

# Life expectancy in Wirral 2015-17

Wirral Intelligence Service

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### Life expectancy in Wirral 2015-17

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## **Report Overview**

Abstract	
Intended or potential audience	<ul> <li>External</li> <li>Wirral Partners</li> <li>General Public</li> <li>Internal</li> <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 has increased steadily over the last 20 years for males and females, but both appear to have plateaued around 2009-11
- In 2015-17, LEx at birth in Wirral was 78.3 years for males and 81.8 years for females. This is an increase on 2014-16
- Rock Ferry was the ward with the lowest LEx at birth for both males (72.4) and females (77.6); Heswall was the ward with the highest LEx at birth for both males (84.2) and females (86.9)
- The gap between LEx at birth between males and females in Wirral is decreasing but remains at 3.5 years. This is in line with trends at regional, national and global levels
- LEx at 65 for males in Wirral saw a very slight increase (2015-17) compared to the previous period. LEx at 65 for females in Wirral stayed the same as the previous period
- Since 2009-11, LEx at 65 has plateaued in Wirral, the North West and England. Further research by the OECD shows that this trend is, in fact, seen in other developed countries
- Wirral had the largest gap for LEx at birth between males living in the most and least deprived areas, when compared to statistical near neighbours. LEx at birth for females showed the third largest inequality in England, when compared to statistical near neighbours in the Public Health Outcomes Framework
- Wirral had the fourth largest gap for LEx at 65 between people living in the most and least deprived areas for both males and females, when compared to statistical near neighbours in the <u>Public Health Outcomes Framework</u>
- Increases in life expectancy in recent decades have not been matched by corresponding rises in Disability-free Life Expectancy (DfLE) and Healthy Life Expectancy (HLEx) both nationally and locally. This indicates that people are spending less of their lives in good health

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#### Introduction

This update summarises the most recently available data (2015-17) for life expectancy (LEx) in Wirral and compares local and national data.

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 Public Health Outcomes Framework (PHOF). The causes of these health inequalities are complex and involve interactions between social, educational, economic and structural factors (Figure 1).

The wider The health services The lives people lead determinants of health people use Major wider determinants Leading risk factors Accessibility and responsiveness Financial status Tobacco Primary care (e.g. GP practice) High blood pressure

Alcohol

Cholesterol

Being overweight

Figure 1: Causes of health inequalities

Source: National Audit Office Literature Review, 2010

# Life Expectancy at birth

Employment and

work environment

Education

Housing

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 2017.

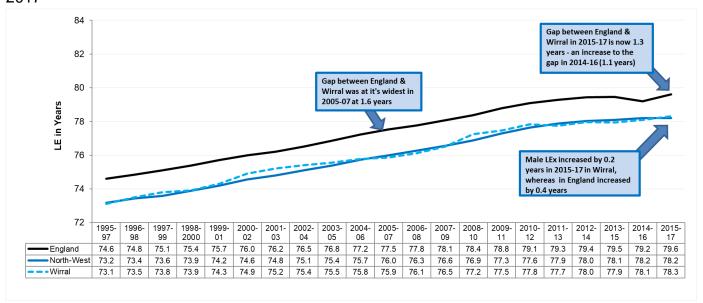
Secondary care (e.g. hospital)

Preventative care (measures

taken to prevent diseases)

Community services

**Figure 2:** Trend in Life Expectancy at birth for males in England, North West & Wirral, 1995-2017



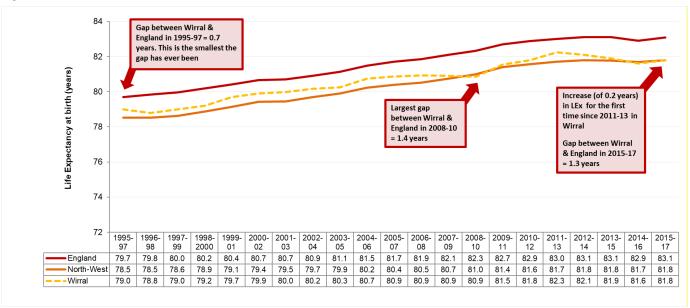
Source: Office for National Statistics, 2018a

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

Since 1995-97, LEx at birth has increased by 5.2 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. This means that, for men, the gap between England and Wirral remains.

The latest time period (2015-17) saw an increase in LEx at birth amongst males in Wirral of 0.2 years compared to the previous time period (2014-16). Three of the last four periods have shown a local increase of 0.2 years for males in Wirral.

**Figure 3:** Trend in Life Expectancy at birth for females in England, North West & Wirral, 1995-2017



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 2.8 years for females in Wirral, compared to an increase of 3.4 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 1.3 years, compared to a gap of 0.7 years in 1995-97). There was an increase in LEx at birth amongst females in Wirral in 2015-17 of 0.2 years, but this followed reductions in the previous three time periods, so it is still lower than it was in 2011-13. LEx for women in England and the North West increased in 2015-17 compared to 2014-16 (0.2 years and 0.1 years respectively).

