Managing complex problems: treatment for common mental disorders in the UK

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SUMMARY.
Aims: This paper aims to describe current trends in the UK primary care management of common mental disorders and explore the appropriateness of differing management approaches in light of the course and common complications of these disorders.
Methods: It highlights key findings concerning the course and comorbidity of depression to indicate that depression and associated mental illnesses may often form part of more complex patterns of ill health and that these conditions have a clear potential for chronicity. A narrative review of studies providing detail of depression prevalence in selected comorbid conditions is presented for this purpose.
Conclusion: The presentation and course of common mental disorders indicate organizational changes in health service delivery, and - for a sizeable patient group – the use of chronic disease management strategies.

Declaration of Interest: None.
KEY WORDS: depression, comorbidity; primary care; delivery of health care.

Common mental disorders are a major public health problem, causing high levels of disability and interacting in a deleterious way with other conditions; current and proposed developments in the UK highlight differing management approaches.

Depression and related common mental disorders have high prevalence, and are a major source of disability throughout the world (Paykel, 2006). Depression currently accounts for more disability than any other mental illness, and more than diabetes, hypertension, or chronic lung disease (Panzarino, Jr., 1998). An extensive literature enables evaluation of the evidence for a range of management strategies encompassing case finding methods, medicines and talking treatments, and broader organisational approaches. Increasingly, reviews of these interventions are prepared to provide guidelines for individual patient management and ongoing service development. The public health importance of these conditions has appropriately generated a wealth of such research and policy initiatives in the UK (NICE, 2004a, b; Goldberg, 2006), USA (Office of the Surgeon General, 1999), the European Union (European Commission Health & Consumer Protection Directorate-General, 2005) and elsewhere (World Health Organisation, 2001).

Recent developments in the UK represent two different approaches to the public health challenge of managing common mental health problems. Prompted by steadily accumulating evidence of treatment efficacy together with a re-evaluation of the economic costs of these disorders, a proposed innovation involves a national plan to develop accessible therapy centres in Britain. It appears clear that psychological (most notably cognitive behavioural) treatments are not only effective, but also accord with most patients' treatment preferences. The current proposal identifies a large-scale shortage of suitably trained therapists, and proposes a major expansion of the therapist workforce, involving the additional training of 10,000 new psychological therapists. Further, the proposals reason that the work of therapists should be organised in a way that closely mirrors the typical team and work-base structures of the therapy teams from which evidence of effect has been derived. Hence, the development of some 250 psychological therapy centres in the UK has been mooted (Layard, 2004; 2006).

At the same time as plans for a grand expansion of capacity for individual psychotherapy have been developed, a very different approach to community health management has been implemented. The negotiation of a new service agreement, the General Medical Services (GMS) contract in April 2004, has been a major organisational development in primary care in England, of which the the Quality and Outcomes Framework (QOF) is an important part. The QOF identifies a number of indicators of practice organisation and disease management, and rewards practices according to their achievements on these clinical indicators and measures of quality of care (Ashworth & Armstrong, 2006; Payne & Steadman, 2005).

The QOF system has identified severe mental illness (largely synonymous with psychotic illnesses) and depression (alongside conditions such as diabetes, epilepsy, cancer, and coronary heart disease [CHD]) as conditions which are likely to benefit from this systematic management approach. Points are awarded for organising and maintaining a practice database of patients with these conditions, ensuring appropriate case measures are used, and offering regular monitoring. Importantly, links between conditions are addressed by depression case finding tools being routinely used for patients on the CHD and diabetes registers.

These are two very different approaches to the management of common mental disorders, and their relevant merits relate to considerations of feasibility and effectiveness. Fundamentally, their appropriateness relates to the nature of depression and common psychological conditions in our communities. The following discussion will examine the nature of common mental disorders, with special consideration of issues of illness duration, comorbidity, and treatment response.

COMMON MENTAL DISORDER – POTENTIAL FOR CHRONICITY

Depression and associated common mental disorders are increasingly viewed as chronic illnesses, involving sustained impairment and high rates of symptom recurrence in a large proportion of patients. At least half of those people who develop a depressive episode will experience further episodes (Judd *et al.*, 1998), and between- 10% and 30% of depressed patients experience a chronic course characterised by significant functional impairment (Kennedy *et al.*, 2004). For many people with depression there is a fluctuating presentation involving subsyndromal, minor depressive and major depressive symptoms. A similar pattern of chronicity is evident for anxiety disorders (Kessler *et al.*, 2001).

