# Managing Job Strain: A Randomized, Controlled Trial of an Intervention Conducted by Mail and Telephone

Kenneth R. Pelletier, PhD
Annette Rodenburg, MA
Amy Vinther, BS
Yosuke Chikamoto, PhD
Abby C. King, PhD
John W. Farquhar, MD

*A randomized, clinical intervention focused on alleviating job strain was conducted over 6 months by mail and/or telephone with a total of 136 employees of Bank of America. Both the mail and mail plus telephone interventions evidenced positive results, with the mail plus telephone intervention being the more effective. Given the relative low cost of such mediated interventions, the results provide a basis for the further development of interventions that may demonstrate both clinical and cost effectiveness.*

Job strain, which is defined by high demand and low decision latitude,[1] has been shown to be related to a variety of medical conditions and diseases. Included among these are increased prevalence of cardiovascular disease,[2] premature cardiovascular and cerebrovascular deaths,[3] hypertension and increased left ventricular mass index,[4] and increased risk for atherosclerosis.[5] In addition, job strain is related to an array of negative behavioral outcomes including absenteeism,[6] increased utilization of medical services,[7] decreased job performance and productivity, and an increase in health-damaging behaviors such as alcohol abuse and cigarette smoking.[8] Basic research knowledge and clinical interventions are becoming more sophisticated, while the incidence of stress disabilities is markedly increasing, providing an opportune time for an intervention study. To date there are 40 empirical studies of job strain. In 1998, our research team reported positive results of a first-generation job-strain intervention with 81 men and women employed by a county government.[9] This subsequent mail and telephone intervention constitutes the largest randomized, controlled intervention focused specifically on alleviating the negative effects of job strain.

Positive associations between job strain and cardiovascular disease have been reported in a variety of populations in more than 40 studies to date. Sixteen of the 40 studies were conducted in Sweden, seven of

From the Stanford Center for Research in Disease Prevention, Department of Medicine, Stanford University School of Medicine, Stanford, Calif.

Address correspondence to: Kenneth R. Pelletier, PhD, MD(hc), Stanford Center for Research in Disease Prevention, Stanford University School of Medicine, 730 Welch Road - SCRDP, Stanford, CA 94304-1853.

which focused on national heart disease incidence. Another 17 studies were conducted in the United States, three of which used national databases. Seven remaining studies were conducted in Czechoslovakia, Australia, Denmark, Finland, and Japan. Of the six national studies conducted in Sweden,[10–16] including two cohort studies,[1,11] all found positive associations between job strain and cardiovascular disease. Of the three cross-sectional studies in the United States, positive associations were found between job strain and myocardial infarction,[1] as well as job strain and smoking,[17] but not between job strain and other cardiovascular risk factors.[18] Of the four additional large-scale population-based cohort studies, three reported a positive link between job strain and coronary heart disease (CHD),[19–21] while one found no association.[22]

Positive associations have been reported in studies focused on blue-collar workers,[23–28] as well as those restricted to white-collar workers.[9,10,13,29–31] Both women and men were included in 15 studies. In 12 of the 15 studies in which comparisons could be made, effect sizes were similar for both men and women, including studies of heart disease, heart disease symptoms, blood pressure, and smoking. There are preliminary data that also suggest that women in the United States[12] may have a higher proportion of job strain–promoting positions than men. Most of the studies in both Europe and the United States have been conducted with Northern European racial/ethnic groups. Most recently, four international studies shed further light upon both the incidence and possible underlying mediators of job strain. A 1997 study from the Kuopio Ischemic Heart Disease Study reported exaggerated blood pressure elevations during mental stress among middle-aged Finnish men with carotid atherosclerosis.[29] Also in 1997, results of the Whitehall II study were reported with respect to a "social gradient" similar to the concept of job strain.[30]

Another 1998 study focused on job strain per se among 179 Czechoslovakian men aged 25 to 64 years.[30] The association between decision latitude at work and myocardial infarction found in this study is consistent with research in Western populations and may partly explain the socioeconomic gradient in myocardial infarction. Also in 1998, a study examined the role of decision latitude and job strain in the etiology of a first myocardial infarction among working men in Stockholm.[31] Results of that study suggested that both negative change in inferred decision latitude and self-reported job strain are three important risk indicators in men less than 55 years of age and in blue-collar workers.

