

# Impact of Bipolar Disorder in Employed Populations

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**B**ipolar disorder (BPD; also known as manic-depressive disorder) is a chronic mental illness characterized by recurrent, dramatic mood changes.<sup>1-6</sup> Individuals with BPD cycle between a range of emotions that disrupt phases of near-normal behavior, often alternating between intense feelings of exhilaration (manic episodes) and sadness (depressive episodes).<sup>1-6</sup>

Manic episodes are characterized by a euphoric state of mind and are associated with feelings of elation, grandiosity, impulsiveness, hyperactivity, distractibility, irritability, and excessive libido.<sup>1,3</sup> Conversely, depressive episodes are associated with feelings of despair, hopelessness, lethargy, guilt, anxiety, violence, and suicidal ideation and activity.<sup>1,3</sup> Some people with BPD experience mixed episodes, with both manic and depressive features.<sup>1,3,5</sup>

Bipolar disorder, especially the depressive phase, is associated with high levels of morbidity, disability, and premature mortality.<sup>6</sup> In 2000, the World Health Organization estimated that BPD was the fifth leading cause of disability worldwide among young adults (ie, 15-44 years of age).<sup>7</sup> In the United States, the lifetime prevalence of BPD is estimated at 3.7%.<sup>8</sup>

Bipolar disorder has a substantial effect on many aspects of a patient's life and is a source of significant economic burden.<sup>5</sup> The achievement of academic and occupational ambitions is impeded from an early age because the onset of BPD generally occurs during adolescence or early adulthood and the illness continues for the remainder of a patient's working life.<sup>1</sup> Impaired functioning may remain for many patients even after BPD symptoms subside during a remission.<sup>3,6,9</sup>

The objective of this review was to identify the impact of BPD on the workplace, with respect to costs to employers, workplace productivity and functioning, and any employer-initiated programs or management strategies implemented to improve work attendance and performance.

## METHODS

Systematic searches of PubMed and EMBASE were performed to identify studies addressing the impact of BPD in an employed population. This search was conducted as part of a wider review into the impact of mental illness in an employed population. Publications were retrieved in July 2007 using a reproducible search

**Objective:** To review literature on the impact of bipolar disorder on the workplace, with respect to costs to employers, workplace productivity and functioning, and any employer-initiated programs implemented with the aim of improving work attendance and performance.

**Study Design:** Systematic literature review.

**Methods:** Original studies relating to bipolar disorder in the workplace were identified from PubMed and EMBASE using a reproducible, systematic search strategy in July 2007. There were no constraints on publication dates. Results were first evaluated by title and/or abstract. Full manuscripts of potentially relevant papers then were obtained and assessed for inclusion. Productivity data were extracted in terms of absenteeism, short-term disability, presenteeism, and any associated cost burden to US employers.

**Results:** Seventeen studies met search criteria and were included in this review. The data indicate that bipolar disorder imposes a significant financial burden on employers, costing more than twice as much as depression per affected employee. A large proportion of the total cost of bipolar disorder is attributable to indirect costs from lost productivity, arising from absenteeism and presenteeism. The presence of comorbid conditions and stigma in the workplace may lead to delays in accurate diagnosis and effective management of bipolar disorder.

**Conclusion:** Bipolar disorder among the working population can have a significant, negative effect on work relationships, attendance, and functioning, which can lead to substantial costs to US employers arising from lost productivity. There is a need for workplace initiatives to address the health and cost consequences of bipolar disorder within an employed population.

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strategy, which included search terms such as absenteeism, bipolar disorder, disability, employee, employer-initiated programs, household earnings, presenteeism, and productivity. There were no constraints on publication dates.

References were imported into a database (EndNote, version X1, Thomson ResearchSoft, Carlsbad, CA), and duplicates were deleted. The results were then evaluated by title and/or abstract with the aim of rejecting any not written in English and selecting those specific to working adults and relevant to workplace productivity. Full manuscripts of potentially relevant papers were obtained and assessed for inclusion. Articles were included if they quantifiably measured productivity outcomes or provided examples of employer-initiated programs to improve workplace performance. US papers were extracted and included in this publication.

