



## **Psychological Interventions in Physical Health Care: The need and the Economic Case**

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## Long term conditions in Scotland

- Long term conditions, or chronic diseases, are conditions that last a year or longer, impact on a person's life, and may require ongoing care and support. The definition does not relate to any one condition, care group or age category, and can cover mental as well as physical health issues. Common long term conditions include epilepsy, diabetes, some mental health problems, heart disease, chronic pain, arthritis, inflammatory bowel disease, asthma and chronic obstructive pulmonary disease (COPD), HIV.
- Around 2 million people in Scotland have at least one long term condition, and one in four adults over 16 years reported some form of long term illness, health problem or disability, and one in five have chronic pain.
- Long term conditions become more common with age. By the age of 65, nearly two-thirds of people will have developed a long term condition. Older people are also more likely to have more than one long term condition: 27% of people aged 75-84 have two or more such conditions. However, more people under the age of 65 years in Scotland have multiple long term conditions, than the number over 65 years.
- The human costs and the economic burden of long term conditions for health and social care are profound. Sixty per cent of all deaths are attributable to long term conditions and they account for 80% of all GP consultations. People with long term conditions are twice as likely to be admitted to hospital, will stay in hospital disproportionately longer and account for over 60% of hospital bed days used. Most people who need long term residential care have complex needs from multiple long term conditions.
- There are clear links between long term conditions, deprivation, lifestyle factors and the wider determinants of health. People living with a long term condition are likely to be more disadvantaged across a range of social indicators, including employment, educational opportunities, home ownership and income. Someone living in a disadvantaged area is more than twice as likely to have a long term condition as someone living in an affluent area, and likely to have developed multiple long term conditions 10 years before those in affluent areas, (Mercer and Watt (2007)).
- People living with long term conditions are also more likely to experience psychological problems.

## 1. Psychological Problems

Research evidence shows that people with **long-term conditions are two to three times more likely** to experience mental health problems than the general population. There is strong evidence for an association with cardiovascular diseases, diabetes, chronic obstructive pulmonary disease (COPD) and musculoskeletal disorders (see box below).

There is also evidence for higher than usual levels of psychological problems among people with other conditions, including asthma, arthritis, cancer and HIV/Aids (Chapman et al 2005; Sederer et al 2006). In addition to the relationship with diagnosable mental health problems, there is an independent association between physical illness and emotional distress (Delahanty et al 2007).

- Depression is two to three times more common in a range of cardiovascular diseases including cardiac disease, coronary artery disease, stroke, angina, congestive heart failure, or following a heart attack (Fenton and Stover 2006; Benton et al 2007; Gunn et al 2010; Welch et al 2009). Prevalence estimates vary between around 20 per cent and 50 per cent depending on the conditions studied and the assessment approach used, but the two- to threefold increase compared with controls is consistent across studies. Anxiety problems are also common in cardiovascular disease (Goodwin et al 2009).
- People living with diabetes are two to three times more likely to have depression than the general population (Fenton and Stover 2006; Simon et al 2007; Vamos et al 2009). As observed for cardiovascular disease, prevalence estimates vary but the proportionate increase is consistent (Anderson et al 2001). There is also an independent association with anxiety.
- Mental health problems are around three times more prevalent among people with chronic obstructive pulmonary disease than in the general population (NICE 2010). Anxiety disorders are particularly common; for example panic disorder is up to 10 times more prevalent than in the general population (Livermore et al 2010).
- Depression is common in people with chronic musculoskeletal disorders (Sheehy et al 2006). Up to 33 per cent of women and more than 20 per cent of men with all types of arthritis may have co-morbid depression (Theis et al 2007). For example more than one in five people over the age of 55 with chronic arthritis of the knee have been reported to have co-morbid depression (Sale et al (2008)).

*Table from King's Fund Publication "Long term conditions and Mental Health – the Cost of Co Morbidities" (Feb 2012)*

These co morbidities are further compounded by health inequality, with those in areas of high deprivation more likely to have multiple co morbidity, with one of these more likely to be depression, (Mercer and Watt 2007). Mercer and Watt (2007) found that the prevalence of probable mental health problems among people in deprived areas of Glasgow with three or more long-term conditions was between 40 and 50 per cent.

## **1.1 What are the consequences of people with physical health conditions having co-morbid psychological problems?**

### **1.1.1 For People with Long-term Conditions**

There are three ways in which co-morbid anxiety and depression impact; by leading to poorer clinical outcomes and prognosis, by contributing to adverse health behaviour and poor self care, and overall lower quality of life.

