ORIGINAL RESEARCH

A Randomized Trial of Treatments for High-Utilizing Somatizing Patients

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BACKGROUND: Somatization and hypochondriacal health anxiety are common sources of distress, impairment, and costly medical utilization in primary care practice. A range of interventions is needed to improve the care of these patients.

OBJECTIVE: To determine the effectiveness of two cognitive behavioral interventions for high-utilizing, somatizing patients, using the resources found in a routine care setting.

DESIGN: Patients were randomly assigned to a two-step cognitive behavioral treatment program accompanied by a training seminar for their primary care physicians, or to relaxation training. Providers routinely working in these patients' primary care practices delivered the cognitive behavior therapy and relaxation training. A follow-up assessment was completed immediately prior to treatment and 6 and 12 months later.

SUBJECTS: Eighty-nine medical outpatients with elevated levels of somatization, hypochondriacal health anxiety, and medical care utilization.

MEASUREMENTS: Somatization and hypochondriasis, overall psychiatric distress, and role impairment were assessed with well-validated, self-report questionnaires. Outpatient visits and medical care costs before and after the intervention were obtained from the encounter claims database.

RESULTS: At 6 month and 12 month follow-up, both intervention groups showed significant improvements in somatization ($p < 0.01$), hypochondriacal symptoms ($p < 0.01$), overall psychiatric distress ($p < 0.01$), and role impairment ($p < 0.01$). Outcomes did not differ significantly between the two groups. When both groups were combined, ambulatory visits declined from 10.3 to 8.8 ($p = 0.036$), and mean ambulatory costs decreased from \$3,574 to \$2,991 ($p = 0.028$) in the year preceding versus the year following the interventions. Psychiatric visits and costs were unchanged.

CONCLUSIONS: Two similar cognitive behavioral interventions, delivered with the resources available in routine primary care, improved somatization, hypo-

chondriacal symptoms, overall psychiatric distress, and role function. They also reduced the ambulatory visits and costs of these high utilizing outpatients.

KEY WORDS: cognitive behavior therapy; somatization; hypochondriasis; medical utilization; medical care costs.

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BACKGROUND

Somatization is the experience and reporting of somatic symptoms that are distressing and impairing, but are not explained by demonstrable medical morbidity. Hypochondriasis is one form of somatization, in which the medically unexplained symptoms are accompanied by intense health-related anxiety and a firm belief that an undiagnosed disease is present. The distress, disability, and role impairment associated with chronic somatization and hypochondriasis is comparable to that of several chronic medical conditions.¹⁻³ Somatizing and hypochondriacal patients are disproportionately high utilizers of medical care, yet both they and their physicians find their care costly, unhelpful, frustrating, and unsatisfactory.⁴⁻⁹

Several interventions have been introduced to improve the care of somatizing and hypochondriacal patients. Critical reviews and meta-analyses conclude that these approaches are modestly beneficial.¹⁰⁻¹⁵ The evidence appears strongest for cognitive and behavioral approaches employing varying combinations of reframing, goal setting, self-monitoring and self-management, and reinforcement.¹⁶⁻²³ Providing physicians with management guidelines²⁴⁻²⁷ and educational programs has also been found to be modestly effective.^{28,29}

However, much room remains for improving the care of somatizing and hypochondriacal patients for several reasons.³⁰ First, these tend to be chronic and treatment resistant problems that are maintained by psychological and psychosocial homeostasis.^{3,31-33} Second, altering the physicians' management of these patients is difficult. Third, many

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eligible patients refuse referral to psychiatric or mental health services, finding them stigmatizing and believing their problems are exclusively medical.^{34–36} Fourth, access to effective psychological treatment is limited and generally entails referral outside the medical setting. Finally, the comparative effectiveness of different interventions is unknown.

We tested two interventions to improve the clinical status and medical care of high-utilizing, somatizing patients in a nonacademic, community primary care setting. Patients were randomized to a cognitive behavioral treatment (CBT) program or to relaxation training (RT), which was designed to be an active comparison intervention previously shown to be beneficial. Both interventions used medical rather than mental health providers and were conducted in medical rather than mental health settings. We hypothesized that CBT would result in greater reductions than RT in somatization, health anxiety, role impairment, and medical utilization.

