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## 

Analysis of multi-morbidity prevalence in Cambridgeshire & Peterborough –

August 2018

**Introduction**

This paper summaries multi-morbidity prevalence data as provided by Public Health England (PHE) for Cambridgeshire districts, Cambridgeshire and Peterborough. There is no consensus relating to the precise definition of ‘multi-morbidity’; the National Institute for Health & Care Excellence (NICE) define the term as ‘the presence of two or more long-term health conditions, at least one of which must be a physical health condition’.[[1]](#footnote-1) Within the medical literature, definitions differ over which conditions should be included within analysis of multi-morbidity. The available PHE data used within this analysis is based on work undertaken by the South West Local Knowledge and Intelligence Service that used prevalence estimates provided by Barnett et. al relating to 40 conditions in order to estimate local prevalence by electoral ward, sex, age group (0-24, 25-44, 45-64, 65-84 and 85+) and socioeconomic deprivation (available as both quintiles and deciles).

Of note is that the deprivation data are based on the Carstairs index of deprivation, which was developed in the 1980s based on four Census variables[[2]](#footnote-2):

1. **Unemployment:** Unemployment in males aged 16 and over as a proportion of all economically active males aged 16 and over
2. **Overcrowding:** Persons in households with one or more persons per room as a proportion of all residents in households
3. **Car Ownership:** Residents in households with no car as a proportion of all residents in households.
4. **Low Social Class:** Residents in households with an economically active head of household in social class 4 or 5 as a proportion of all residents in households.

This method differs from the Index of Multiple Deprivation (IMD), which is the more commonly used measure of deprivation within contemporary public health and contains a number of domains spanning areas including health and disability, income, crime and disorder and the living environment.

By contrast, the Carstairs methodology combines the aforementioned four indicators to produce a single measure of relative deprivation that can then be applied to electoral wards. This method was used by the South West Local Knowledge and Intelligence Service in order to retain consistency with the methods used by Barnett et. al in research upon which this project is based, rather than undertaking additional work to compile a new set of IMD-based multi-morbidity data. Resultantly, data are based on electoral wards as at the time of the 2011 Census and therefore electoral ward changes that have taken place since this time are not reflected within this analysis.

This paper contains a summary of multi-morbidity prevalence in Cambridgeshire districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, for the following indicators:

* Prevalence of people with 2 or more multi-morbidities (all ages, 0-24, 25-44, 45-64, 65-84, 85+, males and females)
* Prevalence of people with 3 or more multi-morbidities (all ages, 0-24, 25-44, 45-64, 65-84, 85+, males and females)
* Prevalence of people with at least one physical and one mental health co-morbidity (all ages, 0-24, 25-44, 45-64, 65-84, 85+, males and females)
* Number of electoral wards within each area that are statistically significantly lower, similar or higher than the Cambridgeshire & Peterborough average.

Data are also included summarising prevalence of people with 2 or more multi-morbidities, 3 or more multi-morbidities and at least one physical and one mental health co-morbidity by relative Carstairs national deprivation quintile (1 = least deprived, 5 = most deprived).

Summary of key findings:

* Fenland has statistically significantly high prevalence in comparison to the Cambridgeshire and Peterborough average for a number of indicators contained within this analysis, including prevalence of two or more multi-morbidities, prevalence of three or more multi-morbidities and prevalence of physical and mental health comorbidity (at least one physical and at least one mental multi-morbidity condition). 85.2% of electoral wards within Fenland (23 of 27) have statistically significantly higher prevalence of people with two or more multi-morbidities compared to the Cambridgeshire & Peterborough average.
* Cambridge and South Cambridgeshire have statistically significantly low prevalence compared to the Cambridgeshire and Peterborough average for people with two or more multi-morbidities, people with three or more multi-morbidities and physical and mental health comorbidity.
* Prevalence data relating to people with two or more multi-morbidities, three or more multi-morbidities and physical and mental health comorbidity show higher prevalence in females than males in all areas within Cambridgeshire and Peterborough.
* Indicator prevalence correlates strongly with relative deprivation; for prevalence or two or more multi-morbidities, three or more multi-morbidities and physical and mental health comorbidity, the least deprived quintile has statistically significantly low prevalence whereas the most deprived quintile has statistically significantly high prevalence compared to the Cambridgeshire and Peterborough average.
* When data are broken down by age group, South Cambridgeshire has statistically significantly low prevalence compared to the Cambridgeshire and Peterborough average for all age groups other than the 85+ age group for prevalence of two or more multi-morbidities and prevalence of three or more multi-morbidities. By contrast, Fenland and Peterborough have statistically significantly high prevalence for these two indicators within the 25-44, 45-64 and 65-84 age groups and Cambridge has statistically significantly high prevalence for both indicators in the 0-24, 45-64 and 65-84 age groups.

