

Table S1. Average annual age-standardised hospital admission rates for myocardial infarction per 100,000 population shown in each time period by sex: data from national England statistics and the regional Oxford Record Linkage Study (ORLS), 1968-2016

| | England | | | | Oxford record Linkage Study | | | |
|--------------|--------------------------------|---------------|----------------|-----------------|--------------------------------|---------------|----------------|-----------------|
| | Age-standardised rates/100,000 | | | | Age-standardised rates/100,000 | | | |
| | All-admissions | Annual-person | First-recorded | Population**, n | All-admissions | Annual-person | First-recorded | Population**, n |
| Men | | | | | | | | |
| 1968-70 | 278 | - | - | 17660567 | 187 | 176 | 171 | 312275 |
| 1971-75 | 312 | - | - | 17955880 | 213 | 196 | 185 | 413660 |
| 1976-80 | 326 | - | - | 18471700 | 237 | 220 | 203 | 772300 |
| 1981-85 | 345 | - | - | 18228860 | 255 | 240 | 212 | 821960 |
| 1986-89 | - | - | - | - | 237 | 224 | 196 | 863553 |
| 1990-95 | 286 | - | - | 18460317 | 220 | 206 | 183 | 980624 |
| 1996-01 | 235* | 196 | 191 | 18825733 | 208 | 190 | 167 | 1048533 |
| 2002-06 | 214 | 186 | 174 | 19628760 | 191 | 159 | 150 | 1092700 |
| 2007-11 | 175 | 153 | 137 | 20553000 | 152 | 137 | 125 | 1145360 |
| 2012-16 | 193 | 166 | 146 | 21393420 | 153 | 140 | 125 | 1190240 |
| Women | | | | | | | | |
| 1968-70 | 84 | - | - | 19163167 | 56 | 52 | 50 | 307245 |
| 1971-75 | 98 | - | - | 19363920 | 67 | 61 | 59 | 413020 |
| 1976-80 | 105 | - | - | 19791620 | 73 | 68 | 64 | 786420 |
| 1981-85 | 121 | - | - | 19407720 | 86 | 82 | 75 | 836180 |
| 1986-89 | - | - | - | - | 86 | 82 | 75 | 878407 |
| 1990-95 | 107 | - | - | 19575683 | 80 | 75 | 69 | 1003156 |
| 1996-01 | 89* | 74 | 72 | 19835233 | 80 | 72 | 66 | 1070933 |
| 2002-06 | 80 | 71 | 66 | 20495440 | 68 | 58 | 55 | 1114280 |
| 2007-11 | 67 | 59 | 53 | 21273480 | 52 | 47 | 43 | 1167760 |
| 2012-16 | 72 | 61 | 55 | 21989040 | 51 | 46 | 42 | 1213640 |

Note: There were no English national data available for the period 1986-1989; and no person-based linked data for England prior to 1999.

* 1996-01 includes pre-linkage years (1996-98); ** average annual population per time period

Table S2. Average annual percentage change and joinpoint trends in MI hospitalisation rates for annual-person based admissions by sex, age group and overall age-adjusted: England, 1999-2016

