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### Title

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### Permalink

<https://escholarship.org/uc/item/7jp996xn>

### Journal

Psychiatric Services, 67(2)

### ISSN

1075-2730

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### Publication Date

2016-02-01

### DOI

10.1176/appi.ps.201400454

Peer reviewed



Published in final edited form as:

*Psychiatr Serv.* 2016 February ; 67(2): 236–239. doi:10.1176/appi.ps.201400454.

## Augmenting Ongoing Depression Care With a Mutual Peer Support Intervention Versus Self-Help Materials Alone: A Randomized Trial

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### Abstract

**Objective**—Various models of peer support may be implemented in mental health settings. This randomized trial assessed the effectiveness of a telephone-delivered mutual peer support intervention.

**Methods**—A total of 443 patients receiving ongoing depression treatment from the U.S. Department of Veterans Affairs were enrolled in either enhanced usual care (N=243) or the peer support intervention (N=200). Intent-to-treat analyses assessed outcomes at six months postenrollment, excluding 56 patients who experienced an unplanned telephone platform shutdown.

**Results**—At baseline, patients had substantial depressive symptoms, functional limitations, and low quality of life. Both groups showed significant clinical improvements at six months, with no significant differences by group.

**Conclusions**—Telephone-delivered mutual peer support for patients with depression did not improve outcomes beyond those observed with enhanced usual care. Other peer support models, with more “professionalized” peers delivering a structured curriculum, may be more effective.

Many patients with depression cope with chronic or recurring symptoms that decrease quality of life and compromise functioning over the long term (1). Frequent, proactive contacts that support patients' self-management skills may increase patients' ability to cope with depressive symptoms. However, few mental health systems can provide frequent staff contacts over the long term. Supportive peer interactions might supplement formal mental health services.

Peer-support programs can vary greatly in structure, components, and content. As outlined in Table 1, variations can include the modality of contact (that is, in person, by telephone, or online), the degree of professional staff involvement, the degree of structure in peer interactions and the content of these interactions, the frequency of contacts, whether support is unidirectional (one peer provides but does not receive support) or bidirectional (both peers receive and provide support) (2). Particular models may be associated with greater or lesser impact on outcomes and may differ in effectiveness for different conditions and in different populations. To date, the evidence base for peer support interventions has been mixed, which may be the result of the wide variety of program configurations and populations targeted (3–6). [A brief review of the literature is presented in an online supplement to this report.]

Although there have been some promising results from a randomized controlled trial (RCT) examining mutual dyadic peer support for adults with diabetes (7) and from a pilot study examining mutual peer support for adults with depression (8), no RCTs have examined the effectiveness of mutual peer support for patients in depression treatment who have persistent symptoms. Mutual peer support is important to assess, given initial promising findings, its potential scalability, and benefits that might arise from helping others as well as being helped (9). There may also be some value in maintaining a higher degree of “peerness” (that is, individuals with equal status spontaneously sharing lived experiences) rather than “professionalizing” peers (that is, structuring interactions, certifying, making one peer “mentor, or a health system employees) (10)

This RCT assessed the impact of a telephone-based mutual peer-support intervention on depressive symptoms, functional status, quality of life, and recovery orientation for patients in ongoing depression treatment.

## Methods

The study was approved by the Institutional Review Board of the U.S. Department of Veterans Affairs (VA) Ann Arbor Healthcare System, and Veterans participated in the study between March 2010 and October 2013. The peer intervention was six months in duration, with study assessments at baseline and at three, six, and 12 months post enrollment. The six-month assessment was the primary endpoint.

Participants were recruited from a total of 15 VA mental health clinics across four VA health care systems and their affiliated community-based outpatient centers. Patients were eligible if they had a clinical diagnosis of depression (their provider coded a depression diagnosis and confirmed that depression was the working diagnosis), at least one prior antidepressant or psychotherapy trial, and significant depressive symptoms as measured by a score of >10

on the nine-item Patient Health Questionnaire (PHQ-9) or significant functional limitations as measured by a score of >10 on the Work and Social Adjustment Scale at the time of screening by study staff.

Patients were excluded if they had a psychotic disorder (including major depression with psychosis), bipolar I disorder, or substance use disorder. They were also excluded if their mental health provider felt that participation might pose clinical risks to the patient or a peer partner.

Letters describing the study were mailed to 1,810 patients who potentially met initial eligibility criteria on the basis of medical record review and consultation with their clinicians. For patients who did not opt out, study staff called and described the study in detail and screened interested patients for functional limitations or significant depressive symptoms. Patients who endorsed suicidal ideation on the PHQ-9 were further assessed, and those at immediate risk were referred for assistance and excluded from the study.

