

## 7. ADULTS

### 7.7 Multi-Morbidity in Buckinghamshire

#### 7.7.1 *The impact of multi-morbidity*

Multi-morbidity is commonly defined as the presence of two or more chronic medical conditions in an individual which can present several challenges in care<sup>1</sup>. The prevalence of multi-morbidity increases with age and older people with multiple co-morbid conditions need proper medication and care to prevent unwanted hospital episodes as well as exacerbation of symptoms as they are frequently under treatment through polypharmacy (on more than two medications daily). Effective understanding of local demographics and robust assessment of current and future health and care needs is essential to ensure continuous improvement in quality and outcomes in these patients, as unwanted hospital admissions as well as high need for primary and community care has an impact on capacity and finances in the local health care economy.

#### 7.7.2 *Prevalence*

Health and Social Care Information Centre (HSCIC) publishes disease register sizes at general practice and CCG (Clinical Commissioning Group) level annually from the Qualities and Outcomes Framework (QOF) used in primary care. This is useful in understanding the number of patients with specific long term conditions currently registered with practices. The number of patients with specific long term conditions registered and monitored in primary care by general practices in Buckinghamshire in 2014/15 are presented in the table below. Please note Table 1 presents disease register sizes for each disease or condition. So patients on the heart failure register who may also have asthma will be counted in both the disease registers in the table below. Hence adding the data for all registers will not give the total number of people with LTCs in the population. This is the limitation of the data obtained from QOF which does not provide information by age or gender or co-morbidities but provides counts for each disease register separately.

As shown in table 1, there are 71,877 patients with hypertension and 24,924 patients registered with diabetes. The % prevalence varies for certain conditions when comparing Buckinghamshire with England but are more or less similar. The 2014/15 data shows a relative increase in prevalence over 2013/14 which is expected due to

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<sup>1</sup> Wallace et. al (2015) Managing patients with multi-morbidity in primary care. Clinical review. *BMJ* 2015; 350 :h176 doi: <http://dx.doi.org/10.1136/bmj.h176> (Published 20 January 2015)

population increase and increased rate of detection of certain conditions in primary care.

**Table 1 Primary care disease register counts in Buckinghamshire for 2014/15 and % prevalence in Buckinghamshire and England in 2013/14 and 2014/15**

Year	Disease Register Size 2014-15	% QOF Prevalence 2014/15 - Bucks	% QOF Prevalence 2014-15 England	% QOF Prevalence 2013-14 - Bucks	% QOF Prevalence 2013-14 England
<b>Hypertension</b>	71877	13.4%	13.8%	13.2%	13.7%
<b>Asthma</b>	33337	6.2%	6.0%	6.1%	5.9%
<b>Depression (18+)</b>	30430	5.7%	7.3%	5.0%	6.5%
<b>Diabetes (17+)</b>	24924	5.85%	6.4%	5.66%	6.2%
<b>Coronary Heart Disease</b>	15903	3.0%	3.2%	3.0%	2.8%
<b>Chronic Kidney disease (18+)</b>	13923	2.6%	4.1%	2.5%	4.0%
<b>Cancer</b>	13272	2.5%	2.3%	2.3%	2.1%
<b>Atrial fibrillation</b>	9605	1.8%	1.6%	1.7%	1.6%
<b>Stroke</b>	8655	1.6%	1.6%	1.6%	1.7%
<b>COPD*</b>	7318	1.4%	1.8%	1.3%	1.8%
<b>Mental Health</b>	3809	0.7%	0.9%	0.7%	0.9%
<b>Dementia</b>	3732	0.7%	0.7%	0.5%	0.6%
<b>Heart Failure</b>	3053	0.6%	0.7%	0.6%	0.7%
<b>Epilepsy</b>	2873	0.5%	0.8%	0.5%	0.8%
<b>Learning Disabilities</b>	1905	0.4%	0.4%	0.3%	0.5%

\* Chronic Obstructive Pulmonary Disease (COPD)

Source: Health and Social Care Information Centre, Qualities and Outcomes framework, 2014/15

