



**WIRRAL
INTELLIGENCE
SERVICE**

Life Expectancy in Wirral: 2014- 16 update

**Wirral Intelligence
Service**

February 2018

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V1	January 2018	Jack Font	Sarah Kinsella	Addition of causes of avoidable mortality
V2	February 2018	Jack Font	John Highton	Amended sources, references & footer

Report Overview

Abstract	
Intended or potential audience	External <ul style="list-style-type: none">• Director of Public Health and wider Public Health Team Internal <ul style="list-style-type: none">• JSNA Bulletin• DMT (plus other departmental DMTs)
Links with other topic areas	<ul style="list-style-type: none">• Deprivation• Population• Mortality

Key findings

- Life expectancy at birth has consistently been higher for females compared to males in both Wirral and England since systematic recording of this indicator began
- Over the last 20 years, life expectancy at birth has improved much faster for males in Wirral than it has for females (increase of 5.3 years since 1995-97 compared to an increase of 2.6 years for females over the same period). This means that the gender gap between males and females has reduced by almost half (46%) in Wirral in 20 years
- The gap in life expectancy at birth between England and Wirral has decreased to the lowest ever gap for males. In the case of females however, the gap has actually increased
- In 1995-97, the gap in life expectancy at birth between Wirral and England for males was 1.5 years. In 2014-16, the gap had decreased by almost half, to 0.8 years
- The gap in life expectancy at birth between Wirral and England for females has actually increased from 0.7 years in 1995-97, to 1.3 years in 2014-16. This is a percentage increase of 86%
- In 2014-16, there was an increase in life expectancy at birth in Wirral for males compared to the previous time period and a decrease for females (the increase was 0.5 years for men, whereas the decrease was 0.3 years for females)
- This is in contrast to the national picture, where life expectancy at birth decreased slightly for males in 2014-16 (by 0.3 years) but also decreased for females (by 0.2 years)
- Wirral had lower life expectancy at older ages (65, 75 and 85) for both males and females, compared to England overall in 2014-16
- Inequalities in life expectancy in Wirral are apparent at birth and at older ages (65, 75 and 85), with life expectancy lower in Wirral's 20% most deprived areas, compared to both the more affluent areas of Wirral and the 20% most deprived areas of England
- In males, the largest contributor to the gap in life expectancy between Wirral and England was cancer
- In females, the largest contributor to the gap in life expectancy between Wirral and England was respiratory disease (e.g. flu and pneumonia)
- Smoking is the biggest single contributor to both of these diseases
- The wards with the highest life expectancy in Wirral were Heswall for men (84.3) and Greasby, Frankby and Irby for females (88.4)
- The ward with the lowest life expectancy for males was Bidston & St. James (72.0), and Rock Ferry for females (77.7 years)
- Both Healthy Life Expectancy (HLE) and Disability Free Life Expectancy (DfLE) increased for males but decreased for females in 2014-16
- Despite this, HLE and DFLE are still lower in Wirral than England, because the starting point was much lower
- In Wirral, males spend approximately 79% of their life in 'good' health, whereas women in Wirral will only spend around 74% of their life in 'good' health

- Increases in life expectancy for males have been matched by corresponding rises in DfLE and HLE. Similarly, decreases in life expectancy for females have been matched by corresponding decreases in DfLE and HLE

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Introduction

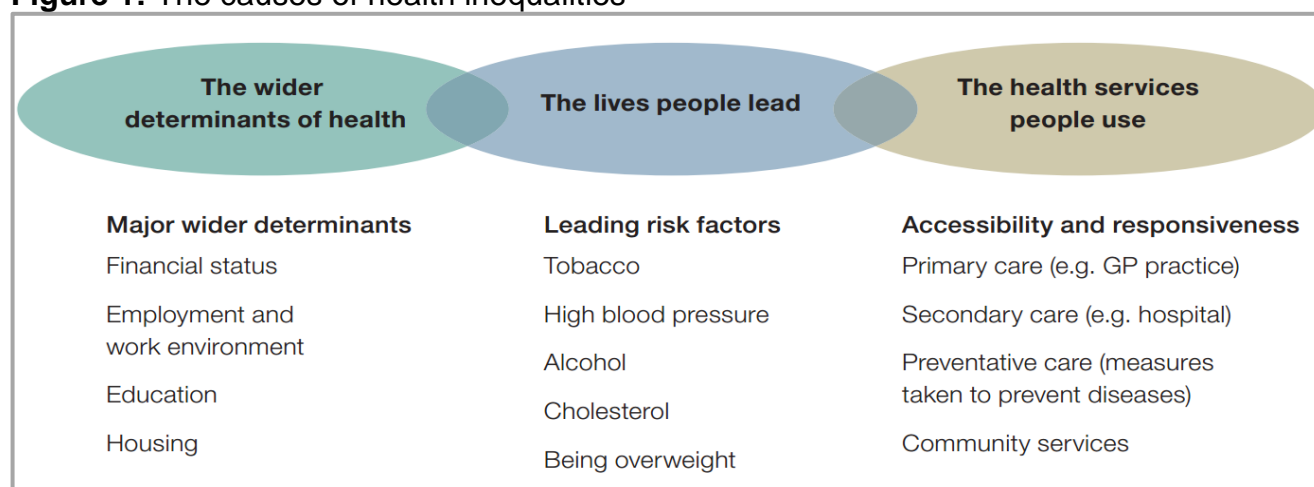
This update summarises the most recently available data (2014-16) for life expectancy (LE) in Wirral and compares local performance on this measure to England overall.

Life expectancy at birth in England showed dramatic increases throughout the twentieth century as health and living conditions improved. It increased from 46 for males and 50 for females in 1900, to 76 for males and 80 for females in 2000 and has continued to increase since.

However, increases in LE 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 LE between these groups has increased in recent years.

Consequently, reducing inequalities in LE 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).

Figure 1: The causes of health inequalities



Source: National Audit Office literature review

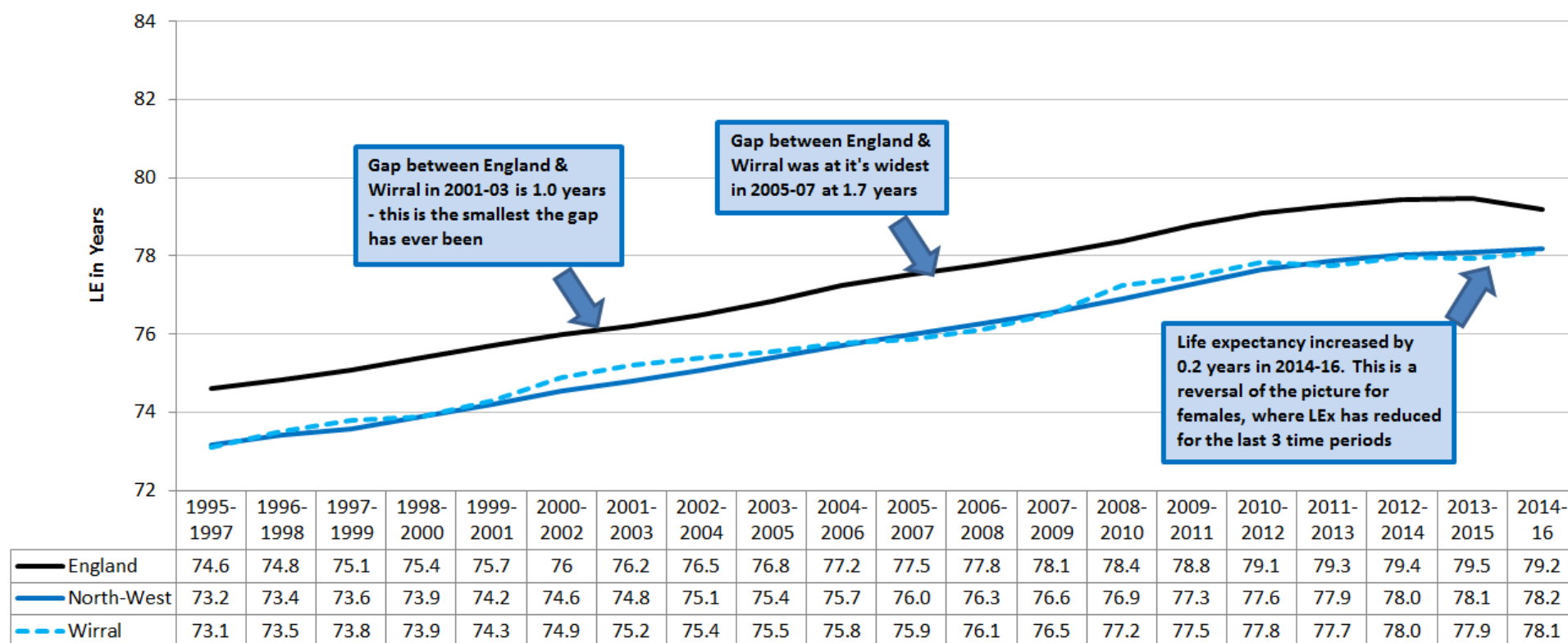
Life expectancy at birth

Life expectancy is, “an estimate of the average number of years a person...would survive if he or she experienced the 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) and people moving away from the area in which they were born.

Figures 2 and 3 (over page) show the 20 year trend in LE at birth for males and females in England and Wirral between 1995 and 2016.

