

Life Expectancy

North Lincolnshire JSNA

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**North
Lincolnshire
Council**

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Life Expectancy

Life expectancy at birth is the average number of years that would be lived by babies born in a given time period if mortality levels at each age remain constant. Similarly, life expectancy at age 65 is the average number of remaining years of life that a man or woman aged 65 will have if mortality levels at each age over 65 remain constant.

Life expectancy indicators are used at a national and local level, to monitor trends in health and wellbeing over time and between different population groups.

This indicator is point based – and only refers to the conditions in the years calculated. In reality, mortality rates will likely change over time as societal factors and conditions change.



79.4



83.1

Life Expectancy at Birth in England
2018-20

Life Expectancy at Birth

Life expectancy at birth, both in England and in North Lincolnshire has increased since 1991-1993.

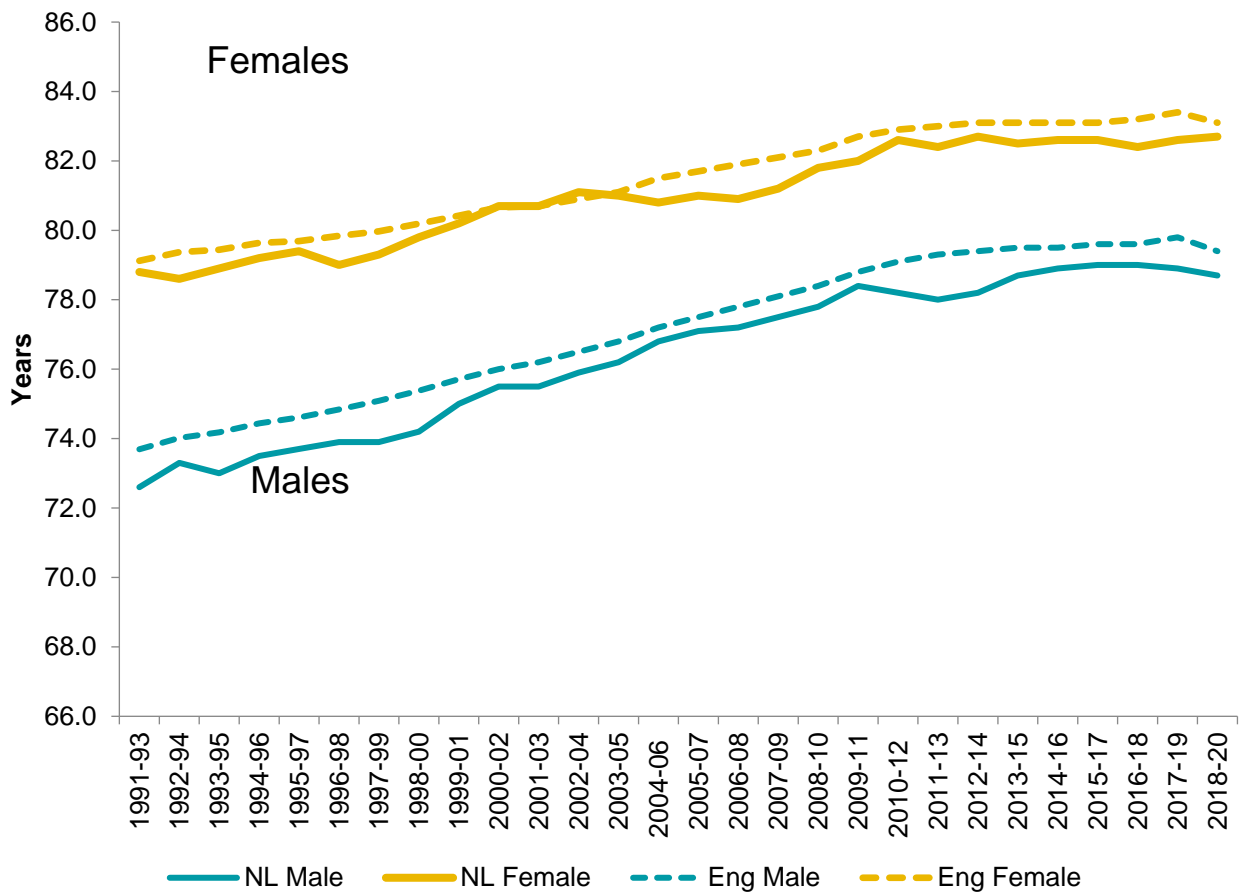
On average, males born in 2018-20 in England could expect to live on average 5.7 years longer than those born in 1991-93, and women 4 years. The improvement was greater for males than females in this period, however females have overall higher life expectancy throughout.

The rate of improvement in life expectancy locally and nationally was higher in the years up to 2010-12, than afterwards, where improvement has greatly slowed for both males and females.

The COVID-19 epidemic ongoing from 2020 has affected these figures nationally, and less notably, locally, reducing national life expectancy in the latest available year, 2018-20.

This does not mean that a baby born in 2018 to 2020 will go on to live a shorter life. The reported life expectancies assume that the higher-than-average mortality observed in 2018 to 2020 will continue. It is possible that life expectancy will return to an improving trend in the future, once the coronavirus pandemic has ended and its consequences for future mortality are known.¹

Figure 1: Male and female life expectancy at birth in England North Lincolnshire 1991-93 – 2018-20



Source: Public Health Outcome Framework/ONS

Life expectancy Overview - North Lincolnshire (2018-20)

There are a number of indicators relating to life expectancy which are reported on routinely within Public Health Outcomes Frameworks. Table 1 summarises the current data on life expectancy for North Lincolnshire, compared with the national average, whilst the sections that follow explain the measures and local trends in more detail.

Table 1: Life expectancy indicators

Indicator	NL	NL	Eng	Eng
	Male	Female	Male	Female
Life expectancy at birth in years (2018-20)	78.7	82.7	79.4	83.1
Life expectancy at 65 in years (2018-20)	18.2	21	18.7	21.1
Disability free life expectancy at birth (2018-20)	57.2	51.9	62.4	60.9
Healthy life expectancy at birth in years (2018-20)	58.7	56.4	63.1	63.9
Inequality in life expectancy at birth (years) (2018-20)	10.9	8.1	9.7	7.9

Source: PHOF / ONS

Social Inequalities in Life Expectancy

Life expectancy (LE) has a strong deprivation gradient, with groups living in higher levels of deprivation experiencing much lower life expectancy overall than those in the least deprived areas.

Figure 2 shows the distribution of life expectancy within North Lincolnshire for males at birth by national deprivation quintile in North Lincolnshire, which follows the trend of declining life expectancy in line with increasing deprivation.

The difference between LE in the most deprived quintile (73.1 years) and the least deprived (82.7 years) in males is 9.5 years

It should be noted that the numbers of small geographic areas, and thus population in each deprivation decile is not evenly distributed at LA level. The national measure of inequality-based difference in life expectancy is the slope index of inequality (SII) (Figure 3) which is designed to account for these differences. In 2018-20 SII stood at 10.9 years for males, and 8.1 years for females in North Lincolnshire.

Figure 2: Gap in life expectancy at birth by deprivation quintiles North Lincolnshire – Males 2018-20

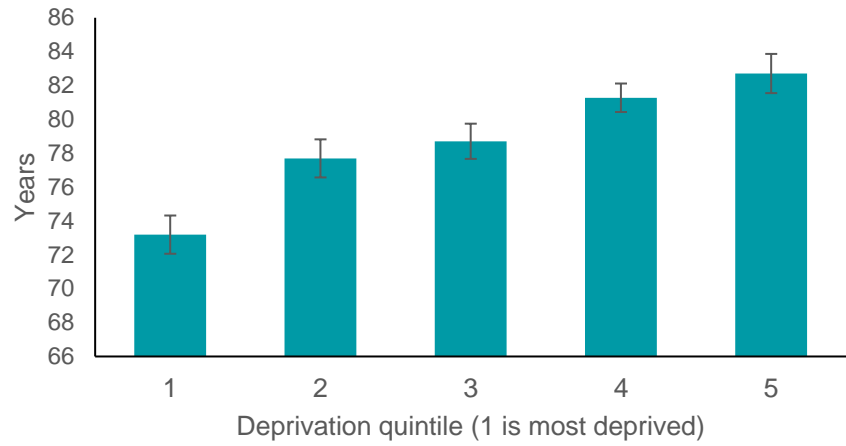
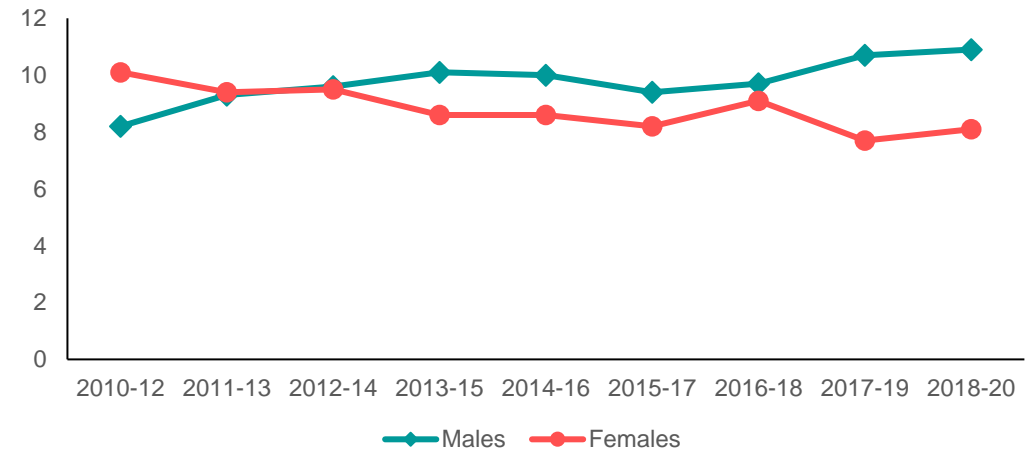


