

**Economic Strategy & Intelligence**  
**Piers Elias**  
**February, 2015**

## Standardised Mortality Rates for Tees Valley Wards

The purpose of this note is to look at the Standardised Mortality Rates (SMRs) across the Local Authorities and Wards of the Tees Valley. The figures are based on a five year average from 2009 to 2013. SMRs are split into Males and Females and by two age groups: 0-64 and 65+.

### Summary Results

*Tees Valley has higher death rates than the national average – by 11% - for both Males and Females. This is equivalent to around 625 extra deaths each year. All Tees Valley Local Authorities have death rates above the national average.*

*Middlesbrough has the highest SMRs in the Tees Valley at 26% above average; Redcar & Cleveland has the lowest at 5% above.*

*Ward level SMRs vary considerably - from a high of 226 in Stockton Town Centre Ward to a low of 52 in Northern Parishes Ward, also in Stockton-on-Tees.*

*For the 0-64 age group, Stockton Town Centre has the highest SMR for Males (more than 3.6 times the national average) and Middlehaven has the highest SMR for Females (2.7 times the national average). The lowest SMRs are found in Northern Parishes Ward, Stockton-on-Tees with SMRs of 49 for Males and 56 for Females.*

*For the 65+ group, Stockton Town Centre Ward is highest at 247 for Males while for Females it is Clairville Ward in Middlesbrough at 226. The lowest SMRs are found in Northern Parishes, Stockton-on-Tees for Males with 57 and for Females, with an SMR of 53, Billingham West in Stockton-on-Tees.*

*SMRs are a strong indicator of deprivation and all the results, with few exceptions, follow the pattern of high SMRs in deprived areas and low SMRs in affluent areas.*

*These results have not been adjusted for hospitals or respite, nursing & care homes.*

### Background

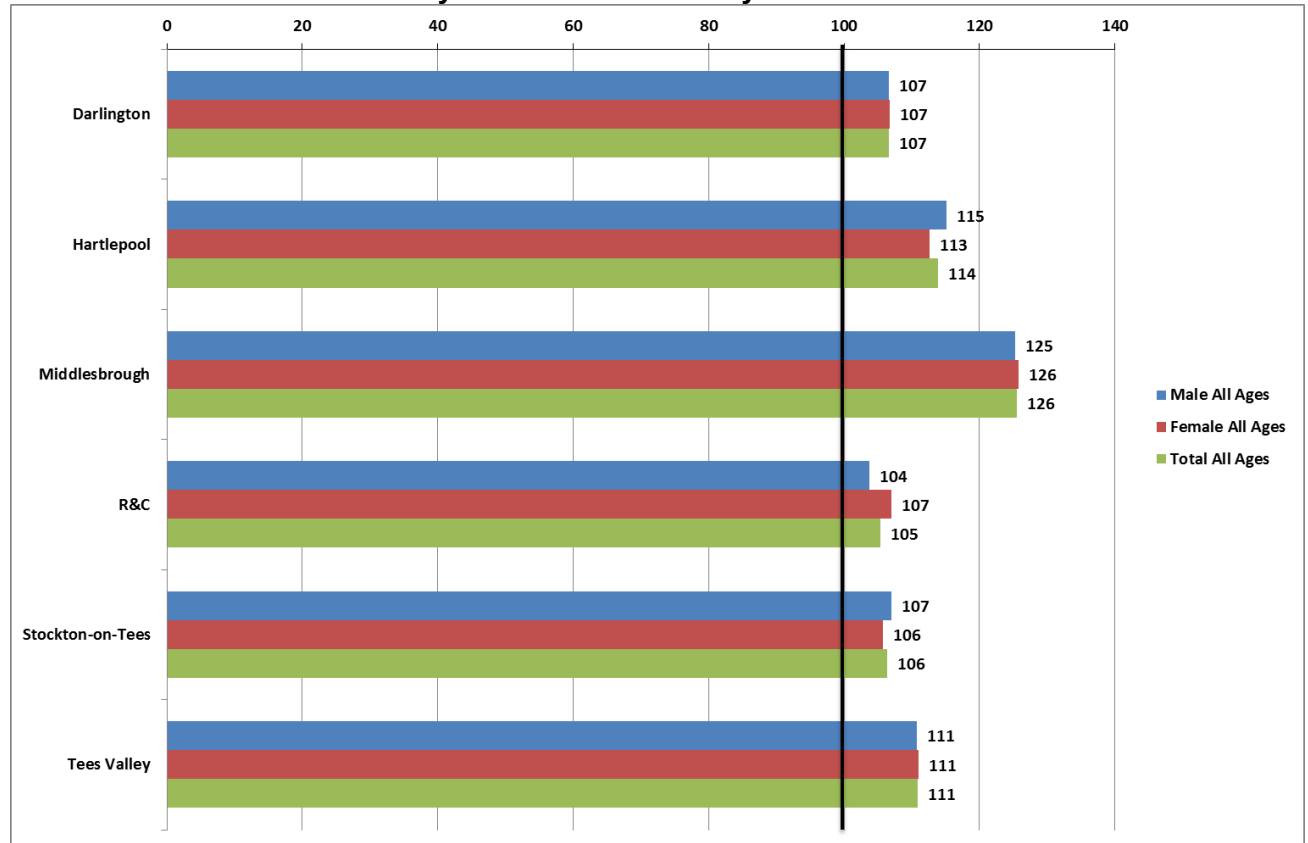
This looks at the current figures for mortality using the latest population figures from ONS on small area population [ONSLink01](#) and re-mapped deaths for Hartlepool to align with the new Wards which came into effect in May 2012. A sister report on Standardised Fertility Rates by Wards is available on the TVU website [TVULink01](#).

### Results

The following charts look at the SMRs for Local Authorities in the Tees Valley by broad age group and by sex. SMRs above 100 indicate that more deaths have occurred than would have been expected had national rates applied. Figures for Wards follow in Appendices 1D to 1S below.

Overall, Tees Valley has an SMR of 111 or 11% above the national average i.e. based on the age and sex profile of the Tees Valley, if national death rates were applied, there would have been 11% fewer deaths. In the Tees Valley, this translates to around 625 deaths per year.