Research within the Unites States has resulted in two 1998 studies of significance. An innovative study of 285 white- and blue-collar workers aged 30 to 60 in nine New York City private sector worksites focused on the association of job-decision latitude with CHD risk factors.[28] Among 189 men in the 3-year prospective study, an increase in job-decision latitude was associated with a decrease in cigarette smoking, when controlling for age, race, education, marital status, and number of children at home. Another study in 1998 focused on 6,895 men and 3,413 women aged 35 to 55 years to determine the association between measures of job strain and new reports of CHD.[32] In this study, researchers reported that an imbalance between personal efforts (competitiveness, work-related over-commitment, and hostility) and rewards (poor promotion prospects and a blocked career) was associated with a 2.15-fold higher risk of new CHD. These findings suggest that competitive, over-committed, and hostile employees with less autonomous occupational careers and low job control have higher risks of coronary disease.

Although research on the linkage between job strain and CHD is limited, it has been documented that lack of control on the job increases the risk of CHD,[30] and job strain (high psychological demands and lack of control) results in elevated ambulatory blood pressure at home and an increased left-ventricular mass index,[33] as well as increased progression of atherosclerosis.[34] Chronic stress (feelings of fatigue, lack of energy, irritability, and demoralization) and hostility are linked to increased reactivity of the fibrinogen system and of platelets, both of which increase the risk of myocardial infarction.[35,36]

In summary, positive associations between job strain and CHD have been found in cross-sectional, case-control, and cohort studies.* Consistent results have been found across types of cardiovascular disease outcome measures. Thirteen studies used heart disease morbidity or mortality as the major outcome; three studies used all cardiovascular disease; and two studies examined all-causes mortality. Of these 18 studies, significant associations were found among 16 for at least some forms of the independent variable. Collectively, these studies provide the empirical basis for the next stage of research in this intervention area. The purpose of the study presented here was to evaluate systematically the effects of a mediated intervention on a range of symptoms associated with job strain in a sample of men and women who were employees of a major, national bank.

According to several recent publications in job-strain research, it is clear that a body of research literature strongly suggests a causal association between job strain and cardiovascular disease.[27,28,31,32] Several biological mechanisms for this link have been proposed, with blood pressure elevations evidencing research

* Further specific information and studies are accessible on the Internet at http://www.workhealth.org.

**TABLE 1**
Intervention Modules

| | |
|---|---|
| Module 1 | • Define stress |
| | • Explore the various sources of stress |
| Module 2 | • Explain the "Fight or Flight" response to stress |
| | • Review other materials provided by the STRESS Program |
| Module 3 | • Review stress-management skills participants probably already use |
| | • Discuss new skills for dealing with stress in their life |
| Module 4 | • Further define "Job Strain" |
| | • Provide information on internal stress-management skills |
| Module 5 | • Continue the discussion on "Job Strain" |
| | • Provide information on external stress-management skills |
| Module 6 | • Examine the reasons for participants' problems with stress |
| | • Provide some practical steps to better manage their stress |
| Module 7 | • Discuss the importance of social support |
| | • Provide some simple ways to improve friendships |
| Module 8 | • Review the STRESS materials covered in the last seven modules |
| | • Emphasize other factors that might affect their health |

support. At this point in time, intervention studies to reduce job strain are clearly warranted. This is the gap that this second, randomized clinical trial intervention addresses.

Ideally, any job-strain intervention would directly modify the external, environmental or "demand" side of the job-strain equation. However, the external demands not only multiple but often cannot be changed because of worksite policies or procedures. Our limited experience to date indicates that employers are quite resistant, at least for research purposes, to allowing changes in the demand characteristics of job strain. Therefore, the two studies conducted by Stanford have focused on the internal, adaptive responses to enhance the "autonomy" dimension. Such an approach does run the risk of blaming the victim. One step toward a solution in the current study is listed in the Table 1 modules, which progress from enhancing internal coping and autonomy in modules 1 through 4 to influencing a limited number of external, environmental demands in modules 5 through 8. Again, the ideal intervention would be to modify both the demand and autonomy dimensions inherent to job strain.

