Evidence Base for Collaborative Care

Clinics Caring for Patients in Under-Resourced Communities

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1. Fortney JC, Pyne JM, Mouden SB, et al. Practice-based versus telemedicine-based collaborative care for depression in rural Federally Qualified Health Centers: a pragmatic randomized comparative effectiveness trial. Am J Psychiatry. 2013;170:414-425.

Summary: This randomized trial compared remote and on-site Collaborative Care for rural Federally Qualified Health Centers (FQHCs). Five clinics participated and enrolled 364 patients with depression. Depression care managers were on-site at the clinics in one study arm, and off-site at an academic health center (co-located with the psychiatric consultant) in the other arm. On-site care managers could meet with patients face-to-face or by phone and documented in the clinic medical record; off-site care managers contacted patients by phone and faxed written notes to clinics. Remote care managers more often completed tasks associated with high fidelity Collaborative Care such as patient education, symptom monitoring, and working closely with the primary care clinicians, compared to on-site care managers. Patients treated in the off-site Collaborative Care arm were significantly (2-2.5 times) more likely to have depression response or remission at 6, 12, and 18 months, compared to the on-site arm.

Scientific Abstract:
Objective: Practice-based collaborative care is a complex evidence-based practice that is difficult to implement in smaller primary care practices that lack on-site mental health staff. Telemedicine-based collaborative care virtually

co-locates and integrates mental health providers into primary care settings. The objective of this multisite randomized pragmatic comparative effectiveness trial was to compare the outcomes of patients assigned to practice-based and telemedicine-based collaborative care.
Method: From 2007 to 2009, patients at federally qualified health centers serving medically underserved populations were screened for depression, and 364 patients who screened positive were enrolled and followed for 18 months. Those assigned to practice-based collaborative care received evidence-based care from an on-site primary care provider and a nurse care manager. Those assigned to telemedicine-based collaborative care received evidence-based care from an on-site primary care provider and an off-site team: a nurse care manager and a pharmacist by telephone, and a psychologist and a psychiatrist via videoconferencing. The primary clinical outcome measures were treatment response, remission, and change in depression severity.
Results: Significant group main effects were observed for both response (odds ratio=7.74, 95% CI=3.94-15.20) and remission (odds ratio=12.69, 95% CI=4.81-33.46), and a significant overall group-by-time interaction effect was observed for depression severity on the Hopkins Symptom Checklist, with greater reductions in severity over time for patients in the telemedicine-based group. Improvements in outcomes appeared to be attributable to higher fidelity to the collaborative care evidence base in the telemedicine-based group.
Conclusions: Contracting with an off-site telemedicine-based collaborative care team can yield better outcomes than implementing practice-based collaborative care with locally available staff.

2. Katon W, Russo J, Reed S, et al. A randomized trial of collaborative depression care in obstetrics and gynecology clinics: socioeconomic disadvantage and treatment response. Am J Psychiatry. 2015;172:32-40.

Summary: The authors analyzed data from a Collaborative Care clinical trial showing that treatment with collaborative care improved depressive and functional outcomes in women seeking primary care in obstetrics and gynecology (Ob-Gyn) settings. The current study assessed effectiveness of Collaborative Care treating women with social disadvantages (n=120, 58.5%) defined as having no health insurance or Medicaid, Medicare, or Washington state insurance, compared to women with commercial insurance (n=85, 41.5%). In addition to usual Collaborative Care, the care managers (social workers) conducted an engagement session to promote participation in depression treatment, conducted proactive outreach, and helped identify options for charity care for medications. Patients with no or public insurance coverage (who were more likely than commercially insured patients to identify as minority status, older, had less social support and more likely to be living alone) showed significantly greater improvements with Collaborative Care at 12 and 18 months compared to patients with commercial insurance.

Scientific Abstract:
Objective: The authors evaluated whether an obstetrics-gynecology clinic-based collaborative depression care intervention is differentially effective compared with usual care for socially disadvantaged women with either no health insurance or with public coverage compared with those with commercial insurance.
Method: The study was a two-site randomized controlled trial with an 18-month follow-up. Women were recruited who screened positive (a score of at least 10 on the Patient Health Questionnaire-9) and met criteria for major depression or dysthymia. The authors tested whether insurance status had a differential effect on continuous depression outcomes between the intervention and usual care over 18 months. They also assessed differences between the intervention and usual care in quality of depression care and dichotomous clinical outcomes (a decrease of at least 50% in depressive symptom severity and patient-rated improvement on the Patient Global Improvement Scale).