#### **Outcomes**

Outcomes from **cardiovascular care** are poorer for patients with co-morbid mental health problems, even after taking severity of cardiovascular disease and patient age into account. Cardiovascular patients with depression experience 50 per cent more **acute exacerbations** per year (Whooley et al 2008) and have **higher mortality rates** (Katon 2003). A meta-analysis suggested that depression leads to a two- to threefold increase in negative outcomes for people with acute coronary syndromes (Barth et al 2004). For example, one study found that depression increases mortality rates after heart attack by 3.5 times (Lesperance et al 2002), while another found a twofold increase in mortality after heart bypass surgery over an average follow-up period of five years (Blumenthal et al 2003). Patients with chronic heart failure are eight times more likely to die within 30 months if they have depression (Junger et al 2005).

People with **diabetes** who also have co-morbid mental health problems are at increased risk of poorer health outcomes and premature mortality (Molosankwe et al (2012)). For example, Katon et al (2004) reported that people with diabetes and co-morbid depression have 36–38 per cent increased risk of all-cause mortality over a two-year follow-up period. Co-morbid mental health problems are associated with poorer glycaemic control, more diabetic complications and lower medication adherence (Das-Munshi et al 2007).

Psychological problems can also have an impact on symptoms and outcomes for people **with COPD**. Independent of COPD severity, co-morbid mental health problems are associated with worse health status and breathlessness (Felker et al 2010). There is some evidence that depression increases mortality rates from COPD, though this is not observed in all studies (Wilson 2006). Recent analysis of the United Kingdom General Practice Research Database reported that mortality rates for individuals with co-morbid asthma and depression were twice the level among those with asthma alone (Walters et al 2011).

#### **Adverse health behaviours and poorer self-care**

A significant factor in the explanation for poorer clinical outcomes is that co-morbid psychological problems can reduce a person's ability to actively manage their own

physical condition, and are associated with unhealthy behaviours such as smoking. Self-management is at the core of effective treatment for long-term conditions – Scottish Government has put self management at the centre of the policy for the approach to long term conditions (Self-Management Strategy for Long-term Conditions in Scotland 2008).

Self-management can be impeded by poor mental health, which can reduce the motivation and energy needed for self-management, and lead to poorer adherence to treatment plans (DiMatteo et al 2000). For similar reasons psychological problems are also associated with low attendance rates for medical appointments. For **cardiac patients**, depression has been shown to increase adverse health behaviours (e.g. physical inactivity) and decrease adherence to self-care regimens such as smoking cessation, dietary changes and cardiac rehabilitation programmes (Benton et al 2007; Katon 2003). One study found that adverse behaviours explained much of the increase in cardiovascular events among depressed patients (Whooley et al 2008).

Co-morbid psychological problems lead to greater difficulties with **diabetes self-care** (Das-Munshi et al 2007) and are associated with poorer dietary control and adherence to medication (Vamos et al 2009). Similarly, non-compliance with medication is higher among **COPD** patients with depression than those without. A review found that patients with a range of medical conditions are three times less likely to take medications, as recommended, if they also have depression (DiMatteo et al 2000).

### **Quality of life**

There is evidence that quality of life for those with some co-morbid mental and physical health problems is considerably worse compared with the quality of life for people with two or more physical health problems. Data from the World Health Survey (based on 245,404 participants in 60 countries, Mossavi et al 2007) reported a lower quality of life score than for two or more long-term physical health conditions. This suggests that the burden of mental health problems, in comparison to the physical health conditions, is greater in terms of impact on day to day living.

There is increasing evidence that co-morbid mental health problems can exacerbate the level of **functional disability** experienced by people with long-term conditions (Molosankwe et al (2012)). One survey in Canada reported much higher risks of functional disability in people with long-term conditions and depression compared with people with depression or long-term conditions alone (Schmitz et al 2007).

Some studies indicate that the presence of co-morbid psychological problems can have a greater effect on the **functional status** and quality of life of people with long-term conditions than the level of severity of their physical illness. For example, the presence of depression or anxiety can have a larger impact than COPD severity on functional status and is correlated with impaired **quality of life** more closely than physiological markers such as lung function, (Yohannes et al 2010). Similarly in cardiovascular diseases, depressive symptoms can have a bigger impact on quality of life than severity of cardiac problems (de Jonge et al 2006).

