

Cost-effectiveness of Interventions for Depressed Latinos

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Abstract

Context: Depression is a leading cause of disability worldwide, but treatment rates are low, particularly for minority patients.

Objective: To estimate societal cost-effectiveness of two interventions to improve care for depression in primary care, examining Latino and white patients separately.

Methods: Intent-to-treat analysis of data from a group-level controlled trial, in which matched primary care clinics in the US were randomized to usual care or to one of two interventions designed to increase the rate of effective depression treatment. One intervention facilitated medication management (“QI-Meds”) and the other psychotherapy (“QI-Therapy”); but patients and clinicians could choose the type of treatment, or none. The study involved 46 clinics in 6 non-academic, managed care organizations; 181 primary care providers; and 398 Latino and 778 White patients with current depression. Outcomes are health care costs, quality-adjusted life years (QALY), depression burden, employment, and costs per QALY, over 24 months of follow-up.

Results: Relative to usual care, QI-Therapy resulted in significantly fewer depression burden days for Latinos and increased days employed for white patients. Average health care costs increased \$278 in QI-Meds and \$161 in QI-Therapy for Latinos, and by \$655 in QI-Meds and \$752 in QI-Therapy for whites, relative to usual care. The estimated cost per QALY for Latinos was \$6,100 or less under QI-Therapy, but \$90,000 or more in QI-Meds. For Whites, estimated costs per QALY were around \$30,000 under both interventions.

Conclusions: Latinos benefit from improved care for depression, and the cost is less than that for white patients. Diverse patients are likely to benefit from improving care for depression in primary care.

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Introduction

Health care received by racial and ethnic minorities in the United States is often of lower quality than for whites, for many conditions.¹⁻³ With particular respect to depression, a minority of all patients receive evidence-based care,⁴ and the Surgeon General has documented that depressed Latinos are less likely than depressed whites to receive guideline-concordant – or indeed any – mental health care.⁵ Whites and Latinos have comparably high rates of depression in the US, and evidence regarding the cost-effectiveness of depression treatment for Latinos may help motivate increases in treatment rates.⁵

Recent results from Partners in Care (PIC), a randomized controlled trial to improve care for depression in managed primary care settings, suggest that the study interventions improved outcomes for patients overall over 12-24 months.^{6,7} Over the first 12 months of patient followup, improvement in the rates of evidence-based treatment were similar across ethnic groups. Improvements in clinical status were particularly strong for minority patients, while gains in employment were particularly strong for whites.⁸ Cost-effectiveness of PIC was assessed for patients overall, showing that intervention costs were relatively modest, relative to usual care, and cost-effectiveness was in the range of other accepted medical interventions.⁹

The present study extends our previous analyses by examining costs and cost-effectiveness of PIC over 24 months for Latino and white patients separately. We hypothesized that clinical benefits from PIC might be particularly strong for Latino patients, given their low treatment rates under usual care and prior evidence that quality improvement strategies for depression may be especially effective among patients beginning a new course of treatment.¹⁰ Moreover, the PIC interventions were designed to be accessible for Latino patients, in ways that may not be true of usual care. However, we had no specific hypotheses about the relative cost-effectiveness of the PIC interventions for whites and Latinos, respectively. In

particular, greater clinical effectiveness among Latinos could be due to particularly large intervention effects on health care use for Latino patients.

Methods

Partners in Care (PIC), a Patient Outcomes Research Team (PORT-II) study sponsored by the Agency for Healthcare Research and Quality (AHRQ), is a group-level, randomized controlled trial of practice-initiated QI programs for depression.⁶

Organizations, Clinics and Providers

Six managed care organizations participated in this study. Organizations were selected to be geographically and organizationally diverse and to over-represent Mexican Americans. The study sites included a staff model HMO, several group model HMOs, an independent physician network, and a public delivery system. Several of the sites involved designated carve-out firms, but others did not. Patterns of care under usual care are described in detail elsewhere.¹¹

All primary care practices with at least two clinicians were eligible to participate, and 46 out of 48 did so. Within organizations, practices were matched into blocks of three clusters, based on factors expected to affect outcomes (provider specialty mix, patient socioeconomic and demographic characteristics, and having on-site mental health specialists). Within blocks, practices were randomized to usual care (UC) or one of two QI programs (QI-Meds or QI-Therapy).⁶

Primary care clinicians were recruited before learning their clinic's randomized assignment; 99% (N=181) agreed to participate. 87% of clinicians were internists or family practice physicians, and 13% nurse practitioners; 32% were racial/ethnic minorities, including 2% African American, 18% Latino, and 12% other minorities.