## RESULTS

After the removal of duplicates and the addition of papers found ad hoc or already known to the reviewers, the PubMed and EMBASE searches produced 16 original papers and 1 poster presentation (Table). These studies fell into 3 categories: 8 retrospective studies of administrative claims data, 5 studies of cross-sectional survey data, and 4 prospective, naturalistic studies using patient interview data. Retrospective analysis of administrative claims databases can provide useful information on healthcare resource use and lost productivity in terms of sick leave and disability compensations.<sup>10,11</sup> These studies are inexpensive and less time consuming, but may lack information on productivity outcomes measures that do not result in claims.<sup>10,11</sup> Cross-sectional surveys can collect information on presenteeism and work performance that are not available from administrative claims data.<sup>10,11</sup> However, survey data may lack medical information and are susceptible to nonresponse and recall bias.<sup>10,11</sup> Prospective, naturalistic studies may offer an opportunity to collect follow-up data on the impact of illness on functional and occupational outcomes, but may be sensitive to sample size and generalizability issues.<sup>10,11</sup> Despite their limitations, the use of different data sources and study methods can provide a more complete picture of the impact of illness in employed populations. Productivity data were extracted in terms of absenteeism, short-term disability, and presenteeism, along with any associated cost burden to US employers.

### Impact on Employed Populations

**Direct and Indirect Costs to Employers.** Lost productivity due to BPD imposes a significant economic burden on employers. A study analyzing data from 6 large US corporations found BPD to be the most expensive mental health condition in terms of medical care and lost productivity.<sup>12</sup>

The study utilized the MEDSTAT MarketScan Health and Productivity Management Database containing person-level information on nearly 375,000 individuals employed by the corporations between 1997 and 1999 and found that the cost of chronic maintenance of BPD (US \$64.10 per eligible employee) was 2.5-fold greater than the cost of the next most expensive mental health condition, depression (\$24.02).<sup>12</sup> Indirect costs due to work absences and short-term disability losses accounted for 51% and 50%, respectively, of each of these costs.<sup>12</sup> Treatment of severe depressive and manic episodes of BPD also ranked third (\$22.70) and eighth (\$2.71), respectively, in the top-10 list; 58% and 50% of each cost was attributed to work absences and short-term disability losses, respectively.<sup>12</sup>

In 1991, the National Institute of Mental Health estimated the annual cost of BPD to the United States as \$45 billion, of which only \$7 billion was estimated to be direct treatment costs.<sup>13</sup> The remaining \$38 billion of indirect costs included lost productivity of wage earners (\$18 billion), homemakers (\$3 billion), institutionalized patients (\$3 billion), individuals who committed suicide (\$8 billion), and caregivers of BPD family members (\$6 billion).<sup>13</sup>

Individuals with BPD also incur a substantial burden of general medical comorbidity. A retrospective analysis of data extracted from the Human Capital Management Services Research Reference Database between 2001 and 2002 revealed that BPD is associated with multiple, costly, comorbid conditions, both mental (eg, affective disorders, schizophrenia, dissociative/personality disorders) and physical (eg, endocrine, metabolic, immunity, and circulatory disorders).<sup>6</sup> Bipolar disorder also was associated with significantly greater costs in the poisoning/medical/drugs category, which the study accounted for by the fact that the depressive phase of BPD often is linked with suicidal ideation, with 25%-50% of BPD patients attempting suicide at least once.<sup>6</sup>

A related study reported that US employees with BPD had about 2 to 3 times higher costs than employees without BPD in several physical health condition categories, including headaches and migraines, intervertebral disc disorders, hyperlipidemia, and other nontraumatic joint disorders.<sup>14</sup>

