Life expectancy in North Lincolnshire, 2010-12

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

Life expectancy refers to the average number of years people can expect to live, based on the age specific death rates of a given population at a given point in time. For example, life expectancy at birth is the average number of years a person can be expected to live from birth, assuming that age specific death rates remain constant. As one gets older the longer one is expected live.

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.

There are a number of indicators of life expectancy which are reported on routinely within the NHS and Public Health Outcomes Frameworks. Table 1 below 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

<table>
<thead>
<tr>
<th></th>
<th>North Lincolnshire</th>
<th>England</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Life expectancy at birth in years (2010-12)</td>
<td>78.3</td>
<td>82.8</td>
</tr>
<tr>
<td>Life expectancy at 65 in years (2010-12)</td>
<td>83.0</td>
<td>86.0</td>
</tr>
<tr>
<td>Life expectancy at 75 years (2010-12)</td>
<td>86.0</td>
<td>88.5</td>
</tr>
<tr>
<td>Disability free life expectancy at birth (2010-12)</td>
<td>63.1</td>
<td>64.1</td>
</tr>
<tr>
<td>Healthy life expectancy at birth in years (2009-11)</td>
<td>61.8</td>
<td>63.0</td>
</tr>
<tr>
<td>% life likely to be spent in ‘good health’ (2009-11)</td>
<td>78.7%</td>
<td>76.6%</td>
</tr>
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Source: ONS and North Lincolnshire Council
Life expectancy at birth

Life expectancy at birth has been used as a measure of health status in this country for more than 150 years, and has been used to monitor area differences in health outcomes for almost as many years. It refers to the average number of years a child born today might expect to live, based on the current death rates of people living in that area at the time of their birth. In other words, it gives the average number of years a baby born today might expect to live if they had the same health status, life styles and health risks as people who have recently died.

This indicator should not be regarded as a predictor of how long a baby may actually live, because mortality rates of the population are likely to change in the future, and because many of these babies may not reside in the same area for the whole of their lives.

Life expectancy at birth has been improving year on year in North Lincolnshire, and since the late 1980s, at a faster rate than nationally. However, the steep rises enjoyed in previous years are now slowing down. In fact, local unpublished data show that life expectancy for North Lincolnshire men fell slightly during the 3 year period, 2010-12, whilst female life expectancy rose slightly.

This means that local life expectancy for men remains almost a year below the national average of 79.2 years; whilst for women it is almost three months below the national average of 83.0 years.

Figure 1: Male and female life expectancy at birth in England North Lincolnshire

![Graph showing male and female life expectancy in North Lincolnshire compared to England.](source)

Source: ONS and PHMF, 2013
Inequalities in life expectancy

Life expectancy has improved for all social groups in North Lincolnshire over the last decade and a half, although the rate of improvement has been greatest amongst our most affluent residents.

**Sex differences** – Women continue to live longer than men, although the gap between male and female life expectancy is narrowing. In 2010-12 there was a 4 and a half year gender gap in life expectancy in North Lincolnshire, compared with a 6 year gap in 1992.

**Social differences** – The social gap in life expectancy is also narrowing, although the gap between men and women living in our most and least deprived neighbourhoods remains significant, at 6.6 years for men and 10.5 years for women.

**Figure 2: Gap in life expectancy between most and least deprived 10% neighbourhoods North Lincolnshire**

![Graph showing the gap in life expectancy between most and least deprived 10% neighbourhoods in North Lincolnshire.](source: ONS, 2014)

**Table 2: Gap in life expectancy at birth for males and females living in the most and least deprived 10% neighbourhoods in North Lincolnshire**

<table>
<thead>
<tr>
<th></th>
<th>Life expectancy at birth for males living in least deprived 10% LLSOAs</th>
<th>Life expectancy at birth for females living in least deprived 10% LLSOAs</th>
<th>Life expectancy at birth for males living in the most deprived 10% LLSOAs</th>
<th>Life expectancy at birth for females living in the most deprived 10% LLSOAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-12</td>
<td>88.2</td>
<td>77.1</td>
<td></td>
<td></td>
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</table>

Source: NLC PHIT
For males living in the most deprived 10% neighbourhoods in North Lincolnshire, average life expectancy at birth is 73.1 years, which is 6 years below the current national average, and 5 years below the North Lincolnshire average. It is equivalent to average English male life expectancy in 1992.

