

North East Lincolnshire Council

Director of Public Health

Annual Report 2020: Health Inequalities in North East Lincolnshire



Contents

1. Acknowledgements
2. Spiral of Life
3. Foreword from Stephen Pintus, Director of Public Health
4. Executive Summary
5. Recommendations from this year's report
6. Deprivation in North East Lincolnshire
7. Inequalities in health and wellbeing outcomes in North East Lincolnshire
8. Explaining health inequalities: the social determinants of health
9. Inequalities in healthcare
10. Health inequalities toolkit
11. Update on last year's recommendations.
12. References

1. Acknowledgements

I would like to thank the following colleagues for their invaluable help and support in producing this report.

North East Lincolnshire Council

Amber Abernethie

Geoffrey Barnes

Carolyn Beck

Shola Bolaji

Vanessa Catterall

Diane Halton

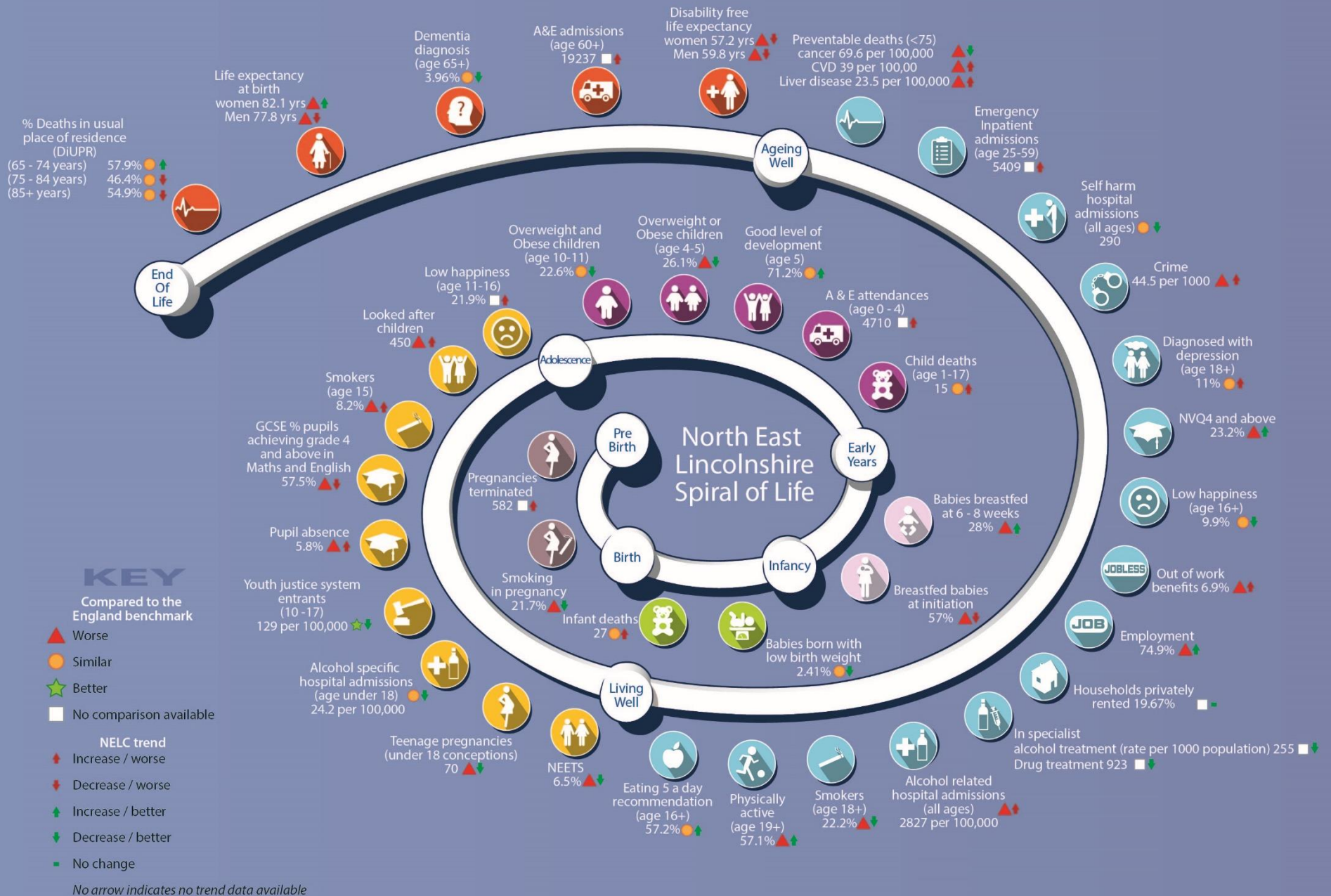
Mike Hardy

Hazel Stevens

Glyn Thompson

I am sure the other members of the team will not mind if I give particular thanks to Amber and Vanessa who have made this report possible with so much else going on. Their dedication, commitment, and ability to adapt to such difficult circumstances is a credit to them and I am truly grateful.

HWB Spiral of Life 2021



3. Foreword from Stephen Pintus, Director of Public Health

Welcome to my Annual Report which has been delayed in its completion, impacted as have all aspects of our lives by this unprecedented pandemic. Our focus this year was to explore how health inequalities were affecting the people of North East Lincolnshire. As this pandemic has continued throughout the year more and more of us will have been touched by coronavirus whether directly or through loved ones, relatives, and friends. What has become clear is the added impact the virus is having on health inequalities: Directly through the people who become seriously ill and/or died from the virus; the people in residential care settings unable to have visits from loved ones; our young people who are missing out on their education and the impact on the wider economy with job losses, financial hardship and families experiencing Universal Credit for the first time.

Where possible we have incorporated our understanding of the impact of the virus on various contributing factors that result in inequalities, based on the information available. It also indicates the need for further work to improve our level of intelligence whether from data or from community insight, to understand the challenges and resources for health and wellbeing within our local communities.

The report shows that the impact of the pandemic has amplified existing health inequalities in the borough. This is not unique to our area and has been observed in the recent Marmot update “Build Back Fairer”¹ making the case to address inequity in our recovery plans as we emerge from the pandemic. What is apparent is we cannot go back to the way things were before. Too much has changed: some things for the good such as the community response to provide support; and the use of digital to access services and combat isolation. What we must guard against is the inequalities gap widening further as we anticipate the lasting impact of the pandemic on the economy, people’s livelihood, children’s educational, social and emotional development. We are already seeing the differential impact of the pandemic on people and communities across the life course and the challenge is to work collaboratively with local people to apply our resources unequally to mitigate any impact and benefit the overall health of our economy and people in the borough.

However we approach health, whether as disease and physiological processes, unhealthy behaviours, how people think of themselves; their attitudes, or the wider conditions in which they live, it is evident from both research and experience that interventions that tackle just one element of what determines health will not succeed.

North East Lincolnshire is on the cusp of a new era of prosperity, driven by a unique “Town Deal” with central government, along with developments linked to the Humber “Energy Estuary”, such as hosting the UK centre for the operation and maintenance

¹ [Build Back Fairer: The COVID-19 Marmot Review - IHE \(instituteofhealthequity.org\)](https://www.instituteofhealthequity.org/build-back-fairer-the-covid-19-marmot-review)

of offshore wind energy and one of the main hubs in the UK for sustainable low carbon energy generation and carbon capture.

This prospect of sustainable, long-term growth providing fulfilling, skilled, well-paid employment can provide the impetus for ensuring that local people benefit from these opportunities by working with our communities to collectively create the conditions that enable future generations to benefit once again from North East Lincolnshire's maritime heritage.

4. Executive Summary

The focus of this year's annual report is health inequalities. This report will explore the challenges faced by those living in our more deprived areas, the way that these challenges accumulate to influence health throughout the life course, as well as the further impact on health inequalities placed on us by the Covid-19 pandemic.

Health inequalities are the unfair and avoidable differences in health and life expectancy between different groups in society. Since a large proportion of North East Lincolnshire is counted among the most deprived 10% of England, health inequalities are a major issue for our area and are only likely to have been exacerbated by Covid-19.

North East Lincolnshire has a much higher rate of premature mortality than the national rate and the rates of many of our regional neighbours. Respiratory and cardiovascular diseases and cancer account for a large proportion of the burden of disease in the borough and these conditions contribute significantly to inequalities in life expectancy. Alcohol is also a major cause of premature mortality locally, with alcohol related morbidity and mortality clearly associated with socioeconomic deprivation.

On average, those living in the most deprived areas of North East Lincolnshire can expect to live shorter lives than those living in the least deprived areas. They are also more likely to spend a greater proportion of their lives living in poor physical health, as well as to suffer from poor mental health and wellbeing. Despite this, the most deprived individuals are less likely to consume preventative NHS care, to identify risk factors, and to present to healthcare services at an early stage of illness. They are therefore more likely to be admitted to hospital as emergencies and at a later stage of illness, and to suffer worse outcomes.

Rather than being solely due to healthcare and individual lifestyle choices, the factors which most significantly shape our health are the social determinants of health: these are the conditions in which we are born, grow, live, work and age. Health inequalities largely arise from differences in the social determinants of health, with those of lower socioeconomic position often experiencing disadvantage during every stage of life.

Sadly, there is evidence that deprived individuals have been disproportionately affected by the Covid-19 pandemic, which has widened many longstanding inequalities related to the social determinants of health, physical health, and mental wellbeing. There is therefore no better time to explore health inequalities in detail and to take action.

5. Recommendations from this year's report

1. Encourage the use of the Population Health and Outcomes approach in tackling health inequalities across the life course, including the use of Population Health Management tools currently being piloted in the local NHS.
2. Explore a method of measuring equity of access to services, starting with the Public Health commissioned services.
3. Each Primary Care Network should identify a leadership role with regards to the implementation of the NHS Phase 3 inequalities plan for their population and should explore the potential resourcing of work on health inequalities within the new ICS/NHS organisation.
4. Develop a model of outreach in collaboration with Primary Care Networks and other partners to support communities to make use of preventative support. This should include a focus on maximising the uptake of preventative measures, such as vaccinations, by the homeless population.
5. Develop a partnership investment plan for each area of growing need in light of the Covid-19 pandemic (such as domestic abuse, alcohol and smoking services).
6. Develop and adopt a plan to increase the proportion of people that are living in conditions that meet the Decent Homes Standard and to ensure the stability and security of tenancies post-Covid.
7. Environmental Health teams should advise on areas which suffer from lack of services or 'food deserts' and target support and community activities appropriately so that vulnerable areas can access nutritious food.
8. Raise the profile of domestic abuse within healthcare settings.
9. Support local schools to prioritise the healthy relationships component of the Personal, Social, & Health Education (PSHE) curriculum, so as to improve young people's self-value and break intergenerational cycles of unhealthy relationships.
10. Continue to build our collaborative work with the Department for Work and Pensions to ensure that residents are connected to support with managing debt and are supported to build their financial capacity.
11. Build on the work with rough sleepers that has gone well during the Covid-19 pandemic, such as sustaining rough sleepers in their accommodation.
12. Build social connectivity for NEL communities across the life course, from young first time mums through to older people living alone. Do this by increasing digital skills, sustaining and building on well-used community assets (physical and virtual), and by reviewing the commissioning of the Voluntary and Community Sector (including the use of social prescribing).
13. Make every effort to secure external resources, where these become available, to support children most affected by the Covid-19 pandemic.

6. Deprivation in North East Lincolnshire

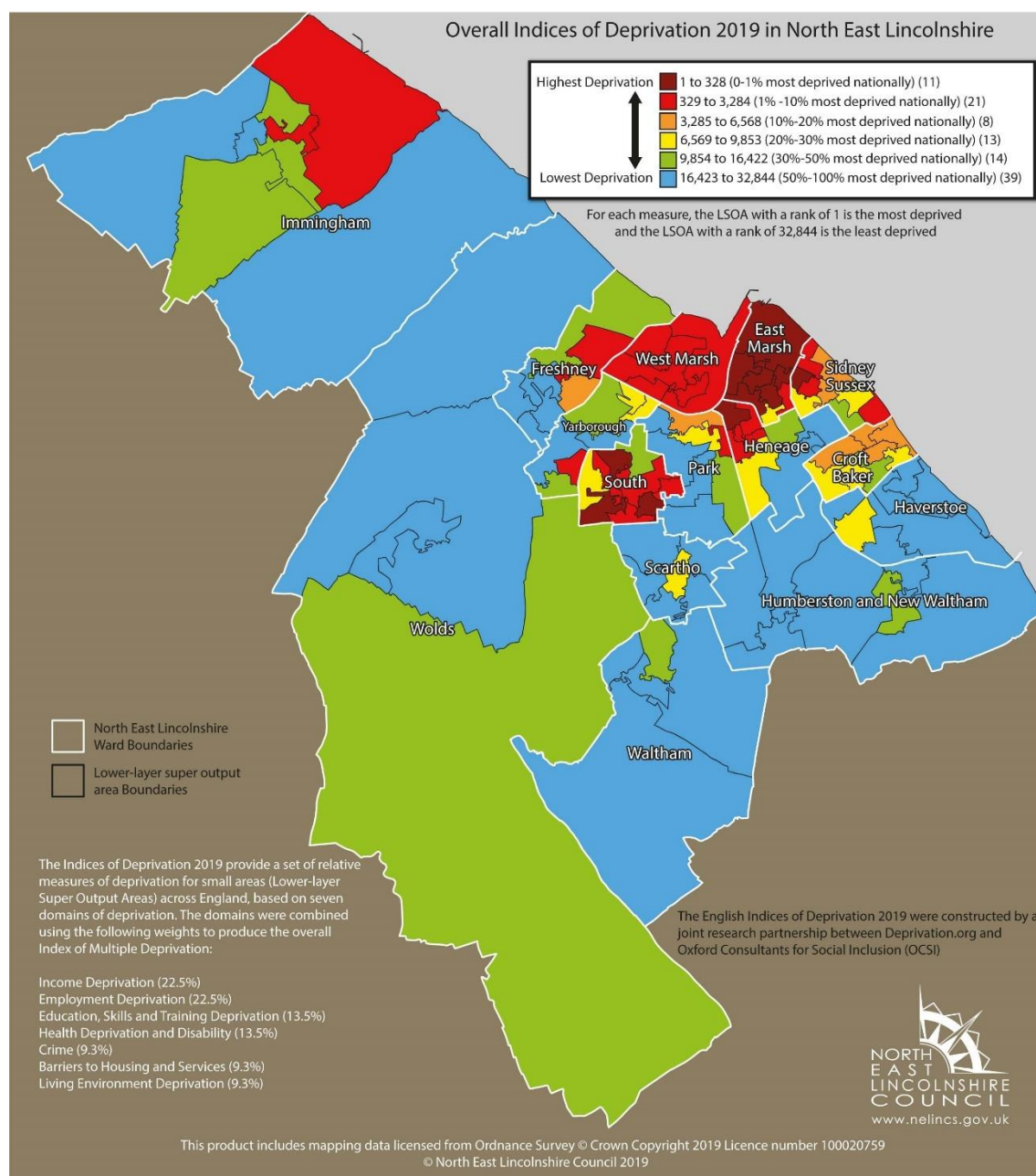
Deprived areas often face multiple challenges, including issues such as income and employment deprivation, educational disadvantage, crime, barriers in access to housing and other services, and poorer overall living environments. The accumulation of these risks and their impact on health build up over time (Centre for Mental Health, 2020) (Marmot, 2006). These issues are also interconnected and can interact with each other and on health outcomes in complex ways (Centre for Mental Health, 2020). The impact of deprivation on health has been particularly highlighted recently with Covid-19 having a disproportionate effect on deprived populations (PHE, 2020).

To illustrate the relative deprivation experienced by people in different areas of England, the Ministry for Communities, Local Government and Housing produce Indices of Deprivation (IoD). The most widely used of these indices is the Index of Multiple Deprivation (IMD), which combines and weights information from seven other domains² into an overall relative measure of deprivation.

The IMD 2019 show that deprivation in North East Lincolnshire is concentrated in pockets rather than evenly spread throughout the borough, meaning that there are considerable inequalities within the borough (Figure 1). Deprivation is particularly concentrated in East Marsh, West Marsh, South, Heneage, Sidney Sussex, and Immingham wards. Five of these wards (East Marsh, West Marsh, South, Sidney Sussex and Heneage) are in the most deprived 10% of wards in England, and two of these wards (East Marsh and West Marsh) are in the most deprived 1% of wards in England.

² Income Deprivation, Employment Deprivation, Education, Skills and Training Deprivation, Health Deprivation and Disability, Crime, Barriers to Housing and Services and Living Environment Deprivation

Figure 1: Overall Indices of Deprivation in North East Lincolnshire, 2019



North East Lincolnshire has the 3rd highest proportion of LSOAs (out of 317 local authorities) that are in the most deprived 10 per cent of LSOAs in England for at least six of the seven IoD domains at 5.7%. This illustrates how advantages and disadvantages tend to cluster and accumulate meaning that people in deprived circumstances often experience multiple disadvantage (Marmot, 2006).

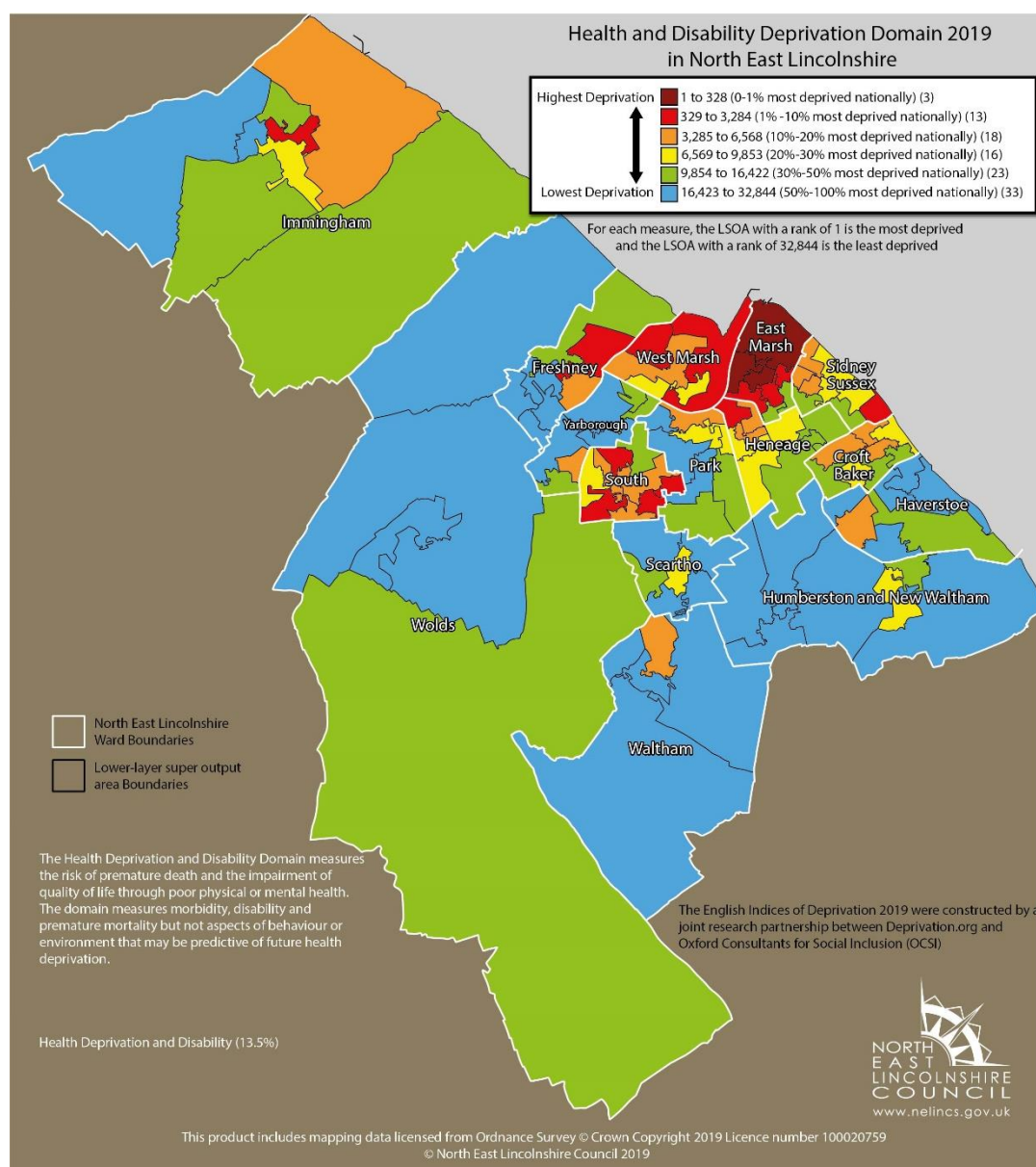
Health Deprivation and Disability

The Health Deprivation and Disability Domain of the Indices of Deprivation measures the risk of premature death and impairment of quality of life through poor physical or

mental health³. Health deprivation and disability is also concentrated in pockets of the Borough:

- 3 NEL LSOAs (out of 106), each in the East Marsh, are within the most deprived 1% in England.
- 11 NEL LSOAs (out of 106) are within the most deprived 5% in England.
- 16 NEL LSOAs (out of 106) are within the most deprived 10% in England.