## 1.1.2 For Health Care Systems

### Increased service use

Given the significant impact on prognosis, it is unsurprising that co-morbid psychological problems also substantially increase patients' use of health services for their physical problems. Depression, for example, is associated with an increase in **rehospitalisation rates** in cardiovascular disease – for patients with chronic heart failure the **emergency admission rates** are two to three times higher (Himmelhoch et al 2004; Jiang et al 2001; Fenton and Stover 2006).

A UK survey found that people with co-morbid mental health problems and diabetes experienced more hospital admissions and GP consultations for physical complaints (Das-Munshi et al 2007). International studies report similar findings, for example that the presence of mental health problems increases risk of admission by 2.8 times, causes slight increases in length of stay, and doubles the use of outpatient services (Krein et al 2006; Vamos et al 2009).

There is also evidence of increased service use in COPD. For example, COPD patients with co-morbid psychological problems have more than 50 per cent more acute exacerbations per year (Laurin et al 2009), experience higher rates of hospitalisation, and in one study spent twice as long in hospital as those without mental health problems (Yellowlees et al 1987).

### Health Service Costs

Increased service use translates into substantial additional costs. There is strong evidence that by interacting with and exacerbating physical illnesses, co-morbid mental health problems significantly increase the costs of providing care to people with long-term conditions.

An analysis of USA national claims data for more than nine million people showed that patients with long-term conditions, who were also receiving treatment for depression or anxiety, had average monthly medical costs that were between 33 per cent and 169 per cent higher over a range of conditions. Importantly, these costs excluded direct expenditure on mental health services (Melek and Norris 2008).

Similarly, claims data from Colorado Access (a not-for-profit Medicaid health plan) showed that depression was associated with increased total annual medical costs for people with diabetes, asthma and congestive heart failure by 103 per cent, 253 per cent and 37 per cent respectively (Thomas et al 2006).

This relationship persists in the case of people with multiple long-term conditions. Claims data from Beacon Health Strategies for around six million people show that costs increase with the number of long-term conditions, but for all groups the effect of psychological problems in addition is to **roughly double** total medical costs.

The association between psychological problems and higher costs could in part be accounted for by severity of physical disease – the sickest, most expensive patients being the most likely to experience mental health problems.

While it is true that psychological problems are more common among the more severely ill, several studies have found that the relationship between poor mental health and costs is broadly consistent across all levels of medical severity, and persists after adjusting for clinical and demographic variables (Welch et al 2009; Unutzer et al 2009). For example, for USA patients on a Medicare programme for people with diabetes, congestive heart failure or both, depression was associated with 48 per cent higher annual healthcare costs after adjustment (compared to 68 per cent before adjustment). The proportionate increase in costs was similar – between 54 per cent and 81 per cent – for all quartiles of medical severity (Unutzer et al 2009).

This finding, that the relationship persists after adjustment, suggests that the presence of mental health problems is responsible for a significant part of the additional health costs. Importantly, the **increased cost is not accounted for by the additional costs of the mental health treatment.**

Several other international studies have found that after controlling for severity of physical illness, co-morbid psychological problems are associated with an increase in medical costs of at least 45 per cent. This includes increased costs from use of primary care, A&E, pharmacy, laboratory and x-ray examinations, outpatients and inpatients (Katon 2003).

For cardiovascular inpatients in Germany, psychiatric co-morbidity increased average length of stay from 8.9 days to 13.2 days, with total costs increasing by 49 per cent (Hochlehnert et al 2011).

A systematic review found consistent evidence that co-morbid depression is associated with increased costs in diabetes (Hutter et al 2010). Gilmer et al (2005) found that costs over a three-year period were 48 per cent higher, while Simon et al (2005) found that costs over six months were 70 per cent higher.

Ciechanowski et al (2000) found that depression increased total costs over six months by between 54 and 88 per cent, depending on severity of depressive symptoms. In each of these cases these measurements controlled for diabetes severity and other variables.

## 1.2 How much do co-morbid psychological problems cost the NHS?

Overall, the international research shows that co-morbid psychological problems are a major determinant of overall costs, typically associated with a 45–75 per cent increase in service costs for long-term physical health conditions. This is seen across studies and across a range of different long-term conditions. Importantly, these estimates are based on costs increases observed after adjusting for severity of physical disease.