Patients

Study staff screened 27,332 consecutive patients over a 5- to 7-month period between June, 1996 and March, 1997. Patients were eligible for the study if they intended to use the clinic as a source of care for the next year, were over age 17, did not have an acute medical emergency, spoke English or Spanish, and had either insurance or a public-pay arrangement that covered the intervention care. Eligible patients were screened for depression using the "stem" items for major depressive and dysthymic disorder from the 12-month Composite International Diagnostic Interview (CIDI), edition 2.1,¹² and items assessing depressed symptoms in the past month. Patients learned of their intervention status following enrollment.

Of those completing the screener, 3,918 were potentially eligible for the study. Of those, 2,417 confirmed insurance eligibility; 241 were found ineligible. Of those who read the informed consent, 1,356 (79%) enrolled: 443 in usual care,

424 in QI-meds, and 489 in QI-Therapy. The final enrolled sample included 778 white and 398 Latinos patients, and these patients are analyzed here. The sample included an additional 180 patients with other race/ethnicity; these patients are excluded here, because no single race/ethnicity group was sufficiently prevalent to support independent analyses.

The enrolled patients completed the CIDI to determine depressive diagnoses; a telephone interview to determine presence of comorbid anxiety disorders, income, wealth, and employment. Self-administered mail surveys were obtained at baseline, and every six months for two years. Survey response rates were 95% for the telephone interview, 88% for the baseline survey, and 83% for 6- and 12-months surveys. Nonresponse weights are used to adjust for differential enrollment probabilities.¹³

Interventions

Intervention design and implementation are described in detail elsewhere.⁶ All intervention materials are available from RAND (www.rand.org/organization/health/pic/products/order.html).

Prior to implementation, practices committed to implementing the programs and the study provided a payment up to half of the estimated practice participation costs (\$35-70K). The interventions provided practices with training and resources to initiate and monitor QI programs according to local practice goals and resources. UC clinics received depression practice guidelines by mail.

For both QI-meds and QI-therapy, local practice teams were trained in a 2-day workshop to provide clinician education through lectures, academic detailing, or audit and feedback, and to supervise the interventions, as well as conduct QI team oversight. Designated practice nurses were trained as depression specialists, including assisting in initial patient assessment, education, and motivation for treatment. Practices were provided with patient education pamphlets and videotapes, patient tracking forms, and clinician manuals and pocket reminder cards and were encouraged to distribute them. The materials described guideline concordant care for depression and presented psychotherapy and antidepressant medication as equally effective.

In QI-Meds, trained nurses were available to provide follow-up assessments and support for adherence to care for 6 months (12 months for a randomly selected half of QI-Meds patients). In QI-Therapy, the study provided local psychotherapists with patient and therapist manuals, and it trained them in 8-12 session courses of individual and group Cognitive Behavioral Therapy (CBT) via a two-day workshop and individual supervision of one patient per therapist.^{14,15} For psychotherapy provided by the study-trained therapists, patient copayments were reduced to the amount charged for primary care visits (QI-Therapy patients could receive therapy from non-study providers, without copayment subsidy). Additional detail about psychotherapy in PIC is available elsewhere.¹⁶

In each study arm, patients and clinicians retained choice of treatment, and their use of intervention resources was optional. No study resources were available to UC patients.

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Adaptation of the Interventions for Minorities

Within the overall aim of improving rates of appropriate care, the interventions had a secondary aim of insuring inclusion of minorities in opportunities for care. Accordingly, experts in mental health interventions for minorities participated in designing the QI educational materials. Patient education video tapes included Latino and African American providers, and provider training materials included information regarding cultural beliefs and ways of overcoming barriers to care for Latino and African American patients. All intervention materials were available in English and Spanish; in particular, materials designed to improve psychotherapy for depression were developed for ethnically diverse (English-language materials)¹⁴ and Latino (Spanish-language materials)¹⁵ patients. Participating clinics provided access to bilingual clinicians for Spanish-speaking patients. Finally, minority investigators provided direct supervision to the local experts throughout the intervention.

