

# Life expectancy in Wirral 2016-18

Wirral Intelligence Service

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#### Life expectancy in Wirral 2016-18

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V1	February 2020	Hannah Cotgrave	Sarah Kinsella	Removed section, changed wording, updated charts

## **Report Overview**

Abstract					
Intended or potential audience	External				
	<ul> <li>Wirral Partners</li> </ul>				
	<ul> <li>General Public</li> </ul>				
	Internal				
	<ul> <li>Director of Public Health and wider Public Health Team</li> <li>JSNA Bulletin</li> <li>Departmental Management Team (plus other departmental meetings)</li> </ul>				
Links with other topic areas	<ul> <li>Deprivation</li> <li>Population</li> <li>Mortality</li> </ul>				

## **Key Findings**

- Life expectancy (LEx) at birth in Wirral increased steadily from the 1990s to early 2000s for both males and females, but both appear to have plateaued around 2009-11
- In 2016-18, LEx at birth in Wirral was 78.2 years for males (a decrease on 2015-17) and 82.0 years for females (an increase on 2015-17)
- Rock Ferry was the ward with the lowest LEx at birth for both males (72.2) and females (77.3); Heswall was the ward with the highest LEx at birth for males (84.3) and Pensby & Thingwall was the ward with the highest LEx at birth for females (88.0)
- The gap between LEx at birth at ward level in Wirral has widened for both male and females
- The gap between LEx at birth between males and females in Wirral has increased from 3.5 to 3.8 years between the last two period; this is in line with trends at national levels.
- LEx at 65 for males in Wirral saw a very slight decrease of 0.1 years (2016-18) compared to the previous period. LEx at 65 for females in Wirral however increased by 0.2 on the previous period
- Following a steady increase between the early 1990s to the early 2000s, overall LEx at 65
  then plateaued in Wirral, the North West and England from 2009-11 onwards (despite small
  fluctuations). Further research by the OECD shows that this trend is, in fact, seen in other
  developed countries
- The gap in LEx at birth at Wirral ward level widened for both men and women between 2015-17 and 2016-18; 9.3 to 10.7 years for women and 9.8 to 12.1 years for men.
- Increases in life expectancy for women in recent years have not been matched by corresponding rises in Disability-free Life Expectancy (DfLE) and Healthy Life Expectancy (HLE) both nationally and locally. This indicates that women are spending less of their lives in good health
- In contrast, the gap between HLE and LEx for males in Wirral saw the largest reduction; 18.5 to 15.6 years in 2015-17 and 2016-18 respectively. This is also lower than the HLE/LEx gap estimated in 2009-11 (17.0 years). This indicates that men are spending more of the life in good health compared to previous years
- Wirral men have lower LEx at birth compared to England in all deprivation deciles, but Wirral women have higher LEx at birth compared to England in the least two deprived deciles
- Life expectancy at 65 years provides more of a mixed picture when comparing deprivation deciles between Wirral and England, but generally the gaps are wider in the more deprived deciles

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#### Introduction

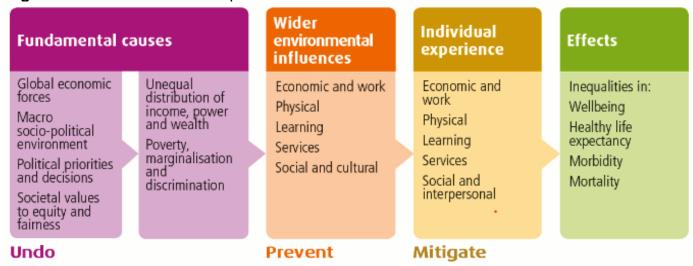
This update summarises the most recently available data (2016-18) for life expectancy (LEx) in Wirral and compares local and national data. The World Bank (2020) estimates that the average life expectancy at birth globally is 72.4 years; 74.7 for women and 70.2 for men.

Life expectancy at birth in England showed dramatic increases throughout the twentieth century as health and living conditions improved. It increased from 46 years for males and 50 years for females in 1900, to 78 years for males and 82 years for females in 2011. However, LEx appears to have plateaued since this time, not just in England but in other developed countries.

Increases in LEx have not been uniform across all social groups; marked increases have taken place amongst more affluent social groups, while progress has been significantly slower for people in more deprived social groups. The inequality gap in LEx between these groups has increased in recent years.

Consequently, reducing inequalities in LEx was a public health target throughout the 1990s and 2000s and is now one of the overarching indicators in the current <a href="Public Health Outcomes">Public Health Outcomes</a>
<a href="Framework (PHOF)">Framework (PHOF)</a>. The causes of these health inequalities are complex and involve interactions between social, educational, economic and structural factors (Figure 1).

Figure 1: Causes of health inequalities



Source: Public Health Scotland

## Life Expectancy at birth

Life expectancy is an estimate of the average number of years a person would survive if he or she experienced a particular area's age-specific mortality rates for that time period throughout the rest of his or her life.

It is not the number of years a baby could actually *expect* to live, because it makes no allowance for probable future changes in death rates (i.e. people living longer) or for people moving away from the area in which they were born.

**Figures 2 and 3** show the annual trend in LEx at birth for males and females in England, North West, and Wirral between 1995 and 2018.

