



Title	The prevalence of common mental and substance use disorders in general practice: a literature review and discussion paper
Authors(s)	Klimas, Jan, Neary, Anna, McNicholas, Claire, et al.
Publication date	2014-07-16
Publication information	Klimas, Jan, Anna Neary, Claire McNicholas, and et al. "The Prevalence of Common Mental and Substance Use Disorders in General Practice: A Literature Review and Discussion Paper" 7, no. 4 (July 16, 2014).
Item record/more information	http://hdl.handle.net/10197/5846
Publisher's statement	This is an electronic version of an article published in Mental Health and Substance Use, Vol 7., Issue 4. Pg. no.s 497-508, (2014). Mental Health and Substance Use is available online at: www.tandfonline.com/doi/abs/10.1080/17523281.2014.939221
Publisher's version (DOI)	10.1080/17523281.2014.939221

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**The Prevalence of Common Mental and Substance Use Disorders in General
Practice: A Literature Review and Discussion Paper**

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This work was supported by research grants from Health Research Board of Ireland, HRA_HSR/2012/14, the Research Incentives Programme at University of Limerick, and the University of Limerick Graduate Entry Medical School Strategic Research Fund, and from Irish Research Council, Government of Ireland ‘New Foundations’ Scheme 2013 (PINTA-TOUR).

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Running title: Common Mental and Substance Use Disorders in General Practice

The Prevalence of Common Mental and Substance Use Disorders in General Practice: A Literature Review and Discussion Paper

Abstract

Enhanced primary care management of common mental and substance use disorders is a key healthcare target. Though primary care may be well placed to achieve this target, a greater understanding of the prevalence and profile of common mental and substance use disorders in primary care settings is needed. We searched the MEDLINE database (2002-2012) to provide an update on biomedical literature describing the prevalence of common mental and substance use disorders in European general practice. Following 'PRISMA' guidelines, seventeen studies were kept for qualitative synthesis. Prevalence, profile, screening instruments, associated co-morbidities and gender distribution were tabulated. Depending on the screening method, the prevalence of common mental and substance use disorders ranged from 10.4% (Luxemburg) to 53.6% (Spain). Mood disorders were the most common. High co-morbidity with anxiety and somatisation hindered early identification and management. The continuing burden of common mental and substance use disorders, coupled with poor identification described in the updated EU biomedical literature, suggests that the unmet need for health care - identified by the World Health Organization a decade ago – remains unmet. Understanding prevalence of common mental and substance use disorders, associated morbidity, and the extent to which general practice represents an important catchment mechanism, can enhance their management at this level. General practitioners should be trained in accurate screening. Short screening instruments for general practitioners should be unified and promoted.

Key words: Prevalence, epidemiology, general practice, family practice, primary health care, psychiatry, common mental and substance use disorders, screening

The Prevalence of Common Mental and Substance Use Disorders in General

Practice: A Literature Review and Discussion Paper

Introduction

The prevalence of common mental and substance use disorders among patients attending general practice has become a major issue (Roca et al., 2009). The World Health Organisation (WHO), in its benchmark publication *The Global Burden of Disease* (GBD) (World Health Organization, 2008), examined the burden of disease utilising disability-adjusted-life-year – DALY – introduced in the first GBD study of 1990. The DALY metric “combines years of life lost due to premature mortality and years of life lost due to time lived in states of less than full health”. Since 1990, the study was updated twice, for the year 2000-2002 and 2004. GBD concluded that common mental and substance use disorders, such as, depression, alcohol use disorders and psychoses, are the most important cause of disability globally, accounting for approximately one third of the “years lost to disability”. Depression alone is likely to be the second highest cause of disease burden, after HIV/AIDS, by 2030 (World Health Organization, 2008). Common mental health disorders often go untreated and are associated with serious role impairment; poor common mental health service use, unmet need for treatment and delays in seeking help for common mental health disorders were described by WHO (The W. H. O. World Mental Health Survey Consortium, 2004; Wells et al., 2013).

Improving common mental health services provided by general practitioners can contribute crucially to addressing this burden. One out of every four general practice patients present with common mental disorders (Runkewitz, Kirchmann, & Strauss, 2006). Worldwide, the majority of psychological complaints are managed in primary care, with only a minority of cases (typically 5% or less) gravitating towards specialist mental health services (Avasthi et

al., 2008). It is often the first point of contact for people suffering from common mental disorders (Grandes, Montoya, Arietaleanizbeaskoa, Arce, & Sanchez, 2011), resulting in increased responsibility for general practitioners to initially diagnose and manage common mental disorders (Roca et al., 2009).

Diagnosis and treatment still present a major problem for general practitioners despite improved screening instruments and clinical training (Roca et al., 2009). Diagnosis is difficult as common mental disorders often present in the form of physical complaints (de Waal, Arnold, Eekhof, & van Hemert, 2004), and the rate of co-morbidity between common mental disorders is high (Mergl et al., 2007). Boundaries of syndromal diagnoses are relatively 'soft' and therefore include much overlap and co-morbidity (Mergl et al., 2007; Regier et al., 1990). More than 50% of patients with common mental disorders visit general practitioners with physical, rather than psychological or emotional, complaints (Haftgoli et al., 2010; Hartman et al., 2008). Furthermore, 75% of patients presenting with depression have also anxiety and/ or somatisation (Lowe et al., 2008).