Figure 2: Health and Disability Deprivation Domain in North East Lincolnshire, 2019



³ This domain does not measure aspects of behaviour or environment which may be predictive of future health deprivation.

There are considerable challenges for the Borough across the remaining IoD domains:

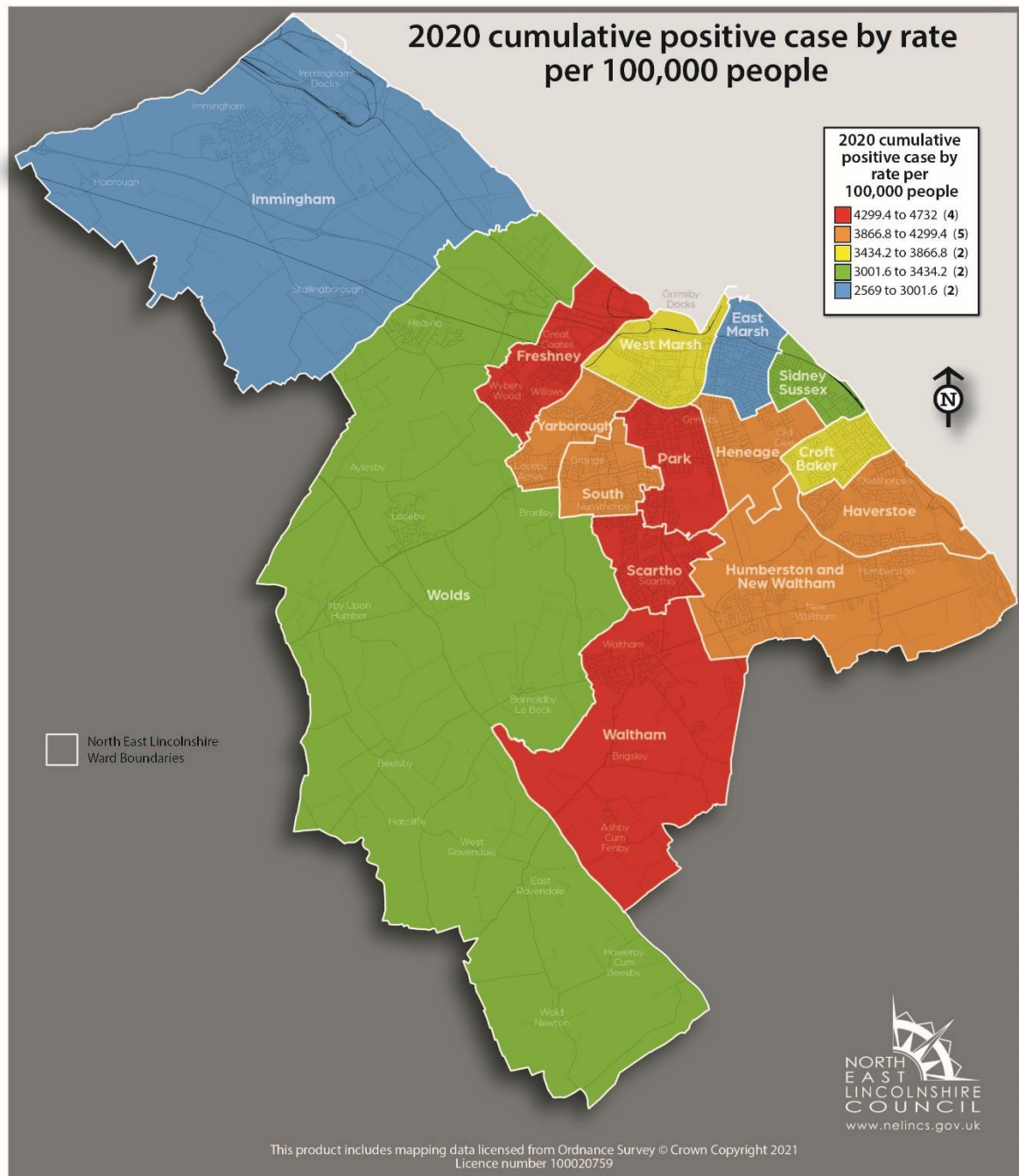
- North East Lincolnshire has the 26th (out of 317 local authorities) highest proportion of the population experiencing income deprivation at 19%. This equates to approximately 30,000 people in the Borough experiencing income deprivation.
- North East Lincolnshire has the 11th highest (out of 317 local authorities) proportion of children living in income deprived households at 27.4% of the population. Previous work locally highlighted the scale of child poverty in North East Lincolnshire, with around 9,000 children and young people in the Borough estimated to be living in poverty (North East Lincolnshire Council, 2020).
- North East Lincolnshire has the 31st (out of 317 local authorities) highest proportion of the working age population excluded from the labour market at 14.5%, which equates to around 13,000 people.
- In the crime domain of the IoD, 39 NEL LSOAs (out of 106) are within the most deprived 10% in England. This domain measures the risk of personal and material victimisation at a local level.
- 31 NEL LSOAs (out of 106) are within the most deprived 10% in England in the Education, Skills and Training Deprivation Domain. This measures lack of attainment and skills in the local population. The most deprived LSOA in England (out of 32,844) for this domain is in NEL's South ward.

Impact of Covid-19 on deprivation

Covid-19 is likely to have worsened deprivation locally, with national evidence demonstrating that household incomes have fallen particularly amongst the lowest earners (with severe losses for single parents), and that living standards are under the most pressure in lower income households (Health & Equity in recovery plans working group, 2020). National evidence also shows that levels of food insecurity rose sharply at the beginning of the Covid-19 pandemic (Select Committee on Food, Poverty, Health and the Environment, 2020) and that for children, the impact of Covid on food insecurity was particularly striking - the Trussell Trust reported a 122% rise in emergency food parcels given to children from food banks in their network during the second half of March 2020, compared to the same period in 2019 (The Trussell Trust, 2020).

Figure 3 displays a map showing cumulative Covid-19 rates during 2020 for all North East Lincolnshire wards. Although this points to higher rates away from the urban centre of the borough with some of the area's more affluent wards having the highest rates overall and Immingham and East Marsh having the lowest rates, it is unclear how much of this variation is influenced by people's willingness to present for testing and the ease of accessing testing.

Figure 3: Cumulative Covid-19 rates during 2020 for all North East Lincolnshire wards



7. Inequalities in health and wellbeing outcomes in North East Lincolnshire

What are health inequalities?

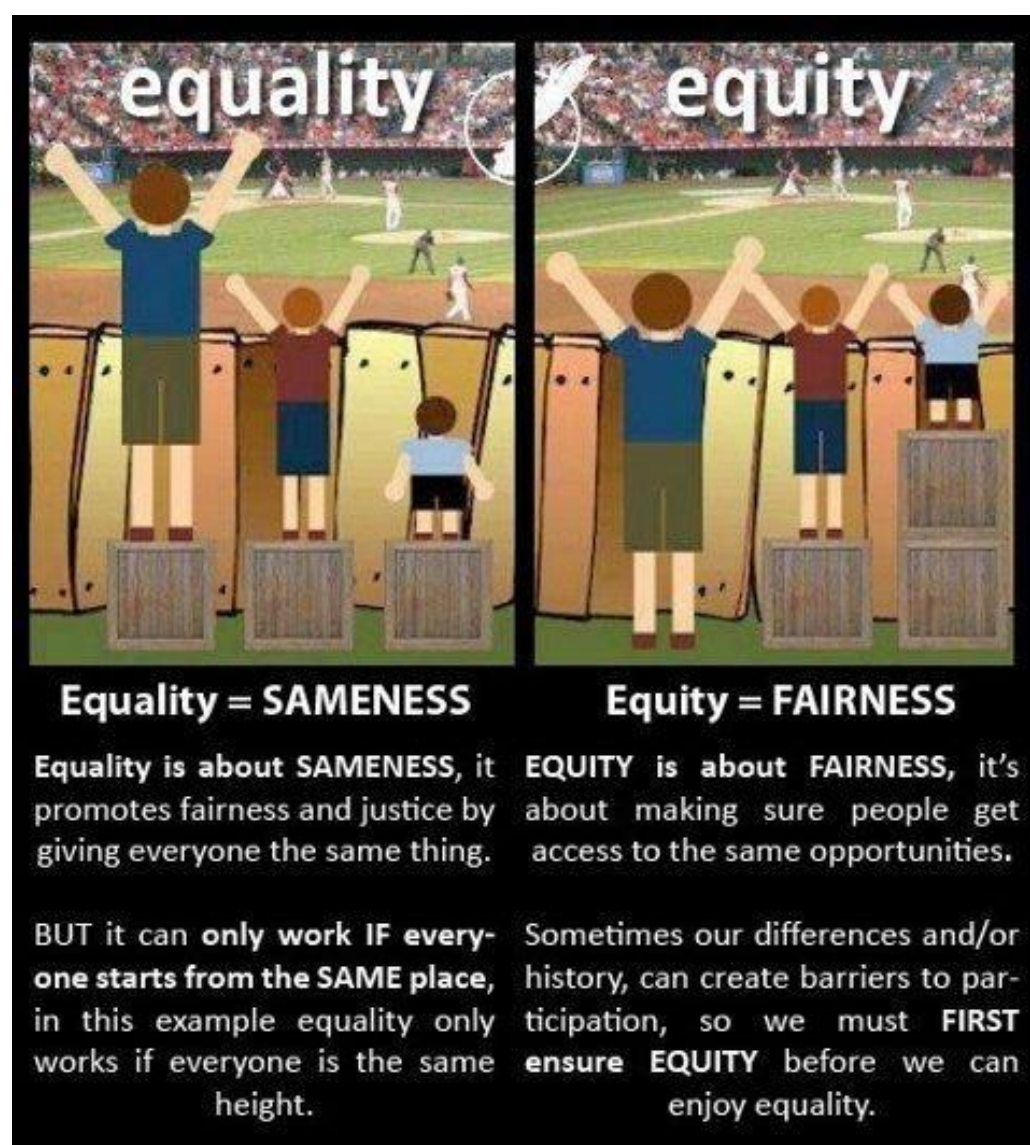
Health inequalities are unfair and avoidable differences in health and life expectancy between different groups within society (Williams E, 2020). These differences can exist between people grouped by various factors, including socio-economic factors (for example, income), geography, specific characteristics such as sex, ethnicity or disability, and socially excluded groups, for example, people experiencing homelessness (Williams E, 2020). People can experience different combinations of these factors.

Many longstanding inequalities have only been exacerbated by the Covid-19 pandemic and its associated containment measures. It is apparent nationally that there has been an uneven impact of the virus, with existing health inequalities linked to greater severity of symptoms (Bibby J, 2020). Many of the most disadvantaged groups in society have increased risk of exposure to the virus and the indirect effects of Covid-19 have also worsened existing inequalities for certain groups (Bibby J, 2020). This report will discuss inequalities in health and wellbeing outcomes in North East Lincolnshire, as well as highlighting the impact of Covid-19 on these inequalities where this is apparent.

Equality vs equity

A crucial concept when considering and tackling health inequalities is the idea of equity. Whereas equality would promote giving everyone the same thing, the concept of equity recognises that not everyone starts from the same place and therefore that resources sometimes have to be targeted unequally in order to ensure that people have access to the same opportunities. As this report will highlight, the challenges and barriers faced by disadvantaged and vulnerable communities in the Borough mean that more effective targeting of resources is required to ensure that these groups have equal opportunity for good health and wellbeing.

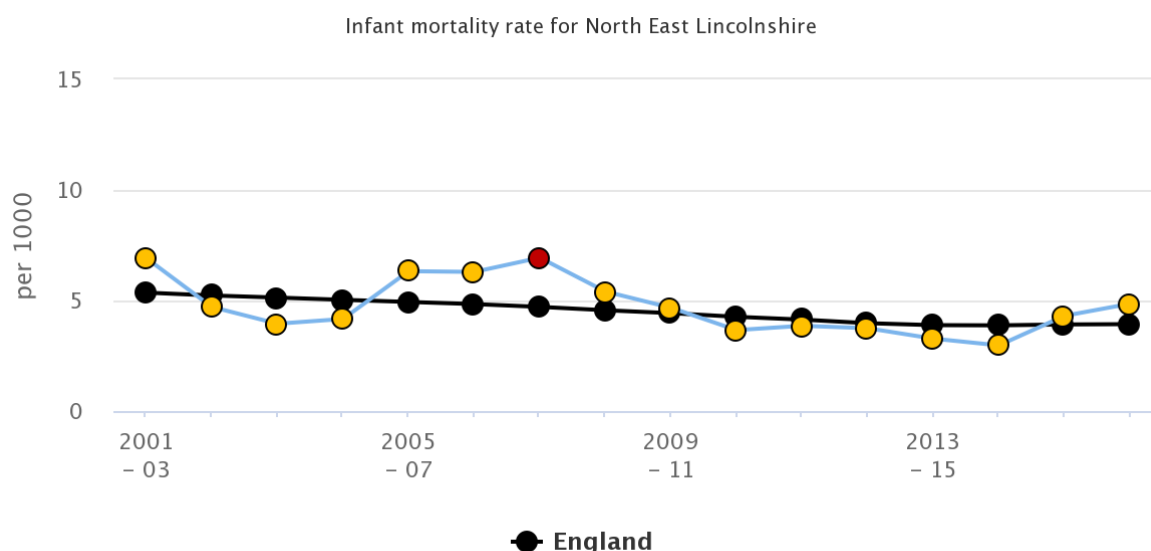
Figure 4: Equality and Equity. Diagram taken from A Wellbeing strategic framework for North East Lincolnshire.



Infant Mortality

Whilst there had been a reducing trend in infant mortality rates (<1 yr/1000 live birth) in NEL, the latest data shows an increase (Figure 5) meaning that since 2015-17 the infant mortality rate in NEL has been higher than both the national and regional rates. National research has demonstrated that there is an association between child poverty/material disadvantage and infant mortality (Taylor - Robinson D et al, 2015). As was discussed in the previous section of the report, a substantial proportion of children in North East Lincolnshire are living in income deprived households and it is likely that the Covid-19 pandemic has increased deprivation locally.

Figure 5: Infant mortality rate for North East Lincolnshire, 2001-03 to 2016-18



Source: Public Health England

Illness and disability in children and young people

Children from more deprived areas, looked after children, young carers, children from BAME groups, children with a learning disability, children who identify as LGBT and those with 4+ Adverse Childhood Experiences (ACES) are more likely to experience physical health conditions than their peers (North East Lincolnshire Council, 2020). However, both nationally and locally there are significant gaps in understanding the nature and scale of physical health conditions and disability in children and young people (North East Lincolnshire Council, 2020). For example, there are generally no primary care condition registers for children like those for adults (North East Lincolnshire Council, 2020).

Inequalities in life expectancy

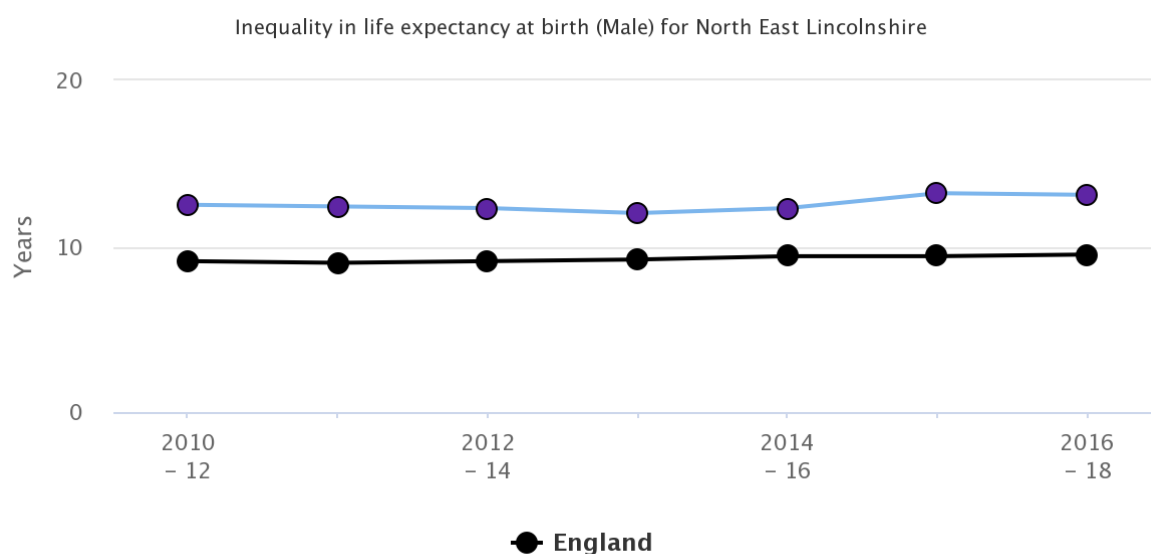
Life expectancy is an important indicator of overall health, mortality, and morbidity.

As is the case nationally, life expectancy at birth for men in NEL is lower than life expectancy at birth for women. However, life expectancy for both males and females in NEL is lower than national and regional life expectancies. A man born in NEL in 2016-18 can expect to live on average 77.6 years, with 59.5 years of healthy life expectancy (years lived in good health) and a woman born in NEL in 2016-18 can expect to live on average 82.2 years, with 61.0 years of healthy life expectancy. This compares to a national life expectancy for men of 79.6 years and a national life expectancy for women of 83.2 years.

In North East Lincolnshire, like in England as a whole, there is also a social gradient in health, whereby the more deprived have worse health and shorter lives than those who are more advantaged (Donkin.A.J.M, 2014).

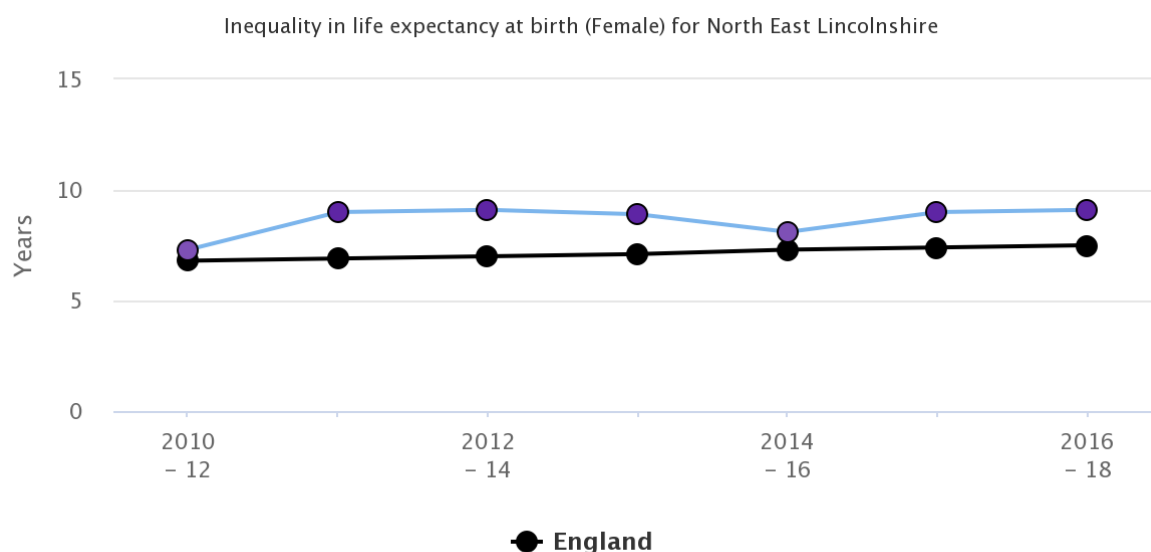
The slope index of inequality demonstrates the range in years of life expectancy across the social gradient from the most deprived decile (10% of a population) to the least deprived decile (PHE Fingertips). This has consistently remained higher in North East Lincolnshire than the England and regional averages, and the slope index of inequality for males in North East Lincolnshire is the highest of all local authorities in the Yorkshire and the Humber region. The most recent data (2016-18) suggests an inequality in life expectancy at birth of 13.1 years for males and 9.1 years for females, meaning that on average, a male born in the most deprived decile of NEL between 2016-18 could expect to live 13.1 years less than a male born in the least deprived decile of NEL. Similarly, a female born in the most deprived decile of NEL could expect to live, on average, 9.1 years less than a female born in the least deprived decile of NEL.