**Table 1: Prevalence of people with two or more multi-morbidities, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Number of people with 2+ MM** | **Total Population** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Wards w/ statistically significantly low prevalence** | | **Wards w/ statistically similar prevalence** | | **Wards w/ statistically significantly high prevalence** | | **Total** | |
| **Number** | **% of All** | **Number** | **% of All** | **Number** | **% of All** | **Number** | **% of All** |
| Cambridge | 23,009 | 122,725 | 18.7% | 18.5% | 19.0% | 8 | 57.1% | 5 | 35.7% | 1 | 7.1% | 14 | 100.0% |
| East Cambridgeshire | 18,630 | 84,245 | 22.1% | 21.8% | 22.4% | 3 | 15.8% | 10 | 52.6% | 6 | 31.6% | 19 | 100.0% |
| Fenland | 25,914 | 95,461 | 27.1% | 26.9% | 27.4% | 0 | 0.0% | 4 | 14.8% | 23 | 85.2% | 27 | 100.0% |
| Huntingdonshire | 37,037 | 170,039 | 21.8% | 21.6% | 22.0% | 11 | 37.9% | 11 | 37.9% | 7 | 24.1% | 29 | 100.0% |
| South Cambridgeshire | 30,692 | 149,842 | 20.5% | 20.3% | 20.7% | 16 | 47.1% | 10 | 29.4% | 8 | 23.5% | 34 | 100.0% |
| Cambridgeshire | 135,283 | 622,312 | 21.7% | 21.6% | 21.8% | 38 | 30.9% | 40 | 32.5% | 45 | 36.6% | 123 | 100.0% |
| Peterborough | 39,920 | 184,457 | 21.6% | 21.5% | 21.8% | 6 | 25.0% | 6 | 25.0% | 12 | 50.0% | 24 | 100.0% |
| Cambridgeshire & Peterborough | 175,203 | 806,769 | 21.7% | 21.6% | 21.8% | 44 | 29.9% | 46 | 31.3% | 57 | 38.8% | 147 | 100.0% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

175,203 of 806,769 residents of Cambridgeshire and Peterborough have at least two multi-morbidities, which represents overall prevalence of 21.7%. Cambridge and South Cambridgeshire have statistically significantly low prevalence (18.7% and 20.5% respectively) whereas Fenland has statistically significantly high prevalence (27.1%).

Of particular note is that 23 of 27 electoral wards in Fenland (85.2% of the total within the district) have statistically significantly high prevalence of people with two or more multi-morbidities compared to the Cambridgeshire and Peterborough average. No other area has more than 50.0% of electoral wards with statistically significantly high prevalence for this indicator.

**Table 2: Prevalence of people with three or more multi-morbidities, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Number of people with 3+ MM** | **Total Population** | **Prevalence - people with 3+ MM, All Ages** | **Lower CI** | **Upper CI** | **Wards w/ statistically significantly low prevalence** | | **Wards w/ statistically similar prevalence** | | **Wards w/ statistically significantly high prevalence** | | **Total** | |
| **Number** | **% of All** | **Number** | **% of All** | **Number** | **% of All** | **Number** | **% of All** |
| Cambridge | 13,163 | 122,725 | 10.7% | 10.6% | 10.9% | 7 | 50.0% | 5 | 35.7% | 2 | 14.3% | 14 | 100.0% |
| East Cambridgeshire | 10,779 | 84,245 | 12.8% | 12.6% | 13.0% | 3 | 15.8% | 10 | 52.6% | 6 | 31.6% | 19 | 100.0% |
| Fenland | 15,968 | 95,461 | 16.7% | 16.5% | 17.0% | 0 | 0.0% | 5 | 18.5% | 22 | 81.5% | 27 | 100.0% |
| Huntingdonshire | 21,268 | 170,039 | 12.5% | 12.4% | 12.7% | 11 | 37.9% | 11 | 37.9% | 7 | 24.1% | 29 | 100.0% |
| South Cambridgeshire | 17,382 | 149,842 | 11.6% | 11.4% | 11.8% | 16 | 47.1% | 10 | 29.4% | 8 | 23.5% | 34 | 100.0% |
| Cambridgeshire | 78,559 | 622,312 | 12.6% | 12.5% | 12.7% | 37 | 30.1% | 41 | 33.3% | 45 | 36.6% | 123 | 100.0% |
| Peterborough | 23,675 | 184,457 | 12.8% | 12.7% | 13.0% | 6 | 25.0% | 7 | 29.2% | 11 | 45.8% | 24 | 100.0% |
| Cambridgeshire & Peterborough | 102,234 | 806,769 | 12.7% | 12.6% | 12.7% | 43 | 29.3% | 48 | 32.7% | 56 | 38.1% | 147 | 100.0% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Prevalence of people with three or more multi-morbidities in Cambridgeshire & Peterborough (12.7%) is necessarily lower than prevalence of people with only two or more multi-morbidities (21.7%) due to the higher inclusion threshold. As with prevalence of two or more multi-morbidities, prevalence is statistically significantly lower for prevalence of three multi-morbidities in Cambridge and South Cambridgeshire compared to the Cambridgeshire & Peterborough average.