Common mental and substance use disorders frequently coexist in Europe (EMCDDA, 2013). Typical European combinations include alcohol with depression or anxiety, opioids with personality or behaviour disorders, cannabis with schizophrenia and amphetamines with psychoses. Increased prevalence of dual disorders has been reported over the last decade (Crome, 2006; Daly & Walsh, 2011). A recent five-country project (Denmark, Poland, England, Scotland and Finland) estimated that 43-120 people per 100.000 population meet the criteria for a co-morbid diagnosis of common mental health and substance use disorders (Baldacchino et al., 2009). Patients with psychotic disorders in Norway reported 44% higher drug use than general population, and 160% higher cocaine or amphetamine use than general

population (Ringen et al., 2008). The high rates of coexisting common mental and substance use disorders obscure screening and treatment, by making it difficult to identify and assign symptoms of individual disorders (Bunevicius, Peceliuniene, Mickuviene, Valius, & Bunevicius, 2007). The heterogeneity of clinical instruments complicates assessment further (Crome, 2006). This affects GPs' screening and intervention by confusion and uncertainty around which instrument to choose (Armstrong & Earnshaw, 2004)

The considerable overlap and comorbidity of common mental disorders, especially in primary care settings, mandates that studies should explore a range of psychological presentations in order to obtain an accurate picture of their extent and profile (Gunn et al., 2008; MaGPIe Research group, 2004). Better understanding and improved recognition are key elements to reducing the burden caused by common mental disorders (Mergl et al., 2007; Wittchen & Jacobi, 2005). The purpose of this discussion paper was to provide an update on biomedical literature on the prevalence of common mental and substance use disorders in European general practice, with a special focus on multi-disorder research, due to the considerable overlap and comorbidity of common mental disorders. Screening instruments, co-morbidities, profile and gender distribution were also reviewed.

Methods

Publications concerning prevalence of common mental health disorders in European general practice, written in the English language, in the past 10 years, were identified through the MEDLINE database (October 2012). The search consisted of controlled vocabulary and free-text terms, such as: prevalence, epidemiology, general or family practice, primary health care, psychiatric or common mental/ substance use disorders. In line with the purpose of this discussion paper, we did not distinguish between specific mental health disorders and focused

our search on common mental health disorders. Common mental health disorders included mood disorders, anxiety, alcohol-related, eating-related or somatoform disorders, etc. Following 'PRISMA' guidelines (Moher, Liberati, Tetzlaff, Altman, & Grp, 2010), 500 unique papers were identified using the free-text and MeSH terms, 17 papers were retained based on title and abstract screening and kept for qualitative synthesis (see Figure 1). All articles were retained that did not meet any of the following reasons for exclusion:

- Studies that dealt specifically with only one mental health disorder;
- Studies that focused on a particular gender; and
- Studies that analysed the validity of screening instruments.

The considerable overlap and comorbidity of common mental disorders, as noted in the introduction, provides a legitimate justification for choosing this narrow focus and only including studies that investigated a range of common mental health disorders rather than single diagnosis studies.

<insert Figure 1 here>

Results

Prevalence

Our update included studies from Spain (n=4), Belgium (2), Germany (2), Belgium and Luxembourg (1), Italy (1), Holland (1), Bosnia (1), France (1), Denmark (1), UK (1), Switzerland (1), Israel (1), and one study compared six European countries – UK, Spain, Portugal, Netherlands, Slovenia and Estonia. See table 1 for details.

<insert Table 1>

The main screening instruments used were CIDI (n=6), PHQ (4), GHQ (4), HADS (3), and PRIME-MD (2). Twelve of the studies focused on common mental disorders in general. In this category, the highest point prevalence of common mental disorders was 53.6% (Roca et al., 2009), whilst the lowest prevalence was 22.8% (Grandes et al., 2011; Verhaak, Hoeymans, Garssen, & Westert, 2005).

Roca *et al.* (2009) found 53.6% prevalence with the PRIME-MD screening instrument. This high prevalence could be due the large sample size of 7,931 patients across 2,000 general practices. Anseau *et al.* (2004) used the same questionnaire in a sample size of 2,316 patients across 86 general practices in Belgium and found 42.5% prevalence. Whilst 5.4% of patients attended their GP for a mental disorder reason, 42.5% of them fulfilled the criteria for a mental disorder on PRIME-MD.

Similarly, a French study used PHQ, which is a self-report version of PRIME-MD, to compare the prevalence of common mental disorders with that diagnosed by the general practitioner (Norton et al., 2007). This study found that 34.1% of the patients met the criteria for at least one mental disorder on PHQ - compared to the general practitioner diagnostic rate of 28.6%.