For females living in the most deprived 10% neighbourhoods in North Lincolnshire, average life expectancy is 77.1 years which is 5.7 years below the local average and 5.9 years below the national average and is equivalent to average English female life expectancy in 1983.

In other words, life expectancy has improved for all social groups over the last decade, and has improved fastest for those on the lowest incomes, with the improvement being greatest amongst our most deprived males.

Who is at risk?
These inequalities in life expectancy begin early in life, with inequalities in health outcomes reflected right across the life course, from pregnancy and childbirth right through to end of life.

The main drivers of inequalities which are amenable to change include:

- The wider social determinants of health, such as income, housing, employment, access to transport and leisure, exposure to crime, poor working conditions, air quality, accidents and so on
- The lifestyles that people lead, including smoking, diet, alcohol and substance misuse, physical activity and weight management
- Take up and use of preventive public health services such as screening, vaccinations, stop smoking, as well as self-management of long term diseases such as diabetes, heart disease, epilepsy and asthma

The Marmot review identified the following 3 groups at greatest risk of preventable poor health and wellbeing:

- Children and families living in poverty and disadvantaged circumstances
- Looked After Children and other vulnerable young people with poor childhood experiences
- The long term unemployed – especially men

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.

Other vulnerable groups identified as at risk of poorer health and lower life expectancy include:
• **Adults with learning disabilities.** Although the life expectancy of this vulnerable group has increased over the last 50 years, they are still 58 times more likely to die before the age of 50 than the rest of the population.

• **People with severe mental health problems.** National research suggests that people with severe and enduring mental illnesses have a reduced life expectancy of up to 18 years for males and 15 years for females, compared with the general population. This is due largely to poorer physical health, and specifically higher levels of cardiovascular diseases associated with an unhealthy diet, higher levels of smoking, combined with medication induced weight gain.

• **People who are homeless** – have been estimated to have a lifespan which is up to 30 years shorter than the general population, with drug and alcohol misuse being responsible for an estimated third of premature deaths in this population.

**Where is this causing concern?**
The pattern and distribution of life expectancy at birth across North Lincolnshire reflects the distribution of the wider determinants of health, 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 graph and neighbourhood map below.

*Figure 3: Life expectancy at birth by ward, 2010-12*

Source: North Lincolnshire Council, 2013
Which diseases contribute most to the gap in life expectancy?
The biggest contributors to this gap amongst males and females are higher rates of early deaths from heart disease, lung cancer, and respiratory diseases such as COPD.

Table 3: Contribution to life expectancy gap

<table>
<thead>
<tr>
<th>Broad cause of death</th>
<th>Cause of death</th>
<th>Male Contribution to gap %</th>
<th>Female Contribution to gap %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circulatory diseases</td>
<td>CHD</td>
<td>12.5</td>
<td>18.4%</td>
</tr>
<tr>
<td></td>
<td>Stroke</td>
<td>3.1</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>Other CVD</td>
<td>-</td>
<td>8.1</td>
</tr>
<tr>
<td>Cancer</td>
<td>Lung cancer</td>
<td>11.7</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>11.8</td>
<td>3.7</td>
</tr>
<tr>
<td>Respiratory diseases</td>
<td>Pneumonia</td>
<td>7.0</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>COPD</td>
<td>11.3</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>5.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Digestive diseases</td>
<td>Chronic liver disease</td>
<td>11.1</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>6.9</td>
<td>1.6</td>
</tr>
<tr>
<td>External causes</td>
<td>Suicide</td>
<td>4.4</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Accidental/non accidental injury</td>
<td>2.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Other</td>
<td>Infectious and parasitic</td>
<td>5.3</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>Mental and behavioural</td>
<td>5.7</td>
<td>12.2</td>
</tr>
</tbody>
</table>
Figure 5: Life expectancy years gained if our poorest 10% North Lincolnshire residents had the same mortality rates as the least deprived 10% residents

Source: PHE, 2013

The biggest contribution to the deprivation gap in life expectancy in disease terms is cancers for men, and circulatory diseases for women.
Life expectancy at 65 and 75 years

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

As people age, their 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 to exceed that predicted at birth.