An earlier pilot project intervention was conducted by the same Stanford researchers in 1998 with employees of a county government.[9] That intervention consisted of mail and telephone modules delivered over 6 weeks. After the positive results, extensive focus groups were conducted with participants to modify the materials for the study presented here. Among the modifications were shorter modules, the inclusion of more graphics in the modules, extension of the intervention time from 6 to 8 weeks, and

**TABLE 2**
Participants

| | Control | Mail | Phone | Total |
|---|---|---|---|---|
| Participants, by Gender, by Group, *n* | | | | |
| Male | 9 | 7 | 7 | 23 |
| Female | 36 | 39 | 38 | 113 |
| Total | 45 | 46 | 45 | 136 |
| Age of participants, years | | | | |
| Mean | 45.2 | 45.4 | 43.3 | 44.6 |
| (Standard deviation) | (10.42) | (10.52) | (9.32) | (10.07) |
| Completion rate | | | | |
| Immediate, *n* (%) | 37 (82.2) | 23 (50.0) | 28 (62.2) | 88 (64.7) |
| Follow-up, *n* (%) | 40 (88.9) | 33 (71.7) | 32 (71.1) | 105 (77.2) |

**TABLE 3**
Change Scores for the Brief Symptom Inventory ("Perceived Wellness")* at 6 Months†

| | Control | | Mail | | Phone | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | *F* | d.f. | *P* |
| Post-intervention‡ | −.3 | .66 | .4 | .43 | .3 | .29 | 6.30 | 2, 85 | <0.01 |
| 1-Year follow-up | −.1 | .68 | .3 | .95 | .0 | .62 | 1.53 | 2, 101 | NS |

* Post-intervention score − Pre-intervention score.
† SD, standard deviation; d.f., degrees of freedom; NS, not statistically significant.
‡ Differences between the Control group and the Telephone group and between the Control group and the Mail group are significant at the 0.05 level.

**TABLE 4**
Changes in Self-Efficacy*

| | Control | | Mail | | Phone | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | *F* | d.f. | *P* |
| Immediately after† | −1.1 | 3.33 | −.1 | 2.22 | 1.6 | 3.87 | 4.83 | 2, 78 | <0.05 |
| 1-Year follow-up† | −1.6 | 2.61 | −.5 | 1.79 | .6 | 3.51 | 4.80 | 2, 86 | <0.05 |

* Post-intervention score − Pre-intervention score.
† Difference between the Control group and the Telephone group is significant at the 0.05 level.

refinement of the 5- to 10-minute telephone contacts.

## Methods

### Design

The total duration of the Stanford Training Regarding Effective Stress Solutions (STRESS) study was 1 year. Employees of Bank of America were recruited at their worksite and randomly assigned to one of three interventions: (1) Group I: The complete intervention, consisting of two study assessments, eight modules with designated stress-management materials, and five periodic telephone calls from a health educator over a 6-month time period; (2) Group II: All of the above, but without the telephone calls; and (3) Group III: A control group that initially received study assessments only and, after 1 year, received all materials provided to the other two groups. Baseline data were collected on all subjects in September 1996, prior to randomization, using two paper-and-pencil assessments: (1) the Stanford Job Strain Survey, and (2) the Stanford SMART Health Risk Appraisal. All subjects were asked to complete the same Job Strain and Stanford SMART questionnaires at 6 months, immediately after the intervention ended, and 1 year.

### Subjects

There were 23 men and 113 women (average age, 44.6± years) recruited for the study from a potential pool of 1,227 employees. All subjects were employed by Bank of America. Bank of America, headquartered in San Francisco, is a leading financial services company, with more than $260 billion in total assets and approximately 93,000 employees worldwide. It serves more than 14 million consumers and 5 million businesses through 1,900 branches and 1,000 in-store locations in the Western and Midwestern United States. The company operates corporate and retail offices in nearly 40 countries and is one of the world's largest corporate and industrial lenders, with more than $55 billion in loans outstanding at the end of 1997. Employees of Bank of America were recruited at their worksite. In August of 1996, Bank of America sent out 1,227 letters to employees of various branches in California who were identified by the study research team as being at high risk for "job strain," based on the job classification of positions with high demand and low autonomy. Full-time employees with job classifications reflecting lower management, secretarial, and teller positions with salaries less than $40,000 per year were considered to be at high risk for "job strain." The initial letter gave a brief overview of the study and encouraged employees to participate. Of the 188 employees who responded to the letter, 136 completed the baseline questionnaires and were randomly assigned to one of the three interventions (telephone, 45 employees; mail, 46 employees; control, 45 employees). All subjects signed an informed consent form at the beginning of the study. This informed consent form was approved by the Institutional Review Board at the Stanford University School of Medicine.