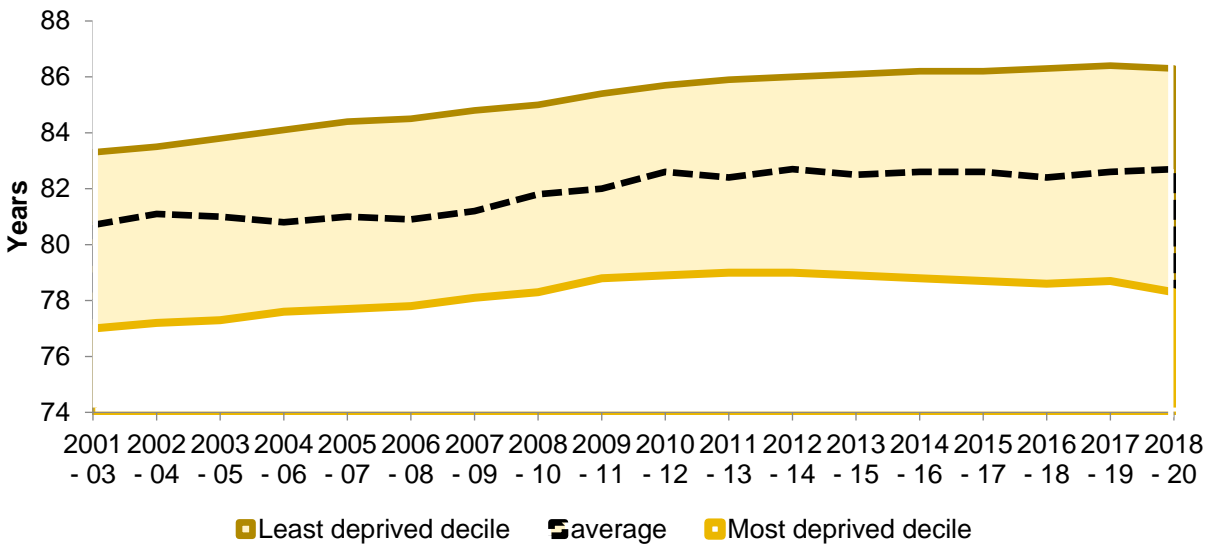
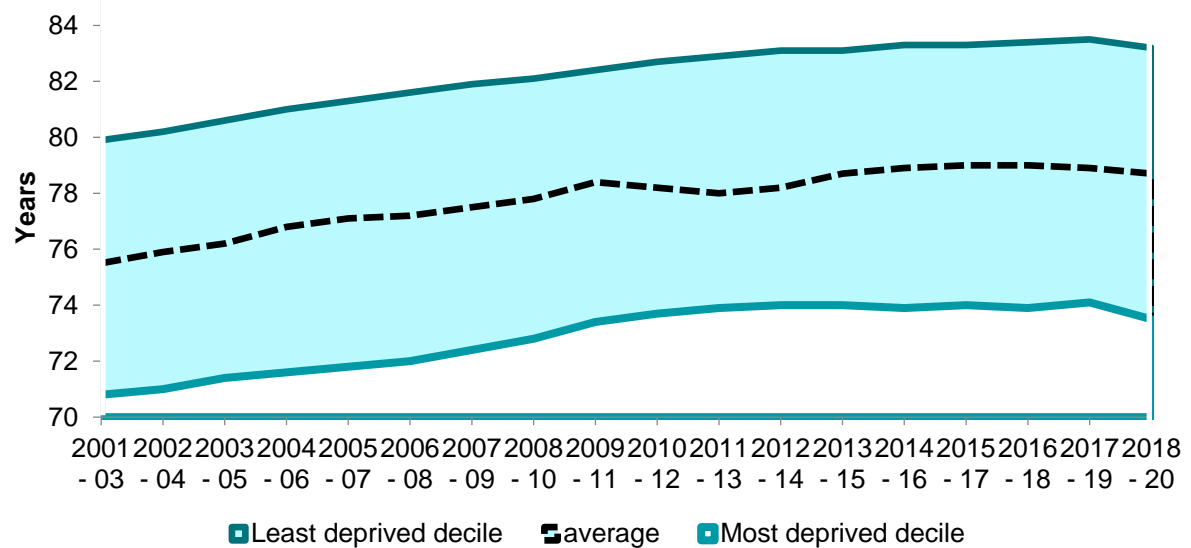
Figure 3: Slope index of inequality, life expectancy at birth North Lincolnshire 2010-12 – 2018-20



Sources: PHOF/ Population estimates ONS/ PCMD local LE data calculated by NL PHIU

Social Inequalities in Life Expectancy - Trends

Figure 4: Gap in life expectancy at birth between most and least deprived deciles – England –males (left) females (right)



Life expectancy inequality within England shows how life expectancy in the most and least deprived deciles have changed over time.

For Males, life expectancy improved by a similar rate for most and least deprived between 2001-2003 and 2009-2011, but whilst there was a small improvement in life expectancy for the least deprived between 2010-12 and 2017-19, for the most deprived the improvement was less notable. In 2018-2020 the decrease in life expectancy is more pronounced for the most deprived compared to the least.

For Females, the improvement in life expectancy for the least deprived between 2001-2003 and 2009-2011 was slightly better for the least deprived compared to most deprived. Since 2011-13 however, the life expectancy for the most deprived women has decreased slightly, while the least deprived continued to improve, increasing the gap due to inequalities. As seen in males, the fall in 2018-2020 in life expectancy is more pronounced for the most deprived decile.

Where is this causing concern?

The pattern and distribution of life expectancy at birth across North Lincolnshire reflects the distribution of deprivation in the local area, with the lowest male and female life expectancy observed in the most deprived wards and neighbourhoods of North Lincolnshire. This is illustrated in the ward chart and LSOA map.