Figure 2: 21 year trend in life expectancy at birth for males in England, North-West and Wirral between 1995 and 2016

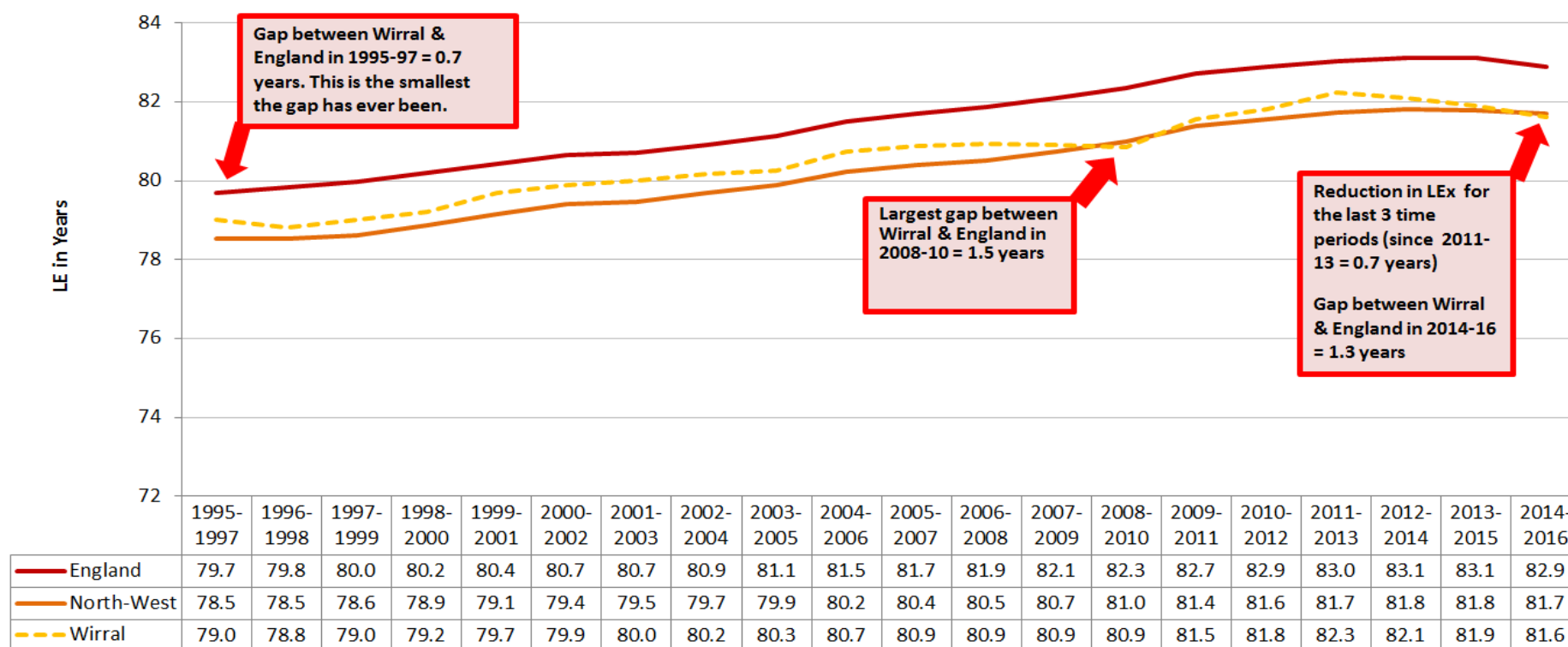


Source: Office for National Statistics, 2017

Over the last 21 years LE at birth has increased by 5.0 years for males in Wirral, compared to 4.6 years for males in England. So although LE has been increasing locally, it has also been increasing in England (except for the most recent time period), this means that the gap between England and Wirral continues to exist (although currently, at 1.1 years, the gap in life expectancy is one of the smallest it has ever been between Wirral and England).

The latest time period (2014-16) has also seen a large increase in LE at birth amongst males in Wirral (of 0.2 years) on the previous time period (2013-15). These increases occur relatively frequently, but not since 2011-13 has it jumped by such a large amount. By contrast, LE at birth in males in England decreased for the first time in decades in 2014-16 – by 0.3 years. The North-West showed a small increase on the previous year (increase of 0.1 years) in 2013-15.

Figure 3: 21 year trend in life expectancy at birth for females in England, North-West and Wirral between 1995 and 2016



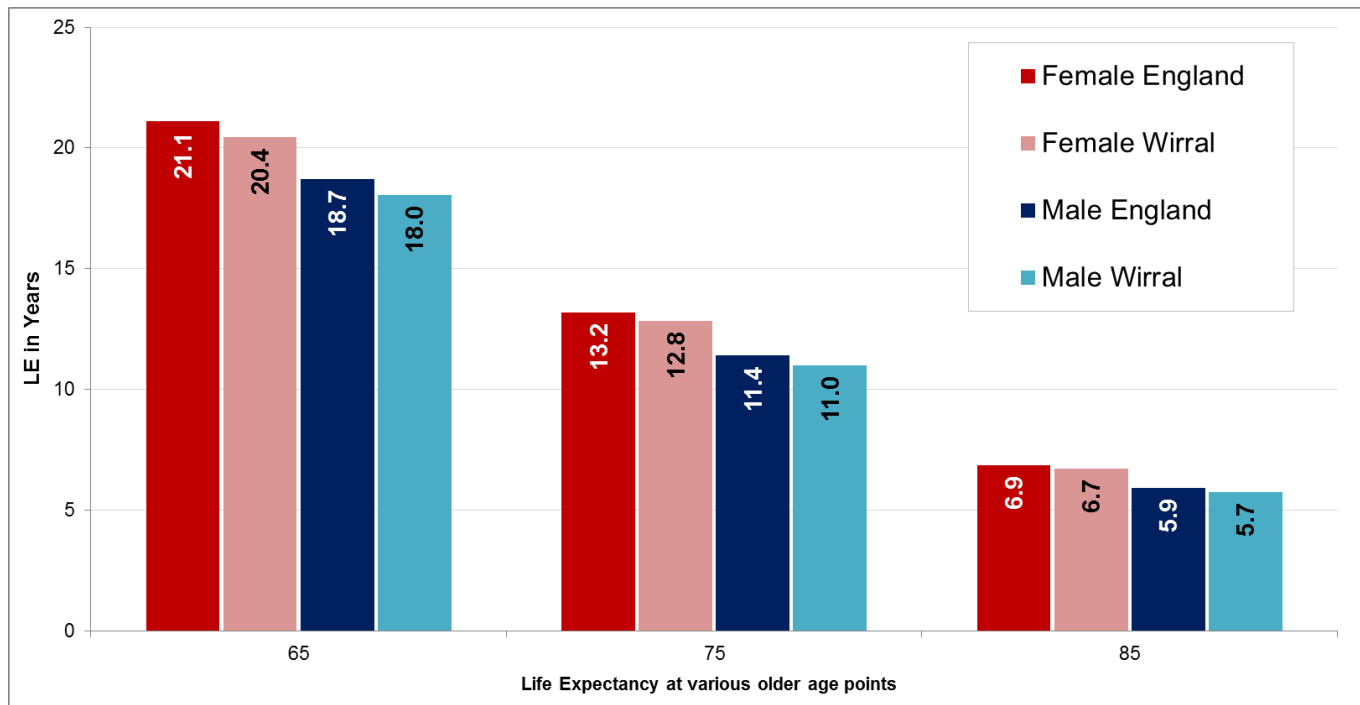
Source: Office for National Statistics, 2017

As Figure 3 shows, LE at birth over the last 21 years has increased by 2.6 years for females in Wirral, compared to an increase of 3.2 years for females in England over the same period. So although LE at birth has been increasing locally for females, it has not increased at the same pace as England, so the gap continues to be more than 1 year (currently 1.3 years, compared to a gap of 0.7 years in 1995-97) and has widened in the most recent time period. There was a reduction in LE at birth amongst females in Wirral in 2014-16 of 0.3 years. There was also a reduction in the past two time periods. This means that since 2011-13, there has been a reduction in LE at birth in Wirral females of 0.7 years. Nationally, LE in England and the North-West have decreased in 2014-16 compared to 2013-15 (0.2 years in England and 0.1 years in the North-West).

Life expectancy at older ages

In the past, analysis tended to focus on premature mortality (deaths under 75 years) or life expectancy at birth. As the average age at death increases, patterns of mortality in older age groups become increasingly important, both in their own right and because of the contribution they make to overall mortality.

Consequently, the chart below shows compares LE in both Wirral and England at ages 65, 75 and 85 in 2014-16.



Source: Office for National Statistics, 2017

The chart shows that LE in Wirral was lower than England for both genders and in all three age categories in 2014-16.

