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The Prevalence and Effects of Adult Attention Deficit/Hyperactivity Disorder on Work Performance in a Nationally Representative Sample of Workers

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Learning Objectives

- Recall the estimated prevalence of attention-deficit/hyperactivity disorder (ADHD) in this national household survey of 3198 workers 18 to 44 years of age, and any demographic factors associated with a relatively high risk of this disorder.
- Point out the impact of ADHD on lost work performance, and any association between type of work and the risk of this disorder.
- Summarize how often affected workers had sought professional treatment in the past year for manifestations of ADHD and for other emotional problems.

Abstract

Objective: The prevalence and workplace consequences of adult attention deficit/hyperactivity disorder (ADHD) are unknown. **Methods:** An ADHD screen was included in a national household survey (n = 3198, ages 18–44). Clinical reinterviews calibrated the screen to diagnoses of *Diagnostic and Statistical Manual of Mental Disorders, 4th edition* ADHD. Diagnoses among workers were compared with responses to the WHO Health and Work Performance Questionnaire (HPQ). **Results:** A total of 4.2% of workers had ADHD. ADHD was associated with 35.0 days of annual lost work performance, with higher associations among blue collar (55.8 days) than professional (12.2 days), technical (19.8 days), or service (32.6 days) workers. These associations represent 120 million days of annual lost work in the U.S. labor force, equivalent to \$19.5 billion lost human capital. **Conclusions:** ADHD is a common and costly workplace condition. Effectiveness trials are needed to estimate the region of interest of workplace ADHD screening and treatment programs. (*J Occup Environ Med.* 2005;47:565–572)

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Although it has long been suspected that attention deficit/hyperactivity disorder (ADHD) often persists into adulthood,^{1,2} adult ADHD has only recently become the focus of clinical attention.^{3,4} As a result of this neglect, little is known about the prevalence or correlates of adult ADHD. Attempts to estimate prevalence by extrapolating from childhood prevalence estimates linked with adult persistence estimates^{5–8} or by directly estimating prevalence in small samples of adults⁹ or college students¹⁰ have yielded prevalence estimates in the range of 1% to 6%. These studies suggest that adult ADHD is often seriously impairing but less prevalent among employed people than the rest of the population. However, nationally representative surveys of the prevalence and consequences of ADHD for work performance have never before been undertaken.

In an effort to obtain estimates of adult ADHD prevalence and correlates, a screen for ADHD among adults was included in the National Comorbidity Survey Replication (NCS-R),¹¹ a recently completed face-to-face, nationally representative household survey of the U.S. adult population. Clinical reappraisal interviews to evaluate the presence of ADHD among adult respondents were then carried out in a subsample of NCS-R respondents that oversampled screened positives to assess the validity of the ADHD screen. Extrapolation to the population from

the patterns in the reappraisal interviews led to an estimate that 4.4% of the U.S. adult population in the age range of the screen meet criteria for current ADHD,¹² one of the highest point prevalence estimates of any mental disorder.¹³

The current report extends these results to consider the prevalence and workplace consequences of ADHD among NCS-R respondents in the active labor force. Because the World Health Organization's (WHO) Health and Work Performance Questionnaire (HPQ)^{14,15} was included in the NCS-R, statistical analysis linking clinical diagnoses of ADHD with HPQ results is used to examine the associations of the disorder with work performance in the total sample as well as in major occupational categories. Past research on this topic, which was based on the analysis of medical claims data for a large corporation, showed that patients in treatment for adult ADHD had higher rates of work loss¹⁶ and accidents.¹⁷ We extend these earlier results in several ways: to a nationally representative sample of employed people rather than to workers in only one corporation; to all workers with ADHD rather than only to those in treatment; and to consider associations of ADHD with work performance while on the job as well as with sickness absence.

Materials and Methods

Sample

As detailed elsewhere,¹⁸ the NCS-R is a nationally representative survey of mental disorders among English-speaking household residents ages 18 and older in the coterminous United States. Face-to-face interviews were carried out with 9282 respondents between February 2001 and April 2003. The response rate was 70.9%. Sample recruitment began by mailing an advance letter and study fact brochure to each pre-selected sample household. This was followed by an in-person interviewer visit to answer questions before ob-

taining informed consent and scheduling an interview. Respondents were given a \$50 incentive to participate in the survey. In addition, a probability subsample of hard-to-reach and initially reluctant pre-designated respondents was selected to participate in a brief telephone non-respondent survey in an effort to obtain responses to marker questions that were used to weight the main sample for nonresponse bias. Participants in the nonrespondent survey were given a \$100 incentive. The human subjects committees of Harvard Medical School and the University of Michigan both approved these recruitment and consent procedures.