Eligible patients were matched with another participant on the basis of gender and age (<50 years and >50 years), and the patient pairs were randomly assigned to the peer support intervention—Depression Intervention, Actively Learning and Understanding With Peers (DIAL-UP)—or to enhanced usual care. The randomization list was prepared by the study statistician at the beginning of the study and kept by study staff not involved in recruitment.

Patient pairs randomly assigned to DIAL-UP were invited to attend an in-person enrollment meeting together at their local VA clinic. Patients randomly assigned to enhanced usual care attended the enrollment meeting without their assigned partner because this pairing was for analytical purposes only.

A total of 443 patients were enrolled in the study, 243 in enhanced usual care and 200 in DIAL-UP. Of those enrolled in DIAL-UP, 56 were excluded from main study analyses because of an unforeseen two-month disruption in the six-month intervention. This interruption was unrelated to patient characteristics and occurred when university information technology personnel took down the study telephone platform for security reasons. Briefly, patients in both groups received their usual mental health care and additional written self-management materials. Patients randomly assigned to DIAL-UP received brief training on being a peer partner, along with a peer-support manual and a list of telephone discussion topics with open-ended stems. They had access to a specialized telephone platform that permitted free calls to their partners. Pairs were encouraged to talk weekly. Study staff called peer partners who did not talk with each other within seven days of their enrollment or who had long gaps in their contacts (more than two to four weeks) to “troubleshoot” and discuss potential issues.

Study covariates included age group, gender, race, Hispanic ethnicity, the presence of a posttraumatic stress disorder (PTSD) diagnosis in administrative medical records, and a modified Charlson Comorbidity Index. Outcome measures included the Veterans RAND 36-Item Health Survey (VR-36) mental health component score (MCS) and physical health component score (PCS), the Quality of Life Enjoyment and Satisfaction Questionnaire Short Form (Q-LES-Q-SF), the Beck Depression Inventory Second Edition (BDI-II), the Beck

Scale for Suicide Ideation, and the Mental Health Recovery Measure. [A CONSORT diagram outlining the comprehensive sequential stages of screening and enrollment is included in the online supplement, along with additional details about the two study interventions and about outcome measures and supporting references.]

The numbers of calls between peer pairs were recorded by the study telephone platform and used to assess engagement for the 132 intervention patients with complete call information.

Comparisons of outcome measures at six months (the primary endpoint) were completed by using generalized linear models with treatment group indicator as the primary exposure variable and baseline values of the outcome variables as covariates. Generalized estimating equations (GEE) were used to account for correlations between pairs within the clinic. Treatment effects over time were assessed with time and time-by-treatment indicators using the GEE model.

## Results

The mean±SD patient age was 54.9±10.9 years. The sample reflected the VA user population; most participants were male and between the ages of 45 and 64. Approximately 24% (N=96 of 384 participants with complete data on race) were nonwhite. In the year prior to enrollment, patients completed an average of 10.3±9.2 mental health visits, and 91% (N=352) received an antidepressant.

At baseline, patients had high levels of depressive symptoms (mean BDI-II score of 25.4±10.7) and mental health and physical functional limitations (mean VR-36 MCS=33.1±10.3, and mean VR-36 PCS=35.9±10.6). (Possible scores on the BDI-II range from 0 to 63, with higher scores indicating higher levels of depressive symptoms. Possible scores for the MCS and PCS range from 0 to 100, with higher scores indicating better functioning.) They also had low quality-of-life scores (mean Q-LES-Q-SF=38.8±8.9). (Possible scores on the Q-LES-Q-SF range from 14 to 70, with higher scores indicating higher quality of life.) There were no significant differences at baseline in demographic characteristics or symptom variables by study group. [Tables in the online supplement present these and other findings.]

Ten (3%) of the 387 patients in the study asked to end study participation. At three, six, and 12 months, 84% (N=326), 89% (N=346), and 88% (N=341) of study participants, respectively, completed scheduled follow-up assessments. At least one follow-up was completed by 95% of participants (N=366), and 77% (N=299) completed all three. There were no differences in follow-up by study group at any time point.

The mean number of calls between pairs in the 24-week intervention period was 8.6±7.3. Twelve or more calls were made by 32% (N=21) of patients, six to 11 calls were made by 24% (N=16), two to five calls were made by 27% (N=18), and one call was made by 8% (N=5). Nine percent (N=6) of intervention patients made no calls.