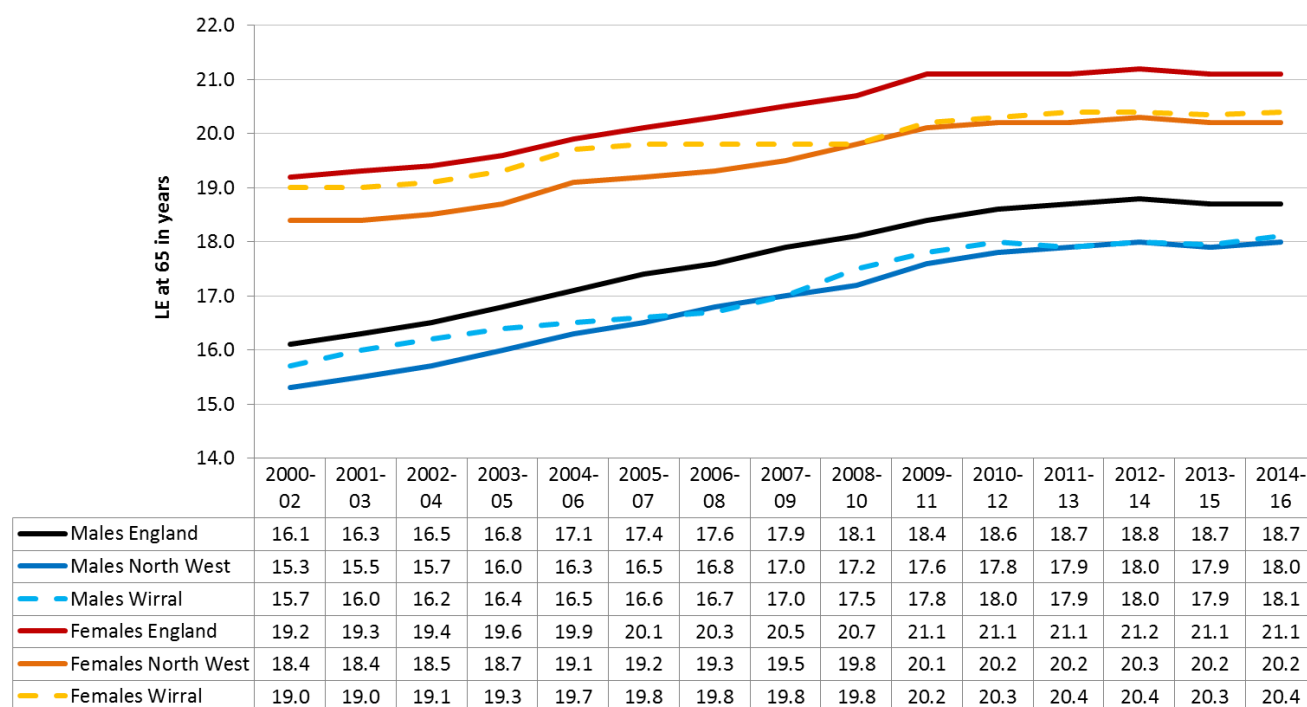
For those wishing to further explore this topic, Public Health England has produced two reports which explore the topic of life expectancy at older ages in more detail:

- [Recent Trends in Life Expectancy at Older Ages: An Update to 2014](#): (2016), concentrating on life expectancy at 65, 75, 85 and 95
- [Recent Trends in Life Expectancy at Older Ages](#) (2015), which concentrated on life expectancy at age 65

Life expectancy at age 65

Figure 5 shows life expectancy at age 65 in Wirral, the North-West and England for both males and females from 2000 to 2016. The chart shows that after many years of increasing gains in LE at age 65, 2009-11 marked a plateauing in England, the North-West and Wirral.

Figure 5: Life Expectancy at age 65 in England, North-West & Wirral by gender, 2000 to 2016



Source: Office for National Statistics, 2017

The most recent time period of 2014-16 showed a slight increase in LE at 65 amongst both males and females in Wirral (0.2 years and 0.1 years) and males in the North-West (0.1 years). For females in the North-West and both males and females in England, LE at 65 remained the same as the previous year.

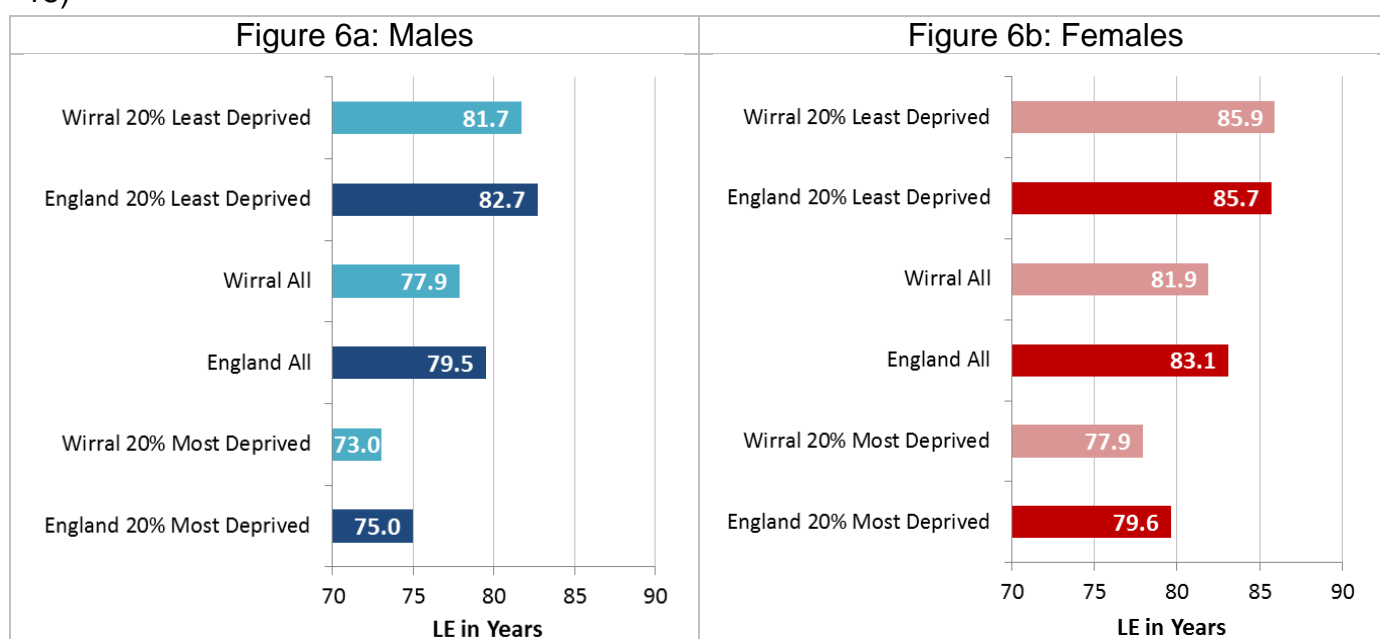
Inequalities in life expectancy in Wirral in 2013-15

Please note that this section of the report (looking at inequalities in life expectancy) relates to the previous time period of 2013-15, because the data has not yet been released allowing us to calculate LE by small area.

There are well evidenced, long standing inequalities in LE – and these are shown for the most recent time periods (2013-15) in Wirral and England in the series of charts below. The charts show the inequalities in LE by the most and least deprived quintiles (20%) of the population and the population overall (of both Wirral and England). Quintiles were calculated according to the Index of Multiple Deprivation 2015 and data has been analysed and presented to show both genders:

- At birth (Figures 6a & 6b)
- At age 65 (Figures 7a and 7b)
- At age 75 (Figures 8a and 8b)
- At age 85 (Figures 9a and 9b)

Figure 6a & 6b: Life expectancy **at birth** in Wirral & England, by gender and deprivation (2013-15)



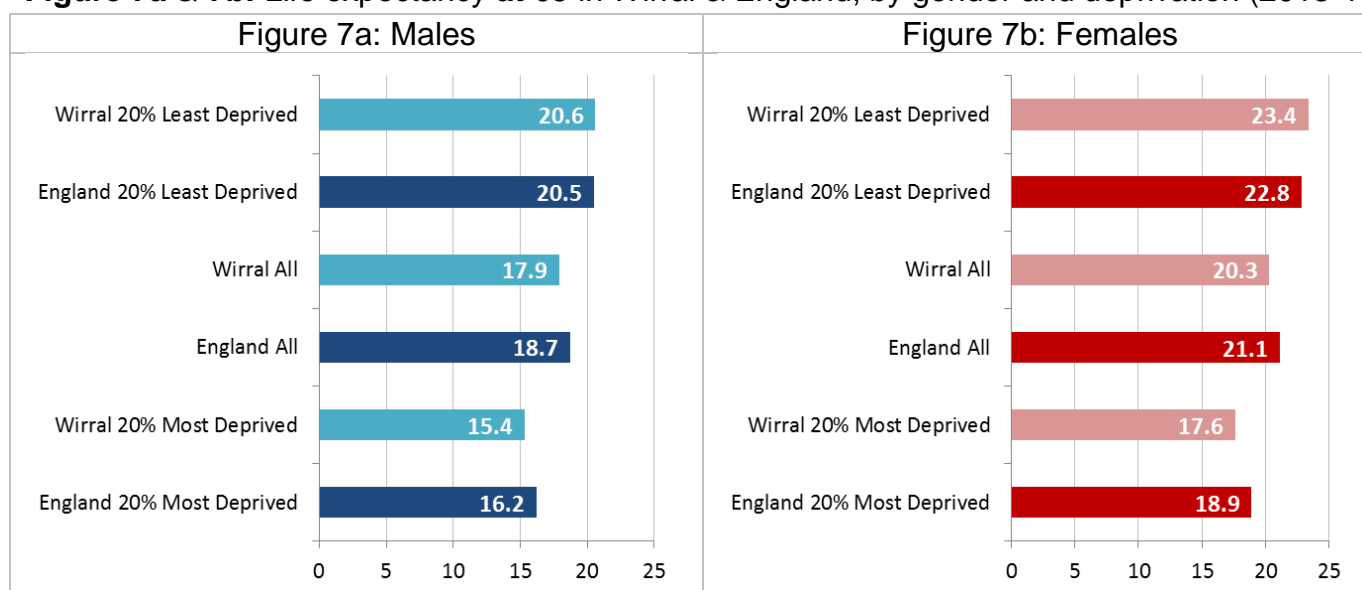
Source: Office for National Statistics, 2017

As the charts above show, the difference in LE between the most deprived and least deprived (or most affluent) quintile of the population in Wirral was 8.7 years for males and 8.0 years for females in 2013-15. The same gap between the most and least deprived quintiles in England was 7.7 years for males and 6.1 years for females – indicating that inequalities are wider in Wirral than is the case in the England overall. This is in line with many other data sources which point to extremely wide health inequalities in Wirral.

Interestingly, although both males and females in the most deprived quintile in Wirral had worse LE than their England equivalents (most deprived quintiles in England), in the least deprived (or most affluent) quintile the picture was slightly different. Females in Wirral in the least deprived quintile had higher life expectancy than females in the least deprived quintile in England. This

was not the case for males however - males in Wirral in the least deprived quintile still had lower LE than males in the least deprived quintile in England (by 1.0 years).