Figure 5: Life expectancy at birth by ward, 2019-2021

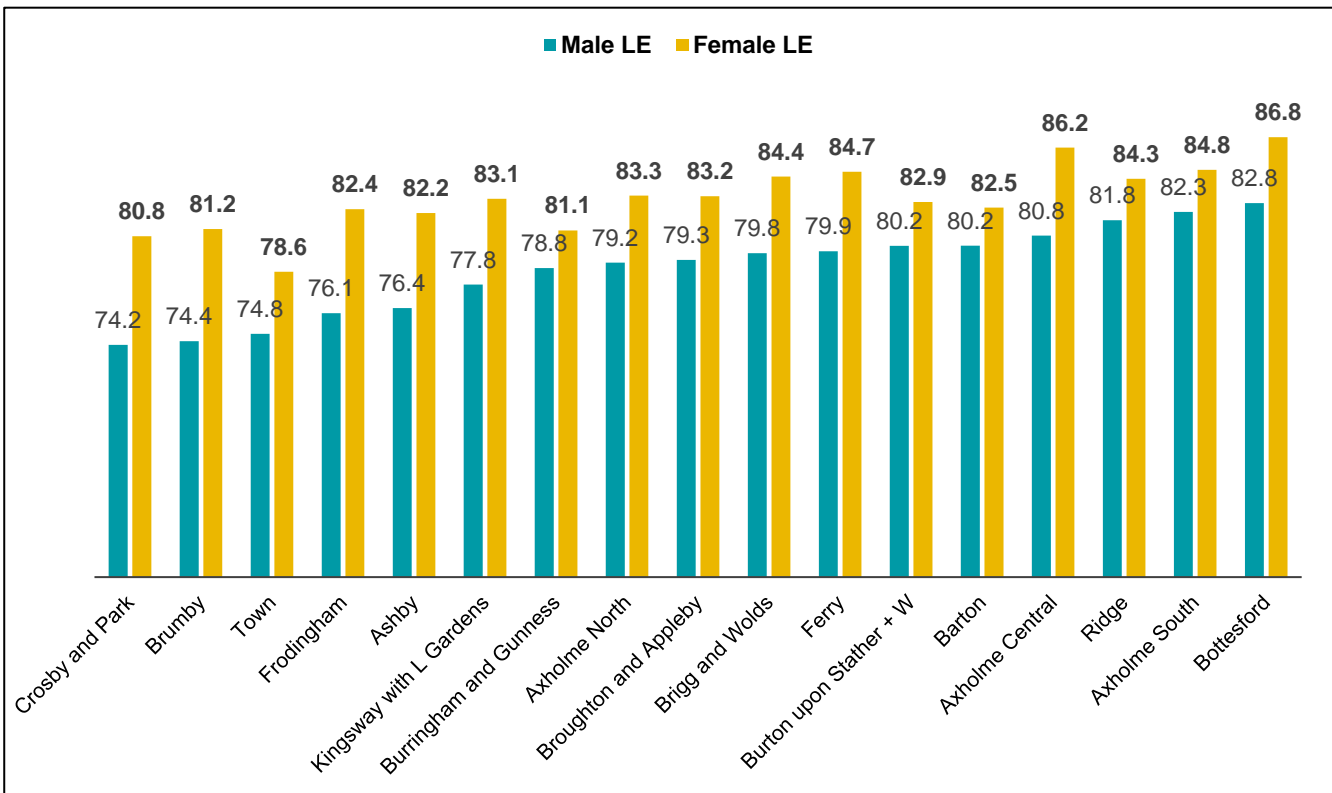
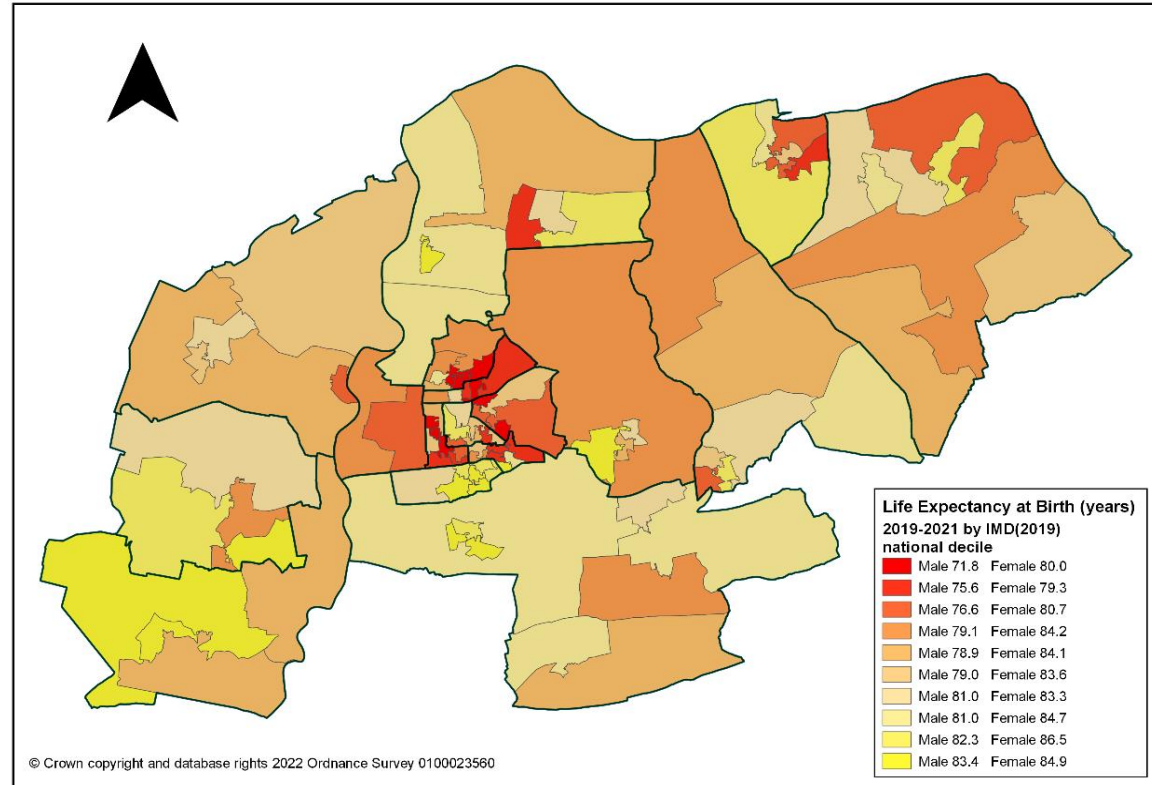


Figure 6: Distribution of Life expectancy at birth by LSOA and Ward (2019-21)



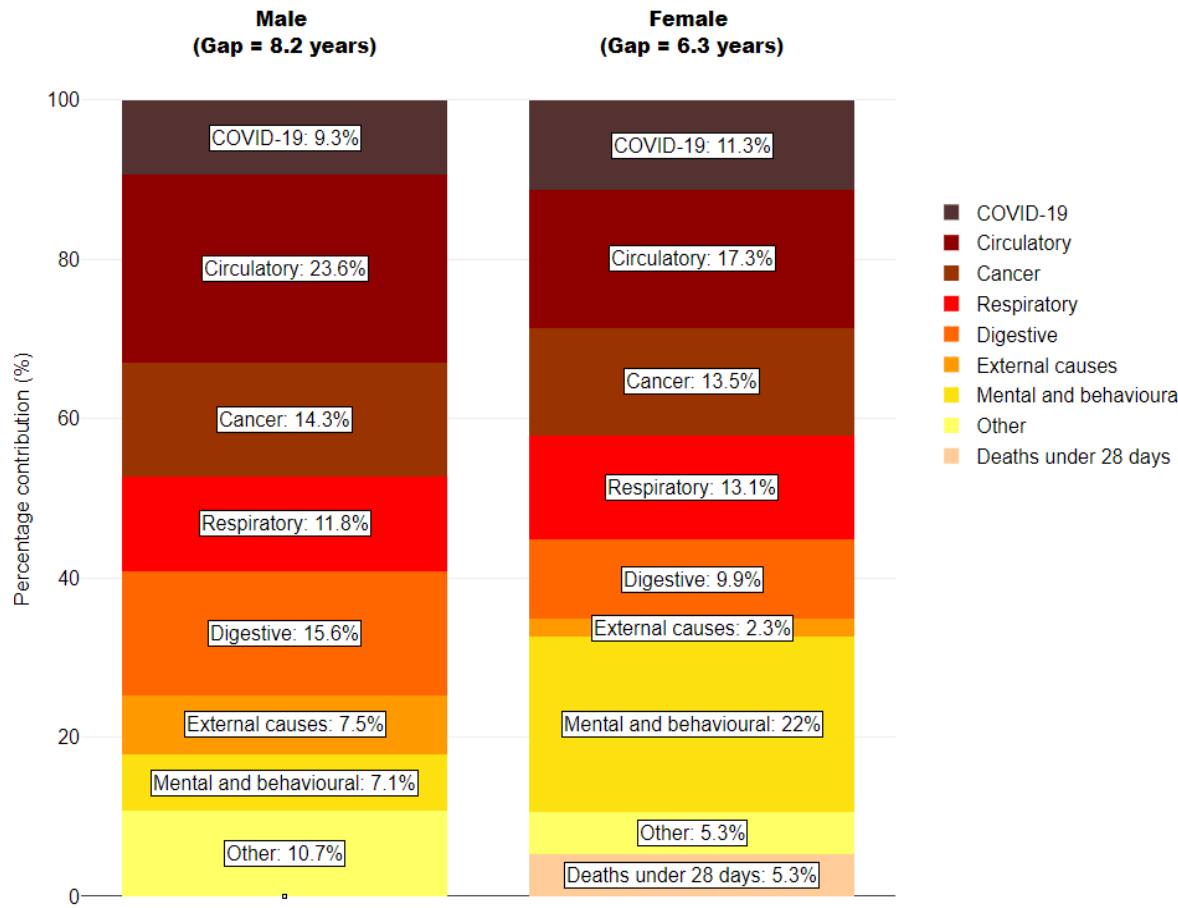
Which diseases contribute the most to the gap in life expectancy?