Cost Measures

Intervention Costs

These included screening, intervention materials, initial nurse specialist assessments, and 20 minutes of supervision of nurses and therapists per enrolled patient. Costs of intervention activities were based on data from the practices about the average cost of clinic staff. Research-specific costs were excluded. For main analyses, the follow-up visits to intervention staff were included in patient reports of outpatient visits. In sensitivity analyses, data from study logs were used to include such visits as intervention costs (which double counts them if they were also reported by patients directly); results did not change substantively.

Health Care Costs

Costs were assigned to patient-reported counts of emergency department visits, medical and mental health visits, and psychotropic medications used, for each follow-up. Patient report was selected due to limitations in the available claims and encounter data. In addition, the number of outpatient visits was higher for patient surveys than claims data over the first 6 months, probably due to out-of-practice use or incomplete claims data. Inpatient costs were excluded because the interventions were not expected to change these costs.

Average costs in 1998 dollars were assigned to each component of patient-reported health care use using a national database of about 1.8 million privately insured individuals (provided by Ingenix, a benefits consulting firm in New Haven, CT). The Ingenix data included information on provider reimbursements which were used as a proxy for health care costs. Using these techniques, the mean costs were for outpatient medical visit (\$46), mental health visits (\$96), and emergency department visit (\$450). These costs include facility charges, professional fees, and ancillary services associated with the visits, as applicable. The visit counts reported by PIC patients were multiplied by these mean costs.

For psychotropic medications, patient-reported data of medication names, daily dosages, and months of use were

matched in the Ingenix data to obtain average costs for that combination. Pooling data on generic and brand names for the same medication according to their relative proportion in the Ingenix data and summing all medications used to obtain costs (for reference, 20 mg of fluoxetine costs \$2.20 per pill, on average).

Indirect costs of treatment include patient time costs for obtaining health care.¹⁷ An average time for outpatient medical (30 min.) and mental health (45 min.) visits was assumed. Travel and waiting times were reported by patients at baseline. In addition, 3 hours for emergency department visits were assumed, and 1.5 hours to fill prescriptions in a month of use. Patients' time was priced using reported hourly wage at baseline and sex-specific mean wage for those not working at baseline.

Outcomes

Quality-Adjusted Life-Years

A health utility index from the Short-Form, 12-Item Health Survey (SF-12) was developed specifically for the overall study to measure quality-adjusted life-years (QALYs).¹⁸ Six health states were identified through cluster analyses of SF-12 physical and mental component scores. Utility weights from this index were derived from a convenience sample of primary care patients with symptoms of depression using a standard gamble approach. QALY weights were calculated for each 6-month follow-up time period, and patterns were analyzed over time. This measure is called "QALY-SF."

Days of Depression Burden

Following an approach developed by Lave *et al.*,¹⁹ we developed a measure of depression-burden days and assigned utility scores from the literature to estimate QALYs. For each survey from baseline through 24 months, we developed a count of positive scores on the following three measures: probable major depressive disorder, based on a repeat of the baseline screener;²⁰ significant depressive symptoms, based on a modified Center for Epidemiologic Studies Depression Scale (CES-D);^{20,21} and poor mental health-related quality of life (HRQOL), based on being more than 1 SD below the population mean on the mental health subscale of the SF-12.²² We averaged the count for the beginning and end of each 6-month follow-up period and multiplied by 182 to estimate depression-burden days during the period. We summed across periods to get the 24-month total. We then used findings from the literature that a year of depression is associated with losses of 0.2 to 0.4 QALYs to convert the intervention effect on depression-burden days into the QALY-DB estimates.²³⁻²⁶

Employment

A measure of days worked in each 6-month follow-up was developed by taking the average of employment status at the start and end of each period and multiplying by 116 (the number of workdays in 6 months). Total 24-month figures were obtained by summing across the periods. Days missed from work due to illness, which patients reported for the 4 weeks preceding each follow-up survey were also examined.

Covariates

All multivariate models controlled for baseline measures of patient age, sex, marital status, education, rank in the distribution of household wealth, employment status, medical comorbidity, depressive disorder status, the SF-12, aggregate HRQOL measures, presence of comorbid anxiety disorder, and practice randomization block.