Figure 6: Inequality in life expectancy at birth for males in North East Lincolnshire compared to England, 2010/12 - 2016/18



Source: Public Health England

Figure 7: Inequality in life expectancy at birth for females in North East Lincolnshire compared to England, 2010/12 - 2016/18



Source: Public Health England

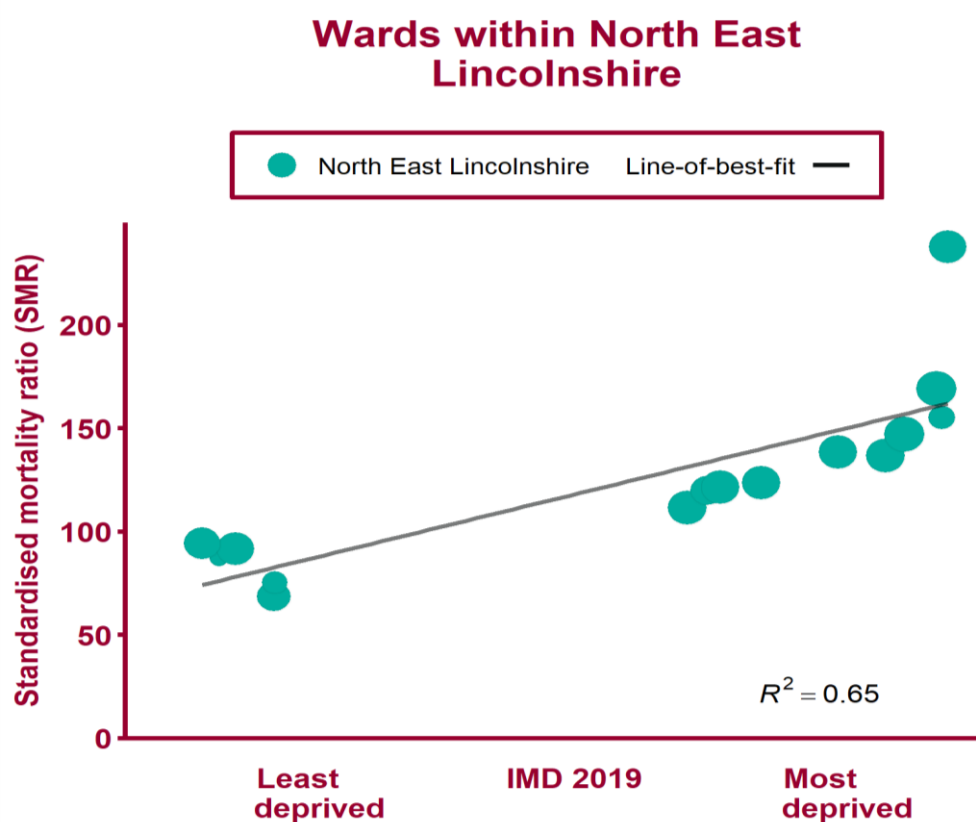
Premature Mortality

North East Lincolnshire has a much higher rate of premature (under 75) mortality than the national rate and the rates of many of our regional neighbours (the NEL rate is 399 per 100,000 population vs a national rate of 330 per 100,000 population and a regional rate of 363 per 100,000 population). As is the case nationally, the under 75 mortality rate for males in NEL (502 per 100,000 population) is substantially greater than the under 75 mortality rate for females (300 per 100,000 population).

Premature (under 75) mortality in NEL is also strongly associated with deprivation. As can be seen in Figure 8, 65% of the variation in the standardised mortality ratios between wards can be explained by deprivation ($R^2=0.65$)⁴. East Marsh is an outlier in the chart, having a much higher standardised mortality ratio than the other wards in the Borough. There are fears of increased premature mortality due to increased deprivation because of the Covid-19 pandemic, given that deprivation and ill health are strongly linked (Gresham College, 2020). However, most Covid-19 related deaths so far reported have been in people over the age of 75.

⁴ R squared (R^2) is the proportion of variation in the dependent variable (in this case the standardised mortality ratio) that is explained by the independent variable (in this case IMD 2019 rank of score).

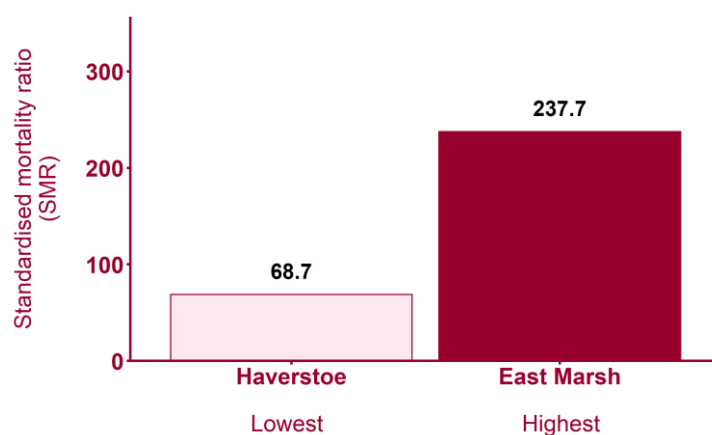
Figure 8: Mortality from all causes (under 75 years, 2013 - 17) in North East Lincolnshire, by ward



Source: Public Health England

Indeed, the Standardised Mortality Ratio (SMR) for under 75 mortality from all causes in East Marsh is more than 3 times greater than the SMR in Haverstoe (Figure 9).

Figure 9: Standardised Mortality Ratio (SMR) for under 75 mortality from all causes (2013-2017) in East Marsh compared to Haverstoe.

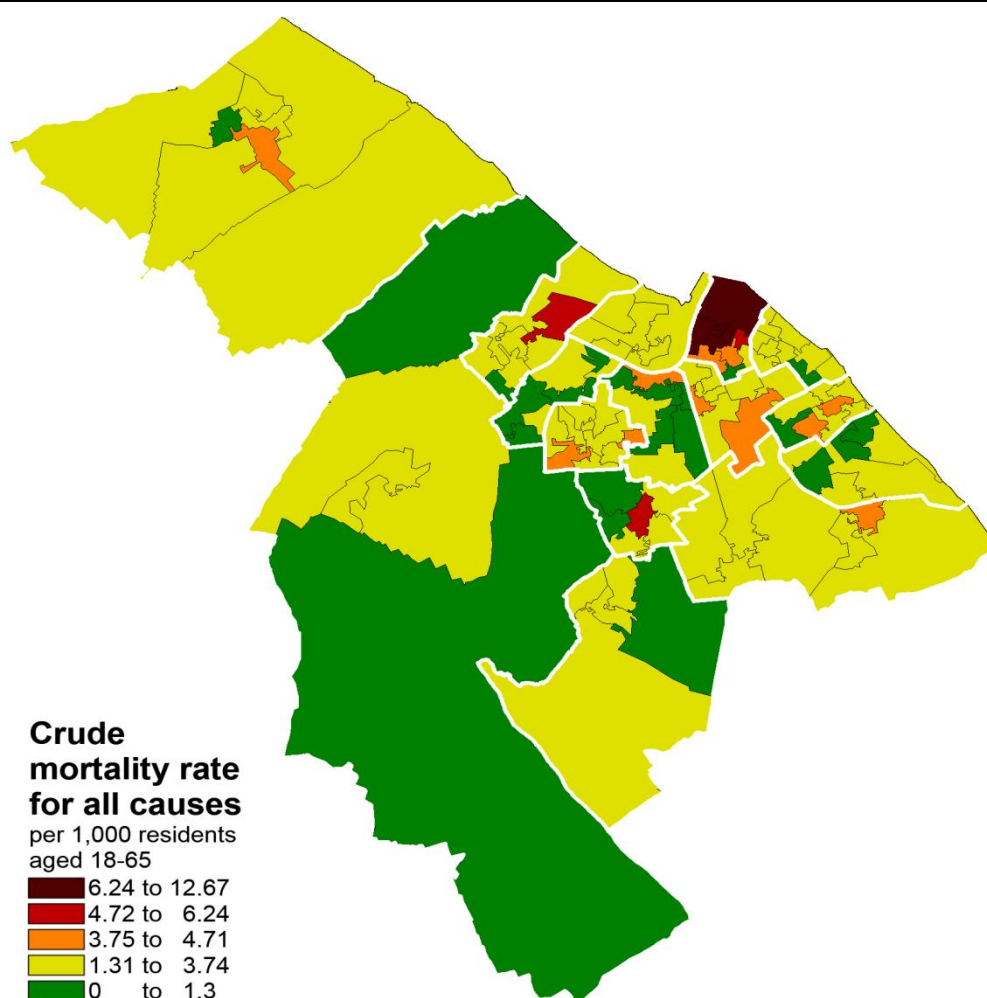


Source: Public Health England

Under 65 mortality

In 2019, an under 65 mortality review was undertaken, which looked at deaths of NEL residents aged between 18 and 65 which occurred in NEL between January 1st 2017 and December 31st 2018. This review identified that East Marsh ward in Grimsby had a Standardised Mortality Ratio (SMR) more than twice as high as all other wards in the borough. Two neighbouring LSOAs within the East Marsh ward, which are among the most deprived LSOAs in the country, were also identified as extreme outliers for under 65 mortality. These communities had greatly inflated rates of cancer, heart disease and respiratory disease as well as deaths linked to alcohol and drug use. This reflects the findings of work carried out in 2016 examining the burden of disease in North East Lincolnshire, which found that in the most deprived quintile, the majority of Years of Life Lost occur before age 65, while in the least deprived quintile it is the opposite (Bentley C et al, 2016).

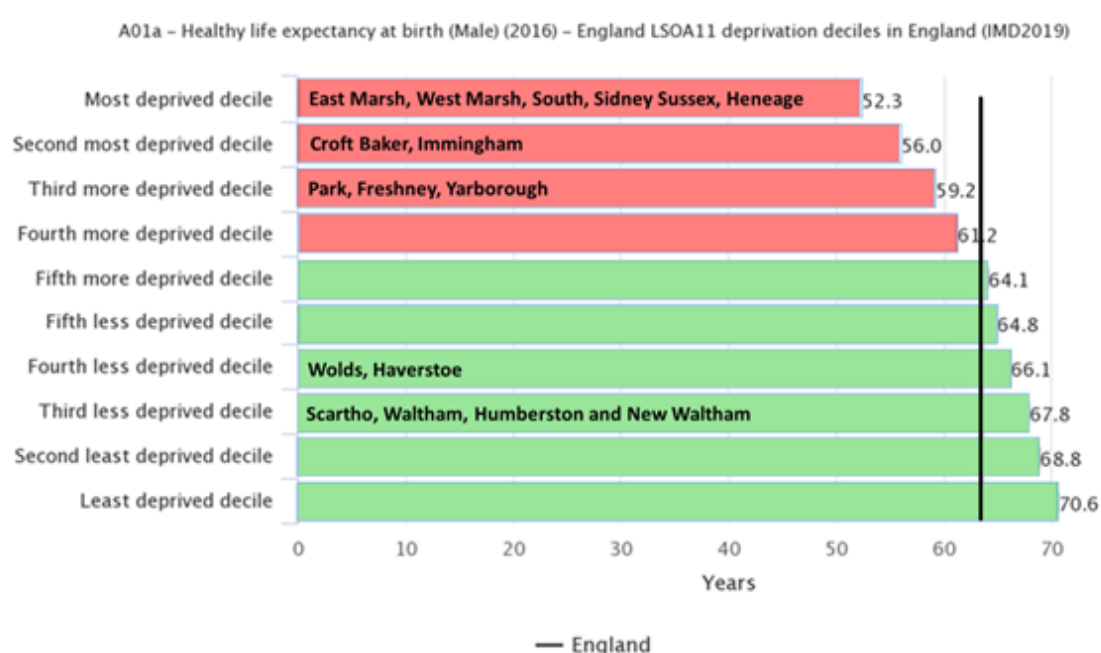
Figure 10: Map of Under 18-65 mortality in North East Lincolnshire, 2017-2018



Healthy life expectancy

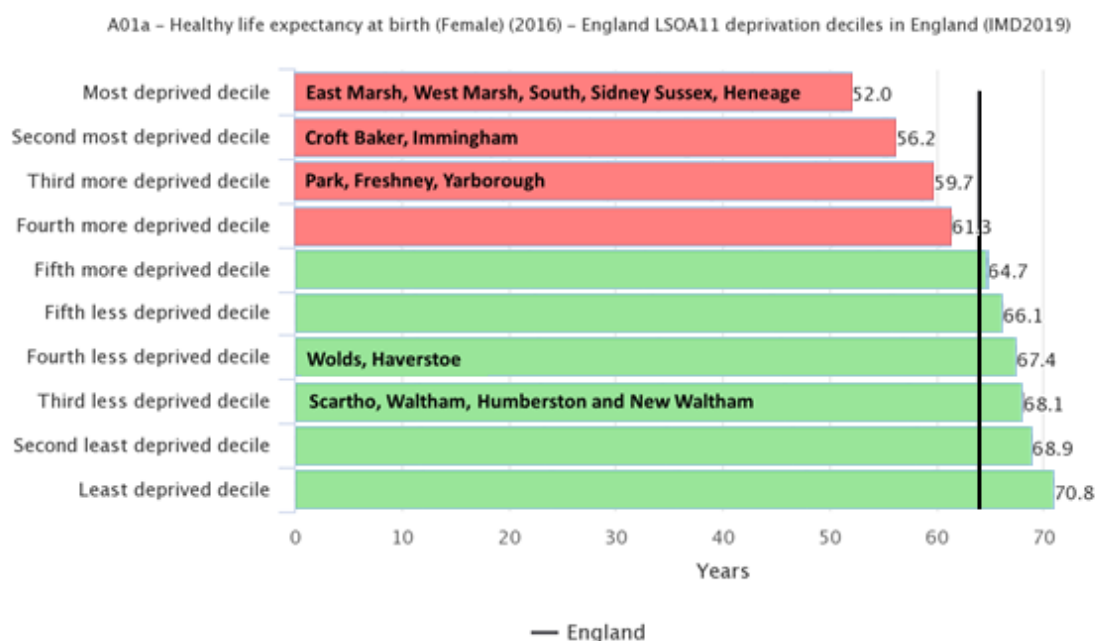
The social gradient in healthy life expectancy is even steeper than that for life expectancy. The slope index of inequality for healthy life expectancy demonstrates that, within England, a male from the most deprived decile born in 2016-18 could expect to live, on average, 18.9 fewer years in good health than a man born in the least deprived decile, and a woman born in the most deprived decile of England in 2016-18 could expect to live, on average, 19.4 fewer years in good health than a woman born in the least deprived decile in the same time period. This means that not only can individuals from more deprived circumstances expect to live shorter lives, but they can also expect to live more of their lives in poor health (Marmot M, 2010). This inequality has implications for the workforce since as can be seen in Figures 11 and 12, on average only those in the least deprived deciles will still be in good health upon reaching retirement age. Additionally, the number of years lived in poor health is increasing in England (Marmot M, 2020) and this expansion of morbidity is likely to have implications for the health and social care system.

Figure 11: Healthy life expectancy at birth for males in England (2016-18), segmented by deprivation deciles.



Source: Public Health England

Figure 12: Healthy life expectancy at birth for females in England (2016-18), segmented by deprivation deciles.



Source: Public Health England

Multi-morbidity

Deprived individuals are also more likely to have the presence of two or more coexisting health conditions, with multi-morbidity strongly related to both age and deprivation. A cross-sectional study using data from medical practices in Scotland found that people living in the most deprived areas had the same prevalence of multi-morbidity as patients living in the most affluent areas who were 10 – 15 years older (Barnett K et al, 2012). This study also found that socioeconomic deprivation was particularly associated with multimorbidity that included mental health disorders (Barnett K et al, 2012). This finding was mirrored locally by work carried out in 2016, which identified that there is a cluster of risks and early multi-morbidity in the most deprived quintile of the Borough and that the onset of multi-morbidity is earlier in deprived communities in NEL (Bentley C et al, 2016)

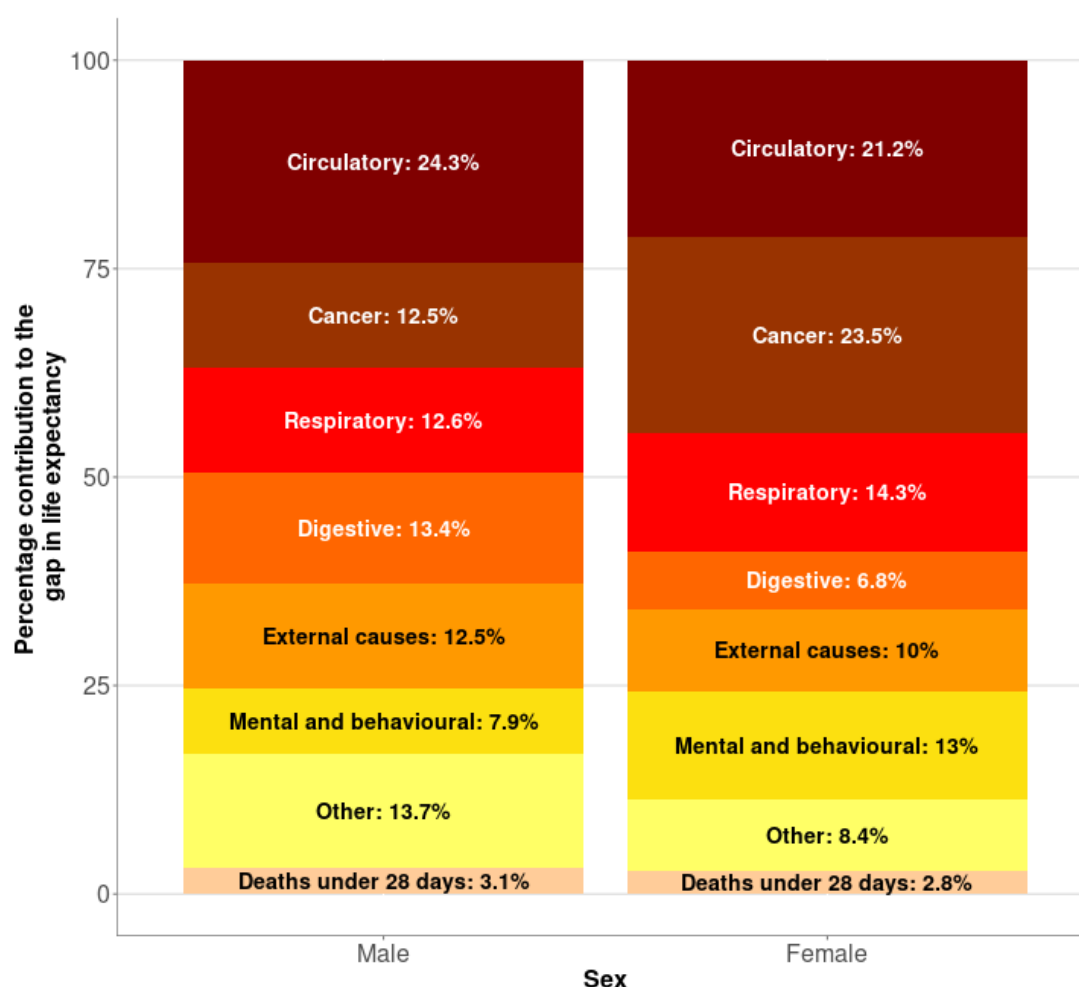
Causes of the life expectancy and healthy life expectancy gaps

The different diseases accounting for the life expectancy gap in North East Lincolnshire can be seen using Public Health England's Segmentation Tool (Figure 13). The most recently available data (2015-17) demonstrates that circulatory disease (heart disease and stroke) accounts for almost a quarter (24.3%) of the life expectancy

gap between males living in the most and least deprived quintiles of NEL, and over one fifth (21.2%) of the life expectancy gap between females living in the most and least deprived quintiles.