| Age (years) | AAPC 1999 - 2016 | Period 1 | APC | Period 2 | APC | Period 3 | APC | Period 4 | APC |
|----------------|---------------------|------------------|--------------|------------------|--------------|------------------|-------------|-----------|-----|
| Men | | | | | | | | | |
| 15-34 | 0.4 | 1999-2006 | 2.0 | 2006-2010 | -9.4* | 2010-2016 | 5.7* | | |
| 35-39 | 0 | 1999-2016 | 0 | | | | | | |
| 40-44 | -0.6 | 1999-2011 | -1.9* | 2011-2014 | 7.3 | 2014-2016 | -4.0 | | |
| 45-49 | -0.2 | 1999-2007 | -1.1* | 2007-2010 | -6.4 | 2010-2013 | 7.8 | 2013-2016 | 1.2 |
| 50-54 | -0.1 | 1999-2010 | -2.1* | 2010-2016 | 3.7* | | | | |
| 55-59 | -0.4 | 1999-2011 | -2.6* | 2011-2014 | 9.4 | 2014-2016 | -1.0 | | |
| 60-64 | -1.2^ | 1999-2010 | -4.4* | 2010-2016 | 5.0* | | | | |
| 65-69 | -2.2^ | 1999-2011 | -4.5* | 2011-2016 | 3.6* | | | | |
| 70-74 | -2.3^ | 1999-2004 | -2.4* | 2004-2010 | -5.4* | 2010-2016 | 1 | | |
| 75-79 | -1.8^ | 1999-2003 | 0.4 | 2003-2010 | -4.9* | 2010-2016 | 0.5 | | |
| 80-84 | -1.2^ | 1999-2004 | 3.6* | 2004-2010 | -5.4* | 2010-2016 | -0.7 | | |
| 15-84** | -1.1 | 1999-2004 | -1.9 | 2004-2010 | -4.3* | 2010-2016 | 2.9* | | |
| Women | | | | | | | | | |
| 15-34 | 0.5 | 1999-2016 | 0.5 | | | | | | |
| 35-39 | 2.7^ | 1999-2016 | 2.7* | | | | | | |
| 40-44 | 2.2^ | 1999-2016 | 2.2* | | | | | | |
| 45-49 | 1.7^ | 1999-2011 | 0.4 | 2011-2016 | 5.0* | | | | |
| 50-54 | 1.2^ | 1999-2010 | -0.4 | 2010-2016 | 4.1* | | | | |
| 55-59 | 0 | 1999-2008 | -3.4* | 2008-2016 | 3.9* | | | | |
| 60-64 | -1.5^ | 1999-2010 | -5.0* | 2010-2016 | 5.4* | | | | |
| 65-69 | -2.9^ | 1999-2011 | -4.7* | 2011-2016 | 1.8* | | | | |
| 70-74 | -2.4^ | 1999-2004 | -1.8 | 2004-2010 | -5.5* | 2010-2016 | 0.2 | | |
| 75-79 | -1.9^ | 1999-2004 | 0.2 | 2004-2010 | -4.9* | 2010-2016 | -0.6 | | |
| 80-84 | -1.1^ | 1999-2004 | 2.9* | 2004-2010 | -4.1* | 2010-2016 | -1.4* | | |
| 15-84** | -1.2 | 1999-2004 | -1.6* | 2004-2010 | -4.0* | 2010-2016 | 1.9* | | |

AAPC: average annual percentage change; APC: annual percentage change. The joinpoint analysis is used to find the best-fit line through several years of data. Line segments are joined at points called joinpoints. Each joinpoint denotes a statistically significant change in trend.

^ The AAPC is significantly different to zero ($p=0.05$); * the APC is significantly different to zero ($p=0.05$); ** age-adjusted

Table S3. Average annual percentage change and joinpoint trends in MI hospitalisation rates for first-recorded admissions by sex, age group and overall age-adjusted: England, 1999-2016