Taking these figures along with the prevalence estimates, it can be calculated that between 12 per cent and 18 per cent of all expenditure on long-term conditions is linked to poor psychological wellbeing. The more conservative of these figures equates to around £1 in every £8 spent on long-term conditions.

International evidence suggests that most of this excess cost will be associated with the most complex patients whose long-term conditions are most severe or who have multiple co-morbidities (Unutzer et al 2009).

### **Wider costs**

There is good evidence that people with long-term conditions and psychological health needs are less likely to be in employment than those with physical illness alone, and the productivity of those in employment is reduced. Studies show a clear interaction between mental and physical health status on employment, for example people with severe diabetic complications and poor psychological health show high levels of work disability (Von Korff et al 2005).

In a USA study employees with a medical condition and depression took twice as many sickness absence days as those without a co-morbid mental health problem (Druss et al 2000).

### **1.3. Can providing psychological care help?**

There is growing evidence to suggest that supporting the psychological health needs of people with long-term conditions more effectively can lead to improvements in both mental and physical health. For example, addressing the psychological needs of people with diabetes can improve clinical outcomes, quality of life, relationships with health care professionals and carers, dietary control and overall prognosis (NHS Diabetes and Diabetes UK 2010; Alum et al 2008). It can also reduce the excess costs associated with co-morbidity.



## **Integrating psychological approaches into chronic disease management programmes**

For those identified as having symptoms of poor mental health, standard interventions such as antidepressants or cognitive behavioural therapy (CBT) can be effective (Fenton and Stover 2006; Yohannes *et al* 2010, Ciechanowski *et al* 2000). This can lead to reduced use of other services. For example, recent research in the United Kingdom found that referral to psychological therapy was associated with **reduced emergency department attendance** (de Lusignan *et al* 2011), while a meta-analysis found that psychological interventions in hospitals and other settings **reduced length of stay** by 2.5 days and **overall health care costs** per patient by about 20 per cent (Chiles *et al* 1999). All of which are important standards in the suite of Scottish Government HEAT targets.

However, treating a co-morbid mental health problem by itself does not always translate into improved physical symptoms or lower mortality from physical illness (Cimpean and Drake 2011; Benton *et al* 2007; Perez-Parada 2011). More significant effects can be gained by **integrating treatment for psychological and physical health needs**, rather than overlaying psychological interventions on top of existing treatment protocols.

A growing evidence base suggests that more integrated ways of working, with collaboration between psychologists and other professionals, offer the best chance of improving outcomes for both psychological and physical conditions (Fenton and Stover 2006; Yohannes *et al* 2010). There is also evidence that the costs of including psychological initiatives within disease management or rehabilitation programmes can be more than outweighed by the savings arising from improved physical health and decreased service use (Howard *et al* 2010; Moore *et al* 2007), (see box below).

These forms of integrated treatment can exploit the interplay between mental and physical health care – for example the commonality that exists between behavioural treatments for depression and self-management approaches for long-term conditions (Egede and Ellis 2010), and avoid the tensions between different treatments. Without this there is a risk that treatments for one disease may worsen a co-morbid condition; e.g. use of some psychotropic medications can lead to significant weight gain and further cardio metabolic complications.

Despite the evidence supporting their use, integrated approaches remain the exception rather than the norm. The British Heart Foundation's 2011 National Audit of Cardiac Rehabilitation indicates that 42 per cent of cardiac patients are currently provided with rehabilitation, and only 16 per cent of these programmes have a psychological component, despite 31 per cent of patients experiencing significant anxiety problems and 19 per cent having depression (British Heart Foundation 2011). The Audit Scotland (2012) Report on Cardiology Services stated that, "it is not clear that all patients who would benefit from cardiac rehabilitation are receiving it".

Examples of integrating psychological support into chronic disease management frameworks are outlined below:-

- The impact of pulmonary rehabilitation programmes for COPD can be increased by adding a psychological component, improving completion rates and reducing re-admission for COPD (Abell et al 2008). Tailored CBT packages delivered by a CBT-trained respiratory nurse can reduce anxiety in COPD, improving self-management and reducing exacerbations and unnecessary admissions (NICE 2009).
- Psycho-educational interventions have been shown to be effective in reducing angina frequency and medication use (McGillon et al 2008).
- CBT-based interventions can improve treatment adherence, psychosocial adjustment, coping skills and quality of life for people with co-morbid long-term conditions, as well as reducing use of health care services (Thompson et al 2011; Spurgeon et al 2005).