Data Analysis

We replicated the data analyses in our recent paper of cost effectiveness,⁹ assessing outcomes separately for Latino and white patients. To estimate the effects of practice-initiated QI on patients, we conducted patient-level intent-to-treat analyses, controlling for baseline patient differences that could remain after group-level randomization. To assess differences in intervention effects by ethnicity, all models included appropriate interaction terms. We examined intervention effects on health care costs using two-part models, due to the skewed distribution of costs: the first part is the probability of positive costs, using logistic regression; and second is the log of costs given any, using ordinary least squares.²⁷ We used smearing estimate for retransformation, applying separate factors for each intervention group to ensure consistent estimates.^{28,29} We did not adjust cost models for clustering by clinic because we know of no standard methods to do so for two-part models. We expect the interventions to increase health care costs, relative to usual care; not accounting for clustering is thus conservative from a policy perspective, since it is likely to overstate the statistical significance of cost differences.

For the QALY-SF measure, we specified 3-level (repeated measurements nested within patients, and patients nested within clinics) mixed effects linear time-trend regression models, controlling for the baseline utility value in addition to the covariates listed above (except HRQOL). We calculated the area under the QALY time trajectory to derive values over 24 months. For days of depression burden and employment, respectively, we specified 2-level (patients nested within clinics) mixed effects linear regression models, to account for patient clustering at the practice level. For these outcomes, we examined the 24-month value directly.

Significance of comparisons across intervention groups is based on the regression coefficients. We illustrate average intervention effects relative to usual care, adjusted for patient characteristics using a direct method, i.e., standardized predictions generated from each regression model. Specifically, we used the regression parameters and each individual's actual values for all covariates other than intervention status to calculate the predicted outcome assuming the patient had been assigned to usual care or to either intervention, respectively. We then calculated the mean prediction under each scenario.

We analyzed patients completing at least 1 follow-up (92% of the relevant enrolled sample; N=1079). The data are weighted for the probability of study enrollment and follow-up response to the characteristics of the eligible sample. Item response rates were consistently above 97% (<3% missing).

We used multiple imputations for missing items at each wave.^{30,31} For outcomes, we average predictions from 5 randomly imputed data sets and adjusted standard errors for uncertainty due to imputation.^{31,32}

Because many tests are in the same direction as hypothesized, a formal Bonferroni correction for multiple statistical comparisons is too conservative, so we report actual P values and interpret results with multiple comparisons in mind.³³

Results

Table 1 provides descriptive information on the study sample. Among Latinos, intervention patients were disproportionately female, more likely to be married, have more education, have current major depression and/or dysthymia (vs. symptoms only), and have received appropriate depression care in the six months prior to baseline, relative to controls. However, none of these differences were statistically distinguishable from zero at $p < 0.05$. Among White patients, intervention patients overall were older, QI-MEDS patients had less severe depression, and QI-THERAPY patients were less likely to be working, relative to controls ($p < 0.05$). Compared with Whites, Latino patients were significantly younger and less well educated; less likely to have current depressive or dysthymic disorder at baseline but more likely to have comorbid anxiety; and they had fewer medical comorbidities and higher mental health related quality of life (all $p < 0.05$). Latino patients were also significantly less likely to have received appropriate, or any, depression treatment in the six months prior to study enrollment ($p < 0.01$).

Table 2 reports average per patient costs and outcomes over 24 months (including patient time costs, but not inpatient care and nonpsychotropic medications), separately for Latino and white patients. Average total costs for usual care Latino patients were estimated at \$3,229 per patient, increasing by \$278 for QI-Meds and \$161 for QI-Therapy participants. Neither intervention effect on total costs is statistically significant for the Latino patients. Similarly, average total costs for usual care White patients was estimated at \$4,029 per patient, increasing by \$655 for QI-Meds and \$752 for QI-Therapy participants. Although costs are higher for the White patients, neither intervention effect on total costs is statistically significant. Lower costs for Latinos are related to lower overall use of medical care as compared with White patients. The increased costs due to QI-Therapy is particularly low for Latinos as compared with White patients, because Latinos in the QI-Therapy arm are less likely to receive both therapy and medication than corresponding White patients. Additional detail about health care use for different race/ethnic groups is available elsewhere.⁸

For the QALY-SF measure among Latinos, the incremental increase due to QI-Meds was .003 and for QI-Therapy was .0266. Combining these point estimates with our point estimates of the incremental intervention costs yields an estimated cost per QALY of \$92,667 for QI-Meds and