Figure 7a & 7b: Life expectancy at 65 in Wirral & England, by gender and deprivation (2013-15)

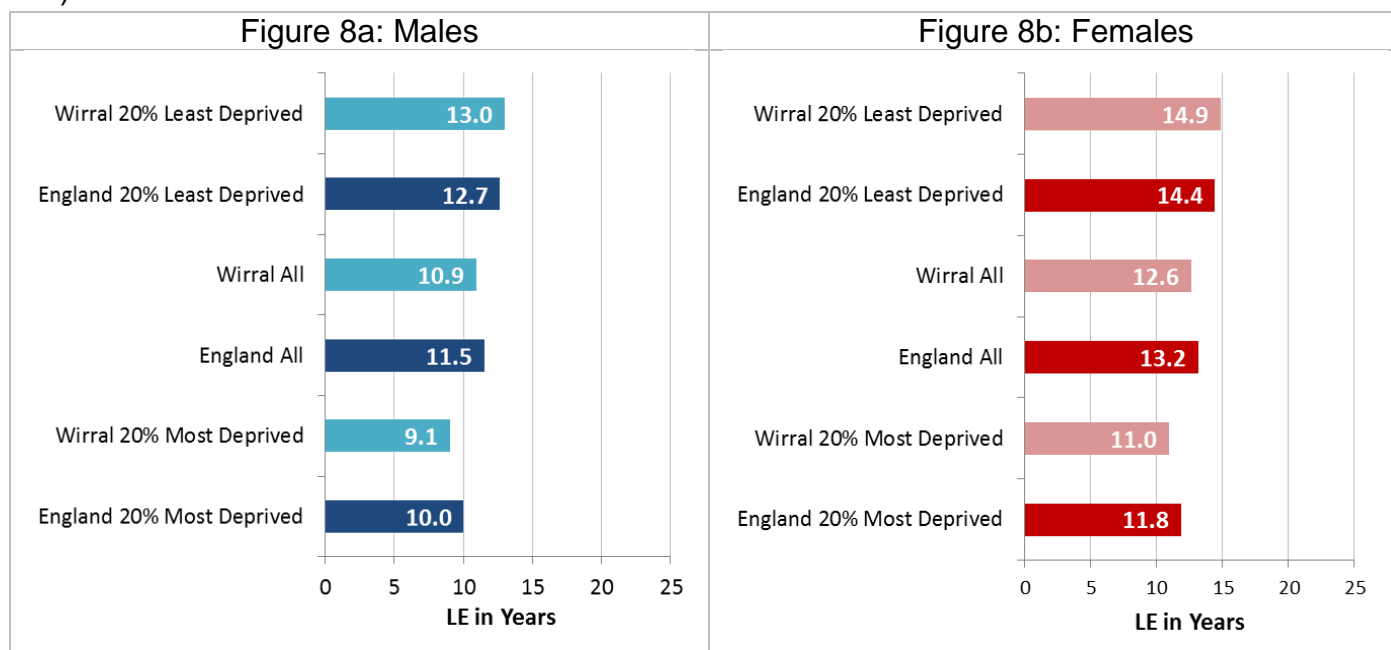


Source: Office for National Statistics, 2017

As **Figures 7a and 7b** shows, the least deprived (or most affluent) quintile of the Wirral population actually had higher LE than the least deprived (or most affluent) quintile of the England population. This was true of *both* males and females. By contrast, both males and females in the most deprived quintile (or 20%) of the Wirral population had *lower* LE than the most deprived quintile in England overall.

In short, the gap in LE 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 5.6 years in 2013-15. In females the same gap was 5.8 years. In England, the same gap was 4.3 years for males and 3.9 years for females.

Figure 8a & 8b: Life expectancy at 75 in Wirral and England, by gender and deprivation (2013-15)

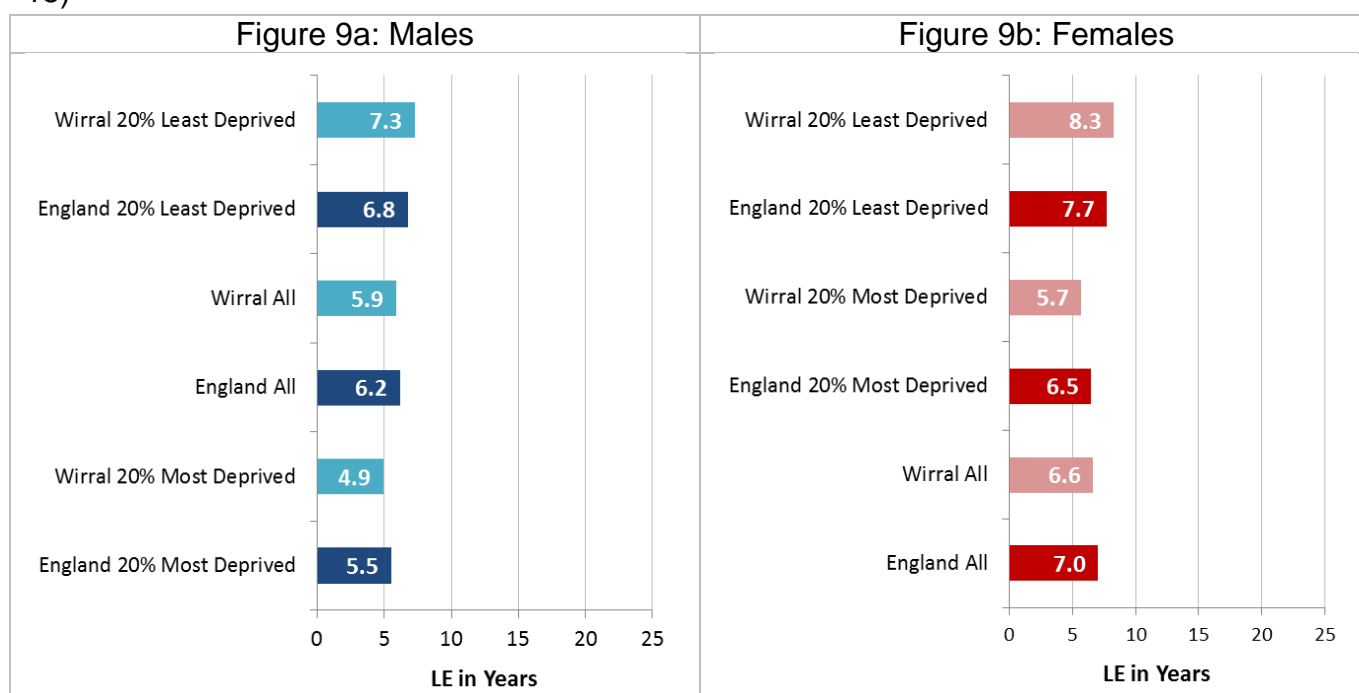


Source: Office for National Statistics, 2017

Figure 8a and 8b shows the same pattern of inequality is apparent in LE at age 75, as is the case for LE at age 65 (and LE at birth). Namely that the most affluent or least deprived 20% of the population in Wirral actually have higher LE then their equivalents in England, whilst the most deprived 20% have lower LE than England.

The gap between the most and least deprived quintiles of the Wirral population is 3.9 years in both males and females. The gap in England is 2.7 years for males and 3.4 years for females – again this adds to existing data which points to wide health inequalities in Wirral.

Figure 9a & 9b: Life expectancy at 85 in Wirral and England, by gender and deprivation (2013-15)



Source: Office for National Statistics, 2017

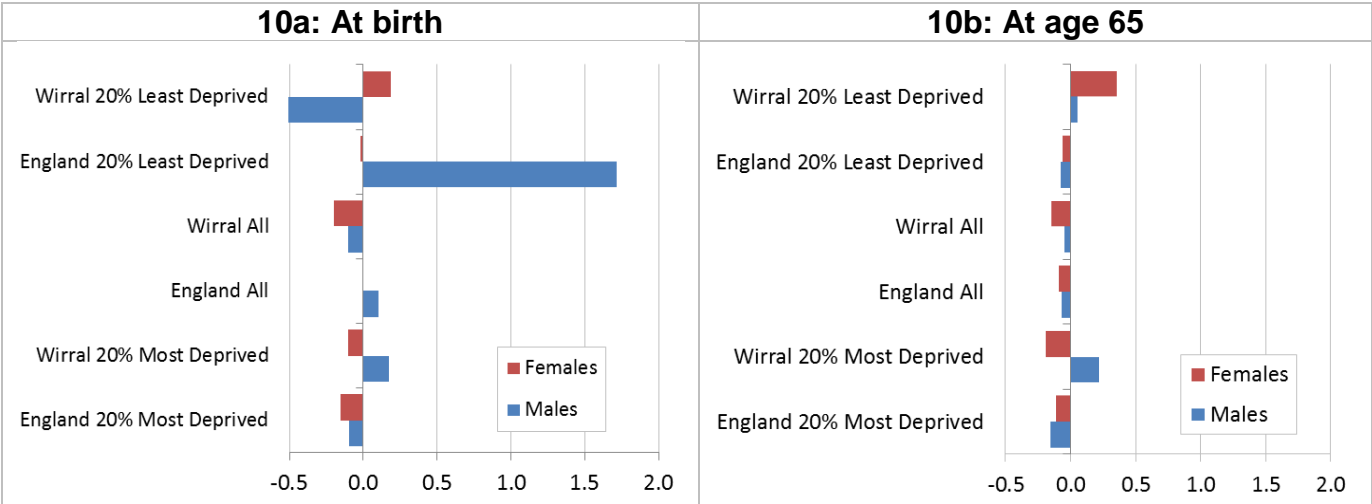
The inequalities outlined in the charts above showing LE at birth, 65, 75 and 85 are also apparent at age 85, where the gap between the most and least deprived quintiles of the Wirral population is 2.4 years in males and 1.7 years for females. This compares to the gap for the England population of 1.3 years for males and 0.7 years for females. As mentioned previously, this serves to underline that inequalities in life expectancy are wider in Wirral than in the country overall – and this is also true in the older age groups.

