Evidence Base for Collaborative Care

Selected References as of 3/6/2014

To date there have been over 70 research trials documenting the effectiveness of Collaborative Care. This list of references is a brief, selected sample.


CONTEXT: Few depressed older adults receive effective treatment in primary care settings. OBJECTIVE: To determine the effectiveness of the Improving Mood-Promoting Access to Collaborative Treatment (IMPACT) collaborative care management program for late-life depression. DESIGN: Randomized controlled trial with recruitment from July 1999 to August 2001. SETTING: Eighteen primary care clinics from 8 health care organizations in 5 states. PARTICIPANTS: A total of 1801 patients aged 60 years or older with major depression (17%), dysthymic disorder (30%), or both (53%). INTERVENTION: Patients were randomly assigned to the IMPACT intervention (n = 906) or to usual care (n = 895). Intervention patients had access for up to 12 months to a depression care manager who was supervised by a psychiatrist and a primary care expert and who offered education, care management, and support of antidepressant management by the patient's primary care physician or a brief psychotherapy for depression, Problem Solving Treatment in Primary Care. MAIN OUTCOME MEASURES: Assessments at baseline and at 3, 6, and 12 months for depression, depression treatments, satisfaction with care, functional impairment, and quality of life. RESULTS: At 12 months, 45% of intervention patients had a 50% or greater reduction in depressive symptoms from baseline compared with 19% of usual care participants (odds ratio [OR], 3.45; 95% confidence interval [CI], 2.71-4.38; P<.001). Intervention patients also experienced greater rates of depression treatment (OR, 2.98; 95% CI, 2.34-3.79; P<.001), more satisfaction with depression care (OR, 3.38; 95% CI, 2.66-4.30; P<.001), lower depression severity (range, 0-4; between-group difference, -0.4; 95% CI, -0.46 to -0.33; P<.001), less functional impairment (range, 0-10; between-group difference, -0.91; 95% CI, -1.19 to -0.64; P<.001), and greater quality of life (range, 0-10; between-group difference, 0.56; 95% CI, 0.32-0.79; P<.001) than participants assigned to the usual care group. CONCLUSION: The IMPACT collaborative care model appears to be feasible and significantly more effective than usual care for depression in a wide range of primary care practices.

BACKGROUND: Depression is common in primary care but is suboptimally managed. Collaborative care, that is, structured care involving a greater role of nonmedical specialists to augment primary care, has emerged as a potentially effective candidate intervention to improve quality of primary care and patient outcomes.

METHODS: To quantify the short-term and longer-term effectiveness of collaborative care compared with standard care and to understand mechanisms of action by exploring between-study heterogeneity, we conducted a systematic review of randomized controlled trials that compared collaborative care with usual primary care in patients with depression. We searched MEDLINE (from the beginning of 1966), EMBASE (from the beginning of 1980), CINAHL (from the beginning of 1980), PsycINFO (from the beginning of 1980), the Cochrane Library (from the beginning of 1966), and DARE (Database of Abstracts of Reviews of Effectiveness) (from the beginning of 1985) databases from study inception to February 6, 2006. RESULTS: We found 37 randomized studies including 12,355 patients with depression receiving primary care. Random effects meta-analysis showed that depression outcomes were improved at 6 months (standardized mean difference, 0.25; 95% confidence interval, 0.18-0.32), and evidence of longer-term benefit was found for up to 5 years (standardized mean difference, 0.15; 95% confidence interval, 0.001-0.31). When exploring determinants of effectiveness, effect size was directly related to medication compliance and to the professional background and method of supervision of case managers. The addition of brief psychotherapy did not substantially improve outcome, nor did increased numbers of sessions. Cumulative meta-analysis showed that sufficient evidence had emerged by 2000 to demonstrate the statistically significant benefit of collaborative care.

CONCLUSIONS: Collaborative care is more effective than standard care in improving depression outcomes in the short and longer terms. Future research needs to address the implementation of collaborative care, particularly in settings other than the United States.


