Long-term Outcomes of Community Engagement and Planning to Address Depression Outcomes Disparities Patient-centered Outcomes Research Institute

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Table of Contents

Abstract **1**

Background **3**

Alternative Sectors and Community Partners in Care 4

Participation of Patients and Other Stakeholders in the Design and Conduct of Research and Dissemination of Findings **8**

Methods **10**

Overview of Design 10

Main Extension Study Design 11

Main Extension Study Sampling 12

Interventions: Choice of Comparators 15

Main Extension Study Outcomes 18

Data Collection and Sources 20

Analytic and Statistical Approaches: Partnered Analysis 21

Methods for Aim 4 Supplemental Policy Interviews 25

Results **27**

Discussion **52**

Decisional Context 52

Results in Context 54

Implementation of Results 56

Generalizability 57

Subpopulations 57

Limitations 58

Future Research 59

Conclusions **60**

References **62**

Acknowledgments **68**

Related Publications **70**

Appendices **71**

Description of Main Study Design I-71

Estimate of Use of Programs for Depression Services for Programs in Unassigned Intervention (Contamination) and Assigned Intervention During the Main Study (Baseline to 12 Months) II-78
Community Partners in Care Collaborative Care Resources III-80
Community Engagement and Planning IV-86
Qualitative Interview Guides V-87
Client 3-year Qualitative Interviewer Guide V-88
Staff Qualitative Interviews Guide V-95
HNI Stakeholder Interviews Questionnaire V-103
Policy and Funder Stakeholders Interviews Questionnaire V-104
Appendix References VI-105

Abstract

Background: Depression is a leading cause of morbidity with disparities in care. Depression collaborative care—a team-based approach supporting care management, patient activation, and evidence-based treatments—is effective relative to usual care but often unavailable in underresourced communities. Community Partners in Care (CPIC) randomized 95 programs in health care and community-based (eg, social services, faith-based) service sectors in 2 communities, into Resources for Services (RS) for individual program technical assistance versus Community Engagement and Planning (CEP) for multisector coalition support for depression collaborative care. For depressed clients, CEP relative to RS reduced having poor mental health–related quality of life (MHRQL) and behavioral health hospitalization over 6 to 12 months. Longer-term outcomes are unknown.

Aims: This extension study of CPIC aims to do the following:

1. Compare CEP and RS effects at 3-year follow-up 2 years after intervention support, on primary (depression and MHRQL), community-prioritized outcomes of physical health–related quality of life (PHRQL) and behavioral health hospitalization, and outpatient services use (secondary).
2. Compare effects of CEP and RS at 6, 12, and 36 months for CPIC participants enrolled in health care or community-based service sectors.
3. Describe outcome priorities for African American and Latino depressed clients, and as perceived by providers.
4. Describe views of stakeholders planning the Los Angeles County Health Neighborhood Initiative (HNI) informed by CPIC and national stakeholders briefed on CPIC and HNI.

We hypothesized that CEP relative to RS would improve long-term mental and physical health and reduce hospitalization nights, overall and within-sector. We expected stakeholders to prioritize social factors and mental health.

Methods: Extension Study (Aims 1-3): Between January and October 2014, we approached 1004 CPIC clients initially screened as depressed from 89 programs and eligible for 3-year surveys; 600 participated (60%; RS 293, CEP 307). Aim 3: For client qualitative interviews, we approached 163 consecutive 3-year survey participants stratified by depression, race/ethnicity,

gender, and intervention; 104 participated (64%). We notified 289 staff completing 12-month surveys and used purposive follow-up stratified by community, service sector, and intervention, to complete 51 interviews. Aim 4: We interviewed 49 county and community leaders planning HNI and 14 of 34 leaders attending a national briefing.

Data Sources: Self-report surveys (Aims 1 and 2) and semistructured interviews (Aims 3 and 4)

Measures: Client outcomes are poor MHRQL (MCS-12 ≤ 40) and depression (PHQ-8 ≥ 10) (primary); PHRQL (12-item physical composite score, mental wellness, and behavioral health hospitalization nights (community-prioritized); and use of outpatient services (secondary). Clients and providers were asked about priorities for care, and national stakeholders for responses to CPIC findings and related policy initiatives.