| Age (years) | AAPC 1999 - 2016 | Period 1 | APC | Period 2 | APC | Period 3 | APC | Period 4 | APC |
|----------------|---------------------|------------------|--------------|------------------|-------------|-----------|------|-----------|------|
| Men | | | | | | | | | |
| 15-34 | 0.3 | 1999-2006 | 1.6 | 2006-2010 | -9.0 | 2010-2016 | 5.3* | | |
| 35-39 | -0.2 | 1999-2016 | -0.2 | | | | | | |
| 40-44 | -0.8 | 1999-2007 | -1.9* | 2007-2010 | -5.7 | 2010-2013 | 8.5 | 2013-2016 | -1.7 |
| 45-49 | -0.6 | 1999-2010 | -2.8* | 2010-2016 | 3.5* | | | | |
| 50-54 | -0.6 | 1999-2010 | -2.8* | 2010-2016 | 3.6* | | | | |
| 55-59 | -1.0 | 1999-2011 | -3.4* | 2011-2014 | 9.1 | 2014-2016 | -1.2 | | |
| 60-64 | -1.9^ | 1999-2010 | -5.2* | 2010-2016 | 4.5* | | | | |
| 65-69 | -2.9^ | 1999-2011 | -5.3* | 2011-2016 | 3.2* | | | | |
| 70-74 | -3.1^ | 1999-2004 | -3.5* | 2004-2010 | -6.5* | 2010-2016 | 0.9 | | |
| 75-79 | -2.7^ | 1999-2003 | -1.2 | 2003-2010 | -5.9* | 2010-2016 | 0.1 | | |
| 80-84 | -2.1^ | 1999-2004 | 1.7 | 2004-2010 | -6.4* | 2010-2016 | -0.9 | | |
| 15-84** | -2 | 1999-2010 | -4.1* | 2010-2016 | 2.2* | | | | |
| Women | | | | | | | | | |
| 15-34 | 0.3 | 1999-2016 | 0.3 | | | | | | |
| 35-39 | 2.4^ | 1999-2016 | 2.4* | | | | | | |
| 40-44 | 1.9^ | 1999-2016 | 1.9* | | | | | | |
| 45-49 | 1.3^ | 1999-2011 | -0.1 | 2011-2016 | 4.7* | | | | |
| 50-54 | 0.7^ | 1999-2010 | -1.0* | 2010-2016 | 3.9* | | | | |
| 55-59 | -0.5 | 1999-2008 | -3.9* | 2008-2016 | 3.5* | | | | |
| 60-64 | -1.9^ | 1999-2010 | -5.6* | 2010-2016 | 5.1* | | | | |
| 65-69 | -3.4^ | 1999-2011 | -5.4* | 2011-2016 | 1.7 | | | | |
| 70-74 | -3.0^ | 1999-2004 | -3.0* | 2004-2010 | -6.1* | 2010-2016 | 0.1 | | |
| 75-79 | -2.6^ | 1999-2003 | -0.3 | 2003-2010 | -5.2* | 2010-2016 | -1.0 | | |
| 80-84 | -1.9^ | 1999-2004 | 1.1 | 2004-2010 | -4.9* | 2010-2016 | -1.3 | | |
| 15-84** | -2.0 | 1999-2010 | -3.8* | 2010-2016 | 1.3 | | | | |