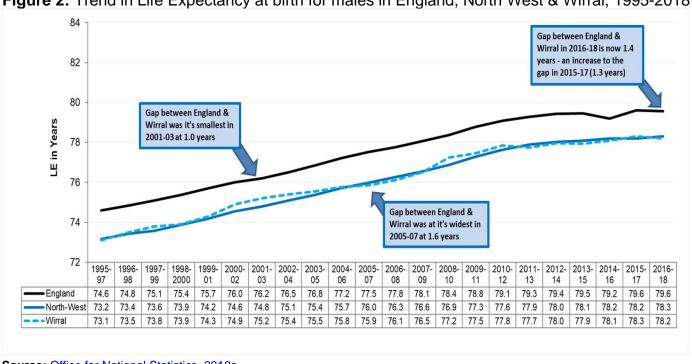


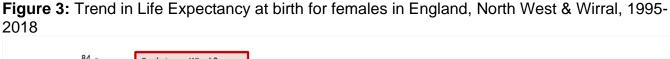
Figure 2: Trend in Life Expectancy at birth for males in England, North West & Wirral, 1995-2018

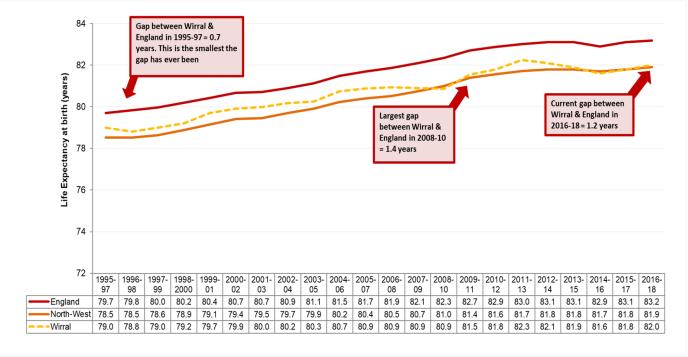
Source: Office for National Statistics, 2018a

Note: A larger version of this chart is available in Appendix 1

Since 1995-97, LEx at birth has increased by 5.1 years for males in Wirral, compared to 5.0 years for males in England. So, although LEx has been increasing locally, it has also been increasing in England meaning that the gap between men in England and Wirral remains.

The latest time period (2016-18) saw a decrease in LEx at birth amongst males in Wirral of 0.1 years compared to the previous time period (2015-17). LEx at birth amongst males in England stayed the same meaning that the gap between males in Wirral and England has widened by 0.1 years; from 1.3 years in 2015-17 to 1.4 years for the current period.





Source: Office for National Statistics, 2018a

Note: A larger version of this chart is available in Appendix 2

Figure 3 shows that LEx at birth since 1995-97 has increased by 3.0 years for females in Wirral, compared to an increase of 3.5 years for females in England over the same period. So, although LEx at birth has been increasing locally for females, it has not increased at the same pace as England, so the gap between Wirral and England continues to be more than a year (currently 1.2) years, compared to a gap of 0.7 years in 1995-97). Wirral now has a higher LEx at birth than North West for females in 2016-18 (82.0 vs 81.9).

### Life Expectancy at age 65

Figure 4 shows life expectancy at age 65 in Wirral, the North West and England for both males and females from 2001 to 2018. The chart shows that after many years of increasing gains in LEx at age 65, 2009-11 marked the start of a plateauing in England, the North West and Wirral.

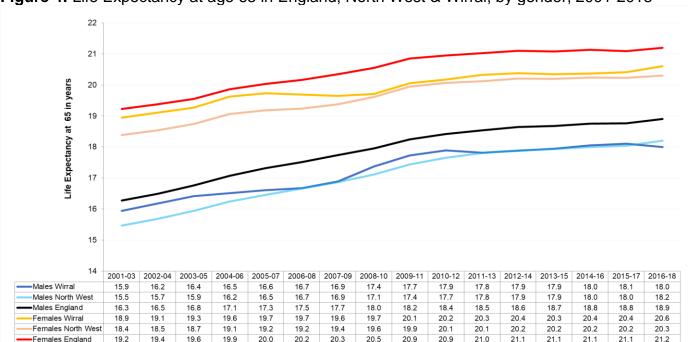


Figure 4: Life Expectancy at age 65 in England, North West & Wirral, by gender, 2001-2018

Source: Office for National Statistics, 2019a

19.6

Females England

The most recent time period (2016-18) showed a slight decrease in LEx at 65 amongst males in Wirral (0.1 years) compared to LEx in males in the North West and England, which increased by 0.2 and 0.1 years, respectively. This means that the gap in LEx in men between England Wirral has widened. LEx at 65 for females in all three areas increased: Wirral by 0.2 years and the North West and England by 0.1 years.

These changes his means that the gap in LEx between males and females in Wirral has widened between 2015-17 and 2016-18 (from 2.3 to 2.6 years). The decrease also means the gap has increased between males in Wirral and the North West (0.1 to 0.2 years) and England (0.7 to 0.9 years).