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Results: The treatment effect was significantly associated with insurance status. Compared with patients with commercial insurance, those with no insurance or with public coverage had greater recovery from depression symptoms with collaborative care than with usual care over the 18-month follow-up period. At the 12-month follow-up, the effect size for depression improvement compared with usual care among women with no insurance or with public coverage was 0.81 (95% CI=0.41, 0.95), whereas it was 0.39 (95% CI=-0.08, 0.84) for women with commercial insurance.

Conclusions: Collaborative depression care adapted to obstetrics-gynecology settings had a greater impact on depression outcomes for socially disadvantaged women with no insurance or with public coverage compared with women with commercial insurance.

3. Grote NK, Katon WJ, Russo JE, et al. Collaborative care for perinatal depression in socioeconomically disadvantaged women: a randomized trial. Depress Anxiety. 2015;32:821-834.

Summary: Participants (n=168) in this randomized clinical trial were pregnant women of diverse racial backgrounds insured by Medicaid. The trial compared effectiveness of two interventions, a culturally relevant Collaborative Care treatment (MOMCare) for depression, and intensive maternity support services. Care managers in Collaborative Care were social workers, and did a variety of work including delivering an engagement session early on to address barriers to treatment, assessing patient preferences for treatment, conducting proactive outreach by phone and text, and case management to meet basic needs. The care managers could provide interpersonal therapy as treatment for depression. Both treatments were associated with improvements in depression, the MOMCare Collaborative Care intervention was significantly more effective on-average across 3-18 month time points.

Scientific Abstract:

Background: Both antenatal and postpartum depression have adverse, lasting effects on maternal and child well-being. Socioeconomically disadvantaged women are at increased risk for perinatal depression and have experienced difficulty accessing evidence-based depression care. The authors evaluated whether "MOMCare,"a culturally relevant, collaborative care intervention, providing a choice of brief interpersonal psychotherapy and/or antidepressants, is associated with improved quality of care and depressive outcomes compared to intensive public health Maternity Support Services (MSS-Plus).

Methods: A randomized multisite controlled trial with blinded outcome assessment was conducted in the Seattle-King County Public Health System. From January 2010 to July 2012, pregnant women were recruited who met criteria for probable major depression and/or dysthymia, English-speaking, had telephone access, and ≥18 years old. The primary outcome was depression severity at 3-, 6-, 12-, 18-month postbaseline assessments; secondary outcomes included functional improvement, PTSD severity, depression response and remission, and quality of depression care.

Results: All participants were on Medicaid and 27 years old on average; 58% were non-White; 71% were unmarried; and 65% had probable PTSD. From before birth to 18 months postbaseline, MOMCare (n = 83) compared to MSS-Plus participants (n = 85) attained significantly lower levels of depression severity (Wald's $\chi(2) = 6.09$, df = 1, P = .01) and PTSD severity (Wald's $\chi(2) = 4.61$, df = 1, P = .04), higher rates of depression remission (Wald's $\chi(2) = 3.67$, df = 1, P = .05), and had a greater likelihood of receiving ≥4 mental health visits (Wald's $\chi(2) = 58.23$, df = 1, P < .0001) and of adhering to antidepressants in the prior month (Wald's $\chi(2) = 10.00$, df = 1, P < .01).

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Conclusion: Compared to MSS-Plus, MOMCare showed significant improvement in quality of care, depression severity, and remission rates from before birth to 18 months postbaseline for socioeconomically disadvantaged women. Findings suggest that evidence-based perinatal depression care can be integrated into the services of a county public health system in the United States.

4. Lagomasino IT, Dwight-Johnson M, Green JM, et al. Effectiveness of collaborative care for depression in public-sector primary care clinics serving Latinos. Psychiatr Serv. 2017;68:353-359.

Summary: The authors evaluated Collaborative Care for depression in three public-sector primary care clinics in California serving predominantly low-income Latino individuals. At baseline, depressive symptom burden was high. The Collaborative Care intervention was associated with improvements in quality of depression care, partly due to care managers conducting significant outreach (average of 6 outreach phone calls per patient) to initiate depression treatment. Individuals receiving treatment with Collaborative Care experienced significantly better depression outcomes, with an over two-fold increase in the proportion of patients experiencing >50% reduction in depressive symptom severity.