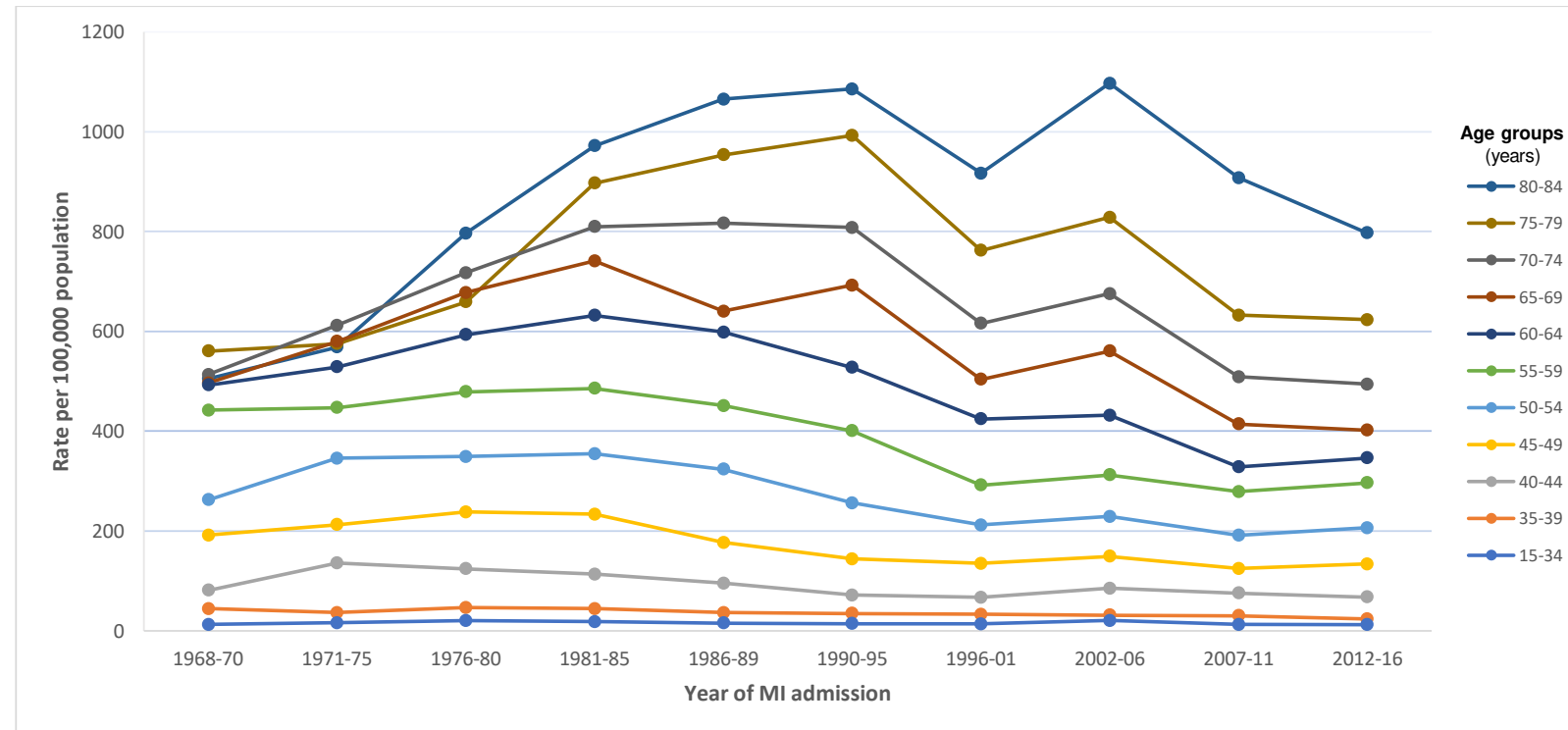
AAPC: average annual percentage change; APC: annual percentage change. The joinpoint analysis is used to find the best-fit line through several years of data. Line segments are joined at points called joinpoints. Each joinpoint denotes a statistically significant change in trend.

^ The AAPC is significantly different to zero ($p=0.05$); *the APC is significantly different to zero ($p=0.05$); ** age-adjusted.

Table S4. Age-specific rates of all-admissions for myocardial infarction and percentage change by sex and age group: Oxford Region, 1968-2016