With prevalence of 16.7%, Fenland is the only area with statistically significantly high prevalence of people with three or more multi-morbidities compared to Cambridgeshire & Peterborough. 22 of 27 electoral wards within Fenland (81.5% of the total) have statistically significantly high prevalence for this indicator compared to Cambridgeshire & Peterborough. Overall prevalence for this indicator in Fenland is 4.0 percentage points higher than Cambridgeshire and Peterborough and for prevalence of two or more multi-morbidities, the Fenland value is 5.4 percentage points higher (27.1% compared to 21.7%).

**Table 3: Prevalence of people with physical & mental health comorbidity, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Number with physical & mental health comorbidity** | **Total Population** | **Prevalence with physical & mental health comorbidity** | **Lower CI** | **Upper CI** | **Wards w/ statistically significantly low prevalence** | | **Wards w/ statistically similar prevalence** | | **Wards w/ statistically significantly high prevalence** | | **Total** | |
| **Number** | **% of All** | **Number** | **% of All** | **Number** | **% of All** | **Number** | **% of All** |
| Cambridge | 8,674 | 122,725 | 7.1% | 6.9% | 7.2% | 6 | 42.9% | 4 | 28.6% | 4 | 28.6% | 14 | 100.0% |
| East Cambridgeshire | 6,227 | 84,245 | 7.4% | 7.2% | 7.6% | 6 | 31.6% | 10 | 52.6% | 3 | 15.8% | 19 | 100.0% |
| Fenland | 9,531 | 95,461 | 10.0% | 9.8% | 10.2% | 0 | 0.0% | 8 | 29.6% | 19 | 70.4% | 27 | 100.0% |
| Huntingdonshire | 12,636 | 170,039 | 7.4% | 7.3% | 7.6% | 13 | 44.8% | 10 | 34.5% | 6 | 20.7% | 29 | 100.0% |
| South Cambridgeshire | 9,770 | 149,842 | 6.5% | 6.4% | 6.6% | 21 | 61.8% | 12 | 35.3% | 1 | 2.9% | 34 | 100.0% |
| Cambridgeshire | 46,838 | 622,312 | 7.5% | 7.5% | 7.6% | 46 | 37.4% | 44 | 35.8% | 33 | 26.8% | 123 | 100.0% |
| Peterborough | 15,761 | 184,457 | 8.5% | 8.4% | 8.7% | 3 | 12.5% | 7 | 29.2% | 14 | 58.3% | 24 | 100.0% |
| Cambridgeshire & Peterborough | 62,599 | 806,769 | 7.8% | 7.7% | 7.8% | 49 | 33.3% | 51 | 34.7% | 47 | 32.0% | 147 | 100.0% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Physical & mental health comorbidity relates to people with at least one physical and at least one mental health condition from the list of 40 conditions contained within this analysis (contained within Appendix A, page 18). Cambridgeshire and all of its districts with the exception of Fenland have statistically significantly low prevalence of people with physical & mental health comorbidity compared to the Cambridgeshire & Peterborough average, whereas Fenland and Peterborough have statistically significantly high prevalence.

**Table 4: Prevalence of people with two or more multi-morbidities, Cambridgeshire & Peterborough electoral wards grouped by relative quintile of deprivation, 2011**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Quintile** | **Number of people with 2+ MM** | **Total Population** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** |
|
| 1 (Least Deprived) | 40,626 | 210,707 | 19.3% | 19.1% | 19.4% |
| 2 | 36,457 | 167,250 | 21.8% | 21.6% | 22.0% |
| 3 | 20,043 | 89,670 | 22.4% | 22.1% | 22.6% |
| 4 | 34,369 | 145,156 | 23.7% | 23.5% | 23.9% |
| 5 (Most Deprived) | 43,708 | 193,986 | 22.5% | 22.3% | 22.7% |
| Cambridgeshire & Peterborough | 175,203 | 806,769 | 21.7% | 21.6% | 21.8% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Prevalence of people with two or more multi-morbidities correlates closely with relative deprivation in Cambridgeshire & Peterborough. Prevalence is statistically significantly lower than the Cambridgeshire & Peterborough value in the least deprived quintile and statistically significantly higher in the three most deprived quintiles. 26.1% of the population (210,707 of 806,769) are classified as being within the least deprived deprivation decile, which contributes towards this quintile accounting for the second-highest number of people with two or more multi-morbidities (40,626). The most deprived quintile has the highest observed number of people with two or more multi-morbidities, 43,708 (24.9% of the total).

