

### SYSTEMIC REVIEW

# The Use and Performance of Productivity Scales to Evaluate Presenteeism in Mood Disorders

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#### ABSTRACT

Objective: Mood disorders are associated with a high societal cost, mainly due to presenteeism. The objective of this study was to review the use of 10 instruments that rate presenteeism in mood disorders and to provide recommendations regarding the appropriateness of instruments in different study settings. Methods: A systematic review of the literature was conducted to identify scales used to measure presenteeism, including the World Health Organization Health and Work Performance Questionnaire, the Lam Employment Absence and Productivity Scale, the Sheehan Disability Scale, the Work Limitation Questionnaire, and Work Productivity and Activity Impairment questionnaire. Study characteristics and major results (by symptom level, by treatment arm, correlation to other scales, and use of monetization) were data extracted. Results: Twenty-nine studies were identified. The Sheehan Disability Scale, the Work Limitation Questionnaire, and Health and Work Performance Questionnaire were the most commonly used instruments. The majority (60%) of scales demonstrated higher presenteeism in individuals with mood disorders than in individuals without. The Lam Employment Absence and

#### Introduction

Mood disorders include major depressive disorder in which patients experience one or several depressive episodes or bipolar disorder, characterized by intermittent episodes of mania or hypomania, usually interspersed with depressive episodes. These conditions are associated with a high societal cost, primarily due to productivity losses [1]. Mood disorders lead to higher unemployment, absence, and turnover rates as well as higher at-work performance deficits (or presenteeism). Presenteeism is defined as "the decrease in productivity for the much larger group of employees whose health problems have not necessarily led to absenteeism and the decrease in productivity for the disabled group before and after the absence period" [2].

For some disorders, presenteeism is an even greater cause of productivity loss than absenteeism (i.e., migraine, seasonal allergies). Although the cost of presenteeism is not routinely estimated in economic evaluations, it is estimated to account for 54% to 82% of the total lost productivity in employees with mood Productivity Scale, the Sheehan Disability Scale, and the Work Limitation Questionnaire showed that presenteeism increased with increasing severity of disease. Few studies reported results on presenteeism by treatment, with only small between-treatment differences observed. Good correlations between presenteeism instruments and clinical or quality-of-life scales were reported. Three studies converted results from presenteeism scales into monetary units. **Conclusions:** Limited experiential evidence exists comparing the performance of presenteeism scales in mood disorders. Therefore, recommendations for inclusion of a presenteeism tool must be driven by instrument properties (ease of administration, amenability to monetization) and the study type. Future research should focus on the responsiveness of the instrument and on how mood disorders impact self-reported assessment.

Keywords: mood disorders, presenteeism, productivity, self-report.

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disorders, as observed in US workers by using the World Health Organization Health and Work Performance Questionnaire (HPQ) or the Work and Health Interview[3,4]. These values, however, may overestimate the true impact because they do not account for the hiring and training of replacement workers. The relative importance of presenteeism compared with absenteeism in this disease area is likely because individuals with depression or anxiety tend to stay at work and perform suboptimally rather than take sick leave [4,5].

Productivity loss due to absenteeism is often taken into account in economic evaluations that adopt a societal perspective and is measured simply by counting the number of days off work; measuring productivity loss due to presenteeism, on the other hand, is more complex. First, the evaluation of presenteeism requires the estimation of a "normal productive output" for a given individual in a given role, after which the impairment in productive output may be quantified [6]. Second, reduction in symptoms reduces absenteeism, but its impact on presenteeism is more uncertain [7,8]. Third, depression affects productivity

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differently depending on the occupational status, with various aspects of productivity more typically impaired in different professions [9]. For example, in jobs in which individuals have to exercise judgment such as nurses, engineers, social workers, marketing managers, attorneys, and financial analysts, depressed workers may experience limitations on output demands (handle workload, work fast enough, meet simultaneous demand, etc.) and be more absent. In jobs with a high degree of contact such as teachers, customer service managers, sales people, and consultants, workers may have limitations in handling mental (keep mind on work, think clearly, do precise work, handle demanding/ stressful work, etc.), interpersonal (speak on the phone, communicate well, maintain contacts, etc.), and physical (lift/carry/move objects, use handled tools/equipment, get to work from parking/ bus/train, etc.) demands. Fourth, the impact on presenteeism is directly related to the nature of the depressive symptoms presented by the patient. According to Lerner et al. [9], concentration difficulties and distractibility lead to lower overall productivity, whereas tiredness and sleep disturbance induce higher absence and problems with mental, interpersonal, time (getting to work, work without breaks or rests, adjusting to work pace changes, etc.), and output demands. Finally, while self-report instruments have been developed to evaluate presenteeism, they run the risk of presenting biased and different results compared with objectively measured time lost at work. Stewart et al. [10] demonstrated that self-reported time spent working was higher than that which was obtained when evaluating official workplace data on time absent, time away from desk, and electronic continuous performance data specific to the workplace. Other researchers state that self-reported evaluations might lead to an overestimation of lost productivity due to presenteeism [11] because subjective feelings of high discomfort may cause employees to report lower productivity even if their tasks have been completed successfully. Moreover, depression can influence the self-reporting of productivity because of a loss of concentration, attention, and/or motivation [12] or cognitive deficits [13].