Broers *et al.* (2006) analysed the prevalence of common mental disorders in post-war Bosnia and Herzegovina, using the PHQ. They found that 26% of the cohort had at least one mental disorder which is comparable to that of Norton *et al.* (2007).

In another area of conflict – Israel - Cwikel *et al.* (2008) studied common mental disorders in general practice in Israel using CIDI-SF. They found 51.2% prevalence of mental disorder; 31.1% were diagnosed with a mental disorder, with the highest prevalence of depression at 20.6%. This study attributed the high rate of depression to the on-going military conflict.

Haftgoli *et al.* (2010) applied PHQ to general practice patients with a physical complaint. The prevalence ranged from 14.4% for patients without any major psychosocial stressor to 96.8% in those exposed to five or more stressors (health, relationships, financial, etc.).

King *et al.* (2008) analysed the prevalence of depression, anxiety and panic disorders across six European countries. They found that the highest prevalence of common mental disorders in Spain and the United Kingdom, whilst the lowest prevalence was in the Netherlands and Slovenia.

Lifetime risk

Three studies examined both point prevalence and lifetime risk (see Figure 2). Toft *et al.* (2005) studied 701 patients and found that 49.7% had a mental disorder at the time of the study, compared to a lifetime history of 65%. Similarly, Serrano-Blanco *et al.* (2010) found in a study of 77 GP practices in Spain with 5402 participants that 31.2% had experienced a mental disorder within the last 12 months and 45.1% were diagnosed as having a lifetime mental disorder. Grandes *et al.* (2011) studied 2539 patients and found that 22.8% had a 12-month prevalence of common mental disorders compared to a lifetime prevalence of 37.8%. These studies highlight the chronicity of common mental disorders.

<insert Figure 2 here>

Co-morbidity

The studies indicate considerable co-morbidity between mood, anxiety and somatoform disorders. Roca *et al.* (2009) estimated the point prevalence of this to be 30.3% between depression, anxiety and somatoform disorders, whilst Mergl *et al.* (2007) estimated 17.3% co-morbidity. In addition, they found that depressive patients had 65.6% lifetime prevalence of an additional anxiety and/ or a somatoform disorder.

Toft *et al.* (2005) found that somatoform disorders had a relatively low co-morbidity at 39%. This was compared to anxiety (89%), alcohol abuse (77%), and depression (65%). The strongest association was found between depression and alcohol abuse. This co-morbidity could be due to an overlap of symptoms (Roca *et al.*, 2009) or, as Anseau *et al.* (2004) noted, it could be due to the confounding effect of substance use disorder and the association with mood, somatoform and anxiety disorders.

Profile

Four studies provided profile of common mental disorders; three of them reported similar rates. Grandes *et al.* (2011) found that mood disorders were the most common with a lifetime prevalence of 23.2%, followed by anxiety disorders at 15.4%, somatoform disorders (7.6%), and organic and alcohol use disorders (2%). Anseau *et al.* (2004) found the point prevalence of anxiety at 19.0% and somatoform disorders at 18.0%. Mergl *et al.* (2007) similarly found this to be 15.7% and 25.6%, respectively. Opposite to this, Toft *et al.* (2005) found that somatoform disorders had the highest point prevalence at 31.7%, anxiety disorders at 16.4% and mood disorders at 13.5%.

Gender distribution

Eight studies compared prevalence of common mental disorders by gender. Toft *et al.* (2005) found that women had a higher prevalence of somatoform disorders at 38.3% compared to 31.7%. Men had a higher prevalence of alcohol use disorder (3.5%), and hypochondriasis (4.4%), compared to women (1.4% and 1.3%, respectively). This study found no difference in the prevalence of depression between genders (Toft *et al.*, 2005). The conventional wisdom suggests that females present twice as commonly, and with more obvious or classical presentations (e.g. depression), than men, but that the overall prevalence is similar because men experience greater substance-related and behavioural issues but seek help less. Serrano-Blanco *et al.* (2010) studied the prevalence of common mental disorders in Spain and found

that women were more likely to have mood and anxiety disorders whilst men were more likely to have substance use disorders. Another Spanish study found that the prevalence of common mental disorders was twice as high in women compared to men, except in the case of alcohol use disorders (Roca et al., 2009).

Cwikel *et al.* (2008) found that Israeli women had a higher rate of depression, panic attacks, somatoform disorders and eating disorders compared to men. There was no significant difference between women and men in respect of general anxiety or PTSD. King *et al.* (2008) compared the prevalence of depression, anxiety disorders and panic syndrome between males and females in six European countries and found that females had a higher prevalence for each category. Figure 2 plots the gender distribution.

Discussion

Our update on European biomedical literature described high prevalence and co-morbidity of common mental and substance use disorders among general practice patients. The results are similar to the average values from the WHO's international study on mental illness in general health care which used the CIDI-PC screening tool to assess the prevalence in 14 different countries. WHO found that 24% of all patients had a mental illness (1995). Similar findings were reported in the Diagnosis, Management and Outcomes of Depression in Primary Care (DIAMOND) longitudinal study and the Mental Health and General Practice Investigation (MaGPIe) (Gunn et al., 2008; MaGPIe Research group, 2004).