Analyses: We conducted 3-year end-status intent-to-treat analyses, with intervention status as the main independent variable, adjusted for baseline status and covariates, with response weights and multiple imputation (Aim 1); subanalyses of intervention effects within service sector at each follow-up (Aim 2); sensitivity analyses (raw data, longitudinal modeling, and sector-by-intervention interactions); and thematic analyses of qualitative data (Aims 3 and 4).

Results: Aim 1: CEP versus RS did not affect 3-year depression or MHRQL, modestly improved PHRQL, reduced behavioral health hospital nights, and increased having any social-community depression service and mood-stabilizer use. Aim 2: CEP versus RS improved some primary and secondary outcomes within health care and community sector clients at 6 or 12 months with no significant sector-by-intervention interactions. Significant 36-month interactions suggested greater increases under CEP than RS in primary care and self-help visits, antidepressant use, and probable appropriate depression treatment, for enrollees from community compared with health care sectors; and in community depression services for enrollees from health care compared with community sectors. Aim 3: Minority clients prioritized physical and mental health, housing, relationships, and employment. Providers prioritized housing, employment, and mental health. Aim 4: HNI leaders emphasized addressing social determinants and mental health; national stakeholders concurred and saw local initiatives informed by CPIC as innovative policy models.

Conclusions: For CEP relative to RS, there were no long-term effects on primary mental health

outcomes, but modest improvements in PHRQL and reduced behavioral health hospital nights, and greater increases in depression services in health care settings for community sector enrollees and in community-based settings for health care sector enrollees. Clients, providers, and national stakeholders prioritized mental health and underlying social factors.

Limitations and Subpopulation Considerations: The study was limited to 2 communities, used self-report measures, and had moderate follow-up (60%). The significance of some findings was sensitive to modeling. The study included a largely minority (African American and Latino) subpopulation of adults screened for depression in underresourced communities.

Background

Depression Impact and Disparities: Depressive symptoms and disorders, among the most common health conditions in general populations and primary care and mental health specialty settings, strongly impact morbidity[1-3] and disability.[4,5] The prevalence of depressive symptoms is similar across cultural groups, but African Americans may have more severe depression.[6] Depression is associated with increased prevalence of chronic conditions and increased health care costs.[7,8] Racial/ethnic minority groups and persons of lower socioeconomic status have less access to evidence-based care and outcomes than majority white populations.[9-12]

Depression Treatment and Collaborative Care: Evidence-based treatments for depressive disorders include structured psychotherapies and antidepressant medications; recent meta-analyses indicate that medications may be less effective in moderate depression than was formerly thought.[13] In reference to disparities, Miranda et al.[14,15] demonstrated that standard treatments are effective for ethnic-minority, socially vulnerable women. Collaborative care for depression in primary care[16] can improve quality of care and mental and physical health outcomes and employment, for general populations and for specific subgroups, such as women, patients with limited English proficiency, and those with diabetes and cancer.[8,17-31] These programs[32-36] use interdisciplinary teams to oversee implementation; care managers to coordinate and provide client education; training and resources to improve availability of evidence-based treatments, including psychotherapy and medication management; and support for system changes. Meta-analyses reinforce the effectiveness of depression

collaborative care and identify care management as key[20,32-37] (RQQ-3). One study showed similar effectiveness of depression collaborative care, relative to usual care, for racial and ethnic minorities and non-Hispanic whites.[38] Partners in Care found that depression collaborative care improved health outcomes more for African Americans and Latino primary care clients than for non-Hispanic whites over a year[39] and at 5 years,[40] with another study showing reduction in disparities in veterans.[41] Despite recommendations for such programs,[10,11,27,42] racial/ethnic disparities persist in depression care access and quality.[4,10,12,43] In terms of promising policy approaches, provider financial incentives may improve depression treatment access and outcomes.[44]