### Measures

Two questionnaires used in the STRESS study were the (1) Stanford Job Strain Survey and (2) Stanford SMART Health Risk Appraisal Questionnaire. The Stanford Job Strain Survey, completed at baseline, 6 months, and 1 year, consisted of multiple-choice questions, including (1) perceived health status, (2) self-efficacy beliefs, with respect to dealing with stress, (3) Karasek's Job Content Scales, and (4) the Brief Symptom Inventory (BSI).[15] The BSI addressed such dimensions as obsessive-compulsive behavior, somatization, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychotic symptoms. This instrument has an extensive research base establishing its reliability and validity (convergent, discriminate, construct, and predictive).[15]

The Stanford SMART Questionnaire consisted of 198 questions focusing on self-reported vital and

**TABLE 5**
Change Scores* in the Feelings About Personal Control at the 1-Year Follow-Up

| Feeling | Control | | Mail | | Phone | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | *F* | d.f. | *P* |
| Unable to control the important things in their life | −.2 | 1.07 | −.4 | .87 | −.5 | 1.16 | .78 | 2, 101 | NS |
| Confident about their ability to handle their personal problems | .1 | .87 | .1 | 1.29 | −.7 | .97 | 5.54 | 2, 101 | <0.01 |
| Things were going their way | −.2 | 1.07 | −.1 | .93 | −.4 | .91 | .85 | 2, 101 | NS |
| Difficulties were piling up so high that they could not overcome them | −.3 | 1.20 | −.0 | .78 | .5 | .98 | 1.50 | 2, 101 | NS |

* Pre-score − post-score.

**TABLE 6**
Change Scores* in the Brief Symptom Inventory Immediately After the Interventions

| | Control | | Mail | | Phone | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | *F* | d.f. | *P* |
| Somatization | .2 | 8.42 | .7 | 8.15 | −4.4 | 6.72 | 3.45 | 2, 84 | <0.05 |
| Obsessive-Compulsive | −1.2 | 6.81 | −3.2 | 7.55 | −2.8 | 8.14 | .63 | 2, 85 | NS |
| Interpersonal sensitivity | −1.1 | 4.27 | −.9 | 7.85 | −2.9 | 7.15 | .83 | 2, 84 | NS |
| Depression | −.4 | 8.02 | −1.9 | 7.28 | −2.7 | 8.44 | .73 | 2, 85 | NS |
| Anxiety | −1.6 | 9.38 | −1.7 | 7.91 | −6.4 | 6.50 | 3.15 | 2, 85 | <0.05 |
| Hostility | −2.3 | 7.25 | −2.9 | 8.02 | −5.0 | 9.50 | .90 | 2, 85 | NS |
| Paranoid ideation | −2.3 | 6.46 | −.9 | 6.30 | −1.6 | 9.67 | .26 | 2, 85 | NS |

* Pre-score − Post-score.

ıealth variables, such as height, weight, blood pressure, total choles-:erol; health behavior, with respect to ɔhysical activity, dietary habits, ;moking, alcohol consumption, and ;afety; and psychological profiles re-garding health and behavior change.

## Intervention

Design of the telephone and tele-ɔhone/mail based intervention was ɔased on social cognitive learning :heory. Based on this theory, effec-:ive behavioral change occurs in in-:remental steps, starting with the ac-ɹuisition of new knowledge and eading ultimately to actual behavior :hange. For the study presented here ınd the prior study,[9] the eight mod-ıles of the intervention proceeded :rom basic education to a focus on ɔehavioral strategies aimed at in-:reasing self efficacy and finally to ɔehavior change. Subjects in Groups : and II received materials via mail :very 3 weeks over the course of 6 nonths. Materials included the following: (1) a workbook with eight modules on strategies to help reduce stress both at work and at home and to enhance job performance and productivity; (2) a hardback copy of the book *Sound Mind, Sound Body* by Dr Kenneth R. Pelletier; (3) a stress-reduction audiotape; (4) a commercially available "stress card" to monitor daily stress; and (5) a "Sitting at your desk" exercise pamphlet. A health educator telephoned Group I subjects five times during the 6 months, either at their home or office, to clarify questions and to assist in skills development. These brief telephone calls lasted an average of 5 to 10 minutes each. During the last 6 months of the study, participants were not provided materials and did not receive any telephone calls. Participants were encouraged to continue practicing the skills they had learned and review those they had missed during the first 6 months of the program. Table 1 lists the information provided in the modules.