Reasons for the high prevalence

A number of reasons might influence the variance in prevalence of common mental and substance use disorders in European general practice. It could be due to the different levels of access to general practice (Anseau et al., 2004; Roca et al., 2009). For example, Spain and Belgium have free public health coverage and thus the use of primary care service. Another reason could be the degree of exposure or access to effective interventions. For example, Spain has the lowest levels of treatment for common mental disorders (Fernandez et al., 2007). Finally, home visits by GPs could identify patients with more severe common mental disorders who are unable or unwilling to attend GP. Belgium has large proportion of home visits by GPs (Anseau, Fischler, Dierick, Mignon, & Leyman, 2005).

As noted previously, a number of the studies highlighted a discrepancy in recognition of common mental disorders by the GPs compared to that identified with screening questionnaires (Anseau et al., 2004; Anseau et al., 2005; Norton et al., 2007). There are several reasons for this. The GP has a limited time with the patient and limited knowledge of the diagnostic criteria. Many patients present with somatoform complaints, and underlying co-morbidity, which can confuse diagnosis and understanding of common mental disorders

(Ansseau et al., 2004; Ansseau et al., 2005). Over the last decade, an increased prevalence of co-morbid common mental and substance use disorders has been reported (EMCDDA, 2013; The W. H. O. World Mental Health Survey Consortium, 2004; World Health Organization, 2008). The increasing prevalence of underlying co-morbidity not only confounds diagnosis and understanding but considerably affects screening and intervention by GPs. For example, cocaine has a role in suicidal behaviour when its chronic use affects mood negatively and mimics depressive symptoms; vice versa, a primary diagnosis of mental disorder can be adversely affected by a subsequent (co-morbid) diagnosis of addiction (Crome, 2006). The considerable co-morbidity of common mental and substance use disorders in general practice warrants that future research explores a range of co-occurring psychological presentations in order to obtain a complete picture, which would complement the single-disorder studies. Finally, patients also fear stigma of mental or substance use disorders diagnosis and some lack insight into their illness (Ansseau et al., 2005).

Screening instruments

When looking at the data, it is important to note the range of screening instruments and their respective differences in sensitivity and specificity. While some screening instruments capture specific mental health diagnoses, for example CIDI (Cwikel et al., 2008), others capture symptoms through self-administered questionnaires, like the PHQ (Roca et al., 2009). Also, some tools identify caseness (e.g. GHQ), while others generate actual specific diagnoses (e.g. PRIME-MD); the sensitivity of the latter is usually lower and this is obviously relevant to an epidemiological report. These differences must be taken into account when analysing mental health data captured by these various instruments and care must be taken to avoid fallacious inference by incorrectly comparing unlike variables. Methodological issues limit the comparability of epidemiological data from different countries (Langås, Malt, &

Opjordsmoen, 2011), and utility of this data for subsequent development of performance indicators for common mental and substance use disorders (Henderson et al., 2014).

It is also worth noting that differences in the instruments used go beyond the mere data that they are able to collect. They speak to issues of patient empowerment and engagement. For example, instruments that collect data by allowing patients to fill out self-assessment questionnaires, while sitting in a waiting room, are less intrusive and give patients a greater degree of autonomy with respect to whether they will, or won't, engage with the instrument. Self-reports have been shown to have a much higher sensitivity for identifying symptoms than other methods (Roca et al., 2009).

Strengths and limitations

Our update on the last 10 years of European research into common mental and substance use disorders in general practice is limited in several ways. Only one electronic biomedical database was searched. Therefore, our update is not complete and cannot be taken as a binding representation of the common mental health disorders epidemiology in Europe. There was a lack of homogeneity in terms of methodology, classification of common mental disorders and a broad range of instruments which made direct comparisons difficult. The prevalence figures could vary due to differences in case detection and instrumentation, e.g., who actually administered the instruments could influence the screening outcomes. The studies did not differentiate between mild, self-limiting common mental disorders and severe disorders requiring more intensive interventions. The exclusion of single-disorder studies reduces the scope of our work, yet many important reviews on single disorder have been recently published (e.g., Murray, Toussaint, Althaus, & Lowe, 2013; Parmentier, Garcia-Campayo, & Prieto, 2013; Thombs, Ziegelstein, Roseman, Kloda, & Ioannidis, 2014). While this update considered difference between genders, the summary does not take other socio-

economic and cultural factors into account. It is worth noting that the data collected in this biomedical literature update does not shed light on the importance of differences in health seeking behaviour between men and women when it comes to the presentation of common mental disorders symptoms. Despite these limitations, the key strength of our biomedical literature search is that it provided an update on the prevalence of common mental disorders in general practice since the WHO international study (The W. H. O. World Mental Health Survey Consortium, 2004).