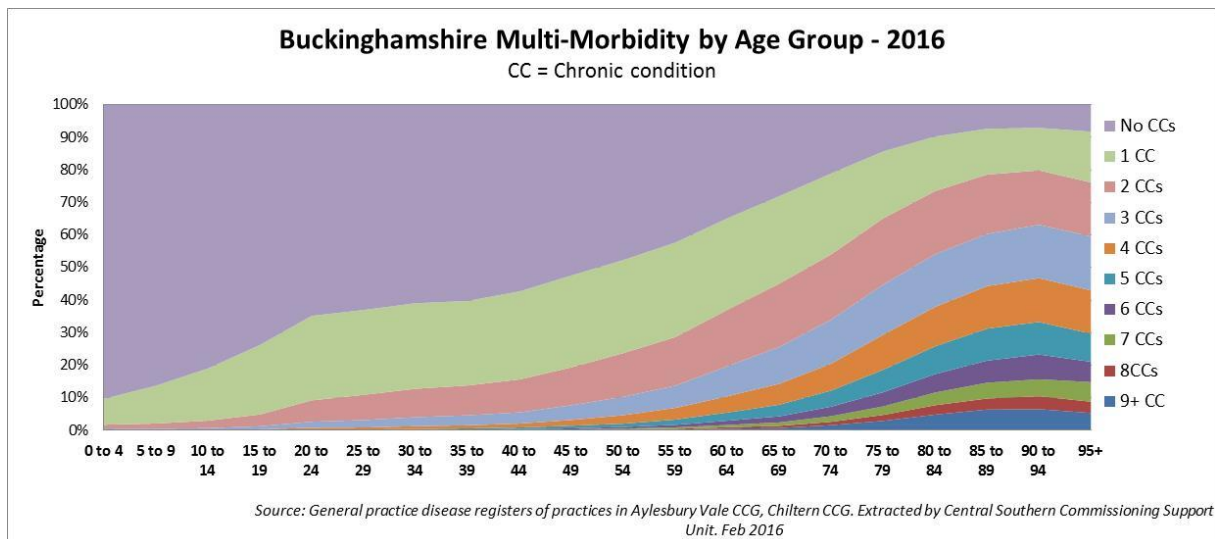
In order to understand multi-morbidities at patient level, general practice disease registers were accessed via the Central Southern commissioning support unit (CSU) to extract anonymised data related to patients with multiple long term conditions by age, to understand the prevalence of multi-morbidity in Aylesbury Vale CCG and Chiltern CCG general practices.

The data shows that out of the total of 530,595 patients registered with general practices in Buckinghamshire, 244,719 individuals have either one or more chronic condition that needs continuous monitoring and care via primary care.

Around half or 50.5% (123,574) patients with a chronic condition, have a single chronic condition while 49.5% (121,145) have two or more chronic conditions. Data shows that 3,132 patients in Buckinghamshire are registered by GPs as having 9 chronic conditions. (Figure 1) Majority of patients with multi-morbidity are aged 50 years or more with around 82% patients with 7 or 8 or 9 chronic conditions aged 65

and over. The more conditions a person has the greater the need for management and compliance as these are deemed as complex patients who may need urgent care resulting in a necessary or unwanted hospital admission.

**Figure 1 Multi-morbidity in patients registered with general practices in Aylesbury Vale CCG and Chiltern CCG in Buckinghamshire by age. Feb 2016**



Source: Central Southern Commissioning Support Unit, General Practice disease registers, Feb 2016

Frailty has been described in the sub-section on frailty as well as in the 'Burden of Disease subsections of the Joint Strategic Needs Assessment (JSNA). In summary, based on evidence and estimates, in 2015, around 10,700 Bucks residents are estimated to be frail elderly meaning those with more than one long term condition or those with a condition that needs assistance with activities of daily living (approximately 11% of the elderly population\*)

By 2020, the estimated frail elderly population is expected to rise to 12,000 means a rise of 1300. Evidence shows that the frail elderly population is 3 times more likely to end up in a hospital compared to the non-frail older population aged 65 and over. Around 42% elderly population are considered as pre-frail which equates to around 45,000 people estimated to be pre-frail in Buckinghamshire by 2020 compared to 40,000 in 2015.

### 7.7.3 Comparisons

NHS England have produced information packs<sup>i</sup> to support CCGs and public health in understand the profiles of complex patients that can have an impact on health care utilisation as well as patients' health and wellbeing outcomes.

The 2016 packs show that, nationally, complex patients comprise 15% of spend on inpatient admissions. The average complex patient has 6 admissions per year for

three different conditions (based on programme budget categories). 59% of these complex patients are aged 65 or over. 37% of these complex patients are aged 75 or over. 13% of these complex patients are aged 85 or over. 92% of the complex patients also had an outpatient attendance during the year. Those patients had 13 attendances a year on average. 81% of the complex patients also had an A&E attendance during the year. Those patients had 4 attendances a year on average.