#### 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 2017. 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.

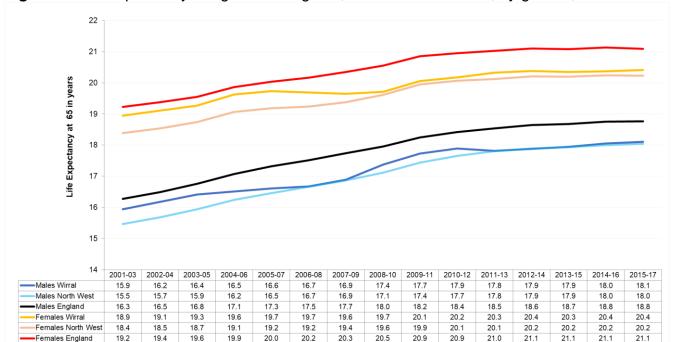


Figure 4: Life Expectancy at age 65 in England, North West & Wirral, by gender, 2001-2017

Source: Office for National Statistics, 2018a

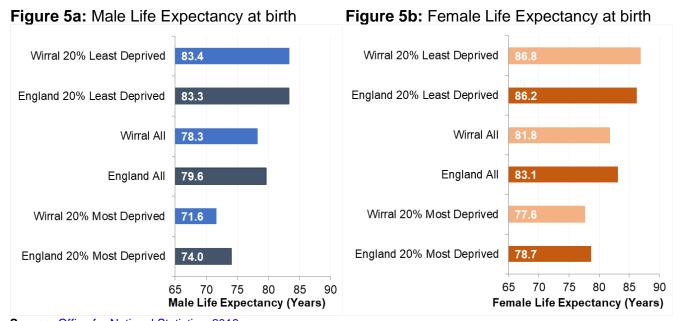
The most recent time period (2015-17) showed a slight increase in LEx at 65 amongst males in Wirral (0.1 years) compared to LEx in males in the North West and England, which stayed the same. LEx at 65 for females in all three areas remained the same as the previous period (2014-16).

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, 2015-17

There are well evidenced, long standing inequalities in LEx both between Wirral and England, and within Wirral. Figures 5a and 5b show the LEx in the most and least deprived quintiles (20%) of the population and the population overall (of both Wirral and England) for 2015-17. Quintiles were calculated according to the Index of Multiple Deprivation 2015 and data has been analysed and presented to show both genders at birth and at age 65 years.

Figures 5a & b: Life expectancy at birth in Wirral & England by gender and deprivation, 2015-17



Source: Office for National Statistics, 2018a

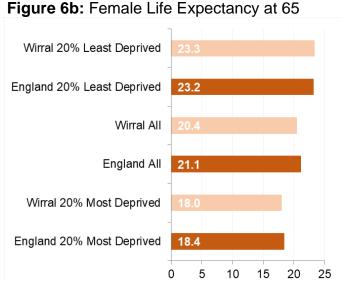
As Figures 5a and 5b show, the inequality in LEx between the most and least deprived quintiles of the population in Wirral was 11.8 years for males (a continued increase from 11.0 and 11.3 years over the previous two periods) and 9.2 years for females in 2015-17. The gap between the most and least deprived quintiles in England was 9.3 years for males and 7.5 years for females – indicating wider inequalities in Wirral than in England overall. This is consistent with many other data sources that point to wide health inequalities in Wirral (see Further Reading/Links).

Although both males and females in the most deprived quintile in Wirral have worse LEx than their England equivalents (most deprived quintiles in England), in the least deprived quintile the picture was slightly different. In Wirral, both females and males in the least deprived quintile had *higher* life expectancy than their equivalents in England (83.4 vs 83.3, and 86.8 vs 86.2 years respectively). Again, this could indicate that inequalities in Wirral are wider than in England overall.

Public Health England has included "Inequality in life expectancy at birth" for both males and females as a new indicator in the <u>Public Health Outcomes Framework</u>. This new indicator shows the difference in LEx between least and most deprived quintiles. These figures show that when compared to statistical near neighbours, Wirral had the largest gap (inequality) for life expectancy of males, and third largest for females when compared to statistical near neighbours for the period 2015-17.