The biggest contributors to the gap between the most and least deprived areas amongst males is circulatory diseases, such as heart disease or stroke. This is followed by digestive diseases, and cancers.

For females the biggest contributor to the gap in life expectancy by percentage is mental and behavioural causes which will include dementia, followed by circulatory diseases and cancers.

The data is from 2020-21 and is thus showing a notable contribution to the gap in life expectancy as a result of COVID-19.

Figure 7: % Contribution to the gap in life expectancy between most and least deprived quintiles 2020-2021



Source: Office for Health Improvement and Disparities based on ONS death registration data and 2020 mid-year population estimates, and Department for Levelling Up, Housing and Communities Index of Multiple Deprivation, 2019

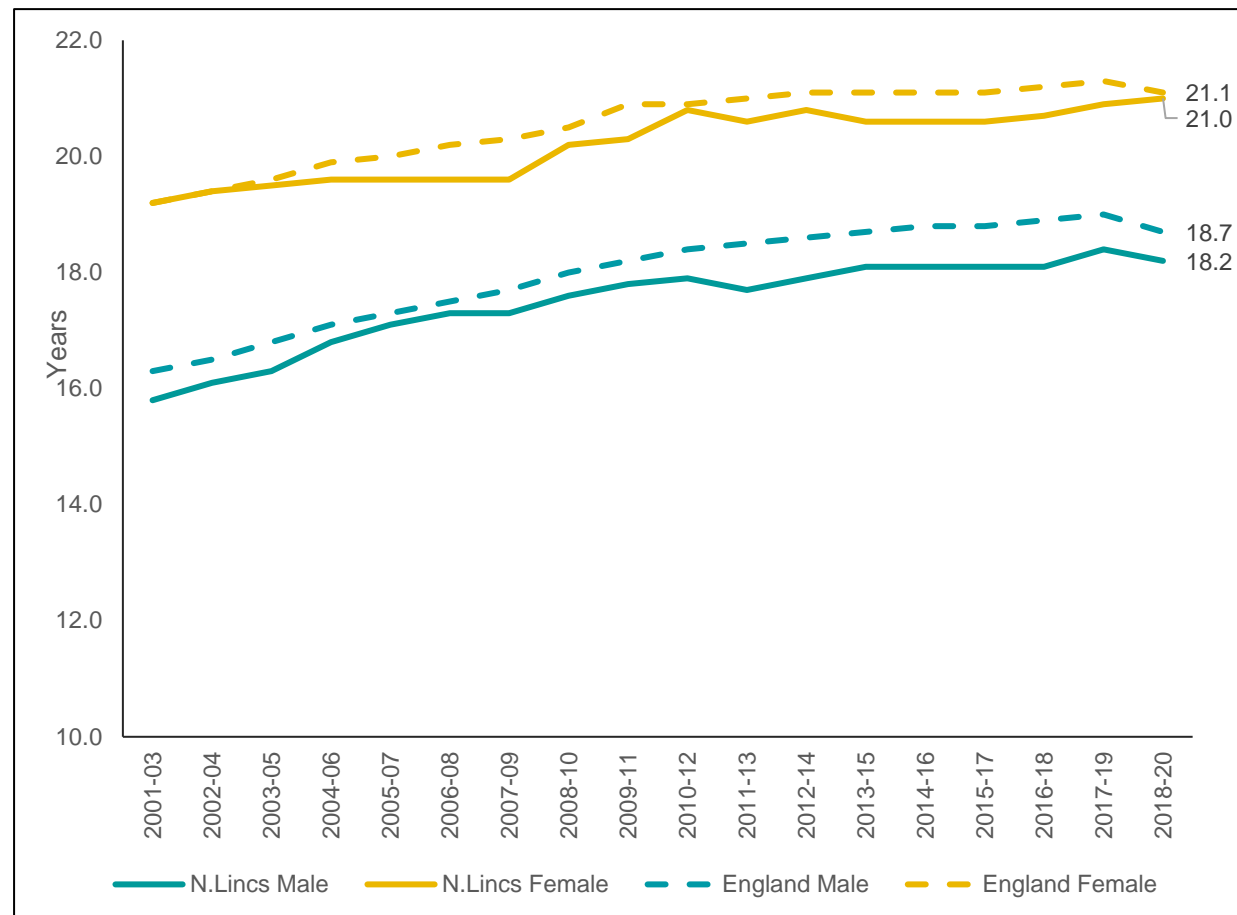
Life expectancy at 65

What's the local picture and how do we compare?

As people age, their overall life expectancy increases, this is because, by the time people reach older age they have either avoided or survived many of the major causes of early death. One would therefore expect life expectancy at 65 to exceed that predicted at birth. Life expectancy at 65 years is an indicator used to measure the extent to which people are enabled to remain healthy in older age.

In North Lincolnshire, male life expectancy at 65 has increased by more than 2 years in the last 19 years, and by just under 2 years for females, to 18.2 years for males and 21 years for females. This is similar to national rates for men and women.

Figure 8: Life expectancy at 65 years, 2001 - 2020



Disability-free life expectancy

What's the local picture and how do we compare?

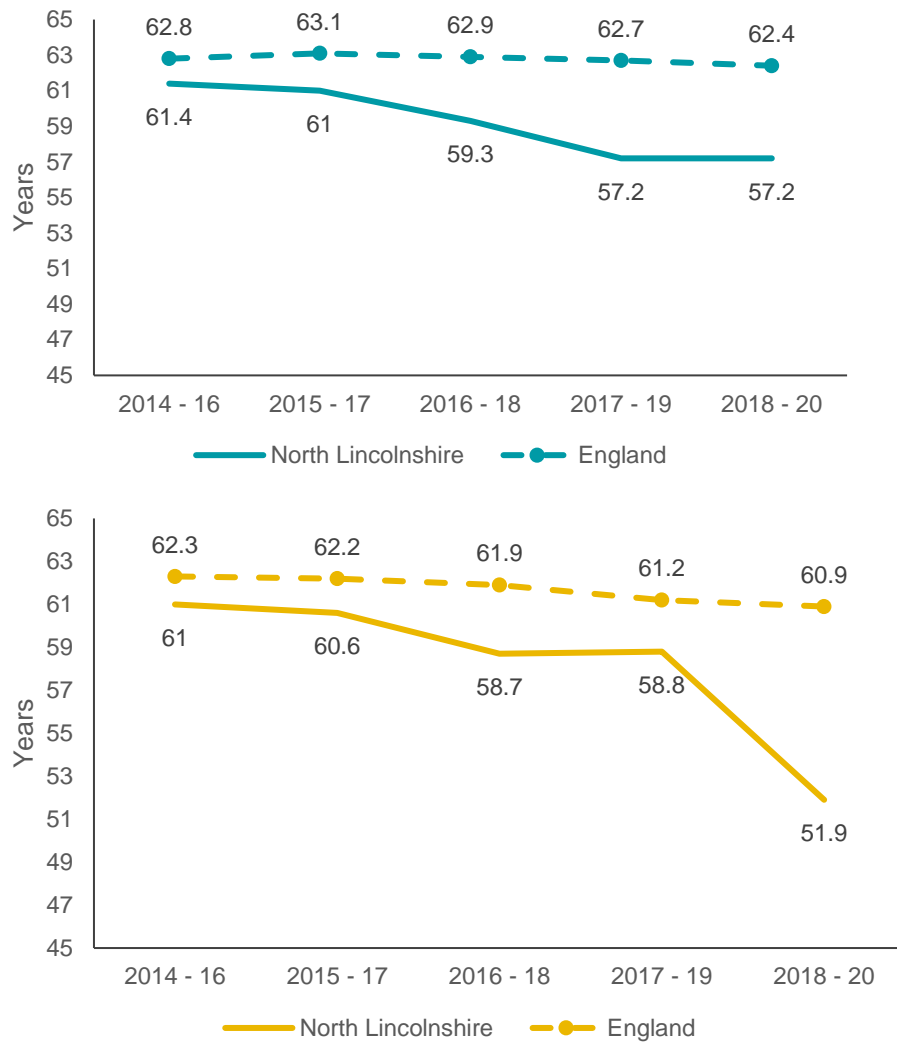
Disability free life expectancy is based upon a self-rated assessment of how health conditions and illnesses limit an individual's ability to carry out day to day activities.²¹

The age to which a person could expect to live disability free has declined for both males and females in North Lincolnshire in recent years.

The disability free life expectancy for males has declined from 61.4 years in 2014-16 to 57.2 in 2018-20. In England disability free life expectancy has changed to a lesser degree, from 62.8 years in 2014-16, to 62.4 years in 2018-20.