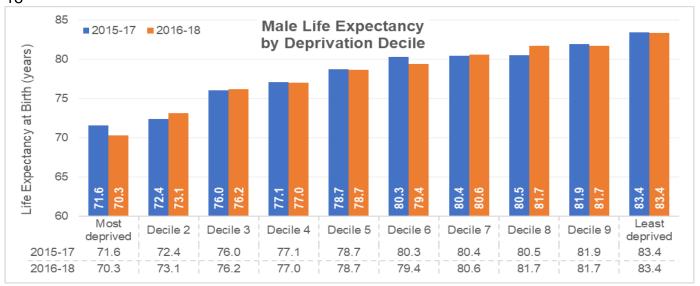
As discussed, LEx at birth and age 65 has plateaued somewhat over the last few time periods. A 2019 report by the Organisation for Economic Cooperation & Development (OECD) compares the rate of LEx globally and notes that trends for increases have also stalled in recent years in other developed countries, not just the UK.

## Inequalities in life expectancy within Wirral and England

There are well evidenced, long standing inequalities in LEx within Wirral. **Figures 5a and 5b** show LEx at birth by deprivation decile (10%) of the Wirral for 2015-17 and 2016-18 (<u>Public Health Outcomes Framework</u>, 2020).

Life expectancy for males in Wirral decreased by 0.1 years overall between 2015-17 and 2016-18, however when showing the change between the two periods by deprivation deciles, this does not appear to be the case for all Wirral males. For example, LEx for males in the most deprived areas decreased by 0.7 years compared to an increase of 1.3 years in Decile 8. There is a difference of 13.1 years between the most and least deprived deciles (this difference has increased as it was 11.8 years in 2015-17).

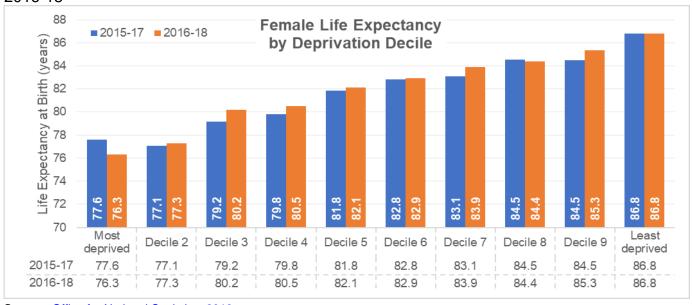
**Figure 5a:** Life expectancy at birth in Wirral & England by deprivation, males, 2015-17 and 2016-18



Source: Office for National Statistics, 2019a

**Note:** It should be noted that PHE have calculated the deciles using different Index of Multiple Deprivation models, i.e. 2015-17 uses IMD 2015 whereas 2016-18 uses IMD 2019.

**Figure 5b:** Life expectancy at birth in Wirral & England by deprivation, females, 2015-17 and 2016-18



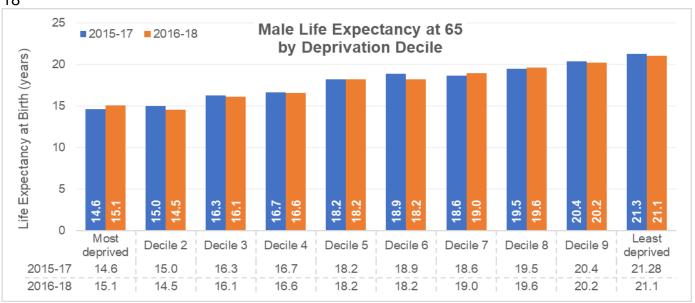
Source: Office for National Statistics, 2019a

**Note:** It should be noted that PHE have calculated the deciles using different Index of Multiple Deprivation models, i.e. 2015-17 uses IMD 2015 whereas 2016-18 uses IMD 2019.

Similarly, LEx for females in Wirral has increased overall by 0.2 years between 2015-17 and 2016-18, however, when analysed by deprivation decile, the increase did not occur for all women in Wirral. In fact, LEx for women living in the most deprived decile decreased by 0.5 years. In the least deprived decile, LEx stayed the same. There is a gap of 10.5 years between the most and last deprived deciles in Wirral for 2016-18 (this difference has increased as it was 9.2 in 2015-17).

There are also inequalities in LEx at 65 years as shown by **figures 6a and 6b**. For example, LEx at 65 for males in the most deprived decile of Wirral increased by 0.5 years, whereas in the least deprived areas it decreased by 0.2 years. This is the opposite of what happened for overall life expectancy, however, there is a still a gap in LEx at 65 years of 6 years between the most and least deprived deciles in Wirral 2016-18 (although this has decreased as it was 6.7 in 2015-17).

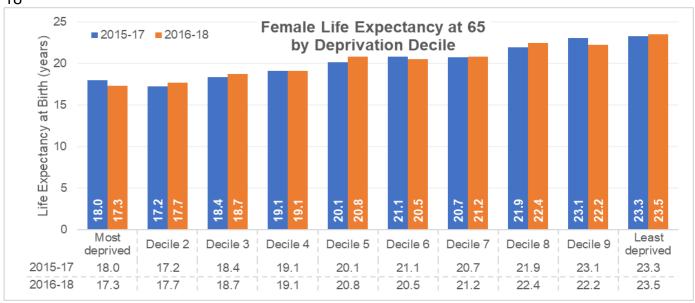
**Figure 6a:** Life expectancy at 65 in Wirral & England by deprivation, males, 2015-17 and 2016-18



Source: Public Health Outcomes Framework (Overarching Indicators), 2019

**Note:** It should be noted that PHE have calculated the deciles using different Index of Multiple Deprivation models, i.e. 2015-17 uses IMD 2015 whereas 2016-18 uses IMD 2019.