The NCS-R interview was administered in two parts. Part I included a core psychiatric diagnostic assessment that was administered to all respondents ($n = 9282$), whereas part II included questions about correlates and additional disorders that was administered to all part I respondents who met lifetime criteria for any core disorder plus a roughly one-in-three probability subsample of other respondents ($n = 5692$). ADHD was included in the part II assessment. Because ADHD is a childhood disorder, which requires age of onset before age 8, respondents were required to provide retrospective reports about childhood symptoms before reporting whether these symptoms continued to persist in adulthood. Based on concern about the accuracy of recall about childhood symptoms among older adults, ADHD was assessed only among part II respondents in the age range 18 to 44 ($n = 3198$). These respondents were weighted to be representative of the entire U.S. population in this age range on a profile of 2000 Census sociodemographic and geographic variables. A subsample of 2399 of these 3198 respondents was either employed or self-employed in the month before the interview and had valid data on all the measures used in the analyses presented here. This is the sample considered in the current report. A more

detailed discussion about NCS-R sampling and weighting is presented elsewhere.¹⁸

The NCS-R respondents assessed for ADHD were divided into four sampling strata for purposes of selecting a clinical reappraisal subsample: those who reported no symptoms of childhood ADHD; those who reported some symptoms, but did not meet full criteria for childhood ADHD; those who were classified as childhood cases, but who denied any adult symptoms; and those who were both classified as childhood cases and who also reported adult symptoms. An attempt was made to contact by telephone and administer a semistructured adult ADHD clinical interview to 30 respondents in each of the first three strata and 60 in the fourth stratum. The final quota sample included 154 respondents (slightly more than the target because more pre-designated respondents kept their appointments to be interviewed than expected). These cases were weighted to be representative of the U.S. population in the age range of the ADHD subsample. A more detailed description of the ADHD clinical reappraisal sample design is reported elsewhere.¹⁹

Adult Attention Deficit/Hyperactivity Disorder

The retrospective assessment of childhood ADHD in the NCS-R was based on the Diagnostic Interview Schedule for the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV).²⁰ Respondents classified retrospectively as having had ADHD symptoms in childhood were then asked a single question about whether they continued to have any current problems with attention or hyperactivity-impulsivity. The clinical reappraisal interviews obtained much more detailed information based on responses to the open-ended questions in the Adult ADHD Clinical Diagnostic Scale (ACDS) version

1.2.^{21,22} The ACDS is a semistructured interview that includes the ADHD Rating Scale (ADHD-RS)²³ to assess childhood ADHD and an adaptation of the ADHD-RS to assess current ADHD among adult respondents. The ACDS is widely used in clinical trials of adult ADHD.^{24,25}

Four experienced clinical interviewers (all PhD clinical psychologists) carried out the clinical reappraisal interviews. Each interviewer received 40 hours of training from two board-certified psychiatrists who specialize in adult ADHD (LA, TS) and successfully completed five practice interviews. All clinical interviews were tape-recorded and reviewed by a clinical supervisor. Weekly group interviewer calibration meetings and one-on-one feedback meetings were used to prevent drift. A clinical diagnosis of adult ADHD required six symptoms of either inattention or hyperactivity-impulsivity during the 6 months before the interview (DSM-IV criterion A), at least two criterion A symptoms before age 7 (criterion B), some impairment in at least two areas of living during the past 6 months (criterion C), and clinically significant impairment in at least one of these areas (criterion D). Because no attempt was made to operationalize DSM-IV diagnostic hierarchy rules (criterion E), the clinical classification was an assessment of the syndrome rather than the diagnosis of adult ADHD.

Other Correlates of Adult Attention Deficit/Hyperactivity Disorder

We examined associations of adult ADHD with sociodemographic variables and with measures of work performance assessed in the WHO Health and Work Performance Questionnaire.^{11,14,18} The sociodemographic variables included age (18–24, 25–34, 35–44), sex, race-ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, other), education (less than high school,

high school graduate, some college, college graduate), and broad occupational category (professional, white collar technical, service, blue collar). The HPQ used self-reports about absenteeism (missed days of work) and presenteeism (low performance while at work transformed to lost workday-equivalents) to generate a summary measure of overall lost workdays in the month before the interview. Information about salary was used to transform the measures of lost work performance from a time metric to a salary metric for purposes of estimating human capital costs associated with ADHD. Salary was incremented by 25% as an estimate of fringe benefits.