Also in common with all of the charts above, those in the least deprived (or most affluent) quintile of the Wirral population have a higher LE at age 85 than their England counterparts. In the most deprived quintile however, the reverse is again true and LE is worse than the most deprived quintile of the England population.

Changes in life expectancy between 2012-14 and 2013-15

The series of charts below (Figures 10-11) show the changes in life expectancy at birth, age 65, 75 and 85, between 2012-14 and 2013-15.

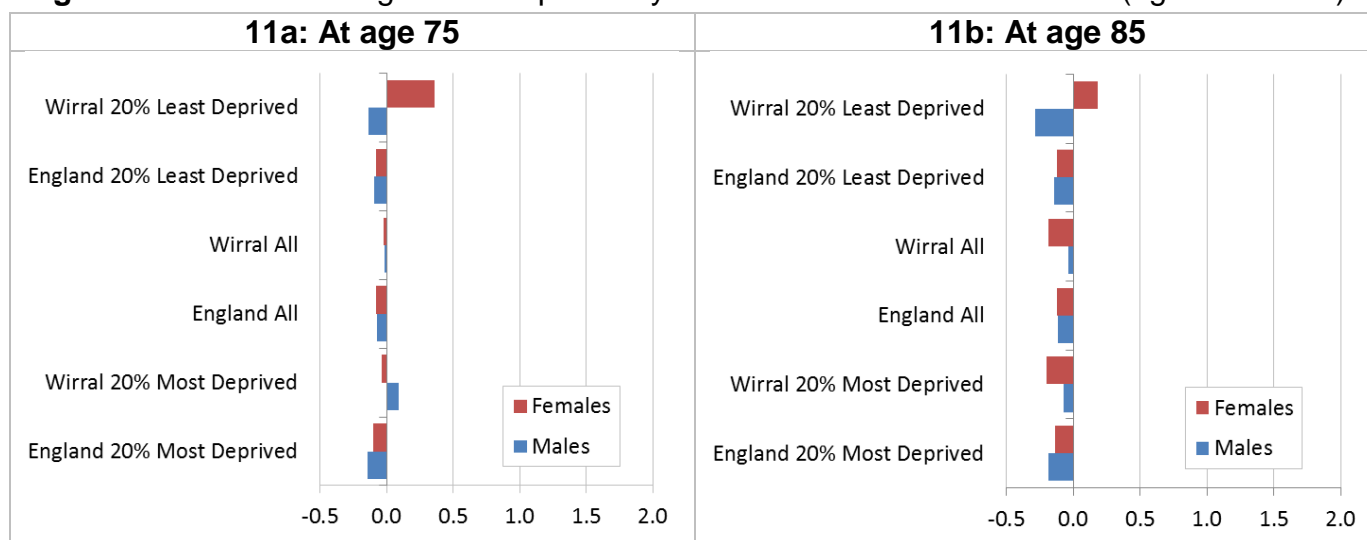
Figure 10a & 10b: Change in life expectancy between 2012-14 and 2013-15 (birth & age 65)



Source: Office for National Statistics, 2017

Figures 10a & 10b show that with few exceptions, there has been a decrease in life expectancy (at both birth and age 65) across the board in both England and Wirral between 2012-14 and 2013-15. The exceptions to this were females in the least deprived (or most affluent quintile) where LE at birth and at age 65 increased. There was also an increase in males in the least deprived quintile in England (at birth), and interestingly – amongst the most deprived males in Wirral (at age 65). Reasons for this are unclear.

Figure 11a & 11b: Change in life expectancy between 2012-14 and 2013-15 (age 75 and 85)



Source: Office for National Statistics, 2017

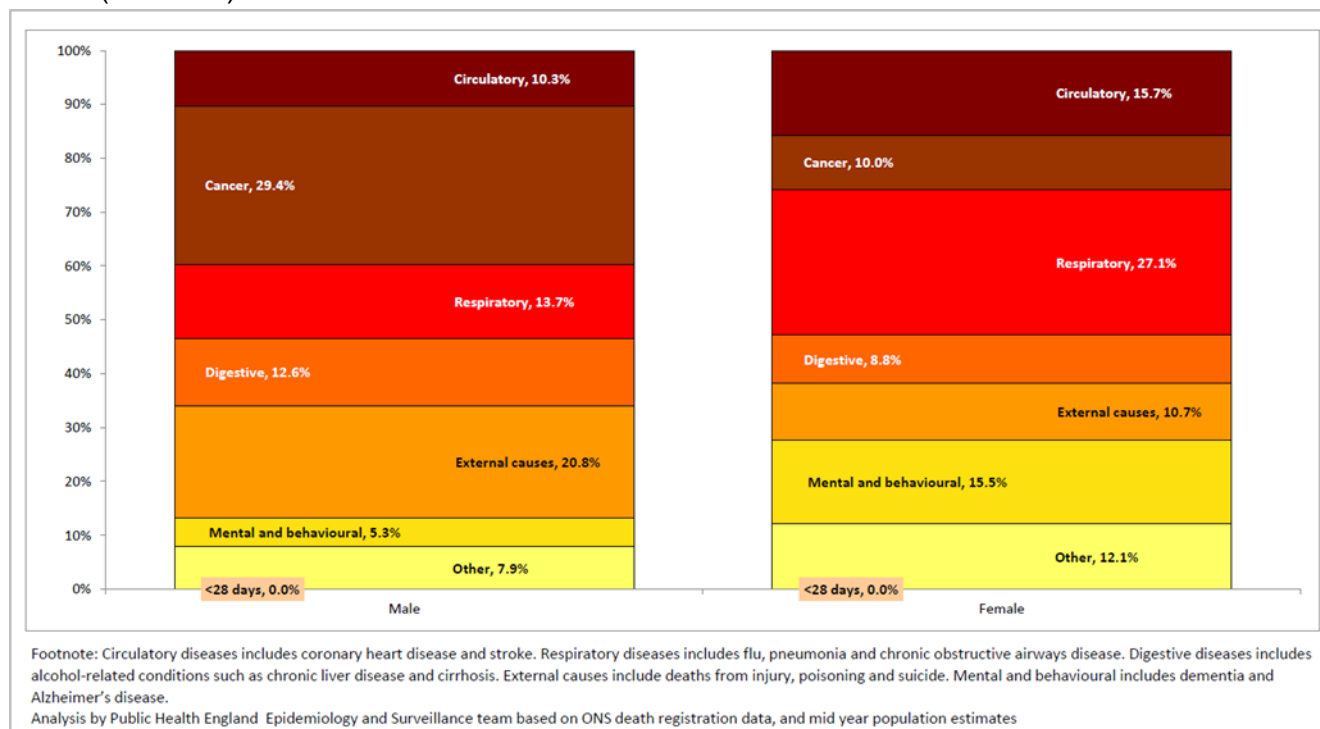
Figure 11a & 11b show a similar picture to those above, namely that with few exceptions, life expectancy at ages 75 and 85 decreased across the board in both England and Wirral between 2012-14 and 2013-15. The exceptions (again) were females in the least deprived (affluent) quintiles and again, interestingly, in males (at age 75) in the most deprived quintile.

Causes of the gap in life expectancy gap in Wirral

Please note that this section of the report (looking at the causes of the gap in life expectancy) relates to the time period 2012-14. This is because it is calculated by Public Health England and has not yet been updated. It will still however, be a useful indicator of the broad disease categories which contribute most to ill health and the resulting gap in LE between Wirral and England.

Targeting the causes of death which contribute most to the life expectancy gap 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 has produced a Segmentation Tool which is available here: <https://fingertips.phe.org.uk/profile/segment>. **Figure 12** below is taken from this Segmentation Tool and shows how the different broad causes of death contribute to the gap in life expectancy between Wirral and England. For example, in males, the largest contributor to the 1.4 year gap between Wirral and England was cancer, followed by external causes (includes injuries and suicide). In females, the largest contributor to the 1.0 year gap was respiratory disease (e.g. flu and pneumonia), followed by mental & behavioural (includes Alzheimers and dementia).