Figures 6a & b: Life expectancy at 65 in Wirral & England by gender and deprivation, 2015-17

Figure 6a: Male Life Expectancy at 65 Wirral 20% Least Deprived 21.3 England 20% Least Deprived 20.9 Wirral All 18.1 18.8 **England All** Wirral 20% Most Deprived 14.6 England 20% Most Deprived 15.8 5 10 15 20 25



Female Life Expectancy (Years)

Source: Public Health Outcomes Framework (Overarching Indicators), 2018

Male Life Expectancy (Years)

As Figures 6a and 6b show, the least deprived quintile of the Wirral population had a higher LEx than the least deprived quintile of the England population for both males and females; 21.3 vs 20.9 and 23.3 vs 23.2 respectively. By contrast, both males and females in the most deprived quintile of the Wirral population had lower LEx than the most deprived quintile in England overall; 14.6 vs 15.8 for males and 18.0 vs 18.4 for females.

The gap in LEx at age 65 between those who are most and least deprived in Wirral, is bigger than it is in England overall. In actual numbers, the gap between males in the 20% most deprived and 20% least deprived quintiles in Wirral was 6.7 years in 2015-17, compared to 5.1 in England. In females, the gap in Wirral was 5.3 years compared to 4.8 years in England.

As with LEx at birth, Public Health England have also included "Inequality of life expectancy at 65" in its indicators on the <u>Public Health Outcomes Framework</u>. Wirral had the 4<sup>th</sup> largest gap (inequality) for both, males and females, when compared to statistical near neighbours for the period 2015-17.

# 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>. 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 7 shows the Segment Tool and how the broad causes of death contributed to these gaps in life expectancy between Wirral and England. For example, in males, the largest contributor was respiratory disease (23.8%), followed by cancer (20.2%). In females, the largest contributor to the gap was also respiratory disease (28.8%), followed by cancer (27.9%).

Circulatory: 0.2% 100 Circulatory: 4% Cancer: 20.2% Cancer: 27.9% 75 Percentage contribution to the gap in life expectancy Respiratory: 23.8% Respiratory: 28.8% Digestive: 13.2% External causes: 12.9% Digestive: 12.7% 25 Mental and behavioural: 9.1% External causes: 7.7% Mental and behavioural: 11% Other: 17.4%

**Figure 7:** 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

0

Deaths under 28 days: 3.2%

Male

**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.

Sex

**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.

# Life Expectancy by geography

# Life Expectancy at birth Wirral ward

Life expectancy varies considerably between Wirral wards. As Figure 8 shows, there was a gap of 11.8 years between Heswall and Rock Ferry; the wards with the highest and lowest male LEx in Wirral in 2015-17. The average Wirral LEx for males was 78.3 years, whilst the England average was 79.6 for the same time period (a gap of 1.3 years). The four wards with the lowest LEx are also the four most deprived wards in Wirral according to the <a href="MD 2015"><u>IMD 2015</u></a>; Rock Ferry, Bidston & St James, Seacombe and Birkenhead & Tranmere.

When comparing male LEx at ward level between 2014-16 to 2015-17, Wallasey ward saw a notable change; a decrease in male LEx from 82.0 to 80.3 years (-1.7 years). Wallasey ward, in fact, had the third highest LEx for males in Wirral in 2014-16, but following the 1.7 year decrease, it is now around the middle values. It should be noted that even when pooling 3 years worth of deaths data (from which LEx is calculated), small datasets can be prone to fluctuations of this kind.

Other: 6.3%

Deaths under 28 days: 1.6%

Female

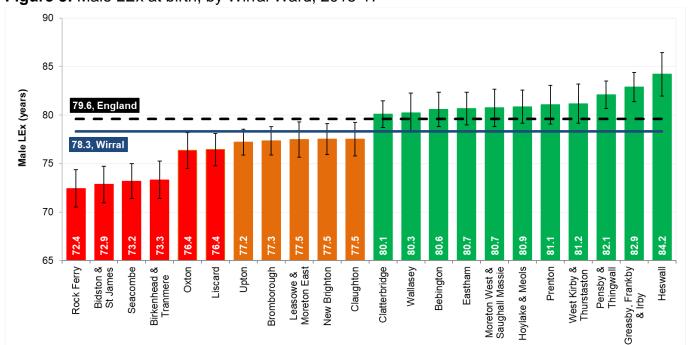


Figure 8: Male LEx at birth, by Wirral Ward, 2015-17

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

Figure 9 shows, the gap between the Wirral wards with the highest and lowest female LEx was 9.3 years. As was the case with males, Rock Ferry was the ward with the lowest female LEx, and Heswall ward had the highest female LEx. The four wards with the lowest female LEx were Rock Ferry, Bidston & St James, Upton and Seacombe. As Upton ward is ranked 8<sup>th</sup> most deprived (IMD 2015), this is slightly different to expectations based on the relationship between deprivation and LEx, i.e. less deprived wards, such as Heswall, having higher LEx than more deprived wards, such as Rock Ferry.