## Statistical Analysis

Analyses of variance were performed to examine differences in scores among groups at the baseline assessment to confirm the efficacy of the randomization procedure. Changes in scores from the baseline to the post-intervention assessment among groups were examined using analyses of variance. This analysis was followed by a pre-planned comparison between any groups, using Tukey's procedure. The significance level of 0.05 was used unless noted. All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) (SPSS, Chicago, IL).

## Results

No significant differences were found among groups for all variables collected at the baseline assessment, confirming the efficacy of the randomization procedure. Assessment completion rates for the telephone group, the mail group, and the control group were 62.2%, 50.0%, and 82.2%, respectively, immediately after the 6-month interventions and 71.1%, 71.7%, and 88.9%, respectively, at the 1-year follow-up assessment (differences were nonsignificant).

*Perceptions.* With respect to the assessment of perceived health, although no group differences in the changes in perceptions about physical health status were found, there were significant differences among groups in the changes of perceptions about mental health status at the

1-year follow-up assessment ($P < 0.05$). The telephone group showed the largest improvement in the ratings of mental health status, followed by the mail group, with the control group showing the least. The difference between the phone group and the control group was statistically significant ($P < 0.05$).

Analysis of the responses to the Stanford SMART health-risk appraisal revealed that there were no group differences in changes in the objective wellness scores. Changes in perceived wellness scores, however, were different among groups at the 6-month assessment ($P < 0.01$). The two intervention groups showed larger increases in the scores, whereas the control group showed a decrease. The differences in changes between the control group and the telephone group and between the control group and the mail group were statistically significant (both $P < 0.05$).

*Self-efficacy.* Significant differences among groups were found in the changes in self-efficacy for reducing occupational stress from the baseline assessment at both the 6-month and 1-year assessments (both $P < 0.05$). At each of those two assessments, the telephone group showed increases in self-efficacy scores whereas the other two groups showed decreases. Differences between the telephone group and the control group for both assessment points were statistically significant ($P < 0.05$).

With respect to the items concerning feelings about personal control in one's life, there was a difference among groups at the 1-year follow-up assessment in changes of ratings for confidence about one's ability to handle their personal problems ($P < 0.01$). Participants in the telephone group were more likely to report increased confidence in handling problems than were those in the mail group and the control group (both $P < 0.05$).

### BSI

In an analysis of the responses to the BSI, significant differences among groups in changes from the baseline assessment to the 6-month assessment were found on the somatization and anxiety scales (both $P < 0.05$). Only the telephone group showed a decrease on the somatization scale (within-group change significant at $P < 0.05$), whereas the mail and control groups showed slight increases. On the anxiety scale, the telephone group showed the largest decrease, followed by the mail group, with the control group showing the least. These differences in the somatization and anxiety scores were no longer evident at the 1-year follow-up assessment. There were no differences among groups in changes on the BSI scores from the baseline assessment to the 1-year follow-up assessment.

*Karasek's Job Content Scale.* No significant differences among groups were found in changes of any scales in the Karasek's Job Content Questionnaire at both assessments after the interventions.

## Discussion

As the numbers of job-strain and stress-related disabilities and associated costs have climbed, attention has turned to the need for preventive measures. A working environment "free from recognized hazards" is required by Section 5 of the federal Occupational Safety and Health Administration General Duty Clause. Apart from legal requirements, many employers are motivated by a sincere concern for the well-being of employees and organizational morale, as well as the desire to lower actual and potential medical and disability costs. This study demonstrates that both a mail-based and a mail/telephone-based job-strain intervention can be effective as a preventive health-promotion measure to increase employees' knowledge of job-strain risk factors and possible solutions, alter risk behavior, and result in self-reported benefits. Although such educational programs may actually increase costs in the short term (ie, costs of training materials, possible increase in short-term workers' compensation claims because of the increased awareness of job-strain effects by employees), they may subsequently yield long-term savings through early detection and prevention.