**Table 5: Prevalence of people with three or more multi-morbidities, Cambridgeshire & Peterborough electoral wards grouped by relative quintile of deprivation, 2011**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Quintile** | **Number of people with 3+ MM** | **Total Population** | **Prevalence - people with 3+ MM, All Ages** | **Lower CI** | **Upper CI** |
|
| 1 (Least Deprived) | 22,730 | 210,707 | 10.8% | 10.7% | 10.9% |
| 2 | 20,802 | 167,250 | 12.4% | 12.3% | 12.6% |
| 3 | 11,735 | 89,670 | 13.1% | 12.9% | 13.3% |
| 4 | 20,475 | 145,156 | 14.1% | 13.9% | 14.3% |
| 5 (Most Deprived) | 26,492 | 193,986 | 13.7% | 13.5% | 13.8% |
| Cambridgeshire & Peterborough | 102,234 | 806,769 | 12.7% | 12.6% | 12.7% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Prevalence of people with three or more multi-morbidities in Cambridgeshire & Peterborough is 12.7%. Within the two least deprived quintiles, prevalence is statistically significantly lower than this regional value, whereas prevalence is statistically significantly higher in the three most deprived quintiles. The most deprived quintile has the largest number of people with three or more multi-morbidities, comprising 25.9% of the total (26,492/102,234).

**Table 6: Prevalence of people with physical & mental health comorbidity, Cambridgeshire & Peterborough electoral wards grouped by relative quintile of deprivation, 2011**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Quintile** | **Number with physical & mental health comorbidity** | **Total Population** | **Prevalence with physical & mental health comorbidity** | **Lower CI** | **Upper CI** |
|
| 1 (Least Deprived) | 13,013 | 210,707 | 6.2% | 6.1% | 6.3% |
| 2 | 11,836 | 167,250 | 7.1% | 7.0% | 7.2% |
| 3 | 7,002 | 89,670 | 7.8% | 7.6% | 8.0% |
| 4 | 12,532 | 145,156 | 8.6% | 8.5% | 8.8% |
| 5 (Most Deprived) | 18,216 | 193,986 | 9.4% | 9.3% | 9.5% |
| Cambridgeshire & Peterborough | 62,599 | 806,769 | 7.8% | 7.7% | 7.8% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Prevalence of people with physical & mental health comorbidity in Cambridgeshire & Peterborough is 7.8%. Prevalence is statistically significantly lower than this value in the two least deprived quintiles and statistically significantly higher in the two most deprived quintiles. 29.1% of people with a physical and mental health comorbidity reside within the most deprived quintile (18,216/62,599).

**Table 7: Prevalence of people with two or more multi-morbidities by sex, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Males** | | | | | **Females** | | | | |
| **Number of people with 2+ MM** | **Total Population** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number of people with 2+ MM** | **Total Population** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** |
|
| Cambridge | 9,975 | 62,636 | 15.9% | 15.6% | 16.2% | 13,034 | 60,089 | 21.7% | 21.4% | 22.0% |
| East Cambridgeshire | 8,152 | 41,662 | 19.6% | 19.2% | 20.0% | 10,478 | 42,583 | 24.6% | 24.2% | 25.0% |
| Fenland | 11,392 | 46,941 | 24.3% | 23.9% | 24.7% | 14,522 | 48,520 | 29.9% | 29.5% | 30.3% |
| Huntingdonshire | 16,418 | 84,786 | 19.4% | 19.1% | 19.6% | 20,620 | 85,253 | 24.2% | 23.9% | 24.5% |
| South Cambridgeshire | 13,577 | 74,475 | 18.2% | 18.0% | 18.5% | 17,115 | 75,367 | 22.7% | 22.4% | 23.0% |
| Cambridgeshire | 59,513 | 310,500 | 19.2% | 19.0% | 19.3% | 75,770 | 311,812 | 24.3% | 24.1% | 24.5% |
| Peterborough | 17,230 | 91,355 | 18.9% | 18.6% | 19.1% | 22,690 | 93,102 | 24.4% | 24.1% | 24.6% |
| Cambridgeshire & Peterborough | 76,743 | 401,855 | 19.1% | 19.0% | 19.2% | 98,460 | 404,914 | 24.3% | 24.2% | 24.4% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Prevalence of two or more multi-morbidities is statistically significantly higher in females than males for each area within the table above. In comparison to Cambridgeshire & Peterborough, Fenland has statistically significantly high prevalence for both males and females whereas Cambridge and South Cambridgeshire have statistically significantly low prevalence for both males and females.