This paper is based on a report commissioned by the Subcommittee on Mental Health Interface With General Medicine of the Presidents New Freedom Commission on Mental Health. Although mental and medical conditions are highly interconnected, medical and mental health care systems are separated in many ways that inhibit effective care. Treatable mental or medical illnesses are often not detected or diagnosed properly, and effective services are often not provided. Improved mental health care at the interface of general medicine and mental health requires educated consumers and providers; effective detection, diagnosis, and monitoring of common mental disorders; valid performance criteria for care at the interface of general medicine and mental health; care management protocols that match treatment intensity to clinical outcomes; effective specialty mental health support for general medical providers; and financing mechanisms for
evidence-based models of care. Successful models exist for improving the collaboration between medical and mental health providers. Recommendations are presented for achieving high-quality care for common mental disorders at the interface of general medicine and mental health and for overcoming barriers and facilitating use of evidence-based quality improvement models.


A growing body of research has demonstrated the effectiveness of integrating mental/behavioral healthcare with primary care in improving health outcomes. Despite this rich literature, such demonstration programs have proven difficult to maintain once research funding ends. Much of the discussion regarding maintenance of integrated care has been focused on lack of reimbursement. However, provider factors may be just as important, because integrated care systems require providers to adopt a very different role and operate very differently from traditional mental health practice. There is also great variability in definition and operationalization of integrated care. Provider concerns tend to focus on several factors, including a perceived loss of autonomy, discomfort with the hierarchical nature of medical care and primary care settings, and enduring beliefs about what constitutes "good" treatment. Providers may view integrated care models as delivering substandard care and passively or actively resist them.

Dissemination of available data regarding effectiveness of these models is essential (e.g. timeliness of treatment, client satisfaction). Increasing exposure and training in these models, while maintaining the necessary training in traditional mental health care is a challenge for training at all levels, yet the challenge clearly opens new opportunities for psychology and psychiatry.


Efforts to improve the quality and efficiency of primary care have recently focused on the concept of the Patient Centered Medical Home (PCMH). Given that primary care serves as a main venue for providing mental health treatment, it is important to consider whether the adoption of the PCMH model is conducive to delivery of such treatment. This paper identifies the conceptual similarities in and differences between the PCMH and current strategies used to deliver mental health treatment in primary care. Even though adoption of the PCMH has the potential to enhance delivery of mental health treatment in primary care, several programmatic and policy actions are needed to facilitate integration of high-quality mental health treatment within a PCMH.

OBJECTIVE: To describe the history and evolution of the collaborative depression care model and new research aimed at enhancing dissemination. METHOD: Four keynote speakers from the 2009 NIMH Annual Mental Health Services Meeting collaborated in this article in order to describe the history and evolution of collaborative depression care, adaptation of collaborative care to new populations and medical settings, and optimal ways to enhance dissemination of this model. RESULTS: Extensive evidence across 37 randomized trials has shown the effectiveness of collaborative care vs. usual primary care in enhancing quality of depression care and in improving depressive outcomes for up to 2 to 5 years. Collaborative care is currently being disseminated in large health care organizations such as the Veterans Administration and Kaiser Permanente, as well as in fee-for-services systems and federally funded clinic systems of care in multiple states. New adaptations of collaborative care are being tested in pediatric and ob-gyn populations as well as in populations of patients with multiple comorbid medical illnesses. New NIMH-funded research is also testing community-based participatory research approaches to collaborative care to attempt to decrease disparities of care in underserved minority populations. CONCLUSION: Collaborative depression care has extensive research supporting the effectiveness of this model. New research and demonstration projects have focused on adapting this model to new populations and medical settings and on studying ways to optimally disseminate this approach to care, including developing financial models to incentivize dissemination and partnerships with community populations to enhance sustainability and to decrease disparities in quality of mental health care.


