

The Community Initiative on Depression: Report from a Multiphase Work Site Depression Intervention

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Objective: We sought to further understand depression, a common, disabling condition with considerable ramifications for the workplace, including higher costs, absenteeism, and reduced work performance. **Methods:** A multidisciplinary health care coalition recently implemented a multiphase workplace depression initiative in Kansas City. We report results from its first phase, a 22-item, self-administered survey of depression knowledge and attitudes among employees of 13 large, local work sites. **Results:** There were 6,399/38,945 respondents (16% response rate). Most respondents (>90%) appropriately recognized the signs and symptoms of depression. A minority (29%) would feel comfortable discussing depression with their supervisor. Sixty-two percent knew how to access company resources for depression care. **Conclusions:** Employees were knowledgeable about depression but were less aware of employee-assistance programs for depression care. These findings support increased attempts to raise the awareness of depression and promote of help-seeking behavior in the workplace. **Clinical Significance:** Depression is a prevalent illness with risk for many deleterious outcomes if under-recognized or undertreated. Depression is a leading cause of work-related disability worldwide. Most people with depression are employed (an estimated 68%). Recognizing and initiating depression care in the workplace will facilitate depression treatment in clinical settings. (J Occup Environ Med. 2005; 47:60–67)

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Depression is a common, serious disorder, with recent estimated U.S. overall lifetime and 12-month prevalences of 16% and 7%, respectively.¹ Depression has far-reaching, considerable effects on morbidity, mortality, health-related quality of life, personal suffering, health care use, and health costs.²

Depression is a leading cause of work-related disability worldwide.³ Most people with depression are employed (an estimated 68%).¹ Depression prevalence among the U.S. workforce is estimated at 5% to 15%.^{4,5} Depression is associated with decreased workplace productivity, including missed and shortened workdays,^{4–6} and reduced work performance even when present, dubbed “presenteeism.”⁷

Recent seminal literature has described the workplace consequences of depression as comparable, if not more weighty, to other serious chronic medical conditions. Using a nationally representative sample, Kessler et al⁵ recently illustrated the comparability of depression to other serious illnesses (ie, cancer, peptic ulcer disease, substance abuse) on missed and shortened workdays. Stewart et al⁷ recently quantified depression productivity employer costs for depression at \$44 billion/year (approximately \$33 billion/year more than other major medical illnesses). A recent study among employees of a large U.S. manufacturing corporation outlined the similarity of health care costs for those with depression compared with

those with other major medical illnesses, that is, diabetes, coronary artery disease, hypertension, and chronic low back pain.⁸ Another study among the same cohort established that although direct mental health service costs diminished during the 2-year study period (1993–1995), largely as a result of resource reallocation and cutbacks, nonmental health care costs rose disproportionately among depressed compared with nondepressed employees.⁹

The cost savings of treating depression is thought to be great.¹⁰ Guideline-concordant depression care has been linked to many improved outcomes, including fewer missed workdays and a greater likelihood of maintaining employment.¹¹ Using a nationally representative sample, Kessler et al¹² demonstrated that depression treatment costs were comparable with depression disability costs incurred by employers. Enhancing workplace productivity and reducing workplace-related depression costs are two of the many critical reasons upholding depression care quality implementation and advancement.

Recognizing the significant personal, societal, and workplace-related impact of depression, a Kansas City regional health care coalition selected it for the focus of a large, multifaceted public health initiative among several employers in the metropolitan area. We describe this initiative herein. Additionally, we report the results of an employee survey of depression knowledge and attitudes conducted during the first phase of this initiative. To our knowledge, this is the first report of a depression public health initiative situated in work sites. Additionally, it may be the first assessment of work site-based employee knowledge and attitudes around depression. This is not only important for needs assessment and educational program design, but may also further understanding of help-seeking behavior and susceptibility to de-

creased productivity among depressed employees.

Materials and Methods

Community Initiative on Depression

The Mid-America Coalition on Health Care (Coalition) is a non-profit organization (501c(3)) with a track record of more than 25 years of health care collaboration among major employers, physicians and medical societies, health plans, universities, city and state governments, and pharmaceutical companies in the Kansas City region. The mission of the Coalition is to improve the health of employees and their families, to promote employee and community wellness and illness prevention, and to develop strategies and initiatives for containing business health care costs.