Conclusions

Despite the disability burden of common mental and substance use disorders globally, the need for management of common mental disorders in primary care, which was identified by the World Health Organization a decade ago, remains unmet. Understanding prevalence of common mental disorders, associated morbidity and the extent to which general practice represents an important catchment mechanism can enhance their management at this level. General practitioners should be trained in accurate screening. Screening instruments for general practitioners should be unified and promoted. The importance of this is exacerbated by the fact that somatic symptoms can predominate, making it more difficult to recognise common mental disorders.

The integration of mental health services into general practice is a key mechanism by which the management of common mental disorders can be enhanced. To achieve this healthcare target, further research should investigate strategies to improve GPs' recognition and early intervention for common mental disorders.

Authors' contributions

AN participated in the design of the study, performed the literature review, classified the findings and drafted the manuscript. JK participated in the design of the study and contributed to the manuscript. CM and DM contributed to the manuscript. WC conceived of the study, participated in its design and coordination and contributed to the manuscript. All authors read and approved the final manuscript.

Acknowledgements

Work on this paper was supported by research grant from Health Research Board of Ireland, HRA_HSR/2012/14, the Research Incentives Programme at University of Limerick, and the University of Limerick Graduate Entry Medical School Strategic Research Fund.

Competing interests

The authors declare that they have no competing interests.

Ethical approval

Research described in this manuscript adheres to international ethical standards; we conducted a review of literature for which no approval from a named research ethics committee was required.

References

- Ansseau, M., Dierick, M., Buntinx, F., Cnockaert, P., De Smedt, J., Van Den Haute, M., & Vander Mijnsbrugge, D. (2004). High prevalence of mental disorders in primary care. *J Affect Disord*, 78(1), 49-55
- Ansseau, M., Fischler, B., Dierick, M., Mignon, A., & Leyman, S. (2005). Prevalence and impact of generalized anxiety disorder and major depression in primary care in Belgium and Luxemburg: the GADIS study. *Eur Psychiatry*, 20(3), 229-235. doi: 10.1016/j.eurpsy.2004.09.035
- Armstrong, D., & Earnshaw, G. (2004). What constructs do GPs use when diagnosing psychological problems? *Br J Gen Pract*, 54(505), 580-583
- Avasthi, A., Varma, S. C., Kulhara, P., Nehra, R., Grover, S., & Sharma, S. (2008). Diagnosis of common mental disorders by using PRIME-MD Patient Health Questionnaire. *Indian J Med Res*, 127(2), 159-164
- Baldacchino, A., Groussard-Escaffre, N., Clancy, C., Lack, C., Sieroslavriska, K., Hodges, C.-L., . . . Laijarvi, H. (2009). Epidemiological issues in comorbidity: lessons learnt from a pan-European ISADORA project. *Mental Health and Substance Use: Dual Diagnosis*, 2(2), 88-100
- Broers, T., Hodgetts, G., Batic-Mujanovic, O., Petrovic, V., Hasanagic, M., & Godwin, M. (2006). Prevalence of mental and social disorders in adults attending primary care centers in Bosnia and Herzegovina. *Croat Med J*, 47(3), 478-484
- Bunevicius, A., Peceliuniene, J., Mickuviene, N., Valius, L., & Bunevicius, R. (2007). Screening for depression and anxiety disorders in primary care patients. *Depress Anxiety*, 24(7), 455-460. doi: 10.1002/da.20274

- Crome, I. B. (2006). An epidemiological perspective of psychiatry comorbidity and substance misuse: the UK experience/example. In A. Baldacchino & J. Corkery (Eds.), *Comorbidity perspective across Europe* (Vol. ECCAS Monograph no. 4, pp. 45-60). London: European Collaborating Centres in Addiction Studies.
- Cwikel, J., Zilber, N., Feinson, M., & Lerner, Y. (2008). Prevalence and risk factors of threshold and sub-threshold psychiatric disorders in primary care. *Soc Psychiatry Psychiatr Epidemiol*, 43(3), 184-191. doi: 10.1007/s00127-007-0286-9
- Daly, A., & Walsh, D. (2011). *Activities of Irish psychiatric units and hospitals 2010*. HRB *Statistics Series 15*. Dublin: Health Research Board.
- de Waal, M. W., Arnold, I. A., Eekhof, J. A., & van Hemert, A. M. (2004). Somatoform disorders in general practice: prevalence, functional impairment and comorbidity with anxiety and depressive disorders. *Br J Psychiatry*, 184, 470-476
- EMCDDA. (2013). *Co-morbid substance use and mental disorders in Europe: A review of the data*. Luxembourg: EMCDDA Papers, Publications Office of the European Union.
- Fernandez, A., Haro, J. M., Martinez-Alonso, M., Demyttenaere, K., Brugha, T. S., Autoneil, J., . . . Alonso, J. (2007). Treatment adequacy for anxiety and depressive disorders in six European countries. *Br J Psychiatry*, 190, 172-173. doi: 10.1192/bjp.bp.106.023507
- Grandes, G., Montoya, I., Arieteleanizbeaskoa, M. S., Arce, V., & Sanchez, A. (2011). The burden of mental disorders in primary care. *European Psychiatry*, 26(7), 428-435. doi: 10.1016/j.eurpsy.2010.11.002
- Gunn, J. M., Gilchrist, G. P., Chondros, P., Ramp, M., Hegarty, K. L., Blashki, G. A., . . . Herrman, H. E. (2008). Who is identified when screening for depression is undertaken in general practice? Baseline findings from the Diagnosis, Management and