In NEL, the premature mortality rate from cardiovascular disease (CVD) is significantly higher than national average (88.2 per 100,000 population in NEL vs a national average of 71.7 per 100,000 population) and as will be shown in section 8, this rate is much higher in the most deprived areas of the Borough. Whilst in the most deprived quintile of the Borough a large proportion of cardiac related years of life lost (YLL) occur before the age of 65, this is only limited to a small number of YLL in the least deprived quintile (Bentley C et al, 2016).

Figure 13: Causes of death contributing to the life expectancy gap between the most and least deprived quintiles of North East Lincolnshire, 2015-2017

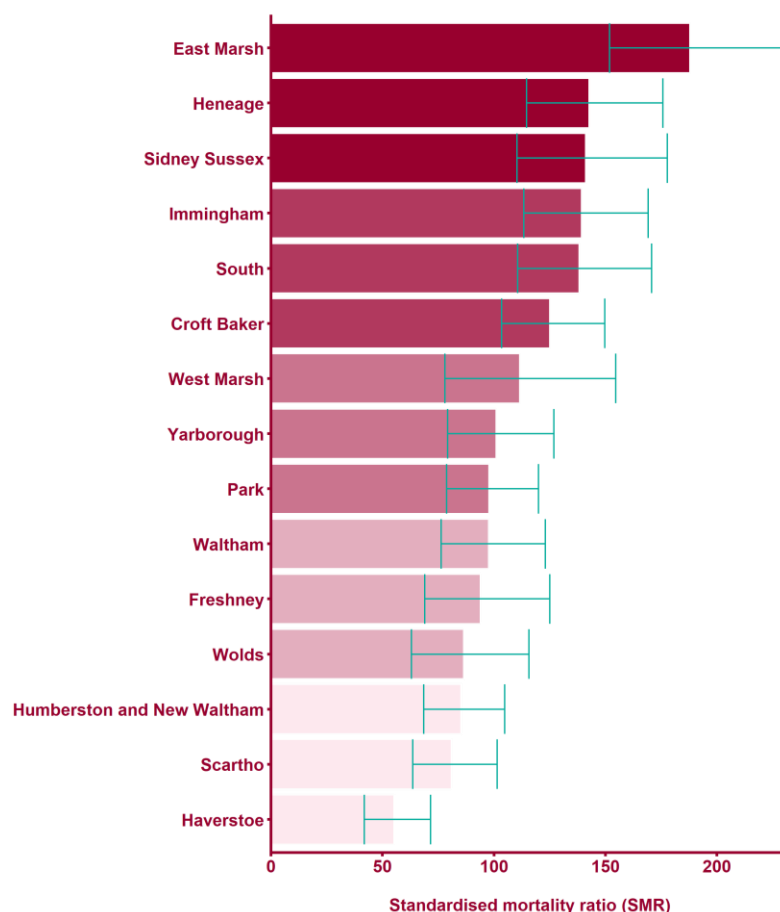


Source: Public Health England: Segment Tool

As can be seen in Figure 13, respiratory diseases account for 12.6% of the life expectancy gap between males living in the most and least deprived quintiles of NEL, and 14.3% of the life expectancy gap between females living in the most and least deprived quintiles of the Borough. As is the case with circulatory diseases, there is an association between deprivation and respiratory related mortality, with many of the

more deprived wards of the borough having much higher standardised mortality ratios⁵ from respiratory diseases than the least deprived wards. Based on 2013-2017 data, East Marsh ward has a standardised mortality ratio more than three times greater than that of Haverstoe.

Figure 14: Standardised mortality ratios of deaths from respiratory diseases (all ages, 2013-17) in NEL, by ward



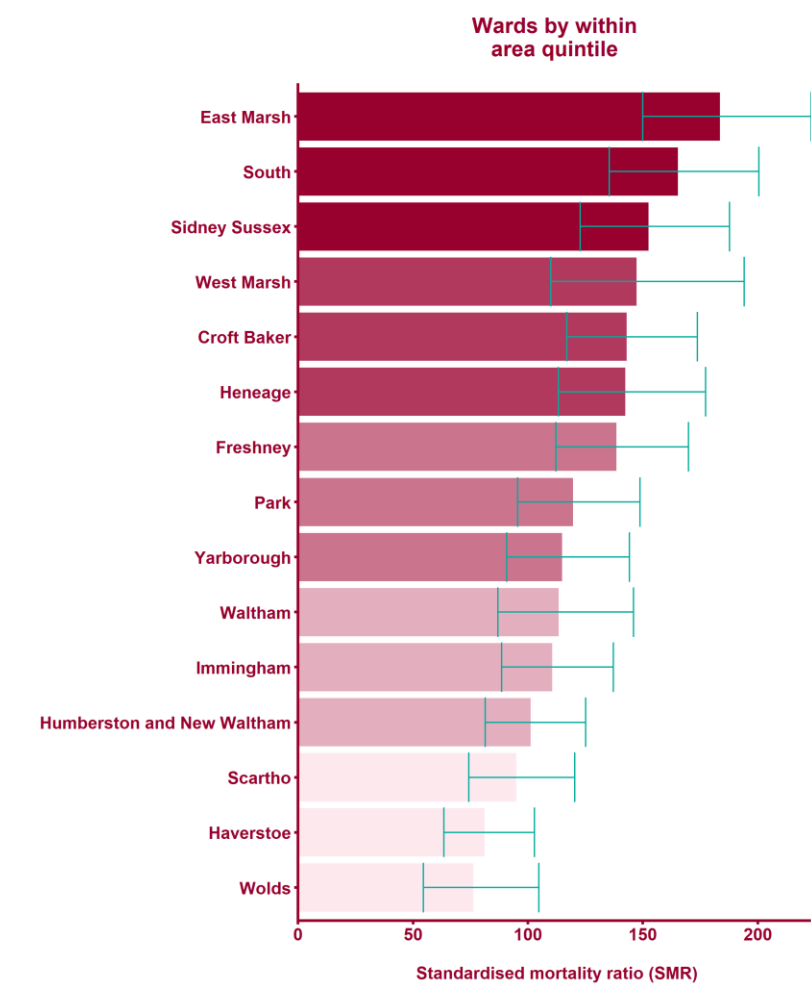
Source: Public Health England

Deaths from all cancers, under 75 years

There is also a clear deprivation gradient to cancer mortality. As can be seen in Figure 15, the most deprived wards of the Borough have significantly higher standardised mortality ratios than the least deprived wards of the Borough. 73% of the variation between wards in the standardised mortality ratio from cancer can be explained by deprivation (R squared=0.73).

⁵ A Standardised Mortality Ratio (SMR) is the ratio of the observed number of deaths in a ward to the number expected if the ward had the same age-specific rates as England.

Figure 15: Standardised Mortality Ratio of deaths from all cancer, under 75 years, by ward (2013 - 17)

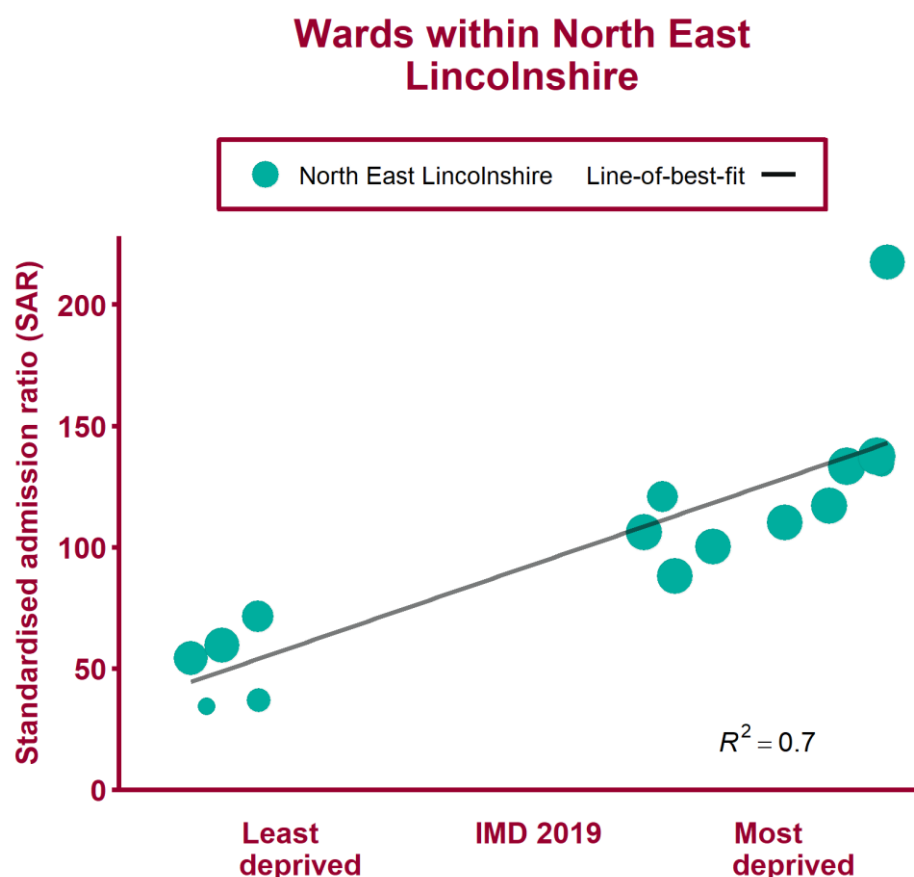


Source: Public Health England

Mental health

Whilst anyone can experience a mental health problem, the distribution of risk factors and protective factors for mental ill-health is not equal within society, and hence the risk of poor mental health is greater for some groups than others (Centre for Mental Health: commission for equality in mental health, 2020). As can be seen in Figure 16, 70% of the variation between wards in the standardised admissions ratios for self-harm can be explained by deprivation. This reflects the findings of the recently completed Mental Health and Wellbeing Needs Assessment, which found that those living in the most deprived parts of NEL were significantly more likely to be admitted to hospital for mental ill-health and for self-harm and that, based on 2012-2016 data, those from the two most deprived quintiles of NEL were more likely to die from suicide.

Figure 16: Standardised admissions ratios (hospital stays) for self-harm (2013/14 - 2017/18) by ward.



The 2018 Mental Health and Wellbeing Needs Assessment also found that children from the most deprived areas of North East Lincolnshire had a lower mental wellbeing score than those living in the least deprived areas. Additionally, this needs assessment identified vulnerable children as being at particularly high risk of mental health problems, with these vulnerabilities often persisting into adult life.

Real Time Surveillance of suspected suicides in NEL in 2020 revealed the presence of factors such as unemployment, housing (such as living in temporary accommodation), domestic abuse and contact with the criminal justice system, which are all more common in the deprived population. There are also gender differences in suicide which are particularly pronounced in North East Lincolnshire. During the period of 2012 to 2016, the male suicide rate in NEL was over five times higher than the female suicide rate, compared to nationally (2014-2016) where the male rate is three times higher than the female rate. In 2020, the difference in the suicide rate between males and females decreased in North East Lincolnshire; however, at this stage it is not possible to say whether this is linked to the Covid-19 pandemic or whether it will be a sustained change.

A rapid Covid-19 health needs assessment was carried out in June 2020 during which many local services noted the effect of the pandemic on mental health. Navigo

reported that acute admissions inpatients to mental health services were presenting as increasingly unwell with increasing length of stay. Likewise, Young Minds Matter also reported seeing more complex, and less low – level cases. It was also found that over half of all calls to the wellbeing centre (including calls diverted from NELC call centre and calls sent through from the Navigo 24 hour helpline) were directly recorded as being due to Covid-19 and the associated lifestyle restrictions. Furthermore, Covid-19 is likely to have widened mental health inequalities locally since the burden of risk factors for poor mental health during the pandemic falls most heavily on disadvantaged groups (Centre for Mental Health, 2020) (Harkins C, 2020). Evidence that this is the case locally is described at the end of section 7.

Inequalities in alcohol and substance related mortality and morbidity

Alcohol related mortality and morbidity is a significant issue in NEL. The alcohol-specific mortality rate in NEL (Figure 17)(which accounts for deaths which have been wholly caused by alcohol consumption) has been significantly higher than the national rate for many years, and currently stands at 15.7 per 100,000 population compared to a national rate of 10.8 per 100,000 population (2016-2018 data). NEL currently has the highest alcohol-specific mortality rate of all authorities in the Yorkshire and Humber region. This likely indicates that there is a significant population in NEL who have been drinking heavily and persistently (Public Health England, 2019).

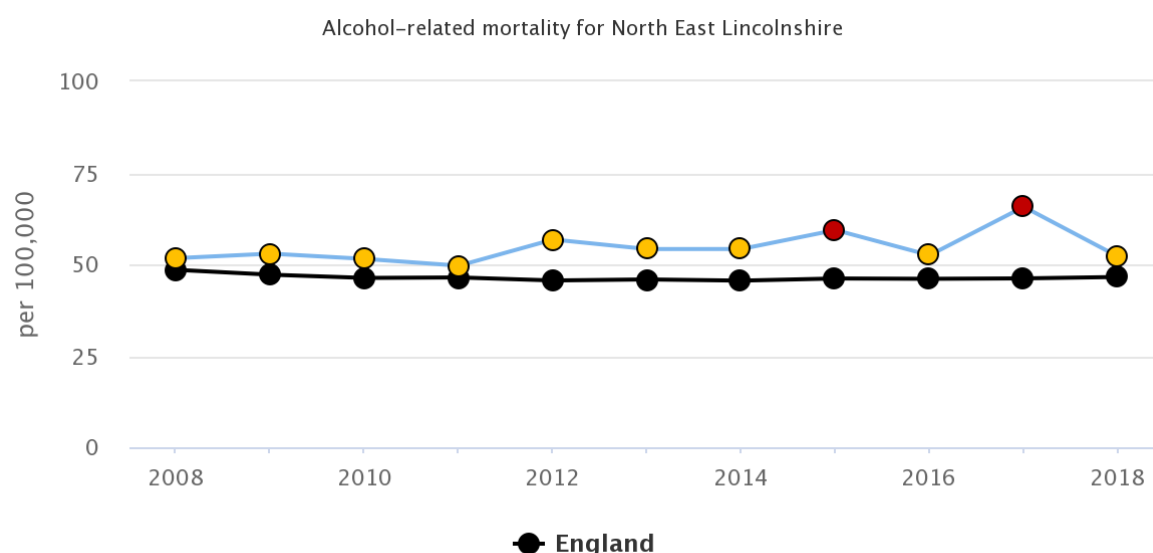
Figure 17: Alcohol-specific mortality in North East Lincolnshire, 2006-08 to 2016-18



Source: Public Health England

Deaths from conditions partially related to alcohol are measured as 'Alcohol-related mortality'. Roughly two thirds of these deaths are from chronic conditions such as cardiovascular disease and cancer, with the remainder caused by acute consequences such as road traffic accidents (Public Health England, 2019). The alcohol-related mortality rate in NEL (Figure 18) is 52.2 per 100,000 population (2018 data) compared to a national rate of 46.5 per 100,000 population.

Figure 18: Alcohol-related mortality in North East Lincolnshire, 2006-08 to 2016-18

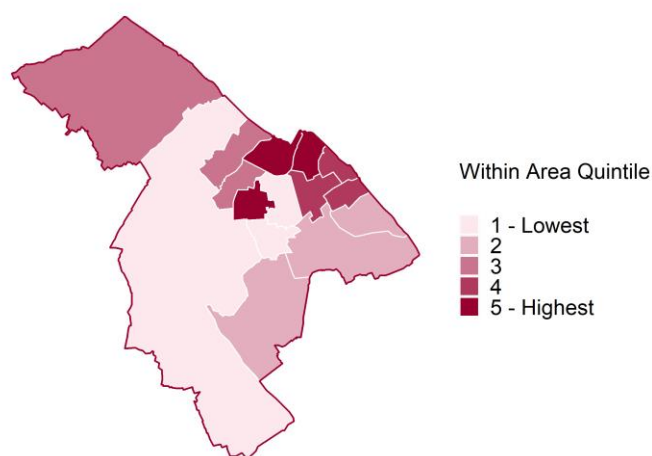


Source: Public Health England

Alcohol is a major cause of premature mortality in the Borough (North East Lincolnshire Council, 2019). Years of life lost (YLL) due to alcohol-related conditions indicate the contribution of alcohol misuse to premature death and are influenced both by the number of deaths and the age at death since deaths at a younger age accrue higher YLL (Bentley C et al, 2016). For men in NEL, it is estimated there are 1,064 YLL due to alcohol-related conditions per 100,000 population, and for women in NEL it is estimated that there are 402 YLL due to alcohol-related conditions per 100,000 population. As is the case nationally, this reflects a higher level of harmful drinking among men compared to women overall.

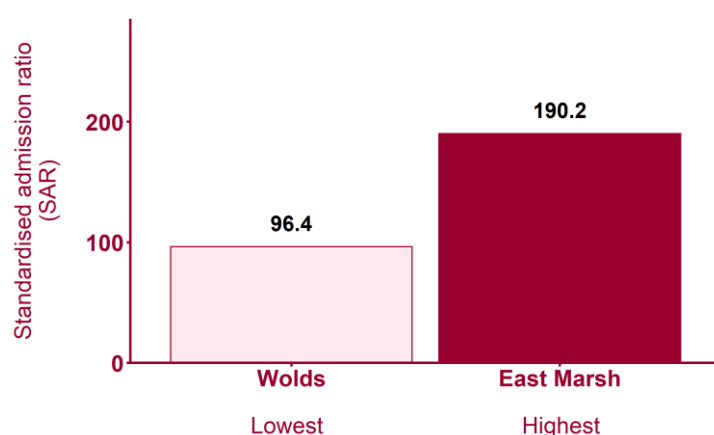
Alcohol-related morbidity and mortality in NEL is also clearly associated with socioeconomic inequality. The more deprived areas of the borough experience higher rates of alcohol attributable deaths than the least deprived areas of the Borough. As can be seen in the graphs below, the standardised admissions ratios for alcohol related hospital stays (both broadly and narrowly defined) are greater in the more deprived wards of the Borough, with the highest standardised admissions ratios in the East Marsh, followed by South ward and West Marsh.

Figure 19: Hospital stays for alcohol-related harm, broad definition (2013/14 - 2017/18), by ward.



Source: Public Health England

Figure 20: Standardised Admission Ratios for hospital stays for alcohol-related harm (broad definition) in East Marsh compared to Wolds (2013/14 - 2017/18)



Source: Public Health England

National evidence suggests that lockdown has had a particular impact on the alcohol intake of those already drinking at higher-risk levels; in a survey coordinated by Alcohol Change, heavier drinkers were more likely to report that they had increased the amount of alcohol they drank during lockdown (Alcohol Change, 2020). This survey also found that current and former drinkers from Black, Asian and minority ethnic (BAME) backgrounds were more likely than white people to agree that during lockdown they had drunk alcohol to handle stress or anxiety (29% compared to 18%) (Alcohol Change, 2020).

The Covid-19 rapid health impact assessment for North East Lincolnshire, completed in September 2020, found anecdotal evidence of an increase in alcohol use (including an increase in alcohol use amongst parent carers) during the first lockdown. There are local reports of people who were previously at work during the day developing addiction due to having more time to drink at home. Another group are people who have lost their jobs so are no longer able to afford to drink and are going through detoxification / self-detoxification a lot quicker and more unsupervised than is advisable. The local Carer's Centre echoed these insights and reported that many of those cared for had been more chaotic in terms of their alcohol and drug use, whilst others had gone the other way and stopped use immediately, causing dangerous adverse effects such as hallucinations. Despite this anecdotal evidence, referral numbers to We Are With You did not evidence this. Given that national evidence suggests that 4 in 5 of those with alcohol dependence were not receiving treatment pre-Covid-19 (Alcohol Change, 2020) it can be speculated that the Covid-19 pandemic could have increased this unmet need. Indeed, during Alcohol Awareness Week (16-22 November 2020) social media work by We Are With You reached 17744 people and had 220 engagements which highlights a current interest among the local public around safer alcohol use, although it is unclear whether this directly relates to Covid-19.