Alternative Sectors and Community Partners in Care

In underresourced communities with limited access to health care services and high stigma surrounding help-seeking, persons often look for support for depression in alternative community-based service sectors,[10,45] such as faith-based programs, social services including family preservation, homeless-serving or prisoner reentry programs, senior centers, exercise clubs, or hair salons. Few data exist on effects of multisector coalition approaches for depression collaborative care across health care and alternative community-based service settings.[46,47] To address this gap, Community Partners in Care (CPIC) used Community Partnered Participatory Research (CPPR)[48,49] to examine the added value of a multisector coalition approach (Community Engagement and Planning, CEP) compared with individual program technical assistance (Resources for Services, RS) for an expanded model of depression collaborative care across health care (ie, primary care, mental health, and addiction specialty) and social-community (eg, homeless-serving, prisoner reentry, family preservation, faith-based, exercise programs, parks and recreation community centers) service sectors in underresourced Los Angeles County (LAC) communities.[45,49-52]

RS offered individual program administrators, providers, and staff with direct client or patient contact technical assistance in reviewing and using toolkits for an expanded model of depression collaborative care, through webinars and site visits to primary care, as well as online and written toolkits (see Appendix Section III). Trainings were offered over 4 months per site, and include trainings for: primary care clinicians, psychiatrists, herapists for clinical assessment

and treatment, and depression care managers (for client education, activation, and care coordination). These roles were expanded to include case managers, health outreach works and community leaders such as faith-based leaders.

CEP invited representatives of programs to form a multisector coalition and to use participatory planning as a network. The goal was to adapt the toolkits to local communities and culture and to collaborate in developing and implementing a training plan over 4 months, followed by implementation monitoring.[53] Study intervention support lasted about a year. Intervention implementation was evaluated in terms of coalition development processes within CEP,[53] program and individual provider participation in trainings, self-reported service activities of primarily nonlicensed case managers, and use of health care and community-based depression services reported by clients in CEP and RS.

Specifically, CEP relative to RS led to more intensive training plans and more participation from program staff,[52] and among case managers (as self-reported), more time spent providing services in the community and greater use of therapeutic practices.[54] At 6-month client follow-up, CEP was more effective than RS in reducing the probability of having poor mental health–related quality of life (MHRQL, 12-item Mental Composite Score [MCS-12] ≤ 40), behavioral health hospitalization and being homeless or having multiple chronic homelessness risk factors; increased physical activity; reduced use of mental health specialty medication visits; and increased use of primary care and community-based (eg, social services, faith-based program) depression services.[49] At 12 months, primary longitudinal analyses demonstrated evidence for reductions in poor MHRQL and behavioral health hospitalizations, but statistical significance levels were sensitive to alternative modeling.[51]

Specifically, in main end-status models, the effect of CEP versus RS on increasing MHRQL was significant at 6 and 12 months; but in longitudinal models, at 6 but not 12 months; and neither time point was significant using a continuous version of MHRQL. For the effect of CEP relative to RS on reducing likelihood of behavioral health hospitalization, in end-status models this effect was statistically significant at 6 but not 12 months; but in longitudinal models, at both 6 and 12 months. These findings nevertheless raise the possibility of longer-term benefits, as observed in Partners in Care, through direct or indirect effects such as

enhancing resiliency factors.[55] A Cochrane Collaborative Review[47] identified CPIC as the main rigorous study of the added value of community coalitions compared with an alternative approach to affect health of minority communities. Further, the broad cross-sector participatory approach of CEP is consistent with national recommendations for approaches to improve equity in chronic disease outcomes.[56,57] Information on long-term outcomes of CEP or RS for depressed clients could further inform providers and systems about how to best achieve improved outcomes in communities at risk for depression outcomes disparities and patient choices about navigating services across different service sectors available in the community.

CPIC and this extension study differ in several ways from most depression collaborative care studies: (1) Depressed clients are drawn from both health care and alternative, community-based service sectors; (2) collaborative care is extended to support services across sectors; (3) 2 different models for supporting evidence-based collaborative care are compared; and (4) the study was designed, implemented, analyzed and disseminated with full partnership of patient, community, system, and policy stakeholders. Given limited data on effects of collaborative care models for depression on clients from non–health care, community-based service sectors, and the potential relevance for community-wide models of services delivery, we prioritized for subpopulation analyses exploring intervention effects among clients initially enrolled within health care versus alternative social-community service sectors.