**Table 1 - Standardised Mortality Rates for Tees Valley Local Authorities**

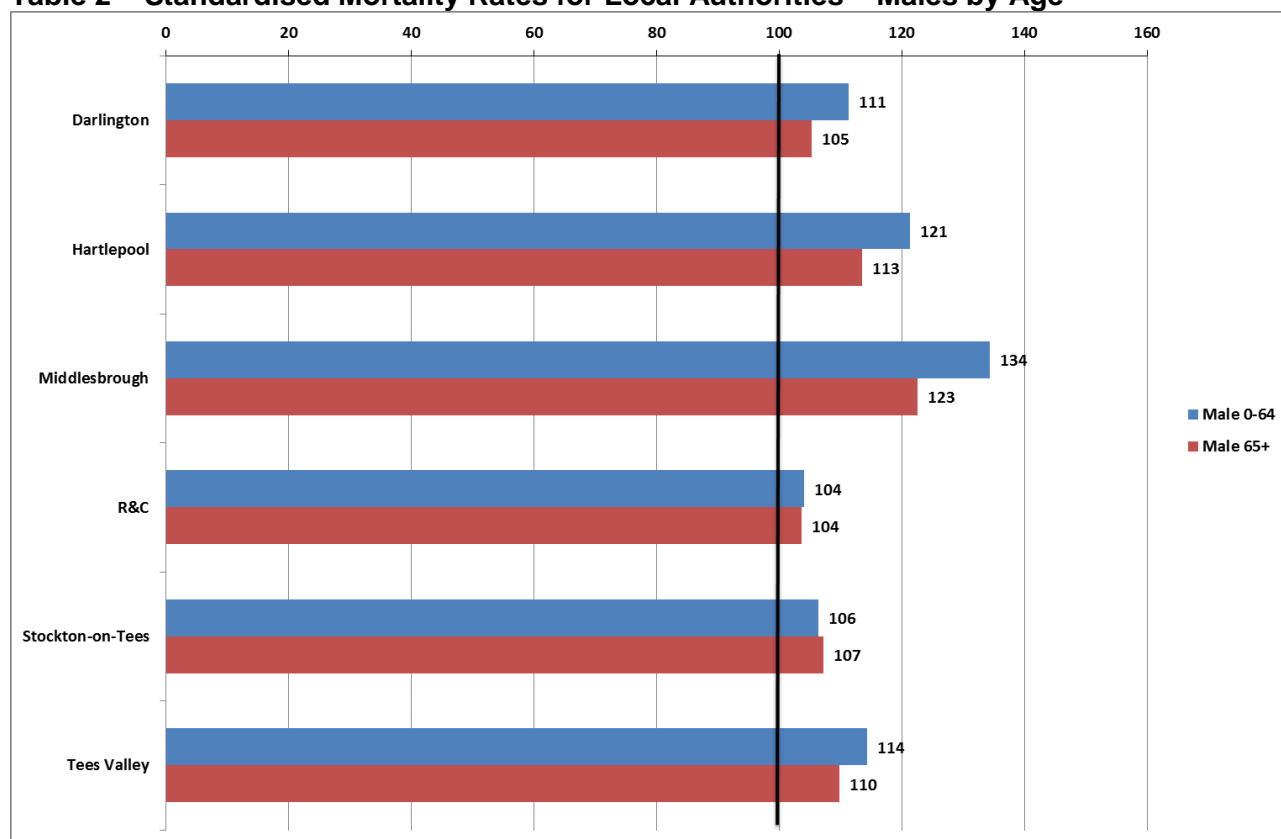


**Table 1 Commentary**

- All Tees Valley Local Authorities have SMRs above the national average, for both males and females.
- Within Local Authorities, SMRs for males and females are broadly similar
- Middlesbrough has the highest SMRs; Males 125 and Females 126.
- Hartlepool has second highest ratios in the Tees Valley at 114, or 14% above average.
- Darlington, Redcar & Cleveland and Stockton-on-Tees have similar SMRs for females at 106 and 107 (6% and 7% above), while male SMRs range from 104 to 107 (4% to 7% above).

**Table 2 – Standardised Mortality Rates for Local Authorities – Males by Age**

This table compares the SMRs for Males aged 0-64 and those 65 and over. Death rates for the 0-64s are generally very low and so a few deaths in the younger age groups can have a significant effect on the SMR.

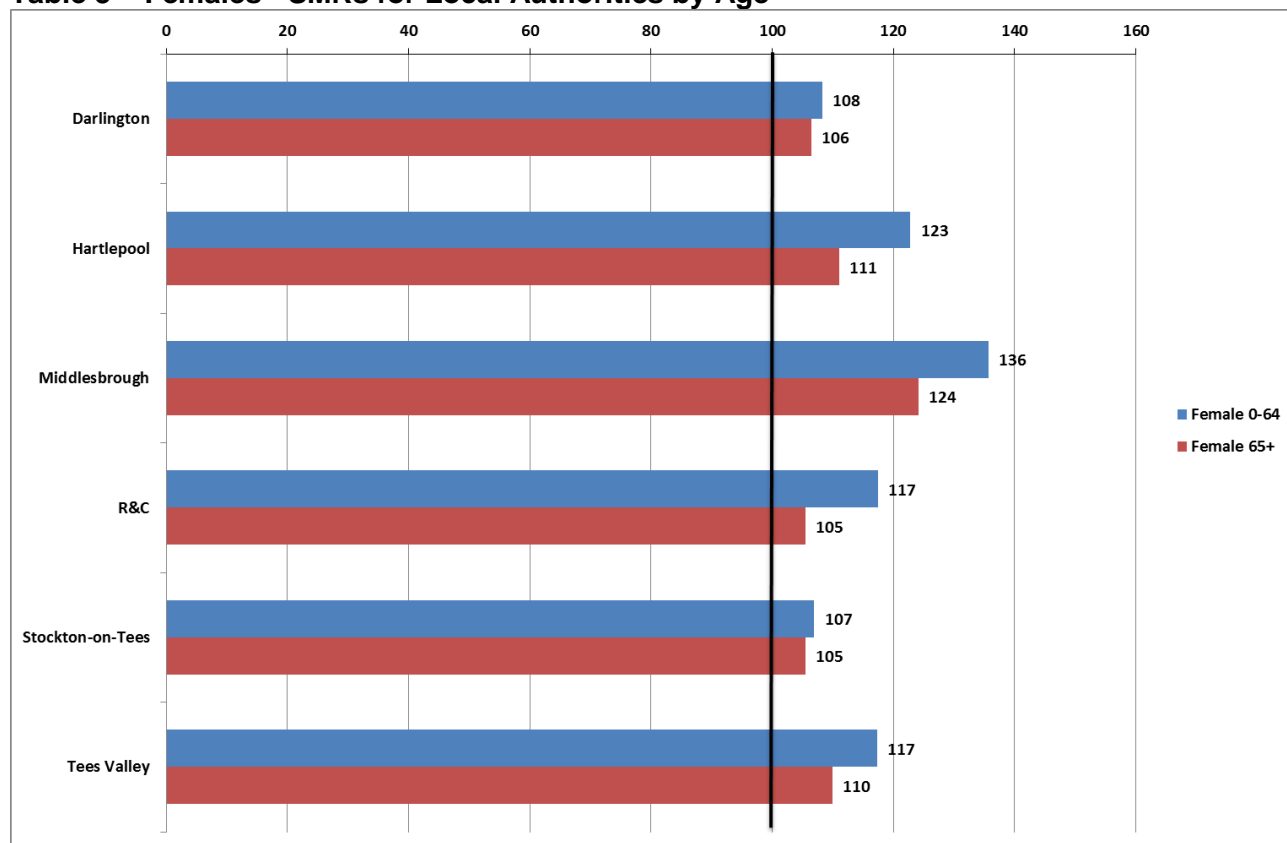
**Table 2 – Standardised Mortality Rates for Local Authorities – Males by Age****Table 2 – Males - SMRs for Local Authorities by Age - Commentary**

For Males, Tees Valley has an SMR for the 0-64s of 114 or 14% above the national average and for the 65+s an SMR of 110 or 10% above. To put SMRs in context, if the Tees Valley reflected the national death rates, there would be 85 fewer deaths each year for the 0-64s and 215 fewer deaths in the 65+ age group.

- For the 0-64s, the SMRs range from 104 (4% above - Redcar & Cleveland), to 134 (34% above - Middlesbrough).
- For the 65+s, the SMRs range from 104 (4% above - Redcar & Cleveland) to 123 (23% above - Middlesbrough).
- Middlesbrough has the largest difference between the 0-64s and the 65+s, with the 0-64 SMR 11% points above the 65+s. Both figures are high.
- For Darlington, Hartlepool and Middlesbrough, SMRs for the 0-64s is higher than the 65+s, indicating relatively more deaths at younger ages than in Redcar & Cleveland and Stockton-on-Tees.
- R&C have the SMRs closest to the national average.
- For the Tees Valley as a whole the SMRs for Males aged 0-64s are higher than the 65+s, indicating relatively more deaths at younger ages than in the older ages.

**Table 3 – Females - SMRs for Local Authorities by Age**

This table compares the SMRs for Females aged 0-64 and those 65 and over. Death rates for the 0-64s are generally very low and so a few deaths in the younger age groups can have a significant effect on the SMR.

**Table 3 – Females - SMRs for Local Authorities by Age****Table 3 – Females - SMRs for Local Authorities by Age – Commentary**

For Females, Tees Valley has an SMR for the 0-64s of 117 or 17% above the national average and for the 65+s an SMR of 110 or 10% above. The put SMRs in context, if the Tees Valley reflected the national death rates, there would be 70 fewer deaths each year for the 0-64s and 255 fewer deaths in the 65+ age group. There are some 1,100 (50%) fewer deaths to females aged 0-64 compared to males.

- For all Tees Valley Local Authorities, the SMRs for Females aged 0-64s are higher than the 65+s, indicating relatively more deaths at younger ages than in the older ages.
- For the 0-64s, the SMRs range from 107 (7% above – Stockton-on-Tees), to 136 (36% above - Middlesbrough).
- For the 65+s, the SMRs range from 105 (5% above - Redcar & Cleveland and Stockton-on-Tees) to 124 (24% above - Middlesbrough).
- Hartlepool, Middlesbrough and Redcar & Cleveland have a large difference between the 0-64s and the 65+s, with the 0-64 SMR 12% points above the 65+s. This is because the numbers of deaths to Females aged 0-64 is relatively small so each extra death per year adds 1 extra percentage point to the SMR.

#### Comparison with Males

- For the 0-64s, the biggest difference between males and females is in Redcar & Cleveland where females are 13% points higher than males (104 vs 117).
- In Darlington, the 0-64 males are 8% points higher than the females (111 vs 103)
- Middlesbrough's SMRs for 0-64s for both males and females are 35% above average.
- For the 65+s there is less variation with no more than 2% points difference between the SMRs for males and females.
- Middlesbrough's SMRs for the 65+s for both males and females are close to 25% above average.