**Work Time Lost and Associated Costs.** A diagnosis of BPD is associated with an increased likelihood of missing work because of illness.<sup>5,14</sup> A retrospective analysis of data from the Human Capital Management Services Research Reference Database relating to health benefit costs and health-related absences during 2001-2002 reported that employees with BPD had significantly more health-related absences from work than employees without the disorder.<sup>5,14</sup> Individuals with BPD missed an average of 18.9 workdays each year, significantly more ( $P \leq .05$ ) than employees without BPD, who

## Bipolar Disorder in Employed Populations

■ **Table.** Studies Included in the Analysis

Study	Method (Database)	Study Period	Population	Productivity Measures	Key Conclusions
Birnbaum et al 2003 <sup>22</sup>	Claims-based retrospective study (Ingenix administrative claims database)	1998-2001	Employees without BPD (n = 8383), employees with recognized BPD (n = 293), employees with unrecognized BPD (n = 333)	Indirect (ie, work loss) costs	Patterns for medication treatment for BPD were suboptimal; accurate and timely recognition of BPD was associated with lower medical costs and lower indirect costs due to work loss
Brook et al 2006 <sup>4</sup>	Claims-based retrospective study (Human Capital Management Services Research Reference database)	2001-2002	Employees with BPD (n = 761), employees without BPD (n = 229,145), employees with other mental disorders (n = 26,776), employees with no mental disorder (n = 185,802)	Lost work time, measured in terms of sick leave, short-term disability, long-term disability, and workers' compensation	Employers need to identify and target high-risk ("high-cost") employees with BPD and coexisting conditions through appropriate interventions (eg, early screening and diagnosis), which have the potential to improve patient care and reduce costs
Coryell et al 1993 <sup>16</sup>	Prospective naturalistic study (patient interviews)	1993	Patients with BPD (n = 148), patients with unipolar affective disorder (n = 240)	Occupational functioning	Functional impairment may persist for many years, even after resolution of clinical symptoms
Gardner et al 2006 <sup>14</sup>	Claims-based retrospective study (Human Capital Management Services Research Reference database)	2001-2002	Employees with BPD (n = 761), employees without BPD (n = 229,145)	Lost work time, measured in terms of sick leave, short-term disability, long-term disability, and workers' compensation	The impact of BPD can be costly in the workplace, leading to increased health benefit costs and increased absenteeism
Goetzel et al 2003 <sup>12</sup>	Claims-based retrospective study (MEDSTAT Group's MarketScan Health and Productivity Management database)	1997-1999	Total employees (n = 374,799)	Short-term disability, absence payments	The top-10 most costly physical health conditions and top-10 most costly mental health conditions have implications for employer and health plans
Goldberg and Harrow 2005 <sup>18</sup>	Prospective naturalistic study (patient interviews)	2005	BPD (n = 35), unipolar psychotic depression (n = 27), unipolar nonpsychotic depression (n = 95)	Global outcome, work performance, social adjustment, recurrent depressive episodes, and dimensions of life satisfaction	Depressive symptoms and objective functional impairment may add to poor QOL; recurrent depression was associated with poor life satisfaction across affective disorder subtypes
Hirschfeld et al 2003 <sup>21</sup>	US survey (National Depressive and Manic-Depressive Association)	2000	Respondents from a sample of patients diagnosed with BPD (n = 600)	Impact of symptoms on employment	Individuals with BPD report that the illness manifests itself early but may not be accurately diagnosed for many years; patients reported negative impact on employment

*(Continued)*

■ **Table.** Studies Included in the Analysis (*Continued*)