In unadjusted analyses, no significant differences between treatment groups were found at three, six, or 12 months. At the primary endpoint of six months, patients in both groups

showed moderate to large improvements in depressive symptoms, with a decrease of 7.0 in BDI-II score in the intervention group (effect size[ES]=.62) and 6.7 in the enhanced usual-care group (ES=.66), but between-group differences were not significant. Similarly, mental health functional scores (VR-36 MCS) showed modest improvements in both groups (ES=.35 and .39 for the intervention and enhanced usual-care groups, respectively). VR-36 PCS scores showed little change over time, and the quality-of-life scores and mental health recovery scores increased modestly in both groups, indicating improvements. Beck Suicide Scale scores decreased in both groups (data not shown), indicating improvement. [A table in the online supplement summarizes these findings.]

GEE analyses adjusting for baseline variables also showed no significant association between study group and outcome variables [see online supplement]. A comorbid PTSD diagnosis was associated with poorer outcomes, including higher levels of depressive symptoms, lower mental health functioning, and a lower quality of life at six months. Hispanic ethnicity was associated with reduced levels of depressive symptoms and more of a recovery orientation at six months. Nonwhite race was also associated with higher recovery orientation at six months. GEE analyses over time did not show significant effects by study group. In an ad-hoc analysis of the intervention group, no significant relationship was found between the number of calls completed and outcomes.

## Discussion

In this sample of veterans in ongoing treatment for depression, usual care supplemented with a telephone-delivered mutual peer support intervention and written self-help materials did not improve outcomes, compared with usual care supplemented only with self-help materials. Patients in both groups experienced significant decreases in depressive symptoms at six months after enrollment.

These findings should be considered in the context of the particular peer support model that was assessed and the target population. As outlined in Table 1, we studied a reciprocal, mutual peer support intervention with modest levels of professional staff involvement. The brief training and peer support manual focused on communication skills, behavioral activation, goal setting, and self-management. The dyadic interactions occurred primarily by telephone.

Peer support models that use more professionalized peer mentors who are farther along in recovery, have in-person interactions, or have more structured interactions might have a greater impact. One systematic review found that professionalized peers (that is, health system peer employees) who delivered a structured curriculum to patients with serious mental illness achieved more positive outcomes than usual care (3). Peer support might also be more beneficial for patients who are not receiving effective formal mental health care.

When interpreting study findings, readers should consider additional aspects of the study design and several caveats. We compared the peer support intervention to an enhanced usual-care arm in which patients received written self-help materials, which may have reduced the opportunity to see the impact of the intervention. The study enrolled veterans

who were primarily male and middle-aged and who had high rates of comorbid PTSD, which may limit the generalizability of findings to other depressed populations. This effectiveness study examined the impact of an intervention as it might be offered by a health system, and findings may have been affected by levels of engagement in addition to the impact of peer interactions. Only 56% of patients in the intervention arm completed six or more calls, and only 32% completed 12 or more calls. However, a post-hoc analysis did not find a significant relationship between the numbers of calls completed and outcomes, suggesting that engagement alone likely did not explain null findings.

## Conclusions

This study did not support the effectiveness of a less-structured, telephone-delivered mutual peer support intervention for VA patients with depression over enhanced usual care. Interventions that use more professionalized peers who provide unidirectional support and a structured curriculum might be more effective.

## Acknowledgments

This work was supported by grants IIR-08-325 and CDA 10-036-1 from the Division of Health Services Research and Development, U.S. Department of Veterans Affairs.

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TABLE 1

Components of and variations between peer support interventions<sup>a</sup>

Structural component	Variation
Level of professional involvement	none, peers only; modest involvement, mostly facilitating peer interactions <sup>a</sup> ; and major role in structuring and moderating peer interactions
Relationships of peers	reciprocal (peers are givers and receivers of support), a peer mentor (one designated peer “gives support” and guidance), and peer staff (peer is a full member of mental health staff)
Mental health status of peers	distressed, mild to moderate mental health condition, <sup>a</sup> And major mental health condition or functional impairment <sup>a</sup>
Content and focus of interactions	expressive-supportive, a psychoeducation, a skill or task focus, and structured psychotherapy or care management (peer staff)
Level of connection to health system	no connection, operate in parallel; modest cooperation (for example, health system provides space) a; partnership model (extensive cooperation); and part of health system (add on versus substitute for professional)
Mode of interaction	in person (dyadic), in person (group), telephone (dyadic),a telephone (group), and Internet or texting
Other logistics	Frequency of interactions (suggested 1 per week, peers decide),a duration of interactions (peers decide), a and flexibility of interactions (highly flexible) <sup>a</sup>

<sup>a</sup>Components used in this study. [See online appendix for further discussion of the continuum of peer support.]