Policy Impact: Another way that clients or communities could benefit in the long run is through policy change stimulated by CPIC findings, including support for sustaining interventions, which is a common concern.[58] For this reason, through supplemental funding, we tracked stakeholder perspectives on local policy initiatives that were based in part on CPIC findings over the period of the extension study. We primarily focused on the Los Angeles County Health Neighborhood Initiative (HNI) led by the LAC Department of Mental Health and approved by the LAC Board of Supervisors in 2014. HNI was designed to use a coalition approach to improve coordination of services for behavioral health clients across county agencies while addressing locally prioritized social determinants of mental health. In addition, ThriveNYC, a New York City Mayor's Office initiative to transform behavioral health, also cited CPIC findings as evidence. To understand potential implications for policy dissemination, we

hosted a briefing for federal research and policy leaders on CPIC findings, HNI, and ThriveNYC in the Washington, DC, area in January 2016. We used supplemental funds for this extension study and other grant sources to interview stakeholders attending this meeting. In addition, as another example of dissemination potential, we partnered with New Orleans colleagues to implement trainings based largely on CPIC toolkits in Baton Rouge postfloods, through Resilient Baton Rouge.

The following are research questions/aims for this extension study, including through the supplement:

1. What is the comparative effectiveness of Community Engagement and Planning versus Resources for Services for supporting expanded depression collaborative care across health care and community services sectors, on depressed clients' 3-year outcomes? Primary outcomes are depression and MHRQL; community-prioritized outcomes are behavioral health hospitalization nights and physical health–related quality of life (PHRQL); and secondary outcomes are outpatient services use indicators.
2. What is the comparative effectiveness of CEP relative to RS at all study follow-up points (main and extension study) for CPIC participants enrolled in health care and social-community services sectors? Is there evidence of CEP benefit within each sector? Do effects differ by sector at client enrollment?
3. How do depressed African American and Latino clients prioritize health and social outcomes? Do safety-net providers perceive similar client priorities, and what strategies do they use to address them? This identifies future directions for client-centered care.
4. For HNI based partly on CPIC findings, how do planning leaders view initiative priorities, particularly concerning a focus on social determinants of health? Further, how do research and policy stakeholders from a national briefing on CPIC, HNI, and ThriveNYC view the potential of such initiatives?

Research questions 2 and 4 were added through a supplement. Based on main CPIC study findings, we hypothesized that CEP relative to RS could have long-term direct effects on primary (mental health–related quality of life) and community-prioritized (physical health and behavioral health hospitalization nights) outcomes. Although 3-year outcomes are 2 years after

intervention support, we thought outcomes could reflect continuing direct effects and indirect effects through earlier improvement. We thought that there might be long-term effects of increased emphasis on network collaboration in CEP relative to RS on clients' use of services, increasing health care depression services for clients enrolled in community sectors and community sector depression services for clients enrolled in health care sectors. We hypothesized that clients would prioritize quality of life, functional status, and avoiding homelessness and unemployment, but expected agency staff to identify gaps in capacities to meet such priorities. Given the relative novelty of a focus on social determinants of health as part of services for depression, we thought that this focus might be of interest to policy stakeholders, including LAC stakeholders for HNI and national stakeholders.

The approach and findings of this extension study are published elsewhere (Question/ Aim 1 Ong et al., 2017; Question/Aim 2 Sherbourne et al., 2017; Question/Aim 3, Khodyakov et al., in press; Question/Aim 4, Figueroa et al., in press and Kataoka et al., in press).[59-63]

Participation of patients and other stakeholders in the design and conduct of research and dissemination of findings