Recognizing the high prevalence and serious burden of depression, 15 large area companies collaborated with the Coalition to develop the Community Initiative on Depression (CID) in 2000. The CID is a unique public health endeavor designed to reduce community and workplace depression by raising awareness, reducing stigma, and improving depression care quality for depressed employees and their dependents. It has an overall objective to advance timely diagnosis and appropriate treatment of depression by creation of a community infrastructure. Since its inception, the CID has been widely publicized locally and nationally. It has been endorsed by leading public health figures, such as Surgeon General David Satcher, and spotlighted by groups such as the Institute of Medicine, Centers for Disease Control and Prevention, National Institute of Mental Health, Substance Abuse and Mental Health Administration, the American Psychiatric Association, RAND Corporation, and the Institute for Health and Productivity Management.

The CID is a multiphase project with a projected timeline of 3 to 5

years. Phase I included a multilevel needs assessment among employees and employers regarding knowledge, attitudes, health care use, and costs of depression and depression care among 13 of the 15 CID-partnered work sites. It also included extensive educational programs for employers, employees, providers, and health plans. These educational efforts were continued in phase II, along with a series of work site and clinical research projects, including a study of employer benefit design practices, and a health-plan/medical office manager collaboration to reduce outpatient coding barriers for depression care. Phase III will include a community public relations campaign to increase depression awareness and reduce stigma, a post-intervention re-assessment of depression help-seeking behavior among employees, and depression care quality profiling of on-site occupational health care providers. Herein, we report part of the phase I results, an employee depression knowledge and attitudinal survey conducted in 2000.

Phase I: The Employee Depression Survey

Survey Design. Using an iterative, consensus-arriving process with a team of clinical experts and public health practitioners, we designed a 22-item, self-administered survey. The survey contained 11 questions regarding depression knowledge in a multiple choice, best-answer format, 7 questions regarding workplace-specific depression attitudes in a 4-point Likert format ranging from agree strongly to disagree strongly, and 4 questions concerning past and current experience with depression in a yes/no format. Because the focus of the survey was company-wide planning, we did not collect detailed clinical data or use a validated screening tool to confirm self-reported depression. To assure respondents of their anonymity, we did not collect data regarding sociodemographics, income, or employment

TABLE 1

Company Characteristics: Phase I of the Community Initiative on Depression

Company	Number Sampled (Equals Overall Employee Number) N = 38,945	Method of Survey Completion	Web	Paper	Response Rate
			Respondents N (%), n = 5398	Respondents N (%), n = 1001	N (%), n = 6399, 16%
1	2000	Web only	509 (100)	0	509 (25)
2	430	Web/paper	93 (79)	24 (21)	117 (27)
3	1140	Web/paper	100 (44)	127 (56)	227 (20)
4	4000	Web/paper	212 (70)	93 (30)	305 (8)
5	2000	Web only	961 (100)	0	961 (48)
6	4750	Web/paper	52 (23)	179 (77)	231 (5)
7	900	Web only	94 (100)	0	94 (10)
8	5550	Web/paper	1724 (88)	238 (12)	1962 (35)
9	10,000	Web/paper	729 (97)	21 (3)	750 (8)
10	1875	Web/paper	94 (100)	0	94 (5)
11	3500	Web/paper	123 (84)	24 (16)	147 (4)
12	2000	Web/paper	667 (95)	37 (5)	704 (35)
13	800	Web/paper	40 (13)	258 (87)	298 (37)

level (ie, managerial versus support staff). Similarly, we did not retain individual identifiers. Thus, we are neither able to identify duplicate responses, nor compare characteristics between respondents and nonrespondents.

We replicated the survey in a confidential, web-based format for ease of administration. Subjects were offered a choice of identical hard copy and web-based formats at 10 companies. Three companies offered only the web-based version.

Sample and Study Procedures

All eligible employees from 13 of the 15 CID-partnered area companies were sampled for survey administration (38,945 subjects). Subjects were mailed instructions for web-based access to the survey, along with paper copies of the survey for those companies offering that option. Subjects were informed that the overall objective of the survey was to further an understanding of workplace depression. Six of the participating work sites were health care industries, two were governmental, three were banking and legal, and two were manufacturing industries (Table 1). Subject eligibility criteria were older than 18 years of age and had current employment status at 1 of the 13 companies. We did not use

reminders and repeat mailings¹³ because of financial constraints.

