

Life expectancy in Wirral 2017-19

Wirral Intelligence Service

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Life expectancy in Wirral 2017-19

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Current Version: 3

Version History	Date	Author	Reviewer	Actions
V1	March 2021	Jack Font	Sarah Kinsella	Added in life expectancy by train station map (Appendix 3 and 4)
V2	March 2021	Jack Font	John Highton	Added in "Background to this report" within the Report Overview

Report Overview

Abstract							
Background to this report	This update summarises the most recently available data (2017-19) for life expectancy (LEx) in Wirral.						
	Please note that the implications of the COVID-19 pandemic will not be fully apparent in this iteration of the Life Expectancy report, as no figures within this report relate to the year 2020. The effect of the COVID-19 pandemic will become more apparent in future editions.						
Intended or potential audience	External						
	Wirral Partners						
	General Public						
	Internal						
	 Director of Public Health and wider Public Health Team 						
	JSNA Bulletin						
Links with other topic areas	 <u>Deprivation</u> <u>Population</u> <u>Mortality</u> <u>Health Inequalities</u> 						

- 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 since around 2009-11
- In 2017-19, LEx at birth in Wirral was 78.5 years for males and 82.3 years for females (both increases on 2016-18)
- Birkenhead and Tranmere was the ward with the lowest LEx at birth for males (72.8), whilst Greasby, Frankby and Irby had the highest (83.5). For females, Rock Ferry had the lowest LEx (76.5) whilst Wallasey had the highest (87.7)
- The gap between LEx at birth at ward level in Wirral has widened for females (from 10.1 years to 11.2 years), but shortened for males (from 11.8 years to 10.7 years) compared to the previous period of 2016-18
- The gap between LEx at birth between males and females in Wirral has remained the same (3.8 years) when compared to 2016-18
- LEx at 65 for males in Wirral saw an increase of 0.2 years compared to 2016-18. LEx at 65 for females in Wirral also increased, but by a smaller amount (0.1 years) compared to 2016-18
- 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 also apparent in other developed countries.
- Increases in life expectancy for both men and women in recent years have been matched by a corresponding rise in Healthy Life Expectancy (HLE) locally – more so in females (+ 1.2 years in HLE compared to 2010-12) compared to males (+ 0.1 years in HLE compared to 2010-12).
- The gap between HLE and LEx for males in Wirral saw the largest increase; 16.8 years to 17.6 years between 2016-18 and 2017-19 respectively. This is higher than the HLE/LEx gap estimated in 2009-11 (17.0 years). This indicates that men are spending less of their life in good health compared to previous years.
- When comparing deprivation deciles, LEx at birth for Wirral males in the least deprived decile only, is greater that England. For females, LEx at birth in the least two deprived deciles are greater than England.

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This update summarises the most recently available data (2017-19) for life expectancy (LEx) in Wirral and compares local and national data. The World Bank (2018) estimates that the average life expectancy at birth globally is now 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 <u>Public Health Outcomes</u> <u>Framework (PHOF)</u>. The causes of these health inequalities are complex and involve interactions between social, educational, economic and structural factors (Figure 1).

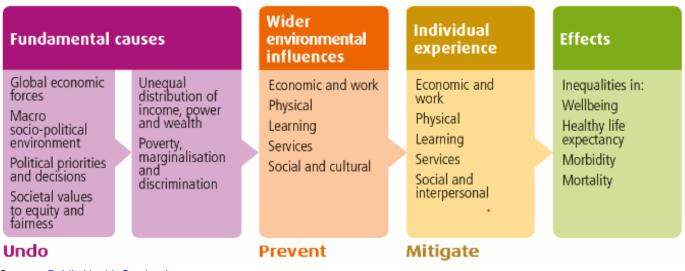


Figure 1: Causes of health inequalities

Source: Public Health Scotland

Life expectancy (LEx) 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. Along with infant mortality, it is widely used by Public Health as a useful indicator of the health of the overall population.

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 2019.

Since 1995-97, LEx at birth has increased by 5.4 years for males in Wirral, compared to 5.2 years for males in England. Therefore, although LEx has been increasing locally, it has also been increasing in England at a similar rate, meaning that the LEx gap between men in England and Wirral remains.

The latest period (2017-19) saw an increase in LEx at birth amongst males in Wirral of 0.3 years compared to 2016-18. LEx at birth amongst males in England also increased, but only by 0.2 years. This means that the LEx gap between males in Wirral and England has decreased by 0.1 years, from 1.4 years in 2016-18 to 1.3 years. Compared to the North West, Wirral males now have a greater LEx for 2017-19 (78.5 vs 78.4).