Table 1. Baseline Characteristics of Study Patients (Weighted)

Characteristic	Latino Patients (N=355)			Non-Latino White Patients (N=724)			
	Usual Care (N=127)	QI-MEDS (N=96)	QI-THERAPY (N=132)	Usual Care (N=237)	QI-MEDS (N=249)	QI-THERAPY (N=238)	POOLED QI (N=487)
Mean Age (SD)	40.9 (13.1)	39.5 (13.8)	42.8 (14)	43.3 (14.6)	45.8 (15.4)	46.8 (16.6)*	46.3 (16.0)*
Female	66.2	69.4	77.3	69.9	65.9	71.7	68.8
Married	46.9	54.9	53.8	58.5	56.2	57.9	57.1
Education							
Less than high school	43.2	35.3	40.2	8.0	9.3	10.1	9.7
High school	29.1	29.4	24.1	37.1	31.6	27.2	29.4
Some college	24.8	27	29.2	31.5	29.6	33.0	31.3
College	3.0	8.4	6.6	23.4	29.6	29.8	29.7
Employed	57.8	54.3	56.9	72.8	70.0	63.5*	66.7
Depressive Disorders							
Current depressive & dysthymic disorders	9.1	11.9	15.7	10.4	7.1*	16.2	11.7
Current depressive or dysthymic disorders	35.7	36.5	46.4	45.1	53.4*	45.3	49.3
Current symptoms & lifetime history of disorder	25.2	30.1	20.4	24.8	14.9*	18.0	16.5
Current symptoms only	29.9	21.6	17.5	19.6	24.6*	20.5	22.6
Current anxiety	48.9	47.1	53.6	40.3	40.9	40.1	40.5
Chronic health conditions							
0	20	23.2	23.7	21.3	22.4	22.1	22.3
1	22.6	30.5	23.7	25.3	24.7	23.0	23.8
2	24.2	11.2	24.8	16.3	19.8	18.8	19.3
3+	33.2	35.2	27.8	37.2	33.2	36.1	34.7
Health-related quality of life							
Mean MCS-12 (SD)	37.4(11.3)	35.5(10.3)	37.9(11.4)	35.8 (10.5)	36 (10.8)	33.2 (9.5)**	34.6 (10.3)
Mean PCS-12 (SD)	43.2(11.5)	43.5(12.5)	44(10.1)	44.9 (11.8)	46.4 (11.5)	45.3 (12.5)	45.9 (12)
Appropriate depression care in prior 6 months	13.4	22.9	21.7	34.8	33.8	35.6	34.7
Any depression care in prior 6 months	29.2	33.6	35.2	52.6	46.1	53.1	49.6

Note: * Differ significantly from Usual Care with P-value < .05
 ** Differ significantly from Usual Care with P-value < .01

Table 2. Average Costs and Outcomes per Patient of Quality Improvement Interventions Relative to Usual Care, over 24 Months

	Latino Patients				Non-Latino White Patients			
	Total under Usual care	Incremental effect of QI-Meds	Incremental effect of QI-Therapy	Incremental effect of Pooled QI	Total under Usual care	Incremental effect of QI-Meds	Incremental effect of QI-Therapy	Incremental effect of Pooled QI
Health care costs (including patient time)	\$3,229	\$278	\$161	\$207	\$4,029	\$655	\$752	\$708
95% CI	2448	4011	925	1248	3346	4711	1855	1651
T-statistic (p)*		0.461 (0.645)	0.291 (0.771)	0.413 (0.680)		1.156 (0.248)	1.337 (0.181)	1.472 (0.141)
Quality-adjusted life years (QALY-SF)	1.635	0.0030	0.0266	0.017	1.68	0.0228	0.0224	0.0227
95% CI	1.593	1.678	-0.0368	-0.0578	1.64	1.71	-0.0018	0.0466
T-statistic (p)**		0.18 (0.858)	1.75 (0.093)	1.26 (0.216)		1.93 (0.066)	1.91 (0.068)	2.28 (0.030)
Days of depression burden	465	-2	-57	-32	392	-26	-31	-28
95% CI	429	500	-62	57	367	417	-74	21
T-statistic (p)**		-0.081 (0.935)	-2.029 (0.042)	-1.27 (0.202)		-1.119 (0.271)	-1.395 (0.173)	-1.403 (0.170)
Days of employment	255	20	21	20	284	19	27	24
95% CI	230	281	-14	53	270	299	-5	43
T-statistic (p)**		1.154 (0.251)	1.360 (0.176)	1.512 (0.132)		1.649 (0.109)	2.422 (0.021)	2.474 (0.019)