**Figure 6b:** Life expectancy at 65 in Wirral & England by deprivation, females, 2015-17 and 2016-18



Source: Public Health Outcomes Framework (Overarching Indicators), 2019

**Note:** It should be noted that PHE have calculated the deciles using different Index of Multiple Deprivation models, i.e. 2015-17 uses IMD 2015 whereas 2016-18 uses IMD 2019.

As with LEx at birth in Wirral, LEx at 65 years for females also increased, however when analysed by deprivation decile, it also shows varying levels of change for different cohorts (Figure 6b). For example, LEx at 65 years for women decreased for women living in Decile 1, Decile 6, and Decile 9. The gap in LEx at 65 years between the most and least deprived areas was 6.2 years for Wirral in 2016-18, compared to 6 years in 2015-17 (indicating a widening gap).

As mentioned earlier in this report, there are gaps between males and females in Wirral and England in life expectancy at birth and at 65 years. The gap between the genders in both England and Wirral are shown in figure 7a below.

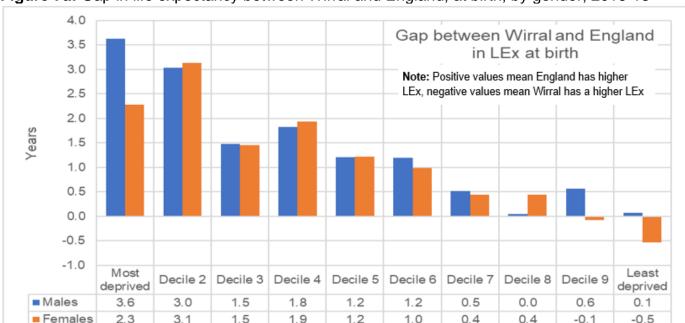


Figure 7a: Gap in life expectancy between Wirral and England, at birth, by gender, 2016-18

Source: Public Health Outcomes Framework (Overarching Indicators), 2019

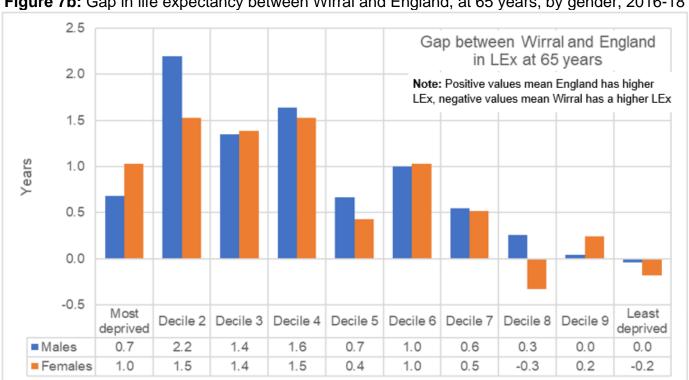


Figure 7b: Gap in life expectancy between Wirral and England, at 65 years, by gender, 2016-18

Source: Public Health Outcomes Framework (Overarching Indicators), 2019

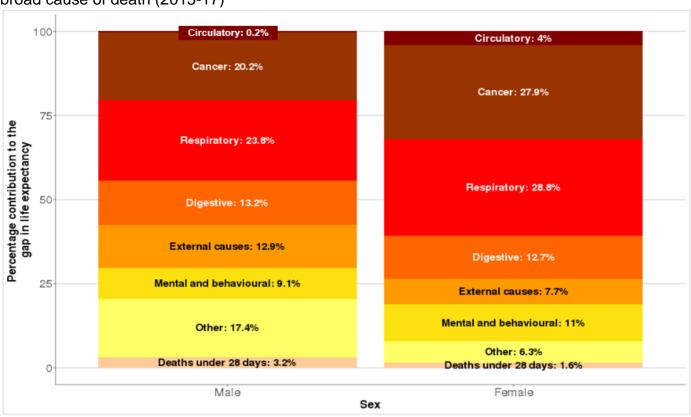
As **Figure 7a and Figure 7b** above shows, there are stark differences in the size of the LEx gaps between Wirral and England, both at birth and at 65 years. In terms of LEx at birth, **figure 7a** shows that males living in the most deprived areas of England live on average, 3.6 years longer than their Wirral counterparts; this is the biggest gap between Wirral and England in all four cohorts; males and females at birth and age 65. LEx at birth for men is higher in England for all ten deprivation deciles. For women, gaps between Wirral and England for LEx at birth show a slightly different picture, with LEx higher for Wirral in the two least deprived areas (0.1 and 0.5 respectively).

**Figure 7b** shows the largest inequality in LEx at 65 years between Wirral and England is in males living in Decile 2 (the second most deprived decile); in England, men living in these areas live an additional 2.2 years longer on average after their 65<sup>th</sup> birthday than those in Wirral.

#### Causes of the gap in Life Expectancy between Wirral & England

Targeting the causes of death which contribute most to the life expectancy gap between Wirral and England should have the biggest impact on reducing inequalities. In order to help local areas identify which causes of death are driving health inequalities, Public Health England produce a Segment Tool which is available here: <a href="https://fingertips.phe.org.uk/profile/segment">https://fingertips.phe.org.uk/profile/segment</a> with Wirral compared to England in **figure 8** below. Please note that this data is produced by Public Health England (PHE) irregularly, so the data below is for 2015-17 (in contrast to the remainder of this report which is 2016-18).