For females, disability free life expectancy has declined both in England overall, and locally. Although locally the decline was especially large in the most recent 3-year period, 2018-20. Disability free life expectancy in females has fallen from 61 years in 2014-16 to 51.9 in 2018-20 in North Lincolnshire.

Figure 9: Disability Free Life expectancy in England and North Lincolnshire – Males (top) and Females (bottom)



Healthy Life Expectancy

Life expectancy (LE) is an estimate of how many years a person might be expected to live, whereas **healthy life expectancy (HLE)** is an estimate of how many years they might live in a 'healthy' state. HLE is also a key summary measure of a population's health.

Increases in life expectancy do not automatically lead to a rise in years spent in good health and over the last 11 years the gap between LE and HLE has been getting wider particularly locally, with smaller increases nationally.

What's the local picture and how do we compare?

The most recent data for North Lincolnshire show a decline for both males and females in healthy life expectancy in the last 11 years. Whereas England has remained a similar level throughout the same period. Life expectancy has not seen the same level of changes, recent estimates show both males and females have slightly improved compared to 2009-11.

In 2009-11, HLE for males in England was 63 years and for women, 64 years. In North Lincolnshire the average male HLE in those years was 61.3, 17 years below male life expectancy at birth, and for females it was 61.6 years, more than 20 years below female life expectancy at birth. However, since this time the gap between life expectancy and healthy life expectancy has only widened. As life expectancy has slightly increased, healthy life expectancy has reduced, males in North Lincolnshire can now expect to live 20 years in poor health, with females even longer, at 26 years. Nationally, males will live 16.3 years in poor health, with women at 19.2 years.

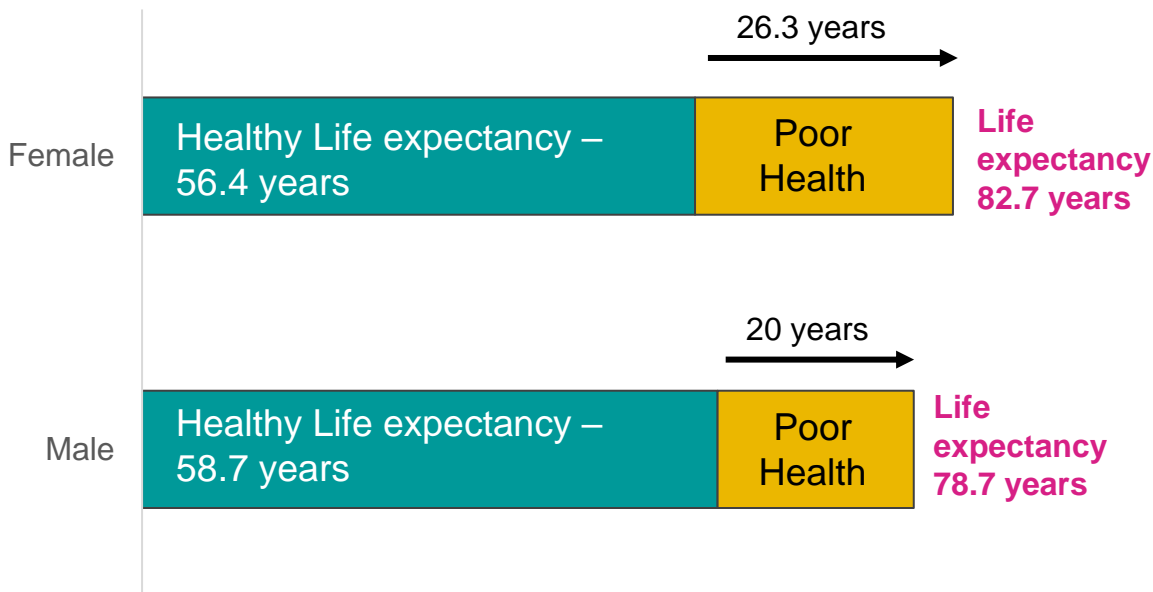
Why is this important?

North Lincolnshire has an older than average workforce, with 36% of people of working age aged 50 years of age and older, compared with 30.7% nationally. As people reach the later part of their working lives, poor health, disability and long term health conditions can affect a person’s ability to sustain employment and affect living conditions prior to pension age. There may also be increased care needs.

There have been no improvements in healthy life expectancy (HLE) in the last 4 years for males and HLE in females has decreased. Male healthy life expectancy currently stands at 58.7 years, this has decreased from 62 years in 2013-15. This means that currently men can, on average expect 20 years of poor health towards the end of their lives.

Female healthy life expectancy currently stands at 56.4. In the space of 6 years, HLE has decreased by just over 8 years. As women can stand to see fewer years spent in good health, and a longer life expectancy, they can therefore, also expect to spend longer living in poor health, with just over 26 years, or 32% of their total life expectancy.

Figure 9: Life expectancy and healthy life expectancy in North Lincolnshire



Current figures suggest a female in North Lincolnshire could live over 30% of her life in poor health, and a male just over a quarter.

Improving Healthy Life Expectancy

Improving HLE remains a priority across government. There is a need to better understand what drives HLE to help inform policy. HLE is calculated using two factors: self-reported good health in the population and mortality rates.

However, self-reported health has a larger impact on HLE than mortality

- 2% improvement in mortality = 0.1 years HLE
- 2% improvement in self-reported good health = 1.3 years HLE

The Biggest drivers of self-reported poor health are chronic conditions and multimorbidity

MSK conditions have a high prevalence in the population (17.2%), analysis by OHID suggests those with MSK are 3 times more likely to report poor health than those that don't. Physical activity, smoking status, education and household income are also associated with self-reported poor health. The research literature also highlights the strong association between self-reported poor health and adverse health events, healthcare utilisation and all-cause mortality.²⁰

Mortality rates:

Deaths from cancer and cardiovascular disease make the largest contribution to years of life lost and therefore have the biggest impact on life expectancy

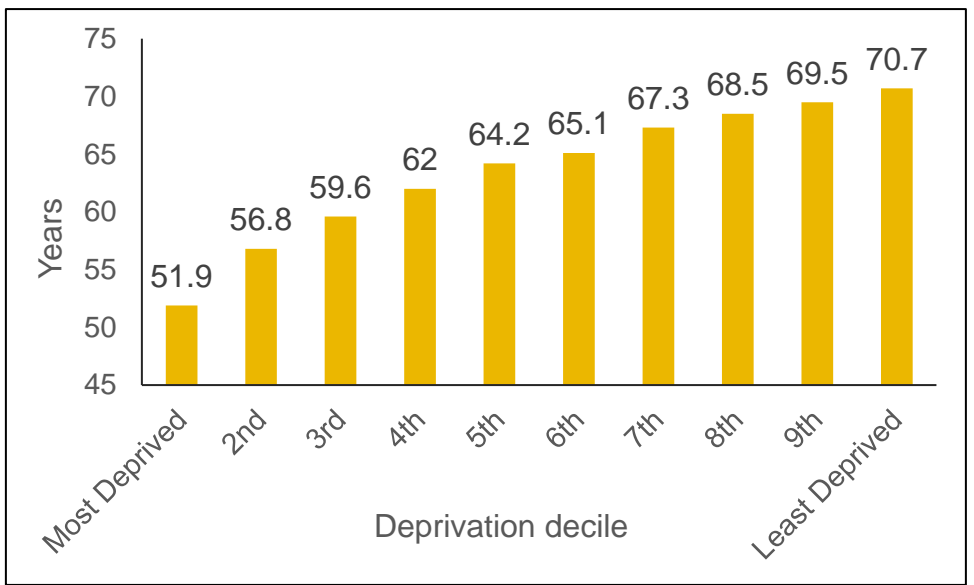
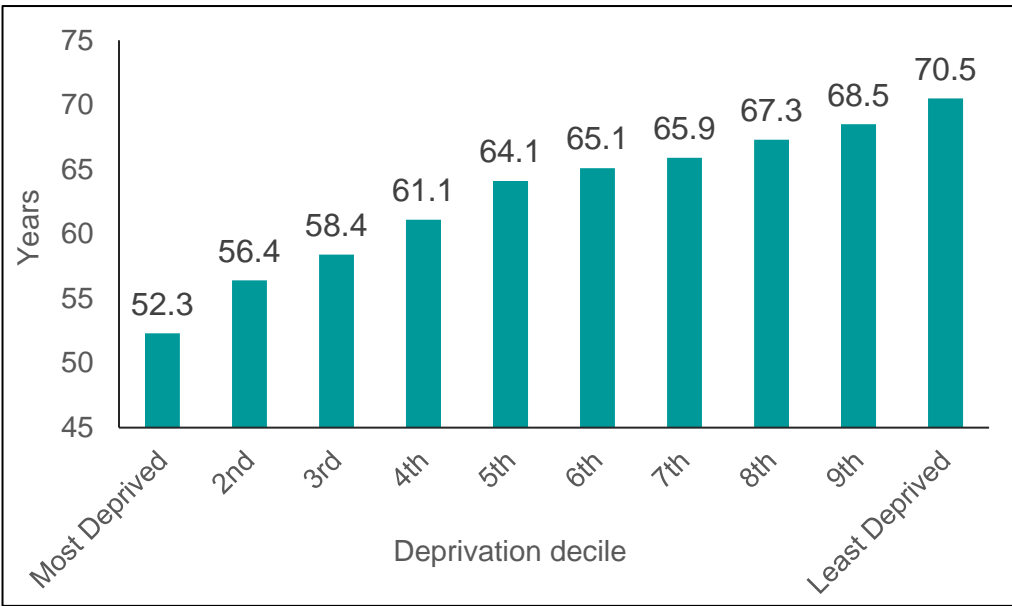
Tobacco is the risk factor making the largest contribution to years of life lost for both sexes followed by high body mass index (BMI), high cholesterol and high blood pressure ²⁰