Life expectancy at 75 years is an NHS Outcomes indicator and is used to measure the extent to which people are enabled to remain healthy in older age.

In North Lincolnshire, male life expectancy at 75 has increased by more than 2 years in the last 20 years, and by just under 2 years for females, to 86.2 years for males and 88 years for females. This is similar to national rates for men and women.

Figure 6: Life expectancy at 75 years, 1991-2012

Source: ONS, 2014

Where is this causing concern?

As one might expect the social pattern for life expectancy at 75+ follows a similar social gradient to poor health and healthy life expectancy, with the lowest rates in the poorest neighbourhoods and the highest rates in our most affluent neighbourhoods. At 75 years and older the social gap is wider for women than for men.
Figure 7: Life expectancy at 75 years for males and females in North Lincolnshire by deprivation fifths (2010-12)

Source: North Lincolnshire Council, 2013

Healthy life expectancy and disability free life expectancy

Whereas life expectancy (LE) is an estimate of how many years a person might be expected to live, 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 reasonable health and over the last 20 years the gap between LE and HLE has been getting wider, both locally and nationally.

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

The most recent estimates for England and for North Lincolnshire show a general improvement in healthy life expectancy in the last 20 years. However the rate of improvement has not been as fast as it has been for life expectancy at birth.

In 2009-11, HLE for males in England was 63.2 years and for women, 64.2 years. In North Lincolnshire the average male HLE in those years was 61.8, almost 17 years below male life expectancy at birth, and for females it was 63.0 years, more than 19 years below female life expectancy at birth.

A healthy life expectancy between men and women, nationally and locally, is now much narrower than for LE at birth, although women have a slightly longer healthy life expectancy than men. The same risk factors apply to healthy life expectancy as to life expectancy at birth, lifestyle risks having a significant influence.
As with life expectancy, there are also considerable variations between different geographical and socio economic groups.

Why is this important?

North Lincolnshire has an older than average workforce, with 32% of people of working age aged 50 years of age and older, compared with 27% nationally. Population projections suggest that by 2025, 44% of the North Lincolnshire labour force will be aged 50 plus, compared with 38% regionally and 42% nationally. Maintaining the health and wellbeing of the workforce will therefore become increasingly important to the economy, especially with the proposed rise in the state and occupational pension age.

Currently, improvements in healthy life expectancy (HLE) are lagging behind improvements in length of life, with a 10 year gap between life expectancy (LE) and healthy life expectancy (HLE). In other words, currently, people can expect to live at least 10 years in poor health towards the end of their life. Based on current trends, we should expect the gap between HLE and LE to widen further to 11.5 years by 2025.

Currently just over half of males in North Lincolnshire can expect to enjoy a relatively healthy working life up to 68 years of age. In our more deprived wards, namely Crosby, Brumby, Town and Frodingham, healthy male life expectancy falls below current pensionable age.

On average, it is estimated that healthy life expectancy will need to increase by at least 3.5 years to maintain the current status quo of healthy to unhealthy dependency ratio in the working age population, once the pensionable age is increased. In some of our most deprived areas the growth in healthy life expectancy will need to exceed this.
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.

What would make a difference?