METHODS

Subjects and Setting

The highest 20 % of outpatient utilizers in the prior year were identified from encounter claims data. We then excluded those with: (1) more than one visit to the same subspecialty clinic during this period (to exclude the most seriously ill patients whose utilization might be driven primarily by serious medical morbidity); (2) more than one narcotic prescription during this period (to exclude patients with chronic pain who were likely to have already received CBT in a pain clinic); (3) a diagnosis of alcoholism or psychosis; (4) symptom-contingent litigation or disability compensation; and (5) those under 18 or over 70.

The study took place in two large, multi-specialty, community practices. Site 1 had two primary care practice suites and site 2 had four. Each suite contained six to eight physicians and four to six advanced practice clinicians (nurse practitioners or physician assistants). These sites constituted a convenience sample, chosen because of the primary care team model employed.

Design

The study design is outlined in Fig. 1. The names of the highest utilizing patients were submitted to their physicians for permission to contact them. Patients who were approved completed a screening questionnaire for somatization and hypochondriasis over the telephone, and those exceeding a predetermined cutoff^{17,37} were eligible to participate. Screening scores have been associated with medically unexplained symptoms, health-related anxiety and elevated rates of medical utilization.^{5,17,38} Consenting eligible

Figure 1. Study design.

patients then underwent an in-person, baseline research battery and were randomized to cognitive behavior therapy (CBT) or relaxation training (RT). Randomization was carried out at the level of the practice suite, in order to avoid the contamination that would occur if the same physician had both CBT and RT patients. Patients were then assigned to an intervention according to their physician's practice suite.

The research battery consisted of a structured interview and self-report questionnaires administered at baseline, immediately following treatment, and 6 months and 12 months later. Outpatient utilization was obtained from the encounter claims database. Although it was not possible to blind patients or providers to treatment condition, all research staff were blind to treatment assignment. The

Institutional Review Boards at the institutions involved approved the study.

Treatment Conditions

The CBT intervention consisted of brief cognitive and behavioral counseling for somatization and hypochondriasis ("Step 1") that was followed by more intensive cognitive behavior therapy ("Step 2") for those patients judged not minimally improved after Step 1 counseling. This judgment was based on the provider's impression of benefit, patient preference, and change in the patient's screening questionnaire score. The Step 1 CBT intervention consisted of three, manualized 60-min counseling sessions addressing the process of symptom amplification; cognitive distortions and misconceptions about symptoms and disease; and misunderstandings about medical care. Step 2 CBT consisted of six, tightly manualized 60-min sessions of CBT shown to be effective in previous work.¹⁷ It restructured dysfunctional beliefs, modified maladaptive illness behaviors, and taught distraction techniques. One-half of one session was devoted to diaphragmatic breathing, a relaxation technique. Both treatment manuals are available from the authors.

In addition, primary care physicians in the CBT practice suites attended two 1-hour training seminars led by the investigators. These sessions reviewed medical management guidelines that were synergistic with the material covered in the CBT, and explained and reinforced the CBT. These training seminars were informal, consisting of didactic material and clinical cases.

The RT consisted of three tightly manualized 30-min sessions.^{39,40} They covered progressive muscle relaxation, diaphragmatic breathing, the release-only relaxation technique, and generalization of skills to symptom management. Patients were given practice CDs and asked to practice for 20 min daily.

Therapists and Treatment Fidelity

Step 1 CBT and RT were delivered by the advanced practice clinicians routinely working in the patients' primary care practices. Clinicians completed three 1-hour training sessions, and biweekly telephone supervision. Step 2 CBT was delivered by the doctoral level psychologists in the behavioral health departments at each of the sites. Step 2 training was conducted in two half-day training sessions, followed by regular biweekly telephone supervision.

Treatment fidelity was assessed with blind audits by research staff of audio recordings of randomly selected treatment sessions and with therapist self-ratings. Ratings were made of the extent to which the essential elements (between five and eight) of each session had been covered. Fidelity was judged to be excellent in both treatment arms.

Variables and Assessments

Somatization was measured with the Somatic Symptom Inventory,^{38,41} whose reliability, internal consistency, and convergent validity have been demonstrated.^{7,38,41-43} Hypochondriacal health anxiety was assessed with a validated, structured diagnostic interview,⁴⁴ and with three self-report questionnaires: The Whiteley Index, a widely used measure with established validity, reliability, and sensitivity to change^{45,46}; the Health Anxiety Inventory, a questionnaire minimally influenced by the presence of major medical illness that has good validity, internal consistency, and reliability^{47,48}; and the Medical Cognitions Questionnaire, assessing the frequency of disease-related thoughts.¹⁶

Role impairment and functional status were assessed with the Functional Status Questionnaire,⁴⁹ a valid and reliable questionnaire for use in ambulatory medical populations.^{49,50} It yields a global score of role impairment, including intermediate activities of daily living (such as doing errands, working around the house) and social activities (e.g., seeing friends, participating in community activities).