**Table 8: Prevalence of people with three or more multi-morbidities by sex, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Males** | | | | | **Females** | | | | |
| **Number of people with 2+ MM** | **Total Population** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number of people with 2+ MM** | **Total Population** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** |
|
| Cambridge | 5,520 | 62,636 | 8.8% | 8.6% | 9.0% | 7,643 | 60,089 | 12.7% | 12.5% | 13.0% |
| East Cambridgeshire | 4,635 | 41,662 | 11.1% | 10.8% | 11.4% | 6,144 | 42,583 | 14.4% | 14.1% | 14.8% |
| Fenland | 6,847 | 46,941 | 14.6% | 14.3% | 14.9% | 9,121 | 48,520 | 18.8% | 18.5% | 19.1% |
| Huntingdonshire | 9,235 | 84,786 | 10.9% | 10.7% | 11.1% | 12,034 | 85,253 | 14.1% | 13.9% | 14.4% |
| South Cambridgeshire | 7,595 | 74,475 | 10.2% | 10.0% | 10.4% | 9,787 | 75,367 | 13.0% | 12.7% | 13.2% |
| Cambridgeshire | 33,831 | 310,500 | 10.9% | 10.8% | 11.0% | 44,728 | 311,812 | 14.3% | 14.2% | 14.5% |
| Peterborough | 9,964 | 91,355 | 10.9% | 10.7% | 11.1% | 13,711 | 93,102 | 14.7% | 14.5% | 15.0% |
| Cambridgeshire & Peterborough | 43,795 | 401,855 | 10.9% | 10.8% | 11.0% | 58,439 | 404,914 | 14.4% | 14.3% | 14.5% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

As with prevalence of two or more multi-morbidities, prevalence of three or more multi-morbidities is statistically significantly higher than the Cambridgeshire and Peterborough average in Fenland for both males and females and statistically significantly lower than the Cambridgeshire and Peterborough average in Cambridge and South Cambridgeshire.

**Table 9: Prevalence of people with physical & mental health comorbidity by sex, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Males** | | | | | **Females** | | | | |
| **Number of people with 2+ MM** | **Total Population** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number of people with 2+ MM** | **Total Population** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** |
|
| Cambridge | 3,386 | 62,636 | 5.4% | 5.2% | 5.6% | 5,287 | 60,089 | 8.8% | 8.6% | 9.0% |
| East Cambridgeshire | 2,350 | 41,662 | 5.6% | 5.4% | 5.9% | 3,877 | 42,583 | 9.1% | 8.8% | 9.4% |
| Fenland | 3,739 | 46,941 | 8.0% | 7.7% | 8.2% | 5,792 | 48,520 | 11.9% | 11.7% | 12.2% |
| Huntingdonshire | 4,840 | 84,786 | 5.7% | 5.6% | 5.9% | 7,796 | 85,253 | 9.1% | 9.0% | 9.3% |
| South Cambridgeshire | 3,635 | 74,475 | 4.9% | 4.7% | 5.0% | 6,135 | 75,367 | 8.1% | 7.9% | 8.3% |
| Cambridgeshire | 17,951 | 310,500 | 5.8% | 5.7% | 5.9% | 28,887 | 311,812 | 9.3% | 9.2% | 9.4% |
| Peterborough | 6,165 | 91,355 | 6.7% | 6.6% | 6.9% | 9,596 | 93,102 | 10.3% | 10.1% | 10.5% |
| Cambridgeshire & Peterborough | 24,116 | 401,855 | 6.0% | 5.9% | 6.1% | 38,483 | 404,914 | 9.5% | 9.4% | 9.6% |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Cambridge, East Cambridgeshire, Huntingdonshire, South Cambridgeshire and Cambridgeshire have statistically significantly low prevalence of physical and mental health comorbidity compared to the Cambridgeshire and Peterborough average, for both males and females. Only two areas have statistically significantly high prevalence for this indicator, Fenland and Peterborough, and for both of these areas, prevalence is statistically significantly high for both males and females.