### **Impact of Psychological Interventions on Treatment Cost**

McDaid (2011) assessed the economic case for investing in six months of collaborative care in England for patients with newly diagnosed cases of Type II diabetes who screen positive for depression, compared with care as usual. The analysis assumed that 20% of patients under collaborative care would receive CBT, compared with 15% of the usual care group. Existing data on the cost effectiveness of CBT were used to estimate the impact on health care and productivity losses.

Using a lower 13% rate of co-morbid diabetes and depression, total net costs in year 1 would be more than £4.5m, while net savings in year 2 would be more than £450,000. These estimates of the potential benefits are, however, conservative. The model does not factor in productivity losses due to premature mortality, nor further quality of life gains associated with avoidance of the complications of diabetes, such as amputations, heart disease and renal failure.

McDaid concluded that the intervention is cost effective in an English context after two years, but has high net additional costs in the short term due to implementation costs. Including a psychological component in a breathlessness clinic for COPD in Hillingdon Hospital led to 1.17 fewer A&E presentations and 1.93 fewer hospital bed days per person in the six months after intervention (Howard et al 2010). This translated into savings of £837 per person – around four times the upfront cost.

In the year following a CBT-based condition management programme for angina, patients needed 33 per cent fewer hospital admissions – saving £1,337 per person (Moore et al 2007).

### **Support for self-management**

Co-morbid mental health problems can reduce the ability and motivation to self-manage, and people with these forms of co-morbidities may need particular support if they are to do so effectively. Recent evidence indicates that people with co-morbid mental health problems can gain particularly large benefits from inclusion in self-management support programmes, suggesting that they should be targets for referral (Harrison et al 2011). Peer support may also play an important role in empowering people with co-morbid mental health problems to manage their own condition.

### **Integrating mental well-being into primary care**

Improving support for the mental well-being and psychological aspects of physical illness cannot reasonably mean treating a large number of additional people within specialist psychology services.

Primary care is a key area where steps to improve the psychological wellbeing of individuals with long-term conditions can be initiated. It is also the main source of formal support for those individuals identified as having mental health problems – only 10 per cent receive a referral to specialist mental health services.

There is a strong argument for much closer working between psychology specialists and primary care. Enhanced forms of primary care provision, with closer input from mental health specialists where necessary, offer the potential to support patients' multiple needs in a more integrated way.

An example of this in Scotland was the 2008 – 2011 Living Better Project where the research suggested that providing training and support around psychosocial issues to the primary care team was a key factor in improving support for people with long term conditions.

## **2. Medically Unexplained Symptoms**

Medically unexplained symptoms (MUS) are physical symptoms that have no currently known physical pathological cause. They constitute a clinically, conceptually and emotionally difficult area to tackle, with clinical presentations varying greatly, from people who regularly attend GP surgeries with minor symptoms to people with chronic fatigue who are bed-bound.

MUS are common, accounting for as many as **one in five new consultations in primary care**. The unexplained symptoms can cause significant distress to the patient and, in some circumstances, impair functioning. The majority of MUS, such as pain, irritable bowel syndrome and fatigue, have no obvious cause and often do not require active medical intervention. However, studies have shown that between 20 and 30 percent of consultations in primary care are with people who are experiencing MUS and have no clear diagnosis. It is estimated that this rises to an average of 52% in secondary care where a substantial proportion of resources are used by frequent attenders whose

symptoms remain unexplained. The clinical demands of MUS may be exacerbated by the fact that an estimated 60% of patients with MUS have a co-morbid diagnosed LTC found to have organic pathology, quite frequently manifesting as chronic pain and fatigue.

Up to 70% of people suffering with MUS will also suffer from depression and/or anxiety disorders. In particular, it has been suggested that people with MUS may be three times more likely than those with medically explained symptoms to have current anxiety, depression or panic, and almost four times as likely to experience two of these psychological conditions concurrently (Burton et al 2011). Despite this, literature suggests that only about a half of those with MUS and depression receive minimum effective therapy (Burton et al 2011). This is of significance because these psychological problems are detectable and treatable, irrespective of the explanation for the physical symptoms. Traditional mental health services have not been successful in engaging with patients who experience MUS, as patients do not perceive their condition to be related to their mental health and indeed may feel that their symptoms are being rejected should their it be suggested that they have anxiety or depression (Salmon et al, 1999).