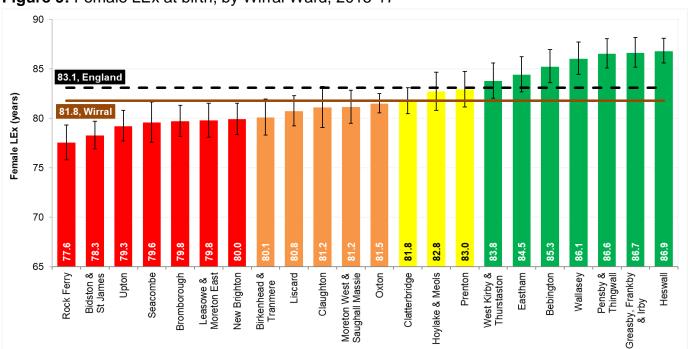


Figure 9: Female LEx at birth, by Wirral Ward, 2015-17

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

# Changes in Life Expectancy by Wirral ward and gender

Table 1 shows the trend of the gap in LEx between males and females for Wirral wards. In 14 of 22 Wirral wards, the gap between males and females decreased between 2011-13 and 2015-17. However, in five Wirral wards, the gap increased during the same period; Bidston & St James, Oxton, Rock Ferry, Seacombe and Wallasey. The most notable increase occurred in Oxton ward; the gap in 2011-13 was 2.8 years and this increased to 5.8 years in 2015-17 (an increase of 3.0 years). Apart from Wallasey, these four wards all had lower LEx than England for both males and females.

Table 1: Gap (in years) in LEx between males and females, by Wirral ward, 2011-13 to 2015-17

Ward	2011-13	2015-17	Change 11-17	Trend
Upton	7.8	2.1	-5.7 Decreased	
Moreton West and Saughall Massie	4.7	0.4	-4.3 Decreased	
Hoylake and Meols	4.8	2.0	-2.8 Decreased	
Bromborough	5.0	2.4	-2.6 Decreased	
Birkenhead and Tranmere	9.7	7.4	-2.3 Decreased	
New Brighton	4.1	2.7	-1.4 Decreased	
Greasby, Frankby and Irby	4.8	3.5	-1.3 Decreased	
Heswall	4.2	2.9	-1.3 Decreased	
Bebington	5.8	4.6	-1.2 Decreased	
Liscard	5.3	4.2	-1.1 Decreased	<u></u>
Prenton	3.6	2.5	-1.1 Decreased	
Leasowe and Moreton East	3.4	2.4	-1.0 Decreased	
Claughton	4.5	3.7	-0.8 Decreased	
Clatterbridge	2.3	1.6	-0.7 Decreased	_
Pensby and Thingwall	4.6	4.4	-0.2 Similar	
Eastham	3.5	3.3	-0.2 Similar	
West Kirby and Thurstaston	2.7	2.8	0.1 Similar	
Wallasey	4.5	5.6	1.1 Increased	
Seacombe	4.8	6.1	1.3 Increased	
Bidston and St James	4.0	5.6	1.6 Increased	
Rock Ferry	3.6	5.3	1.7 Increased	
Oxton	2.8	5.8	3.0 Increased	

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

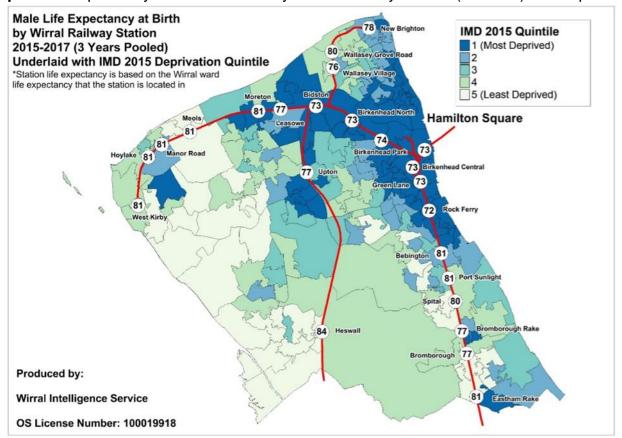
**Note:** The gap is given in years. Females have longer life expectancy at all periods denoted in the data. These figures have been calculated using an updated Life Expectancy tool and as such may not match calculations using data from Figure 7 and Figure 8

Overall, Table 1 shows that the gap between male and female LEx is reducing in most areas of Wirral but is increasing in other areas – typically in areas where there is a higher level of deprivation and an already lower level of life expectancy.

# Life Expectancy at birth by Wirral train stations

Maps 1 and 2 show that wards on the west side of Wirral are typically less deprived and had a higher life expectancy for 2015-17. Those of the east side of Wirral are typically those that are more deprived and have lower life expectancy.