**Figure 8:** Proportional (%) breakdown of the life expectancy gap between Wirral and England, by broad cause of death (2015-17)



Source: Segment Tool, Public Health England, 2019

**Source Footnote:** Circulatory includes heart disease and stroke. Respiratory includes flu, pneumonia, and chronic obstructive respiratory disease. Digestive includes alcohol-related conditions such as chronic liver disease and cirrhosis. External includes deaths from injury, poisoning and suicide. Mental and behavioural includes dementia and Alzheimer's disease. Percentages may not sum to 100 due to rounding.

**Note:** It should be noted that the above 'scarf' charts only relate to deaths which contributed to the gap between Wirral and England – they are not the causes of *all* deaths in Wirral.

In 2015-17 there were gaps in life expectancy at birth between Wirral and England of 1.3 years (males) and 1.4 years (females). **Figure 8** shows how the broad causes of death contributed to these gaps in life expectancy between Wirral and England.

The largest contributors to the gap were the same for both males and females in Wirral; namely respiratory disease followed by cancer. In males, respiratory disease contributed to 23.8% of the gap, followed by cancer with 20.2% of the gap. In females, respiratory disease contributed 28.8% of the gap followed by cancer which contributed 27.9% of the gap.

#### Life Expectancy by geography

#### Life Expectancy at birth Wirral ward

Life expectancy varies considerably between Wirral wards. As **figure 9** shows, there is a gap of 12.1 years between the wards with the highest and lowest male LEx in Wirral in 2016-18 (Rock Ferry and Heswall). This is a widening of the gap, as it was 9.8 years in 2015-17. The average Wirral LEx for males was 78.2 years, whilst the England average was 79.6 for the same time period (1.4 years higher). The four wards with the lowest LEx are also the four most deprived wards in Wirral according to the <u>IMD 2019</u>; Rock Ferry, Bidston & St James, Seacombe and Birkenhead & Tranmere.

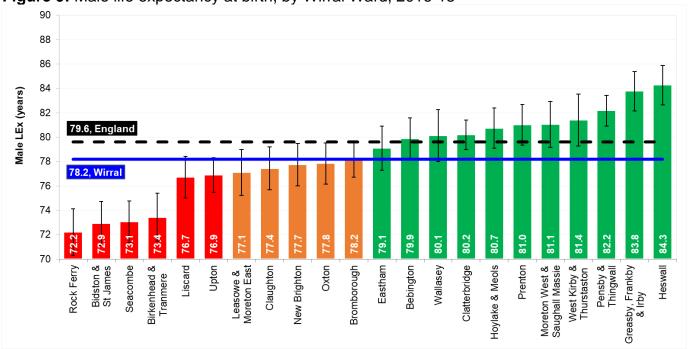


Figure 9: Male life expectancy at birth, by Wirral Ward, 2016-18

**Source:** Public Health Intelligence Team, Wirral Intelligence Service, 2019

**Figure 10** below shows, that for 2016-18 the gap between the Wirral wards with the highest and lowest female LEx was 10.7 years (Rock Ferry and Pensby & Thingwall). This is a widening of the gap, as it was 9.3 years in 2015-17. As was the case with males, the four wards with the lowest female LEx are the four most deprived wards in Wirral: Rock Ferry, Bidston & St James, Seacombe and Birkenhead & Tranmere.

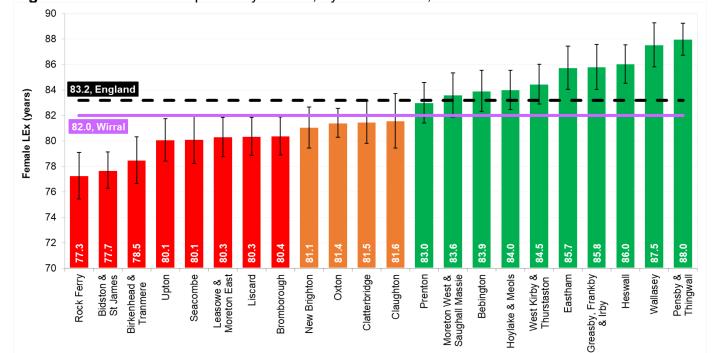


Figure 10: Female life expectancy at birth, by Wirral Ward, 2016-18

Source: Public Health Intelligence Team, Wirral Intelligence Service, 2019

Map 1 and Map 2 (Appendices 3 and 4) show life expectancy at birth by Wirral railway station. These maps reinforce in a visual format the ward level data shown previously, which that wards on the west side of Wirral are typically less deprived and had a higher life expectancy for 2016-18. Those of the east side of Wirral are typically those that are more deprived and have lower life expectancy.

## **Health State Life Expectancies**

Health State Life Expectancies (HSLE) are produced by the Office for National Statistics. HSLEs include figures on Healthy Life Expectancy (HLE) and Disability-free Life Expectancy (DfLE). This provides more information on the quality of life, not just the number of years a person could be expected to live.

## **Healthy Life Expectancy (HLE)**

Healthy Life Expectancy (HLE) is an estimate of the number of years a person can expect to spend in 'very good' or 'good' health (ONS, 2019d). It is calculated using mortality data and self-reported health status data from the Annual Population Survey.