Analysis in the USA suggest that as little as 20% of the influences on health are to do with clinical care or the quality of that care, with health behaviours accounting for 30% of the influences, physical environment 10%, and socio economic factors 40%.
A recent analysis of the research evidence suggests 9 high impact changes which could be implemented by local authorities and health and wellbeing boards and which would make a significant difference to local health outcomes and the reduction of health inequalities. The focus is on:

- **The best start in life**
  Mothers need to be healthy before and during pregnancy and childbirth. Local authorities have a role to play in this. Babies born with low birth weight, ie under 2500g, are five times more likely to die as an infant than children of healthy weight. In North Lincolnshire, rates of unhealthy weight at birth are higher than nationally. Supporting the most high risk and vulnerable women for antenatal and postnatal support can improve maternal health and the health of subsequent infants.

- **Healthy schools and pupils**
  The overall health benefits of a good education have been estimated to provide returns worth up to £720 for every £1 invested. Targeting the most deprived under3s for additional family and developmental support can increase school readiness, improve life chances, and ultimately improve life expectancy. Currently only half of 7 year olds are getting the recommended levels of physical activity with girls doing less than boys. Schools have a key role to play.

- **Helping people find good jobs and stay in work**
  Unemployment increases the risk of heart disease and stroke by between 1.5 and 2.5 times. 1 in 7 men develops clinical depression within 6 months of losing their job. Young people aged 18-24 years currently have the highest rates of unemployment.

- **Active and safe travel**
  Physical inactivity increases the risk of chronic conditions in later life including heart disease and diabetes. Getting just one more child to walk to school could pay back the equivalent of £768 in health benefits to individuals, savings in NHS costs, productivity gains and reductions in air pollution and congestion. More than half of all serious and fatal injuries to pedestrians occur on roads with a 30 mph speed limit, and accident rates for children are almost 4 times higher in deprived areas.

- **Making homes warmer and safer**
  More than a million children nationwide have accidents in and around the home that result in visit to A&E, with under 5s being at greatest risk. Rates of attendance are highest amongst children living in the most deprived areas. In 2013/14, there were over 1500 attendances to A&E of under 5s as a result of an accidental injury in or near the home, and over 300 hospital admissions. Warmth and energy improvements in poorer households can reduce respiratory problems and improve mental health.

- **Access to green and open spaces and the role of leisure services**
  Increasing access to parks and open spaces could help reduce national NHS costs of treating obesity by more than £2billion.

- **Strong communities, wellbeing and resilience**
  Estimates suggest that 800,000 people in England are chronically lonely. Being lonely is estimated to be as bad for health as smoking 15 cigarettes a day and is as big a health risk as obesity. Loneliness also makes it harder to self regulate behaviour, and avoid risk taking, whilst social support is particularly important in increasing resilience and promoting recovery from illness.
Tackling harmful behaviours and developing social approval for health enhancing behaviours

Whilst smoking rates are falling, it remains the single biggest cause of preventable ill health and death. In North Lincolnshire, smoking rates remain above the national average and are highest amongst 16-24 year olds. (See Tobacco profile for North Lincolnshire)

• Public protection and regulatory services
  (including takeaway/fast food, air pollution, and fire safety) In 2013 around 95 North Lincolnshire deaths were estimated to be due to long term exposure to air pollution, with individuals losing an average of 11.5 years of life. Local authorities can help improve air quality. Meals eaten outside the home account for a quarter to a fifth of calorific intake of men and women. Takeaways account for a quarter of this market. Many studies have found an association between a fast food rich environment and poorer health, especially obesity.

• Health and spatial planning
  Local authorities have a role to play in planning healthy places for residents to live and work. Nearly 80% of car journeys of less than 5 miles could be replaced by walking cycling or using public transport. In North Lincolnshire, proportionately more people use cars to cover these shorter journeys than nationally. Cycling to work can reduce the relative risk of mortality by 40% through reducing the risk of heart disease, stroke, obesity and general health improvement.

What can local authorities achieve by tackling health inequalities

In England the cost of treating illnesses and disease arising from health inequalities has been estimated at £5.5 billion a year. Lost taxes and higher welfare payments resulting from health inequalities cost in the region of £28-32 billion.

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