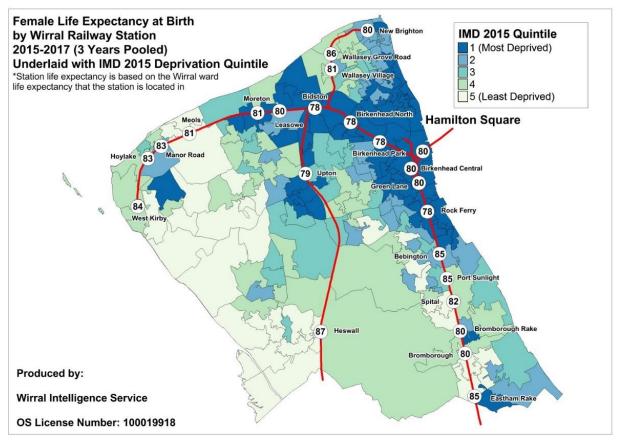
Map 1: Life expectancy at birth in males by Wirral Railway Station (2015-17) and deprivation



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

Note: A larger version of this map is available in Appendix 3

Map 2: Life expectancy at birth in females, by Wirral Railway Station (2015-17) and deprivation



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

Note: A larger version of this map is available in Appendix 4

# **Health State Life Expectancies**

Health State Life Expectancies (HSLE) are produced by the Office for National Statistics. HSLEs include figures on Healthy Life Expectancy (HLEx) 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 (HLEx)**

Healthy Life Expectancy (HLEx) is an estimate of the number of years a person can expect to spend in 'very good' or 'good' health (ONS, 2018d). It is calculated using mortality data and self-reported health status data from the Annual Population Survey.

In 2015-17, HLEx in Wirral was 59.8 years for men and 61.1 years for women, compared to 63.4 years for men and 63.8 years for women in England (see Table 2). If HLEx is compared to LEx, it shows that in Wirral, a male could spend approximately 76.4% of their life (59.8 years) in 'good' health and 23.6% (or 18.5 years) in less than good health. Women in Wirral could spend around 74.7% of their life (61.1 years) in 'good' health and 25.3% (or 20.5 years) in less than good health.

**Table 2:** Life Expectancy with Healthy Life Expectancy and proportion, 2015-17

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	78.3	59.8	76.4%	81.8	61.1	74.7%
North West	78.2	61.2	78.3%	81.8	62.3	76.2%
England	79.6	63.4	79.6%	83.1	63.8	76.8%

Source: Office for National Statistics, 2018b

In 2015-17, male HLEx in Wirral decreased from 61.4 years to 59.8 years, in contrast to a national increase (63.3 to 63.4 years). This means that the gap (or inequality) between male HLEx in Wirral and England has widened, i.e. the gap increased from 1.9 years to 3.6 years (nearly double) for the most recent time period.

In Wirral females, HLEx for the latest period (2015-17), increased to 61.1 years; a 0.8 year increase. Consequently, the gap in healthy life expectancy between Wirral and England females decreased from 3.6 to 2.7 years (around one third less than the previous period).

Figure 10 also shows that there are gaps in HLEx between Wirral and England, for both males and females. The gap between females in Wirral and England decreased in the latest time period but increased for males.

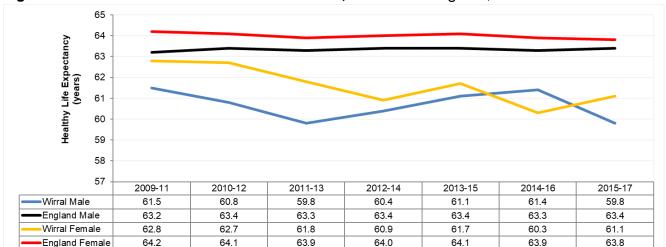


Figure 10: Trend in HLEx for males and females, Wirral and England, 2009-17

Source: Office for National Statistics, 2018b

#### 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 2015-17, DfLE in Wirral was 61.9 years for males and 58.3 years for females, compared to 63.1 for males and 62.2 for females in England (Table 3). This means that males in Wirral could spend approximately 79.1% of their life 'disability-free' whereas women could only spend around 71.3% of their life 'disability-free'.

Table 3: Life Expectancy with Disability-Free Life Expectancy and proportion, 2015-17

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	78.3	61.9	79.1%	81.8	58.3	71.3%
North West	78.2	60.4	77.2%	81.8	60.2	73.6%
England	79.6	63.1	79.3%	83.1	62.2	74.8%

Source: Office for National Statistics, 2018c

As Figure 11 shows, disability-free life expectancy decreased for males in England between 2009-11 and 2015-17; decreasing from 63.9 to 63.1 years. In Wirral, DfLE also decreased for males between 2009-11 and 2012-14, before then increasing for the last three time periods. This means the gap between Wirral and England has decreased from 1.9 years to 1.2 years between 2009-11 and 2015-17. However, this was not the case for females as figures for both Wirral and England, decreased; 63.5 to 58.3 years (-5.2 years) and 64.4 to 62.2 years (-2.2 years) respectively. As Wirral saw a sharper decrease than was the case nationally, so the gap in female DfLE between Wirral and England, has widened from 0.9 years to 3.9 years.