According to the analysis done by NHS England, in Aylesbury Vale CCG, most spend is on circulation, cancer and gastro-intestinal. 57% of these complex patients are aged 65 and over. 33% are aged 75 and over. 12% are aged 85 or over. 72% had an A&E attendance with 10% having more than 5 attendances. Average patient had 3 attendances a year.

In Chiltern CCG, most spend is on circulation, cancer and gastro-intestinal. 61% of these complex patients are aged 65 and over. 38% are aged 75 and over. 15% are aged 85 or over. 73% had an A&E attendance with 13% having more than 5 attendances. Average patient had 3 attendances a year.

## **Qualities and Outcomes Framework, 2014/15**

Analysis of 2014/15 results from the Qualities and Outcomes Framework (QOF) published by the Health Social Care Information reveals certain areas for improvement with regard to management of long term conditions by general practices in both Aylesbury Vale CCG and Chiltern CCG. Highlights of findings are presented below.

### **ENGLAND HIGHLIGHTS**

- The highest prevalence rates are for Hypertension (13.8%), Obesity (9%) and Depression (7.3%).
- The largest year on year differences in register numbers are in cardiovascular disease (decrease) and Depression (increase) – These could be due to changes to QOF indicators.
- The highest achievements were for Obesity and Epilepsy.
- Average exception rate across all indicators is 5.5%.
- Cardiovascular 'disease' has the largest number of exceptions at 30%.
- Mental health and neurology is the 'group' with the largest number of exceptions at 14.6%.

### **BUCKINGHAMSHIRE HIGHLIGHTS**

- In Buckinghamshire CCGs (Aylesbury Vale CCG (AVCCCG) and Chiltern CCG (CCCG)), the highest prevalence is that of Hypertension (13.4%),

Asthma (6.2%), Diabetes in 17+ population (5.85%) then Depression (5.7%) (Note this could be due to changes to QOF).

- The highest increases in disease register sizes over past five years are in Dementia (66%), Cancer (46%) and decrease in Depression register size.
- Achievement of QOF outcomes net of exceptions (meaning excluding exceptions) is generally high for both CCGs. Exceptions need to be accounted for while judging practice and CCG performance to understand areas for improvement.
- Average exception rate across all indicators is 10.1% for CCCG and 13% for AVCCG.
- Highest exception rate was in Depression (AVCCG-17.8%; CCCG-26.4%) followed by Cancer (AVCCG-17.8%; CCCG-14.3%)
- Highest number of total exceptions were in Diabetes, CHD and Hypertension registers.
- There is no co-relation between average deprivation score of practices and their QOF achievement for selective indicators.

Following indicators were reviewed from QOF to understand management of certain LTC.

#### **QOF INDICATORS REVIEWED FROM HSCIC – 2014/15 results**

**AF005:** In those patients with atrial fibrillation in whom there is a record of a CHADS2 score of 1, the percentage of patients who are currently treated with anti-coagulation drug therapy or anti-platelet therapy

**CHD002:** The percentage of patients with coronary heart disease in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less

**CHD005.** The percentage of patients with coronary heart disease with a record in the preceding 12 months that aspirin, an alternative anti-platelet therapy, or an anti-coagulant is being taken

**CKD003:** The percentage of patients on the CKD register with hypertension and proteinuria who are currently treated with an ACE-I or ARB

**COPD003:** The percentage of patients with COPD who have had a review, undertaken by a healthcare professional, including an assessment of breathlessness using the Medical Research Council dyspnoea scale in the preceding 12 months

**CS002:** The percentage of women aged 25 or over and who have not attained the age of 65 whose notes record that a cervical screening test has been performed in the preceding 5 years

**CVD-PP001:** In those patients with a new diagnosis of hypertension aged 30 or over and who have not attained the age of 75, recorded between the preceding 1 April to 31 March (excluding those with pre-existing CHD, diabetes, stroke and/or TIA), who have a

**DM003:** The percentage of patients with diabetes, on the register, in whom the last blood pressure reading (measured in the preceding 12 months) is 140/80 mmHg or less

**DM008:** The percentage of patients with diabetes, on the register, in whom the last IFCC-HbA1c is 64 mmol/mol or less in the preceding 12 months

**HYP006:** The percentage of patients with hypertension in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less

**SMOK004:** The percentage of patients aged 15 or over who are recorded as current smokers who have a record of an offer of support and treatment within the preceding 24 months

**STIA007:** The percentage of patients with a stroke shown to be non-haemorrhagic, or a history of TIA, who have a record in the preceding 12 months that an anti-platelet agent, or an anti-coagulant is being taken

The results for **Aylesbury Vale CCG** general practices show -

- The largest variation in achievement amongst practices in 2014/15 was in -
  - SMOK4 - % Smokers offered support & treatment (66% - 99%)
  - DM8 - % DM patients in whom last IFCC-HbA1c is 64 mmol or less (63% - 89%)
  - DM3 - % DM patients in whom BP is 140/80 (62% - 82%)
  - CKD3 - % CKD patients with hypertension and proteinuria who are currently treated with an ACE-I or ARB (75% - 100%)
- Largest variation in exception rate amongst practices was for CKD3, STIA7, DM8, CS2, COPD3, AF5.