Those experiencing MUS have been found to have:

- 50% more consultations;
- 50% more healthcare costs; and
- 33% more hospitalisations.

Presentation with MUS is associated with twice the standardised mortality ratio for cancer, accidents and suicide. MUS is sometimes associated with serious mental illness such as severe depression with high suicide risk. Therefore, it is important that people experiencing MUS are carefully assessed and offered appropriate treatment wherever possible.

*(Ref - Improving Access to Psychological Therapies: Medically Unexplained Symptoms Positive Practice guide).*

### **Should we be concerned?**

*“These patients are not going away, they will keep coming back!”*

Interventions in MUS are about **harm reduction** . Evidence supports that the more often patients are referred and investigated; the more difficult it becomes to help them. Repeat investigations entrench anxiety and help seeking behaviour and the resulting treatments can cause damage to healthy organs. “Over investigation, inappropriate information and advice given to patients and inappropriate prescription of medication were associated with (MUS)... (Kouyanou et al 1997, 1998), suggesting that these ‘iatrogenic’ factors may contribute to the intractable nature of some MUS.”, (Reid et al. 2002). Indeed, it is possible that the numerous diagnostic examinations and medical interventions provided to people with MUS,

despite evidence of underlying organic disease, may cause somatic fixation as well as iatrogenic harm (Burbaum et al, 2010).

## 2.1 MUS is Expensive

In a study undertaken within the London deanery (Commissioning Support for London: Medically Unexplained symptoms – Project Implementation Report, March 2011), it emerged that the total cost of 227 patients, from three separate GP practices over a 24 month period, was £31 million. This equates to a cost of £42k per month. £307k of this total cost is in GP time alone. The 227 patients had 8,990 GP contacts which equates to a cost of £13k per month.

Patients with severe MUS account for approximately 1% of each GP practice's population. Across London, this would equate to a spend in excess of £100m per annum.

A Scottish primary care study suggested that MUS may account for 30% of new referrals to medical specialists (Burton et al, 2009; 2011). In particular, patients with MUS repeatedly referred to secondary care for MUS had a mean of 4.9 referrals (range 3-13) and subsequent episodes of secondary care use in a five-year period (Burton et al, 2012). When compared to those with medically explained symptoms, those with MUS had greater inpatient (£3837), outpatient (£957) and A&E (£112) costs, and were **more likely to incur higher costs associated with specific investigations** as estimated per patient across a five-year period (Burton et al, 2012).

In 2003 the Scottish Neurological Symptoms Study (SNSS), a nationwide study of 3,781 patients, defined the size, extent and cost of Functional Neurological Symptoms. Around one third of new outpatients attending neurology clinics had symptoms rated as 'not at all' or only 'somewhat' explained by disease. This includes patients with functional neurological symptoms who made up 1 in 10 of all new outpatients. Scottish Neurological Symptoms Study data linked to SMR data indicates that neurologists in Scotland are diagnosing functional neurological symptoms in at least 5,000 people per year. Patients with symptoms 'not at all explained by disease' reported the same disability, **but more distress** than patients whose symptoms were 'completely explained by disease'.

The Scottish Neurological Symptoms Study found that 27% of patients with symptoms unexplained by disease were not working for health reasons, incurring high social costs as well as a high consumption of healthcare, estimated as approximately:

- £1.3 million per year for outpatients
- £6.01 million for inpatients (including 13,887 bed days)
- £4.01 million for primary care.

## 2.2 What can be done?

Several randomized controlled trials demonstrate the effectiveness of psychological therapies for people with MUS, Kroenke (2007); Allen, Escobar et al (2006), and Woolfolk and Allen (2007). Studies also show the benefits of psychological interventions as part of the clinical service for people with MUS, Creed, Henningsen and Fink (2011). Several studies have show positive benefits of psychological interventions specifically with Functional Neurological Symptoms: - Goldstein, Chalder, Chigwedere et al (2010); Sharpe, Walker, Williams et al (2011).

CBT provided alongside anti-depressant medication and patient-centred communication may improve mental functioning, reduce somatisation, and reduce pain and use of addictive medicines. It may also be associated with increased satisfaction with doctor-patient relationships (Smith et al, 2006).

The NICE guidelines for the treatment of chronic fatigue syndrome, recommend using CBT, which (NICE, 2007):

- Acknowledges and validates the person's symptoms and condition,
- Explains the relationship between thoughts, feelings, behaviour and symptoms,
- Develops a supportive and collaborative therapeutic relationship,
- Develops a shared formulation and understanding,
- Identifies perpetuating factors.