Analysis Methods

The method of multiple imputation (MI)²⁶ was used to assign predicted probabilities of adult ADHD clinical diagnoses to respondents in the main sample based on the associations between the ADHD sampling strata and the clinical diagnoses in the clinical reappraisal subsample. MI is a simulation method that adjusts significance tests when one or more variables are based on imputation rather than on direct measurement. A more detailed description of MI is presented elsewhere.¹² Because a strong monotonic relationship was found between clinical reappraisal sampling strata and blind clinical diagnoses of adult ADHD in the weighted clinical reappraisal subsample, with an area under the receiver operator characteristic curve (AUC) of 0.86, the precision of the MI estimates is quite good. This means that the standard errors of estimates will not be markedly greater based on the use of MI than if clinical interviews for ADHD had been carried out in the complete sample.

Simple subgroup comparison of prevalence was used to study sociodemographic correlates of ADHD, whereas linear regression analysis was used to estimate the associations of ADHD with work performance. ADHD was coded as a yes–no dummy predictor variable in the lin-

ear regression analysis, whereas sociodemographic variables (age, sex, race-ethnicity, education, occupation) were included as controls. The dependent variables in the two main linear regression equations were composite measures of overall lost work performance in the metrics of day-equivalents and salary plus fringe benefits. We also disaggregated both regression equations to examine separate effects of ADHD on absenteeism and presenteeism. The individual-level estimates were annualized by multiplying the unstandardized linear regression coefficients (ie, days or dollars of lost performance associated with ADHD in the past month) by 12 (ie, number of months in a year), whereas the individual-level estimates were projected to the total U.S. civilian labor force by adjusting for the prevalence estimate and for the fact that the seasonally adjusted number of workers in the U.S. civilian labor force in the age range of the ADHD sample at the time the NCS-R was fielded was 82.3 million people. More complex linear regression equations with interactions between ADHD and broadly defined occupational category were used to evaluate whether the associations of ADHD with the outcomes differ significantly by occupational category.

Because the NCS-R sample design features weighting and clustering of observations, significance tests based on the assumption of simple random sampling are inaccurate. This problem was corrected by using a design-based method to evaluate statistical significance. The Taylor series linearization method²⁷ was used for this purpose as implemented in the SUDAAN software system.²⁸ The MI adjustments of significance tests were based on Taylor series estimates of coefficient standard errors. Significance tests of set of coefficients in the logistic regression equations were made using Wald chi-squared tests based on design-corrected MI coefficient variance-covariance matrices.

Results

Prevalence and Sociodemographic Correlates

The MI estimate of current ADHD prevalence (standard error in parentheses) among employed NCS-R respondents is 4.2% (0.7) (Table 1). Prevalence does not differ significantly by respondent sex, age,

education, or occupation, but is significantly higher among non-Hispanic whites (5.2) than those in other race-ethnic groups (0.7–2.5).

Effects of Attention Deficit/Hyperactivity Disorder on Work Performance

The MI estimate of ADHD is a significant predictor of overall lost

work performance in the regression analysis, with annualized individual-level regression slopes equivalent to 35.0 days and \$5661 of salary-equivalent lost performance per worker with ADHD per year (Table 2). Disaggregation shows that absenteeism (13.6 days and \$2351) and presenteeism (21.6 days and \$3404) both play important parts in the aggregate regression coefficient. Projections of these individual-level associations to the total U.S. civilian labor force yield estimates that 120.8 million lost days of work per year and \$19.6 billion salary-equivalent per year are associated with ADHD.

Variation in Effects Across Occupational Categories

The linear regression equations were elaborated to test the possibility that the associations of ADHD with decrements in work performance vary significantly by broad occupational categories. Overall estimated individual-level associations were found to be largest among blue collar workers and smallest among professionals (Table 3), although these differences were not statistically significant. Individual-level associations among blue collar workers were 55.8 days and \$6410 salary-equivalent lost performance per worker with ADHD per year.