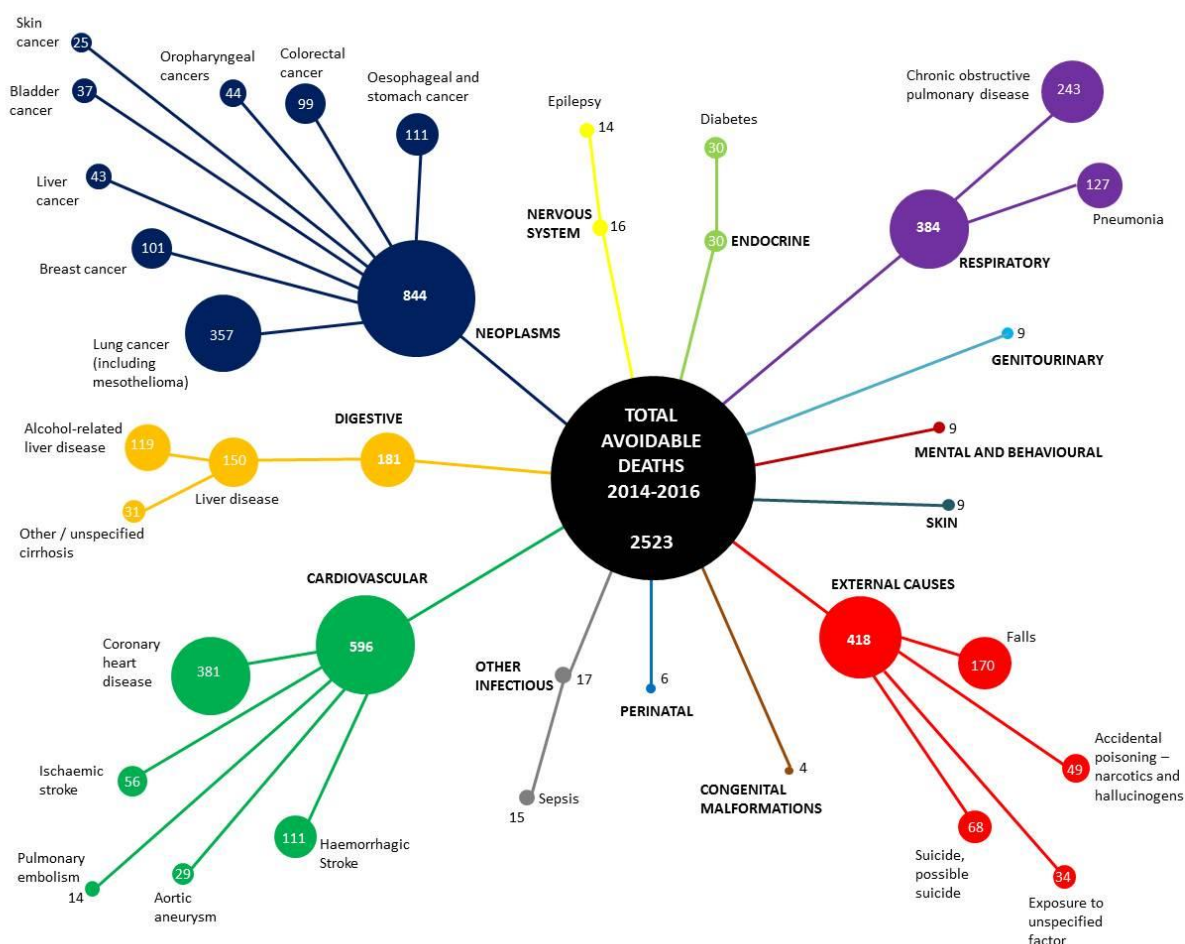
Figure 12: Breakdown of the life expectancy gap between Wirral and England, by broad cause of death (2012-14)



Source: Public Health England

It should be noted that the above 'scarf' charts only relate to deaths which contribute to the gap between Wirral and England – they are not the causes of *all* deaths in Wirral. As **Figure 12** shows, cancer appears to be the largest contributor to the gap between Wirral and England for males, whilst for females it is respiratory illness.

Figure 13: Causes of avoidable mortality in Wirral 2014-16 (calendar years) pooled data



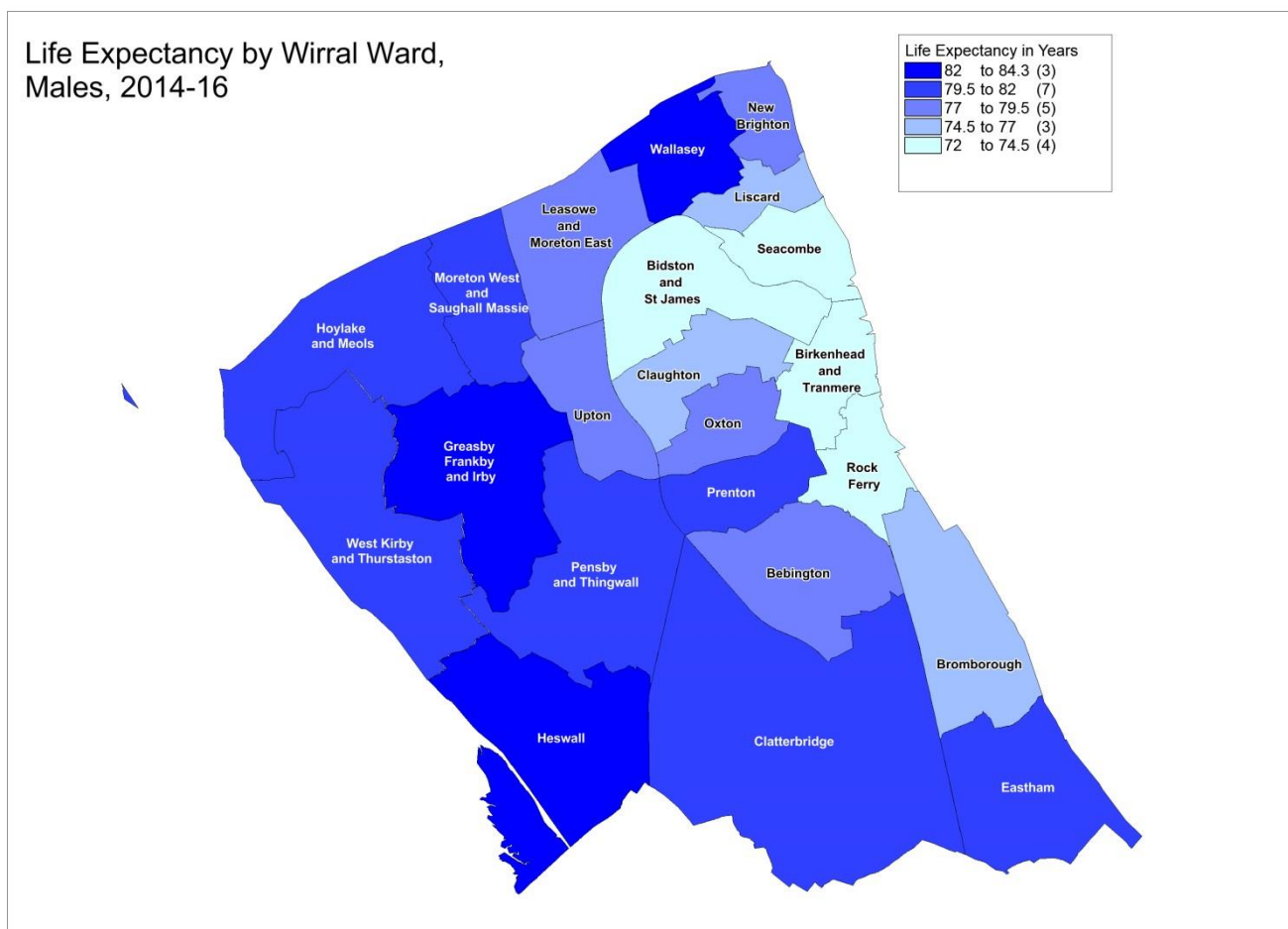
Source: Wirral Public Health Annual Report, 2017

Avoidable deaths are all those defined as preventable, amenable (treatable) or both, where each death is counted only once; where a cause of death is both preventable and amenable, all deaths from that cause are counted in both categories when they are presented separately. Cancers, cardiovascular disease, respiratory disease, gastrointestinal diseases and external causes are the key factors responsible for avoidable deaths in Wirral. Many diseases in these groups are more likely to occur in the presence of environmental and behavioural risk factors such as smoking, poor diet and alcohol.

Life Expectancy by Ward

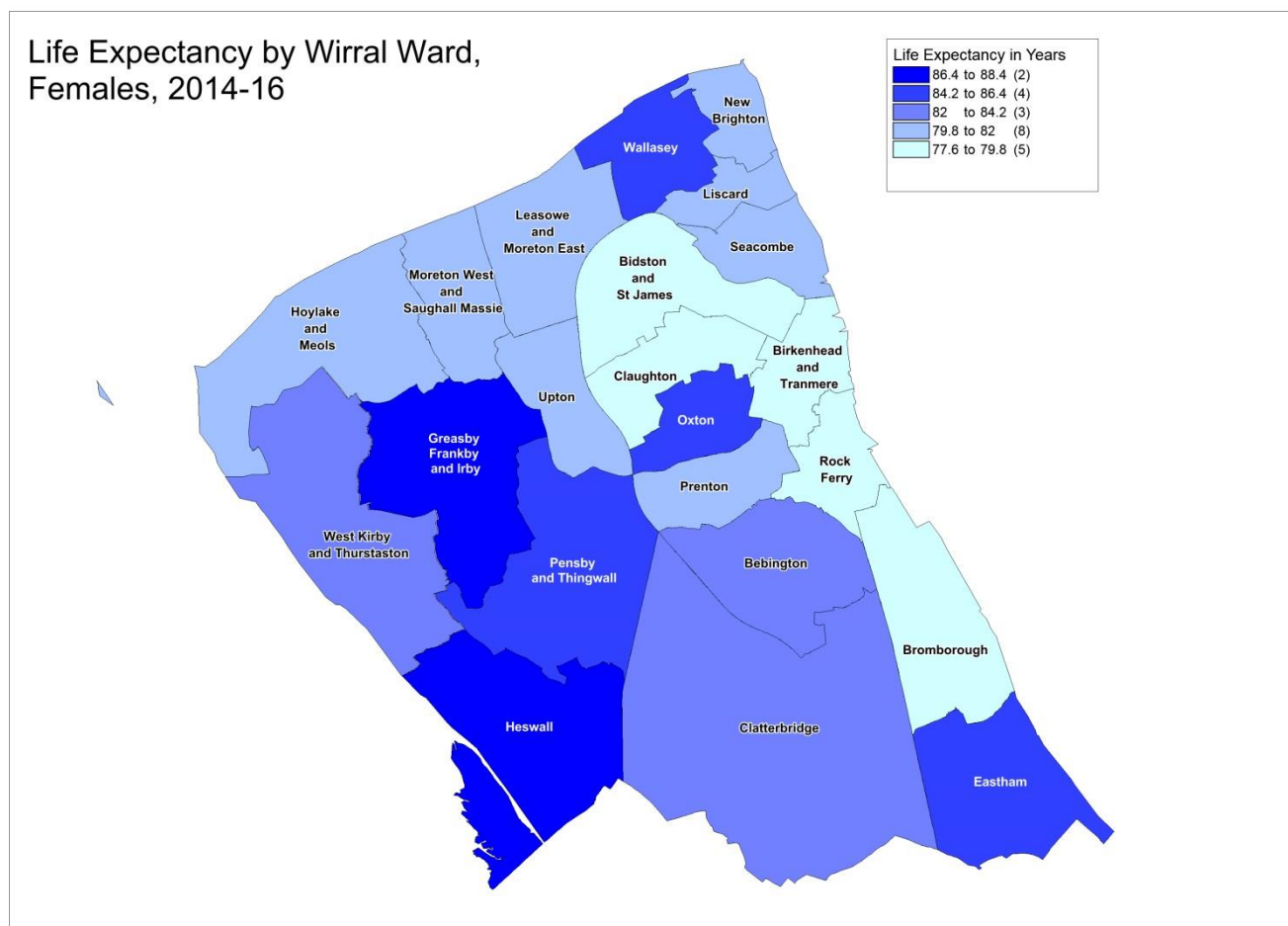
Life expectancy varies considerably by Wirral ward. The below maps highlight this. The wards on the left hand side of Wirral – typically those who are less deprived – have a higher life expectancy than those of the right hand side of Wirral – typically those who are more deprived.