The study approach is Community-partnered Participatory Research,[48,64,65] a manualized variant of community-based participatory research. In CPPR, an effort is made to engage relevant stakeholders, including patients from health care and community agencies, family members and community members, providers, institutional leaders, and policymakers. Because of the potential for adverse social consequences (eg, employment discrimination, social exclusion/rejection from friends and family) resulting from public self-disclosure of being a depressed patient, stakeholders were permitted to participate within the project as a "community member." The structure includes a council of stakeholders, working groups, and community meetings for broader input. The council identifies potential stakeholders and supports outreach for engagement, encouraging all individuals to express their views and participate in ways that are meaningful to them. Unaffiliated community or patient members receive modest stipends, and agency representatives are supported by their agencies. Over time, individuals are free to participate or not, preserving long-term affiliation. Individuals play various roles, such as advising on measures, participating in analyses, presenting findings, and

coauthorship. Stakeholder engagement is guided by a memorandum of understanding. Differences of opinion are openly discussed, key decisions have a formal vote, and people may agree to disagree. This approach was applied to depression in the Witness for Wellness study (2003-2007), expanded for CPIC (2007-2014), and continued into this extension study. The council includes 40 community partners with an executive committee of 10 to 15, with representation of racial/ethnic minority members, patients, and safety-net providers.

This extension study was formulated by the CPIC Council with community/stakeholder input based on review of findings and stakeholder narratives from the parent study in a community conference. This resulted in stakeholder support for tracking long-term outcomes—prioritizing physical health–related quality of life and reduction in behavioral health hospitalization nights—in addition to primary outcomes of depression and mental health–related quality of life

. Stakeholders also suggested a qualitative study of how patients and providers prioritize health and social outcomes and how systems respond to these priorities.

Subsequent to funding, key leaders from the council and working groups participated in reviewing measures, cotraining survey staff in culturally appropriate interviewing, analysis and interpretation of data, presentations, and dissemination activities

. Stakeholders prioritized goals for supplemental funding, including tracking development of the LAC Health Neighborhood Initiative, identified as a dissemination activity of significance to the community

. Interviews of HNI stakeholders were expanded in 2016 to include federal and state research and policy leaders who attended a January 2016 conference at RAND in Arlington, Virginia, on CPIC findings and implications of the LAC HNI and the New York City ThriveNYC initiative, each based in part on CPIC findings.

In addition, 10 to 15 stakeholders participated as coauthors. Stakeholder participants for community feedback meetings included providers, administrators, and patient representatives from participating practices and programs, and others invited by council agencies and community advertising (more than 140 stakeholders per event). More than 100 academic, community, and patient CPIC leaders won the Association of Clinical and

Translational Science 2014 Team Science Award and 2015 Campus-community Partnerships for Health Annual Award, including stakeholders involved in coleading the extension study. Community and patient stakeholders have given consistent feedback that sharing findings with the community to build capacity to understand and use the findings is very important to the community.

Methods

Overview of Design (Aims 1-4) (RQ-2): This is an extension study for 3-year follow-up to the CPIC cluster-randomized trial of Community Engagement and Planning and Resources for Services for an expanded model of collaborative care for depression across programs from health care and alternative social-community (eg, social services, faith-based) services sectors in 2 underresourced Los Angeles communities. The extension study with a funded supplement includes:

(1) three-year follow-up telephone surveys of clients to compare effectiveness of CEP and RS on long-term outcomes;

(2) sub-analyses of intervention effects on depressed clients initially enrolled in health care or social-community services sectors (supplement);

(3) qualitative interviews of a subsample of CPIC African American and Latino clients from both interventions with improved or persistent depression, on their priorities for addressing health and social outcomes; and of a subsample of provider and program administrators from both interventions on views of their clients' outcome priorities and strategies to address them; and

(4) semistructured interviews of local stakeholders for the LAC HNI; and of national research and policy leaders who attended a briefing conference on CPIC, HNI, and ThriveNYC (supplement).

The design was selected after considering 2 other options: (1) conducting a new study, which could not be completed in 3 years; and (2) limiting the study to quantitative surveys, which would not include qualitative data that help clarify stakeholder perspectives, which is important for conditions such as depression that are subject to social stigma.[66,67]

Remaining design sections are presented separately for the Main Extension Study (Aims 1-3) and Policy Interviews (Aim 4) because they are based on different designs.

Main Extension Study Design (Aims 1-3) (Sampling, Randomization, and Comparators)

The CPIC design is provided in fuller detail in Appendix I-III. We provide a brief overview below.