Treatment

NCS-R respondents who screened positive for current ADHD were asked whether they received any professional treatment for their problems with concentration, inattention, or impulsivity at any time in the 12 months before the interview. Only 16.4% of clinically confirmed cases (4.6% standard error) reported that they received any such treatment. All part II NCS-R respondents were also queried in a separate section of the interview about whether they received treatment at any time in the past 12 months for any problem with their emotions, nerves, or mental health. As one might expect in light of the high comorbidity known to

TABLE 1

The Associations of Sociodemographics With Multiply Imputed Estimates of Current DSM-IV ADHD Among Employed NCS-R Respondents Ages 18–44 ($n = 2399$)

	Prevalence		OR	(95% CI)	χ^2	df	P
	Percent	(SE)					
Total	4.2	(0.7)	—	—	—	—	—
Sex					0.7	1	0.4
Male	4.9	(0.9)	1.0	—			
Female	3.3	(0.8)	0.8	(0.4–1.4)			
Age					1.7	1	0.2
18–29	3.4	(0.8)	1.0	(0.8–2.5)			
30–44	4.7	(1.0)	1.4	—			
Race					16.7	3	0.0
Non-Hispanic white	5.2	(0.9)	1.0	—			
Non-Hispanic black	1.4	(0.5)	0.2	(0.1–0.6)			
Hispanic	2.5	(1.1)	0.5	(0.2–1.1)			
Other	0.7	(0.8)	0.1	(0.0–0.8)			
Education					1.4	3	0.7
Less than high school	4.2	(1.3)	1.3	(0.4–4.1)			
High school graduate	4.3	(1.3)	1.3	(0.4–4.2)			
Some college	4.9	(1.1)	1.6	(0.6–4.4)			
College graduate	3.0	(1.2)	1.0	—			
Occupation					5.2	3	0.2
Professional	3.1	(1.1)	1.0	—			
White collar technical	6.5	(1.7)	2.1	(0.8–6.0)			
Service	3.0	(0.8)	1.0	(0.4–3.0)			
Blue collar	4.2	(1.5)	1.7	(0.8–3.9)			

DSM-IV indicates Diagnostic and Statistical Manual of Mental Disorders, 4th edition; ADHD, attention deficit/hyperactivity disorder; NCS-R, National Comorbidity Survey Replication; SE, standard error; OR, odds ratio; CI, confidence interval.

TABLE 2

The Estimated Annual Effects of DSM-IV ADHD on Total Lost Work Performance and Its Components (Absenteeism, Presenteeism) Among Employed NCS-R Respondents Ages 18–44 ($n = 2399$)

	Individual Level				National Projections (in millions)			
	Days	(SE)	\$	(SE)	Days	(SE)	\$	(SE)
Total	35.0	(14.1)	5661	(5661)	120.8	(48.9)	19,561	(11,974)
Absenteeism	13.6	(7.5)	2351	(1560)	47.1	(25.9)	8122	(5391)
Presenteeism	21.6	(11.3)	3404	(3384)	74.6	(38.9)	11,762	(11,694)

DSM-IV indicates Diagnostic and Statistical Manual of Mental Disorders, 4th edition; ADHD, attention deficit/hyperactivity disorder; NCS-R, National Comorbidity Survey Replication; SE, standard error.

TABLE 3

Variation in the Estimated Annual Effects of DSM-IV ADHD on Total Lost Work Performance and Its Components (Absenteeism, Presenteeism) by Occupational Category Among Employed NCS-R Respondents Ages 18–44 Who Are Either Professionals (*n* = 609), White Collar Technical Workers (*n* = 301), Service Workers (*n* = 796), or Blue Collar Workers (*n* = 693)