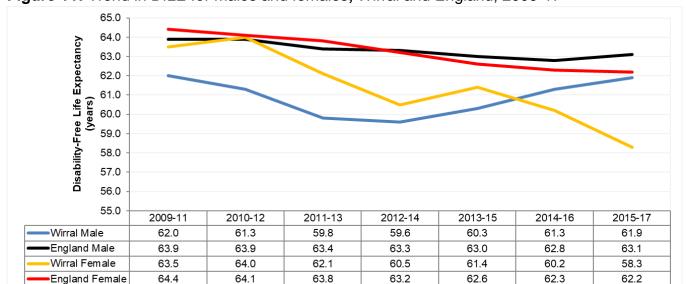


Figure 11: Trend in DfLE for males and females, Wirral and England, 2009-17

Source: Office for National Statistics, 2018c

Recent increases in life expectancy have not been matched by corresponding rises in DfLE and HLE both nationally and locally (see Tables 4a and 4b). This means that any additional years of life gained are likely to be spent in poorer health, placing additional demands on health and social care.

Table 4a: Gap between HLE & DfLE with LEx, males, Wirral and England, 2009-11 to 2015-17

Area	Gap with LEx	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	Trend
Wirral	DfLE gap	15.5	16.5	17.9	18.4	17.6	16.8	16.4	$\bigg\rangle$
England		14.9	15.2	15.9	16.1	16.5	16.4	16.5	
Wirral	LII E gan	16.0	17.0	17.9	17.6	16.8	16.7	18.5	$\langle$
England	HLE gap	15.6	15.7	16.0	16.0	16.1	15.9	16.2	~

Source: Office for National Statistics, 2018a-c

Table 4b: Gap between HLE & DfLE with LEx, females, Wirral and England, 2009-11 to 2015-17

Area	Gap with LEx	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	Trend
Wirral	Dfl E gan	18.0	17.8	20.2	21.6	20.5	21.4	23.5	/
England	DfLE gap	18.3	18.8	19.2	19.9	20.5	20.6	20.9	
Wirral	LII E gan	18.7	19.1	20.5	21.2	20.2	21.3	20.7	<b>\</b>
England	HLE gap	18.5	18.8	19.1	19.1	19.0	19.0	19.3	

Source: Office for National Statistics, 2018a-c

As Table 4a and 4b show, the gap between DfLE and LEx widened in all instances between 2009-11 to 2015-17; in both males and females in Wirral and England. This trend was also apparent in the gap between LEx and HLE, i.e. the gap with LEx increased for all cohorts between 2009-11 and 2015-17.

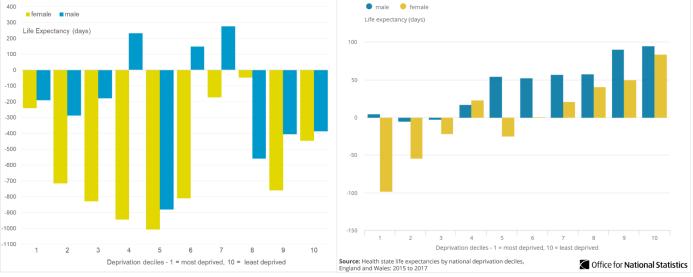
The gap with the smallest overall change was between DfLE and LEx for males in Wirral; the overall gap widened from 15.5 to 16.4 years (0.9 years) between 2009-11 and 2015-17. In contrast, the gap with the largest change overall was between DfLE and LEx for females in Wirral between 2009-11 and 2015-17; the gap widened from 18.0 to 23.5 years (5.5 year increase).

# Life Expectancy: Change over time (days)

**Figures 12a & b:** Change in LEx in days by gender and deprivation deciles, Wirral & England, 2011-13 to 2015-17

Figure 12a: Change in Wirral LEx (days)

Figure 12a: Change in England LEx (days)



