



Research paper

Depression-related treatment and costs in Germany: Do they change with comorbidity? A claims data analysis



Christoph J. Wagner^{a,*}, Florian G. Metzger^b, Christoph Sievers^c, Ursula Marschall^c,
Helmut L'hoest^c, Bjoern Stollenwerk^d, Stephanie Stock^a

^a Institute for Health Economics and Clinical Epidemiology, Cologne University Hospital, Germany

^b Department of Psychiatry and Psychotherapy and Geriatric Center, Tuebingen University Hospital, Germany

^c BARMER GEK Statutory Health Insurance Fund, Headquarters, 42285 Wuppertal, Germany

^d Institute of Health Economics and Health Care Management, Helmholtz Zentrum Muenchen, Germany

ARTICLE INFO

Article history:

Received 3 September 2015

Received in revised form

7 December 2015

Accepted 26 December 2015

Available online 2 January 2016

Keywords:

Depression

Depression-related treatment

Cost-of-illness

Direct costs

Comorbidity

Germany

Claims data

ABSTRACT

Background: Existing diverse bottom-up estimations of direct costs associated with depression in Germany motivated a detailed patient-level analysis of depression-related treatment (DRT), -costs (DRC) and Comorbidity.

Methods: A large sickness fund's claims data was used to retrospectively identify patients aged 18–65 years with new-onset depression treatment between January 1st and February 15th 2010, and follow them until December 31st 2010, describe DRT, estimate associated DRC, and predict DRC with a generalised linear model.

Results: A total of 18,139 patients were analysed. Mean direct DRC were €783. Predictors of DRC regarding psychiatric comorbidities were: “Delusion, psychotic disorders and personality disorders” (DRC-ratio 1.72), “Alcohol/drug addiction” (1.82), “abuse of alcohol/drugs” (1.57). Predictors of DRC regarding medical comorbidities were: “Rheumatoid arthritis” (0.77), “atherosclerosis” (0.65), “pregnancy” (0.66), and “Osteoarthritis” (1.87). Of all patients, 60.8% received their most intense/specialised DRT from a general practitioner, a medical specialist (23.7%), a psychotherapist (8.0%), a medical specialist and psychotherapist (2.9%), or in hospital (4.6%). Serious psychiatric comorbidity nearly tripled depression-related hospitalisation rates.

Limitations: Seasonal affective disorder and missing psychiatric outpatient clinic data must be considered.

Conclusions: Estimated DRC are significantly below the assessment of the German national guideline. Differing definitions of observation period and cost attribution might explain differing German DRC results. Signs of hospital psychiatric comorbidity bias indicate overestimation of hospital DRC. Identified associations of DRC with certain medical diseases in older adults warrant further research. Up to one quarter of patients with severe depression diagnosis might lack specialist treatment.

© 2015 Elsevier B.V. All rights reserved.

1. Introduction

Depression has a high prevalence (Alonso et al., 2004; Bramesfeld et al., 2010; Gerste and Roick, 2014; Jacobi et al., 2014; Wittchen and Jacobi, 2005), often results in disabilities (Olesen and Leonardi, 2003; Ormel et al., 1999; Paykel et al., 2005), and causes substantial costs to society (Andlin-Sobocki et al., 2005; Cuijpers et al., 2007; Greenberg et al., 2003; Gustavsson et al., 2011). These facts are well-known at population level. However,

relevant knowledge gaps still exist in patient-level health services research in Germany regarding (i) treatment, and (ii) costs related to depression, and (iii) how both are affected by medical or psychiatric comorbidities.

- (i) The frequently used method to report treatment of depression disease is imprecise. Existing German studies using a more precise method either miss nationwide representativeness and inpatient data (Boenisch et al., 2011) or detailed information on further patient characteristics (Gerste and Roick, 2014). Like Boenisch et al. (2011) and Gerste and Roick (2014) we define *Depression-related Treatment (DRT)* as outpatient physician visits or inpatient stays linked with a diagnosis of depression or affective disorder (Gerste and Roick, 2014).

Abbreviations: DRT, Depression-related treatment; DRC, Depression-related costs; MG, (Co)morbidity group(s); SHI, Statutory health insurance

* Corresponding author.

E-mail addresses: wagnerc1@uni-koeln.de, wagnercj@gmx.de (C.J. Wagner).

<http://dx.doi.org/10.1016/j.jad.2015.12.068>

0165-0327/© 2015 Elsevier B.V. All rights reserved.

When focusing on depression disease, this is more precise than reporting *any mental health treatment* without diagnosis linkage. However, the latter method is frequently used in German (Bramesfeld et al., 2007a; Melchior et al., 2014; Wittchen et al., 1999) and international (Birnbaum et al., 2010; Fernandez et al., 2007; Melfi et al., 1999; Mojtabai and Olfson, 2006; Rhodes et al., 2006; Simon et al., 2001; Spijker et al., 2001) studies analysing depression disease. *Any mental health treatment* becomes a measure of limited precision when patients suffer another psychiatric comorbidity (Friemel et al., 2005; Salize et al., 2004), which frequently occurs (Kessler et al., 2003).