	Individual Level				National Projections (in millions)			
	Days	(SE)	\$	(SE)	Days	(SE)	\$	(SE)
Total lost work performance								
Professional	12.2	(44.5)	7198	(7613)	7.3	(26.6)	4295	(4542)
White collar technical	19.8	(25.7)	5981	(4858)	12.6	(16.3)	3811	(3096)
Service	32.6	(21.7)	2168	(6600)	25.9	(17.3)	1724	(5248)
Blue collar	55.8	(31.5)	6410	(7038)	77.0	(43.5)	8853	(9721)
χ^2_3	0.8		0.3					
<i>P</i>	0.839		0.957					
Absenteeism								
Professional	3.4	(14.0)	−66	(1808)	2.0	(8.3)	−40	(1079)
White collar technical	7.1	(11.0)	1195	(2352)	4.5	(7.0)	761	(1499)
Service	18.2	(15.2)	5011	(4081)	14.4	(12.1)	3984	(3245)
Blue collar	21.6	(16.8)	2517	(3115)	29.8	(23.2)	3476	(4302)
χ^2_3	0.8		1.7					
<i>P</i>	0.844		0.631					
Presenteeism								
Professional	8.3	(35.1)	7210	(6935)	5.0	(20.9)	4302	(4138)
White collar technical	16.1	(22.1)	4719	(5248)	10.2	(14.1)	3007	(3344)
Service	13.4	(15.4)	−2972	(8229)	10.6	(12.3)	−2363	(6543)
Blue collar	35.7	(23.2)	4389	(4997)	49.3	(32.1)	6061	(6901)
χ^2_3	0.9		1.0					
<i>P</i>	0.830		0.803					

DSM-IV indicates Diagnostic and Statistical Manual of Mental Disorders, 4th edition; ADHD, attention deficit/hyperactivity disorder; NCS-R, National Comorbidity Survey Replication; SE, standard error.

exist between ADHD with other adult mental and substance disorders,¹² a substantial proportion of workers with ADHD reported that they received 12-month treatment for other emotional problems (32.1%). The difference between 32.1% and 16.4% (ie, 15.7%) represents the proportion of workers with ADHD who received 12-month treatment for an emotional problem but without ADHD being a focus of that treatment.

Discussion

Several limitations of this analysis are noteworthy. The most important of them is that the DSM-IV criteria for ADHD were developed with children in mind and offer only limited guidance regarding the diagnosis of ADHD among adults. This is of considerable concern because clinical studies make it clear that symptoms of ADHD are more heterogeneous

and subtle in adults than children,^{29,30} leading some clinical researchers to suggest that assessment of adult ADHD might require an increase in the variety of symptoms assessed,³¹ a reduction in the severity threshold for diagnosis,³² or a reduction in the DSM-IV six-of-nine symptom requirement.³³ To the extent that such changes would lead to a more valid assessment than in the clinical interviews carried out in the current study, our prevalence estimate is conservative.

A second limitation is that the clinical assessment of ADHD was carried out only in the reappraisal interview subsample and imputed in the larger sample. Although the imputation equation was quite strong (AUC = 0.86), the use of imputation led to an increase in the standard error of the estimates when we used the MI method. Statistical power to detect meaningful associations was

consequently reduced. This might explain our failure to document statistically significant differences in the impact of ADHD across types of occupation despite the substantively higher estimated days of lost productivity associated with ADHD among blue collar respondents. Because of this problem with precision, it would be useful to replicate and extend the results reported here regarding differences in associations across occupations in an independent and larger sample. Several replications of this sort are currently underway in a number of workplace HPQ surveys.

An additional limitation concerns the fact that the clinical assessment was based entirely on respondent self-report. It is noteworthy in this regard that childhood ADHD is diagnosed largely based on parent and teacher reports rather than on patient self-reports as a result of the fact that children with ADHD are notoriously

unaware of their symptoms.³⁴ Informant assessment is much more difficult for adults, however, making it necessary to base assessment largely on self-report.³⁰ Methodological studies comparing adult self-reports versus informant reports of adult ADHD symptoms document the same general pattern of underestimation in adult self-reports as in child self-reports.^{35,36} This suggests that the prevalence estimates reported here are probably conservative, although the only study of adult self versus informant assessment of adult ADHD in a nonclinical sample found fairly strong associations between the two reports and no self versus informant difference in reported symptom severity.³⁷

Within the context of these limitations, the results reported here document that adult ADHD is a commonly occurring disorder in the U.S. civilian labor force that is associated with substantial lost work performance, especially among blue collar workers. The NCS-R prevalence estimate of 4.2% is likely to be conservative based on the limitations described in the last few paragraphs. The prevalence estimate is within the range of estimates obtained in less comprehensive studies.^{5–10} The finding that prevalence is higher among non-Hispanic whites than other racial-ethnic groups was unexpected in that studies of children and adolescents do not find race-ethnic differences in ADHD.³⁸ The same pattern was found in the full NCS-R sample, however, arguing against the otherwise plausible possibility that ADHD creates a higher barrier to employment among minorities than nonminorities.¹² The finding that adult ADHD is not related to age in the range considered here (ie, 18–29 vs. 30–44) extends the broader finding that the disorder does not spontaneously remit with age after early adulthood. The failure to find a sex difference in prevalence is also noteworthy because ADHD is known to be significantly more common among males than females in the