| Age groups (years) | Age-specific average annual rates per 100,000 population ^a | | | | | | | | | | Change in average annual rates, % (95% CI) ^a | |
|-----------------------|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---|----------------------|
| | 1968- 1970 | 1971- 1975 | 1976- 1980 | 1981- 1985 | 1986- 1989 | 1990- 1995 | 1996- 2001 | 2002- 2006 | 2007- 2011 | 2012- 2016 | 1968-70 to 1981-85 | 1990-95 to 2012-16 |
| Men | | | | | | | | | | | | |
| 15-34 | 13 | 16 | 321 | 19 | 16 | 15 | 14 | 20 | 13 | 12 | +51.9 (-19.4, +186.4) | -13.9 (-37.7, +19.0) |
| 35-39 | 45 | 37 | 47 | 45 | 36 | 35 | 33 | 32 | 30 | 24 | +0.2 (-29.9, +43.3) | -31.8 (-45.6, -14.6) |
| 40-44 | 81 | 136 | 124 | 113 | 95 | 72 | 67 | 85 | 75 | 68 | +39.3 (+6.5, +82.3) | -5.2 (-17.7, +9.1) |
| 45-49 | 192 | 213 | 238 | 234 | 177 | 144 | 135 | 149 | 125 | 134 | +22.1 (+1.8, +46.4) | -7.3 (-16.1, +2.5) |
| 50-54 | 263 | 346 | 349 | 355 | 324 | 257 | 212 | 229 | 191 | 206 | +35.2 (+15.2, +58.7) | -19.6 (-26.1, -12.5) |
| 55-59 | 442 | 448 | 479 | 486 | 451 | 401 | 292 | 312 | 279 | 297 | +9.8 (-3.5, +24.9) | -26.0 (-31.3, -20.3) |
| 60-64 | 492 | 529 | 593 | 632 | 599 | 527 | 425 | 432 | 329 | 347 | +28.3 (+13.0, +45.8) | -34.3 (-38.8, -29.5) |
| 65-69 | 496 | 580 | 678 | 741 | 641 | 692 | 504 | 561 | 414 | 402 | +49.3 (+29.5, +72.2) | -41.9 (-45.7, -37.9) |
| 70-74 | 514 | 612 | 717 | 810 | 817 | 808 | 616 | 676 | 509 | 495 | +57.6 (+32.9, +87.0) | -38.8 (-42.9, -34.4) |
| 75-79 | 560 | 575 | 659 | 897 | 954 | 993 | 762 | 829 | 632 | 623 | +60.1 (+30.2, +96.9) | -37.2 (-41.7, -32.4) |
| 80-84 | 505 | 568 | 797 | 972 | 1065 | 1086 | 917 | 1097 | 908 | 797 | +92.3 (+44.6, +155.8) | -26.6 (-32.4, -20.2) |
| Women | | | | | | | | | | | | |
| 15-44 | 23 | 24 | 24 | 17 | 15 | 19 | 21 | 27 | 22 | 24 | -29.2 (-58.8, +21.7) | +26.0 (-2.5, +62.7) |
| 45-49 | 25 | 34 | 37 | 30 | 28 | 24 | 24 | 33 | 25 | 29 | +22.9 (-25.9, +104.0) | +18.6 (-5.7, +49.3) |
| 50-54 | 46 | 67 | 55 | 68 | 64 | 44 | 42 | 48 | 44 | 50 | +47.3 (+0.8, +115.3) | +15.0 (-4.8, +38.9) |
| 55-59 | 63 | 108 | 100 | 122 | 126 | 102 | 67 | 73 | 64 | 64 | +93.3 (+39.8, +167.4) | -37.3 (-46.3, -26.9) |
| 60-64 | 141 | 146 | 149 | 187 | 201 | 176 | 141 | 125 | 85 | 100 | +32.3 (+5.4, +66.2) | -43.1 (-49.8, -35.4) |
| 65-69 | 195 | 216 | 256 | 279 | 290 | 284 | 223 | 226 | 146 | 131 | +43.5 (+16.5, +76.7) | -53.9 (+58.6, -48.6) |
| 70-74 | 270 | 316 | 354 | 412 | 391 | 393 | 317 | 330 | 242 | 208 | +52.7 (+25.7, +85.5) | -46.9 (-51.9, -41.5) |
| 75-79 | 318 | 336 | 416 | 558 | 565 | 548 | 437 | 445 | 370 | 311 | +75.5 (+43.0, +115.5) | -43.4 (-48.3, -38.0) |
| 80-84 | 345 | 391 | 574 | 714 | 643 | 652 | 544 | 635 | 509 | 530 | +107.2 (+62.8, +163.8) | -18.8 (-25.4, -11.7) |

^a Estimated from the exponential of the beta-coefficient for time period from Poisson regression models.
CI, confidence interval.