### Definition of Standardised Mortality Rates

Standardised rates allow for differences in the age and sex structure of populations and allow valid comparisons to be made between geographical areas and through time. It is calculated as the observed number of deaths as a % of expected deaths where the expected number of deaths is the number that would occur if the population of the area experienced the sex/age mortality rates of England and Wales (E&W).

### Example of sensitivity

An average over five years is taken to smooth out small values which can lead to significant changes in the SMR, particularly in the Under 64 age group. For example, Ormesby, with a population of approximately 6,000 had say, 60 deaths in 2013 against expected deaths of 70. This gives an overall SMR of 86 (60/70). An extra 5 deaths would give an overall SMR of 65/70=93. If those five deaths all occurred in the Under 64 age group where only 7 deaths occurred, then the SMR for the Under 64s goes up from 66 (7/11) to 109 (12/11).

### Place of Death

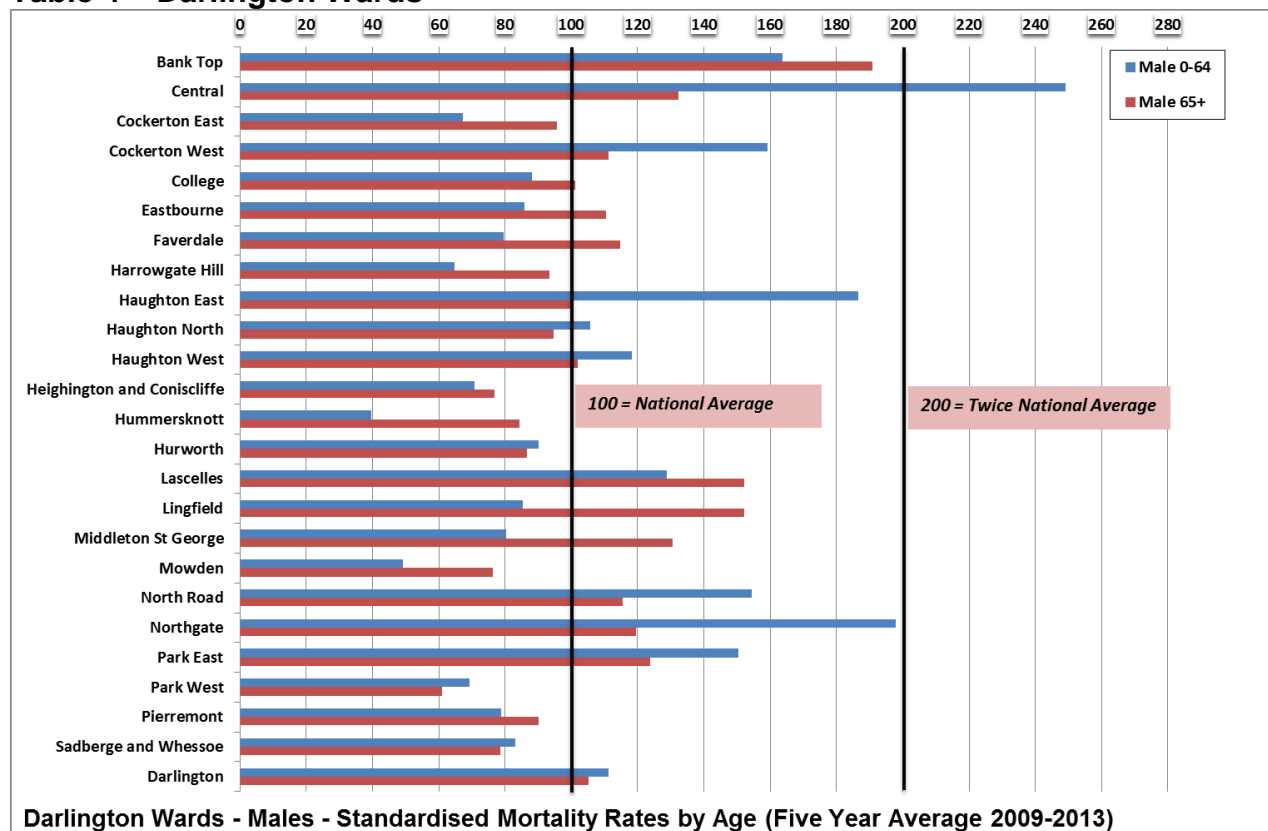
Deaths are recorded based on information supplied at death by a relative (or an "informant") and can be either the place of death or the usual residence prior to death. A fuller definition can be found in Appendix 2 [here](#). These figures have not been adjusted for hospitals, respite care, care homes, residential homes etc. which may skew the SMRs. The three main hospitals in the Tees Valley, Darlington Memorial Hospital, James Cook and North Tees are located in deprived Wards; **Northgate** in Darlington, **Beechwood** in Middlesbrough and **Hardwick** in Stockton-on-Tees respectively which makes it harder to determine whether there is an effect. National Ward rankings from the 2010 Index for Multiple Deprivation can be found on the TVU web-site here [TVULink02](#)

### Local Authority Ward Results

Figures for each Ward in the Tees Valley are given in Charts in Appendix 1D to 1S below. In each case there are two sets of charts, one for males 0-64 and 65+ and one for females 0-64 and 65+. At Ward level, the variation of SMRs is much more marked, and even when taking a five year average, small numbers of deaths can increase the SMR significantly.

For further information and background reports on the demography of the Tees Valley go to the Demographic Reports section of our web-site [TVULink03](#).

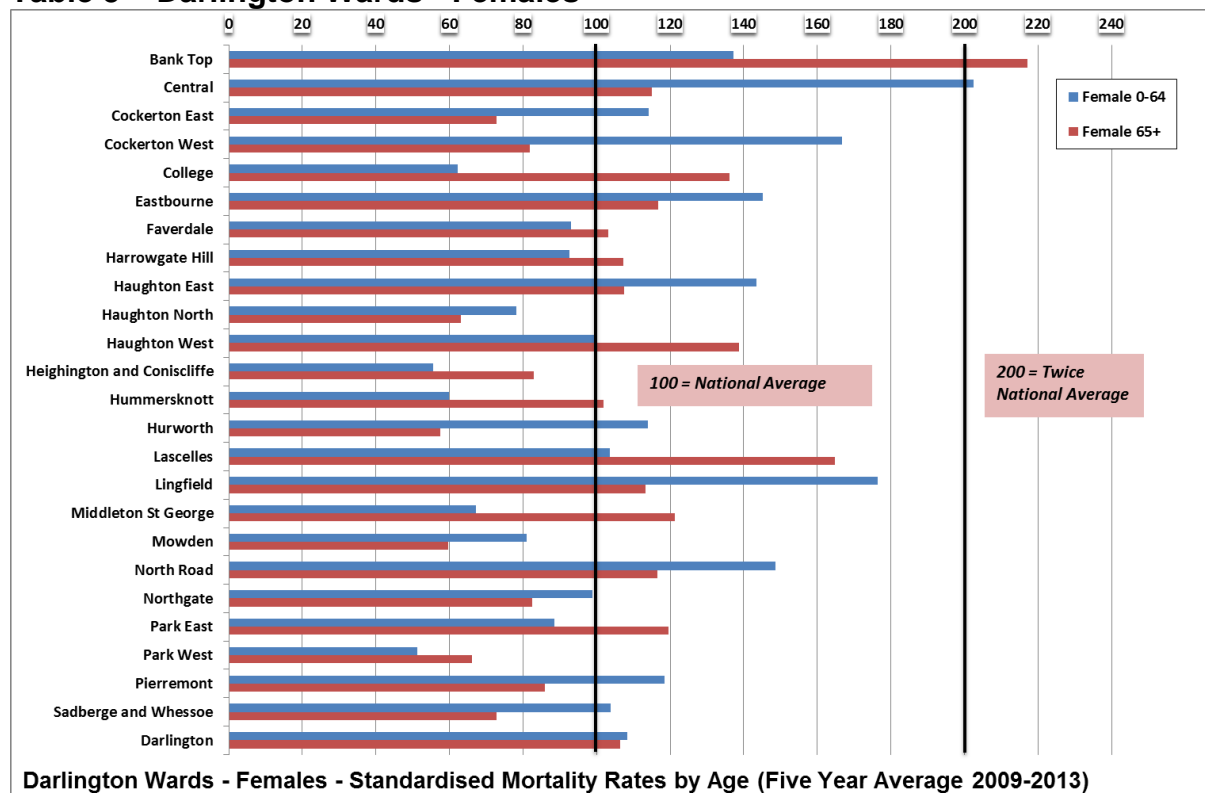
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**Appendix 1D – Males****Table 4 – Darlington Wards****0-64s Males**