Source 12a: Public Health Intelligence Team, Wirral Intelligence Service, 2019

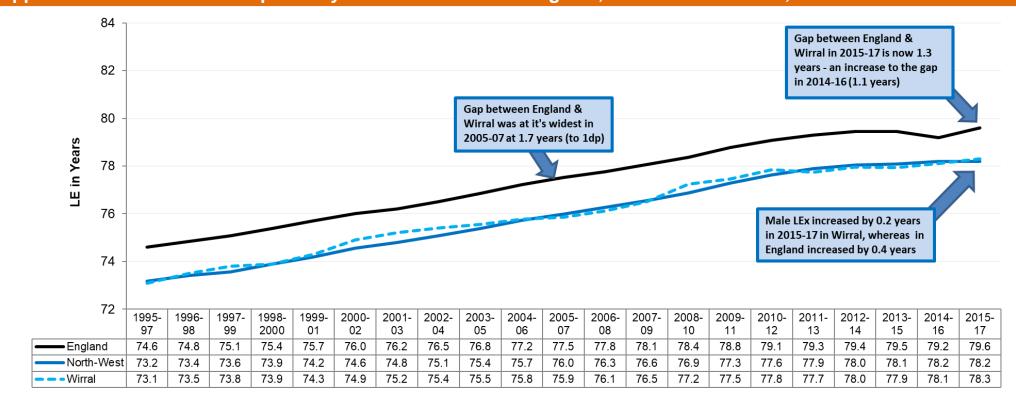
Source: 12b: Office for National Statistics, 2018a-c

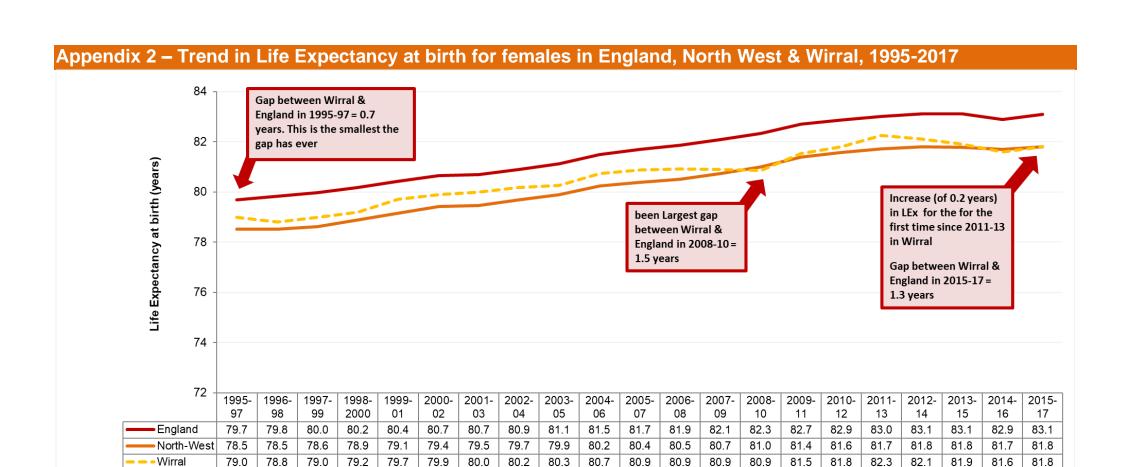
Figures 12a and 12b show the changes in LEx (in days) for males and females in Wirral and in England between 2011-13 and 2015-17 for different levels of deprivation. It should be noted that the graphs are not shown on the same scale due to the extreme differences in the changes between Wirral and England. The greatest decrease in LEx in England occurred in females residing in the most deprived deciles (close to 100 days), whereas in Wirral, the greatest decrease was just over 1,000 days for females living in the 5th most deprived decile. Figure 12a also shows that only three cohorts had an increased LEx; males from the 4<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> deprivation deciles.

The most notable difference between Wirral and England is that there appears to be no correlation between deprivation and LEx in Wirral; LEx has decreased for females residing in all deprivation deciles and males from both the most and least deprived deciles in Wirral. In contrast, the national trend appears to show that changes in LEx *are* related to deprivation (those in the least deprived areas were more likely to have seen an increase in LEx). As mentioned earlier, smaller datasets are often characterised by more fluctuation, which may explain why changes in Wirral appear to be different to those observed nationally.