Although the extent of the effect of Covid-19 on those who are in treatment for alcohol and other drug use is not yet known, preliminary data shows a possible rise in deaths of those in treatment (Please note these are not necessarily deaths due to acute or chronic effects of drugs/alcohol, they could be for unrelated reasons). It is therefore important that we are mindful of the vulnerability of this cohort when considering forward planning.

Substance misuse

The under 65 mortality review identified that in NEL, substance misuse impacts across the life course from young adulthood to later middle age, and substances were identified to be the leading cause of death for the 18-44 age group during 2017-2018 and were identified as a significant factor in 74 deaths under the age of 65 over a two-year period. Chronic, long term alcohol misuse was the biggest cause of substance related mortality overall, being the main factor in 37 of these deaths. Further work was undertaken during 2020 in partnership with a local GP, the CCG, NLaG and other partners to explore the patient journeys of people who died prematurely from chronic alcohol abuse. This highlighted the following:

- Many had experienced a decline over many years with increased number of attendances ("frequent flyers") in primary care and admittance to hospital for a range of medical conditions or acute alcohol/mental health episodes.
- Relationship breakdown and job loss often associated with the decline.

- Some also had safeguarding issues in their backgrounds.
- Patients were often reluctant to identify that they have alcohol issues (and alcohol diagnosis often were only made when they had irreversible liver disease)
- Often difficult to find a record of referral to substance misuse and mental health services- lack of co-ordination of care.
- Need to increase knowledge in health services and other services about the range of services for alcohol that are available.
- Lack of end-of-life planning.

Following this an event was undertaken with local GPs to heighten awareness of opportunities to intervene earlier in alcohol related illness. Recognising that there will be growing demand on alcohol services associated with the Covid-19 pandemic, public health will be investing in alcohol work over the next two years to ensure that we can meet the growing need, including hidden need and to join up work across a range of primary, secondary, and preventive services.

Although risky behaviours, such as substance misuse and smoking, often cluster together in deprived communities, it is too easy to blame individuals for their experience of ill-health. As will be discussed in the next section of this report, and as is summed up by Eugene Milne, *'Behaviours matter, but behaviours are shaped by environments, environments are shaped by societal choices and a key channel for those choices is local government'* (Milne E, 2019).

Inequalities for disadvantaged groups

The Rough Sleepers' Needs Assessment, conducted in 2019, demonstrated that the prevalence of many physical and mental health conditions is likely to be much higher amongst rough sleepers than the general population (Wilcockson C, 2019). The needs assessment also highlighted barriers to accessing services and preventative healthcare for this group.

National evidence demonstrates that excluded groups are at an increased risk of acquiring Covid-19, and that guidance in many cases has failed to consider the life circumstances of people in vulnerable situations (Doctors of the world, 2020). For example, certain vulnerable groups need to go outside frequently to obtain income. As sex work is criminalised in the UK, sex workers have been unable to access the support, payment, and protections available to others who have experienced a loss of income due to the Covid-19 pandemic, meaning that sex workers without access to government support have reported continuing to work in order to obtain an income (Doctors of the world, 2020). Indeed, there is evidence locally that some women have returned to sex work after a period of absence from this line of work due to financial pressures as a result of the Covid pandemic.

For those with drug or alcohol addictions, going out to access their addictive substances or prescriptions is necessary to avoid withdrawal, and for those whose baseline health is already poor it can be difficult to identify the symptoms of Covid-19 (Doctors of the world, 2020).

Recommendations

- Develop a partnership investment plan for each area of growing need in light of the Covid-19 pandemic (such as domestic abuse, alcohol and smoking services).
- Encourage the use of the Population Health and Outcomes approach in tackling health inequalities across the lifecourse, including the use of Population Health Management tools currently being piloted in the local NHS.
- Each Primary Care Network should identify a leadership role with regards to the implementation of the NHS Phase 3 inequalities plan for their population and should explore the potential resourcing of work on health inequalities within the new ICS/NHS organisation.
- Develop a model of outreach in collaboration with Primary Care Networks and other partners to support communities to make use of preventative support. This should include a focus on maximising the uptake of preventative measures, such as vaccinations, by the homeless population.
- Build on the work with rough sleepers that has gone well during the Covid-19 pandemic, such as sustaining rough sleepers in their accommodation.

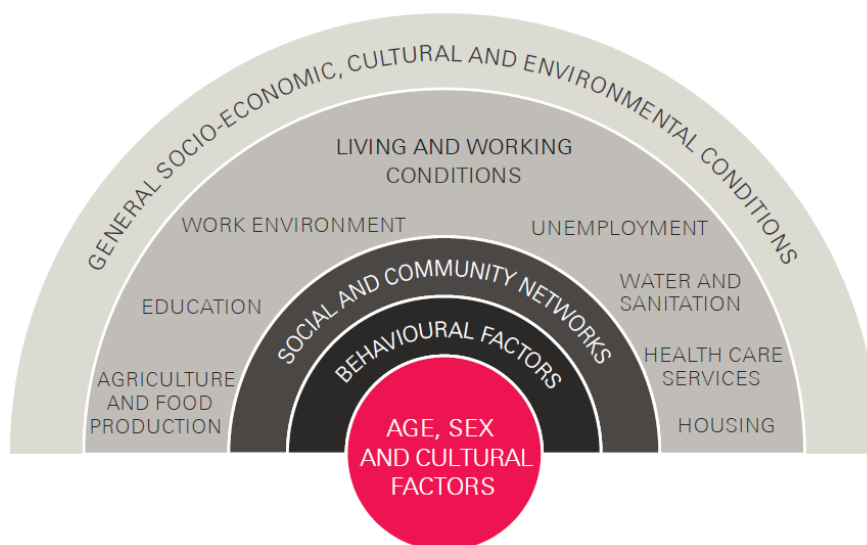
8. Explaining health inequalities: the social determinants of health

It is sometimes viewed that good health is solely the absence of illness, achieved mostly through healthcare and individual choice (World Health Organisation and UCL Institute of Health Equity, 2014). However, healthcare is only responsible for between 15 - 43% of health outcomes, and choices over unhealthy behaviours are hugely influenced by life circumstances (Institute of Health Equity, 2017). So rather than being the root causes of poor health, these unhealthy behaviours are often the result or 'coping mechanism' of a disadvantaged life (The Health Foundation, 2018).

The social determinants of health

A healthy society has been described as one that does not wait for people to become ill, but which recognises how health is shaped, and acts. The factors which most significantly shape our health are the conditions in which we are born, grow, live, work and age (The Health Foundation, 2018) (Institute of Health Equity, 2017). These are known as the 'social determinants of health' and are nicely visualised in Dahlgren and Whiteheads model shown in figure 21 (The Health Foundation, 2018).

Figure 21: Dahlgren and Whitehead model of The Social Determinants of Health. Image taken from (The Health Foundation, 2018): What makes us healthy? An Introduction to the Social Determinants of Health.



Health inequalities largely arise from differences in the social determinants of health, with those of lower socioeconomic position often experiencing disadvantage. This was highlighted by Professor Sir Michael Marmot in his 2010 report "Fair Society, Healthy Lives" (Institute of Health Equity, 2017) (The Health Foundation, 2018).

The social determinants of health affect us during every stage of life (World Health Organisation and UCL Institute of Health Equity, 2014) causing both immediate health effects as well as impacting on our health later in life (World Health Organisation,

2010). For this reason, a life course approach will be taken below to demonstrate how socioeconomic differences play out in terms of producing inequalities in health and wellbeing in NEL.

Life course approach to the social determinants of health

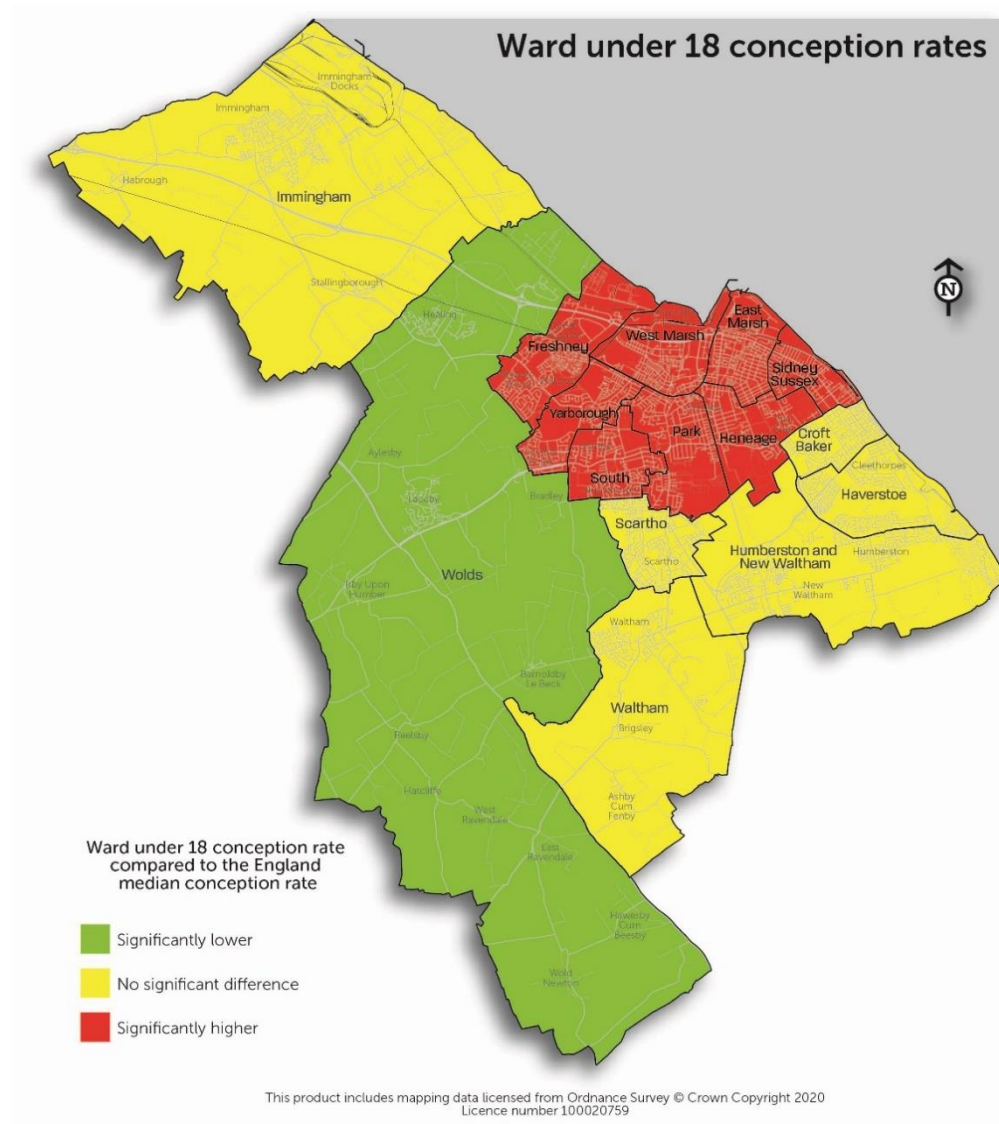
Before birth – Inequalities start early and accumulate across the life course, meaning that action to reduce health inequalities must start before birth and continue throughout the life of a child (Marmot M, 2010).

A good start to life begins with the mother being able to make reproductive choices, being healthy during pregnancy, and giving birth to a baby of healthy weight (World Health Organisation and UCL Institute of Health Equity, 2014). However, health behaviours and life choices are significantly influenced by life circumstances (Institute of Health Equity, 2017) and babies born in deprived areas are more likely to have a health disadvantage even before they are born.

One example is the variation in teenage pregnancy rates between different areas of NEL. Teenage pregnancy carries a risk of poor outcomes, including low birth weight, sub optimal development, child poverty, and poor maternal mental health (North East Lincolnshire Council, 2020). Two of the most deprived wards (East Marsh and West Marsh) of the Borough had significantly higher under 18 conception rates than the NEL median in 2018, and two of the least deprived wards (Wolds, and Humberston and New Waltham) had rates which were significantly lower. Figure 22 shows whether the under 18 conception rate was below, equal to or above the England average for each ward of NEL in 2016-18.

Figure 22: Teenage pregnancies in North East Lincolnshire (NEL): Map showing whether under 18 conception rates are significantly lower (green), significantly higher (red), or not significantly different (yellow) to the England median conception rate

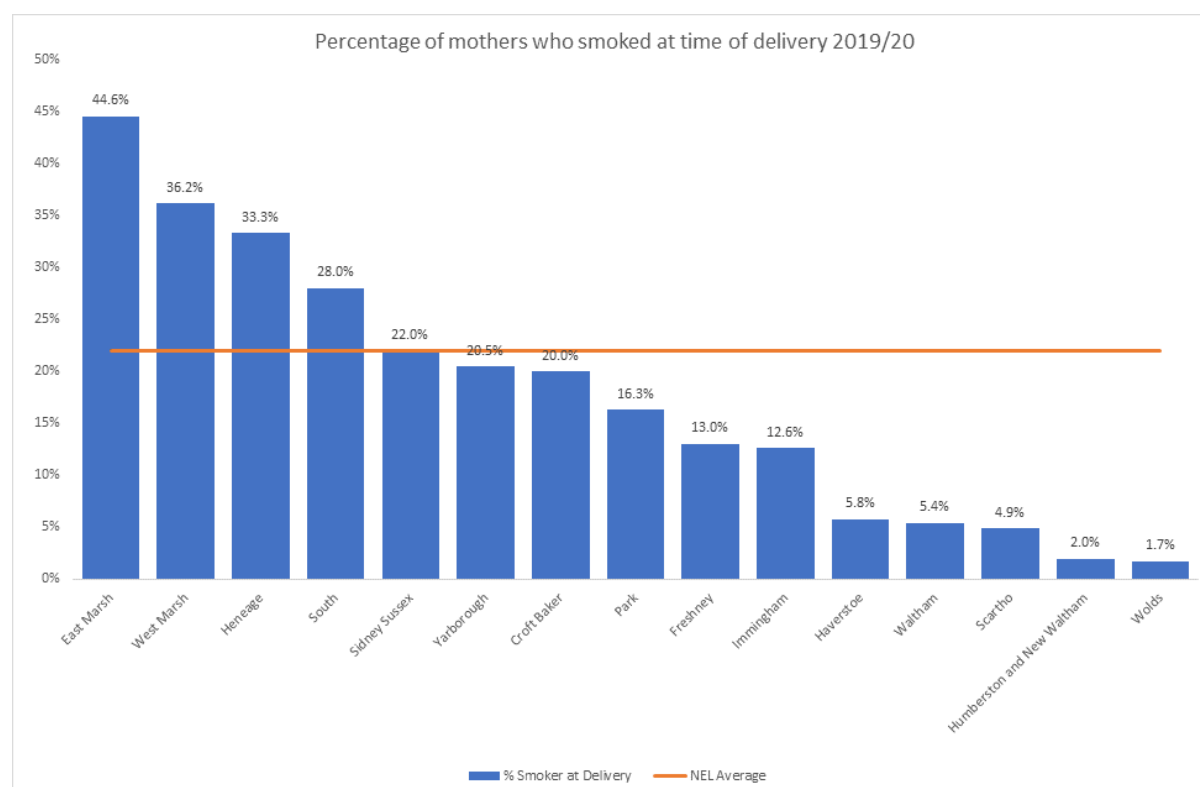
(2016-18) for each NEL ward. Image taken from (North East Lincolnshire Council, 2020).



Another example of a health inequality existing before birth is related to smoking during pregnancy, which increases the risk of miscarriage, stillbirth, low birth weight, prematurity, congenital abnormalities, and childhood illness (North East Lincolnshire Council, 2020) (Royal college of paediatrics and child health, 2017). There are socioeconomic differences in the prevalence of smoking during pregnancy which can be visualised in figure 23. For example, in 2019/20, 44.6% of pregnant women in the East Marsh smoked during pregnancy compared to just 1.7% in Wolds ward (Northern Lincolnshire and Goole Hospitals Trust). Health inequalities in relation to smoking during pregnancy have widened over time in NEL, as while smoking prevalence has fallen considerably in the last few decades, the fall has been smaller in the more deprived areas of the Borough, leading to the substantial differences between wards in the smoking at the time of delivery rate seen in figure 23.

Finally, maternal obesity also carries similar risks as smoking. In 2018/19 over a third of pregnant women were classed as obese in NEL when they booked with maternity services, with obesity also being more common in the deprived population (North East Lincolnshire Council, 2020).

Figure 23: Socioeconomic differences in smoking during pregnancy in North East Lincolnshire. 2019/20, data source: Northern Lincolnshire and Goole Hospitals Trust.

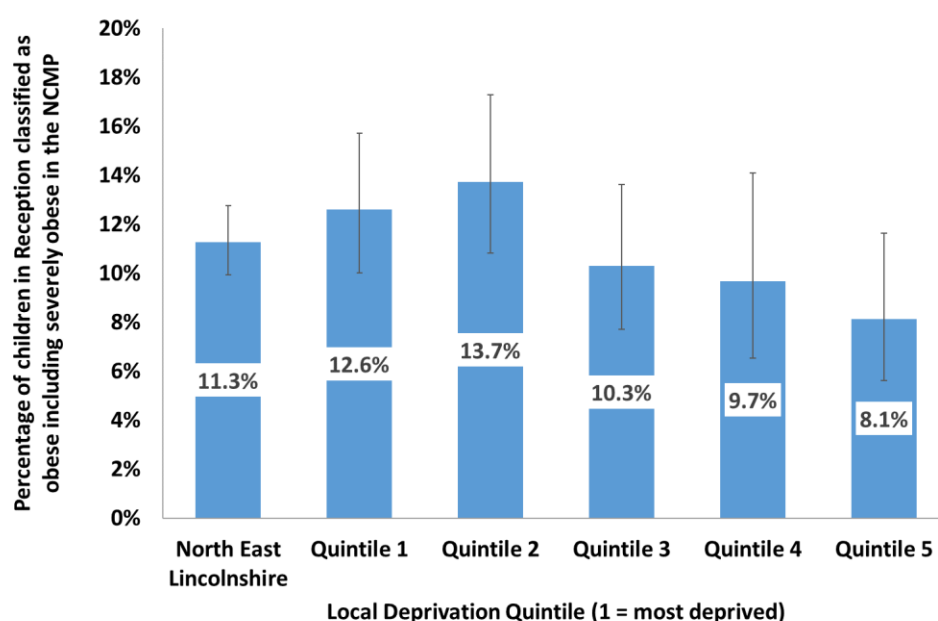


Early childhood – As well as a healthy pregnancy, a child’s earliest years (especially the first 3 years) lay the foundation for health and wellbeing throughout life. Inequalities during these years result in lifelong impacts (Institute of Health Equity, 2020) (World Health Organisation and UCL Institute of Health Equity, 2014).