- For the 0-64 males, there are three Wards with SMRs at more than twice the national average, Bank Top, Central and Northgate. These Wards are all areas of high deprivation.
- By contrast, the affluent Wards such as Mowden, Hummersknott and Heighington & Coniscliffe have SMRs of below 50 i.e. half the expected numbers of deaths, given their age and sex profile.
- 14 Wards have SMRs below the national average, 10 are above, a small improvement on last year's figures.
- Central Ward – to get back to the national average, it would need 6 fewer deaths per year. (Over 5 years, 47 deaths vs 19 expected based on national rates)

**65+ Males**

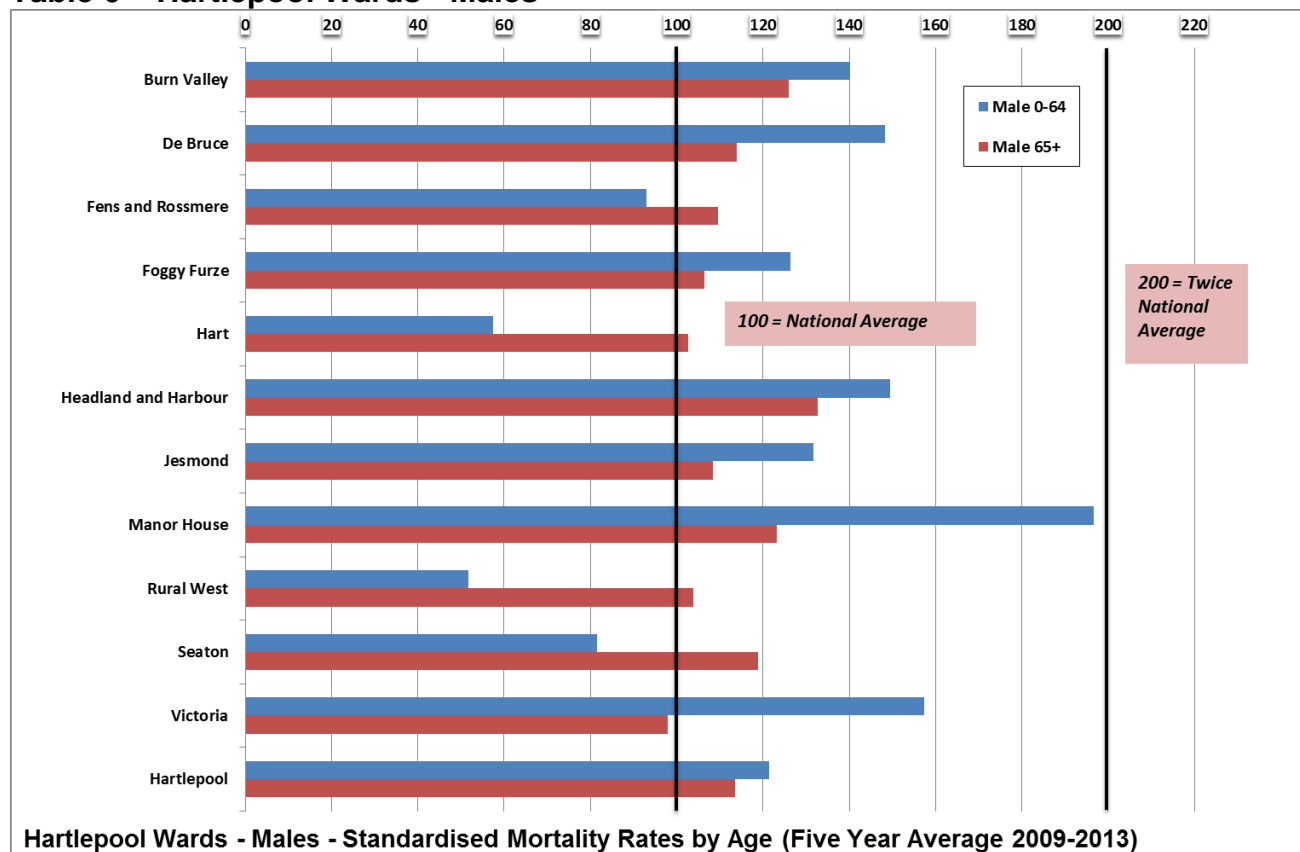
- For the 65+ age group, Bank Top, Lascelles and Lingfield all have SMRs above 150 i.e. 50% above the national average. Again, these are Wards with high levels of deprivation.
- By contrast, affluent Wards such as Mowden, Park West and Sadberge & Whessoe all have SMRs of between 60 and 77, 23% to 40% below average.
- 11 Wards have SMRs below the national average, 13 are above.
- Bank Top Ward – to get back to the national average, it would need 13 fewer deaths per year. (Over 5 years, 134 deaths vs 70 expected based on national rates)
- Middleton St. George may be affected by the number of Care homes for older people. (Note – these figures are not adjusted for Care Homes, Hospitals etc).

**Appendix 1D – Females****Table 5 – Darlington Wards - Females****0-64s Females**

- For the 0-64 females, there is one Ward with an SMR at more than twice the national average, Central. Central Ward is the Ward of highest deprivation in Darlington, (IMD 2010) [TVULink02](#).
- By contrast, the two most affluent Wards in Darlington, Hummersknott and Mowden have SMRs at less than half the national rate (40 and 49 respectively).
- 12 Wards have SMRs below the national average, 12 are above.
- Central Ward – to get back to the national average, just 2 fewer deaths per year would be required. This demonstrates how sensitive the numbers are to small numbers of deaths. (Over 5 years, 20 deaths vs 10 expected based on national rates).

**65+ Females**

- For the 65+ age group, Bank Top has an SMR above 200 i.e. over twice the national average. Again, this Ward has high levels of deprivation.
- By contrast, affluent Wards such as Hurworth and Mowden have SMRs of 60, 40% below average.
- 10 Wards have SMRs below the national average, 14 are above.
- Bank Top Ward – to get back to the national average, it would need 24 fewer deaths per year. (Over 5 years, 225 deaths vs 104 expected based on national rates).

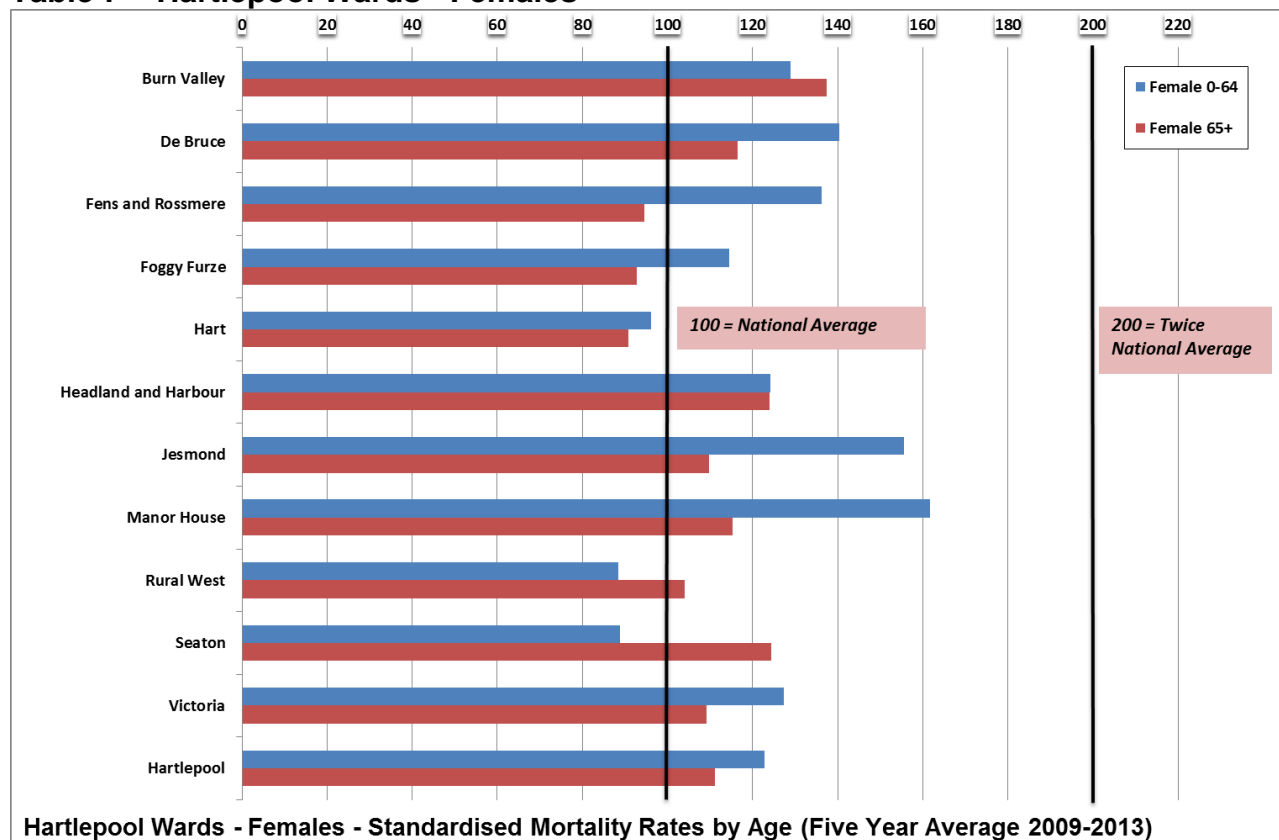
**Appendix 1H – Males****Table 6 – Hartlepool Wards - Males****0-64s Males**

