0	6.7	5.0	4.3
Violent crime (offences per 1000 population) <sup>31</sup>	2020/21	29.5	36.7	43.8	30.1
Suicide rate <sup>32</sup>	2019-21	10.4	12.5	6.8	9.3

 Based on OHID ratings, except Antibiotic prescribing in primary care by the NHS / STAR-PU<sup>33</sup> where ≤mean England prescribing data 2013/14 is green, and >mean England prescribing data 2013/14 is red, and Violent crime (offences per 1000 population), where lower quintile is dark blue, middle quintile is a medium blue, and upper quintile is light blue.

\*Indirectly standardised ratio - per STAR-PU

## Local Summary

There has been a 23.6% reduction in Northern Lincolnshire's antibiotic prescribing since 2015; it is now good and alike regional and national performance. Work continues with individual GP practices where prescribing is too high.

<sup>26</sup> Annual total number of prescribed antibiotic items per STAR-PU (Specific Therapeutic group Age-sex weightings Related Prescribing Unit)

<sup>27</sup> Excess Winter Deaths Index (EWD Index) is the excess winter deaths measured as the ratio of extra deaths from all causes that occur in the winter months compared with the expected number of deaths, based on the average of the number of non-winter deaths.

<sup>28</sup> Number of people reported killed or seriously injured (KSI) on the roads, all ages, per 1 billion vehicle miles travelled.

<sup>29</sup> Crude rate of children aged 0-15 years who were killed or seriously injured in road traffic accidents per 100,000 population

<sup>30</sup> Age-standardised mortality rate from drug misuse per 100,000 population

<sup>31</sup> Violence against the person offences, based on police recorded crime data, crude rate per 1,000 population

<sup>32</sup> Age-standardised mortality rate from suicide and injury of undetermined intent per 100,000 population

<sup>33</sup> Annual total number of prescribed antibiotic items per STAR-PU (Specific Therapeutic group Age-sex weightings Related Prescribing Unit)

In 2019/20, the rate of excess winter deaths was lower than the regional and national rates in North East Lincolnshire and above them in North Lincolnshire. North Lincolnshire's and the national values followed a similar pattern from 2017/18 to 2019/20, where the value decreased only to increase, but North East Lincolnshire's and the regional values decreased consistently.

North East Lincolnshire has long had a relatively high rate of injuries and deaths associated with road traffic accidents. Both Local Authorities' figures for adults has reduced slightly since 2017, but Northern Lincolnshire still performs poorly in terms of the figure for children, with North East Lincolnshire 6<sup>th</sup>-worst and North Lincolnshire 9<sup>th</sup>-worst out of all local authorities for children killed or seriously injured on England's roads. Local analysis has shown that rates are particularly high in areas of deprivation where there tends to be many hazardous roads and junctions<sup>34</sup>.

Deaths from drug misuse in North East Lincolnshire are currently level with the England rate and below the regional rate, despite the relatively high rate of opiate users in the population, although opiate use has been falling in recent years. The rate of violent crime in North East Lincolnshire is considerably above the England and regional rate. Violent crime is strongly associated with substance misuse.

The suicide rate in North and North East Lincolnshire is below the national average, but while North East Lincolnshire's male suicide rate is below the national rate, North Lincolnshire's has increased successively since 2014-16. Also, note that suicide monitoring uses the date of registration as opposed to the date of death to refer to suicides, and because of that and a recent change in coroner in Northern Lincolnshire, the suicide rate may be artificially low over the most recent years due to a verdict being delayed. However, it is suspected that there has been an increase in suicides in North East Lincolnshire from 2021-22.

---

<sup>34</sup> North East Lincolnshire Council 2018, A Public Health Review of North East Lincolnshire Road Traffic Casualties 2011-2015.

## Conclusion

North East Lincolnshire and North Lincolnshire are performing reasonably well against the majority of health protection outcomes in comparison to Yorkshire and the Humber and England averages so we can be assured that our health protection system is functioning well. In particular North East Lincolnshire's performance on childhood immunisations and the prevention of communicable disease is outstanding. In most other areas performance compares well with many other parts of the country but there are potential improvements to be made to reach the optimum performance that we should strive for. Areas where improvements are sought include adult immunisation coverage in both areas and child immunisation in North Lincolnshire.

In order to effectively mitigate future health impacts associated with climate change, more needs to be done to reduce carbon emissions across North East and North Lincolnshire and to ensure emergency preparedness.

Overall Public Health England has identified that both North East Lincolnshire and North Lincolnshire fell into the low spend, better outcome quadrant in its Spend and Outcome Tool for its health protection performance in 2018, suggesting that our health protection response is both efficient and effective<sup>35</sup>.

The focus for our health protection strategy going forwards will be to maintain our generally strong and efficient outcome performance and to address identified areas of concern.

---

<sup>35</sup> Public Health England Spend and Outcome Tool 2018.