Psychiatric symptoms were assessed with the Hopkins Symptom Checklist-90.⁵¹⁻⁵³ This instrument has excellent psychometric properties and has been widely used in ambulatory medical populations.⁵¹⁻⁵³ The 90 items comprise nine subscales and one summary score to measure global psychiatric distress.

The encounter claims database was queried for the number of outpatient visits and total outpatient costs from 24 months to 12 months prior to the intervention, 12 months immediately preceding it, and 12 months following it.

Statistical Analysis Plan

The primary study outcome was the Whiteley Index score at 12-month follow-up, with six secondary outcomes (identified above). Although the original study was designed with 90 % power to detect a 1/2-standard deviation difference in outcome between the two arms, the study under-accrued and, as implemented, has 90 % power to detect a 3/4-standard deviation difference in outcome.

Baseline patient characteristics were compared between treatment arms using a *t*-test for age and Fisher exact tests for categorical measures. Primary and secondary outcomes were compared using a mixed linear regression model, implemented through the MIXED procedure in the SAS package (version 9.3). All models were adjusted for site and sociodemographic characteristics, for the clustering of patients within care teams, and for longitudinal correlation over time within patient. Primary analyses focused on the 12-month outcomes with time, treatment, and their interaction. The significance of the interaction term determined whether the CBT group had more improvement by 12 months (compared to baseline) than the RT group. Secondary analyses used 6 month and 12 month data to

investigate whether CBT and RT changes over time differed; categorical time, treatment, and the interaction between the two were the primary predictors. Since time was in three categories, a global test of interaction on 2° of freedom was used to compare the improvements over time between the two treatments and within each treatment.

We also compared outpatient visits and costs in the year after randomization to visits and costs in the 1 year and 2 years prior to randomization. Preliminary analyses showed no significant difference in utilization between the two treatment arms. A test of the interaction between time and treatment arm for each outcome revealed similar

decreases in costs ($p=0.90$ for interaction) and visits ($p=0.56$ for interaction). Therefore, in order to increase power, the data were combined from both arms. The number of visits was modeled using a negative binomial distribution in the GLIMMIX procedure in SAS. Random effects were used to account for clustering of patients within physicians and for clustering of years within patients. The model was adjusted for sociodemographic and site covariates. Costs had a mildly right-skewed distribution that was normalized using a square-root transformation.

To verify that the changes were due to the interventions and not simply regression to the mean, we examined

Figure 2. Flowchart of subject progress through phases of the study.

Spearman correlations between 12-month changes in visits/costs and 12-month changes in psychiatric measures. We also compared 12-month improvements in psychiatric measures between patients who completed all treatment sessions to those who did not. Simple linear regression was used with 12-month change as the dependent variable, full compliance as the primary predictor, and baseline psychiatric symptoms, site, and sociodemographic covariates.

RESULTS

Figure 2 presents the flow of patients through the study. Fourteen (23.7 %) of those in the CBT arm completed Step 2 treatment.

Table 1 contains the baseline sociodemographic and clinical characteristics of the study population. The CBT arm had significantly more women than men and fewer total psychiatric symptoms. The gender difference resulted from the fact that the largest practice suite was composed entirely of female physicians; patients tended to segregate according to physician gender, and this suite was randomized to CBT.

Table 2 compares the outcomes in the treatment arms, adjusted for site of care and sociodemographic characteristics. Both treatment groups showed statistically significant improvements over baseline in somatization and hypochondria-

asis, psychiatric symptoms, and role function. The improvements were apparent at 6 months, and persisted in magnitude and significance at 12 months. In particular, psychiatric symptoms (SCL-90); somatization (SSI); hypochondriacal attitudes (Whiteley Index), cognitions (MCQ), and anxiety (HAI); and role impairment (FSQ) were all significantly improved in both treatment arms at both time points. The final two columns of Table 2 reveal that the improvements in the two arms do not differ from each other, whether they are compared across all follow-up time points ("across all follow-ups"), or in terms of the change in each arm at long term follow-up ("at 12 months"). The primary approach in the study protocol was a completer's analysis. However, we also conducted an intention-to-treat analysis, carrying the last observation forward. This also showed significant improvements over the full range of outcomes in both study arms at 6 months and 12 months, and showed no significant differences between arms.