**Table 10: Multi-morbidity indicators, 0-24 age group, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Number of people with 2+ MM** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number of people with 3+ MM** | **Prevalence - people with 3+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number with physical & mental health comorbidity** | **Prevalence with physical & mental health comorbidity** | **Lower CI** | **Upper CI** | **Total Population** |
|
| Cambridge | 1,132 | 2.6% | 2.4% | 2.7% | 256 | 0.6% | 0.5% | 0.7% | 395 | 0.9% | 0.8% | 1.0% | 44,096 |
| East Cambridgeshire | 400 | 1.7% | 1.5% | 1.8% | 79 | 0.3% | 0.3% | 0.4% | 100 | 0.4% | 0.3% | 0.5% | 24,139 |
| Fenland | 512 | 1.9% | 1.8% | 2.1% | 103 | 0.4% | 0.3% | 0.5% | 145 | 0.5% | 0.5% | 0.6% | 26,535 |
| Huntingdonshire | 872 | 1.7% | 1.6% | 1.9% | 170 | 0.3% | 0.3% | 0.4% | 229 | 0.5% | 0.4% | 0.5% | 50,126 |
| South Cambridgeshire | 638 | 1.5% | 1.3% | 1.6% | 114 | 0.3% | 0.2% | 0.3% | 149 | 0.3% | 0.3% | 0.4% | 43,831 |
| Cambridgeshire | 3,553 | 1.9% | 1.8% | 1.9% | 723 | 0.4% | 0.4% | 0.4% | 1,018 | 0.5% | 0.5% | 0.6% | 188,727 |
| Peterborough | 1,092 | 1.8% | 1.7% | 1.9% | 221 | 0.4% | 0.3% | 0.4% | 325 | 0.5% | 0.5% | 0.6% | 60,888 |
| Cambridgeshire & Peterborough | 4,646 | 1.9% | 1.8% | 1.9% | 944 | 0.4% | 0.4% | 0.4% | 1,342 | 0.5% | 0.5% | 0.6% | 249,615 |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Within the 0-24 age group, Cambridge has statistically significantly high prevalence of people with 2+ multi-morbidities, 3+ multi-morbidities and at least one physical and one mental health multi-morbidity. South Cambridgeshire has statistically significantly low prevalence for each of these indicators and East Cambridgeshire has statistically significantly low prevalence of physical and mental health comorbidity.

**Table 11: Multi-morbidity indicators, 25-44 age group, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Number of people with 2+ MM** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number of people with 3+ MM** | **Prevalence - people with 3+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number with physical & mental health comorbidity** | **Prevalence with physical & mental health comorbidity** | **Lower CI** | **Upper CI** | **Total Population** |
|
| Cambridge | 4,369 | 10.8% | 10.5% | 11.1% | 1,670 | 4.1% | 3.9% | 4.3% | 2,204 | 5.4% | 5.2% | 5.7% | 40,584 |
| East Cambridgeshire | 2,445 | 10.5% | 10.1% | 10.9% | 912 | 3.9% | 3.7% | 4.2% | 1,170 | 5.0% | 4.8% | 5.3% | 23,226 |
| Fenland | 3,015 | 12.9% | 12.5% | 13.3% | 1,219 | 5.2% | 4.9% | 5.5% | 1,552 | 6.6% | 6.3% | 7.0% | 23,382 |
| Huntingdonshire | 4,843 | 10.7% | 10.5% | 11.0% | 1,825 | 4.1% | 3.9% | 4.2% | 2,349 | 5.2% | 5.0% | 5.4% | 45,068 |
| South Cambridgeshire | 3,626 | 9.0% | 8.7% | 9.3% | 1,261 | 3.1% | 3.0% | 3.3% | 1,674 | 4.2% | 4.0% | 4.4% | 40,270 |
| Cambridgeshire | 18,298 | 10.6% | 10.5% | 10.8% | 6,887 | 4.0% | 3.9% | 4.1% | 8,949 | 5.2% | 5.1% | 5.3% | 172,530 |
| Peterborough | 6,982 | 12.6% | 12.3% | 12.8% | 2,826 | 5.1% | 4.9% | 5.3% | 3,646 | 6.6% | 6.4% | 6.8% | 55,590 |
| Cambridgeshire & Peterborough | 25,280 | 11.1% | 11.0% | 11.2% | 9,713 | 4.3% | 4.2% | 4.3% | 12,595 | 5.5% | 5.4% | 5.6% | 228,120 |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Fenland and Peterborough both have statistically significantly high prevalence for each of the three indicators within the above table in comparison to the Cambridgeshire & Peterborough average, whereas South Cambridgeshire and Cambridgeshire have statistically significantly low prevalence for each indicator. East Cambridgeshire has statistically significantly low prevalence for two or more multi-morbidities and physical and mental health comorbidity within this age group.