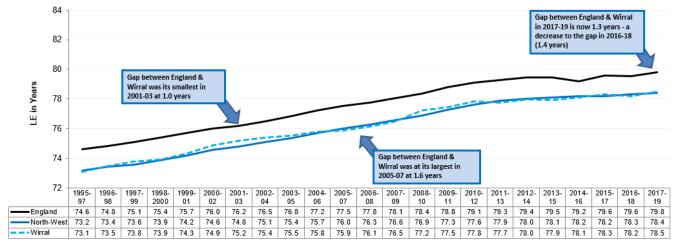
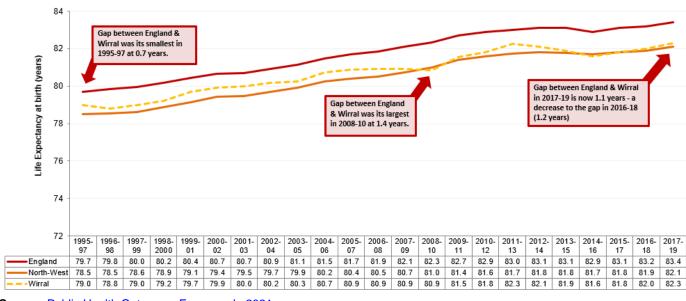


Figure 2: Trend in Life Expectancy at birth for males in England, North West & Wirral, 1995-2019

Source: Public Health Outcomes Framework, 2021 **Note:** A larger version of this chart is available in Appendix 1

Figure 3 shows that LEx at birth has increased for females in Wirral, since 1995-97, by 3.3 years, compared to an increase of 3.7 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 widen (currently 1.1 years, compared to a gap of 0.7 years in 1995-97). Wirral continues to have a higher LEx at birth than the North West for females in 2017-19 (82.3 vs 82.1).

Figure 3: Trend in Life Expectancy at birth for females in England, North West & Wirral, 1995-2019



Source: Public Health Outcomes Framework, 2021 **Note:** A larger version of this chart is available in Appendix 2

Life Expectancy at age 65

Figure 4 shows life expectancy (LEx) at age 65 in Wirral, the North West and England for both males and females from 2001 to 2019. 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.

The most recent time period (2017-19) showed an increase in LEx at 65 amongst males in Wirral (0.2 years) and the North West and England, both increasing by 0.1 years. This means that the gap in LEx in men between England Wirral has narrowed. LEx at 65 for females in all three areas increased: for the North West by 0.2 years and for Wirral and England by 0.1 years.

These changes mean that the gap in LEx between males and females in Wirral has narrowed between 2016-18 and 2017-19 (from 2.6 to 2.5 years). The decrease also means the gap has narrowed between males in Wirral and the North West (0.2 to 0.1 years) and England (0.9 to 0.8 years).

As mentioned above, LEx at birth and at age 65 has plateaued somewhat over the last few time periods. A <u>2019 report by the Organisation for Economic Cooperation & Development (OECD)</u> 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.

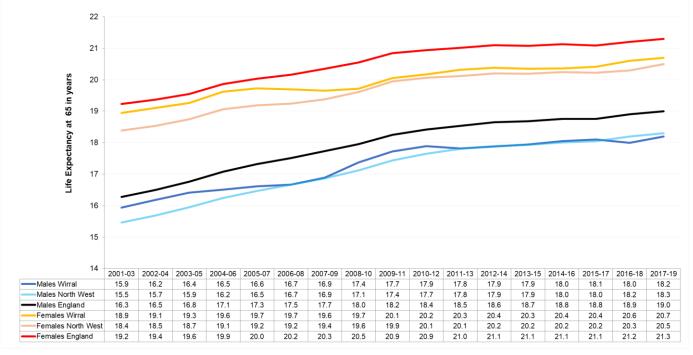


Figure 4: Life Expectancy at age 65 in England, North West & Wirral, by gender, 2001-2019

Source: Public Health Outcomes Framework, 2021

Inequalities in life expectancy within Wirral and England

There are well evidenced, long standing inequalities in LEx within Wirral. **Figures 5a and 5b** show life expectancy (LEx) at birth by deprivation decile (10%) and gender in Wirral for 2016-18 and 2017-19 (Public Health Outcomes Framework, 2020).