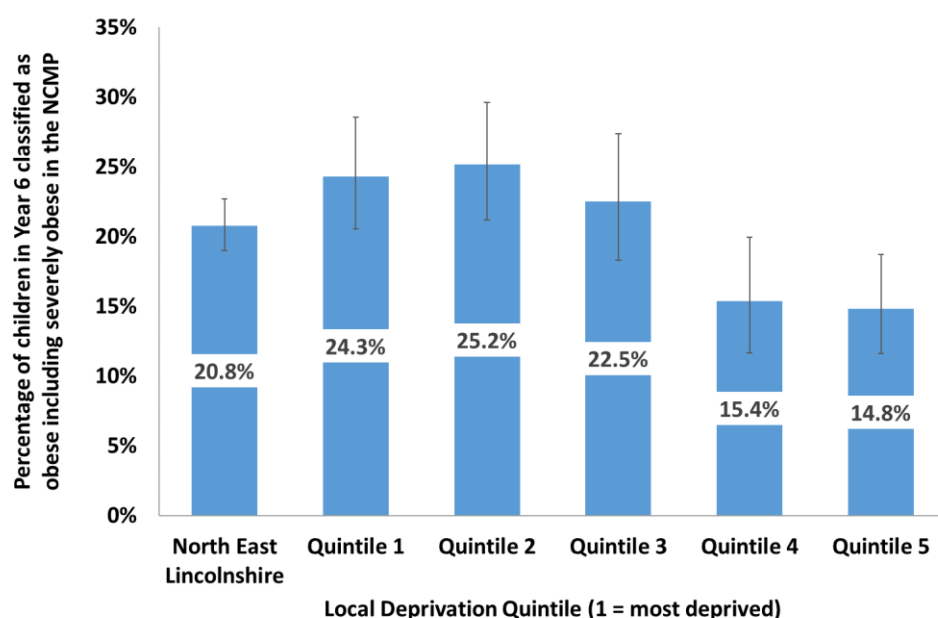
Healthy behaviours are important for optimal development however these are influenced by socioeconomic position. For example, some of the more deprived wards of NEL have fewer children’s play areas, which will impact on physical activity and social cohesion. A poor diet is also more common in deprived populations (World Health Organisation and UCL Institute of Health Equity, 2014) and children living in East Marsh, West Marsh, Immingham, South and Heneage wards are all more likely to have tooth decay and to be obese at age 5 (North East Lincolnshire Council, 2020). Socioeconomic differences in obesity also exist in NEL which are demonstrated in Figure 24 below.

Figure 24: Analysis of child obesity prevalence by deprivation quintile, based on National Child Measurement Programme 2017-18 data for Reception and Year 6: Graphs are taken from the 2019 report: Observations on obesity across the life course in North East Lincolnshire, June 2019

Percentage of children aged 4-5 years (Reception) classified as obese including severely obese, NEL deprivation quintile (1 = most deprived).



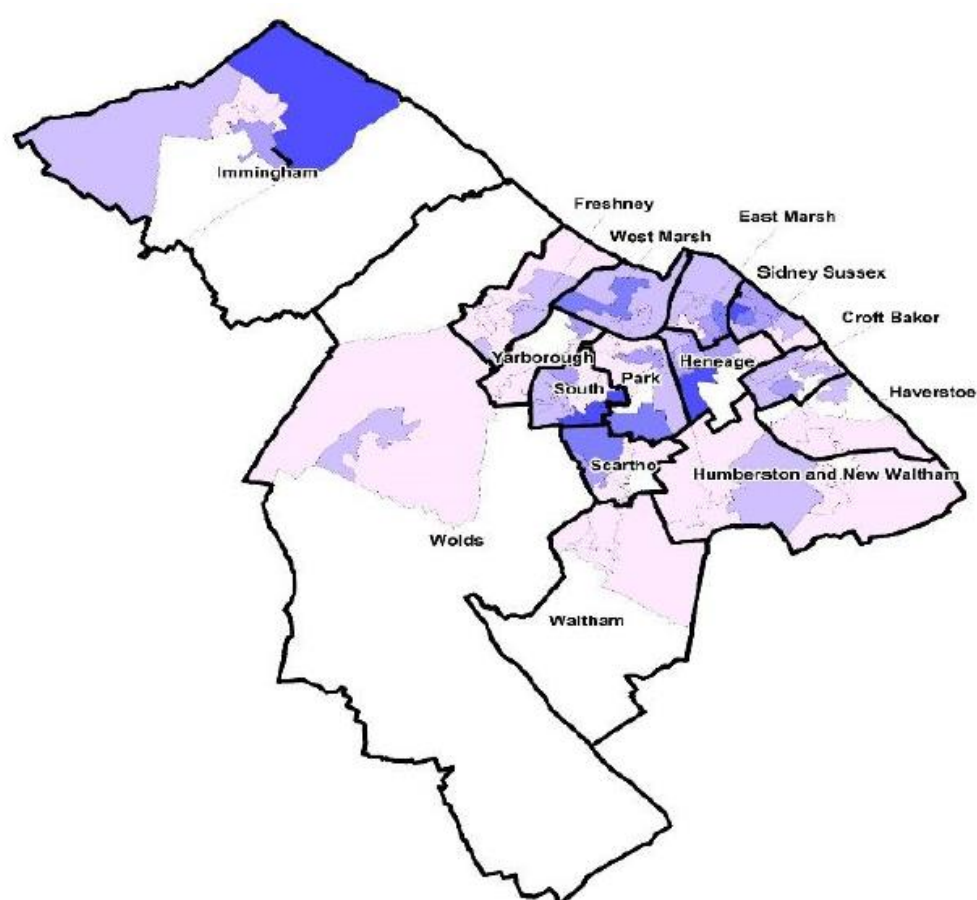
Percentage of children aged 10-11 years (Year 6) classified as obese or severely obese, NEL deprivation quintile (1 = most deprived).



Good child development also requires loving, responsive, nurturing and stimulating environments and relationships (World Health Organisation and UCL Institute of

Health Equity, 2014). However parental capacity is strongly influenced by the family's life circumstances (Institute of Health Equity, 2020). As a result, children born into higher levels of deprivation have a much greater risk of speech, cognitive, intellectual, emotional, and behavioural impairments which are already recognisable in the second year of life (Institute of Health Equity, 2020) (World Health Organisation and UCL Institute of Health Equity, 2014). Figure 25 highlights this, demonstrating the geographical inequalities in the development of speech, language and communication skills among children aged 2 – 2.5.

Figure 25: % of children not achieving expected level of speech language and communication at age 2-2.5 in 2018. Image taken from (North East Lincolnshire Council, 2020).



These inequalities generally track forward and impact on whether the child achieves a good level of development (GLD) at reception age (Institute of Health Equity, 2017). A GLD indicates that the child is ready for school and has potential for achieving good educational and employment outcomes in the long term (North East Lincolnshire Council, 2020). In 2017/18, 70% of reception children in NEL, but only 58.4% of those with Free School Meal (FSM) status, achieved a GLD. Geographically, children living in the more deprived areas of NEL are less likely to achieve a GLD, with Heneage (43.2%) and Sidney Sussex (47.7%) having the lowest level of children achieving a GLD compared to Humberston and Waltham (72%).

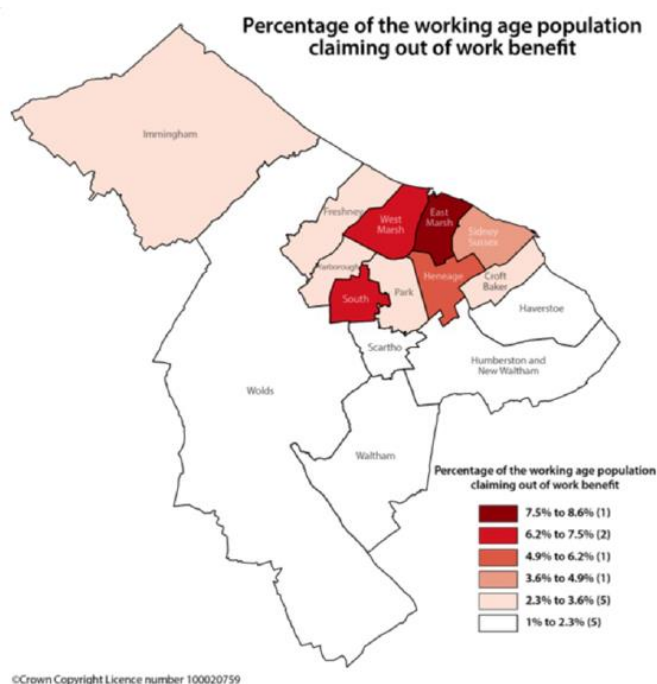
Later childhood / adolescence – Unfortunately, the socioeconomic differences regarding GLD achievement at reception age generally widen as children progress through school (North East Lincolnshire Council, 2020) (Institute of Health Equity, 2020) (University of Liverpool and Centre for local economic strategies, 2014). In NEL, GCSE pass rates for English and Maths were only 36.6% for children eligible for free school meals, compared to 64% for those who were not (North East Lincolnshire Council, 2020). There are also socioeconomic inequalities in the risk of being involved in youth crime and being excluded (Institute of Health Equity, 2020). This leads to socioeconomic inequalities in long term employment prospects, impacting on lifelong health and wellbeing (Institute of Health Equity, 2020) (University of Liverpool and Centre for local economic strategies, 2014).

Since adolescents are still undergoing neurological development, a nurturing and supportive environment remains crucial (World Health Organisation and UCL Institute of Health Equity, 2014). This helps to build confidence, self-esteem, and resilience, and can also result in better life choices, reflecting on physical and mental health (World Health Organisation and UCL Institute of Health Equity, 2014). However deprived individuals may be less likely to have a nurturing and supportive environment. In our Children and Young people's mental health and wellbeing needs assessment, it was found that those living in the most deprived areas of NEL were far more likely to report poor mental health, have a severe mental illness, and to be admitted to hospital for mental illness or self-harm.

The 2019 Adolescent Lifestyle Survey (ALS) also revealed that deprived children were more likely to have poor health behaviours. The more deprived wards (East Marsh and Heneage) had the lowest proportion of young people who reported eating 5 or more portions of fruit and veg a day. The highest proportions of young people who did not take part in a sports club or organised physical activity out of school were also found in the more deprived wards (South, West Marsh, and East Marsh).

Adult / Working life – Those with lower socioeconomic position are more likely to have had a poor start in life, leading to fewer qualifications/skills and a much higher risk of low income, poor quality work, or unemployment (Institute of Health Equity, 2017). Unemployment and low paid work contribute significantly to poor physical and mental health outcomes (University of Liverpool and Centre for local economic strategies, 2014) (Institute of Health Equity, 2017) (The Health Foundation, 2018) (Institute of Health Equity, 2020) and as demonstrated in figure 26, unemployment is strongly associated with deprivation in NEL.

Figure 26: Map of North East Lincolnshire comparing the proportion of the working age population claiming out of work benefits across different wards. Image is taken from the North East Lincolnshire Council Director of Public Health Annual Report 2017.



Good quality work offers financial security and influences housing, neighbourhood, and other material resources (The Health Foundation, 2018) (World Health Organisation and UCL Institute of Health Equity, 2014) (Institute of Health Equity, 2017). The 2019 Director of Public Health's Annual report found that the more deprived wards contain much of the poor-quality housing in the borough as well as having poorer overall local environmental quality. Indeed, the 2017/18 'Our Place, Our Future' survey revealed that residents from more deprived areas of NEL were more likely to report that their housing or neighbourhood had negatively impacted themselves or their children.

Good quality work also contributes to psychological needs such as social support and self-esteem. In contrast the living circumstances associated with disadvantage, and the feelings associated with having a 'low status', can result in poor mental health and psychosocial stress (The Health Foundation, 2018) (World Health Organisation and UCL Institute of Health Equity, 2014) (Institute of Health Equity, 2017). As already described in section 6, there are significant mental health inequalities locally. The 2018 Mental Health and Wellbeing Needs Assessment found that those living in the two most deprived quintiles of NEL were almost twice as likely to report a negative impact of mental health on their life in the previous 12 months compared to those who live in the least deprived quintile. Psychosocial stress can also contribute to high cholesterol, high blood pressure, and heart disease (Institute of Health Equity, 2017) (Lewer D et al, 2020).

Someone living under stress and deprivation is more likely to develop poor health behaviours (such as smoking, lack of exercise, poor diet, drugs, and alcohol) either for ease or as a coping mechanism (Institute of Health Equity, 2017). The socioeconomic gradient in alcohol mortality and hospital admissions for alcohol-related harms has already been described in section 6. In addition, those living in the

most deprived wards are more likely to be admitted to hospital for drug-related conditions and are most at risk of dying from a drug related cause (NELC, 2017).

Finally, social determinants such as crowded housing, family debt, and poor mental health can create strain on adult family life which is known to cause further stress and poor health. Indeed, the highest proportion of Children's Services referrals relating to domestic abuse between April and June 2020 came from the more deprived wards (East Marsh, South, West Marsh and Yarborough) and the lowest proportion of referrals came from the least deprived wards (Wolds, Haverstoe, Humberston and New Waltham, and Scartho wards) (NELC, 2020).

The period covered by employment/ working years also often covers the years when people are raising families, and so is an important period for the transmission of inequities to the next generation (Institute of Health Equity, 2020).

Elderly: Inequities in older people's health and wellbeing arise largely from differences in conditions experienced and accumulated earlier in life (such as educational attainment, occupational status, wealth, and income) (World Health Organisation and UCL Institute of Health Equity, 2014). For example, poor educational attainment is associated with an increased risk of cognitive decline and dementia in old age (Institute of Health Equity, 2017). Furthermore, poor health behaviours and material deprivation experienced throughout life, which are more common in the more deprived population, can lead to multimorbidity during old age. We have seen in section 6 of this report that the onset of multi-morbidity is earlier in more deprived populations.

However, inequalities in current living conditions and experiences in older age are also important (World Health Organisation and UCL Institute of Health Equity, 2014). In particular, the sense of feeling valued and included by society and being able to live life with dignity is important for older people (World Health Organisation and UCL Institute of Health Equity, 2014). Social isolation and loneliness become more common during old age, and loneliness is associated with depression. Socioeconomic status can impact on the ability of an elder person to develop and maintain social relationships, as it determines factors such as income, access to affordable public transport and the quality of the local built environment (World Health Organisation and UCL Institute of Health Equity, 2014). Other factors which have been found to cause low mental wellbeing among older people in NEL include being in poor physical health, a poor housing/living environment, bereavement, and having a disability (NELC, 2018).

The impact of the Covid-19 pandemic on the social determinants of health

It has been widely reported that the more deprived populations of England have had a higher mortality rate as well as an increased likelihood of testing positive for Covid-19 (PHE, 2020). However, it is also reported that the pandemic (including the measures taken to control the spread of the virus) is also widening existing health inequalities through impacts on the social determinants of health (The Health Foundation, 2020).

The pandemic is impacting on the social determinants of health at all life stages. In terms of the early years, local health visitors and perinatal mental health teams have been carrying out appointments virtually and report that this may be masking issues such as maternal depression, meaning that these women are not getting support. There are also concerns that developmental/ behavioural issues are not being picked up in children locally as health visitors suspended their 2 – 2.5 year check, and this is likely to impact more on children from deprived communities. Numbers of children returning to early years settings are particularly low in disadvantaged communities, and speech and language services report that referrals to them have dropped as schools have closed and health visitors are not doing their checks. It is therefore likely that many children with speech and language issues have been missed and are not getting the support they need, which will impact on health inequalities. Although local speech and language services are carrying out their sessions with families through video, this does not work for all children.

In terms of school aged children, a widening of inequalities has been reported nationally due to the school closures, with pupils from middle class homes more likely to take part in online lessons and spending more time home learning than pupils from working class homes (The Health Foundation, 2020). If the first national lockdown created barriers locally for disadvantaged young people who had fewer opportunities for home learning, there will be consequences for social mobility since education is important for securing good jobs, higher wages and financial security, which ultimately helps an individual to lead a healthy life (Bibby J, 2020).

Another impact of the Covid pandemic on school aged children is that school immunisations have moved to a community catch up programme locally. Since this depends on the parents bringing their children for vaccinations, there are concerns around children from more deprived backgrounds missing out.

During the pandemic, some children have also been away from school with parents in risky households. In July 2020, there were 35 service users in treatment with We Are With You (WAWY) for alcohol (as a primary substance) who had children living with them. As mentioned previously, the number of children living with an alcohol dependent parent (or a non-alcohol dependent parent who is a high-risk drinker) in North East Lincolnshire is likely to be substantially higher than this, given that the majority of those with alcohol dependence are not in treatment (Alcohol Change, 2020).

Indeed, children who were already disadvantaged are reported to be impacted more by the pandemic in general. For example young carers will now have increased responsibilities, (Children's Commissioner, 2020), children in care may not have been able to maintain face to face contact with family members during lockdown (Children's Commissioner, 2020), and it has been reflected locally that those with learning disabilities have found it particularly difficult to deal with the changes and restrictions.

The Covid-19 pandemic put further strain on mental health nationally and locally. The local Covid-19 rapid health needs assessment reported an increase in young people (aged under 25) presenting with anxiety, stress, self-harm and suicidal thoughts when accessing Kooth online service between March and May 2020 in comparison to the previous year. Young Minds Matter also reported seeing more complex and less low-level cases. They witnessed increased health anxiety, social anxiety, worsening OCD symptoms, and increased referrals for eating disorders. Finally the Grimsby Institute for Further Education also reported an impact of the pandemic on mental health with 16-18 year old learners (mostly young males) withdrawing with emotional issues. These mental health impacts of the pandemic may inevitably also affect the educational attainment of our young people.

The Covid lockdown also impacted on the diets of the poorest children in the UK. Nationally, a greater proportion of children from lower income backgrounds reported snacking more during lockdown, and children from lower income backgrounds were less likely to be eating fresh fruit and vegetables and more likely to feel they are eating unhealthily (Bite back, Guys & St Thomas charity, and Livity, 2020). Likewise, a study conducted by Northumbria University's Healthy Living Lab revealed lower fruit and vegetable consumption, and an increase in the consumption of sugar sweetened beverages in children eligible for free school meals during the Covid-19 lockdown (Defeyter G & Mann E, 2020).

The impact of the Covid-19 lockdown on weight gain in children and adolescents may also have been unequal. A longitudinal observational study conducted in Italy suggests that the Covid-19 lockdown exacerbated risk factors for weight gain in obese children and adolescents (Pietrobelli A et al, 2020). Multiple studies show that obesity experienced in childhood is associated with higher weight in adulthood (Rundle A G et al, 2020) so it can be speculated that excess weight gained by children and adolescents during the lockdown may not be easily reversible and might contribute to excess weight during adulthood (Pietrobelli A et al, 2020). This is something to watch locally, given the socioeconomic inequalities in child obesity in the Borough, and the relatively high proportion of the population who are overweight or obese, when compared to regionally and nationally.

Finally, with children spending more time in the home during the Covid-19 pandemic, and national evidence showing inequalities in access to private gardens and good quality, safe outdoor space during lockdown, it is possible that the high smoking rate in deprived parts of the Borough may have also translated into children in more

deprived households having greater exposure to second hand smoke during lockdown (Health & Equity in Recovery Plans Working Group, 2020) (Action on Smoking and Health, 2020)

In terms of adults, the Covid-19 pandemic has had a huge impact on unemployment, with the NEL claimant count for those aged 16 + (which measures the number of people claiming Jobseeker's Allowance plus those who claim Universal Credit who are out of work) increasing from around 2,500 in March 2020 to over 4,000 in April and subsequent months. Those who were already economically vulnerable have been hit the hardest by the economic impacts of Covid-19 (The Health Foundation, 2020). There are existing socioeconomic differences regarding those not in employment, education or training (NEET) in NEL, which is likely to have been amplified as a result of the pandemic. Only 5% of 16-18 year olds were NEET in the Wolds neighbourhood (Scartho, Waltham and the Wolds) as of 30th October 2020, compared to 44% in the Fiveways neighbourhood (East Marsh, Sidney Sussex, and Heneage). Whereas the proportion of 16-18 year olds who are NEET in the Wolds has remained the same (5%) since the previous year (2019) before the pandemic, it has increased from 38% in Fiveways, suggesting a possible disproportionate economic impact of Covid-19 on 16 – 18 year olds from more deprived neighbourhoods.

Furthermore, there is evidence that Covid-19 is causing a widening of mental health inequalities locally. For example, NEL Citizens Advice have noticed increased reporting of mental health issues locally (stress, anxiety, and depression) linked to issues such as being furloughed, facing threat of redundancy, debt, and concern over tenure security when the restrictions covering eviction by landlords' lift. These issues are all more common in more deprived populations. National evidence suggests that those with pre-existing mental health problems had the largest deterioration in mental health during the pandemic (Mental Health Foundation, 2020), and in a local survey by Navigo, a large proportion of local adults with existing mental health issues reported that their mental health had been further impacted by the pandemic, with anxiety, depression, loneliness and stress the main aspects of their mental health affected. Mind, who offer services in NEL such as 'Safe Space' report a major impact on their service users of loneliness and social isolation due to many services working virtually. Individuals without internet or device access in particular have been affected. Veterans Still Serving also reported an increase in stress in members since their visits have stopped. Some pregnant ladies, especially those with mental health issues, found lockdown particularly difficult, and the mental health of local carers has also suffered. It has also been reported that domestic violence has increased locally and nationally during the pandemic, with an increase in mental health issues around domestic violence being reported in NEL by DWP work coaches. Indeed, there was a 43% increase in the average monthly referrals received around domestic abuse to children's services between pre-lockdown and lockdown (NELC, 2020). Finally, local mental health crisis teams (mainly Navigo) and 'We are with You' report increased

mental health issues associated with more pronounced alcohol and substance issues during the pandemic (NELC, 2020).