Together, our two studies[9] indicate that it is possible to detect and intervene upon job strain–related factors with mail- and/or telephone-based interventions. Given the relative low cost of such mediated interventions, the results provide a basis for the further development of programs that demonstrate both clinical and cost effectiveness.

### Limitations

In addressing the limitations of this randomized clinical trial, there are two broad categories of caveats: (1) specific logistic problems and potential solutions, and (2) more global observations related to future research directions in this area. Among the logistic problems were the following: (1) Difficulty in attaining an adequate response to the intermediate assessments. In the prior pilot study as well as this one, the final return rate for assessments was higher for the control group than for either intervention. This suggests that the better response from the controls was due to the incentive of receiving the study materials at the conclusion. It also suggests that a monetary or other incentive to complete the final assessment in all groups may be an effective strategy. One additional possibility could be potential adverse side effects of the intervention, but none were reported in follow-up focus groups to the pilot project[9] and none were reported in the present study. (2) Six months was a time-limited intervention that was shortened from the previous 12-month intervention, based on focus groups with pilot project participants. Unfortunately, in the revised

6-month interventions, some subjects reported that the timing was too short between modules and they fell behind in reading and/or practicing the modules. Clearly, the total duration of the intervention as well as the timing of the modules requires further investigation. (3) Also, for the telephone counseling, it was often difficult to reach participants either at work or home. Also, the Bank of America participants were in worksites throughout California and expressed reluctance to return long-distance calls. Future interventions should provide a toll-free intervention access line. Overall, these three specific, logistical limitations can be addressed by refining the intervention, timing, and incentives.

Finally, this study found no significant differences among groups in change scores on any of the Karasek Job Content scales. In our previous study,[9] such changes were found. There are a number of possibilities to consider with regard to these results. Since the Karasek scales have been applied predominantly to assess and predict job strain, they may be less sensitive to change as the result of an intervention. Another possible cofounder is that the job classifications for positions assessed as prone to job strain may not actually reflect the appropriate conditions and/or might not be compatible in an intervention of county employees, as opposed to banking or other worksite employees. Further attention to both sensitivity/specificity on job-strain assessments, as well as job classification, merits future study.

Given the exploratory nature of this research, several limitations would need to be addressed in larger, randomized trials. First, because the number of participants in this project was limited, the relatively small sample size precludes definitive conclusions but is strongly indicative of effectiveness. Clearly, a randomized trial involving substantially larger numbers of workers with a longer follow-up time of up to 2 years would be highly desirable, both to increase generalizability as well as to assess the impact of the interventions on workers' compensation claims and costs. Second, workers were employed by the central administration of a large national bank headquartered in California. It remains to be seen how much these positive findings can be generalized to other work settings, such as utilities, telecommunications, and airline companies. Third, during the study, Bank of America experienced significant reorganization, resulting in some attrition of study participants. Five participants moved without a forwarding address and were lost to follow-up. Although attrition factors were not significantly different among the three study groups, the sample-size reduction could have biased the generalizability of the results if those participants leaving the study were different from those remaining in the study. Only two individuals dropped out of the control group, and there were no statistical differences between those individuals who dropped out of any of the three groups and those who completed the study. Fourth, although the focus of both of the interventions was upon enhancing individual behavioral skills, the ideal intervention would focus on both the individual and environmental determinants of job strain. Ideally, such an intervention would help individuals develop better coping strategies while having the job environment change to be more supportive of reducing the inappropriately excessive "demand" side of the equation. Fifth, emphasis in these interventions has been on telephone- and/or mail-based programs to reach geographically distributed employees. While such interventions may be more convenient and perhaps more cost-effective than onsite, face-to-face interventions, comparisons of the latter two formats have not been undertaken to date. Finally, in the current era of managed care, it would be valuable to expand the job-strain intervention to include a cost-benefit analysis, including materials and delivery, related costs, workers' compensation, and medical outcomes utilization/cost data.

Future studies are required, with longer time periods and larger sample sizes to fully study the impact of job-strain management interventions on knowledge, behavior, claims, and costs. Based on this study, it is clear that future studies need to focus on both creating individual coping strategies and autonomy as well as organizational change to modify both the individual coping strategies as well as the organizational and worksite demand side of the job-strain phenomenon.

## Acknowledgments

Research for this study was supported by grants from Blue Shield of California, the Nathan Cummings Foundation, and the American Health Association.

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