A model of care suited to chronic diseases has been effectively used for medical conditions such as hypertension, diabetes, and asthma, and evidence from well-conducted primary care based studies indicates that this approach is effective for depression (Rost *et al.*, 2002; Dietrich *et al.*, 2004). It appears that the principles of this management approach - explicit evidence-based guidelines, patient education for self-management, stepped care involvement of specialist resources, links with community resources - together with the organisational changes required to embed these approaches within services (information systems such as patient registers, reminders, progress indicators; and new staff roles and ways of working such as primary care nurse case managers, and tele-support) are a central part of effective interventions strategies (Von Korff & Goldberg, 2001).

Not only is the course of depression and anxiety unlikely to be clear-cut and acute for many patients, but also, for a considerable proportion of people, these conditions are one of a number of overlapping health problems. This comorbidity or ‘multiple morbidity’ is characteristic of primary care work, and is set to be more evident within our ageing populations.

COMORBIDITY

Study of the co-occurrence of common mental disorders and medical illness has most frequently focused on depression and cardiovascular disease, stroke, diabetes, chronic pain, and hypertension. These studies have shown that, before constructing any aetiological model, it is important to consider confounding explanations of an association. The most important confounding factor is an artefact of depression measurement due to overlap between symptoms of the medical condition and those considered features of depression. The *Geriatric Depression Scale* (GDS) (Yesavage *et al.*, 1982) and the *Hospital Anxiety and Depression Scale* (HADS) (Zigmond & Snaith, 1983) are two widely used measures developed to counter this problem.

The relation between depression and medical disorders such as cancer, heart disease, Parkinson’s disease, Alzheimer’s disease, stroke, and arthritis has been categorised as one of *epidemiological*

comorbidity and *clinical* comorbidity. That is, there is a changed likelihood of depression caseness associated with these conditions, and there is a changed course, treatment response, and prognosis associated with the coexistence of the conditions (Krishnan *et al.*, 2002).

This association has serious consequences, the most compelling being the increased risk of mortality it confers. Pooled data from community studies of older (>65) people with a mood disorder have identified an elevated all-cause mortality rate of 1.75 times (Geerlings *et al.*, 2002). The effect of depression on mortality appears to be modified by gender, with additional excess mortality risk conferred by male gender (Abas *et al.*, 2002). This may be because men have more cardiovascular pathology, the course of which is strongly affected by depression, as well as because of increased likelihood of suicide among men (Schoevers *et al.*, 2000).

Much of this body of research has explored the relationship between depression and cardiac disease: epidemiological investigation some 80 years ago identified a grossly elevated mortality ratio among institutionalised patients with '*involution melancholia*', and that '*diseases of the heart constitute the leading cause of death*' (Malzberg, 1937). A series of increasingly sophisticated studies have developed understanding of this association (Glassman & Shapiro, 1998), revealing that the relative risk of subsequent cardiac mortality is three-fold increased in cardiac patients with major depression, (compared with non-depressed cardiac patients) after adjusting for confounding factors. A similar level of excess cardiac mortality has been identified between depressed and comparison subjects without cardiac disease at baseline (Penninx *et al.*, 2001). Although greatest risk is associated with moderate and severe depression, it appears that even minimal levels of depression symptoms are associated with increased mortality after myocardial infarction (Bush *et al.*, 2001). Additionally, a number of prospective studies have shown that depressed individuals without prior coronary heart disease (CHD) are more likely to develop CHD in the ensuing years than comparable, non-depressed persons (Ahern *et al.*, 1990).

Other serious conditions appear to be associated with mental illness: there is an increased prevalence of depression among cancer patients, with rate linked to pain, level of physical disability, and severity of illness. Much of this association appears to be a reaction to and manifestation of the disease and its treatment (Krishnan *et al.*, 2002). However, one longitudinal study of community samples of older people (>70 years) has also indicated a temporal link between chronic depression and an increased risk of cancer incidence after controlling for a range of confounders (age, sex, race, smoking, alcohol, disability, hospital admissions) (Penninx *et al.*, 1998). Another study has indicated more rapid cancer progression in subjects with severe depression, psychopathology appearing an important predictor of survival time after controlling for other risk factors (Brown *et al.*, 2003).

The relationship between physical illness and mental disorders appears to be complex, with a range of potential causal pathways and interactions between factors. Mental disorders may exacerbate pre-existing physical illnesses or contribute to their onset. For example, the presence of depression in individuals free of coronary artery disease confers an approximately 1.5-fold to 2.0- fold adjusted relative risk for the subsequent development of this disease, and evidence from longitudinal studies in the U.S. and Japan indicates that depression doubles the risk of incident type 2 diabetes, independent of its association with other risk factors (Anderson *et al.*, 2001). Furthermore, in patients with pre-existing diabetes, depression is an independent risk factor for coronary heart disease, and appears to accelerate the presentation of coronary heart disease.