The impact of Covid containment measures on the lifestyle of different population groups has also been unequal. As pointed out by the Health Foundation, people entered lockdown in March from uneven starting points (Bibby J, 2020). It is well recognised that inequalities exist in access to good quality and safe green space, and during lockdown an estimated 12% of households in England had no access to a private or shared garden (Health & Equity in Recovery Plans Working Group, 2020). It is perhaps no surprise then that some demographic groups found it much harder to be active during lockdown: older people, people who live alone, people from lower socio-economic groups, people with no access to private outdoor space, people with longstanding conditions or illnesses, and people who were self-isolating because they are at increased risk from Covid due to their health conditions or age (Sport England, 2020).

Research carried out by Inclusion London (2020) also revealed that the coronavirus pandemic has deepened and entrenched social isolation and loneliness among many disabled people compared to non-disabled people. Disabled people were more likely to be classified as vulnerable and staying at home, and digital lifelines were often out of reach for disabled people who were shielding, self-isolating, or acutely restricted by lockdown measures (Inclusion London, 2020).

In terms of older people, NEL voluntary organisations reported during the rapid Covid-19 health needs assessment that loneliness and social exclusion were the biggest mental health issues they faced. Digital exclusion is likely to be a key barrier preventing many elderly people, particularly those who are more deprived, from connecting with others during the pandemic. Many older people have been distressed by not seeing friends and family, and there have been concerns in care homes over this leading to the deterioration of their residents. A loss of confidence has also been reported among the elderly which will affect long term independence, with those who were previously independent and active the most emotionally impacted in general.

Recommendations

- Develop a partnership investment plan for each area of growing need in light of the Covid-19 pandemic (such as domestic abuse, alcohol and smoking services).
- Develop and adopt a plan to increase the proportion of people that are living in conditions that meet the Decent Homes Standard and to ensure the stability and security of tenancies post-Covid.
- Environmental Health teams should advise on areas which suffer from lack of services or 'food deserts' and target support and community activities appropriately so that vulnerable areas can access nutritious food.
- Raise the profile of domestic abuse within healthcare settings.
- Support local schools to prioritise the healthy relationships component of the Personal, Social, & Health Education (PSHE) curriculum, so as to improve young people's self-value and break intergenerational cycles of unhealthy relationships.
- Continue to build our collaborative work with the Department for Work and Pensions to ensure that residents are connected to support with managing debt and are supported to build their financial capacity.
- Build social connectivity for NEL communities across the life course, from young first time mums through to older people living alone. Do this by increasing digital skills, sustaining and building on well-used community assets (physical and virtual), and by reviewing the commissioning of the Voluntary and Community Sector (including the use of social prescribing).
- Make every effort to secure external resources, where these become available, to support children most affected by the Covid-19 pandemic.

9. Inequalities in healthcare

As the previous chapters demonstrate, there are considerable health inequalities in NEL and across the United Kingdom (UK) (ESPN, 2018). The major drivers of these health inequalities (social, economic, environmental, and behavioural factors) are largely outside the control of the National Health Service (NHS) (ESPN, 2018). However, some barriers/inequalities in access to healthcare still exist and these will be described below:

Although healthcare in the NHS is generally free, there are still some financial barriers to access due to user charges for non-exempt groups, such as standard prescription charges and dental and optical treatment charges. This can disadvantage some people who are not exempt and cannot afford these costs. The Commonwealth Fund's 2017 report of health care system performance found that 11% of patients surveyed in the UK reported forgoing dental care for reasons of cost, and 7% had a cost-related problem with access to medical care (ESPN, 2018).

Aside from financial barriers, there also exist other socioeconomic inequalities in healthcare. The least deprived patients are more likely to consume more preventative NHS care such as screening and vaccination services (ESPN, 2018) (Cookson, 2016). Indeed, the following graphs show that bowel and breast cancer screening uptake decrease with increasing deprivation in NEL (PHE, 2020).

Figure 27: Bowel cancer screening uptake decreases with increasing deprivation of GP practice. Graph made using data from Public Health England Fingertips Cancer profiles.

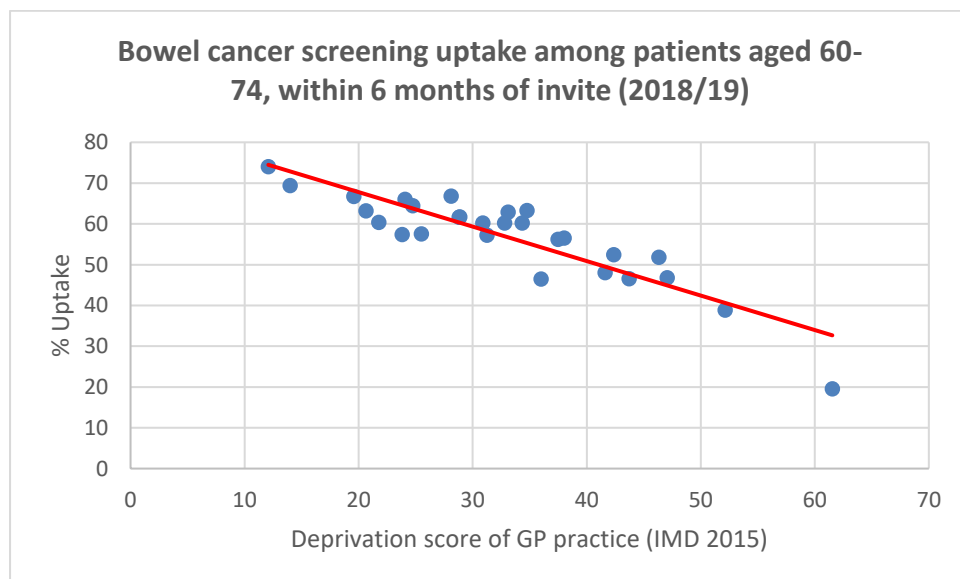
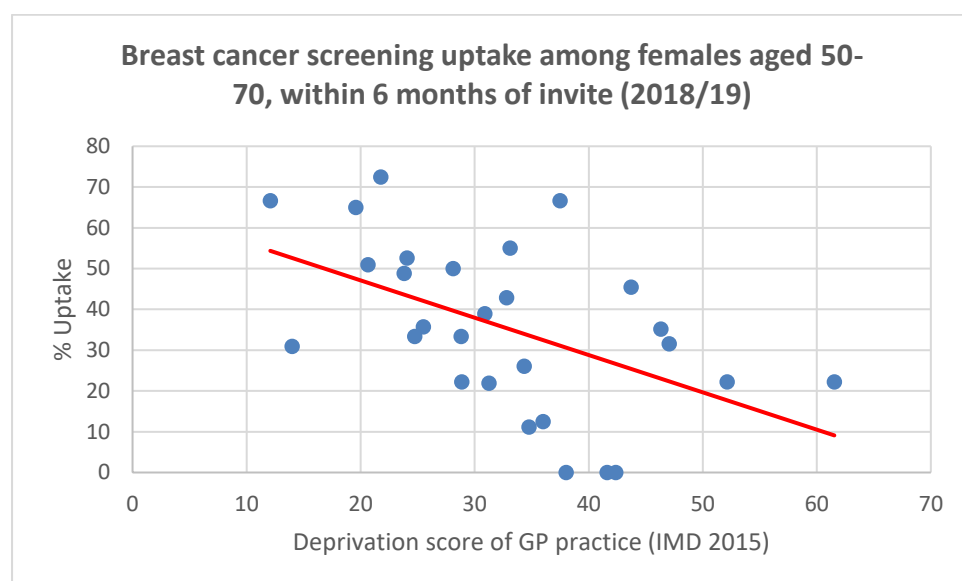
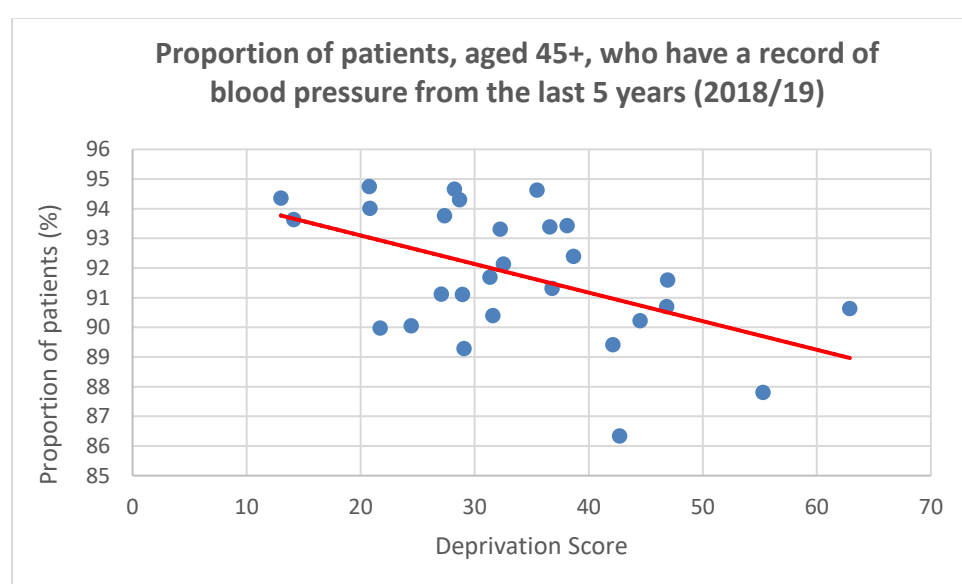


Figure 28: Breast cancer screening uptake decreases with increasing deprivation of GP practice. Graph made using data from Public Health England Fingertips Cancer profiles.



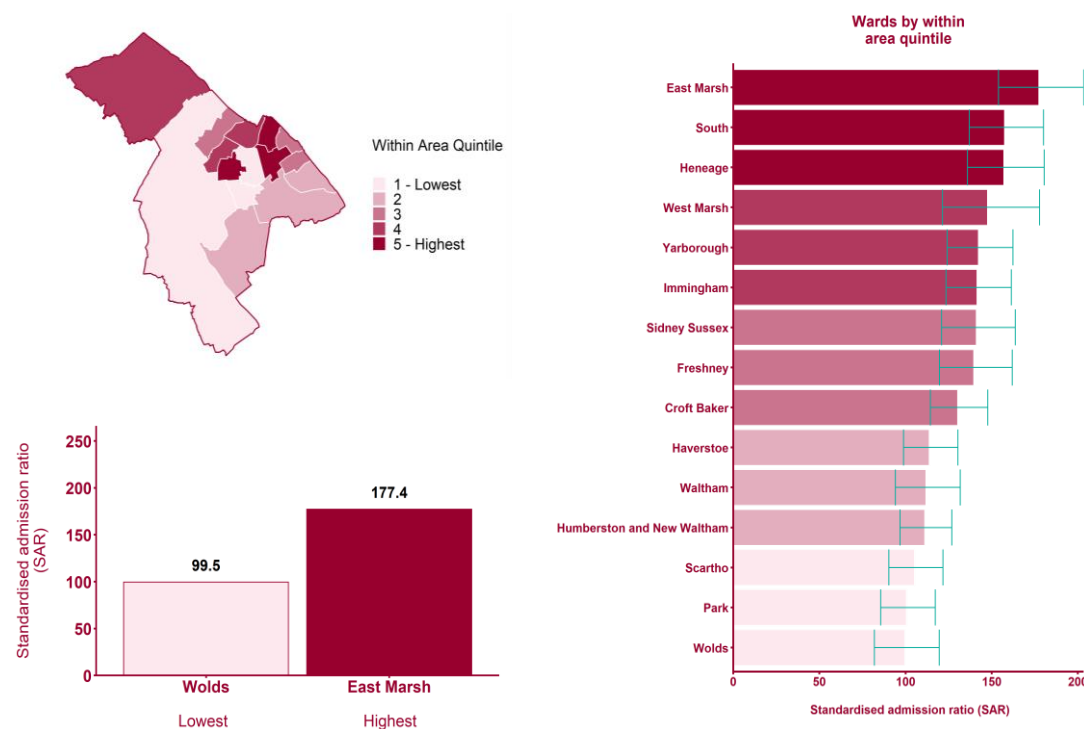
Similarly, for early identification for cardiovascular disease, the proportion of patients who have had their blood pressure measured in the last 5 years (a key risk factor for cardiovascular disease) decreases as the deprivation score of GP practices increases (figure below) (PHE, 2020).

Figure 29: The proportion of patients with a blood pressure measurement record from the last 5 years decreases with increasing deprivation of GP practice. Graph made using data from Public Health England Fingertips Cardiovascular Disease profiles.



This demonstrates that socially advantaged people are more likely to identify risk factors and present at an earlier stage of illness. It follows that more deprived individuals are more likely to be admitted to hospital as emergencies, and the image below shows that the deprived areas of North East Lincolnshire have significantly higher emergency admissions ratios for coronary heart disease than the least deprived areas of the Borough.

Figure 30: More deprived wards of North East Lincolnshire have higher emergency admissions ratios for coronary heart disease than the least deprived wards. Image taken from Public Health England January 2020 Health Inequalities slides North East Lincolnshire.

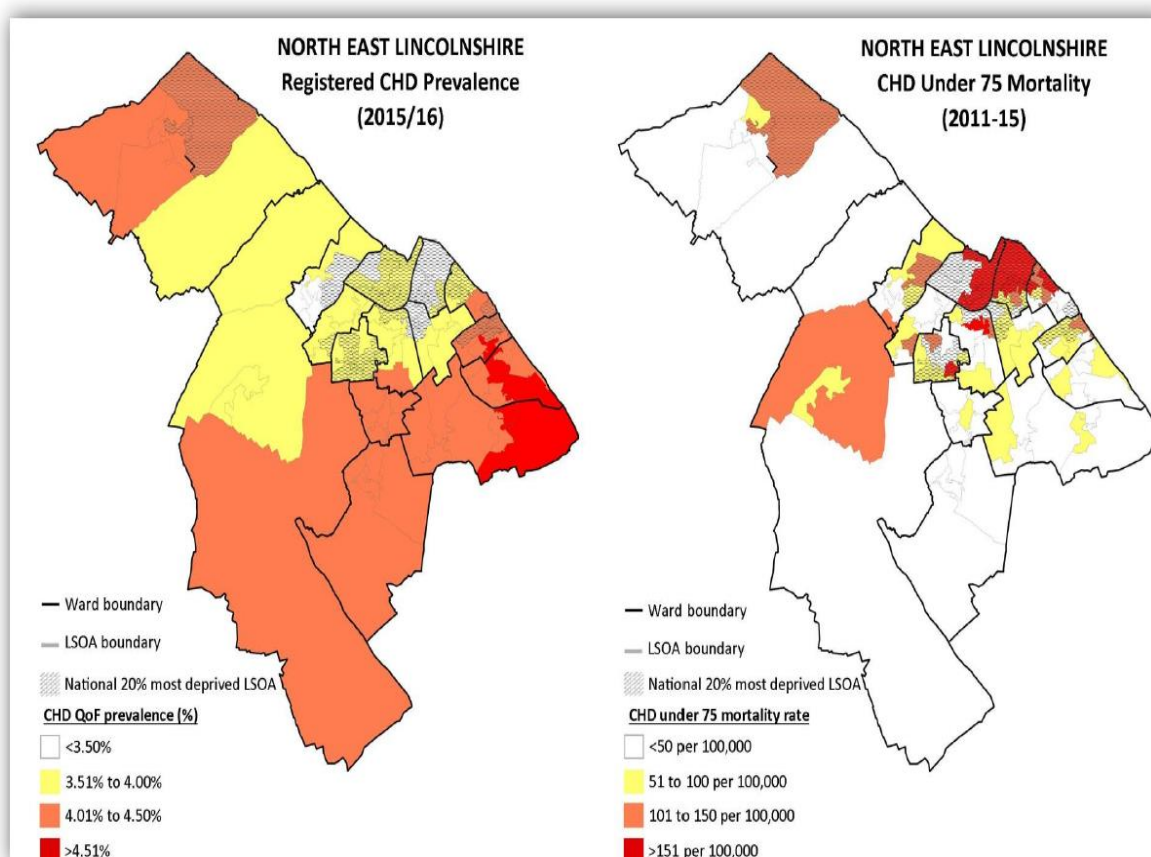


Individuals admitted as emergencies at a later stage of disease progression are much more likely to have worse outcomes (such as premature mortality) than those who identify risk factors and present to health services at an early stage of disease.

The Burden of Disease in North East Lincolnshire (2016) report identified that the most deprived areas of NEL had the highest premature mortality rates of coronary heart disease (CHD) whilst also having an apparently low prevalence of CHD (figure below) demonstrating that cardiovascular disease is often not picked up in the deprived areas

until it is too late. Likewise, the under 65 mortality review in North East Lincolnshire (2019) identified that 22% of under 65 deaths from cancer between 2017 and 2018 were screening preventable.

Figure 31: The most deprived areas of North East Lincolnshire had the highest premature (under 75) mortality rates of coronary heart disease (CHD) whilst also having an apparently low prevalence of registered CHD. This figure is taken from The Burden of Disease in North East Lincolnshire report 2016. It demonstrates that cardiovascular disease is often not picked up in the deprived areas until it is too late.



As part of the NHS Health Check, all adults aged 40 – 74 who do not have certain pre-existing conditions, are invited for a health check-up designed to spot the early signs of cardiovascular disease, stroke, kidney disease, type 2 diabetes and dementia, and thus decrease health inequalities. However the Covid-19 pandemic has impacted on the delivery of the NHS Health Check, for example it was suspended initially in 2020 and is likely to be impacted during the Covid-19 vaccine roll out throughout 2021. This could result in the widening of health inequalities.

In addition to reducing the risk of poor outcomes, early identification of disease is also beneficial for the health services, as the annual cost to the NHS of excess hospital admissions attributable to socioeconomic inequality has been estimated at almost £5 billion (ESPN, 2018).

Aside from socioeconomic inequalities, barriers to healthcare have also been described nationally for other population groups. Indeed healthcare inequalities have been described for those of different ethnicity (KingsFund, 2006) (PHE, 2018), age (KingsFund, 2000), gender (WHAPPG, 2019) (BHF, 2019), sexual orientation (Stonewall, 2018) (GEO, 2018), and gender identity (Whitehead, 2017) (Stonewall, 2018) (Watkinson, 2017). A local example is that although we have good immunisation coverage across the population in both deprived and affluent areas of NEL, we are aware from in depth studies that there are ethnic inequalities among certain groups in the population (such as travelling populations and migrant workers from eastern Europe) who have lower uptake.

Impact of the Covid-19 pandemic on healthcare inequalities

Some patient groups are more at risk of severe illness from Covid-19 than others; research by Public Health England has found that nationally, death rates from Covid-19 are higher than expected among Black and Asian ethnic groups compared to White ethnic groups (PHE, 2020). Age and obesity have also both been highlighted as risk factors for severe illness from Covid-19 (PHE, 2020). Likewise, disruption to health and social care has had an uneven impact across the population. Not only are patients with certain long-term conditions at increased risk of serious illness from Covid-19 (PHE, 2020) but during the lockdown, there may have been disruption to routine care reviews. This, alongside unease amongst some population groups about attending health and wellbeing appointments during the lockdown for fear of exposure to the virus (Green, 2020), may have resulted in some long-term conditions not being managed.

National evidence shows that Covid-19 and its associated containment measures have impacted disproportionately on disabled people. The Opinions and Lifestyle Survey, carried out by the ONS in May 2020, revealed that a higher proportion of disabled people than non-disabled people were worried about the effect of the coronavirus pandemic on their access to healthcare and treatment for non-coronavirus-related issues (40.6% compared with 21.2%) (ONS, 2020). In this survey, people also felt that there was increased pressure on family carers, because of reductions in support from care providers or fears of accepting support due to the risks of coronavirus (ONS, 2020).