Data Analysis

We performed descriptive univariate analyses for all variables. We were concerned that depression knowledge and attitudes might vary among the work sites, especially among the health care industries compared with the nonhealth care industries. Therefore, we examined response differences among company sites. Nevertheless, companies generally were similar in structure, urban location, employee sociodemographics (per general employer-published reports), health care availability, and health care insurance programs. Additionally, most companies were lacking in prior depression awareness-raising programs.

We were also concerned that respondents with a history of depression might have different knowledge, attitudes, and help-seeking behavior than those without a history of depression. Therefore, we examined response differences between those with and without a self-reported depression history. Furthermore, we examined response differences between web-based versus hard-copy completers. Although the web-based format was identical to the hard-copy format and did not prompt subjects

or render correct responses available, we were concerned that those who chose to complete the survey via the web might have different knowledge, attitudes, and help-seeking behavior than those who completed the hard-copy version. We conducted all analyses using SAS v. 8.2 (SAS Institute, Cary, NC).

Results

There were 6399 respondents to the survey. The overall response rate was 16% (median company response, 15%; mean company response, 21%). Table 1 further outlines company-specific response rates. To our knowledge, companies neither offered employees incentives to complete the survey nor provided any reminders beyond the study protocol described above. We outline the survey findings in Table 2 and in the ensuing text. Missing responses are noted; otherwise, there are no missing responses.

Knowledge Concerning Depression

Most respondents (>90%) appropriately recognized the signs and symptoms of depression, including appetite and sleep disturbances, anxiety, irritability, and diminished concentration. The majority (61%) recognized the significant threat of suicide in those with untreated de-

TABLE 2

Depression Knowledge and Attitudes: A Cross-sectional Survey of Employees from 13 Corporations in Kansas City

Response item, Four-Point Likert Scale	Frequency/Yes (n = 6399)
Strongly agree/agree/disagree/strongly disagree	
I know how to use company mental health resources	26% disagree, 50% agree*
Most depressed people can handle their work	36% disagree, 53% agree
I typically avoid colleagues with depression	35% strongly disagree, 55% disagree
It bothers me to work with depressed colleagues	47% strongly disagree, 47% disagree
Depressed people should just get over it	51% strongly disagree, 42% disagree
Yes/no question format	
I know the difference between depression and a sad mood	73%
I would feel comfortable talking about depression with my doctor	92%
My colleague	36%
My supervisor	29%
I have suffered from depression in the past	52%
I would use or recommend the following depression treatments	54%
Herbals	
Exercise	89%
Prescriptions	67%
Counseling	87%
I would seek out the following people for depression help:	
Clergy	31%
Primary care physician	76%
Psychiatrist	43%
Employee resources	50%
Friends and family	70%
Community resources	26%
Health plan	34%
Handle on my own	53%

*May not round to 100%; responses were not mutually exclusive.

pression (1% missing responses). Many (58%) perceived lifetime prevalence of depression to be as high as 50% (1% missing responses). Most (86%) recognized that depression is a highly treatable disorder with significant cure rates if recognized and treated appropriately. The majority (73%) felt that they could discern the difference between depression and a nondepressed sad mood (1% missing responses).

Depression Treatment Preferences

When given a choice of depression remedies (yes/no format), 89% stated that they would use exercise, 54%, herbal treatments, 67%, prescription medications, and 87% would seek counseling. When given a choice of potential depression caregivers (yes/no format), 31% stated that they would seek help from clergy, 76% from a primary care physician, 43% from a psychiatrist, 70% from a social worker or other counselor, 50%

from an employee assistance program, 70% from friends or family, 26% from community resources, 18% from company resources, and 53% stated that they would try to handle it on their own.

Knowledge of Mental Health Benefits and Company Resources for Depression

Although all companies offered a range of standard mental health benefits, 49% reported that their company offered few depression resources, and 20% did not know what was offered. Twenty-eight percent reported that their company offered many resources for depressed patients (2% missing responses). Many (62%) stated that they knew how to use available company resources for depression (2% missing responses).

Attitudes Concerning Depression

Most (94%) stated that they would not be bothered working with a de-

pressed colleague. Fifty-three percent agreed that depressed colleagues could handle their workload (1% missing responses). Most (90%) agreed that they would not avoid a depressed colleague (1% missing responses). Ninety-three percent disagreed that depressed patients can be helped by advice to “forget their problems.” The majority (84%) stated that depressed colleagues should have the same opportunities for advancement as their nondepressed colleagues. Most (92%) reported that they would feel comfortable discussing depression with their doctor. A minority (29%) would feel comfortable discussing depression with their supervisor.