Life expectancy for males in Wirral increased by 0.3 years overall between 2016-18 and 2017-19, with the largest increases occurring in both the most and least deprived deciles (+0.6 years in the most deprived decile and +0.7 in the least deprived decile). Only two deciles saw a reduction in life expectancy for males in 2016-18 and 2017-19 – Decile 3 (-0.4 years) and Decile 9 (-0.4 years). There was a difference of 13.2 years between the most and least deprived deciles in 2017-19 (this difference has increased from 13.1 years in 2016-18).

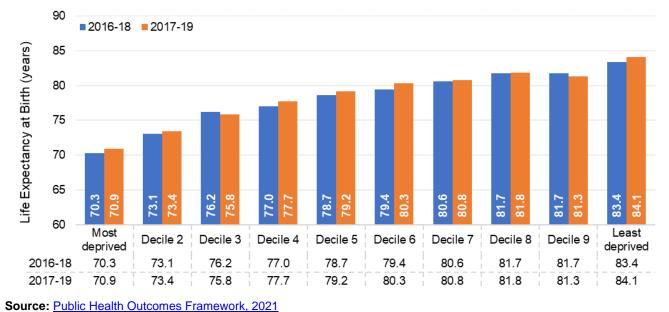


Figure 5a: Life expectancy at birth in Wirral by deprivation decile, males, 2016-18 and 2017-19

Wirral Intelligence Service: Life Expectancy in Wirral: 2017-19

As with males, LEx for females in Wirral also increased by 0.3 years between 2016-18 and 2017-19. When analysed by deprivation decile this increase did not occur for all women in Wirral – with 4 deprivation deciles observing a decrease in life expectancy. LEx for women living in the most deprived decile, however, increased by 0.3 years. In the least deprived decile, on the other hand, LEx decreased by -0.3 years. There is a gap of 9.9 years between the most and least deprived deciles in Wirral for 2017-19 (this difference has decreased from 10.5 years in 2016-18).

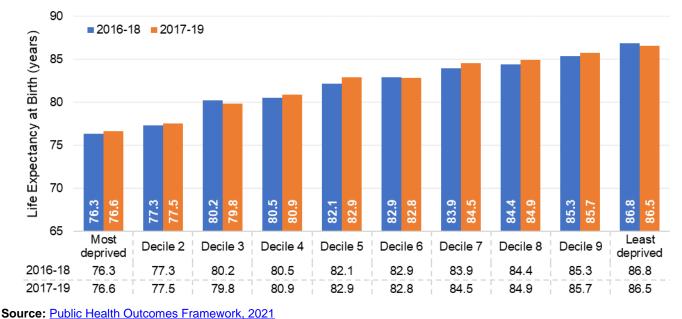


Figure 5b: Life expectancy at birth in Wirral by deprivation decile, females, 2016-18 and 2017-19

There are also inequalities in LEx at 65 years as shown by **Figure 6a and 6b**. For example, LEx at 65 for males in the most deprived decile of Wirral increased by 0.9 years, whereas in the least deprived areas it increased by 0.2 years. Although a gap of 5.4 years in LEx at 65 years still remains between the most and least deprived deciles in Wirral 2017-19, this has decreased from 6.0 years in 2016-18.



Figure 6a: Life expectancy at 65 in Wirral by deprivation decile, males, 2016-18 and 2017-19

Source: Public Health Outcomes Framework, 2021

As with LEx at birth in Wirral, LEx at 65 years for females also increased (+0.1 years), however when analysed by deprivation decile, it also shows varying levels of change for different deciles (**Figure 6b**). For example, LEx at 65 years for women decreased for those living in the three most deprived deciles, whilst increasing for those living in the two least deprived deciles. The gap in LEx at 65 years between the most and least deprived areas has therefore increased to 6.8 years for Wirral in 2017-19, from 6.2 years in 2016-18.

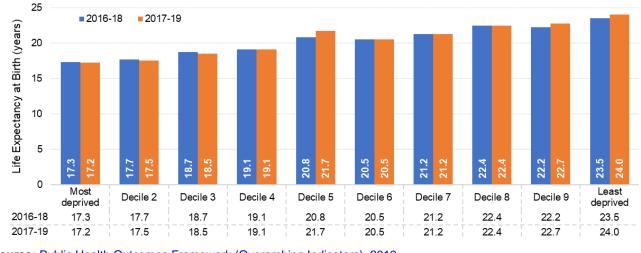


Figure 6b: Life expectancy at 65 in Wirral by deprivation decile, females, 2016-18 and 2017-19

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

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 genders in both Wirral and England for life expectancy at birth is shown below in **Figure 7a**, whilst **Figure 7b** shows the gap for LEx at 65 years.