Scientific Abstract:
Objective: Quality improvement interventions for depression care have been shown to be effective for improving quality of care and depression outcomes in settings with primarily insured patients. The aim of this study was to determine the impact of a collaborative care intervention for depression that was tailored for low-income Latino patients seen in public-sector clinics.
Methods: A total of 400 depressed patients from three public-sector primary care clinics were enrolled in a randomized controlled trial of a tailored collaborative care intervention versus enhanced usual care. Social workers without previous mental health experience served as depression care specialists for the intervention patients (N=196). Depending on patient preference, they delivered a cognitive-behavioral therapy (CBT) intervention or facilitated antidepressant medication given by primary care providers or both. In enhanced usual care, patients (N=204) received a pamphlet about depression, a letter for their primary care provider stating that they had a positive depression screen, and a list of local mental health resources. Intent-to-treat analyses examined clinical and process-of-care outcomes at 16 weeks.
Results: Compared with patients in the enhanced usual care group, patients in the intervention group had significantly improved depression, quality of life, and satisfaction outcomes ($p<.001$ for all). Intervention patients also had significantly improved quality-of-care indicators, including the proportion of patients receiving either psychotherapy or antidepressant medication (77% versus 21%, $p<.001$).
Conclusions: Collaborative care for depression can greatly improve care and outcomes in public-sector clinics. Social workers without prior mental health experience can effectively provide CBT and manage depression care.

5. Watkins KE, Ober AJ, Lamp K, et al. Collaborative care for opioid and alcohol use disorders in primary care: The SUMMIT randomized clinical trial. JAMA Intern Med. 2017;177;1480-1488.

Summary: This study randomized 377 patients with alcohol use and/or opioid use disorders in 2 clinics of a Federally Qualified Health Center to treatment with Collaborative Care or to usual care for 6 months. Approximately one-third of participants reported Hispanic origin, and approximately half of participants reported current homelessness. Treatment with Collaborative Care resulted in a significantly greater proportion of individuals receiving higher quality of care and reporting abstinences from opioids or alcohol at 6 months.

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Scientific Abstract:
Importance: Primary care offers an important and underutilized setting to deliver treatment for opioid and/or alcohol use disorders (OAUD). Collaborative care (CC) is effective but has not been tested for OAUD.
Objective: To determine whether CC for OAUD improves delivery of evidence-based treatments for OAUD and increases self-reported abstinence compared with usual primary care.
Design, setting, and participants: A randomized clinical trial of 377 primary care patients with OAUD was conducted in 2 clinics in a federally qualified health center. Participants were recruited from June 3, 2014, to January 15, 2016, and followed for 6 months.
Interventions: Of the 377 participants, 187 were randomized to CC and 190 were randomized to usual care; 77 (20.4%) of the participants were female, of whom 39 (20.9%) were randomized to CC and 38 (20.0%) were randomized to UC. The mean (SD) age of all respondents at baseline was 42 (12.0) years, 41(11.7) years for the CC group, and 43 (12.2) years for the UC group. Collaborative care was a system-level intervention, designed to increase the delivery of either a 6-session brief psychotherapy treatment and/or medication-assisted treatment with either sublingual buprenorphine/naloxone for opioid use disorders or long-acting injectable naltrexone for alcohol use disorders. Usual care participants were told that the clinic provided OAUD treatment and given a number for appointment scheduling and list of community referrals.
Main outcomes and measures: The primary outcomes were use of any evidence-based treatment for OAUD and self-reported abstinence from opioids or alcohol at 6 months. The secondary outcomes included the Healthcare Effectiveness Data and Information Set (HEDIS) initiation and engagement measures, abstinence from other substances, heavy drinking, health-related quality of life, and consequences from OAUD.
Results: At 6 months, the proportion of participants who received any OAUD treatment was higher in the CC group compared with usual care (73 [39.0%] vs 32 [16.8%]; logistic model adjusted OR, 3.97; 95% CI, 2.32-6.79; P < .001). A higher proportion of CC participants reported abstinence from opioids or alcohol at 6 months (32.8% vs 22.3%); after linear probability model adjustment for covariates (β = 0.12; 95% CI, 0.01-0.23; P = .03). In secondary analyses, the proportion meeting the HEDIS initiation and engagement measures was also higher among CC participants (initiation, 31.6% vs 13.7%; adjusted OR, 3.54; 95% CI, 2.02-6.20; P < .001; engagement, 15.5% vs 4.2%; adjusted OR, 5.89; 95% CI, 2.43-14.32; P < .001) as was abstinence from opioids, cocaine, methamphetamines, marijuana, and any alcohol (26.3% vs 15.6%; effect estimate, β = 0.13; 95% CI, 0.03-0.23; P = .01).
Conclusions and relevance: Among adults with OAUD in primary care, the SUMMIT collaborative care intervention resulted in significantly more access to treatment and abstinence from alcohol and drugs at 6 months, than usual care.