This relation might operate by means of the poor health behaviours which may accompany many mental illnesses, for instance, smoking is twice as common among people with current mental disorders in the US (Lasser *et al.*, 2000). Additionally, mental disorders may influence physical health via direct physiological effects (such as immune dysfunction, decreased heart rate variability, alterations in platelet receptors and blood clotting, decreased bone mineral density, low body mass index caused by poor appetite, as well as ventricular instability and myocardial ischaemia in reaction to mental stress, sympathoadrenal hyperactivity, and elevated insulin and cholesterol levels), which play a part in the incompletely understood disease pathways such as those linking depression to the onset of myocardial infarctions, strokes and osteoporosis, and to the development of diabetes (Haddad, 2004).

The treatment of mental illness can also affect physical health, via the various adverse effects of medications, such as antidepressants and increased falls among older adults, benzodiazepines and

excess risk of road traffic incidents, or the association between the antipsychotic drugs clozapine and olanzapine and insulin resistance and weight gain. Conversely, physical illness appears to be an important risk factor for the development of mental illnesses: patients with disabilities related to various medical illnesses have an increased risk of depression and anxiety disorders (Lenze *et al.*, 2001), as have older persons with vascular disease; and a wide range of commonly prescribed medications may precipitate mood disorders (House & Stark, 2002).

Studies have reported high levels of comorbidity between psychological disorders and medical conditions such as Parkinson's disease, stroke, chronic respiratory disease, diabetes, multiple sclerosis, and cardiac disease. Individuals not infrequently suffer from several such conditions: Lai *et al.* (2002) identified a third of their sample of 459 stroke patients (mean age of 70) to have diabetes, and nearly one-fifth (19%) to have myocardial infarction. In these populations, depression contributes significantly to disability, increased carer burden, more rapid cognitive decline (Parkinson's disease), more bodily pain, prolonged length of hospital stays, and increased risk of mortality.

The reduced capability for physical functioning, limitations in activities of daily living, and loss of traditional social roles that may accompany these medical conditions confer an independent risk for the onset and maintenance of common mental disorders. Additional mechanisms for these relationships include cerebrovascular changes (as in heart disease and diabetes), localised disruption to frontostriatal brain circuits (as occurs in stroke), neurodegenerative brain changes (Alzheimer's disease, idiopathic Parkinson's disease), and pain (as in arthritis or cancer).

Table I illustrates the respective prevalence of common mental disorders (mostly depression) among people with a number of important comorbid conditions. Studies have been selected primarily on the basis of adequacy of sample sizes, clarity concerning population specification, and methodological robustness. However it must be noted that there are a number of problems evident in the literature concerning mental and physical illness comorbidity. Importantly, many studies purporting to identify comorbid disease associations mistakenly correlate 'lifetime prevalences' in mixed aged subjects. Because the measured disorder rates are non-decreasing functions, correlated lifetime prevalences in a sample of subjects with a range of ages almost always reveal a positive correlation, even if the two disorders are only randomly associated. This identifies a "pseudo-correlation" that is particularly likely to be observed with disorders whose hazard increases with age (Krishnan *et al.*, 2002). This statistical artefact is resolved by stratifying prevalence data by age group, but this necessitates sample sizes beyond that of most studies.

It must also be noted that the majority of research on the physical illness–psychiatric disorder relationship has been based on clinical reports of patients treated in specialty medical settings and many clinical studies rely on samples of convenience; with few exceptions, they do not consider whether samples are representative or whether the nature or magnitude of the observed disorder relationships can be generalized to other populations.

TREATMENT RESPONSE

Psychotherapy and pharmacotherapy or combinations of these form a key part of the traditional management of common mental disorders. There appears little difference in the effects of particular treatments, either in terms of drug types, or the active and goal-oriented psychotherapies (cognitive, behavioural, or interpersonal) (Robinson *et al.*, 1990), and only limited benefits from combinations of either different drugs or of drugs and talking treatments. These approaches appear effective for many of those treated, with response rates for depressed patients in the region of 60% and remission rates around 10% lower (Casacalenda *et al.*, 2002). But, the findings of repeated studies are that for a sizeable proportion of depressed patients, response to treatments is likely to be suboptimal. A management approach in which the prime focus is on remission is not appropriate for many people, and may be disheartening for those whose symptoms persist despite treatments.