Response Differences Among Company Sites

We largely did not identify significant differences in depression knowledge among company sites. The two knowledge responses that significantly varied statistically

among companies did not demonstrate clinical or policy significance. Furthermore, when a statistically significant difference was identified, the six health care industries did not demonstrate impressively higher depression knowledge than the non-health care industries. For example, knowledge about the effect of depression on appetite was globally statistically different among companies ($P = 0.005$). However, 95% of the health care employees had a positive (ie, yes) response to this question, whereas 94% of the nonhealth care employees had a positive response.

We identified differences regarding a self-perceived history of depression among company sites (global $P < 0.0001$, range 49% to 70%). Health care employees were not more likely to report a depression history compared with non-health care employees.

We identified differences among company sites regarding willingness to discuss depression with a supervisor (global $P < 0.0001$, range 20% to 47%). Furthermore, we demonstrated differences among company sites regarding knowledge of available company mental health resources (global $P < 0.0001$, range 48% to 75% for “yes, I know how to use my company mental health resources”). The health care industries demonstrated more knowledge of company mental health resources than non-health care industries (65% vs. 59% agreed to above statement). We identified a wide range of perceived availability of company mental health resources among company sites (global $P < 0.0001$, range 9% to 44% identified company as offering “many” mental health resources). Nevertheless, a minority stated that companies offered no mental health resources (range, 0.5% to 4%). A substantial proportion did not know whether their company offered mental health resources (range, 12% to 32%). Health care industries did not differ markedly from the nonhealth care industries re-

garding perceived availability of company mental health resources.

Self-Reported Depression History

Fifty-two percent stated that they had suffered with depression in the past (1% missing responses). Of these, 38% sought professional assistance for their depression. Seventy-four percent reported that they had friends or family that had suffered with depression in the past, and 40% knew work colleagues that currently were depressed.

We identified several statistically significant response differences between those with and without a self-perceived history of depression. Nevertheless, the clinical and health policy significance of these differences is less clear. For example, 27% of those with a self-perceived history of depression reported that their employer offered many resources for mental health care, compared with 33% of those without a self-perceived history ($P < 0.0001$). Additionally, 35% of those with a self-perceived history of depression stated that they did not know how to use company mental health resources, compared with 34% of those without a self-perceived history ($P < 0.0001$).

We identified depression attitudinal differences among those with a history of depression compared to those without a depression history. Sixty-four percent of those with a self-perceived history of depression agreed that those with depression can handle their workload, whereas only 55% of those without a self-perceived depression history agreed with this statement ($P < 0.0001$). Furthermore, 88% of those with a self-perceived depression history agreed that those with depression should have the same promotion opportunities as those without depression, whereas 83% of those without a self-perceived depression history agreed with this statement ($P < 0.0001$).

Web-Based Compared With Hard-Copy Survey Format

Most subjects (84%) completed the survey via the web-based format. Employees from three companies were offered the web-based format only. Response rates from these three companies varied widely, although were consistent with results from all thirteen companies (Table 1). Nevertheless, the highest response rate (48%) among all companies was observed at one of the companies offering only the web-based format.

We identified several statistically significant response differences between those who completed the survey via the web-based format and those who completed the survey via the hard-copy format. Nevertheless, the clinical and health policy significance of these differences is less clear. For example, 28% of the hard-copy completers reported that their employer offered many mental health resources, compared with 20% of the web-based completers ($P < 0.0001$). Furthermore, 44% of the hard-copy completers stated that they did not know how to use company mental health resources, compared with 35% of the web-based completers ($P < 0.0001$). Fifty-six percent of the hard-copy completers reported a history of depression compared with 52% of the web-based completers ($P = 0.033$).

We identified attitude differences about depression among the web-based completers compared with the hard-copy completers. Fifty-seven percent of hard-copy completers agreed that those with depression can handle their workload, whereas 60% of web-based completers agreed with this statement ($P < 0.0001$). Additionally, 81% of hard-copy completers agreed that those with depression should have the same promotion opportunities as those without depression, whereas 87% of the web-based completers agreed with this statement ($P < 0.0001$).

Discussion

We report herein on the design of a multiphase workplace depression initiative (CID) organized and executed by a local health care coalition in Kansas City, Missouri. Comprising varied stakeholders, the Mid-America Coalition on Health Care pursues unique, multifaceted approaches to public health threats. The CID is the result of such cross-discipline collaboration. This initiative is timely given recent work detailing the serious consequences of workplace depression on quality of life, absenteeism, presenteeism, and cost.^{1,5,7,12} The CID is unique in its approach, and is the largest reported employer-led, workplace-centered depression intervention to date. We look forward to recounting its overall impact upon completion of the three phases.