Context: Improving the quality of mental health care requires moving clinical interventions from controlled research settings into real-world practice settings. Although such advances have been made for depression, little work has been performed for anxiety disorders. Objective To determine whether a flexible treatment-delivery model for multiple primary care anxiety disorders (panic, generalized anxiety, social anxiety, and posttraumatic stress disorders) would be better than usual care (UC). Design, Setting, and Patients: A randomized controlled effectiveness trial of Coordinated Anxiety Learning and Management (CALM) compared with UC in 17 primary care clinics in 4 US cities. Between June 2006 and April 2008, 1004 patients with anxiety disorders (with or without major depression), aged 18 to 75 years, English- or Spanish-speaking, were enrolled and subsequently received treatment for 3 to 12 months. Blinded follow-up assessments at 6, 12, and 18 months after baseline were completed in October 2009. Intervention: CALM allowed choice of cognitive behavioral therapy (CBT), medication, or both; included real-time Web-based outcomes monitoring to optimize treatment decisions; and a computer-assisted program to optimize delivery of CBT by nonexpert care managers who also assisted primary care clinicians in promoting adherence and optimizing
medications. Main Outcome Measures: Twelve-item Brief Symptom Inventory (BSI-12) anxiety and somatic symptoms score. Secondary outcomes included proportion of responders ([&g;50% reduction from pretreatment BSI-12 score) and remitters (total BSI-12 score &lt;6). Results A significantly greater improvement for CALM vs UC in global anxiety symptoms was found (BSI-12 group mean differences of -2.49 [95% confidence interval [CI], -3.59 to -1.40], -2.63 [95% CI, -3.73 to -1.54], and -1.63 [95% CI, -2.73 to -0.53] at 6, 12, and 18 months, respectively). At 12 months, response and remission rates (CALM vs UC) were 63.66% (95% CI, 58.95%-68.37%) vs 44.68% (95% CI, 39.76%-49.59%), and 51.49% (95% CI, 46.60%-56.38%) vs 33.28% (95% CI, 28.62%-37.93%), with a number needed to treat of 5.27 (95% CI, 4.18-7.13) for response and 5.50 (95% CI, 4.32-7.55) for remission. Conclusion: For patients with anxiety disorders treated in primary care clinics, CALM compared with UC resulted in greater improvement in anxiety symptoms, depression symptoms, functional disability, and quality of care during 18 months of follow-up. Trial Registration clinicaltrials.gov Identifier: NCT00347269


CONTEXT: Few large-scale, multisite investigations have assessed the development of posttraumatic stress disorder (PTSD) symptoms and health outcomes across the spectrum of patients with mild, moderate, and severe traumatic brain injury (TBI).

OBJECTIVES: To understand the risk of developing PTSD symptoms and to assess the impact of PTSD on the development of health and cognitive impairments across the full spectrum of TBI severity. DESIGN: Multisite US prospective cohort study.

SETTING: Eighteen level I trauma centers and 51 non-trauma center hospitals.

PATIENTS: A total of 3047 (weighted n = 10 372) survivors of multiple traumatic injuries between the ages of 18 and 84 years. MAIN OUTCOME MEASURES: Severity of TBI was categorized from chart-abstracted International Classification of Diseases, Ninth Revision, Clinical Modification codes. Symptoms consistent with a DSM-IV diagnosis of PTSD were assessed with the PTSD Checklist 12 months after injury. Self-reported outcome assessment included the 8 Medical Outcomes Study 36-Item Short Form Health Survey health status domains and a 4-item assessment of cognitive function at telephone interviews 3 and 12 months after injury. RESULTS: At the time of injury hospitalization, 20.5% of patients had severe TBI, 11.7% moderate TBI, 12.9% mild TBI, and 54.9% no TBI. Patients with severe (relative risk, 0.72; 95% confidence interval, 0.58-0.90) and moderate (0.63; 0.44-0.89) TBI, but not mild TBI (0.83; 0.62-1.13), demonstrated a significantly diminished risk of PTSD symptoms relative to patients without TBI. Across TBI categories, in adjusted analyses patients with PTSD demonstrated an increased risk of health status and cognitive impairments when compared with patients without PTSD. CONCLUSIONS: More severe TBI was associated with a diminished risk of PTSD. Regardless of TBI severity, injured patients with PTSD demonstrated the greatest impairments in self-reported health and cognitive function. Treatment programs for patients with the full spectrum of TBI severity should integrate intervention approaches targeting PTSD.