Map 1: Life expectancy at birth in males, by Wirral Ward (2014-16)



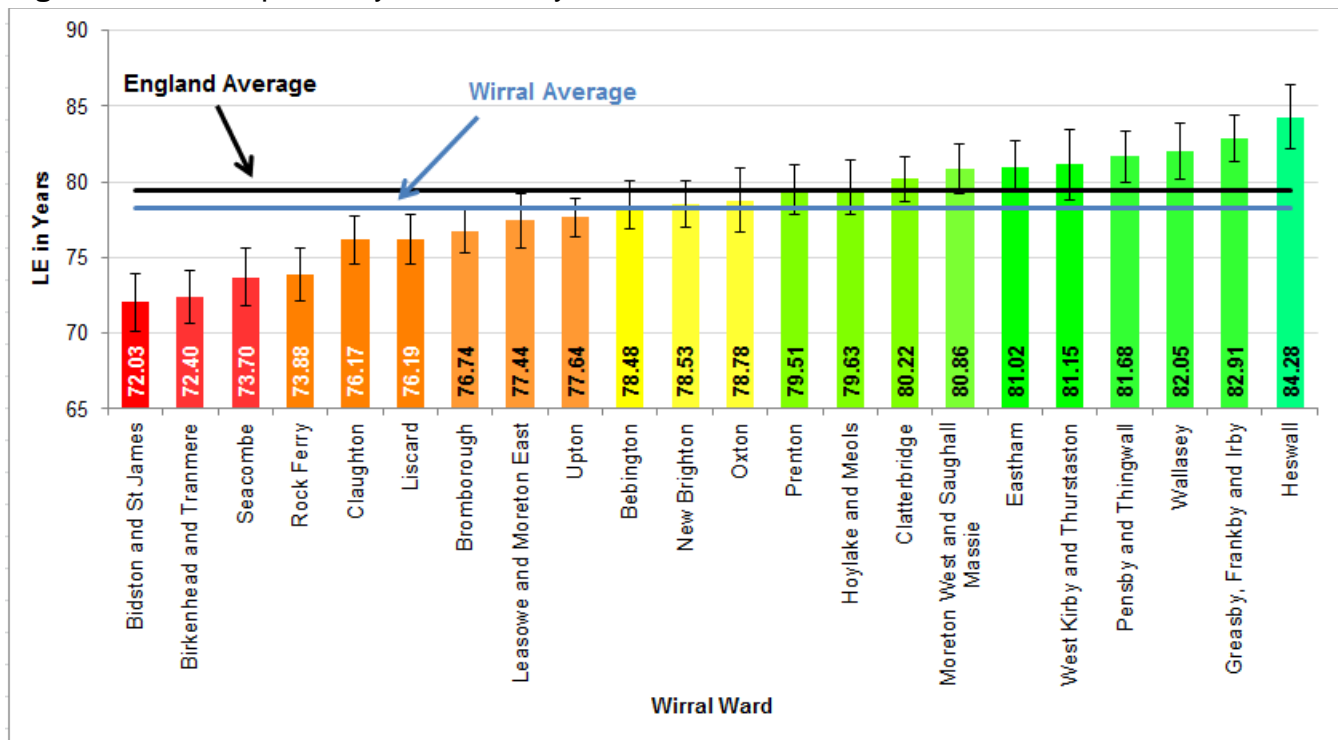
Source: Office for National Statistics, 2017

Map 2: Life expectancy at birth in females, by Wirral Ward (2014-16)



Source: Office for National Statistics, 2017

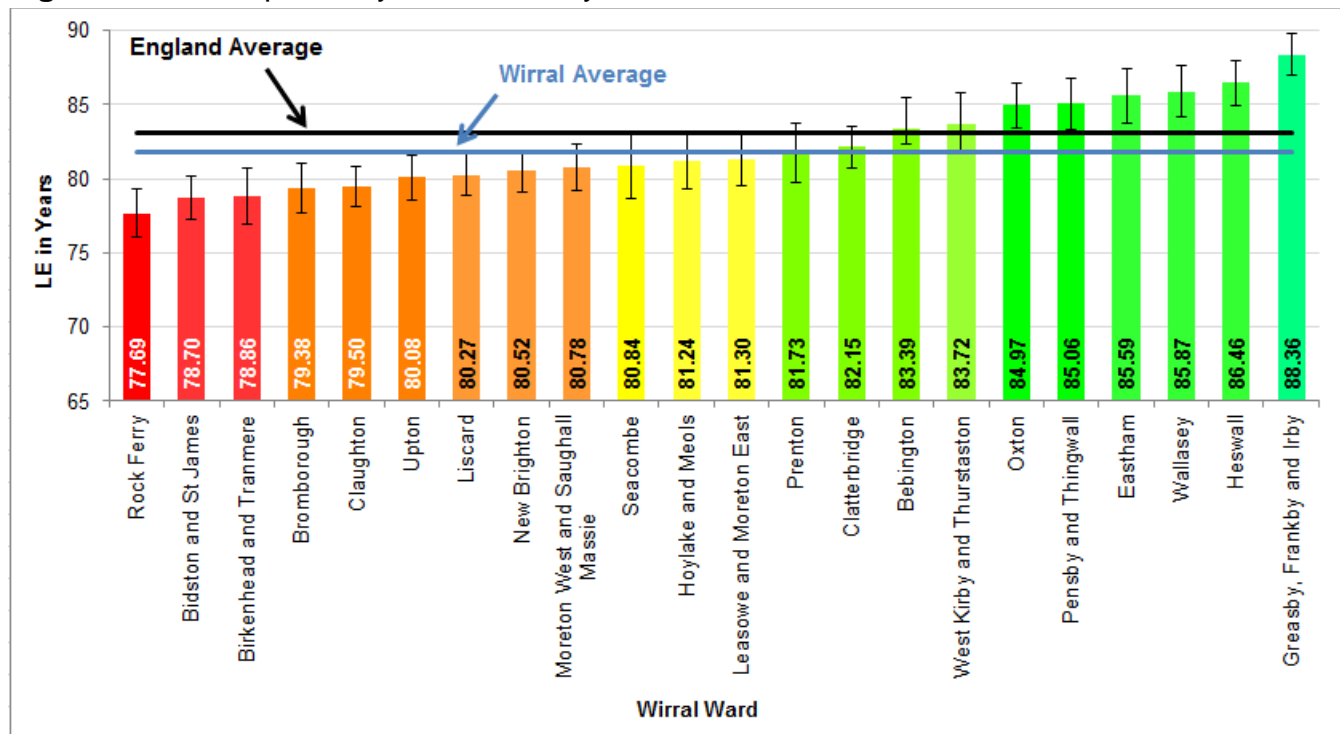
Figure 14: Life expectancy in males, by Wirral Ward, 2014-16



Source: Office for National Statistics, 2017

As the chart shows, there was a gap of more than 10 years (12.2 years) between Heswall and Bidston & St. James, the wards with the highest and lowest LE in Wirral in males in 2014-16. The Wirral average was 78.2 years, whilst the England average was 79.5 for this time period (a gap of 1.3 years). The four wards with the lowest LE are also the four most deprived wards in Wirral according to the IMD (2015), but this is not the case with high LE. Although Heswall is the most affluent ward, West Kirby & Thurstaston and Clatterbridge were the next most affluent wards, but this does not appear to have translated into higher LE for these wards. Instead Greasby, Frankby and Irby, Wallasey and Pensby and Thingwall all have higher LE despite being less affluent. There are 10 of Wirrals 22 wards which are above the England average LE for males of 79.5, the remaining (12) are below the England average.

Figure 15: Life expectancy in females, by Wirral Ward, 2014-16



Source: Office for National Statistics, 2017

As **Figure 14** shows, the gap between the Wirral wards with the highest and lowest LE is, like for females over 10 years (10.77 years). Unlike the case with males, Bidston & St. James was the not the ward with the lowest LE, instead this was Rock Ferry. Furthermore, the lowest 4 wards were not the most deprived wards in Wirral. Similarly, Heswall, Clatterbridge and West Kirby & Thurstaston are the three least deprived wards in Wirral, but this is not *exactly* mirrored by the LE data. Average LE over this period in Wirral was 81.8 for females, compared to 83.1 in England – a gap of 1.3 years.