Figure S1. Age-specific rates of all-admissions for myocardial infarction by sex: Oxford Region, 1968-2016**a) Men**

b) Women

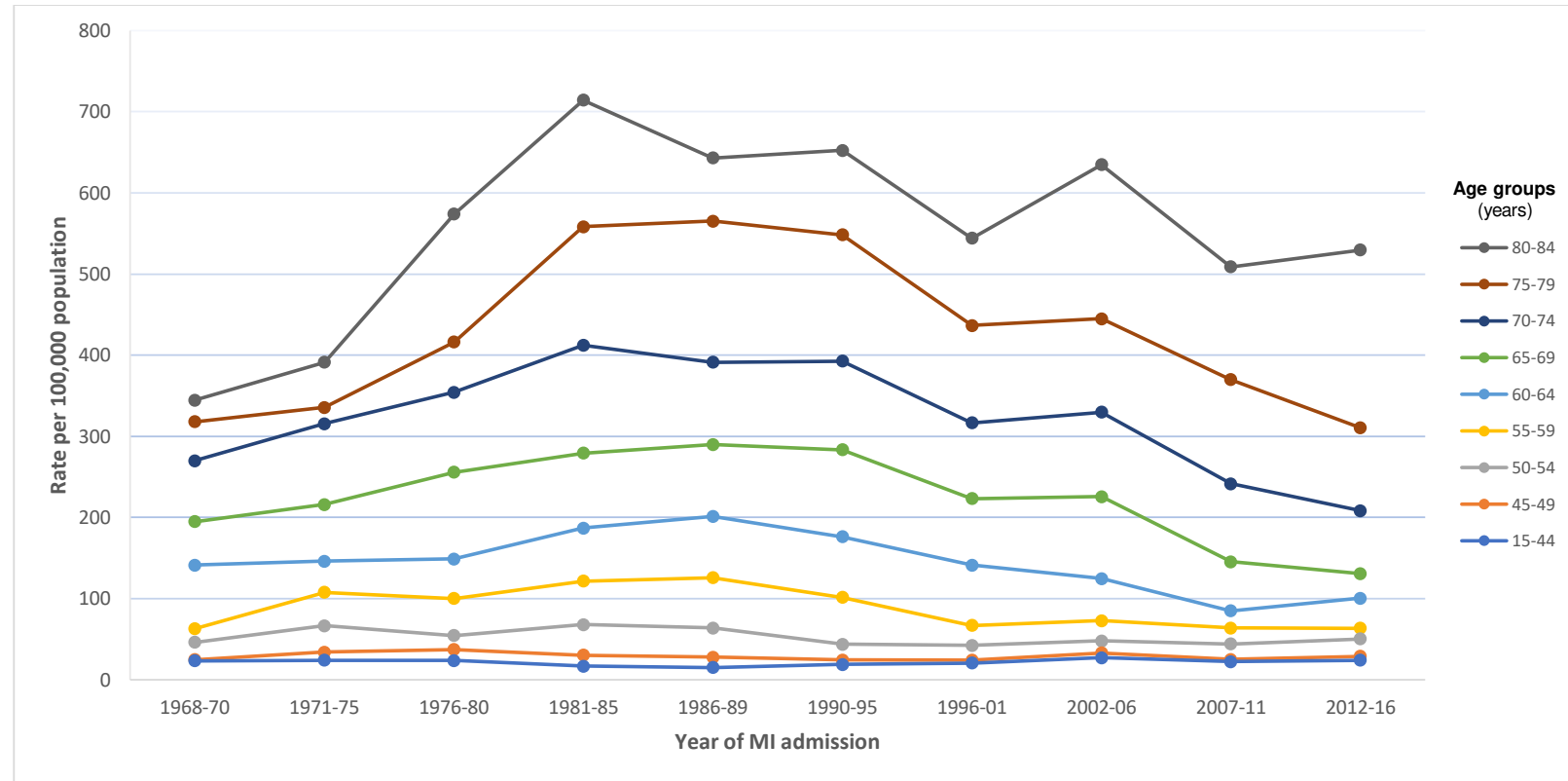


Table S5. Average annual percentage change and joinpoint trends in admission rates for myocardial infarction by sex, age group and overall age-adjusted: Oxford Region 1968-2016