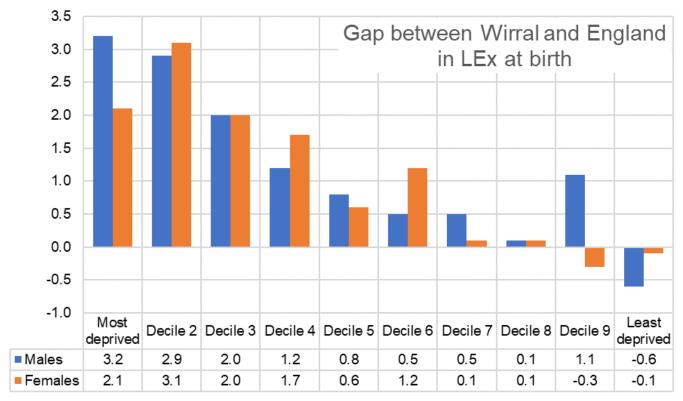


Figure 7a: Gap in life expectancy between Wirral and England, at birth, by gender, 2017-19

Source: Source: Public Health Outcomes Framework, 2021 Note: Positive values mean England has a higher LEx, negative vales mean Wirral has a higher LEx

Wirral Intelligence Service: Life Expectancy in Wirral: 2017-19

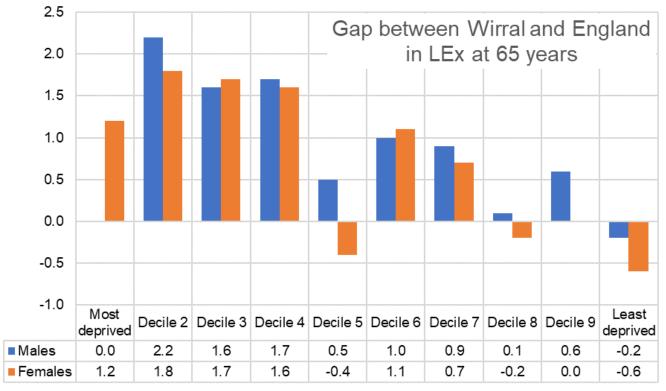


Figure 7b: Gap in life expectancy between Wirral and England, at 65 years, by gender, 2017-19

As **Figure 7a and Figure 7b** show, 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, 3.2 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 but the least deprived decile in Wirral. For women, gaps between Wirral and England for LEx at birth show a slightly different picture, with LEx higher for Wirral (compared to England) in the two least deprived areas (0.3 and 0.1 years 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 65th birthday than those in Wirral. LEx at 65 is higher in England for males in all deprivation deciles besides the most and least deprived. For women, LEx at 65 is higher in England in all deprivation deciles than Decile 5, Decile 8, Decile 9, and Decile 10.

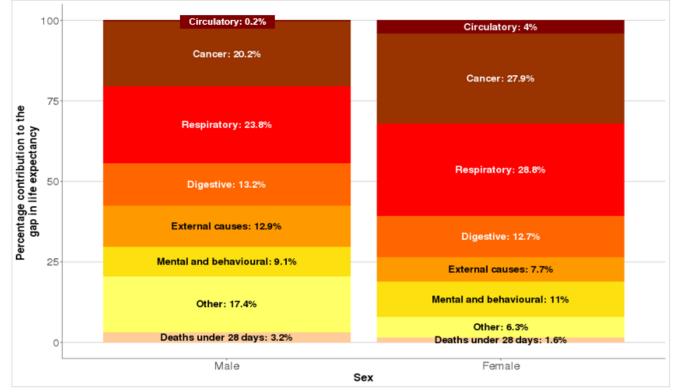
Causes of the gap in Life Expectancy between Wirral & England

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: <u>https://fingertips.phe.org.uk/profile/segment</u> 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 2017-19).

Source: Source: <u>Public Health Outcomes Framework, 2021</u> Note: Positive values mean England has a higher LEx, negative vales mean Wirral has a higher LEx

As **Figure 7a and Figure 7b** show, there are stark differences in the size of the LE

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.