**Table 12: Multi-morbidity indicators, 45-64 age group, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Number of people with 2+ MM** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number of people with 3+ MM** | **Prevalence - people with 3+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number with physical & mental health comorbidity** | **Prevalence with physical & mental health comorbidity** | **Lower CI** | **Upper CI** | **Total Population** |
|
| Cambridge | 7,366 | 31.5% | 30.9% | 32.1% | 3,934 | 16.8% | 16.4% | 17.3% | 3,084 | 13.2% | 12.8% | 13.6% | 23,379 |
| East Cambridgeshire | 6,380 | 28.5% | 27.9% | 29.1% | 3,236 | 14.4% | 14.0% | 14.9% | 2,433 | 10.9% | 10.5% | 11.3% | 22,405 |
| Fenland | 8,903 | 34.2% | 33.6% | 34.8% | 4,934 | 18.9% | 18.5% | 19.4% | 3,804 | 14.6% | 14.2% | 15.0% | 26,049 |
| Huntingdonshire | 13,434 | 28.5% | 28.1% | 28.9% | 6,838 | 14.5% | 14.2% | 14.8% | 5,158 | 10.9% | 10.7% | 11.2% | 47,153 |
| South Cambridgeshire | 10,526 | 25.9% | 25.4% | 26.3% | 5,078 | 12.5% | 12.2% | 12.8% | 3,773 | 9.3% | 9.0% | 9.6% | 40,718 |
| Cambridgeshire | 46,609 | 29.2% | 29.0% | 29.4% | 24,019 | 15.0% | 14.9% | 15.2% | 18,253 | 11.4% | 11.3% | 11.6% | 159,704 |
| Peterborough | 14,467 | 33.7% | 33.3% | 34.2% | 8,059 | 18.8% | 18.4% | 19.2% | 6,471 | 15.1% | 14.7% | 15.4% | 42,903 |
| Cambridgeshire & Peterborough | 61,076 | 30.1% | 29.9% | 30.3% | 32,078 | 15.8% | 15.7% | 16.0% | 24,724 | 12.2% | 12.1% | 12.3% | 202,607 |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

The table above illustrates a high level of disparity between areas within Cambridgeshire & Peterborough with regard to multi-morbidity indicators in the 45-64 age group. East Cambridgeshire, Huntingdonshire, South Cambridgeshire and Cambridgeshire have statistically significantly low prevalence compared to the Cambridgeshire & Peterborough average for each of the three indicators within this table, whereas Cambridge, Fenland and Peterborough have statistically significantly high prevalence for each indicator.

**Table 13: Multi-morbidity indicators, 65-84 age group, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Number of people with 2+ MM** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number of people with 3+ MM** | **Prevalence - people with 3+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number with physical & mental health comorbidity** | **Prevalence with physical & mental health comorbidity** | **Lower CI** | **Upper CI** | **Total Population** |
|
| Cambridge | 7,906 | 66.3% | 65.4% | 67.1% | 5,526 | 46.3% | 45.4% | 47.2% | 2,147 | 18.0% | 17.3% | 18.7% | 11,930 |
| East Cambridgeshire | 7,868 | 62.7% | 61.8% | 63.5% | 5,344 | 42.6% | 41.7% | 43.4% | 1,985 | 15.8% | 15.2% | 16.5% | 12,555 |
| Fenland | 11,386 | 67.2% | 66.5% | 67.9% | 8,048 | 47.5% | 46.8% | 48.3% | 3,220 | 19.0% | 18.4% | 19.6% | 16,932 |
| Huntingdonshire | 15,133 | 62.3% | 61.7% | 62.9% | 10,251 | 42.2% | 41.6% | 42.8% | 3,888 | 16.0% | 15.5% | 16.5% | 24,300 |
| South Cambridgeshire | 13,125 | 60.8% | 60.2% | 61.5% | 8,739 | 40.5% | 39.9% | 41.2% | 3,192 | 14.8% | 14.3% | 15.3% | 21,574 |
| Cambridgeshire | 55,418 | 63.5% | 63.2% | 63.8% | 37,907 | 43.4% | 43.1% | 43.8% | 14,432 | 16.5% | 16.3% | 16.8% | 87,291 |
| Peterborough | 14,626 | 67.4% | 66.7% | 68.0% | 10,376 | 47.8% | 47.1% | 48.5% | 4,238 | 19.5% | 19.0% | 20.1% | 21,711 |
| Cambridgeshire & Peterborough | 70,044 | 64.3% | 64.0% | 64.5% | 48,283 | 44.3% | 44.0% | 44.6% | 18,669 | 17.1% | 16.9% | 17.4% | 109,002 |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Multi-morbidity and physical and mental health comorbidity prevalence within the 65-84 age group is similar to that observed in the 45-64 age group, with East Cambridgeshire, Huntingdonshire, South Cambridgeshire and Cambridgeshire having statistically significantly low prevalence compared to the Cambridgeshire & Peterborough average whereas Fenland and Peterborough have statistically significantly high prevalence. Cambridge has statistically significantly high prevalence for two or more and three or more multi-morbidities within this age group.