| Age (years) | AAPC 1968 - 2016 | Period 1 | APC | Period 2 | APC | Period 3 | APC | Period 4 | APC | Period 5 | APC |
|----------------|---------------------|------------------|-------------|------------------|--------------|------------------|-------------|------------------|---------------|------------------|-------------|
| Men | | | | | | | | | | | |
| 15-34 | -0.2 | 1968-2016 | -0.2 | | | | | | | | |
| 35-39 | -1.3 [^] | 1968-2016 | -1.3* | | | | | | | | |
| 40-44 | -0.7 | 1968-1978 | 3.2 | 1978-1994 | -4.3* | 1994-2007 | 2.3* | 2007-2010 | -12.5 | 2010-2016 | 3.0 |
| 45-49 | -0.6 | 1968-1982 | 1.7* | 1982-1993 | -5.3* | 1993-2007 | 0.7 | 2007-2010 | -10.1 | 2010-2016 | 4.6* |
| 50-54 | -0.6 | 1968-1983 | 1.6* | 1983-1996 | -3.8* | 1996-2007 | 0.2 | 2007-2010 | -11.3 | 2010-2016 | 5.8* |
| 55-59 | -0.6 | 1968-1984 | 0.7 | 1984-2011 | -2.3* | 2011-2016 | 4.3 | | | | |
| 60-64 | -0.6 | 1968-1984 | 1.6* | 1984-2007 | -2.0* | 2007-2010 | -10.5 | 2010-2016 | 4.3* | | |
| 65-69 | -0.1 | 1968-1981 | 3.4* | 1981-2007 | -1.3* | 2007-2011 | -11.7 | 2011-2016 | 7.4* | | |
| 70-74 | 0 | 1968-1985 | 2.9* | 1985-2006 | -1.3* | 2006-2010 | -9.4* | 2010-2016 | 3 | | |
| 75-79 | 0.3 | 1968-1990 | 3.4* | 1990-2016 | -2.2* | | | | | | |
| 80-84 | 0.9 [^] | 1968-1984 | 5.2* | 1984-2005 | 0.1 | 2005-2016 | -3.3* | | | | |
| 15-84** | -0.3 | 1968-1984 | 1.9* | 1984-2000 | -2.0* | 2000-2007 | 0.1 | 2007-2010 | -11.8* | 2010-2016 | 4.0* |
| Women | | | | | | | | | | | |
| 15-44 | 1.1 [^] | 1968-2016 | 1.1* | | | | | | | | |
| 45-49 | 0 | 1968-1997 | -1.8* | 1997-2004 | 6 | 2004-2012 | -6.4 | 2012-2016 | 18.2* | | |
| 50-54 | 0 | 1968-1986 | 1.8 | 1986-1994 | -6.4 | 1994-2016 | 0.9 | | | | |
| 55-59 | -0.9 | 1968-1985 | 2.2 | 1985-2016 | -2.6* | | | | | | |
| 60-64 | -0.9 [^] | 1968-1989 | 2.4* | 1989-2016 | -3.4* | | | | | | |
| 65-69 | -0.8 | 1968-1987 | 2.3* | 1987-2006 | -1.7* | 2006-2010 | -13.7 | 2010-2016 | 1.8 | | |
| 70-74 | -1.0 [^] | 1968-1995 | 1.1* | 1995-2016 | -3.7* | | | | | | |
| 75-79 | 0.2 | 1968-1987 | 4.3* | 1987-2016 | -2.4* | | | | | | |
| 80-84 | 0.9 [^] | 1968-1984 | 5.1* | 1984-2016 | -1.1* | | | | | | |
| 15-84** | -0.1 | 1968-1985 | 2.8* | 1985-2006 | -1.5* | 2006-2010 | -8.1 | 2010-2016 | 2.0 | | |

AAPC: average annual percentage change; APC: annual percentage change

[^] The AAPC is significantly different to zero (p=0.05); * The APC is significantly different to zero (p=0.05); ** age-adjusted

The joinpoint analysis is used to find the best-fit line through several years of data. Line segments are joined at points called joinpoints. Each joinpoint denotes a statistically significant change in trend.