- For the 0-64 males, the most deprived Wards, Headland & Harbour, Victoria, De Bruce and Manor House have the highest. Each of these Wards are amongst the worst 5% Wards in England. (IMD 2010). [TVULink02](#)
- By contrast, the affluent Wards of Rural West and Hart have SMRs of below 60 i.e. 40% fewer deaths than expected, given their age and sex profile.
- 4 Wards have SMRs below the national average, 7 are above.
- Manor House Ward – to get back to the national average, it would need 8 fewer deaths per year. (Over 5 years, 80 deaths vs 41 expected based on national rates).

**65+ Males**

- For the 65+ age group, Headland & Harbour has an SMR of 133 i.e. 33% above the national average. Again, this Ward has high levels of deprivation.
- Only Hart Ward has an SMR below the national average.
- Headland & Harbour Ward – to get back to the national average, it would need 10 fewer deaths per year.
- Victoria Ward has an SMR below the national average which looks low considering its levels of deprivation – it has a low proportion of 65+ male population (12% vs 17% for Hartlepool as a whole) but that isn't a reason for it to have a low SMR. If you have any ideas, get in touch.

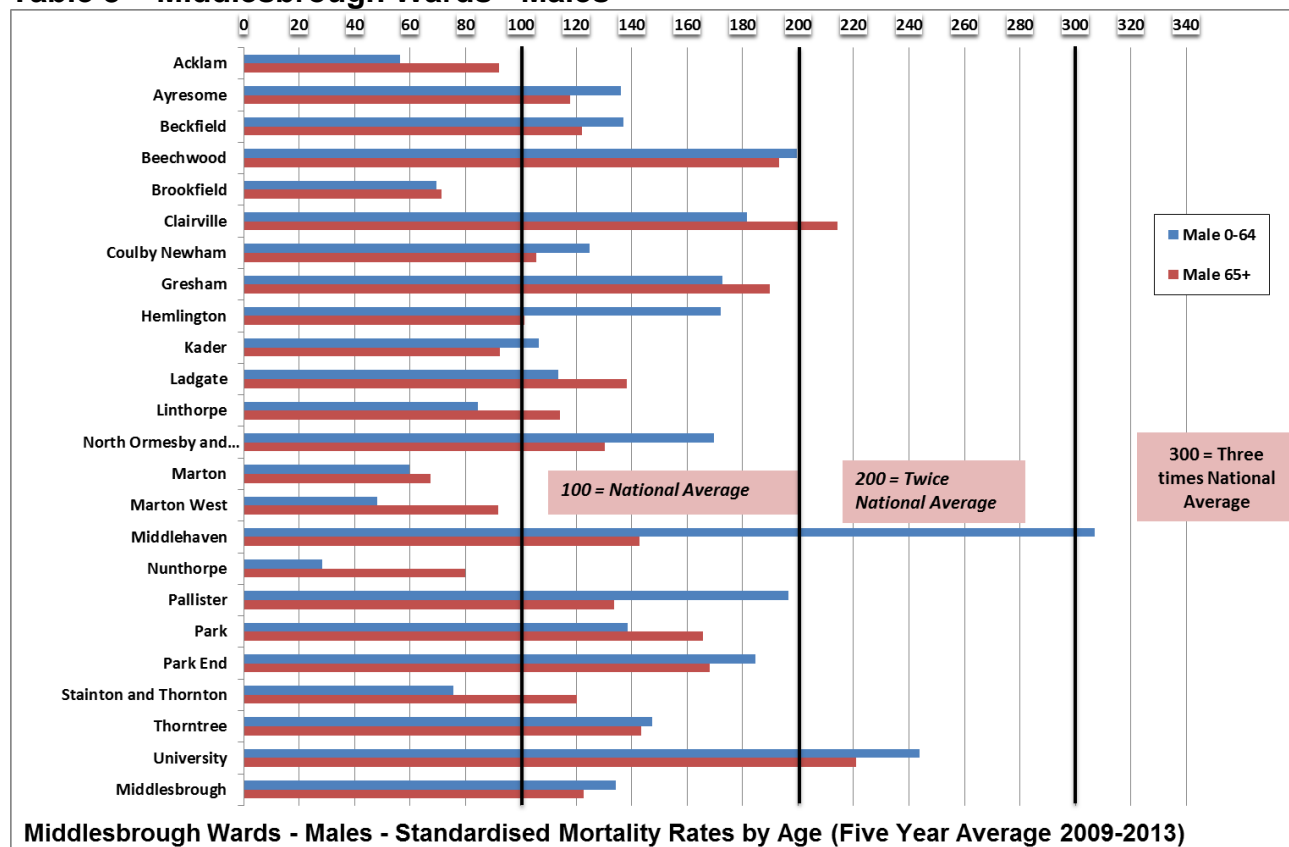


**Appendix 1H – Females****Table 7 – Hartlepool Wards - Females****0-64s Females**

- There is less variation within the female 0-64s (SMRs 89 – 162) than in the males 0-64 (52 – 191)
- For the 0-64 females, there are two Wards with SMRs over 50% above the national average, Jesmond and Manor House Wards. De Bruce, Burn Valley and Fens & Rossmere Wards between 30% and 40% above.
- By contrast, Rural West and Seaton Wards have SMRs around 10% below average.
- Manor House Ward – to get back to the national average, there would need to be 3 fewer deaths per year.
- Three Wards have SMRs below the national average, 8 are above.
- The SMR for the 0-64 age group is very sensitive due to the small numbers of deaths in this age group.
- Compared to males, deaths in this age group accounts for a much smaller percentage of the total (Males 23%, Females 15%).

**65+ Females**

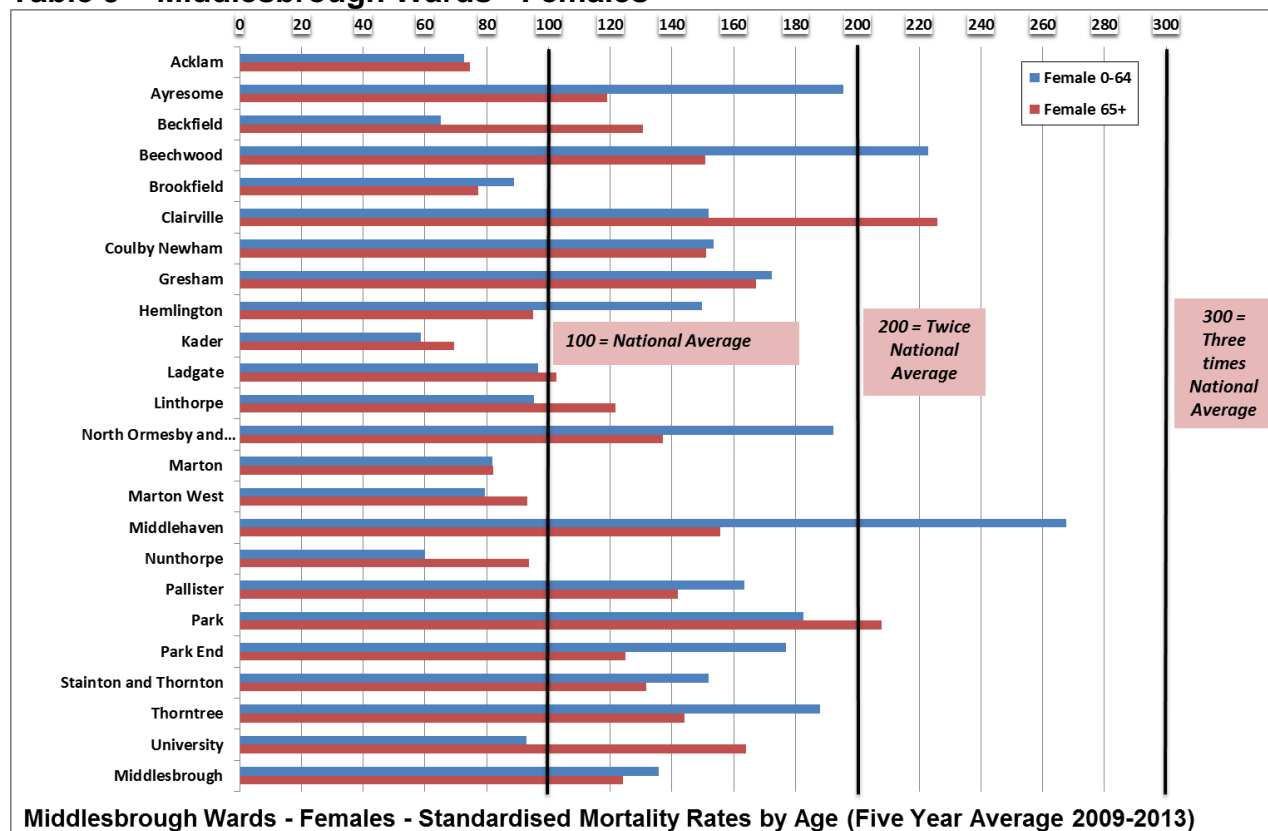
- For the 65+ age group, Burn Valley has the highest SMR with 137 i.e. 37% more deaths than expected using the national average.
- Fens & Rossmere, Foggy Furze and Hart Wards all have SMRs of below national average.
- Burn Valley Ward – to get back to the national average, it would need 13 fewer deaths per year.