Study	Method (Database)	Study Period	Population	Productivity Measures	Key Conclusions
Hirschfeld et al 2003 <sup>8</sup>	US survey (Mood Disorder Questionnaire)	2001	Respondents from a nationally representative sample of US households (n = 85,358)	N/A	The positive screen rate of 3.7% suggested that nearly 4% of American adults may suffer from BPD
Kamat et al 2007 <sup>23</sup>	Survey-based (linked with claims data) study	2000-2004	Adults correctly diagnosed with MDD (n = 1266), misdiagnosed BPD patients (n = 94)	Self-reported work-impairment based on Sheehan Disability Scale	Inaccurate diagnosis may be associated with work impairment and increased medical costs
Kessler et al 2006 <sup>15</sup>	Survey-based study (National Comorbidity Survey Replication)	2001-2003	Respondents from a nationally representative sample of US workers (n = 3378)	Work performance, including absenteeism, presenteeism, and associated costs	Employer interest in workplace costs of mood disorders should be broadened beyond MDD to include BPD
Kleinman et al 2005 <sup>5</sup>	Claims-based retrospective study (Human Capital Management Services Research Reference database)	2001-2002	Employees with BPD (n = 761), employees without BPD (n = 229,145), employees with other mental disorders (n = 26,776), employees with no mental disorder (n = 185,802), healthy employees (n = 135,898)	Health-related employee lost work time, absence costs, and level of at-work productivity	Employees with BPD are less likely to be present at work; when present, their productivity level is similar to that of other employees but over the course of a year, their absence rates result in significant productivity losses
Matza et al 2004 <sup>2</sup>	Claims-based retrospective study (MEDSTAT Group's MarketScan Health and Productivity Management database)	2000	Employees with BPD (n = 761), employees without BPD (n = 229,145)	Sick leave, short- and long-term disability, and workers' compensation	BPD has a substantial impact on work loss as measured by absence hours, short-term disability payments, and workers' compensation payments
Michalak et al 2007 <sup>19</sup>	Survey-based qualitative analysis	2007	Individuals with BPD (n = 35), caregivers (n = 5), healthcare professionals (n = 12)	Descriptions of the different ways the symptoms of depression and (hypo)mania present in the workplace	The study presents the "complex, varied and intermittent effects" of BPD on work functioning; there is a need to develop appropriate measures of occupational functioning among these patients
Perlick et al 1999 <sup>20</sup>	Prospective naturalistic study (patient interviews)	1999	Caregivers of people with BPD (n = 266)	N/A	Caregivers of patients with BPD report widespread burden that is influenced by beliefs about the illness
Rajagopalan et al 2006 <sup>6</sup>	Claims-based retrospective study (Human Capital Management Services Research Reference database)	2001-2002	Employees with BPD (n = 761), employees without BPD (n = 229,145), employees with other mental disorders (n = 26,776)	N/A	Employees with BPD have greater cost and utilization of services due to various mental and physical comorbidities than either employees without BPD or employees with other mental disorders

(Continued)

■ **Table.** Studies Included in the Analysis (*Continued*)

Study	Method (Database)	Study Period	Population	Productivity Measures	Key Conclusions
Tohen et al 2000 <sup>17</sup>	Prospective, naturalistic, study (patient interviews)	1989-1996	Patients with psychotic affective disorders (n = 219)	Occupational functioning	Syndromal recovery was attained by the most patients soon after hospitalization, but only one third recovered functionally by 24 months
Wyatt and Henter 1995 <sup>13</sup>	Claims-based economic evaluation	1991	Patients with BPD	Lost productivity from homemakers, institutions, suicide, caregivers, compensation	Although direct expenditure was high, lost productivity costs were substantially higher; BPD impacts on the QOL of the individuals and those around them; furthermore, if these individuals were healthy, they would be contributing to the total productivity of the nation and increasing the tax base

BPD indicates bipolar disorder; MDD, major depressive disorder; N/A, not applicable; QOL, quality of life.

missed an average of 7.4 workdays annually.<sup>5,14</sup> The majority of this lost time (58%) occurred under the short-term disability benefit.<sup>5,14</sup>

Total costs associated with this absenteeism were approximately 2.5-fold higher for employees with BPD than for those without BPD (\$1995 vs \$777;  $P \leq .05$ ).<sup>4,5</sup> A breakdown revealed that employees with BPD were consistently more costly than employees without BPD across all types of absences, including sick leave (\$489 vs \$353;  $P \leq .05$ ), short-term disability (\$975 vs \$255;  $P \leq .05$ ), long-term disability (\$118 vs \$6;  $P \leq .05$ ), and workers' compensation (\$413 vs \$163;  $P \leq .05$ ).<sup>4,5</sup>