- Outcomes of Depression in Primary Care (DIAMOND) longitudinal study. *Medical Journal of Australia*, 188(12), S119
- Haftgoli, N., Favrat, B., Verdon, F., Vaucher, P., Bischoff, T., Burnand, B., & Herzig, L. (2010). Patients presenting with somatic complaints in general practice: depression, anxiety and somatoform disorders are frequent and associated with psychosocial stressors. *BMC Fam Pract*, 11, 67. doi: 10.1186/1471-2296-11-67
- Hartman, T. O., van Rijswijk, E., van Ravesteijn, H., Hassink-Franke, L., Bor, H., van Weel-Baumgarten, E., & Lucassen, P. (2008). Mental health problems and the presentation of minor illnesses: Data from a 30-year follow-up in general practice. *European Journal of General Practice*, 14(s1), 38-43. doi: doi:10.1080/13814780802436150
- Henderson, C., Klimas, J., Dunne, C., Leddin, D., Meagher, D., O'Toole, T. P., & Cullen, W. (2014). Development, content and application of performance indicators for mental health and substance use disorders: a literature review and discussion paper. *Mental Health & Substance Use*, 7(8), 0-00
- King, M., Nazareth, I., Levy, G., Walker, C., Morris, R., Weich, S., . . . Torres-Gonzalez, F. (2008). Prevalence of common mental disorders in general practice attendees across Europe. *Br J Psychiatry*, 192(5), 362-367. doi: 10.1192/bjp.bp.107.039966
- Langås, A.-M., Malt, U., & Opjordsmoen, S. (2011). Comorbid mental disorders in substance users from a single catchment area-a clinical study. *BMC psychiatry*, 11(1), 25
- Lowe, B., Spitzer, R. L., Williams, J. B., Mussell, M., Schellberg, D., & Kroenke, K. (2008). Depression, anxiety and somatization in primary care: syndrome overlap and functional impairment. *Gen Hosp Psychiatry*, 30(3), 191-199. doi: 10.1016/j.genhosppsy.2008.01.001

- MaGPIe Research group. (2004). General practitioner recognition of mental illness in the absence of a 'gold standard'. *Aust N Z J Psychiatry*, 38(10), 789-794. doi: 10.1111/j.1440-1614.2004.01463.x
- Mergl, R., Seidscheck, I., Allgaier, A.-K., Möller, H.-J., Hegerl, U., & Henkel, V. (2007). Depressive, anxiety, and somatoform disorders in primary care: prevalence and recognition. *Depression and Anxiety*, 24(3), 185-195. doi: 10.1002/da.20192
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Grp, P. (2010). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *International Journal of Surgery*, 8(5), 336-341. doi: 10.1016/j.ijisu.2010.02.007
- Murray, A. M., Toussaint, A., Althaus, A., & Lowe, B. (2013). Barriers to the diagnosis of somatoform disorders in primary care: protocol for a systematic review of the current status. *Syst Rev*, 2, 99. doi: 10.1186/2046-4053-2-99
- Norton, J., De Roquefeuil, G., Boulenger, J. P., Ritchie, K., Mann, A., & Tylee, A. (2007). Use of the PRIME-MD Patient Health Questionnaire for estimating the prevalence of psychiatric disorders in French primary care: comparison with family practitioner estimates and relationship to psychotropic medication use. *Gen Hosp Psychiatry*, 29(4), 285-293. doi: 10.1016/j.genhosppsy.2007.02.005
- Olivera, J., Benabarre, S., Lorente, T., Rodriguez, M., Pelegrin, C., Calvo, J. M., . . . Arnal, S. (2008). Prevalence of psychiatric symptoms and mental disorders detected in primary care in an elderly Spanish population. The PSICOTARD Study: preliminary findings. *Int J Geriatr Psychiatry*, 23(9), 915-921. doi: 10.1002/gps.2004
- Parmentier, H., Garcia-Campayo, J., & Prieto, R. (2013). Comprehensive review of generalized anxiety disorder in primary care in Europe. *Curr Med Res Opin*, 29(4), 355-367. doi: 10.1185/03007995.2013.770731