We report herein the first results from phase I of the CID. To our knowledge, this is the first assessment of depression knowledge and attitudes among a general employee population. Mental health literacy (ie, knowledge, beliefs, attitudes about mental illness) is an important component of depression recognition and successful treatment.^{14,15} Understanding the mental health literacy of an employee population is critical, especially given the high prevalence of workplace depression, and its severe effects on productivity, quality of life, and cost. Furthermore, this work may inform employer-designed health care benefits, and thus have an impact on depression diagnosis and treatment.

We were encouraged to find that these employees were fairly knowledgeable about the common signs and symptoms of depression. Although we cannot adjust for an educational level effect, only 22% of the respondents were from the health care industry, suggesting that this knowledge base was reflective of the community at large. These employees were cognizant of the varied threats of untreated depression, and

recognized its high prevalence (even over-estimated it).

We found that employees were amenable to seeking depression treatment via herbal remedies, self-help techniques, primary care, prescription medications, and counseling. We were encouraged by this willingness to seek help in primary care settings, as these are a leading venue for depression diagnosis and treatment.² Subjects were less willing to access depression care in psychiatry, community programs, or company resources. Nevertheless, 50% stated that they would seek help in employee assistance programs, if available.

These findings predict a level of depression treatment similar to that recently described in a large, nationally representative survey of depressed subjects. In that work, Kessler et al¹ identified an overall high rate of depression treatment (57%); 15% overall were using herbal depression therapies. In another study, Dwight-Johnson et al.¹⁶ demonstrated a great desire (83%) to undergo depression care among a large depressed primary care cohort of a depression intervention trial. Our study uniquely contributes to these findings, because we have exclusively sampled employees, and we are unaware of subject depression status. Understanding community awareness, knowledge, and attitudes is important in designing any public health initiative.

Not surprisingly, most employees stated that they would not feel comfortable discussing depression with their supervisor. Only 62% stated that they knew how to access company mental health resources. Although standard mental health benefits were available to these employees, 49% perceived "few" available employee depression resources, and 20% did not know what was offered at all. This finding is consistent with those of a recent study demonstrating a low knowledge of available mental health resources among a depressed primary care cohort.¹⁷ The health policy impli-

cations of these findings are significant, and suggest a need to more appropriately target mental health resources and facilitate pathways to them.

At the local employer level, there have been several responses to these data. Employers were encouraged by the preferential survey completion via the web-based versus the hard-copy format. This has already shifted many employee educational programs and information about mental health resources to a computerized venue. An employer intranet module, currently under construction, will provide a wealth of information for employees accessing depression care. Additionally, ongoing projects identifying and addressing health care system barriers to depression diagnosis and treatment sprung from this work. Furthermore, this study has prompted ongoing policy discussions among various stakeholders regarding design of employee benefits and work site mental health resources.

This study has limitations. Our low response rate and inability to compare nonrespondents with respondents renders nonresponse bias a critical factor in interpreting findings. The low response rate is in large part due to our inability to bolster response with reminders and repeat mailings, a well-studied mechanism of increasing response in survey research. Future work in this area should use this technique to increase response, thus decreasing nonresponse bias. Additionally, our lack of information regarding individual sociodemographic characteristics, employment type, educational level, comorbid medical illness, and functional status limits our interpretation of response differences among groups, and reduces our ability to target specific employee populations for particular depression programs.

The generalizability of these findings to non-CID work sites in Kansas City and other US cities should be considered. However, although ex-

ternal validity, ie, generalizability, of findings to populations outside of the study sample is always a concern, we feel certain that these 13 CID companies are an adequate representation of the US workplace. Although joined together in the CID for reducing workplace depression, these 13 companies were similar to other US workplaces in that they did not have specific mental health promotion campaigns prior to the CID.

Despite these limitations, we can learn a great deal about workplace depression from this broad-based employee depression survey. We hypothesize that survey respondents were most likely activated for participation through first-hand depression experience, either self-encountered or during the suffering of a loved one. This might explain the extraordinarily high self-reported depression history (52%). Additionally, this may have rendered respondents not only more knowledgeable about depression, but also more sympathetic to the needs of depressed colleagues. Future work should make an effort to further discriminate between those activated for mental health project participation because of personal experience and those not particularly activated for participation. This might help planners at work sites better target interventions and facilitate the development of employee champions for mental health promotion and disease prevention.