Inequalities - England

Nationally, the gap in healthy life expectancy between the most and least deprived areas is large. Both males and females living in the most deprived areas of England can expect to live just over 18 fewer years in good health compared to those living in the least deprived areas.

In addition, many people living within more deprived areas can expect to be in poor health for a much larger proportion of their life, over a third for the most deprived females, compared to just over a sixth for the least deprived females, and over a quarter for the most deprived males, compared to just under a sixth for the least deprived.

Figure 10: Healthy Life expectancy by deprivation decile, England 2018-20 – males (left), females (right)

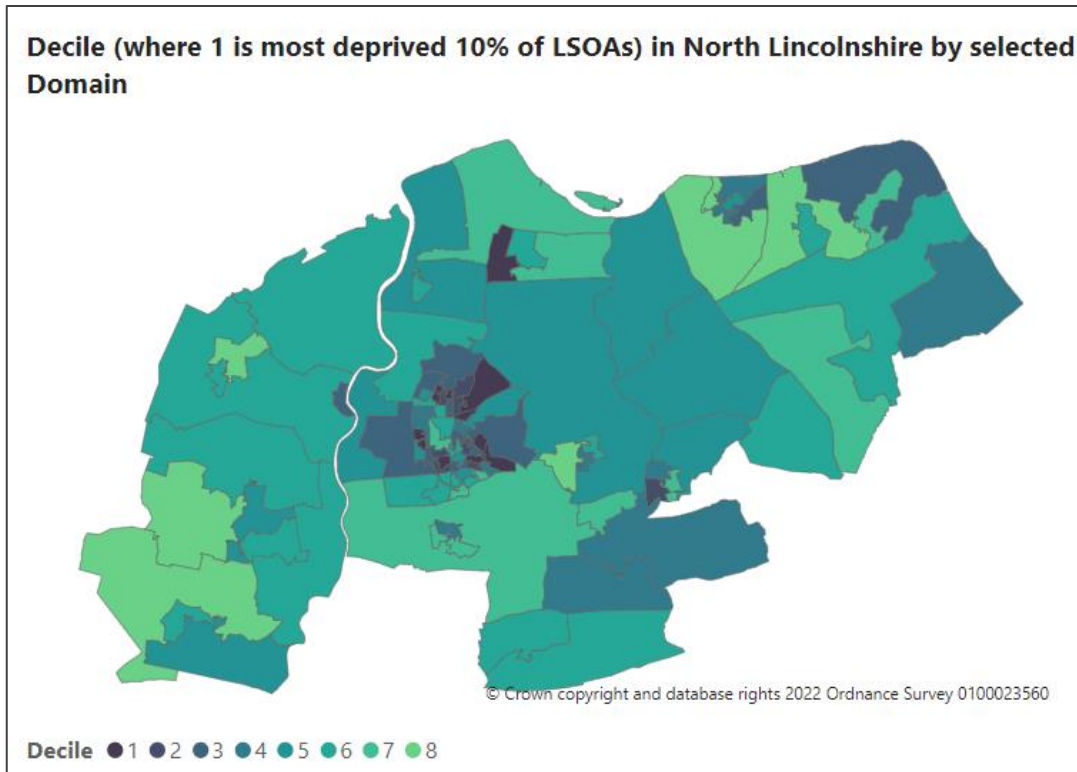
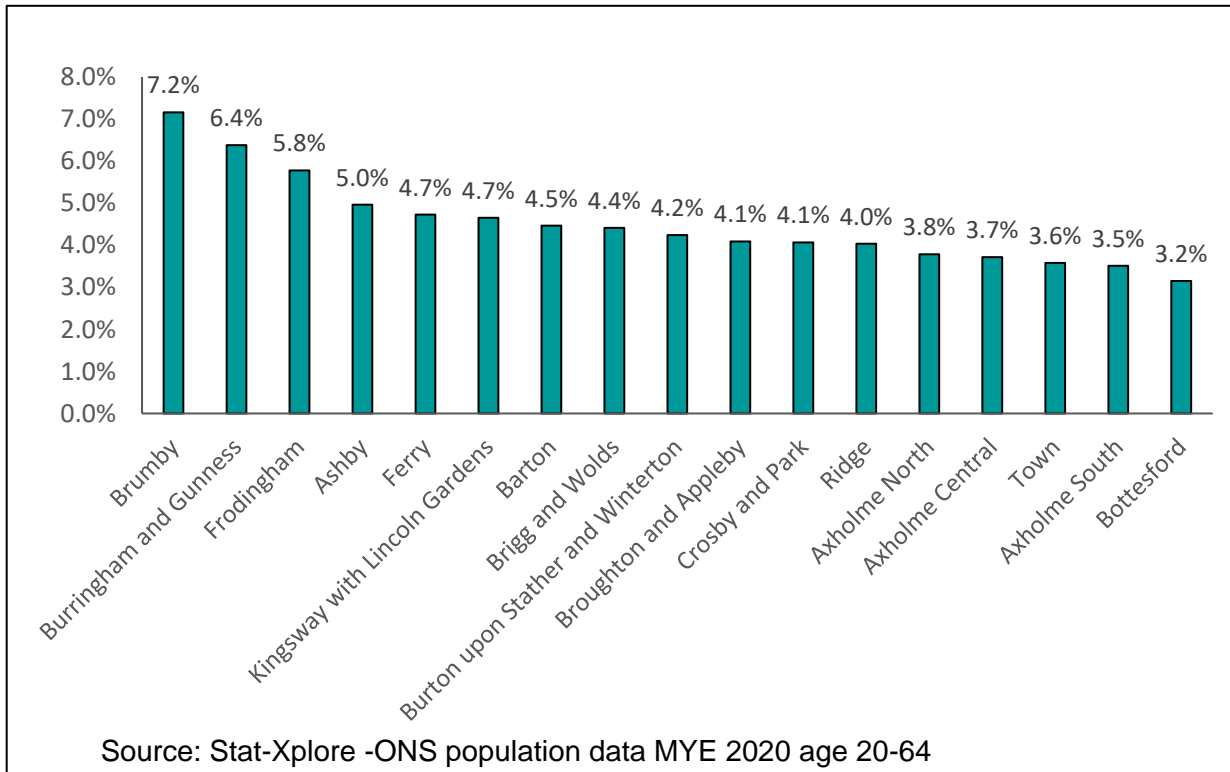


Where is the concern?

The concentration of poorer health in our most deprived areas is reflected in the distribution of incapacity benefit amongst working age adults in North Lincolnshire. There are a few outliers to the above suggestion, with Town having 3.5% of working age adults claiming incapacity benefit, the 3rd lowest in North Lincolnshire. Mapping of the health and disability domain as in figure 12, show pockets of higher health deprivation in Scunthorpe and Winterton, followed by the west side of Brigg.

Figure 11: Incapacity benefit/ESA by ward, (%) November 2020

Figure 12: Map of health and disability domain from indices of deprivation 2019



Who is at risk?