Since there were no discernible differences in the outcomes of the two treatment groups, we combined them in order to analyze the effect of treatment on medical care utilization (Table 3). For all subjects, ambulatory visits and costs decreased significantly in the year following treatment compared to the year preceding treatment. Psychiatric visits and costs declined, but not significantly. Because this decrease could have reflected regression to the mean or temporal instability from year to year, we obtained utilization and costs from 2 years to 1 year before the intervention (column 1 in Table 3). This reveals that utilization and costs were stable across these years.

We undertook two additional analyses to probe whether the improvements seen reflected treatment effect rather than regression to the mean or temporal variability. First, we examined the strength of the relationship between changes in utilization and changes in the psychiatric outcomes. These correlations all trended in the expected directions, although only the association between somatization and changes in cost reached statistical significance ($r=0.25$, $p=0.04$). Second, we examined the dose-response relationship in the CBT group (the RT group was not included, since almost all these patients completed the three sessions). Thirty-two of the CBT patients on whom we have both compliance data and 12 month follow-up data completed all five treatment sessions, and 13 had not (the majority of these attending one or no sessions). Those who completed treatment had greater improvement in psychiatric symptoms (SCL-90) ($p=0.05$), health anxiety (HAI) ($p=0.05$), hypochondriasis (Whiteley Index) ($p=0.04$), and hypochondriacal cognitions (MCQ) ($p=0.05$).

DISCUSSION

We conducted a randomized trial of two existing interventions to reduce somatization and hypochondriasis, and

Table 1. Baseline Characteristics of Study Populations

	Baseline		P-value
	CBT n=59	RT n=30	
Mean Age (sd)	51.2 (13.2)	53.1 (11.0)	0.49
Female	85 %	47 %	0.001
Race/Ethnicity			0.64
White	61 %	63 %	
Black	29 %	27 %	
Hispanic	5 %	10 %	
Other	5 %	0 %	
Education			0.09
High School or Less	14 %	23 %	
Some College	15 %	33 %	
College Graduate	25 %	13 %	
Post-College	46 %	30 %	
Marital Status			0.44
Married	41 %	33 %	
Single	36 %	30 %	
Divorced/Widowed	24 %	37 %	
Currently Employed	75 %	70 %	0.80
Somatization (SSI)	2.43 (0.57)	2.67 (0.67)	0.08
Hypochondriacal Attitudes (Whiteley)	2.51 (0.68)	2.72 (0.67)	0.16
Health Anxiety (HAI)	2.07 (0.39)	2.21 (0.41)	0.11
Hypochondriacal Cognitions (MCQ)			
Frequency	1.61 (0.45)	1.77 (0.37)	0.10
Beliefs	10.4 (10.4)	13.1 (9.1)	0.24
Meet DSM diagnostic criteria for hypochondriasis	34 %	20 %	0.22
Psychiatric symptoms (SCL-90)	0.91 (0.53)	1.24 (0.67)	0.01
Role impairment (FSQ)	2.64 (0.83)	2.47 (0.86)	0.3

