

# Improving Mental Health and Addressing Mental Illness: Collaborative Care for the Management of Depressive Disorders

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## Task Force Finding and Rationale Statement

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#### Suggested Citation:

The Community Preventive Service Task Force (CPSTF). *Improving Mental Health and Addressing Mental Illness: Collaborative Care for the Management of Depressive Disorders*. The Community Guide [www.thecommunityguide.org]. The Community Preventive Service Task Force, Atlanta, Georgia, 2010. <https://doi.org/10.15620/cdc/164221>

## Task Force Finding and Rationale Statement

### Intervention Definition

Collaborative care for the management of depressive disorders is a multicomponent, healthcare system-level intervention that uses case managers to link primary care providers, patients, and mental health specialists. This collaboration is designed to 1) improve the routine screening and diagnosis of depressive disorders; 2) increase provider use of evidence-based protocols for the proactive management of diagnosed depressive disorders; and 3) improve clinical and community support for active patient engagement in treatment goal setting and self-management.

Collaborative care models (Katon et al., 2001) typically have case managers, who support primary care providers with functions such as: patient education; patient follow up to track depression outcomes and adherence to treatment; and adjustment of treatment plans for patients who do not improve. Primary care providers are usually responsible for routine screening for and diagnosing of depressive disorders; initiating treatment for depression; and referring patients to mental health specialists as needed. These mental health specialists provide clinical advice and decision support to primary care providers and case managers. These processes are frequently coordinated by technology-based resources such as electronic medical records, telephone contact, and provider reminder mechanisms.

The U.S. Preventive Services Task Force (USPSTF) recommends screening for depression in [adults](http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/depression-in-adults-screening) [www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/depression-in-adults-screening] (2009) and [adolescents](http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/depression-in-children-and-adolescents-screening) [www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/depression-in-children-and-adolescents-screening] (2009) in outpatient primary care settings when adequate systems are in place for efficient diagnosis, treatment and follow-up for depressive disorders. The implementation of collaborative care models is one way to ensure that such systems are in place.

### Task Force Finding (June 2010)

The Community Preventive Services Task Force recommends collaborative care for the management of depressive disorders based on strong evidence of effectiveness in improving depression symptoms, adherence to treatment, response to treatment, and remission and recovery from depression.

The Task Force also finds that collaborative care models provide good economic value based on the weight of evidence from studies that assessed both costs and benefits.

### Rationale for Effectiveness Finding

This finding is based on two sources of evidence on the effectiveness of collaborative care in comparison to usual care for persons with a primary diagnosis of depressive disorder: (1) the current systematic review of 32 studies published between 2004 and 2009 and (2) an earlier systematic review (Bower et al. 2006) that identified 37 randomized controlled trial (RCT) studies published between 1966 and 2004.

The magnitude of effect estimates, number of studies, and consistency of effects provide the basis for the strong evidence. Results from the current review showed statistically significant treatment effects for multiple depression-related outcomes of sufficient magnitude to be of clinical significance and public health benefit (Table 1). Findings from the earlier review (Bower et al. 2006) were similar to comparable outcomes from the current review (i.e., ‘improvement in depression symptoms’ from 34 studies, SMD = 0.24, 95% CI 0.17 to 0.32 and ‘positive effect on antidepressant use,’ from 28 studies which included ‘adherence to treatment’ and ‘antidepressant use’, OR=1.92, 95% CI 1.54 to 2.39).

**Table 1 Meta-Analysis Results**

Outcome	# of study arms	Effect Estimate	95% Confidence Interval
Depression Symptoms <sup>1</sup>	28	SMD* = 0.34	0.25 to 0.43
Adherence (to treatment) <sup>1</sup>	10	OR** = 2.22	1.67 to 2.96
Response (to treatment) <sup>1</sup>	14	OR = 1.78	1.42 to 2.23
Remission (<6 months) <sup>1</sup>	5	OR = 2.37	1.72 to 3.25
Remission (6 months) <sup>1</sup>	9	OR = 1.74	1.14 to 2.63
Recovery (12 months) <sup>1</sup>	5	OR = 1.75	1.17 to 2.61
Quality of Life and Functional Status <sup>1</sup>	16	SMD = 0.12	0.05 to 0.20
Satisfaction with Care <sup>2</sup>	11	SMD = 0.39	0.26 to 0.51

<sup>1</sup> Recommendation outcome

<sup>2</sup> Other outcome

\* SMD= Standardized Mean Difference

\*\* OR = Odds

Most of the evidence that supports the effectiveness of collaborative care in the current review came from studies that targeted women and men in adult (aged 20-64 years) or older adult (aged 65 years and older) populations and consisted of mostly white populations with overrepresentation of African-Americans and underrepresentation of other minorities. Although limited evidence was available from studies that specifically targeted certain populations such as adolescents (1 study), African-Americans (1 study) and Latinos (2 studies), the results from these studies were similar to the overall effect estimate. This suggests that collaborative care should apply broadly across a diverse range of populations. Information available on the socio-economic status of patients from included studies was sparse, but, results from two studies targeting low-income populations suggest collaborative care interventions in low-income populations are effective.