**Appendix 1M – Males****Table 8 – Middlesbrough Wards - Males****0-64s Males**

- For the 0-64 males, there is one exceptionally high Ward – Middlehaven Ward, with an SMR three times the national average. There are also three Wards at close to or over twice the national average, Beechwood, Pallister and University Wards. Middlehaven is in the top 10 most deprived Wards in England (IMD 2010). [TVULink02](#)
- By huge contrast, Nunthorpe Ward has lowest SMR in the Tees Valley with an SMR of 28 - 72% fewer deaths than would be expected. In raw figures, over the five years 2009-13, Middlehaven saw 57 deaths to 0-64 males while Nunthorpe recorded 7.
- 7 Wards have SMRs below the national average, 16 are above.
- Middlehaven Ward – to get back to the national average, they would both need 8 fewer deaths per year in the 0-64 age group. (Over 5 years, 57 deaths vs 19 expected based on national rates).

**65+ Males**

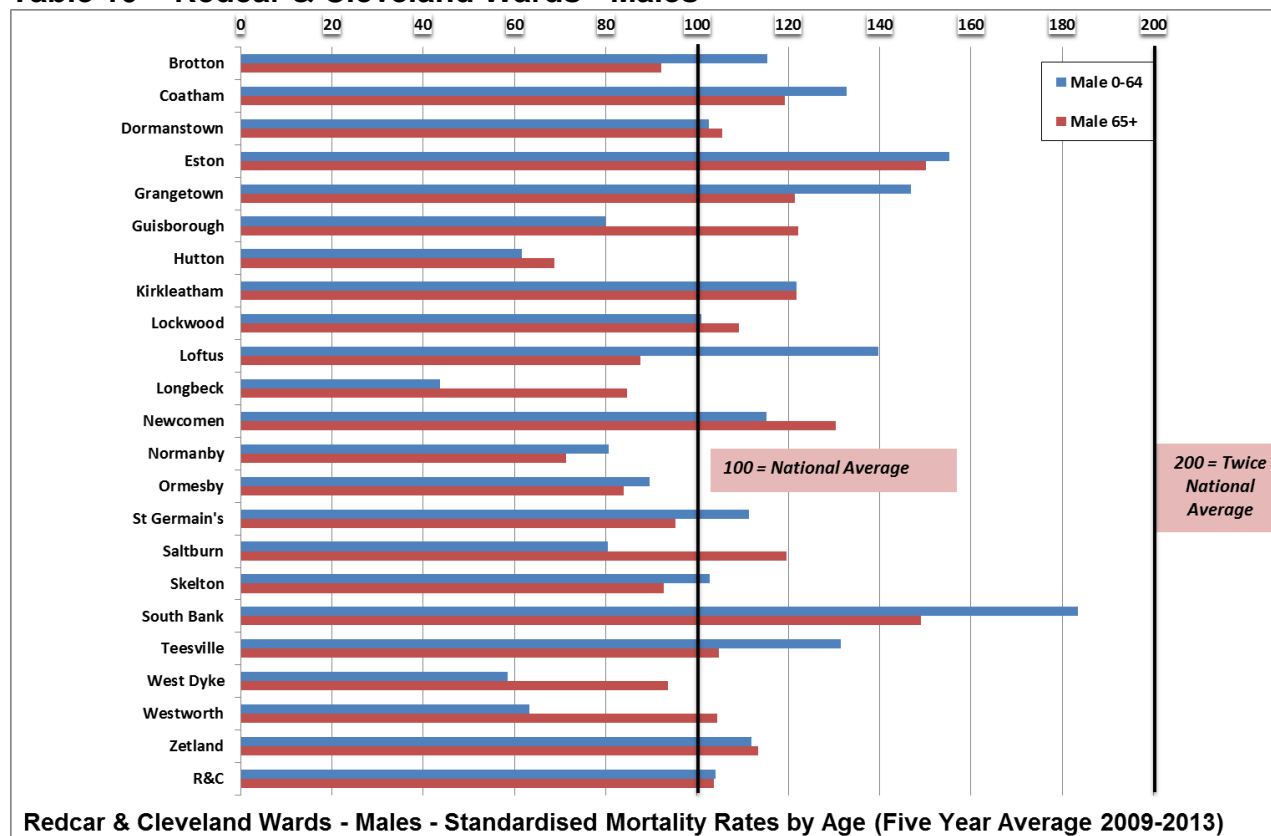
- For the 65+ age group, Clairville and University Wards have SMRs above 200 i.e. over twice the national average. Again, these Wards have high levels of deprivation.
- By contrast, affluent Wards such as Brookfield and Marton have SMRs of around 70, some 30% below the expected level.
- Six Wards have SMRs below the national average, 17 are above.
- University Ward – to get back to the national average, it would need 11 fewer deaths per year. (Over 5 years, 98 deaths vs 44 expected based on national rates).

**Appendix 1M – Females****Table 9 – Middlesbrough Wards - Females****0-64s Females**

- For the 0-64 females, as with the males 0-64, there is one exceptionally high Ward – Middlehaven Ward, with an SMR over two and a half times the national average. Beechwood Ward also has a high SMR at over double the national average.
- By contrast, Kader and Nunthorpe Wards have 40% (SMR=60) fewer deaths than would be expected. In raw figures, over the five years 2009-13, Middlehaven saw 25 deaths to 0-64 females while Kader recorded 9.
- 10 Wards have SMRs below the national average, 13 are above.
- Middlehaven Ward – to get back to the national average, would need 3 fewer deaths per year in the 0-64 age group. (Over 5 years, 25 deaths vs 9 expected based on national rates).