The same study reported that when present at work, the average hourly productivity of employees with BPD was similar to that of employees without BPD.<sup>5</sup> However, because of their high rates of absenteeism, on an annual basis, the overall productivity loss was significantly different, with an annual output 20% lower than that of employees without BPD ( $P \leq .05$ ).<sup>5</sup>

In terms of total healthcare benefit costs, employees with BPD were \$6836 more expensive per year than employees without the disorder (\$9983 vs \$3147;  $P < .05$ ).<sup>4,14</sup> Total costs also were 59% greater than those for employees with other mental disorders (\$9983 vs \$6268;  $P < .05$ ).<sup>4,14</sup>

A retrospective analysis of the MEDSTAT MarketScan Health and Productivity Management Database of 320,000 employees from 6 large US employers in 2000 concluded that BPD has a substantial impact on work time lost.<sup>2</sup> Em-

ployees with BPD were absent significantly more hours per year (55 h vs 21 h;  $P = .009$ ) than employees without BPD, while short-term disability payments were significantly larger for employees with BPD than for both employees without BPD (\$1231 vs \$131;  $P < .001$ ) and employees with depression (\$1231 vs \$741;  $P = .004$ ).<sup>2</sup>

A regression analysis of BPD and major depressive disorder indicated that productivity loss due to BPD was twice that associated with depression.<sup>15</sup> Using data from 3378 workers who responded to the National Comorbidity Survey Replication conducted in 2001-2003, it was estimated that employees with BPD had 65.5 lost workdays per year due to absenteeism and presenteeism, significantly more than those with major depressive disorder, who missed 27.2 workdays per year ( $P = .05$ ).<sup>15</sup> The study attributed the higher rate of work loss associated with BPD to the more severe and persistent depressive episodes experienced; these lasted 134-164 days, whereas those for major depression lasted, on average, 98 days ( $P = .01$ ).<sup>15</sup>

Annual costs were significantly greater for employees with BPD than for those with major depressive disorder in terms of both absenteeism (\$4067 vs \$1420;  $P = .05$ ) and presenteeism (\$5184 vs \$2961;  $P = .05$ ).<sup>15</sup> When projections were scaled up to the total US workforce, the same study estimated that BPD costs employers \$14.1 billion per year due to absenteeism and presenteeism.<sup>15</sup> This was almost half the estimated cost for major depressive disorder (\$36.6 billion), even though BPD is 6 times less prevalent.<sup>15</sup>

### Functional Impairment

Functional recovery is closely related to the patient's ability to work, and this often is delayed or remains incomplete even after BPD symptoms subside.<sup>16</sup> A US study in 2000 reported that more than 60% of patients with BPD remained functionally impaired for at least 2 years after the onset of illness despite resolution of symptoms, which affects interpersonal relationships and the ability to work productively.<sup>17</sup>

A US longitudinal analysis in 2005 reported that at 2 years, 4.5 years, and 7-8 years of follow-up, objective work-functioning scores of BPD subjects were significantly lower than those with unipolar depression (psychotic and nonpsychotic).<sup>18</sup>

### Stigma in the Workplace

A North American qualitative analysis highlighted that many employees with BPD felt that the effects of cycling between manic and depressive episodes affected the continuity and consistency of their work, resulting in a notion of occupational loss (eg, lost work time, lost job prospects, financial loss).<sup>19</sup> The majority of interviewees had experienced stigma in the workplace and believed this had resulted in their being dismissed from positions, denied promotions, demoted, or held back in their career in other ways.<sup>19</sup> Interpersonal problems in the workplace also were an issue, arising from a perceived lack of education about BPD.<sup>19</sup>