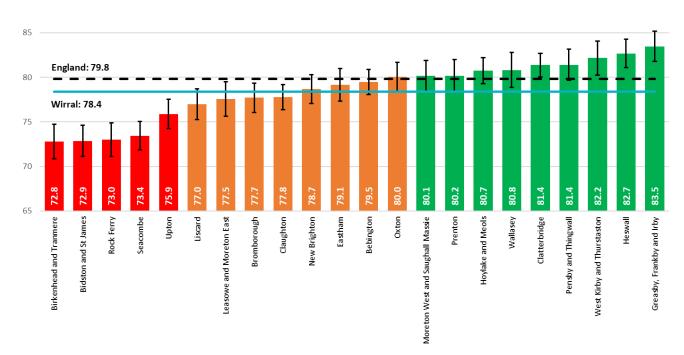
In 2015-17 there were gaps in life expectancy at birth between Wirral and England of 1.3 years (males) and 1.3 years (females). **Figure 8** shows how the broad causes of death contributed to these gaps in life expectancy between Wirral and England.

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 by Wirral ward

Life expectancy varies considerably between Wirral wards. As **Figure 9** shows, there is a gap of 10.7 years between the wards with the highest and lowest male LEx in Wirral for 2017-19 (Birkenhead and Tranmere and Greasby, Frankby and Irby). This is a reduction of the gap, compared to the previous period, as it was 11.8 years in 2016-18. The average Wirral LEx for males was 78.4 years, whilst the England average was 79.8 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 IMD 2019; Birkenhead and Tranmere, Bidston and St James, Rock Ferry and Seacombe.



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Source: Public Health Intelligence Team, Wirral Intelligence Service, 2021 **Note:** Confidence intervals displayed on each bar within this chart show the range at which we can be 95% certain the true value lies between

Figure 10 below shows that, for 2017-19, the gap between the Wirral wards with the highest and lowest female LEx was 11.2 years (Rock Ferry and Wallasey). This is a widening of the gap, compared to the previous period, as it was 10.1 years in 2016-18. As was the case with males, the four wards with the lowest female LEx are the four most deprived wards in Wirral: Rock Ferry, Birkenhead and Tranmere, Bidston and St. James and Seacombe.

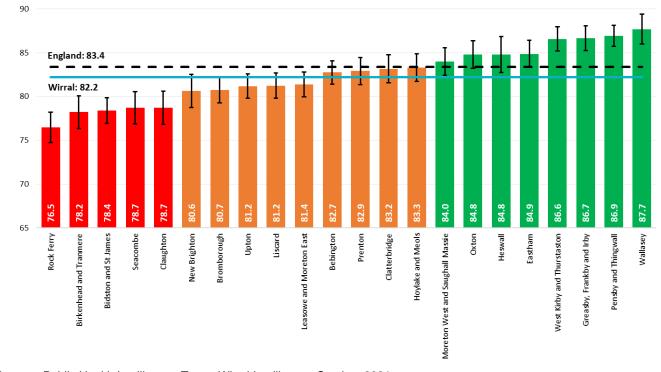


Figure 10: Female life expectancy at birth, by Wirral Ward, 2017-19

Source: Public Health Intelligence Team, Wirral Intelligence Service, 2021 **Note:** Confidence intervals displayed on each bar within this chart show the range at which we can be 95% certain the true value lies between <u>Map 1</u> and <u>Map 2</u> (<u>Appendices 3 and 4</u>) show life expectancy at birth by Wirral railway station. These maps reinforce in a visual format the ward level data shown previously; that wards on the west side of Wirral are typically less deprived and have a higher life expectancy for 2017-19. 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). These measures provide 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 (<u>ONS, 2019d)</u>. It is calculated using mortality data and self-reported health status data from the Annual Population Survey.

In 2017-19, HLE in Wirral was 60.9 years for men and 63.9 years for women, compared to 63.2 years for men and 63.5 years for women in England **(Table 1)**. On comparing HLE to LEx it shows that, in Wirral, a male could spend approximately 77.6% of their life in 'good' health and 22.4% (or 17.6 years) in less than good health. Women in Wirral are estimated to also spend 77.6% of their life in 'good' health and 22.4% (or 18.4 years) in less than good health.

In 2017-19, male HLE in Wirral decreased from 61.4 to 60.9 years. There was also a decrease observed nationally (but by a smaller amount); this means the gap between male HLE in Wirral and England has increased - from 2.0 in 2016-18 to 2.3 years in 2017-19 – an increase of 0.3 years.