The selection of the appropriate self-report instrument should be based on both its ability to translate health states into at-work productivity estimates and its relevance to the study setting and objectives, that is, whether the objective is to assess the impact of the disease on aspects of work performance or to estimate the economic consequences of the disease. The optimal self-report instrument needs to be sufficiently sensitive to detect the effects of treatment interventions.

Several reviews have previously been published with the aim of evaluating instruments used to assess presenteeism. Prasad et al. [14] published an extensive review of the psychometric properties of productivity instruments, assessing their validity, reliability, responsiveness, generalizability, and ease of administration. Evidence on psychometric properties from this and other studies has been provided to various degrees depending on the nature of the instrument. Prasad et al. concluded that the Work Limitation Questionnaire (WLQ) and the Work Productivity and Activity Impairment (WPAI) questionnaire offer the most significant advantages with good psychometric properties, being ready, and easy to use in various study settings (e.g., clinical studies and employee populations). Lofland et al. [15] and Mattke et al. [16] assessed the psychometric properties of available instruments and the ability of each instrument to provide monetary estimates. The authors of both studies concluded that the main hurdle currently relates to the absence of established and validated methods for monetization of productivity estimates. A more recent review by Brooks et al. [17] discussed several issues related to measurement. The authors emphasized the limitations related to the conversion into economic outcomes and advocated against evaluating productivity at an individual level. Lerner and Henke [12] assessed the impact of depression on lost productivity, reviewing the four most widely used self-report instruments to

assess presenteeism in this disease area and their use in various settings (e.g., population-based studies, workplace studies, and clinical studies). They concluded that the WLQ was the most appropriate instrument for accurately measuring work productivity in individuals with depression.

Because of the importance of productivity losses in mood disorders and the challenges for their estimation, the selection of the appropriate tool to measure presenteeism is essential. Because three of the existing reviews did not relate to mood disorders and the fourth, considering depression, reviewed only a subset of the available instruments, the objective of this article was to review and discuss the scales available for assessing presenteeism related to mood disorders. We extend the work by Lerner et al [12]. by including six additional instruments and more recently published articles of randomized clinical trials (RCTs) and observational studies. We also provide recommendations on the use of productivity scales in the area of mood disorders.

#### Methods

#### Identifying Instruments That Evaluate Presenteeism

Taking the four most recent reviews detailing rating scales measuring presenteeism, we evaluated all reported scales, all of which were self-report instruments. In addition to the initial pool of 20 scales, a more recent scale not mentioned in any of the four reviews and a disability scale with a presenteeism component were evaluated. Instruments were selected according to the following inclusion/exclusion criteria (Table 1). All scales should be generic or specific to mood disorders, demonstrate (at least partially) good psychometric properties, and be applicable to any type of worker. It should be possible to use these instruments to measure presenteeism in studies such as RCTs or prospective observational studies; nongeneral instruments or techniques (applicable to a specific study design or a specific worker category) were excluded. Generic instruments that were used in a limited number of disease areas other than mood disorders were also excluded. Ten instruments were finally considered. Among the 10 excluded instruments, 7 were specific to a disease area other than mood disorders.

Two categories of instruments were defined: (1) instruments that are amenable to monetization (with specific development regarding this matter or with published experience on conversion into monetary units) and (2) instruments that cannot be used to monetize productivity loss. This article briefly addresses the major characteristics and psychometric properties, as well as the methods for monetization. Full details regarding the major domains of the scales, how each instrument assesses presenteeism, major properties, possibility for conversion into monetary units, and use reported in the literature are provided in Table 2 [10,18–29].

## Health & Labour Questionnaire/Short Form Health & Labour Questionnaire

The Health & Labour Questionnaire (HLQ) gathers data regarding reduction in work performance due to illness [28,29]. It consists of four modules that assess (1) workplace absenteeism, (2) workplace presenteeism, (3) unpaid work, and (4) impediments to paid and unpaid work. Workplace presenteeism is measured as the number of additional hours that should have been worked to compensate for production losses due to illness at work. Individuals also provide responses to questions designed to determine specific productivity problems (e.g., concentration difficulties) related to presenteeism. A short-form version of the HLQ (SF-HLQ) has also been developed and comprises three modules: absenteeism from paid work, production losses without absenteeism from paid work, and hindrance in the performance of paid and unpaid work [19].

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