OBJECTIVE: This study evaluated a large demonstration project of collaborative care of depression at community health centers by examining the role of clinic site on two measures of quality care (early follow-up and appropriate pharmacotherapy) and on improvement of symptoms (score on Patient Health Questionnaire-9 reduced by 50% or ≤5). METHODS: A quasi-experimental study examined data on the treatment of 2,821 patients aged 18 and older with depression symptoms between 2006 and 2009 at six community health organizations selected in a competitive process to implement a model of collaborative care. The model’s key elements were use of a Web-based disease registry to track patients, care management to support primary care providers and offer proactive follow-up of patients, and organized psychiatric consultation. RESULTS: Across all sites, a plurality of patients achieved meaningful improvement in depression, and in many sites, improvement occurred rapidly. After adjustment for patient characteristics, multivariate logistic regression models revealed significant differences across clinics in the probability of receiving early follow-up (range .34-.88) or appropriate pharmacotherapy (range .27-.69) and in experiencing improvement (.36 to .84). Similarly, after adjustment for patient characteristics, Cox proportional hazards models revealed that time elapsed between first evaluation and the occurrence of improvement differed significantly across clinics (p<.001). CONCLUSIONS: Despite receiving similar training and resources, organizations exhibited substantial variability in enacting change in clinical care systems, as evidenced by both quality indicators and outcomes. Sites that performed better on quality indicators had better outcomes, and the differences were not attributable to patients' characteristics.


We are in a time of increasing concern about unsustainable increases in health care costs to Medicare, Medicaid, employers and individuals. At the same time, more than half of patients with mental health needs do not receive care in any given year [1], and untreated mental disorders can be important drivers of high health care costs. As in the rest of health care, we are challenged with achieving the “triple aim” of improving access to care while at the same time improving quality and outcomes of care and reducing total health care costs [2]. To achieve this triple aim, psychiatrists of the future will have to shift professional roles. In addition to traditional consultation liaison activities focused on individual patients in outpatient clinics or hospital settings, psychiatrists should have important roles in monitoring behavioral health needs, treatments and treatment outcomes for defined populations of patients and providing supervision and guidance to interdisciplinary teams of primary care and behavioral health providers caring for a defined panel of patients.

**CONTEXT:** To improve the quality of depression management, collaborative care models have been developed from the Chronic Care Model over the past 20 years. Collaborative care is a multicomponent, healthcare system-level intervention that uses case managers to link primary care providers, patients, and mental health specialists. In addition to case management support, primary care providers receive consultation and decision support from mental health specialists (i.e., psychiatrists and psychologists). This collaboration is designed to (1) improve 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 client/patient engagement in treatment goal-setting and self-management. **EVIDENCE ACQUISITION:** A team of subject matter experts in mental health, representing various agencies and institutions, conceptualized and conducted a systematic review and meta-analysis on collaborative care for improving the management of depressive disorders. This team worked under the guidance of the Community Preventive Services Task Force, a nonfederal, independent, volunteer body of public health and prevention experts. Community Guide systematic review methods were used to identify, evaluate, and analyze available evidence. **EVIDENCE SYNTHESIS:** An earlier systematic review with 37 RCTs of collaborative care studies published through 2004 found evidence of effectiveness of these models in improving depression outcomes. An additional 32 studies of collaborative care models conducted between 2004 and 2009 were found for this current review and analyzed. The results from the meta-analyses suggest robust evidence of effectiveness of collaborative care in improving depression symptoms (standardized mean difference [SMD]=0.34); adherence to treatment (OR=2.22); response to treatment (OR=1.78); remission of symptoms (OR=1.74); recovery from symptoms (OR=1.75); quality of life/functional status (SMD=0.12); and satisfaction with care (SMD=0.39) for patients diagnosed with depression (all effect estimates were significant). **CONCLUSIONS:** Collaborative care models are effective in achieving clinically meaningful improvements in depression outcomes and public health benefits in a wide range of populations, settings, and organizations. Collaborative care interventions provide a supportive network of professionals and peers for patients with depression, especially at the primary care level.