Note: * Tests compare outcomes in respective intervention arm with outcomes under usual care (2-sided test, $DF=\infty$)

** Test compare outcomes in respective intervention arm with outcomes under usual care (2-sided test, $DF\sim 30$)

\$6,052 for QI-Therapy. For the white patients, the incremental increase due to QI-Meds was .0228 and for QI-Therapy was .0224; this yields an incremental intervention cost per QALY of \$28,728 for QI-Meds and \$33,571 for QI-Therapy.

The QALY-DB measure is based on prior estimates that depression reduces the value of a life-year by 0.2 to 0.4 QALYs^{19,24-26,34,35} For the Latinos, compared with usual care, QI-Meds did not reduce the number of depression-burden days by a statistically significant amount (2 days or .001 to .002 QALYs, with costs per QALY of \$126,836 to \$253,675); however, QI-Therapy reduced depression-burden days by 57 over 24 months ($p=.04$; corresponding to .0312 to .0625 QALYs, and costs per QALY of \$2,577 to \$5,155). For the Whites, compared with usual care, QI-Meds reduced the number of depression-burden days by 26 (.0142 to .0285 QALYs, and costs per QALY of \$22,988 to \$44,976) and QI-Therapy by 31 (.0170 to 0.0340 QALYs, and costs per QALY of \$22,135 to \$44,271); however, reductions in depression-burden days among whites were not statistically distinguishable from zero.

As shown in **Table 2**, QI-Therapy increased days of employment by 27 days over two years among Whites ($p=0.02$). Results suggest that employment increased by about 20 days for Whites under QI-Meds and for Latinos under both interventions; however, none of these effects was statistically distinguishable from zero at conventional levels.

Discussion

This paper evaluated cost effectiveness of improving care for depression, examining Latino and white patients separately. Most notably, our results suggest that QI-Therapy, which enhances resources for evidence-based psychotherapy for depression, was highly cost-effective for Latino patients, due both to very positive outcomes and to very modest costs. For this group, estimated costs per QALY relative to usual care were well below those of many accepted medical interventions.^{17,36} In contrast, QI-Meds, which enhances resources for medication-based depression care, did not improve depression burden or quality of life for Latino patients, and was thus by definition not cost-effective for this group.

Among non-Latino White patients, QI-Meds and QI-Therapy had comparable effects on health care costs, depression burden and quality of life, with relative cost-effectiveness in the range of other accepted medical interventions.^{17,36} These results are consistent with our previous findings for the overall study sample, of which White patients make up 57% and Latinos 30%.^{9,20}

Employment is an important outcome in its own right for patients and payers, and it may not be fully captured in standard measures of QALYs.¹⁷ Intervention effects on employment were particularly large – more than five work weeks over two years – for Whites under QI-Therapy. For Whites under QI-Meds and Latinos under both interventions, point estimates for employment effects were qualitatively large – 20 days, or four work weeks – but statistical precision

was lower. The relationships between depression, treatment, and employment among Latinos warrant additional research.

There are several limitations to this study. Most importantly, this study may not have the power to detect substantively significant differences in costs or outcomes for each ethnic group. Our cost estimates clearly lack precision. Second, outcomes are self-reported and may be subject to recall or other bias. We studied only six practice networks; although they were chosen to be diverse, they may not be representative of some practice networks. We had relatively low enrollment rates; we partially account for this by weighting back to the screened depressed population. Finally, while each intervention had several components, the current design does not allow us to identify the effects of individual components. One implication of this is that we do not know whether the highly positive outcomes of QI-Therapy for Latinos – relative to both usual care and QI-Meds – are attributable to that intervention's emphasis on psychotherapeutic treatment generally, the particular form of therapy (i.e., CBT), the quality of provider training, the reduced copayments for psychotherapy from study-trained providers, the specific adaptations made to that intervention for Latino patients, or other factors. Additional information on these issues may help guide efforts to further improve the effectiveness and cost-effectiveness of depression treatment, for all types of patients.

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