- Regier, D. A., Farmer, M. E., Rae, D. S., Locke, B. Z., Keith, S. J., Judd, L. L., & Goodwin, F. K. (1990). Comorbidity of mental disorders with alcohol and other drug abuse: Results from the epidemiologic catchment area (ECA) study. *JAMA*, *264*(19), 2511-2518. doi: 10.1001/jama.1990.03450190043026
- Ringen, P., Melle, I., Birkenaes, A., Engh, J., Faerden, A., Jonsdottir, H., . . . Larsen, F. (2008). Illicit drug use in patients with psychotic disorders compared with that in the general population: a cross-sectional study. *Acta Psychiatrica Scandinavica*, *117*(2), 133-138
- Roca, M., Gili, M., Garcia-Garcia, M., Salva, J., Vives, M., Garcia Campayo, J., & Comas, A. (2009). Prevalence and comorbidity of common mental disorders in primary care. *J Affect Disord*, *119*(1-3), 52-58. doi: 10.1016/j.jad.2009.03.014
- Rucci, P., Gherardi, S., Tansella, M., Piccinelli, M., Berardi, D., Bisoffi, G., . . . Pini, S. (2003). Subthreshold psychiatric disorders in primary care: prevalence and associated characteristics. *J Affect Disord*, *76*(1-3), 171-181
- Runkewitz, K., Kirchmann, H., & Strauss, B. (2006). Anxiety and depression in primary care patients: predictors of symptom severity and developmental correlates. *J Psychosom Res*, *60*(5), 445-453. doi: 10.1016/j.jpsychores.2005.09.003
- Serrano-Blanco, A., Palao, D. J., Luciano, J. V., Pinto-Meza, A., Lujan, L., Fernandez, A., . . . Haro, J. M. (2010). Prevalence of mental disorders in primary care: results from the diagnosis and treatment of mental disorders in primary care study (DASMAP). *Soc Psychiatry Psychiatr Epidemiol*, *45*(2), 201-210. doi: 10.1007/s00127-009-0056-y
- The W. H. O. World Mental Health Survey Consortium. (2004). Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization world mental health surveys. *JAMA*, *291*(21), 2581-2590. doi: 10.1001/jama.291.21.2581

- Thombs, B. D., Ziegelstein, R. C., Roseman, M., Kloda, L. A., & Ioannidis, J. P. (2014). There are no randomized controlled trials that support the United States Preventive Services Task Force guideline on screening for depression in primary care: a systematic review. *BMC Med*, *12*, 13. doi: 10.1186/1741-7015-12-13
- Toft, T., Fink, P., Oernboel, E., Christensen, K., Frostholm, L., & Olesen, F. (2005). Mental disorders in primary care: Prevalence and co-morbidity among disorders. Results from the functional illness in primary care (FIP) study. *Psychol Med*, *35*(8), 1175-1184
- Verhaak, P. F., Hoeymans, N., Garssen, A. A., & Westert, G. P. (2005). Mental health in the Dutch population and in general practice: 1987-2001. *Br J Gen Pract*, *55*(519), 770-775
- Watts, S. C., Bhutani, G. E., Stout, I. H., Ducker, G. M., Cleator, P. J., McGarry, J., & Day, M. (2002). Mental health in older adult recipients of primary care services: is depression the key issue? Identification, treatment and the general practitioner. *Int J Geriatr Psychiatry*, *17*(5), 427-437. doi: 10.1002/gps.632
- Wells, J. E., Browne, M. O., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., Angermeyer, M. C., . . . Caldas-de-Almeida, J. M. (2013). Drop out from out-patient mental healthcare in the World Health Organization's World Mental Health Survey initiative. *The British Journal of Psychiatry*, *202*(1), 42-49
- Wittchen, H.-U., & Jacobi, F. (2005). Size and burden of mental disorders in Europe—a critical review and appraisal of 27 studies. *European neuropsychopharmacology*, *15*(4), 357-376
- World Health Organization. (1995). *Mental illness in general health care: an international study*: Wiley. com.

World Health Organization. (2008). *The global burden of disease: 2004 update*. Geneva:

World Health Organization.

Tables and figures

Table 1. Results of electronic literature search

Study	Country	N	Instrument	Mental disorder	Prevalence
Anseau et al.(2004)	Belgium	2316	PRIME-MD	Common mental disorders	42.5%
Anseau et al. (2005)	Belgium, Luxemburg	13,677	MINI	Anxiety and depression	10.4%
Broers et al. (2006)	Bosnia	1285	PHQ	Mental and social disorders	26%
Cwikel et al. (2007)	Israel	976	CIDI-SF PTSD checklist, SCL, DEBQ	Common mental disorders	31.1%
Grandes et al. (2011)	Spain	2539	CIDI	Common mental disorders	22.8%
Haftgoli et al. (2010)	Switzerland	917	PHQ	Anxiety, depression and somatoform disorders[4]	14.4%
King et al. (2008)	Europe	7,209	CIDI/PHQ	Depression, anxiety & Panic disorder[1]	28.5%
Mergl et al. (2007)	Germany	394	CIDI, GHQ-12	Depression and co-morbidity[2]	17.3%
Norton et al. (2007)	France	1,151	PHQ	Common mental disorders	34.1%
Olivera et al. (2008)	Spain	293	MMSE, GDS, GAS, GMS	Common mental disorders in the elderly	46.1%
Roca et al. (2009)	Spain	7,936	PRIME-ED	Common mental disorders	53.6%
Rucci et al. (2003)	Italy	554	GHQ 12, CIDI	Common mental disorders[3]	29.4%
Runkewitz et al.(2005)	Germany	242	HADS	Anxiety and depression	26.1%
Serrano-Blanco et al. (2010)	Spain	5,402	SCID-I, MINI	Common mental disorders	31.2%
Toft et al. (2005)	Denmark	701	SCL-8, Whitely-7, CAGE	Common mental disorders	49.7%
Verhaak et al. (2005)	Netherlands	9,687	GHQ-12	Common mental disorders	22.8%
Watts et al. (2002)	UK	268	GHQ-28, HADS, MMSE,	Common mental disorders in the elderly	48.1%