For Wirral females, HLE for 2017-19 increased from 63.7 to 63.9 years (+0.2 years). In contrast HLE for females nationally decreased by 0.4 years (63.9 to 63.5 years). This has meant that, for the first time, HLE for Wirral females is greater than the national HLE.

Area	Life H Expectancy, E Males (Years)		Proportion of life spent in 'good' health, Males	Lite	Healthy Life Expectancy, Females (Years)	Proportion of life spent in 'good' health, Females
Wirral	78.5	60.9	77.6%	82.3	63.9	77.6%
North West	78.4	61.7	78.7%	82.1	62.2	75.8%
England	79.8	63.2	79.2%	83.4	63.5	76.1%

Table 1: Life Expectancy with Healthy Life Expectancy and proportion, 2017-19

Source: Office for National Statistics (ONS), 2021

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 and LEx, males, Wirral and England, 2010-12 to 2017-19

Area	Gap with LEx	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	Trend
Wirral	HLE gap	17.0	17.9	17.6	16.8	16.7	18.5	16.8	17.6	$\left< \right.$
England		15.7	16.0	16.0	16.1	15.9	16.2	16.3	16.6	<pre></pre>

Source: Office for National Statistics (ONS), 2021

Area	Gap with LEx	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	Trend
Wirral	HL <mark>E</mark> gap	19.1	20.5	21.2	20.2	21.3	20.7	18.3	18.4	$\left< \right>$
England		18.8	19.1	19.1	19.0	19.0	19.3	19.3	19.9	\langle

Source: Office for National Statistics (ONS), 2021

Increases in life expectancy for men in recent years have been matched with corresponding increases in HLE both nationally and locally. The gap between LEx and HLE increasing from 17.0 in 2010-12 to 17.6 years in 2017-19 for Wirral males. This indicates than men are spending less of their lives in good health (**Table 2a**).

In contrast, the gap between HLE and LEx for females in Wirral saw a reduction; 19.1 to 18.4 years in 2010-12 and 2017-19 respectively. This indicates that women are spending slightly more of their lives 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 3.0 years, with females expected to be in good health for longer. There has only been one time period, in 2014-16, where Wirral males were estimated to have greater HLE than females.

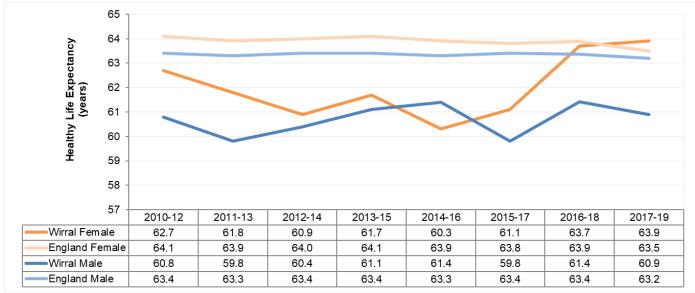


Figure 11: Trend in HLE for males and females, Wirral, and England, 2010-19

Source: Office for National Statistics (ONS), 2021

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 (<u>ONS, 2019d</u>). The figures produced by the Office for National Statistics differ to the HLE figures produced, (due to differing methodology) but they are also calculated using mortality data and self-reported health status data from the Annual Population Survey.

In 2017-19, DfLE in Wirral was 61.8 years for males and 59.9 years for females, compared to 62.7 and 61.2 years respectively in England (**Table 3**). This means that males in Wirral are likely to spend 61.8 years of their total life expectancy of 78.5 years 'disability free'. This equates to 78.7% of their life spent 'disability-free'. Women, however, are estimated to spend only 72.8% of their life 'disability-free' (59.9 'disability free' years of their total 82.3 years of life expectancy).

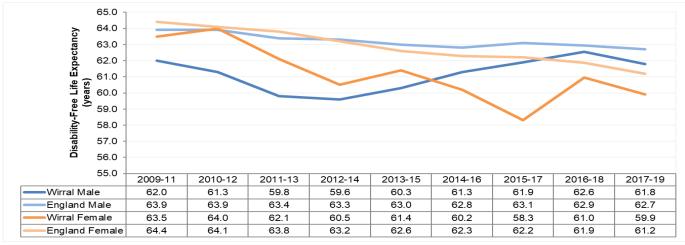
Area	Life Expectancy, Males (Years)	Males	Proportion of life spent 'disability- free', Males	remaies	Disability Free Life Expectancy, Females (Years)	Proportion of life spent 'disability- free', Females	
Wirral	78.5	61.8	78.7%	82.3	59.9	72.8%	
North West	78.4	60.8	77.6%	82.1	59.7	72.7%	
England	79.8	62.7	78.6%	83.4	61.2	73.4%	