total population both among children³⁹ and among adults.¹² More detailed analysis (results not shown, but available on request) shows that our failure to find a comparable sex difference among employed people in the NCS-R is the result of ADHD being significantly associated with unemployment among men but not women. This difference could be the result of either a sex difference in work requirements that causes work termination resulting from ADHD to occur more often among men than women or a sex difference in other consequences of adult ADHD (eg, secondary alcohol or drug abuse) that lead to unemployment. We have no way of distinguishing between these possibilities in the NCS-R data.

The finding that adult ADHD is associated with significant decrements in work performance is consistent both with clinical observations of role impairment²² and with neuropsychologic evidence of impaired performance⁴⁰ among adult patients with ADHD. The estimated association of ADHD with absenteeism is quite large in relation to comparable estimates for other chronic physical and mental disorders reported in the literature.^{41–43} It is interesting that we found a trend for impairment to be greatest among blue collar workers. One might have expected that professionals would be most affected, because the inattentive subtype of ADHD is more common than the impulsive subtype among adults.⁴⁴ One possible explanation is that selection into occupation based on childhood ADHD leads to the most severe cases being blue collar workers. Another possibility is that the less flexible job demands of blue collar than white collar workers results in ADHD being associated with especially high decrements in work performance. Replication of this specification in independent surveys is needed, however, before alternative interpretations should be examined empirically.

The most important question for future research raised by this study is whether effective outreach and treatment would improve the performance of workers with ADHD sufficiently to have a positive return on investment for employers. This question can be divided into two parts. The first part is whether the estimated associations of ADHD with work performance are accurate reflections of the causal effect of ADHD rather than common causes or mediators that will not resolve with the successful treatment of ADHD. The second part is whether these effects, assuming they are causal and reversible, would in fact be reversed by treatment.

Regarding the first part of this question, the estimated associations of ADHD with work performance reported here could be biased upward to the extent that unmeasured common causes of ADHD and work performance account for the observed associations. Because ADHD starts very early in life, however, any such common causes would have to be in existence since childhood. A more plausible possibility, then, is that ADHD has causal effects on work performance that are mediated by more proximate causes that would not remit with the treatment of ADHD although their onset was significantly influenced by ADHD. Such mediators could be behavioral (eg, alcohol abuse), psychologic (eg, low commitment to work), or some combination of the two. Comorbid mental disorders could be among the mediators. It is impossible to evaluate these effects nonexperimentally in the NCS, although we have measures of these comorbid disorders, because we have no way of knowing which of these presumed mediators would be affected by successful treatment of ADHD. However, the fact that experimental intervention studies document that successful treatment of ADHD among adults is associated with substantial gains in neuropsychologic task performance and cognition^{45–47} argues that at

least some part of the associations documented here are likely to be the result of the reversible effects of ADHD on work performance, possibly mediated through effects of ADHD on other comorbid conditions that are positively affected by successful treatment of ADHD.

Regarding the second part of the question, whether effective outreach and treatment would improve the performance of workers with ADHD sufficiently to have a positive return on investment for employers, the evidence from experimental treatment trials cited at the end of the last paragraph leads to the expectation that presenteeism, and perhaps also absenteeism, would decrease as a result of the successful treatment of workers with ADHD. However, there is no way to know definitively if these decreases in indirect workplace costs would exceed the direct costs of treatment in the absence of an experimental effectiveness study. It seems plausible that this would be the case, however, based on the fact that indirect costs are as high as they are estimated to be here (ie, more than \$6000 per year for technical and blue collar workers and more than \$8000 per year for professionals). The fact that these costs are high means that treatment would be cost-effective from the employer perspective even if it only resulted in a 15% reduction in the work performance decrement. Indeed, given that separate research has documented effects of adult ADHD on workplace accidents,¹⁷ an outcome not considered in the current report, an improvement in work performance even less than 15% might have a positive region of interest (ROI) if it helped reduce accidents associated with workers' compensation claims. Given that treatment effects considerably larger than 15% seem plausible based on the available evidence from treatment efficacy trials, the next logical step is to carry out effectiveness trials to evaluate the ROI of workplace screening and best-practices treatment of ADHD. We are cur-

rently in the process of designing such a trial.

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