Nearly all of the studies reviewed employed physicians in the role of 'primary care provider', and the few studies that used nurses or physician assistants in this role reported comparable effects (3 studies). Most studies used nurses in the role of 'case manager'. In some cases, social workers and masters-level mental health workers also assumed this role. There was some evidence of smaller intervention effects when masters-level mental health workers with limited past clinical experience served in this critical role (3 studies), which likely reflects the need for further skills-development. Most studies employed psychiatrists or psychologists in the role of 'mental health specialists'. Results were similar for the few studies that used physicians or nurses with advanced training in the 'mental health specialist' role (2 studies).

Most of the studies reviewed were conducted in the United States, but similar effects were found in studies conducted both within and outside the U.S. Results from included studies indicate that collaborative care interventions are effective when implemented by any of a variety of organizations, including managed care organizations, academic medical centers, community-based organizations, the Veterans Affairs system (VA) and universal health coverage systems (e.g., the National Health Service in the U.K.). The effect estimate for the VA studies (2 studies) was in the favorable direction but somewhat smaller in magnitude than the overall estimate. Usual care in the context of the VA may very well be different (i.e., with greater integration of primary care and behavioral health care) from usual care in other situations, and veterans presenting with depression may have higher rates of co-morbidities such as substance abuse and Post-Traumatic Stress Disorder (PTSD) than other populations.

Evidence from the included studies also suggests that collaborative care is applicable in a range of settings that span and link outpatient and inpatient care. Limited evidence was available for collaborative care models that also included community settings for the delivery of care. Results from studies that included home-based care (2 studies) were similar to the overall estimate, and the one study that included a worksite component found a smaller, but still favorable, effect. More intervention research for collaborative care models that utilize these community settings for delivery of care is encouraged.

Positive treatment impact on patient job retention and productivity (1 study) and adherence to treatment for co-morbid illness (1 study) were additional benefits reported from studies reviewed. Regarding potential harms from this intervention, one study found that patients who received a collaborative care intervention that emphasized antidepressant medication management, reported more difficulty coping with stressful events nine years after the intervention than those who received usual care or a collaborative care intervention that emphasized psychotherapy. Barriers to implementation of collaborative care models include: patient reluctance to enroll (2 studies); low patient attendance (3 studies); limited insurance coverage for mental health care (1 study); locating organizations in the community that offer depression care in the home and at the worksite (2 studies); training specialists from other fields in collaborative care for patients with depression co-morbid with other chronic illnesses (1 study); and difficulties reaching patients who preferred face-to-face care over telephone contact for counseling and care management (1 study).

More research is needed to clarify the essential training and background of key members of the collaborative care team (e.g., requisite skill-levels for case managers; intervention-specific training for case managers and primary care providers). More studies are needed to examine the effectiveness of collaborative care for depressive disorders among children and adolescents, and in populations of varied race, ethnicity, socio-economic status, and co-morbidity to provide more robust information to the field on the applicability of collaborative care for the management of depressive disorders.

### **Rationale for Economic Finding**

The finding is based on 23 studies of the economics of collaborative care interventions for the management of depressive disorders including 2 studies that modeled the interventions in decision analysis frameworks. All monetary values reported here are in 2008 U.S. dollars. An earlier systematic economic review (Gilbody et al. 2006) examined RCTs of collaborative care and reported incremental net costs of \$17,000 to \$39,000 per quality adjusted life year (QALY), which are cost-effective based on the conventional threshold of cost-effectiveness.

Of the 21 studies in this review, that evaluated actual interventions, 2 reported only the costs of the intervention; 7 reported only the benefits; 5 were cost-benefit studies; and 7 were cost-effectiveness studies.

Based on 14 studies that provided estimates of program costs, the costs per person per year for collaborative care ranged from \$104 to \$2,160 with a median of \$454. The variation in program costs is partly explained by the number of case manager-patient contacts, whether contact was by phone or in person, and whether staff training costs or costs of electronic care management systems were included.

Of the five cost-benefit studies, four showed that averted healthcare costs, productivity losses, or estimates of what patients were “willing to pay” for treatment exceeded program costs, indicating that the interventions were cost-beneficial. One study found that an intervention among patients diagnosed with major depressive disorder had greater clinical improvement and healthcare offsets for those who presented with psychological complaints at the index visit compared to patients who presented with exclusively physical complaints.

Six studies reported incremental net costs per QALY. For five of these studies, the estimates ranged from \$3,000 to \$71,000, with four reporting less than \$21,000, indicating the interventions were cost-effective by the conventional threshold for cost-effectiveness. One study provided some evidence that the intervention was more cost efficient among Latinos where treatment emphasized psychotherapy over medication.

The two studies based on decision models of primary care practice demonstrated that collaborative care could be cost-effective, one comparing collaborative care to usual care and the other comparing collaborative care that included pharmaceutical treatment to pharmaceutical treatment alone.

More economic evaluations are needed to assess the full benefit of these interventions by accounting for both healthcare utilization and workplace productivity effects. A clearer separation is needed between the program costs of implementing collaborative care from the costs of healthcare utilization.

*The data presented here are preliminary and are subject to change as the systematic review goes through the scientific peer review process.*

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## Disclaimer

The findings and conclusions on this page are those of the Community Preventive Services Task Force and do not necessarily represent those of CDC. Task Force evidence-based recommendations are not mandates for compliance or spending. Instead, they provide information and options for decision makers and stakeholders to consider when determining which programs, services, and policies best meet the needs, preferences, available resources, and constraints of their constituents.

Document last updated January 23, 2014