### Impact on Caregivers

The negative impact of BPD also may extend to family members and caregivers. A multivariate analysis in 1999 reported that more than 90% of US caregivers for people with BPD experienced moderate distress in at least 1 of the following burden domains: the patient's problematic behavior (eg, violence, unpredictability); the patient's role dysfunction at work or home; and adverse effect on others (eg, impact on caregiver's work or social time).<sup>20</sup> More than 50% experienced severe levels of burden, and there was an association between higher stress levels and depressive episodes.<sup>20</sup>

In 1991, the National Institute of Mental Health estimated that work absences resulting from caregivers being required to care for family members with BPD cost the United States approximately \$6 billion per year, or 13% of the total cost of BPD to the United States (\$45 billion).<sup>13</sup>

### Importance of Awareness, Recognition, and Diagnosis

Although there is no cure for BPD, effective treatments are available that can lead to a reduction in symptoms, improving day-to-day functioning.<sup>21</sup> One or more medications usually are required to initially control symptoms. Once the

patient's condition has stabilized, maintenance treatment involving pharmacologic and psychosocial interventions is indicated to help prevent future episodes and improve the ability to work.

However, diagnosing BPD often is complicated by the diversity of presentations as well as the presence of multiple comorbidities, with many patients misdiagnosed as having major depressive disorder.<sup>8</sup> A large US survey screening for BPD in the community reported that of those who screened positive for BPD, more than 30% had been misdiagnosed with unipolar depression by their physician.<sup>8</sup> A separate US analysis of 600 self-administered surveys of diagnosed BPD patients revealed that 69% were initially misdiagnosed, with unipolar depression the most frequent misdiagnosis.<sup>21</sup> An accurate diagnosis often is not made until several years after the initial presentation; for more than a third of patients, this may take up to 10 years.<sup>21</sup>

This time delay has considerable cost implications for employers; direct medical costs for BPD may be high, but the cost of not receiving timely and appropriate treatment may be higher still.<sup>4</sup> One study comparing the cost of people with recognized and unrecognized BPD using claims data (1999-2001) from several large national US employers reported that the mean monthly cost of healthcare for people with recognized BPD (\$801) was significantly higher ( $P < .05$ ) than that for employees without BPD (\$585), but significantly lower ( $P < .05$ ) than that for individuals with unrecognized BPD (\$1179).<sup>22</sup> The study also reported that monthly indirect costs were significantly higher ( $P < .05$ ) for employees with unrecognized BPD (\$570) and recognized BPD (\$514) than they were for employees without BPD (\$335).<sup>22</sup>

Claims data (2000-2004) from a separate US retrospective observational study showed that individuals with BPD who were misdiagnosed with major depressive disorder had approximately \$5000 more per year in costs for direct medical care than those correctly diagnosed with BPD (\$9313 vs \$4357;  $P < .01$ ).<sup>23</sup>

As well as misdiagnosis, delayed diagnosis also occurs because many people avoid seeking professional help.<sup>21</sup> For some, this avoidance may be because of the stigma associated with BPD.<sup>19</sup> Others may simply not recognize their symptoms as abnormal.<sup>21</sup> People tend to be more concerned by depressive rather than manic symptoms and so fail to report the latter to their clinician, encouraging a misdiagnosis of unipolar depression.<sup>21</sup>

Work productivity losses are a significant driver of BPD costs.<sup>14</sup> Proper diagnosis and treatment of BPD would alleviate a large proportion of the economic burden, given that indirect costs account for such a large proportion (84%) of the total cost of BPD.<sup>13</sup>

### Improving Employee Productivity Through Employer-Initiated Programs

A North American qualitative analysis highlighted some of the management strategies used by employees with BPD in the workplace, including removing themselves from their work setting when a depressive episode occurs, changing the nature and length of their workload when symptoms arise, seeking emotional or practical support of coworkers, and seeking assistance from their healthcare team.<sup>19</sup> The study concluded that people with BPD can be very valuable and productive employees, bringing creativity, energy, and passion to the workplace, and it is important to identify means to help these employees find appropriate and fulfilling work.<sup>19</sup>