**65+ Females**

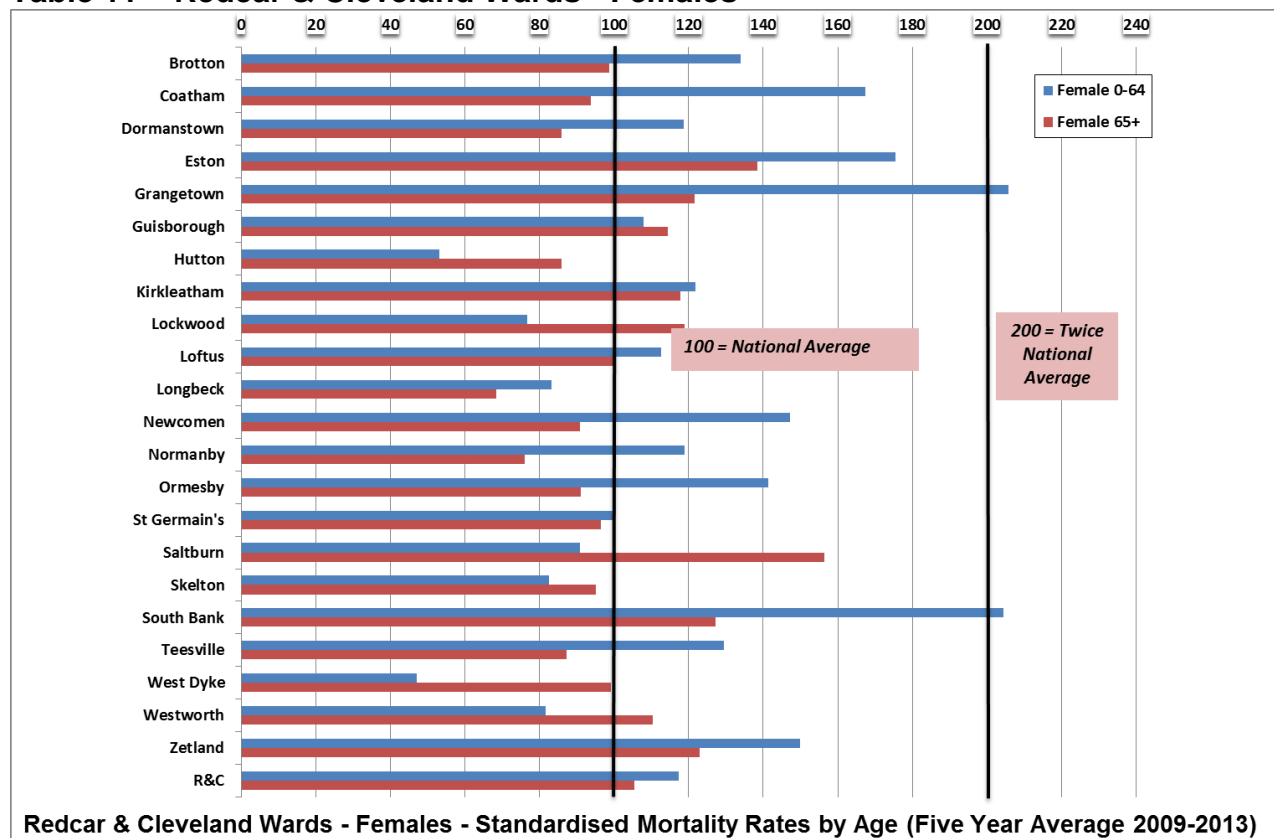
- For the 65+ age group, Clairville and Park Wards have SMRs above 200 i.e. over twice the national average. Again, these Wards have high levels of deprivation.
- By contrast, affluent Wards such as Acklam and Kader have SMRs of around 70, some 30% below average.
- Six Wards have SMRs below the national average, 17 are above.
- Clairville Ward – to get back to the national average, it would need 21 fewer deaths per year. (Over 5 years, 186 deaths vs 82 expected based on national rates).

**Appendix 1R – Males****Table 10 – Redcar & Cleveland Wards - Males****0-64s Males**

- For the 0-64 males, South Bank Ward has the highest SMRs at 183. This Ward is ranked in the worst 2% most deprived Wards in England (IMD 2010). [TVULink02](#)
- By contrast, Longbeck, has an SMR of 43 and Hutton, West Dyke and Westworth Wards are all have SMRs close to 60 i.e. 40% below the expected level of deaths.
- 8 Wards have SMRs below the national average, 14 are above.
- South Bank Ward – to get back to the national average, would need 5 fewer deaths per year in the 0-64 age group. (Over 5 years, 54 deaths vs 29 expected based on national rates).

**65+ Males**

- For the 65+ age group, South Bank and Eston Wards have the highest SMRs both are around 150. Again, these Wards have high levels of deprivation.
- The most affluent in Redcar & Cleveland is Hutton whose SMR is the lowest at 69 31% below what would be expected.
- Nine Wards have SMRs below the national average, 13 are above.
- South Bank Ward – to get back to the national average, it would need 9 fewer deaths per year. (Over 5 years, 141 deaths vs 95 expected based on national rates).

**Appendix 1R – Females****Table 11 – Redcar & Cleveland Wards - Females****0-64s Females**

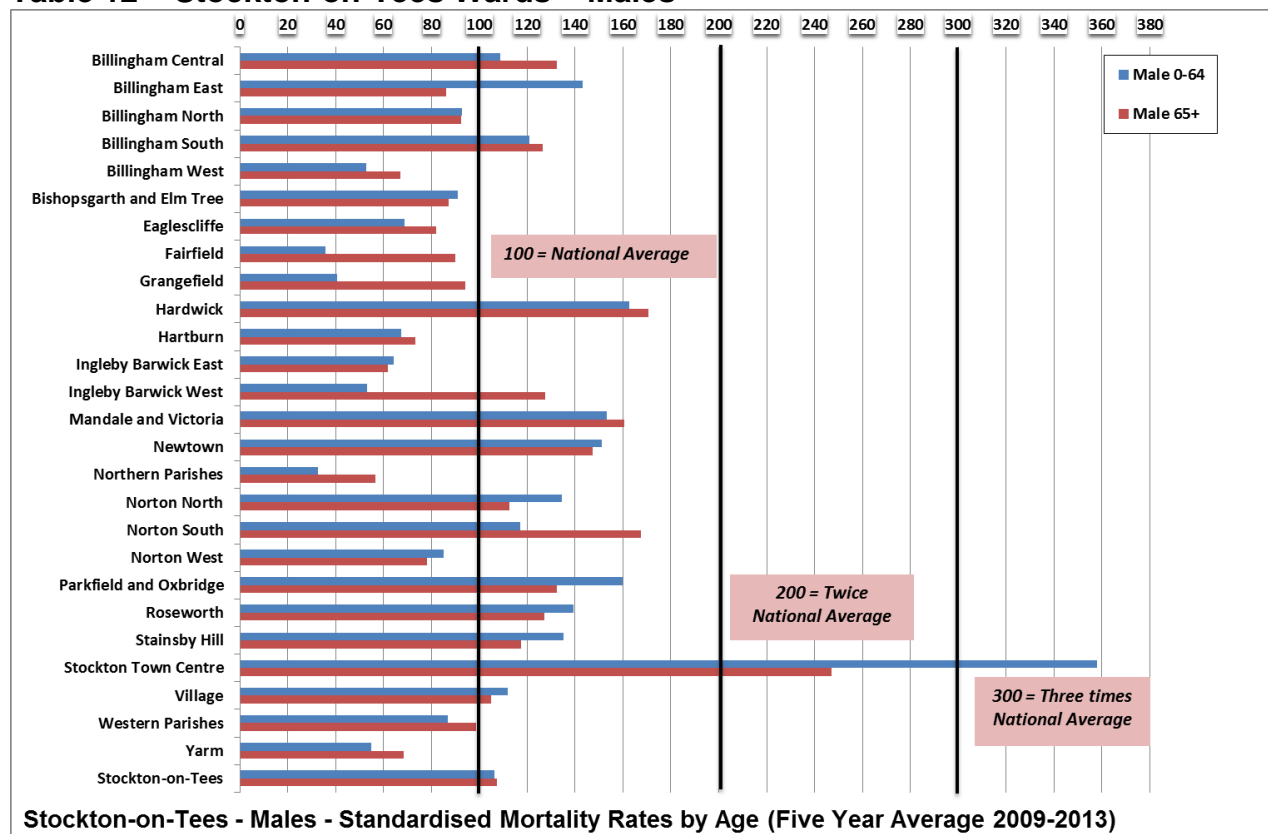
- For the 0-64 females, two Wards have double the expected rate, Grangetown Ward and South Bank Ward. Grangetown is ranked in the top 20 worst Wards in England (IMD 2010) while South Bank is in the worst 2%. There are a further five Wards with SMRs above 140.
- West Dyke Ward has the lowest SMR in Tees Valley at 47. Hutton Ward is not far behind with an SMR of 53.
- Seven Wards have SMRs below the national average, 17 are above.
- Grangetown Ward – to get back to the national average, would need 3 fewer deaths per year in the 0-64 age group. (Over 5 years, 27 deaths vs 13 expected based on national rates)

**65+ Females**

- For the 65+ age group, Saltburn has highest SMRs at 156. This is not in line with the normal link with deprivation but may reflect the relatively large number of homes for older people.
- Longbeck Ward has an SMR of just below 70 i.e. 30% fewer deaths than expected and is the third most affluent Ward in Redcar & Cleveland.
- 12 Wards have SMRs below the national average, 10 are above.
- Saltburn Ward – to get back to the national average, it would need 25 fewer deaths per year. (Over 5 years, 343 deaths vs 220 expected based on national rates)