Life expectancy is affected by many factors, for example: behavioural risks to health such as smoking, inactivity and a poor diet; access to and use of good quality health care at the right time; and more broadly the wider socio-economic determinants such as income, education, housing and employment. Many of the factors contributing to inequality in life expectancy are preventable.³

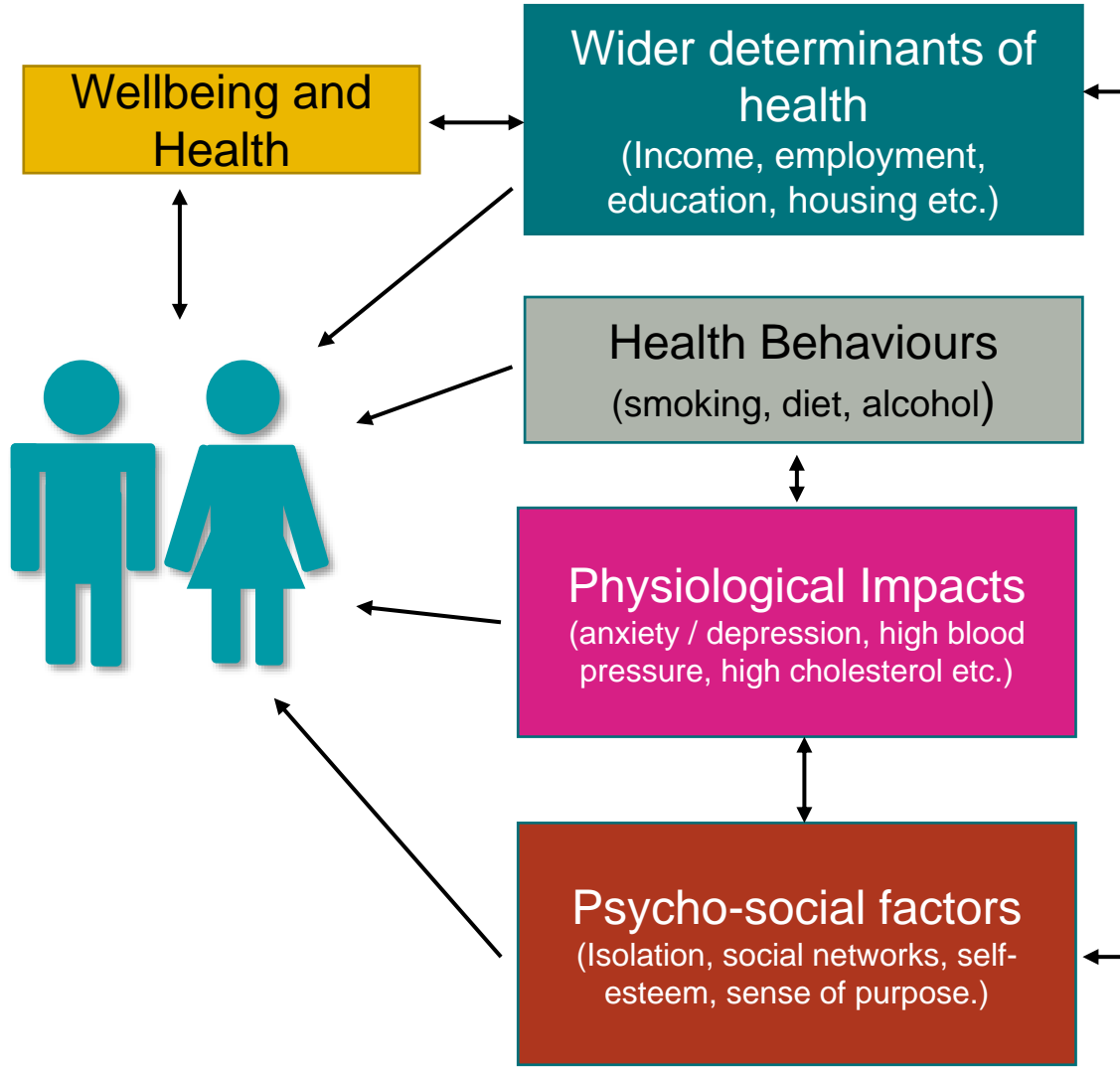
Inequalities can also exist through specific characteristics such as sex, ethnicity, disability and social exclusion. These inequalities were made very clear in the recent COVID-19 pandemic where mortality rates were often highest in groups which already experienced poorer overall outcomes.⁴

Both life expectancy and healthy life expectancy are closely related to overall levels of deprivation.

In 2018, Public Health England (now Office for Health improvement and Disparities) stated that almost one third of the inequalities were caused by higher mortality rates from heart and respiratory disease and lung cancer in more deprived areas. Potentially preventable conditions, with smoking and obesity the main risk factors, both of which have higher prevalence among deprived areas.⁵

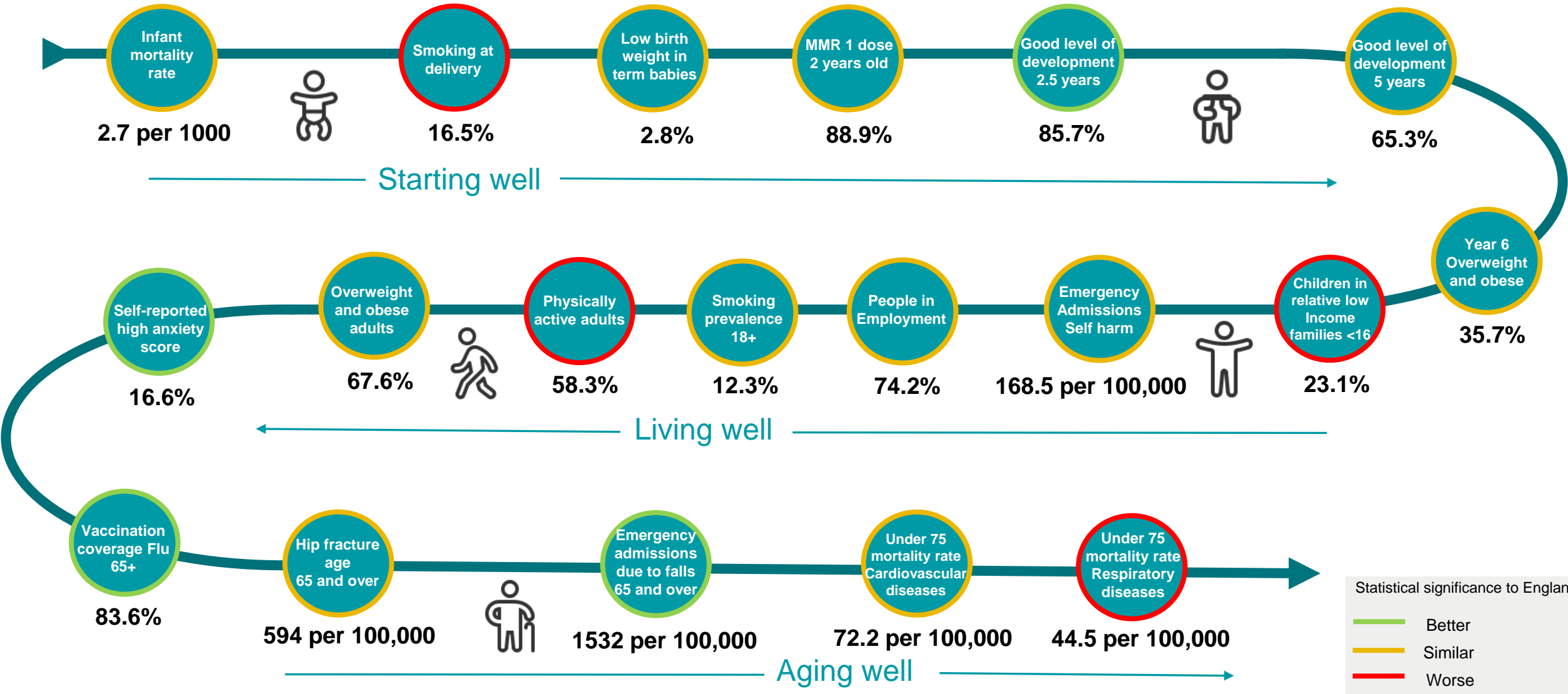
On the next page, some of the overall health outcomes contributing to the life course in North Lincolnshire are explored.