CBT cognitive behavioral treatment; RT relaxation training

Table 2. Longitudinal Outcomes

	Mean outcome* (se)						Comparison of treatment arms	
	Baseline		6 months		12 months		Across all follow-ups	At 12 Months
	CBT n=59	RT n=30	CBT n=41	RT n=23	CBT n=46	RT n=23		
Somatization (SSI) Change from Baseline	2.4 (0.12)	2.6 (0.16)	2.0 (0.12) <i>p</i> <0.01	2.2 (0.16) <i>p</i> <0.01	2.0 (0.12) <i>p</i> <0.01	2.2(0.16) <i>p</i> <0.01	<i>p</i> =0.86	<i>p</i> =0.82
Health anxiety (HAI) Change from Baseline	2.1 (0.08)	2.2 (0.11)	1.8 (0.08) <i>p</i> <0.01	2.0 (0.11) <i>p</i> =0.02	1.8 (0.08) <i>p</i> <0.01	1.8 (0.11) <i>p</i> <0.01	<i>p</i> =0.10	<i>p</i> =0.42
Hypochondriacal cognitions (MCQ)								
Frequency Change from Baseline	1.6 (0.08)	1.8 (0.10)	1.4 (0.08) <i>p</i> <0.01	1.5 (0.11) <i>p</i> <0.01	1.4 (0.08) <i>p</i> <0.01	1.5 (0.11) <i>p</i> <0.01	<i>p</i> =0.80	<i>p</i> =0.75
Beliefs Change from Baseline	10.1 (1.9)	14.2 (2.5)	6.1 (2.0) <i>p</i> <0.01	10.3 (2.7) <i>p</i> =0.06	6.3 (2.0) <i>p</i> <0.01	9.6 (2.7) <i>p</i> =0.03	<i>p</i> =0.94	<i>p</i> =0.74
							<i>p</i> =0.24	<i>p</i> =0.15
Psychiatric symptoms (SCL-90) Change from Baseline	0.87 (0.12)	1.1 (0.16)	0.62 (0.12) <i>p</i> <0.01	.72 (0.16) <i>p</i> <0.01	.59 (0.12) <i>p</i> <0.01	.63 (0.16) <i>p</i> <0.01		
Role impairment (FSQ) Change from Baseline	2.4 (0.26)	2.3 (0.34)	2.7 (0.27) <i>p</i> =0.01	2.4 (0.35) <i>p</i> =0.56	2.8 (0.27) <i>p</i> <0.01	2.7 (0.36) <i>p</i> =0.045	<i>p</i> =0.46	<i>p</i> =0.90

*Means are adjusted by mixed effects linear regression for site of care, gender, age, race, education level and marital status
CBT cognitive behavioral treatment; RT relaxation training

improve the medical utilization of high-utilizing, somatizing and hypochondriacal medical outpatients in a real-world community practice. The interventions were conducted by medical, not mental health, providers in medical, not mental health, settings. Six months and 12 months after treatment, both groups showed significant improvement in somatization, hypochondriacal symptoms, and overall psychiatric

distress. Two forms of behavior also improved significantly: role impairment and medical care utilization. The two treatment arms did not differ significantly from each other on a wide range of outcomes. Ambulatory medical utilization, while stable in the 2 years preceding the intervention, declined by 14 % in the year following it. Mental health utilization did not change significantly.

Table 3. Cost and Utilization Outcomes: All Subjects* (n=89)

	2-1 year Pre-trial	1-year Pre-trial	1-year Post-trial	Change Post to 1 year pre	Change 1 year pre to 2 year pre
Ambulatory Medical Visits					
Mean (sd)	10.7 (7.2)	10.0 (8.4)	8.8 (9.0)	-1.5 (10.5)	-0.3 (8.5)
Median [Q1, Q3]	9 [6, 13]	9 [5, 13]	6 [4, 11]	-1 [-7, 2]	0 [-6, 4]
P value for change [†]				<i>p</i> =0.036	<i>p</i> =0.43
Adj P value for change [§]				<i>p</i> =0.035	<i>p</i> =0.41
Ambulatory Medical Costs					
Mean (sd)	3,563 (2,166)	3,574 (2,459)	2,991 (2,864)	-583 (3,164)	+11 (2,677)
Median [Q1, Q3]	3,125 [2,103, 4,668]	3,072 [1,793, 4,718]	2,185 [1,237, 4,329]	-754 [-2,561, 1,044]	-113 [1,679, 1,142]
P value for change [†]				<i>p</i> =0.028	<i>p</i> =0.56
Adj P value for change [§]				<i>p</i> =0.006	<i>p</i> =0.66
Psychiatric Visits [†]					
Mean (sd)	1.73 (4.2)	1.81 (4.2)	1.44 (3.9)	-0.37 (3.1)	+0.01 (2.7)
P value for change [†]				<i>p</i> =0.45	<i>p</i> =0.79
Adj P value for change [§]				<i>p</i> =0.21	<i>p</i> =0.89
Psychiatric Costs [†]					
Mean (sd)	429 (984)	439 (1,042)	352 (950)	-87 (803)	+10 (640)
P value for change [†]				<i>p</i> =0.48	<i>p</i> =0.97
Adj P value for change [§]				<i>p</i> =0.23	<i>p</i> =0.66

*The changes post-intervention were similar in CBT and RR patients for overall visits (*p*=0.56) and costs (*p*=0.90), and also for psychiatric visits (*p*=0.10) and psychiatric costs (*p*=0.08) (*n*=89)