Treatment of MUS addressing similar concepts, in general, may be worthwhile.

A meta-analysis of the impact of CBT and graded exercise in those with chronic fatigue, noted that both seem equally effective, but that CBT may be more effective in those presenting with co-morbid anxiety and depression (Castell et al 2011).

CBT-based interventions focusing on MUS within primary care have reported some benefit. However, their long-term impact is unclear (Martin et al, 2007; Escobar et al, 2007; Kennedy et al, 2005).

Numerous approaches to enabling **self-management within MUS populations** have been suggested, including patient education, reattribution and cognitive-behavioural therapy (CBT). The evidence suggests that targeting perpetuating factors may lead to symptom reduction (Deary et al, 2011). However, the underlying mechanisms are unclear.

Reattribution, a patient-centred, structured cognitive intervention designed to enable the consideration of linkages between physical symptoms and psychological issues in order to alter unhelpful attributions and enable patients to broaden their attributions, **may reduce symptoms of anxiety and depression and healthcare costs associated with MUS**, while at the same time improving physical functioning and

satisfaction with treatment (Morriss et al, 2006). **Primary care healthcare costs per patient with MUS may reduce by as much as 55.9%**, following GP training in reattribution (albeit this figure is based on research carried out in 1995) (Morriss et al 1999). However, there is evidence to suggest that reattribution may be no more effective than treatment as usual (Larisch et al, 2004; Morriss et al, 2006).

**Educational interventions** (information about the physical and psychological effects of physical de-conditioning and the role of predisposing and perpetuating psychosocial factors) combined with graded exercise for patients with chronic fatigue syndrome (Powell et al, 2001; Powell et al, 2004) resulted in improved physical functioning and less fatigue (Powell et al, 2001).

## **2.3 Economic Benefits**

### **CBT and MUS**

McDaid, Park and Parsonage (2011) modelled the impact on costs, in England, of a CBT intervention for adults presenting to their GPs with MUS over a three year period. The economic analysis looked at the costs to the health care system and the impact on productivity as a result of somatoform related sickness absence from work.

The results showed that the impact on net costs and the cost per QALY gained. When all patients with somatoform conditions (sub-threshold and full disorders) receive CBT, and e-learning is used to increase GP awareness, the model shows an overall saving of £639m over three years, nearly all of which is accounted for by reduced sickness absence.

The impact on the NHS is broadly cost neutral. If the more costly option of face to face GP training is used, net NHS costs increase by £143m, but the cost per QALY gained is only £3,402 which would be considered highly cost effective. CBT for all somatoform conditions with face to face GP learning would start to be cost saving in year 3. The analysis also demonstrated the higher returns available when the intervention is targeted solely on patients with full somatoform disorders. In this scenario, the model shows that the net impact of the intervention is cost saving to the NHS after two years.

While the economic case for CBT is most compelling if resources are targeted at those with full somatoform disorders, the case for also tackling sub threshold conditions is strong. McDaid concludes that all models are likely to be cost saving in the long term.

### **Functional Neurological Symptoms**

When appropriate explanation and treatment are made for Functional Neurological Symptoms within neurology services, substantial cost savings may be made. A study of 260 patients with non-epileptic attacks in Glasgow demonstrated that 50% of patients were using emergency services on a regular basis before diagnosis, after

diagnosis that figure dropped to 18%. Another study of patients with non-epileptic attacks found that in the 6 months after diagnosis, total seizure related medical costs dropped by 84%.

### **3. Summary**

The evidence reviewed suggests that psychological problems account for a considerable proportion of the disease burden of both long term conditions and medically unexplained physical symptoms.

The additional costs are associated in the main with increased medical treatment, length of stay in hospital, additional medical consultations and pharmacological costs. This is independent of costs associated with treating any psychological problems.

Worryingly co morbid psychological problems impede people's ability to self manage their conditions and is associated with increased mortality.

Psychological interventions have been shown to improve co morbid anxiety and depression particularly where such treatments can be integrated into the overall treatment for the LTC/ MUS addition such treatments have been shown to have true economic benefits for both threshold and sub threshold psychological problems.

Taken together the evidence for positive clinical outcomes and economic benefits of treatment suggest that addressing psychological problems should be a core, and where possible integrated, part of the treatment of both Long Term Conditions and Medically Unexplained Symptoms.

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