Eight of Wirral's 22 wards have life expectancy above the England average of 83.1, the majority (14) are below this figure.

Healthy Life Expectancy (HLE)

Healthy Life Expectancy is an estimate of the number of years a person can expect to spend in 'very good' or 'good' health and is calculated using current mortality and health status of a population data.

In 2014-16, healthy life expectancy in Wirral was 61.4 for men and 60.3 for women, compared to 63.3 years for men and 63.9 years for women in England (see **Table 1**). By comparing HLE to LE, it means that in Wirral, a male will spend approximately 78.6% of their life in 'good' health, whereas women in Wirral will only spend around 73.8% of their life in 'good' health.

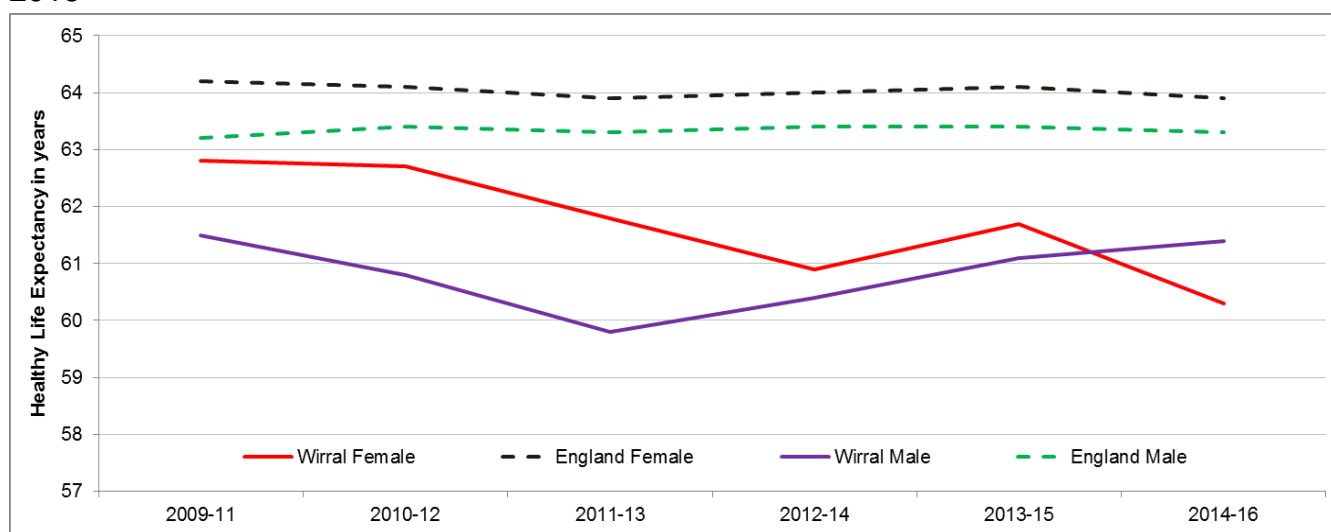
Table 1: Life Expectancy with Healthy Life Expectancy and proportion, 2014-16

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	78.1	61.4	78.6%	81.6	60.3	73.8%
North West	78.2	60.9	77.9%	81.7	62.0	75.8%
England	79.5	63.3	79.6%	83.1	63.9	76.8%

Source: Office for National Statistics, 2017b

Since 2011-13, healthy life expectancy for men in Wirral has been increasing at a faster rate than that seen nationally; this means that the gap between Wirral and England for males has decreased from 3.5 years (2011-13) to 2.3 years (2013-15) and it has now reached the smallest the gap has ever been at 1.4 years (2014-16).

Female healthy life expectancy reduced again in Wirral for the latest period (2014-16), to the lowest it has ever been since HLE was first calculated, at 60.3 years. Consequently, this decrease means that the gap in healthy life expectancy between Wirral and England females is the greatest it has ever been (at 3.6 years). It is also the first year that male healthy life expectancy in Wirral is greater than female healthy life expectancy in Wirral.

Figure 16: Trend in healthy life expectancy for males and females, Wirral and England, 2009-2016

Source: Office for National Statistics, 2017b

Disability-Free Life Expectancy (DfLE)

The DfLE figures produced by the Office for National Statistics are produced slightly differently to the HLE figures, but are also an informative snapshot of the mortality and health status of the area. In 2014-16, DFLE for males in Wirral was 61.3 years and 60.2 years for females, compared to 62.8 for males and 62.3 for females in England (See **Table 3**). This means that males in Wirral will spend approximately 78.5% of their life 'disability-free' whereas women will only spend around 73.8% of their life 'disability-free'.

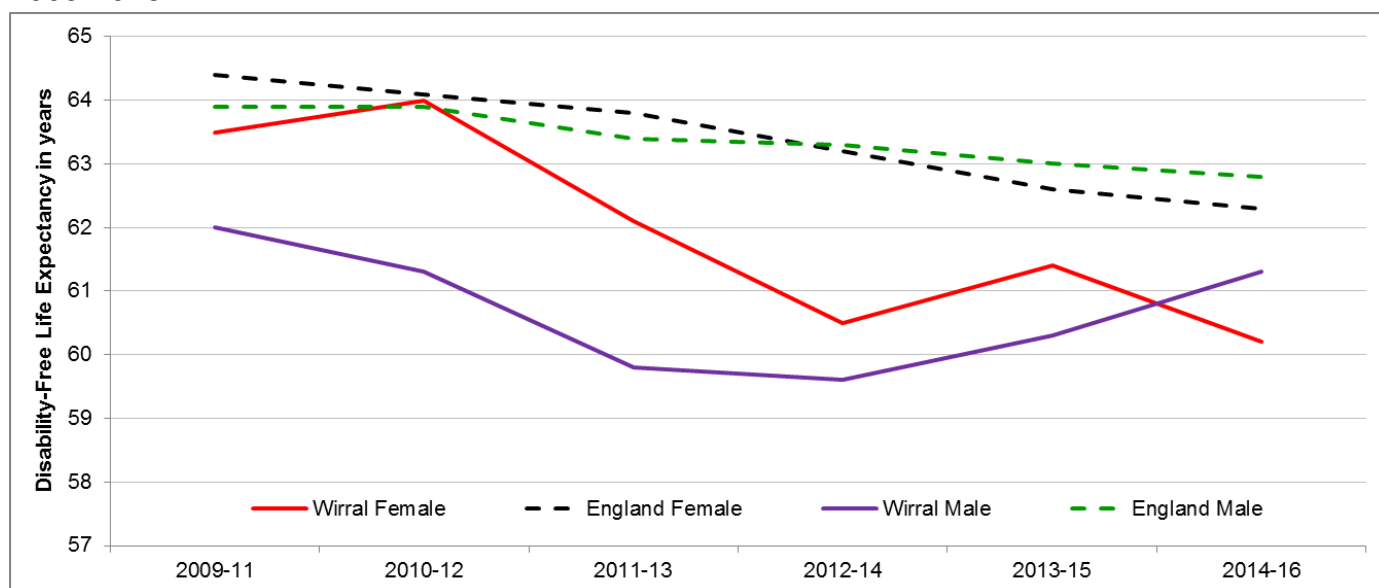
Table 2: Life Expectancy with Disability-Free Life Expectancy and proportion, 2014-16

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	78.1	61.3	78.5%	81.6	60.2	73.8%
North West	78.2	60.3	77.2%	81.7	60.4	73.8%
England	79.5	62.8	79.0%	83.1	62.3	75.0%

Source: Office for National Statistics, 2017c

As Figure 5 shows, disability-free life expectancy has decreased in England between 2009-11 and 2014-16. However, DFLE in Wirral has increased for males for the latest period, meaning the gap between Wirral and England has decreased during this time for males. However, this is not the case for females as both the Wirral rates and England rates have decreased. The gap between Wirral and England rates for males has decreased from 32 months to 17 months whereas the rates for females has increased from 14 months to 25 months.

Figure 17: Trend in disability-free life expectancy for males and females, Wirral and England, 2009-2016



Source: Office for National Statistics, 2017c

Recent increases in life expectancy have not been matched by corresponding rises in DfLE and HLE both national and locally. 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.

References

1. [Recent Trends in Life Expectancy at Older Ages: An Update to 2014](#): (2016), Public Health England
2. [Recent Trends in Life Expectancy at Older Ages](#) (2015), Public Health England
3. National Audit Office, 2010, Tackling inequalities in life expectancy in areas with the worst health and deprivation, Accessed at 13 May 2016, Available at: <http://www.nao.org.uk/>
4. Office for National Statistics, 2017a, Health State Life Expectancy at Birth and Age 65 2013-15, Accessed at June 2017, Available at: <https://www.ons.gov.uk>
5. Office for National Statistics, 2017b, Health State Life Expectancy at Birth and Age 65 2013-15, Accessed at June 2017, Available at: <https://www.ons.gov.uk>
6. Office for National Statistics, 2017c, Health State Life Expectancy at Birth and Age 65 2013-15, Accessed at June 2017, Available at: <https://www.ons.gov.uk>

Further Reading / Links

- Wirral JSNA: <https://www.wirralintelligenceservice.org/>
- Health & Social Care Outcomes Framework: <https://www.gov.uk/government/collections/health-and-social-care-outcomes-frameworks>
- Public Health England – Data and analysis tools: <https://www.gov.uk/guidance/phe-data-and-analysis-tools>
- Office for National Statistics – Life Expectancies: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies>
- Life Expectancy Calculator: http://www.riskprediction.org.uk/index_lifeexp.php
- Public Health Outcomes Framework: <http://www.phoutcomes.info/public-health-outcomes-framework>

For further details please contact:

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