In 2016-18, HLE in Wirral was 61.4 years for men and 63.7 years for women, compared to 63.4 years for men and 63.9 years for women in England **(Table 1)**. On comparing HLE to LEx it shows that, in Wirral, a male could spend approximately 78.6% of their life in 'good' health and 21.4% (or 16.8 years) in less than good health. Women in Wirral could spend around 77.6% of their life in 'good' health and 22.4% (or 18.3 years) in less than good health.

In 2016-18, male HLE in Wirral increased from 59.8 to 61.4 years. As there was a no change nationally, the gap (or inequality) this means the gap between male HLE in Wirral and England has reduced, i.e. the gap decreased from 3.6 to 2.0 years for the most recent time period (a reduction of 1.6 years).

In Wirral females, HLE for the latest period (2016-18), increased from 61.1 to 63.7 years (2.6 years). In contrast HLE for females nationally only increased by 0.1 years (63.8 to 63.9 years). Consequently, the gap between Wirral and England females also decreased from 2.7 to 0.2 years (a reduction of 2.5 years).

Table 1: Life Expectancy with Healthy Life Expectancy and proportion, 2016-18

Area	Life Expectancy, Males (Years)	Healthy Life Expectancy, Males (Years)	Proportion of life spent in 'good' health, Males	Life Expectancy, Females (Years)	Healthy Life Expectancy, Females (Years)	Proportion of life spent in 'good' health, Females
Wirral	78.2	61.4	78.6%	82.0	63.7	77.6%
North West	78.3	61.6	78.7%	81.9	62.5	76.4%
England	79.6	63.4	79.6%	83.2	63.9	76.8%

Source: Office for National Statistics, 2019b

There is a mixed picture when comparing changes HLE to changes in life expectancy for men and women in Wirral as well as between Wirral and England.

Table 2a: Gap between HLE & DfLE with LEx, males, Wirral, and England, 2010-12 to 2016-18

Area	Gap with LEx	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	Trend
Wirral	HLE gap	17.0	17.9	17.6	16.8	16.7	18.5	15.6	<
England		15.7	16.0	16.0	16.1	15.9	16.2	16.7	/

Source: Office for National Statistics, 2019a-c

Table 2b: Gap between HLE & DfLE with LEx, females, Wirral, and England, 2010-12 to 2016-18

Area	Gap with LEx	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	Trend
Wirral	HLE gap	19.1	20.5	21.2	20.2	21.3	20.7	21.3	<b>/~~</b>
England		18.8	19.1	19.1	19.0	19.0	19.3	19.3	~

Source: Office for National Statistics, 2019a-c

Increases in life expectancy for women in recent years have not been matched by corresponding rises in Disability-free Life Expectancy (DfLE) and Healthy Life Expectancy (HLE) both nationally and locally. This indicates that women are spending less of their lives in good health (**Table 2a**).

In contrast, the gap between HLE and LEx for males in Wirral saw the largest reduction; 18.5 to 15.6 years in 2015-17 and 2016-18 respectively. This is also lower than the HLE/LEx gap estimated in 2009-11 (17.0 years). This indicates that men are spending more of the life in good health compared to previous years (**Table 2b**).

**Figure 11** also shows that there are gaps in HLE between males and females in Wirral. The gap for the latest two periods is 2.3 years, with females expected to be in good health for longer. There has only been on time period, in 2014-16, where Wirral males were estimated to have longer HLE than females.

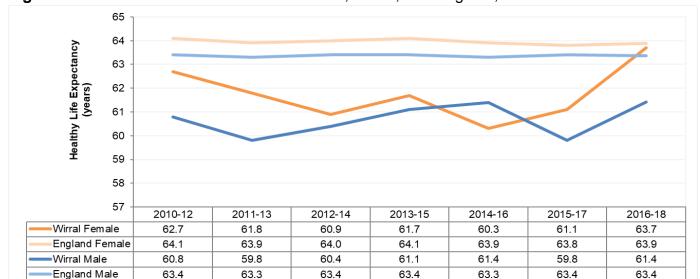


Figure 11: Trend in HLE for males and females, Wirral, and England, 2010-18

Source: Office for National Statistics, 2019b

#### **Disability-Free Life Expectancy (DfLE)**

DfLE is the amount of years a person could be expected to live free from limiting and persistent disease and/or illness (ONS, 2019d). The figures produced by the Office for National Statistics differ to the HLE figures produced, but they are also calculated using mortality data and self-reported health status data from the Annual Population Survey.

In 2016-18, DfLE in Wirral was 62.6 years for males and 61.0 years for females, compared to 62.9 and 61.9 years respectively in England (Table 3). This means that males in Wirral are likely to spend 62.6 years of their total life expectancy of 78.2 years 'disability free'. This equates to 80% of their life spent 'disability-free'. Women, however, are estimated to spend only 74.3% of their life 'disability-free' (61.0 'disability free' years of their total 82 years of life expectancy).