**Appendix 1S – Males**

**Table 12 – Stockton-on-Tees Wards – Males**

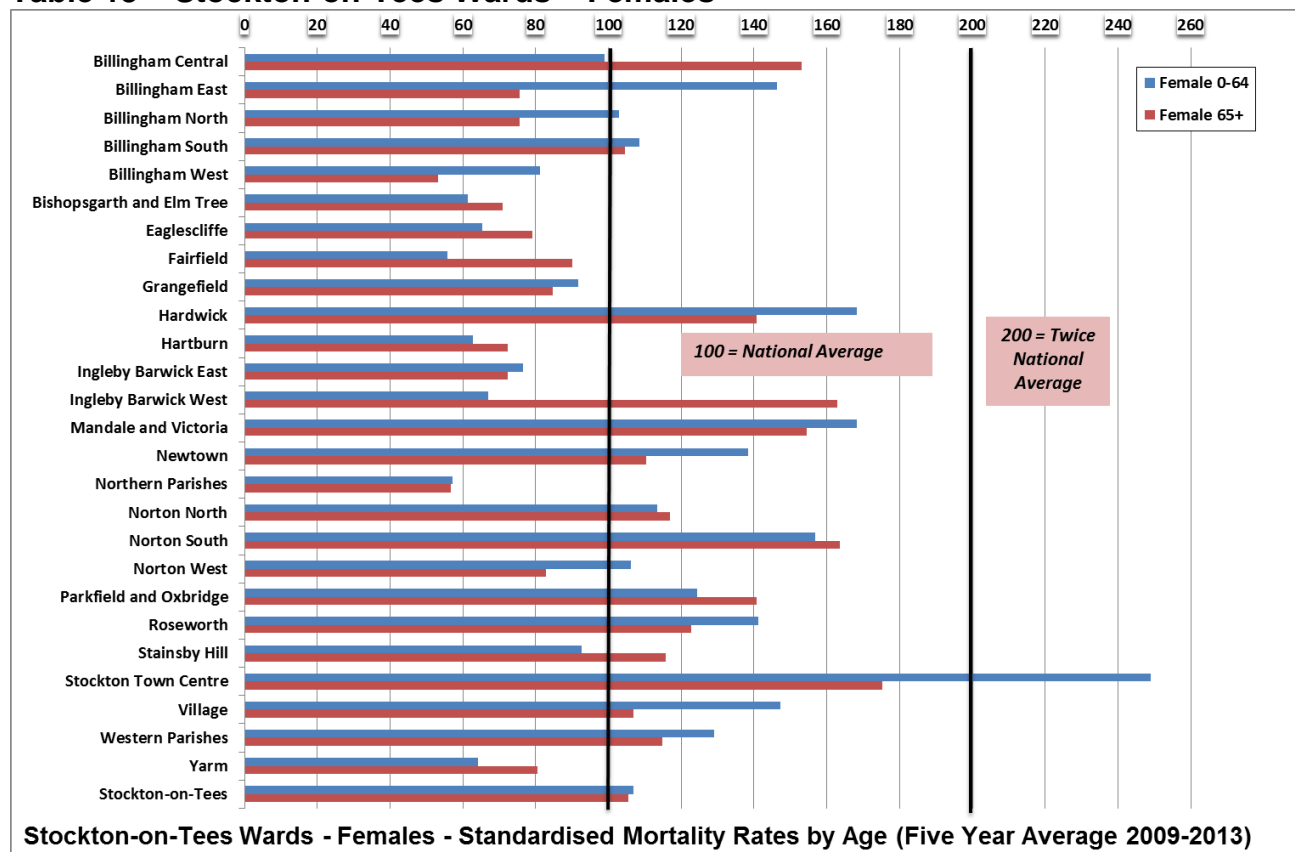


**0-64s Males**

- For the 0-64 males, Stockton Town centre Ward has by far the highest SMR in the Tees Valley at almost 360 - over three and half times the national rate. This Ward is ranked in the top 20 most deprived Wards in England (IMD 2010). [TVULink02](#)
- By huge contrast, Northern Parishes Ward has an SMR of 33 i.e. two thirds fewer deaths than expected. Fairfield and Grangefield Wards have SMRs of below 50. Both are relatively affluent.
- 13 Wards have SMRs below the national average, 13 are above.
- Stockton Town Centre Ward – to get back to the national average, would need 15 fewer deaths per year in the 0-64 age group. (Over 5 years, 107 deaths vs 30 expected based on national rates)

**65+ Males**

- For the 65+ age group, it is also Stockton Town Centre Ward with an SMR of 247 – nearly two and a half times the national average.
- Northern Parishes Ward has the lowest SMR at 57 (lowest in the Tees Valley) while Billingham West, Ingleby Barwick East and Yarm Wards all have SMRs between 60 and 70 i.e. 40% to 30% below average. These are all affluent Wards, in the top 25% least deprived in England.
- 13 Wards have SMRs below the national average, 13 are above.
- Stockton Town Centre Ward – to get back to the national average, it would need 22 fewer deaths per year. (Over 5 years, 184 deaths vs 74 expected based on national rates)

**Appendix 1S – Females****Table 13 – Stockton-on-Tees Wards – Females****0-64s Females**

- For the 0-64 females, as with the males, it is Stockton Town Centre Ward that has by far the highest SMR at 249 – two and half times the national rate. This Ward is ranked in the top 20 most deprived Wards in England (IMD 2010). [TVULink02](#).
- By contrast, Fairfield has a SMRs of 56 i.e. 44% fewer deaths than expected with several Wards close to or below 75.
- 12 Wards have SMRs below the national average, 14 are above.
- Stockton Town Centre Ward – to get back to the national average, would need 5 fewer deaths per year in the 0-64 age group. (Over 5 years, 41 deaths vs 16 expected based on national rates)

**65+ Females**

- For the 65+ age group, it is Stockton Town Centre again with the highest SMR – 175. Norton South, Ingleby Barwick West, Billingham Central and Mandale & Victoria all have SMRs over 150. The Ward that stands out here is Ingleby Barwick West which is in the top 10% most affluent Wards. There is a very low proportion of over 65s in Ingleby Barwick West so a relatively small number of deaths can produce this anomalous result. Indeed, just 5% of the female population is over 65, compared to 17% for the whole of Stockton-on-Tees; it may be affected by the number of Care homes for older people. (Note – these figures are not adjusted for Care Homes, Hospitals etc).
- Billingham West has the lowest SMR at 53 while there are seven Wards with SMRs below 80. Generally, these are the more affluent Wards, but not exclusively, for example Billingham East is in the worst 10% of Wards in England.

- 12 Wards have SMRs below the national average, 14 are above.
- Stockton Town Centre Ward – to get back to the national average would need 18 fewer deaths per year. . (Over 5 years, 207 deaths vs 118 expected based on national rates)



## **APPENDIX 2 – Links & Definitions**

**Page 1 : TVULink01** – Ward Fertility in the Tees Valley

[https://www.teesvalleyunlimited.gov.uk/media/282251/tvu\\_fertility\\_by\\_ward\\_to\\_mid2013.pdf](https://www.teesvalleyunlimited.gov.uk/media/282251/tvu_fertility_by_ward_to_mid2013.pdf)

**Page 1 : ONSLink01** – 2013 OA Population Estimates for Mid 2013

<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-367629>

**Page 5 – TVULink02** – IMD 2010 reworked for New Wards - See Deprivation theme .

[https://www.teesvalleyunlimited.gov.uk/InstantAtlas/area\\_profile/atlas.html](https://www.teesvalleyunlimited.gov.uk/InstantAtlas/area_profile/atlas.html)

**Page 5 – TVULink03** - Demographic Reports section on the TVU web-site.

<https://www.teesvalleyunlimited.gov.uk/tees-valley-unlimited/information-hub/tees-valley-statistics/demographic-reports.aspx>

## **Definitions**

### **Standardised Mortality Rates**

*Observed deaths as a % of expected deaths where the expected number of deaths is the number that would occur if the population of the area experienced sex/age mortality rates of E&W.*

### **Usual Residence of deceased**

*“Details of the usual residence of the deceased are supplied by the informant to the registrar. Prior to 1993 there were ‘rules’ determining the validity of one competing address over another for the purpose of registering the usual place of residence of the deceased. Previous annual reference volumes contain details of these rules. Since 1993 the informant can decide what address to give if more than one might be applicable. For example, a parent registering the death of a student in term time may give the parental home, or the university hall of residence, or the lodgings as the student’s address. Another example might be where an informant considers that the deceased was not resident in a communal establishment (such as residential homes for the elderly) where the death took place, so instead they provide a private home address to the registrar, even where the deceased had lived at the communal establishment for many months.”*

Source : Section 2.4 ONS definitions from Mortality Summary volume

<http://www.ons.gov.uk/ons/guide-method/user-guidance/health-and-life-events/mortality-metadata.pdf>