We identified a large proportion of subjects with a self-perceived history of depression (52%). We are neither able to distinguish a history of major depression from other depressive types, nor confirm current respondent depression. However, because the response differences between those with and without a history of depression have little clinical and policy significance, we are not concerned about these classification difficulties. We recognize a need for more research identifying the impact of other depressive subtypes (ie, atypical depression, minor depres-

sion, dysthymia) on workplace-related outcomes.

Before survey completion, subjects were informed that the overall objective of the study was to further an understanding of workplace depression. This information may have induced greater self-selection for survey participation among those with a depression history compared with those without a depression history. Furthermore, this information may have produced a recall bias in that survey completers may have been more likely to remember an episode of dysphoria, or “the blues,” as depression after learning the overall objective of the study. Future work should screen subjects for current depression with validated instruments to avoid potential misclassification of depressive status, and to expand self-report of depression history.

We have learned much from this broad-based, large employee survey. These findings support continued workplace depression awareness-raising events, increased employee mental health resources, and more research on workplace depression interventions. Additionally, future work within and outside the CID should focus on identifying ways to stratify risk of deleterious depression-related outcomes in the workplace.

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References

1. Kessler RC, Berglund P, Demler O, et al. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *JAMA*. 2003;289:3095–3105.
2. Goldman LS, Nielsen NH, Champion HC. Awareness, diagnosis, and treatment of depression. *J Gen Intern Med Sep*. 1999;14:569–580.
3. World Health Organization. Raising awareness, fighting stigma, improving care: Brundtland unveils new WHO global strategies for mental health. Available at: <http://www.who.int/inf-pr-1999/en/pr99-67.html>. 1999; Internet; accessed October 8, 2004).
4. Kessler RC, Frank RG. The impact of psychiatric disorders on work loss days. *Psychol Med*. 1997;27:861–873.
5. Kessler RC, Greenberg PE, Mickelson KD, Meneades LM, Wang PS. The effects of chronic medical conditions on work loss and work cutback. *J Occup Environ Med*. 2001;43:218–225.
6. Broadhead WE, Blazer DG, George LK, Tse CK. Depression, disability days, and days lost from work in a prospective epidemiologic survey. *JAMA*. 1990;264:2524–2528.
7. Stewart WF, Ricci JA, Chee E, Hahn SR, Morganstein D. Cost of lost productive work time among US workers with depression [erratum appears in *JAMA*. 2003;290:2218]. *JAMA*. 2003;289:3135–3144.
8. Druss BG, Rosenheck RA, Sledge WH. Health and disability costs of depressive illness in a major U.S. corporation. *Am J Psychiatry*. 2000;157:1274–1278.
9. Rosenheck RA, Druss B, Stolar M, Leslie D, Sledge W. Effect of declining mental health service use on employees of a large corporation. *Health Aff (Millwood)*. 1999;18:193–203.
10. Zhang M, Rost KM, Fortney JC, Smith GR. A community study of depression treatment and employment earnings. *Psychiatr Serv*. 1999;50:1209–1213.
11. Schoenbaum M, Unutzer J, McCaffrey D, Duan N, Sherbourne C, Wells KB. The effects of primary care depression treatment on patients' clinical status and

- employment. *Health Serv Res.* 2002;37:1145–1158.
12. Kessler RC, Barber C, Birnbaum HG, et al. Depression in the workplace: effects on short-term disability. *Health Aff.* 1999;18:163–171.
 13. Fowler FJ Jr. *Survey Research Methods*. 2nd ed. Beverly Hills: Sage; 1993.
 14. Goldney RD, Fisher LJ, Wilson DH. Mental health literacy: an impediment to the optimum treatment of major depression in the community. *J Affect Disord* May. 2001;64:277–284.
 15. Goldney RD, Fisher LJ, Wilson DH, Cheok F. Mental health literacy of those with major depression and suicidal ideation: an impediment to help seeking. *Suicide Life Threat Behav.* 2002;32:394–403.
 16. Dwight-Johnson M, Sherbourne CD, Liao D, Wells KB. Treatment preferences among depressed primary care patients. *J Gen Intern Med.* 2000;15:527–534.
 17. Meredith LS, Humphrey N, Orlando M, Camp P. Knowledge of health care benefits among patients with depression. *Med Care.* 2002;40:338–346.