Table 3: LEx with DfLE and proportion, 2017-19

Source: Office for National Statistics (ONS), 2021

As **Figure 12** shows, DfLE has decreased for males in England between 2009-11 and 2017-19: from 63.9 to 62.7 years. In Wirral, DfLE has also decreased for males between 2009-11 and 2017-19: from 62.0 to 61.8 years. The gap in DfLE between males in Wirral and England has decreased from 2.4 years in 2009-11 to 0.6 years in 2017-19. This gap, however, has increased by 0.3 years since 2016-18.

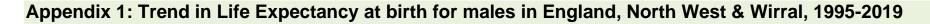
For females, on the other hand, DfLE in Wirral has decreased from 61.0 to 59.9 years (1.1 years). A similar decrease has also been observed nationally; from 61.9 to 61.2 years (-0.7 years). This means that the gap in female DfLE between Wirral and England has increased from 0.9 to 1.3 years.

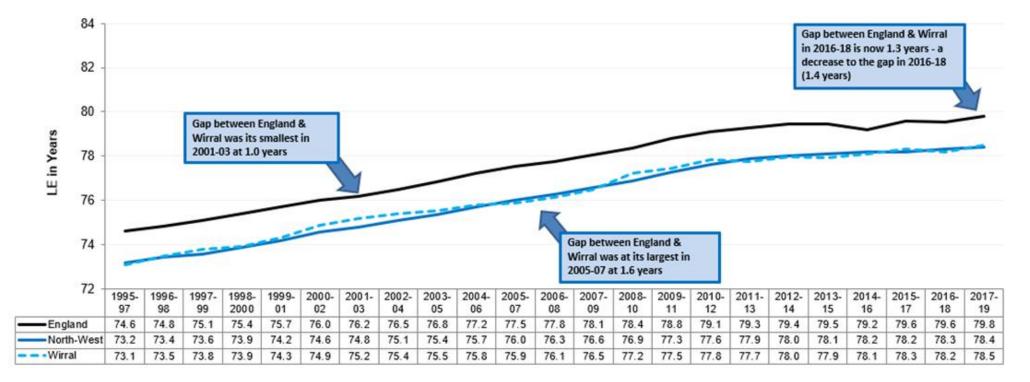


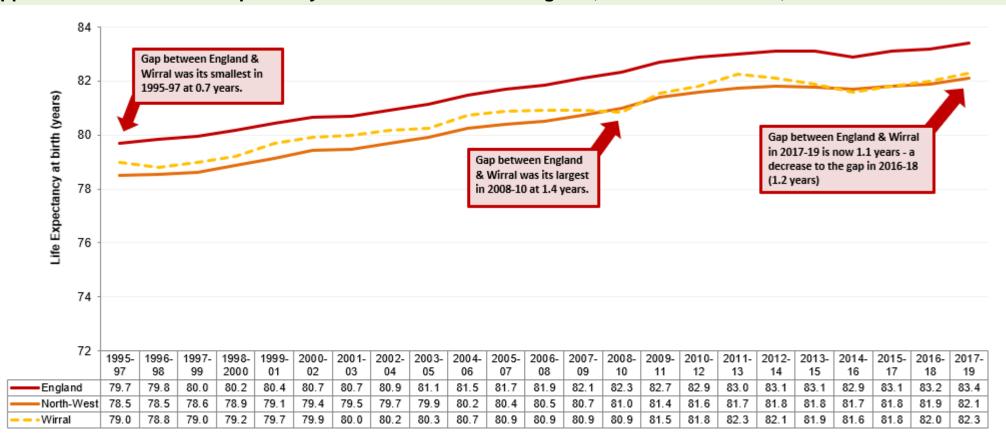


Source: Office for National Statistics (ONS), 2021

Appendices

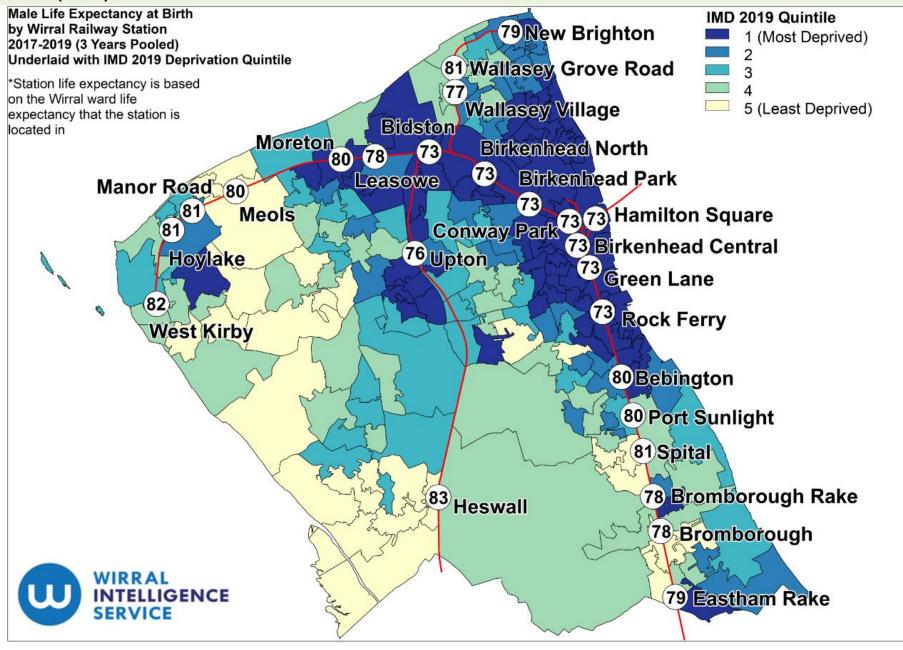