[1] This study considered the prevalence of CMD (depression, panic syndrome & anxiety disorder) across six countries in Europe. For the purpose of this review, an average of the results was included in the table above

[2] The prevalence presented in the table above represents the co-morbidity of depression, anxiety and somatoform disorders

[3] Common mental disorders include the following disorders: mood, anxiety, alcohol related, eating-related and somatoform

[4] This study examined the role of anxiety, depression and somatoform disorders in patients presenting with physical symptoms. 14.4% represents the prevalence without any major psychosocial stressor.

Figure 1. Study flow diagram

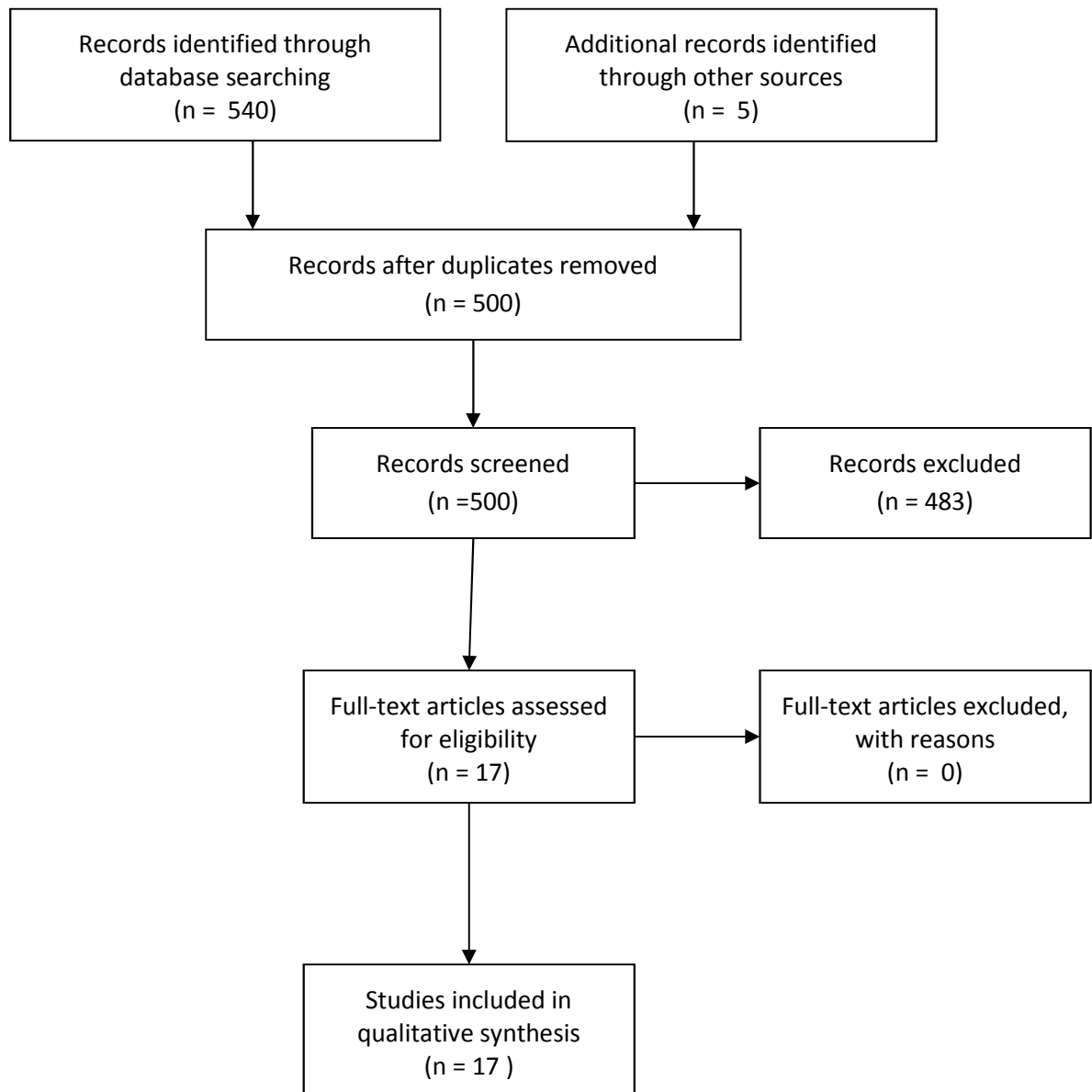


Figure 2. Prevalence, lifetime risk and gender breakdown of common mental disorders