**Table 14: Multi-morbidity indicators, 85+ age group, Cambridgeshire Districts, Cambridgeshire, Peterborough and Cambridgeshire and Peterborough, 2011**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Number of people with 2+ MM** | **Prevalence - people with 2+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number of people with 3+ MM** | **Prevalence - people with 3+ MM, All Ages** | **Lower CI** | **Upper CI** | **Number with physical & mental health comorbidity** | **Prevalence with physical & mental health comorbidity** | **Lower CI** | **Upper CI** | **Total Population** |
|
| Cambridge | 2,236 | 81.7% | 80.2% | 83.1% | 1,778 | 65.0% | 63.2% | 66.7% | 844 | 30.9% | 29.1% | 32.6% | 2,736 |
| East Cambridgeshire | 1,537 | 80.0% | 78.2% | 81.8% | 1,207 | 62.9% | 60.7% | 65.0% | 539 | 28.1% | 26.1% | 30.1% | 1,920 |
| Fenland | 2,098 | 81.9% | 80.3% | 83.3% | 1,664 | 64.9% | 63.1% | 66.7% | 810 | 31.6% | 29.8% | 33.4% | 2,563 |
| Huntingdonshire | 2,755 | 81.2% | 79.9% | 82.5% | 2,184 | 64.4% | 62.8% | 66.0% | 1,013 | 29.9% | 28.3% | 31.4% | 3,392 |
| South Cambridgeshire | 2,778 | 80.5% | 79.2% | 81.8% | 2,190 | 63.5% | 61.9% | 65.1% | 981 | 28.4% | 27.0% | 30.0% | 3,449 |
| Cambridgeshire | 11,404 | 81.1% | 80.5% | 81.7% | 9,023 | 64.2% | 63.4% | 65.0% | 4,187 | 29.8% | 29.0% | 30.5% | 14,060 |
| Peterborough | 2,754 | 81.8% | 80.5% | 83.1% | 2,192 | 65.2% | 63.5% | 66.7% | 1,082 | 32.1% | 30.6% | 33.7% | 3,365 |
| Cambridgeshire & Peterborough | 14,158 | 81.2% | 80.7% | 81.8% | 11,216 | 64.4% | 63.7% | 65.1% | 5,269 | 30.2% | 29.6% | 30.9% | 17,425 |

**Source: South West Local Knowledge and Intelligence Service/Public Health England**

|  |
| --- |
| **Key** |
| Statistically significantly lower prevalence than Cambridgeshire & Peterborough |
| Statistically similar prevalence to Cambridgeshire & Peterborough |
| Statistically significantly higher prevalence than Cambridgeshire & Peterborough |

Within the 85+ age group, 81.2% of people in Cambridgeshire and Peterborough have 2+ multi-morbidities, 64.4% of people have 3+ multi-morbidities and 30.2% have at least one physical and at least one mental health multi-morbidity. No areas have statistically significant differences in prevalence compared to the Cambridgeshire & Peterborough average.

**Appendix A: List of 40 conditions included in the Barnett et. al definition of multi-morbidity**

| **Condition** | **Physical/mental health condition** |
| --- | --- |
| Alcohol problems | Mental |
| Anorexia or bulimia | Mental |
| Anxiety & other neurotic, stress related & somatoform disorders | Mental |
| Dementia | Mental |
| Depression | Mental |
| Learning disability | Mental |
| Other psychoactive substance misuse | Mental |
| Schizophrenia (and related non-organic psychosis) or bipolar disorder | Mental |
| Asthma (currently treated) | Physical |
| Atrial fibrillation | Physical |
| Blindness & low vision | Physical |
| Bronchiectasis | Physical |
| Chronic kidney disease | Physical |
| Chronic liver disease | Physical |
| Chronic obstructive pulmonary disease | Physical |
| Chronic sinusitis | Physical |
| Coronary heart disease | Physical |
| Diabetes | Physical |
| Diverticular disease of intestine | Physical |
| Epilepsy (currently treated) | Physical |
| Glaucoma | Physical |
| Hearing loss | Physical |
| Heart failure | Physical |
| Hypertension | Physical |
| Inflammatory bowel disease | Physical |
| Irritable bowel syndrome | Physical |
| Migraine | Physical |
| Multiple sclerosis | Physical |
| New diagnosis of cancer in last 5 years | Physical |
| Painful condition | Physical |
| Parkinson's disease | Physical |
| Peripheral vascular disease | Physical |
| Prostate disorders | Physical |
| Psoriasis or eczema | Physical |
| Rheumatoid athritis, other inflammatory polyarthropathies & systematic connective tissue disorders | Physical |
| Stroke & transcient Ischaemic attack | Physical |
| Thyroid disorders | Physical |
| Treated constipation | Physical |
| Treated dyspepsia | Physical |
| Viral Hepatitis | Physical |
| **Source: Epidemiology of multimorbidity and impliactions for health care, research and medical education: a cross-sectional study; Barnett et. Al, 2012** |  |

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1. https://www.nice.org.uk/guidance/qs153 [↑](#footnote-ref-1)
2. https://www.ons.gov.uk/ons/rel/hsq/health-statistics-quarterly/no--31--autumn-2006/measuring-deprivation-in-england-and-wales-using-2001-carstairs-scores.pdf [↑](#footnote-ref-2)