6. Powers DM, Bowen DJ, Arao RF, et al. Rural clinics implementing collaborative care for low-income patients can achieve comparable or better depression outcomes. Fam Syst Health. 2020;38:242-254.

Summary: Eight rural clinics implemented Collaborative Care and demonstrated that approximately 15% of the total clinic populations were treated with Collaborative Care, and that patients receiving Collaborative Care experienced clinically significant improvements in depression and reduction in suicidal ideation.

Scientific Abstract:
Introduction: The gap between depression treatment needs and the available mental health workforce is particularly large in rural areas. Collaborative care (CoCM) is an evidence-based approach that leverages limited mental health specialists for maximum population effect. This study evaluates depression treatment outcomes, clinical processes of care, and primary care provider experiences for CoCM implementation in 8 rural clinics treating low-income patients.

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Method: We used CoCM registry data to analyze depression response and remission then used logistic regression to model variance in depression outcomes. Primary care providers reported their experiences with this practice change 18 months following program launch.
Results: Participating clinics enrolled 5,187 adult patients, approximately 15% of the adult patient population. Mean PHQ-9 depression score was 16.1 at baseline and 10.9 at last individual measurement, a statistically and clinically significant improvement (SD6.7; 95% CI [4.9, 5.3]). Suicidal ideation also reduced significantly. Multivariate logistic regression predicted the probability of depression response and remission after controlling for several demographic attributes and processes of care, showing a significant amount of variance in outcomes could be explained by clinic, length of time in treatment, and age. Primary care providers reported positive experiences overall.
Discussion: Three quarters of participating primary care clinics, adapting CoCM for limited resource settings, exceeded depression response outcomes reported in a controlled research trial and mirrored results of large-scale quality improvement implementations. Future research should examine quality improvement strategies to address clinic-level variation and sustain improvements in clinical outcomes achieved.

7. Unützer J, Chan YF, Hafer E, et al. Quality improvement with pay-for-performance incentives in integrated behavioral health care. Am J Public Health. 2012;102:e41-45.

Summary: The authors analyzed data from a Washington state-wide Collaborative Care program reaching 7941 patients with depressive symptoms from approximately 100 community health clinics. Quality of Collaborative Care was assessed by whether the care manager contacted the patient within 2 and 4 weeks after initial assessment, whether participants had psychiatric consultation case review, and total number of care manager contacts, with 25% of clinic reimbursement being linked to benchmarks for these metrics. The authors analyzed data before and after pay-for-performance (P4P) was put into place, and found that after P4P was instituted, patients were considerably more likely to experience significant improvement in depression severity, and the time to improvement was significantly reduced, compared to before P4P. The median time patients experienced depression improvement decreased from 64 weeks pre-P4P to 25 weeks post P4P.

Scientific Abstract:
Objectives: We evaluated a quality improvement program with a pay-for-performance (P4P) incentive in a population-focused, integrated care program for safety-net patients in 29 community health clinics.
Methods: We used a quasi-experimental design with 1673 depressed adults before and 6304 adults after the implementation of the P4P program. Survival analyses examined the time to improvement in depression before and after implementation of the P4P program, with adjustments for patient characteristics and clustering by health care organization.
Results: Program participants had high levels of depression, other psychiatric and substance abuse problems, and social adversity. After implementation of the P4P incentive program, participants were more likely to experience timely follow-up, and the time to depression improvement was significantly reduced. The hazard ratio for achieving treatment response was 1.73 (95% confidence interval=1.39, 2.14) after the P4P program implementation compared with pre-program implementation.
Conclusions: Although this quasi-experiment cannot prove that the P4P initiative directly caused improved patient outcomes, our analyses strongly suggest that when key quality indicators are tracked and a substantial portion of payment is tied to such quality indicators, the effectiveness of care for safety-net populations can be substantially improved.

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