- (ii) *Depression-related costs* (DRC) reported in Germany vary widely. Three studies analysing patient-level data reported annual mean costs per working age patient of €2541 (Salize et al., 2004), €1264 (Friemel et al., 2005), and €487 (Kleine-Budde et al., 2013) for combined inpatient and outpatient DRT (Berto et al., 2000; Luppá et al., 2007; Zerth et al., 2011). Kleine-Budde et al. (2013) were the first in Germany to estimate depression-related costs using depression diagnosis linkage for outpatient care, but with limited nationwide representativeness.
- (iii) Evidence of medical or psychiatric *comorbidities'* influence on DRT or DRC is scarce (Gijzen et al., 2001). To our knowledge only Boenisch et al. (2011) analysed whether “depression-specific treatment” changed with coexisting medical or psychiatric comorbidities. They found that significantly more (less) patients with psychiatric (medical) comorbidity receive “threshold depression-specific treatment” but analysed only “some of the most prevalent comorbid somatic disorders” (Boenisch et al., 2011). We assume DRC to be a proxy for the intensity of DRT. DRC might be influenced by the German guideline for depression's recommendation of psychotherapy for coexisting diabetes mellitus (AWMF, 2012, p43), or limited patient capacities for DRT due to a physically impairing medical disease. Psychiatric comorbidity might induce more treatment complications, hospital admissions and medical specialist visits and higher DRC (Gijzen et al., 2001), or efficient outpatient one-stop treatment and lower DRC (Carstensen et al., 2012). We analysed comorbidities to assess real world treatment diversity not covered by clinical trials, and to detect strongly deviating comorbidities possibly relevant for clinical or health services research and risk adjustment.

Imprecise or incomplete information on DRT and uncertainty about DRC impede a precise assessment of appropriate health service provision, planning of services across providers, and economic models. We devised claims data methods to address the variety in depression cost estimations and provide detailed data for policy decisions and service planning. The main objective of this study was to estimate and discuss DRC by building on existing work with the diagnosis linkage method. As a secondary objective we explored the association of DRC with categorised or single psychiatric or medical comorbidities. Detailed cost analysis requires previous detailed analysis of single providers' services. The third objective is a detailed description of depression-related treatment for a study population selected nationwide, with the purpose to validate DRC results and to explore cross-provider DRT.

2. Methods

2.1. Data and study design

We analysed claims data of the “BARMER GEK” statutory health insurance (SHI) fund for this retrospective observational study. In

2010, the BARMER GEK was the single largest SHI fund, covering about 8.67 million insured or about 11% of the German SHI population (Grobe et al., 2012). Regionally, the BARMER GEK covered between 6% and 16% of the inhabitants of all 16 German federal states (Grobe et al., 2011). The year 2010 served as base year. Claims data regarding outpatient care, inpatient care, and outpatient drug prescriptions was analysed on an anonymized patient and anonymized provider level. We analysed a cohort of patients with new-onset DRT for a period of 320–365 days during 2010 (Beekman et al., 2001; Johnson et al., 2013; Ray, 2003; Spijker et al., 2004; Wittchen and Uhmann, 2010). Reported service use and costs reflect SHI reimbursed services and costs without taking into account the comparably low co-payments for drugs or hospital.

2.2. Study population

We included insured persons of working age (18–65 years) with continuous enrolment and full coverage during the last 183 days of 2009 and 365 days in 2010. Adolescents and elderly patients above 65 years of age were regarded as separate homogeneous groups and were not included in our analysis (Bramesfeld et al., 2007a; Curry et al., 2011; Wittchen and Jacobi, 2005). From this base population we selected patients with new-onset depression treatment in three steps (Fig. 1):

First, patients with a diagnosis of a single depressive episode (F32.0/1/2/8/9ICD-10) or recurrent depression (F33.0/1/2/8/9ICD-10) in the year of 2010 were included if they had at least (Gerste and Roick, 2014; Kleine-Budde et al., 2013):

- two confirmed outpatient diagnoses by two different physicians or
- two confirmed outpatient diagnoses in two different quarters or
- one hospital discharge diagnosis.

We concentrated on unipolar depression and excluded patients with bipolar affective disorder (F31.x) or depression with psychotic symptoms (F32.3/F33.3).

Second, to secure *new-onset* of depression treatment in 2010, patients were excluded if they had at least one (i) confirmed outpatient diagnosis F32.x or F33.x or (ii) hospital discharge diagnosis F32.x or F33.x or (iii) antidepressant prescription with anatomic therapeutic classification code (ATC) N06A (WHO, 2012) in the 183 days preceding the index year 2010. Most clinical trials of antidepressants define 6 months or 183 days as a period of “wash out” (IQWiG, 2013).

Third, to secure observation of at least 320 and at most 365 days for available year 2010 data, we selected patients receiving their first depression service between January 1st and February 15th in 2010. A patient's first depression service was defined as:

- hospital admission with depression discharge diagnosis or
- outpatient visit with depression diagnosis and depression service or
- antidepressant prescription.

Comparable studies used similar case definitions to identify patients with depression and mark a depression treatment index date (Boenisch et al., 2011; Bramesfeld et al., 2010; Gerste and Roick, 2014).

2.3. Patient characteristics

We classified each patient's level of *severe* (F32.2/F33.2), *moderate* (F32.1/F33.1), *mild* (F32.0/F33.0) or *other* (F32.8/F33.8/F32.9/F33.9) depression using the most severe confirmed outpatient or

Download English Version:

<https://daneshyari.com/en/article/6230480>

Download Persian Version:

<https://daneshyari.com/article/6230480>

[Daneshyari.com](https://daneshyari.com)