The results for **Chiltern CCG** general practices show -

- The largest variation in achievement amongst practices in 2014/15 was in -
  - SMOK4 - % Smokers offered support & treatment (61% - 99%)
  - DM3 - % DM patients in whom BP is 140/80 (53% - 89%)
  - COPD3 - % COPD patients who had a review & assessment (69% - 100%)
  - CKD3 - % CKD patients with hypertension and proteinuria who are currently treated with an ACE-I or ARB (75% - 100%)
- Largest variation in exception rate amongst practices was for CKD3 followed by COPD3, DM8, AF5, DM3

#### *7.7.4 Demand – Current pressures, Future projections*

Multi-morbidity leading to complex patients and increased demand on health care is important to understand in order to plan and prepare services to manage demand. Literature review and work done in Buckinghamshire to understand the health care

need in the elderly shows that majority of patients aged over 75 years in the UK have three or more long term medical conditions (co-morbidities) such as hypertension, diabetes, stroke, arthritis, cancer, dementia, including frailty / disability which makes them vulnerable and result in increased health care use. With ageing population this need will increase depending on local models of health care and population life expectancy and disability-free life expectancy.

Nationally, on average 1 in 3 adults are obese and 1 in 2 people over 80 fall each year resulting in ambulance call outs to homes and consequent hospital admission. 1 in 6 people over 80 are at risk of having Dementia leading to frailty and need for health care. Dementia and Alzheimer's poses its own complication if the patient has other long term conditions in addition to Dementia.

There is increased use of primary care and prescriptions in the elderly. Unplanned hospital admissions account for 68% of total hospital emergency bed usage in the NHS in the elderly. (NHS England). 80% of older patients stay in hospital more than 14 days. Increase in hospital admissions during winter and excess winter deaths continue to be a risk for the elderly population. Hospitalisation raises the risk of health care acquired infections especially in the immuno-compromised elderly population. Increase in hospital admissions in older adults is related to long term conditions such as - exacerbation of COPD, diabetes (hyper or hypoglycaemia) or musculoskeletal related conditions eg joint(knee/hip) replacement means more beds and more bed-days needed.

The median age of people using intermediate care or reablement services is 83<sup>ii</sup>. Increased hospital admissions leads to increased need for intermediate care (nursing) post discharge from acute hospital before discharge to a residential home or patient's home during the step-down approach. Spend on non-elective admissions, elective admissions, community health services and Adult social care treble after the age of 65.

Above summary is useful in understanding the likely demand in the future as the population ages and life expectancy increases.

#### *7.7.5 Horizon scanning*

National Institute for Care and Excellence (NICE) is currently working on a guideline to include clinical assessment, prioritisation and management of care for patients with commonly occurring multi-morbidities. This guideline is due for publication in September 2016. This guideline is expected to offer useful recommendations on clinically effective and cost-effective care to maximise achievement of outcomes in patients with multiple morbidities.

### 7.7.6 Conclusions

Multi-morbidity can have a significant impact on the health of an individual and is also an important factor for consideration with regard to primary and secondary care needs of the individual and the population affected. Prevalence of multi-morbidity in the population increases with age (especially after 50) and is commonly a cause of frailty in individuals which make them vulnerable often needing constant care, medication and support. Management of patients with multi-morbidity is important to prevent unwanted episodes needing urgent care or even emergency hospitalisation which has an impact on the health outcome of the individual as well as the health service. Patients with multi-morbidity often become complex patients consuming urgent and secondary care services more often than non-complex patients. The population growth in Buckinghamshire – especially in the older age group (80+) – suggests more number of people are projected to have multi-morbidity and there is more demand on health and social care services, which needs to be taken into account by health and care service planners along with reducing health inequalities and improving access and care.

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### References

<sup>i</sup> NHS England. Commissioning for Value Packs. 2016. Available from <https://www.england.nhs.uk/resources/resources-for-ccgs/comm-for-value/#cfv16>

<sup>ii</sup> The King's Fund (2014). Making our health and care systems fit for an ageing population. Oliver et.al. © The King's Fund 2014.