Adapted Labonte model showing the interplay of factors affecting health⁶



North Lincolnshire Life Course Health Statistics 2023 → (comparison to England 95% CI)

Icons from: [Health icons](#)



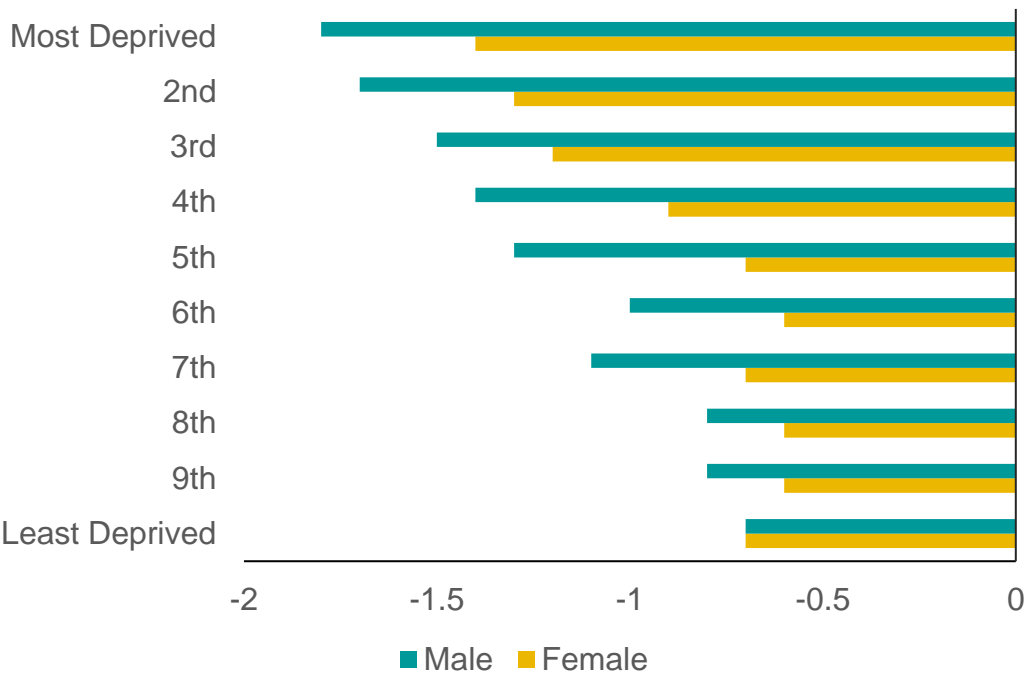
COVID-19

COVID-19 in the UK has affected the population unequally, both in geographic and socio-economic terms. A Public Health England report⁹ published 2020 showed that people who live in the most deprived areas of England and Wales were around twice as likely to die after contracting COVID-19. These COVID-19 related inequalities follow a similar pattern to existing social and structural inequalities, which had driven unequal health outcomes within the population long before the pandemic.

Early rates of COVID-19 mortality was higher in males, Black and Asian ethnicities and ONS reported that men working as security guards, taxi drivers and chauffeurs, bus and coach drivers, chefs, sales and retail assistants, lower skilled workers in construction and processing plants, and men and women working in social care had significantly high rates of death from COVID-19.¹⁰

For deaths with COVID-19 mentioned on the death certificate, a higher percentage mentioned comorbidity with diabetes, hypertensive diseases, chronic kidney disease, chronic obstructive pulmonary disease and dementia than all cause death certificates.

Figure 13: Change in life expectancy post pandemic by deprivation decile₈



Between 2019-2021 life expectancy fell by almost 2 years for males and by 1.4 years for females in the most deprived areas, this is compared to the least deprived areas where life expectancy fell by 0.7 years for both males and females.

Other Inequalities

Life expectancy by ethnicity

ONS analysis¹¹ on linked census and death registration data produced the first estimates of life expectancy by ethnicity in England and Wales. In the period 2011-2014 both Males and Females in White and Mixed ethnic groups had lower life expectancy than other ethnic groups, the Black African group had statistically significantly higher life expectancy than most other groups. Higher age-standardised mortality rates from circulatory diseases were present among Indian, Bangladeshi and Mixed males and Pakistani, Indian and Mixed females compared with the White group.

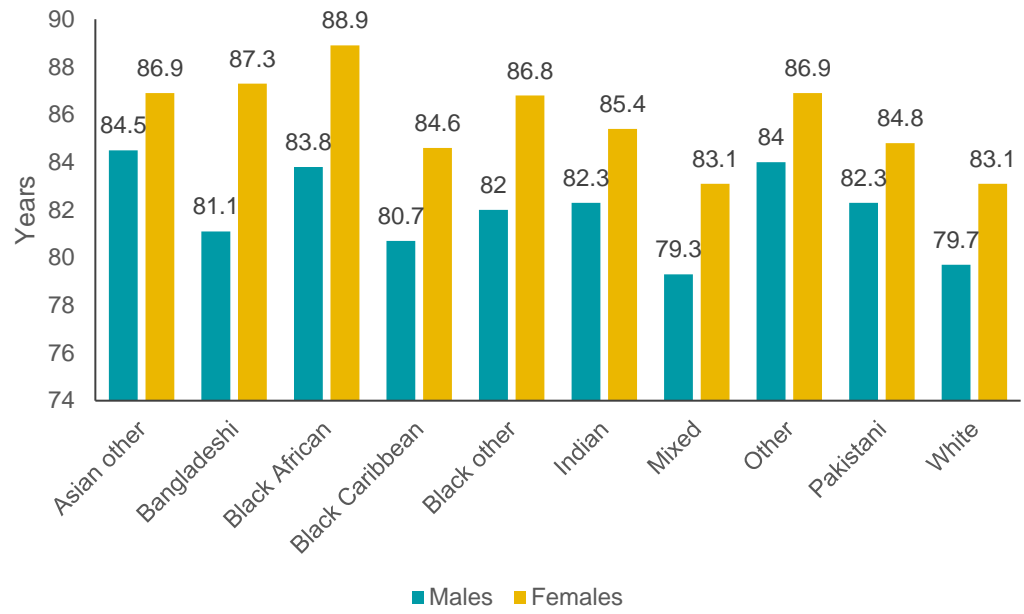
The potential influences of migration, health related behaviours, socioeconomic factors and clinical factors require further investigation.

Life expectancy for people with learning disabilities

2018-19 data from NHS digital showed life expectancy for males with a learning disability was 66 years, and for females 67 years. This is 14 and 17 years below the general population in those years.¹³

Patients with learning disabilities in England are less likely to receive screening for the three major cancer screening programmes, Breast, Cervical and Colorectal, particularly for cervical screening, all of which are important for early diagnosis of cancers.¹⁴

Figure 14: Life expectancy by Ethnicity in England – 2011-2014



A 2019 parliamentary brief¹² highlighted that Gypsy /Travellers have particularly poor health outcomes, even when controlling for other factors, as well as a life expectancy around 10-12 years lower than the non-traveller population.

Among homeless people, the mean age at death* was 45.4 years for males and 43.2 years for females in 2021.¹⁹

*Mean age at death is not the same as life expectancy - Differences in mean age at death are likely a reflection of differences in the average age of different groups – however LE is not available for most groups.

The Marmot Review

The 2010 Marmot review identified multiple groups at greatest risk of preventable poor health and wellbeing. In order to tackle these inequalities, the Marmot review recommended that resources are allocated proportionately to those in greatest need, with the ambition of raising the health and wellbeing of the poorest and most vulnerable children and families, fastest. ¹⁵

The 2020 Marmot follow up suggested 6 proposals for the implementation of action on health inequalities and their social determinants (Figure 2). Finishing by suggesting action is still needed in the original reports suggestions, funding should be allocated proportionately, with the most deprived receiving the most help and finally suggesting that the Government initiates a world leading health inequalities strategy, with clear and visible targets being set. ¹⁶

Implementation of action on health inequalities and their social determinants

- 1) Develop a national strategy for action on the social determinants of health with the aim of reducing inequalities in health
- 2) Ensure proportionate universal allocation of resources and implementation of policies
- 3) Early intervention to prevent health inequalities
- 4) Develop the social determinants of health workforce
- 5) Engage the public
- 6) Develop whole systems monitoring and strengthen accountabilities for health inequalities

Figure 2

Other policy and research on reducing health inequalities

The Covid-19 pandemic refocussed attention on health inequalities, after the stark differences that emerged in terms of outcomes at the start of the pandemic in the UK. Many strategic, research and policy documents followed in 2020/21/22 to analyse and address the reasons behind the differences.

After the NHS long term plan was published in 2019, the NHS set out actions to address inequalities within the system, highlighted by COVID-19.

- **Core20Plus5**¹⁷ is an NHS approach to reduction in inequalities in healthcare. Core20 refers to the 20% most deprived as identified within the IMD, or Indices of Deprivation. (currently 2019).
- The 'Plus' Element identifies population groups which may be currently experiencing inequality – designed to be protected characteristic groups, or Inclusion health groups, such as Gypsy / Travellers, homeless people, sex workers, people with experience of the criminal justice system and other excluded groups.
- The '5' refers to 5 areas of focus which require accelerated improvement. – Maternity, Severe mental illness (SMI), Chronic respiratory disease, Early cancer diagnosis and Hypertension case finding and management.

The Government is set to publish a 'Major Conditions strategy', bringing together evidence to tackle the major contributors to the burden of disease, Cancers, Chronic Respiratory diseases, Dementia, Mental Ill health and Musculoskeletal disorders, to narrow the gap in healthy life expectancy by 2030.¹⁸

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