**Table 3:** Life Expectancy with Disability-Free Life Expectancy and proportion, 2016-18

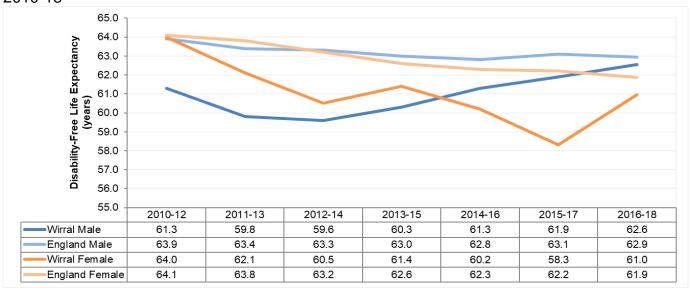
Area	Life Expectancy, Males (Years)	Disability Free Life Expectancy, Males (Years)	Proportion of life spent 'disability- free', Males	Life Expectancy, Females (Years)	Disability Free Life Expectancy, Females (Years)	Proportion of life spent 'disability- free', Females	
Wirral	78.2	62.6	80.0%	82.0	61.0	74.3%	
North West	78.3	60.5	77.3%	81.9	60.2	73.6%	
England	79.6	62.9	79.0%	83.2	61.9	74.4%	

Source: Office for National Statistics, 2019c

As **Figure 12** shows, disability-free life expectancy decreased for males in England between 2009-11 and 2016-18: decreasing from 63.9 to 62.9 years. In Wirral, DfLE also decreased for males between 2009-11 and 2012-14, before then increasing to 62.6 years in 2016-18.

This means the gap between Wirral and England has decreased from 1.8 years to 0.3 years; the smallest gap since records began in 2009-11. Similarly, HLE for females in Wirral, increased from 58.3 to 61.0 years (2.7 years) in contrast to a decrease nationally; 62.2 to 61.9 years (-0.3 years) respectively. This means that the gap in female DfLE between Wirral and England, has reduced from to 3.9 to 0.9 years.

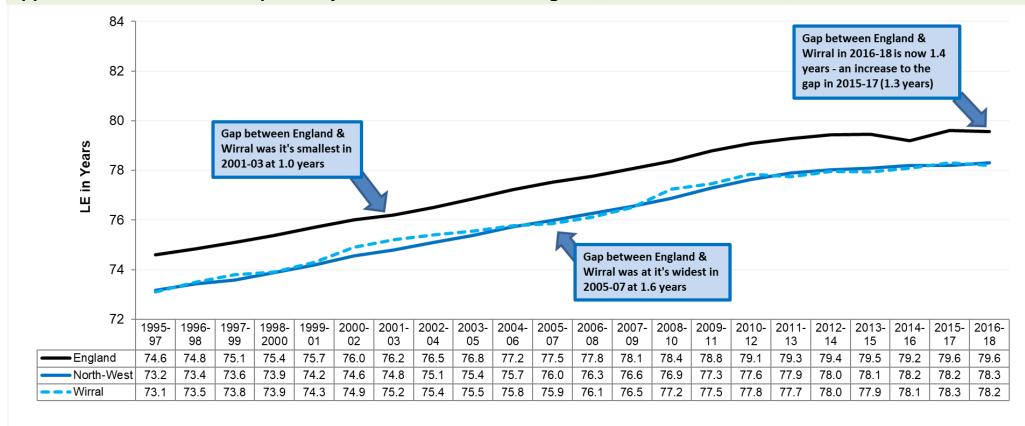
**Figure 12:** Trend in disability-free life expectancy for males and females, Wirral, and England, 2010-18