CONCLUSION

Common mental disorders, like many of the health problems prevalent in industrialised societies, require complex management which reflects both therapeutic optimism and the reality - for many patients - of the ongoing disabling effects of these disorders.

Table I: The prevalence of depression associated with selected medical conditions.

Study/Review	Condition/Subjects/ sample size	Prevalence/Measure
Weintraub *et al.* (2006)	**Parkinson's Disease** out-patients n=148	22% depression (DSM-IV diagnostic interview)
	Stroke	
Lai *et al.* (2002)	out-patients n=459	33% depression (GDS-15 ≥6)
Burvill *et al.* (1997)	out-patients 4mnths post-stroke n=191	28% depression 15% major; 8%minor (DSM-III diagnostic interview)
Robinson (2003)	Review 18 in-patient studies n=1865	36% depression 19% major; 19%minor (DSM-III & various self-report)
	15 out-patient studies n=1693	33% depression 23% major; 15% minor (DSM-III & various self-report)
	4 community studies n=1083	32% depression 14% major; 9% minor (DSM-III & various self-report)
	COPD	
Wagena *et al.* (2005)	occupational cohort n=4468/4520	14% depression (HADS-D ≥11) 19% anxiety (HADS-A ≥11)
Yohannes *et al.* (2000)	out-patients (age 60-89) n=137. Review 9 studies largely out-patients, n= 771	42% depression (GMS≥3) 18% anxiety (GMS≥3)
van Ede *et al.* (1999)		7% (HADS ≥11) -42% (MMPI) 29% (HADS≥8); 42% (BDI ≥15); 29% (CES-D ≥19); 28% (Zung ≥45); 12% (DSM-III diagnostic interview)
	Myocardial Infarction	
Schleifer *et al.* (1989)	hospitalised patients n=283	18% major depression (DSM-III diagnostic interview)
Rudisch & Nemeroff (2003)	Review 4 studies post-MI n=955	15%-27% major depression (RDC or DSM criteria)
	Coronary artery disease	
Milani & Lavie (1998)	out-patients ≥65 n=268	18% depression (Symptom Questionnaire >6)
Lett *et al.* (2004)	Review 5 studies hospitalised & out-patients n=1059	14%-23% major depression (DSM-III/-IV diagnostic interview)
Rudisch & Nemeroff (2003)	Review 5 studies hospitalised & out-patients n=880	17%-23% major depression (RDC or DSM criteria)
	Type 1 & Type 2 diabetes	
Anderson *et al.* (2001)	Review 39 studies settings: community, clinic, hospital, adults and older people n= 20218	11.4% major depression (14 studies: DSM-III/-IV diagnostic interview; 31% depression (25 studies: GDS ≥21, BDI ≥10/13/16, CES-D ≥16/17/20/23, Zung ≥50/45, MMPI-D)
Chwastiak *et al.* (2002)	**Multiple sclerosis** Community sample n= 739	29.1% depression (CES-D≥21)

BDI (Beck depression inventory); Zung SDS (Zung self-rating depression scale); HADS (Hospital anxiety and depression questionnaire); CES-D (center for epidemiologic studies-depression questionnaire); MMPI (Minnesota multiphasic personality inventory); Geriatric Mental State Schedule (GMS)

Much of our evidence for the management of common psychological illness relates to single treatments – drugs and psychotherapies. These approaches have increasingly clear evidence bases that assist our formulation of individual and population management strategies. However, there is a potential that care directed by evidence and protocols concerning single health conditions may be inappropriate for and possibly disadvantage people with complex patterns of ill-health (Wright *et al.*, 2003). It seems a vital part of the management of these conditions involves organisational

approaches geared to their complexity, chronicity, and disabling impact. Primary care studies have shown benefits for patients related to improved working arrangements between primary and secondary care and more systematic follow up, often involving case management and telephone support.

The recent developments noted in UK health care typify different and apparently valid responses to depression and anxiety disorders. Debate pitting organisational against conventional therapeutic approaches, or population against individual strategies is bound to involve sterile argument. The care of complex health problems must incorporate a range of intervention types, and prioritise robust evaluation of effects. However, the value of chronic disease approaches has been well demonstrated in the management of other disorders, and this model has been successfully applied to depression. Such an approach holds promise as a central aspect of primary care approaches to depression, involving the recognition that depression is a life course disorder and providing a systematic sequence of interventions within a collaborative care and stepped care model (Tylee, 2006), rather than piecemeal management of acute presentations (Scott, 2006).

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