With the growing list of therapeutic options, it is important for clinicians to continually refine treatment strategies and develop an approach that is specifically designed to meet the needs of each patient. A risk stratification quintile analysis of a large cohort of US employees reported that although people with the “highest severity” of BPD made up only a small proportion of the total employees with BPD (2.4%), these individuals incurred a high proportion of healthcare costs (20%).<sup>4,14</sup> This analysis demonstrated that not all employees exhibit the same cost patterns and highlighted the importance of differentiating low- and high-risk BPD patients in order to design appropriate interventions based on risk levels.<sup>4,14</sup>

It has been suggested that employers and insurers need to implement programs to encourage timely diagnosis and identification of employees with BPD.<sup>5</sup> However, the literature search did not identify any specific examples of employer-initiated programs aimed at improving the workplace productivity of employees with BPD.

## DISCUSSION

Although less prevalent than major depressive disorder or anxiety disorders, BPD is associated with a high economic burden because of the severity of symptoms experienced by individuals. Productivity loss from BPD appears to be mainly attributable to absenteeism rather than presenteeism.

Despite effective treatments, the majority of employees with BPD remain untreated for reasons including:

- **Underrecognition by the individual or physician.** Individuals with BPD often do not realize that they have a mental health issue because they fail to

### Take-away Points

- Bipolar disorder has a considerable impact on the workplace and imposes a substantial financial burden on employers.
- Indirect costs from lost productivity are a significant driver of the costs associated with bipolar disorder because of the increased rates of absenteeism and reduced productivity among employees with the condition.
- Misdiagnosis and delays in seeking professional help are common and contribute to this burden.
- There is a need for employer-initiated programs that may reduce indirect costs by ensuring early, accurate diagnosis and effective management, reducing stigma in the workplace, and encouraging better occupational relationships.

recognize the symptoms as abnormal.<sup>8,21</sup> Physicians often fail to recognize that BPD is the underlying problem when examining the patient, especially when there is comorbidity with other mental or physical conditions.<sup>8,21</sup>

- **Low rates of help-seeking by the individual.** Employees with BPD often fear stigma and discrimination in the workplace, which discourages them from seeking help.<sup>1,19</sup>
- **Misdiagnosis by physicians.** Physicians often misdiagnose BPD, especially when the condition is comorbid with another psychiatric condition or physical health problem.<sup>8,21</sup>

Together, these issues contribute to unnecessarily high direct medical expenditures and lead to productivity losses. Failure to recognize and effectively treat BPD allows disease progression, which can further complicate and delay diagnosis and lead to prolonged, negative effects on workplace productivity.

Perhaps of even greater significance, misdiagnosis can lead to costly, inappropriate, and ineffective treatment before the correct diagnosis is made, which further increases overall costs and productivity losses due to a lack of improvement in the patient’s clinical presentation.

Effective treatments are available that can reduce symptoms and have a positive impact on an employee’s ability to work. Early screening programs that aim to identify and treat employees with BPD may reduce indirect costs from lost productivity. A combination of pharmacotherapy and psychotherapy aims to directly treat symptoms as well as encourage improved interpersonal and social functioning, which are important to establish better relationships with work colleagues. However, employers should be aware that the development of cost-effective interventions may not be easy given the complexity of the condition, and they should not assume implementation will resolve all problems experienced by employees with BPD.

Although no specific examples of employer-initiated programs were returned by the search conducted, this review

does highlight the need for such programs in the workplace setting to manage the health and cost consequences of BPD. Key considerations for employer-initiated programs include the provision of basic information for employees about symptoms, course, and treatment options for BPD and active communication among the employer, healthcare vendors, and intermediary organizations.<sup>1</sup> These measures aim to increase awareness and understanding among employees and ensure that adequate services are accessible for employees with BPD.

## CONCLUSION

Bipolar disorder among the working population can have a significant, negative effect on work relationships, attendance, and functioning, which can lead to substantial costs to US employers arising from lost productivity. There is a need for workplace initiatives to address the health and cost consequences of BPD in an employed population.

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