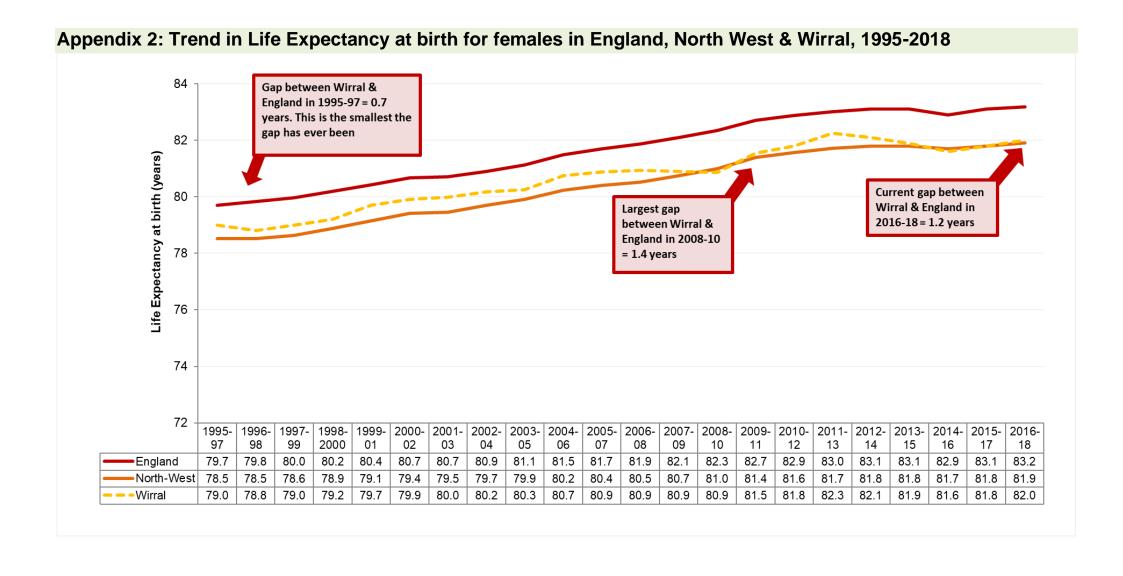


Source: Office for National Statistics, 2019c

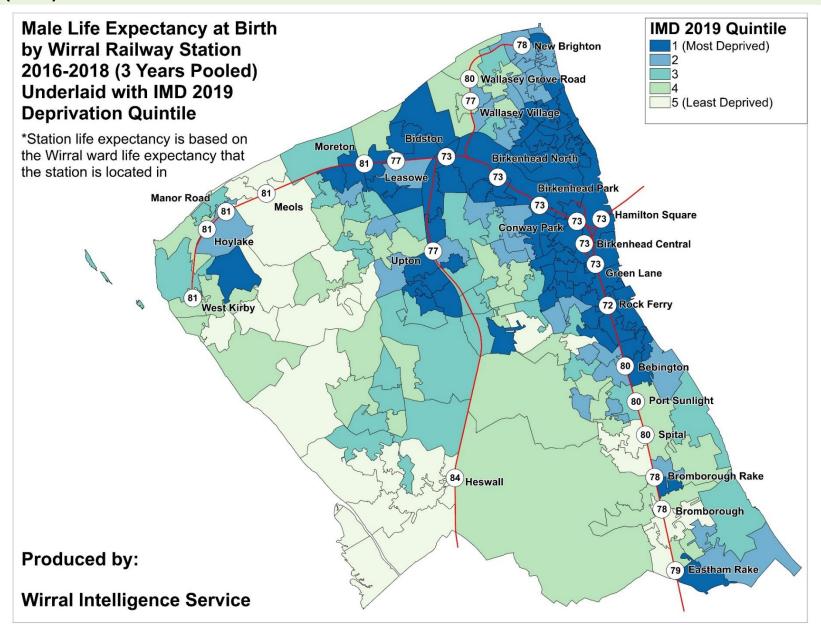
## **Appendices**

## Appendix 1: Trend in Life Expectancy at birth for males in England, North West & Wirral, 1995-2018

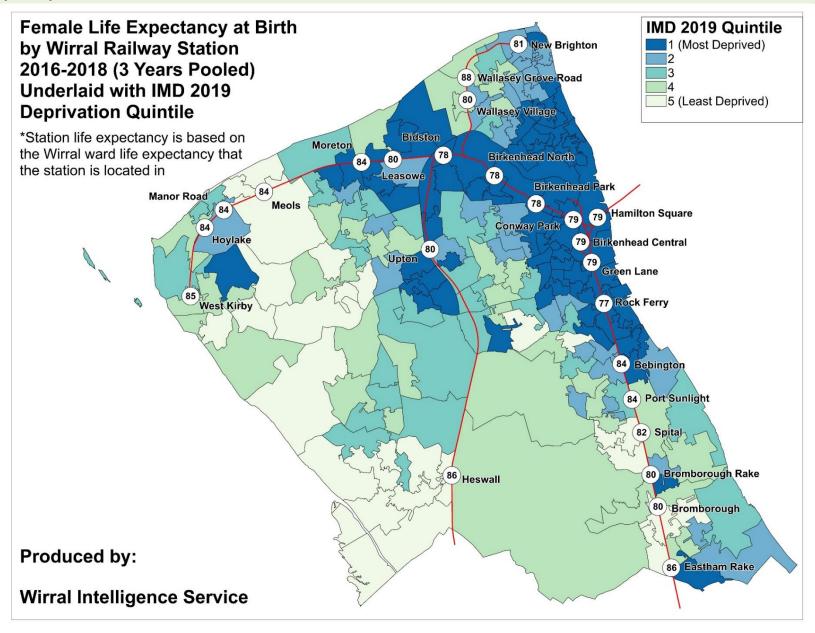




Appendix 3: Life expectancy at birth in males by Wirral Railway Station (2016-18) and Indices of Multiple Deprivation (2019)



Appendix 4: Life expectancy at birth in females, by Wirral Railway Station (2016-18) and Indices of Multiple Deprivation (2019)



#### References

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- 8. Organisation for Economic Cooperation & Development (OECD) 2019, "Trends in life expectancy in EU and other OECD countries: Why are improvements slowing?", OECD Health Working Papers, No. 108, OECD Publishing, Paris. Accessed: March 2019, Available at: <a href="http://dx.doi.org/10.1787/223159ab-en">http://dx.doi.org/10.1787/223159ab-en</a>

## Further Reading / Links

- Wirral JSNA: <a href="https://www.wirralintelligenceservice.org/">https://www.wirralintelligenceservice.org/</a>
- Health & Social Care Outcomes Framework: <a href="https://www.gov.uk/government/collections/health-and-social-care-outcomes-frameworks">https://www.gov.uk/government/collections/health-and-social-care-outcomes-frameworks</a>
- Public Health England Data and analysis tools: <a href="https://www.gov.uk/guidance/phe-dataand-analysis-tools">https://www.gov.uk/guidance/phe-dataand-analysis-tools</a>
- Office for National Statistics Life Expectancies: <a href="https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexp">https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexp</a>
   ectancies
- Indices of Multiple Deprivation 2015 Explorer: http://dclgapps.communities.gov.uk/imd/idmap.html

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