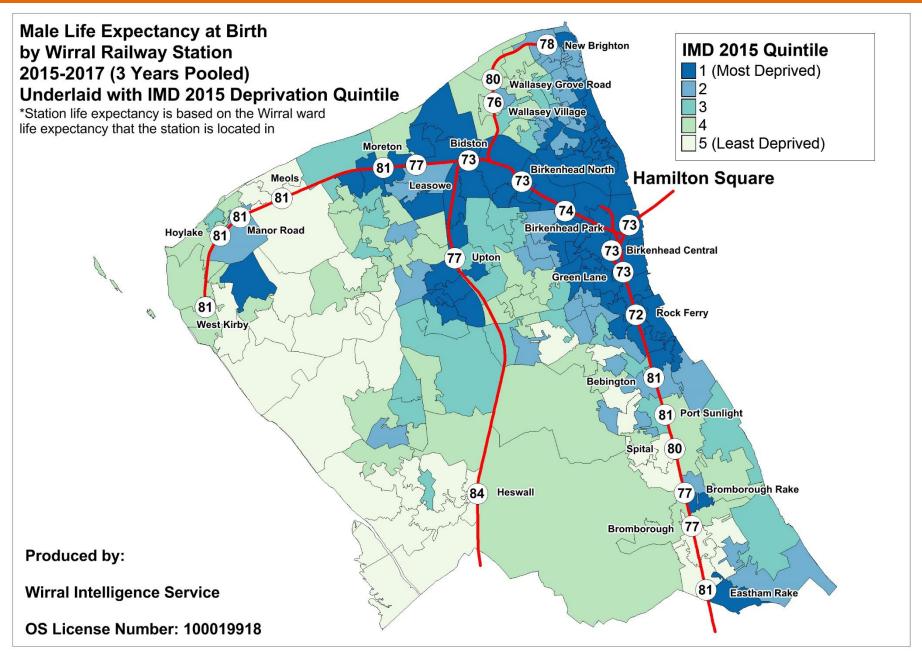
# **Appendices**

# Appendix 1 – Trend in Life Expectancy at birth for males in England, North West & Wirral, 1995-2017

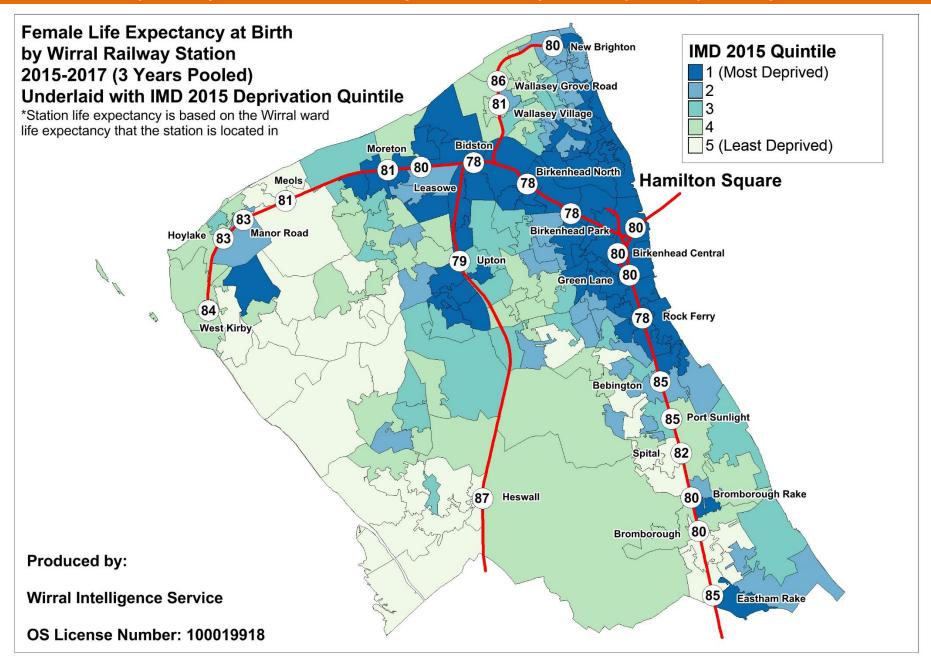




# Appendix 3 – Life expectancy at birth in males by Wirral Railway Station (2015-17) and deprivation



# Appendix 4 – Life expectancy at birth in females, by Wirral Railway Station (2015-17) and deprivation



#### References

- 1. National Audit Office, 2010, Tackling inequalities in life expectancy in areas with the worst health and deprivation, Accessed at February 2019, Available at: <a href="http://www.nao.org.uk/">http://www.nao.org.uk/</a>
- 2. Public Health England, *2019*, Public Health Outcomes Framework: Overarching Indicators, Accessed at March 2019, Available at: <a href="https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/">https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/</a>
- 3. Public Health England, 2016, Segment Tool: Causes of mortality, Accessed at February 2019, Available at: <a href="https://fingertips.phe.org.uk/profile/segment">https://fingertips.phe.org.uk/profile/segment</a>
- 4. Office for National Statistics, *2018a*, Health State Life Expectancy at Birth and Age 65 2015-17, Accessed at February 2019, Available at: <a href="https://www.ons.gov.uk">https://www.ons.gov.uk</a>
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- 6. Office for National Statistics, 2018c, Health State Life Expectancy at Birth and Age 65 2015-17, Accessed at February 2019, Available at: <a href="https://www.ons.gov.uk">https://www.ons.gov.uk</a>
- 7. Office for National Statistics, *2018d*, Health State Life Expectancies, UK QMI, Accessed at March 2019, Available at: <a href="https://www.ons.gov.uk">www.ons.gov.uk</a>
- 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/lifeexpectancies">https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies</a>
- Indices of Multiple Deprivation 2015 Explorer: http://dclgapps.communities.gov.uk/imd/idmap.html

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