[†]Only 29 patients had psychiatric visits or costs in either the pre-intervention or post-intervention year, so power is limited. The other subjects were included in the averages and the analyses with no costs and visits. Median costs and visits are all 0, and therefore not reported in the table

[‡]P values calculated from a paired non-parametric Wilcoxon sign rank test

[§]P values calculated from a random effects regression model adjusted for site of care, gender, age, race, educational level, and marital status. The model accounted for correlation from repeated measures within subject and for the clustering of patients within treating physician. Models for costs used a square root transformation to normalize the outcome. Models for visits used a negative binomial distribution for the outcome

The study was originally designed to determine whether CBT offered an incremental benefit above and beyond that of an inactive, "attention control" treatment. However, it appears that RT was more than an inactive control and was effective in its own right, as has been shown in past work.^{54–56} Thus the simpler and briefer RT was as effective as the more complex, two-step CBT intervention coupled with a physician education program. The equivalence of the two treatments may partly reflect the fact that the study population was not severely hypochondriacal: less than a third met DSM-IV diagnostic criteria for hypochondriasis at baseline, and their mean Whiteley Index score was substantially lower than that of patients meeting full diagnostic criteria.^{38,42,57} We believe it likely that targeted, specific CBT is still required for more severely hypochondriacal patients. First, clinical experience suggests that RT alone is insufficient to treat their more severe, chronic, and refractory condition. Second, an analysis of the subset of CBT patients with Whiteley Index scores above three revealed greater reductions in somatization and virtually all the other outcome measures than in their less hypochondriacal peers. This sample was so small, however, that these differences were generally not significant. Third, the two treatments may also have been equivalent because our sample likely contained patients whose health anxiety and somatic symptoms resulted from substantial medical morbidity, a condition that would be expected to respond more to RT than to CBT designed to treat medically unexplained symptoms. Finally, though the providers were enthusiastic about both modalities, they found RT easier to learn and thus may have become more proficient at it.

Since the study lacked a no-treatment or usual-care control arm, the therapeutic effects may have been due to the nonspecific generic effects of professional attention, support, personal concern and encouragement that accompany any such intervention—a sort of placebo effect. The tendency for somatization and hypochondriasis to be chronic, however, suggests this was not the case. The lack of a no-treatment control also means the benefits could be due to regression to the mean or the inherent variability of these conditions. However, three lines of evidence suggest that the interventions were indeed beneficial. First, the improvements in most of the outcome measures were highly intercorrelated, suggesting a degree of internal validity. In particular, there was a strong trend of association between the psychological changes (somatization and psychiatric symptoms) and the behavioral changes (medical utilization). Second, since medical utilization was stable and consistently elevated over 2 years, before declining significantly in the post-intervention year, it is more likely attributable to the interventions than to regression to the mean. And third, the dose-response relationship seen among those undergoing CBT suggests that an active therapeutic process occurred.

The study has a number of additional limitations. The sample size was relatively small, limiting generalizability. Second, attrition and drop out could have introduced a positive bias in the findings since the patients who were lost to follow-up may have benefited least from the interventions. Third, the study population was psychiatrically heterogeneous. Fourth, although we attempted to exclude the most seriously medically ill patients with the algorithm for identifying subjects, the study population undoubtedly contained some patients whose health-related anxiety and somatic symptoms had a medical basis. Finally, we did not attempt to establish the treatment costs, including the costs of the training and the provider time in delivering the interventions. It would appear, however, that RT was less costly.

The impact of the two interventions was comparable, and we could not confirm the hypothesized advantage of CBT over RT. The choice of treatment should therefore depend upon the setting, patient population, and patient preferences. RT is easier to learn for providers without mental health training, and is briefer and less complex and therefore probably less costly than CBT. The latter might be reserved for patients who prove unresponsive to RT and for more severe somatizers.

Our findings demonstrate the feasibility of delivering specialized treatment for somatization and hypochondriasis in general medical settings. Embedding these treatments seamlessly into primary care practice appears to be a major advantage. Treatment by one's own primary care team enables a far greater proportion of patients to obtain the treatment they tend to decline in mental health settings. And it is congruent with the growing emphasis on team-based care in patient centered medical homes, and on the co-location and integration of psychiatric care into general medical care. Incorporating these skills into the primary care team's therapeutic armamentarium will benefit both patients and the system as a whole.

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