Changes in the delivery of healthcare, with a focus on more remote methods of delivery for appointments, may also exacerbate inequalities in access, with some groups potentially facing digital exclusion due to factors such as age, skill, or income. This will also have implications for quality of care and patient experience. For example,

national evidence found that families have responded differently to remote support, and that whilst for some new and expectant parents it was easier to attend virtual appointments, those experiencing poverty and/or those with chaotic home lives had been disadvantaged, often lacking devices, data, Wi-Fi and/or a safe, calm space to engage (BestBeginnings, 2020).

National evidence also suggests disruption to mental health support for children and young people during the Covid-19 pandemic. A national survey carried out by YoungMinds in June/July 2020 found that among more than 1,000 respondents who were accessing mental health support in the three months leading up the Covid pandemic (including from the NHS, school and university counsellors, private providers, charities, and helplines), 31% said they were no longer able to access support but still needed it (YoungMinds, 2020).

Inequalities in the uptake of screening and immunisations may also be exacerbated by the Covid-19 pandemic. As recovery continues, providers may have less time and space to proactively address inequalities in relation to screening and immunisations, and there will be challenges for providers, such as providing the full range of venues and appointments. Pre-existing inequalities in uptake may also widen if parents from minority ethnic groups feel more vulnerable and avoid healthcare settings (BMJ, 2020).

Recommendations

- Develop a model of outreach in collaboration with Primary Care Networks and other partners to support communities to make use of preventative support. This should include a focus on maximising the uptake of preventative measures, such as vaccinations, by the homeless population.
- Explore a method of measuring equity of access to services, starting with the Public Health commissioned services.
- Each Primary Care Network should identify a leadership role with regards to the implementation of the NHS Phase 3 inequalities plan for their population and should explore the potential resourcing of work on health inequalities within the new ICS/NHS organisation.

10. Update on last year's recommendations.

Recommendation	Update
To pursue the adoption of best practice in the design of future housing developments, including considerations such as access to green space, and the energy efficiency and sustainability of new houses.	The planning service strives to deliver sustainable and attractive housing developments based upon the framework of planning policies set out in the North East Lincolnshire Local Plan. In addition, the national design guidance issued in Oct 2019 now illustrates how well-designed places that are beautiful, enduring and successful can be achieved in practice.
To consider how we can use the Disabled Facilities Grant more flexibly to support independence in a safe environment.	NELC agreed the new Housing Assistance and Disabled Adaptations Policy (HADAP) in October 2019. The working group will be implementing the changes. The document supports greater use of discretionary options, which will meet the needs of those in NEL far better than previously. For details, comparison from the old to the new document is recommended.
To continue to develop sustainable delivery of the rogue landlord programme and explore the role of selective licensing.	<p>The Council have developed a robust business case for Selective Licensing. Consultation commenced in January 2020. Government guidance requested that all local authorities pause any discretionary licensing schemes during Covid-19. The Council therefore took the decision to pause consultation until further guidance is provided.</p> <p>The rogue landlord programme has continued and provided opportunity for embedded procedures post October 2020, when the programme finishes.</p>
There needs to be a renewed focus on how we can reduce the gap in service outcomes to achieve desired levels of cleanliness across all neighbourhoods.	2020 necessitated a very reactive approach to service delivery, instead of the ability to focus on future strategy. Nevertheless, in the last 12 months Environmental Services have prioritised additional resources to targeted areas. The service aim to target clean up and maintenance work to areas of need and compliment this by working with the community, local volunteers, local businesses and partners.
To work with communities to support their efforts to tackle factors that contribute to the overall feel of place and engender civic pride.	We've rolled out a series of initiatives to engage the local community, particularly young people, about waste, recycling and looking after the environment. These are helping build relationships with the community by showing that we all have a role to play when caring for the local environment and keeping North East Lincolnshire tidy. What we have found since the start of the COVID-19 pandemic is that the efforts put in by our staff have helped garner a new level of respect for public services. There is now a better

	understanding of vital services we provide and hopefully this continues long after the coronavirus pandemic is over.
We should explore opportunities to increase access to low cost, healthy food in our poorer communities.	Progress has been delayed due to COVID but a project is planned to begin later in the year to tackle obesity, which will address the accessibility and affordability of nutritious food.
The current focus on improving air quality in North East Lincolnshire needs to be maintained. We should support the growth of electric vehicles by providing more charging points and the public sector should lead by example by purchasing electric vehicles wherever possible.	The draft carbon roadmap for the Council has electric vehicles as one of its areas of focus. Electric Vehicle charging infrastructure will also be covered in the review of the Local Transport Plan.
There needs to be zero tolerance of violence both within services and communities. The local community safety partnership should adopt a public health approach to violence prevention in North East Lincolnshire.	Currently awaiting new primary legislation and / or an amendment to Crime and Disorder Act 1998, plus duty guidance on how this should be implemented. Once received, a violent crime strategy will be written and implemented which adopts a public health approach.
To support provision of opportunities to increase people's access to open spaces in the Borough and consider how we better connect people to the Lincolnshire Wolds and the coast.	The Covid-19 pandemic has further confirmed the importance of these spaces for our residents' safety and wellbeing, with increasing visitor numbers to parks, beaches and open spaces in the Borough. However, the Covid-19 pandemic has added pressure to Environmental Services and there has been no targeted action in respect of this recommendation.
To identify ways of increasing usage of parks which should include utilisation of existing play areas.	Due to COVID-19 play areas were closed for over 3 months so this work has been put on hold. However, encouragement to local community groups would be the first port of call to see if they are willing to organise events in play areas. Another way would be to increase comms on the number of parks and where they are located.
We should introduce smoke free zones in and around play areas as recommended in our Northern Lincolnshire Tobacco Control Strategy.	In line with the revised Northern Lincolnshire Tobacco strategy, proposals are being developed for a significant extension of smokefree areas within the borough which will include all children's play areas
To support communities in their pursuit of places that provide local residents with the opportunity to meet, socialise and engage in social group activities.	A number of community venues have been unable to operate due to the Covid-19 pandemic. Our community asset transfer approach has been reviewed with Locality during 2020 and will be relaunched in 2021, one of its aims being to encourage community organisations to take on and

	provide appropriate community facilities. Progress has been made by the VCS in developing a business case for the creation of a community wellbeing hub and linked to this, better community-based provision and activity operating across the Borough in a number of different community venues.
To establish a partnership to drive forward the sustainable communities' outcome which will consider this report as one of its first actions.	A sustainable communities board was established in late 2020 and has agreed its priorities: engagement, community cohesion, social action, community/wellbeing hub, green recovery and the lived environment. The Board will consider the latest Director of Public Health Annual report at its next meeting.
To support schools to develop car-free travel.	<p>During the year 2019/20 over 25 local schools have engaged with the Council on initiatives that support car-free travel to school. Amongst the activities that have been delivered are:</p> <ul style="list-style-type: none"> • Setting up 2 new Bike Libraries providing easy access to bikes in deprived communities. • More than 20 Primary schools took part in initiatives in support of national walk to school week • More than 30 school and community-based Doctor Bike cycle maintenance events delivered through the summer • Bikeability training continues to be offered to all pupils in Year 5 • Launch of Balanceability, "Learn to Ride" and Cycle Confidence training during school holidays. • 11 local schools are working with Living Streets to support WoW, a all year round walking initiative. • Introduction of new cycle infrastructure between Stallingborough and Healing improving cycle access for pupils at Healing Academy. <p>Year round programme of road safety education delivered through schools in partnership with Safer Roads Humber.</p>
The council and CCG should lead by example by adopting and promoting travel plans for all its main sites.	Covid-19 has disrupted this work. An NELC Travel Plan is on hold until staff return to the offices. Senior leadership buy-in will then be sought for this work.

<p>To explore better co-location of services in our communities to accommodate easier access to public services.</p>	<p>We are linked into the HCV Digital Inclusion Group and are working with representatives from the voluntary sector to look at how we can make access to services easier for those who may live remotely or are not able to/don't wish to travel, for example setting up outreach clinics where a remote consultation could take place between patient and clinician, with the correct equipment in place to do so.</p>
<p>To develop more opportunities to access services remotely to reduce the need for travel.</p>	<p>Patients across HCV can access remote consultations with a clinician within their practice either via online consult (a chat function which allows the patient to describe their symptoms) or video consult.</p>

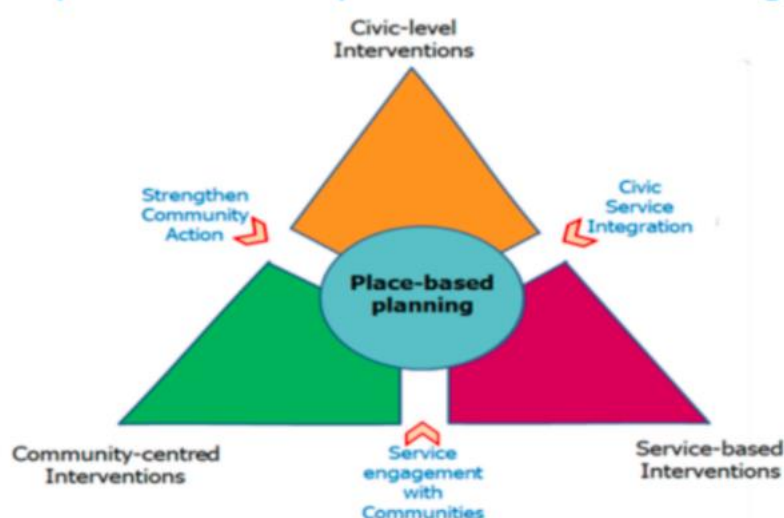
11. Health Inequalities Toolkit

As has been addressed in this report, health inequalities are not caused by a single issue, but by a complex interplay of environmental and social factors (Public Health England, 2019). To achieve measurable, population level change in health inequalities, place-based action must be taken on the wider determinants of health across the life course, and interventions must focus on treating place and not just people (Public Health England, 2019). Guidance published by Public Health England in 2019 demonstrates the components of place-based action which can achieve such change. As is visualised in Figure 32:

- civic interventions (the use of civic/local authority functions, such as licensing, spatial and environmental planning and economic development) can be an extremely powerful component of place-based action to reduce inequalities, having the greatest reach of all the components.
- services can achieve significant outcomes due to their direct impact with individuals. However, services must be delivered at scale and in a sustainable way, and they must be organised in such a way that they deliver outcomes further and faster to the most disadvantaged communities. In other words, to achieve equitable outcomes, resources should be allocated proportionately to address the levels of need within specific communities or populations.
- community life, social connections, supportive relationships and having a voice in local decisions are all building blocks for good health. Community-centred contributions therefore have potential to reduce health inequalities and indeed without including community-centred approaches in a place-based system for improving health, there is a risk of leaving behind, and even alienating large parts of the population.
- whilst each of these elements individually have the potential to reduce inequalities at population scale, particular focus is needed on joint working across the interfaces between the civic, service and community sectors.

Figure 32: Components of the Population Intervention Triangle (Public Health England, 2019)

Components of the Population Intervention Triangle



12. References

- Action on Smoking and Health, 2020. *ASH Daily News for 15 May 2020*, s.l.: Online.
- Alcohol Change, 2020. *Alcohol Statistics*, s.l.: Online.
- Alcohol Change, 2020. *Research: Drinking in the UK during lockdown and beyond*, s.l.: Online.
- Barnett K et al, 2012. *Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross- sectional study*, s.l.: The Lancet, 380 (9836) 37-43.
- Bentley C et al, 2016. *Burden of disease in North East Lincolnshire and its future impact on the local health and social care economy*, s.l.: NELC.
- BestBeginnings, H.-I., 2020. *Babies in Lockdown: Listening to parents to build back better*, s.l.: s.n.
- BHF, 2019. *Bias and Biology*, s.l.: British Heart Foundation Scotland.
- Bibby J, E. G. a. A. I., 2020. *Will covid-19 be a watershed moment for health inequalities? [online]*, s.l.: The Health Foundation.
- Bite back, Guys & St Thomas charity, and Livity, 2020. *Hungry for Change* , s.l.: s.n.
- BMJ, 2020. Routine vaccination during Covid-19 pandemic response. *British Medical Journal*.
- Centre for evidence- based medicine, 2020. *Severe mental illness and risks from covid-19*, s.l.: Online.
- Centre for Mental Health: commission for equality in mental health, 2020. *Briefing 1: Determinants of mental health*, s.l.: Online.
- Centre for Mental Health, 2020. *Commission for Equality in mental health*, London: Centre for Mental Health.
- Centre for Mental Health, 2020. *Trauma, mental health and coronavirus: Supporting healing and recovery briefing no 56*, s.l.: Online.
- Children's Commissioner, 2020. *We're all in this together? Local area profiles of child vulnerability*, s.l.: Children's Commissioner for England .
- Cookson, R., 2016. Socio-Economic Inequalities in Healthcare in England. *Fiscal Studies: The Journal of Applied Public Economics*, 37(3-4), pp. 371-403.
- Defeyter G & Mann E, 2020. *The Free School Meal Voucher Scheme: What are children actually eating and drinking?*, s.l.: s.n.

Doctors of the world, 2020. *A rapid needs assessment of excluded people in England during the 2020 Covid-19 pandemic*, s.l.: Online.

Donkin.A.J.M, 2014. *Social gradient*, s.l.: The Wiley Blackwell Encyclopedia of Health, illness, behaviour and society.

ESPN, 2018. *ESPN Thematic Report on Inequalities in Healthcare*, Belgium: European Commission.

GEO, 2018. *National LGBT Survey Research Report*, s.l.: Government Equalities Office.

Green, L., 2020. *A Health Impact Assessment of the 'Staying at Home and Social Distancing Policy' in Wales in response to the Covi-19 pandemic*. s.l., Public Health Wales.

Harkins C, 2020. *Supporting community recovery and resilience in response to the Covid-19 pandemic - a rapid review of evidence*, s.l.: Online.

Health & Equity in recovery plans working group, 2020. *Direct and indirect impacts of covid-19 on health and wellbeing*, s.l.: Public Health Institute, Liverpool John Moores University.

Health & Equity in Recovery Plans Working Group, 2020. *Direct and indirect impacts of Covid-19 on health and wellbeing* , s.l.: (online).

Health, C. f. M., 2020. *Commission for Equality in Mental Health*, s.l.: s.n.

Inclusion London, 2020. *Abandoned, forgotten and ignored - The impact of the coronavirus pandemic on disabled people: Interim Report*, s.l.: Online.

Institute of Health Equity, 2017. *Voluntary sector action on the social determinants of health*, s.l.: s.n.

Institute of Health Equity, 2020. *Health Equity in England: The Marmot Review 10 years on*, s.l.: s.n.

KingsFund, 2000. *Briefing Note: Age Discrimination in Health and Social Care*, s.l.: Kings Fund.

KingsFund, 2006. *Access to Healthcare and Minority Ethnic Groups*, s.l.: Kings Fund.

Lewer D et al, 2020. *Premature mortality attributable to socioeconomic inequality in England between 2003 and 2018: an observational study.*, s.l.: The Lancet. Public Health.

Marmot M, A. J. B. T. G. P. M. J., 2020. *Health equity in England: The Marmot Review 10 years on*, s.l.: London Institute of Health Equity.

Marmot M, G. P. A. J. e. a., 2010. *Fair Society Healthy Lives (The Marmot Review): Strategic review of health inequalities in England post 2010 (online)*, s.l.: s.n.

Marmot, M. & W. R. G., 2006. *Social determinants of health*, s.l.: Oxford University Press.

Mental Health Foundation, 2020. *Coronavirus: The divergence of mental health experiences during the pandemic*, s.l.: Mental Health Foundation.

Milne E, 2019. *Choices that are made today will impact generations to come. In: An effective custodian of the public's health: A collection of essays on six years of public health in local government*, London: Local Government Association.

NELC, 2017. *Substance Misuse Needs Assessment*, s.l.: North East Lincolnshire Council.

NELC, 2018. *Mental Health and Wellbeing Needs Assessment* , s.l.: North East Lincolnshire Council.

NELC, 2020. *Covid-19 Rapid Health Needs Assessment*, s.l.: NELC.

NELC, 2020. *Domestic Abuse Covid19 Statistics Jan-June 2020*, s.l.: North East Lincolnshire Council.

North East Lincolnshire Council, 2019. *Mortality at age 65 and under in North East Lincolnshire*, s.l.: s.n.

North East Lincolnshire Council, 2020. *Under 18 conceptions data briefing*, s.l.: s.n.

North East Lincolnshire Council, 2020. *Vulnerability in children and young people health needs assessment* , s.l.: s.n.

ONS, 2020. *Coronavirus and the social impacts on disabled people in Great Britain: May 2020*, s.l.: Office for National Statistics.

PHE, 2018. *Local action on Health Inequalities: Understanding and reducing ethnic inequalities in health*, s.l.: Public Health England.

PHE, 2020. *Cancer Services*. [Online]
Available at: <https://fingertips.phe.org.uk/profile/cancerservices>
[Accessed 2020].

PHE, 2020. *Cardiovascular Disease Profiles*. [Online]
Available at: <https://fingertips.phe.org.uk/profile/cardiovascular>
[Accessed 2020].

PHE, 2020. *Disparities in the risk and outcomes of Covid-19*, s.l.: Public Health England.

Pietrobelli A et al, 2020. *Effects of covid-19 lockdown on lifestyle behaviours in children with obesity living in Verona, Italy. A longitudinal study*, s.l.: Obesity.

Public Health England, 2019. *Adults - alcohol commissioning support pack 2020-21: Key data planning for alcohol harm prevention, treatment and recovery in adults*, s.l.: s.n.

Public Health England, 2019. *Place - based approaches for reducing health inequalities: main report*, s.l.: Online.

Royal college of paediatrics and child health, 2017. *State of child health*, s.l.: s.n.

Rundle A G et al, 2020. *Covid-19 related school closings and risk of weight gain among children*, s.l.: Obesity.

Select Committee on Food, Poverty, Health and the Environment, 2020. *Hungry for change: fixing the failures in food*, London: House of Lords.

Sport England, 2020. *Covid-19 briefing: Exploring attitudes and behaviours in England during the covid-19 pandemic*, s.l.: Online.

Stonewall, 2018. *LGBT in Britain: Health Report*, s.l.: Stonewall.

Taylor - Robinson D et al, 2015. *Doctors must advocate for action on the high levels of child poverty*, s.l.: BMJ.

The Health Foundation, 2018. *What makes us healthy? An introduction to the social determinants of health*, s.l.: s.n.

The Health Foundation, 2020. *Emerging evidence on health inequalities and covid-19*, s.l.: s.n.

The Trussell Trust, 2020. *Food banks report record spike in need as coalition of anti-poverty charities call for strong lifeline to be thrown to anyone who needs it*, s.l.: s.n.

University of Liverpool and Centre for local economic strategies, 2014. *Due North. Executive summary report of the Inquiry on Health Equity for the North*, s.l.: s.n.

Watkinson, D., 2017. How discrimination affects access to healthcare for transgender people. *Nursing Times [Online]*, 113(4), pp. 36-39.

WHAPPG, 2019. *Call for Action: Inquiry into Heart Disease and Stroke*, s.l.: All-Party Parliamentary Group on Women's Health.

Whitehead, B., 2017. Inequalities in Access to Healthcare for Transgender Patients. *Links to Health and Social Care*, 2(1), pp. 63-76.

Wilcockson C, 2019. *Rough sleeping in North East Lincolnshire: A needs assessment of rough sleepers in North East Lincolnshire*, s.l.: North East Lincolnshire Council.

Williams E, B. D. a. B. G., 2020. *What are health inequalities?*, s.l.: The Kings Fund.

World Health Organisation and UCL Institute of Health Equity, 2014. *Review of the social determinants and the health divide in the WHO European Region: final report*, s.l.: s.n.

World Health Organisation, 2010. *A conceptual framework for action on the social determinants of health*, s.l.: s.n.

YoungMinds, 2020. *Coronavirus: Impact on young people with mental health needs Survey 2: Summer 2020*, s.l.: Young Minds.