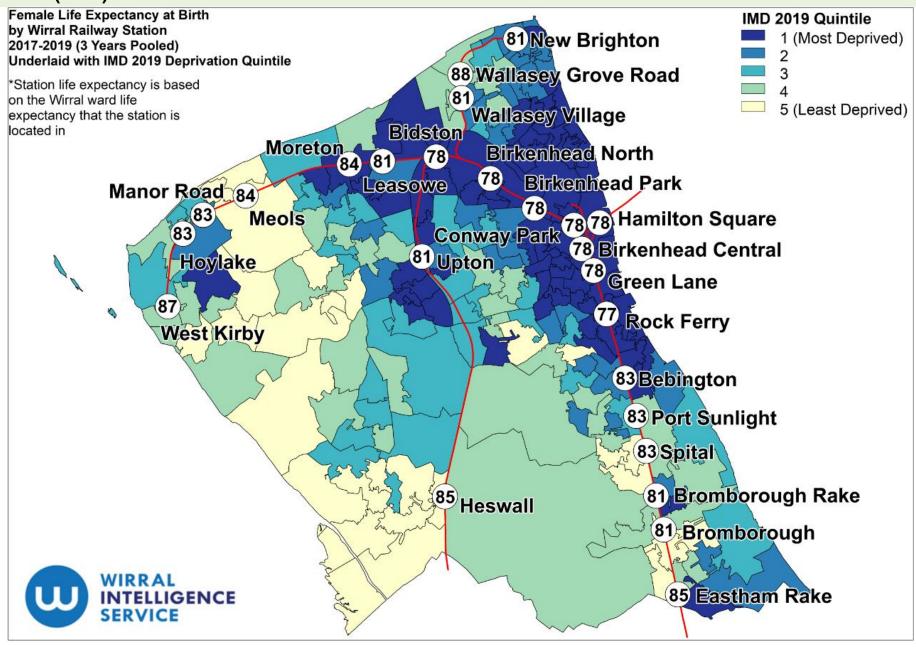


Appendix 2: Trend in Life Expectancy at birth for females in England, North West & Wirral, 1995-2019

Appendix 3: Life expectancy at birth in males by Wirral Railway Station (2017-19) and Indices of Multiple Deprivation (2019)



Appendix 4: Life expectancy at birth in females, by Wirral Railway Station (2017-19) and Indices of Multiple Deprivation (2019)



Further Reading / Links

- Wirral JSNA: <u>https://www.wirralintelligenceservice.org/</u>
- Health & Social Care Outcomes Framework: <u>https://www.gov.uk/government/collections/health-and-social-care-outcomes-frameworks</u>
- Public Health England Data and analysis tools: <u>https://www.gov.uk/guidance/phe-dataand-analysis-tools</u>
- Office for National Statistics Life Expectancies: <u>https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies</u>
- Indices of Multiple Deprivation 2019 Explorer: <u>http://dclgapps.communities.gov.uk/imd/iod_index.html</u>

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