Sampling of Communities, Programs, Staff, and Clients: We selected by convenience South Los Angeles and Hollywood-Metro Los Angeles as underresourced communities with high representation of lower-income groups and racial and ethnic minorities, particularly Latinos and African Americans. We used county lists and community recommendations to identify services programs viewed by stakeholders as relevant to depression. We included health care programs (mental health specialty, primary care/public health, substance abuse outpatient, residential, and self-help) and alternative community sector programs including social services (ie, prisoner reentry, family preservation, and homeless-serving outpatient and residential) and "community-trusted" programs (ie, faith-based, senior community centers, hair salons, and exercise clubs). We intentionally included programs serving 4 community-prioritized groups (African Americans, substance abuse programs, elderly, homeless). We used a multistep process to recruit eligible programs, which involved using publicly available agency lists and community stakeholder nominations to develop a pool of agencies, outreach to identify potentially eligible and interested agencies, enumeration of programs within eligible agencies and determining potential program eligibility, randomization of potentially eligible program clusters, and determination of final program eligibility.[68]

We identified 60 potentially eligible agencies having 194 programs, of which 133 programs were potentially eligible (serving ≥ 15 clients per week, 1 or more staff, not focused on psychotic disorders or home services), pending final determination postrandomization at site visits. Matched pairs of programs or clusters of programs were randomized within-community using a random number table, 1 to each intervention arm; but a few unique, unmatched programs were individually randomized. At site visits postrandomization, study staff confirmed eligibility and finalized enrollment: 20 programs were ineligible (6 programs were unable to participate because their agencies lost funding, 4 focused only on psychotic disorders, 2 focused only on home services, and 8 had insufficient staff), 18 refused, and 95 from 50

agencies enrolled (46 RS, 49 CEP). We report elsewhere that participating and nonparticipating programs were comparable in population characteristics using census tract data.[49,52,68] We asked enrolled programs to assign an administrator, and invited providers with client contact to enroll in a substudy. Administrators and providers who enrolled in the substudy (ie, "staff") were invited to complete baseline and 12-month written/online surveys.

Within programs, consecutive adult clients or parents accompanying child clients were asked by RAND staff to participate in screening over several days per program, March to November 2010, following a protocol tailored to location and client volume. More than 95% of approached clients agreed to screening, and among those screened, 1322 were eligible based on depression screening (modified, 8-item patient health questionnaire [PHQ-8] score ≥ 10), providing contact information, not being grossly cognitively impaired by staff assessment, and speaking English or Spanish. Of screened clients, 1322 (30%) were eligible, and of these 1246 (94%) enrolled, of whom 79% (N = 981) completed baseline surveys. Of 1093 approached for 6-month surveys, 69% (N = 759) participated; of 974 approached for 12-month surveys, 75% (N = 733) participated. As noted in Chung et al.,[52] we powered the parent study to identify a detectable effect size ranging from .20 to .22 and a percentage point difference between groups ranging from 9.98 to 10.91, assuming 80% power for 2-sided significance testing at 0.05, and intraclass correlation coefficient of .00-.02.[69-71]

Main Extension Study Sampling (Aims 1-3)

Client 3-year Follow-up Surveys (CI-3): Between January 14, 2014, and October 14, 2014, we attempted to contact 1004 participants from 89 programs who were eligible for 3-year surveys; that is, who were enrolled, completed at least 1 prior survey, and neither refused follow-up nor were reported deceased at prior surveys (excluding 1 case identified as a duplicate record). Of these, 600 (60%) participated (RS, N = 293; CEP, N = 307), 24 were deceased (RS, N = 13; CEP, N = 11), 10 refused (RS, N = 7; CEP, N = 3), 3 were ill/incapable (RS, N = 2; CEP, N = 1), and 367 were not reached (RS, N = 181; CEP, N = 186). Mean postbaseline follow-up was 1321 days (Figure 1).

As stated in Ong et al.,[59] we noted in the proposal that the extension study was designed anticipating a sample of 659 for group differences of 11% to 12% in comparing

proportions and standardized effects of .23-.25 for comparing means, to achieve 80% power with alpha of .05 (2-sided) and interclass correlation coefficient of .01-.04.

Client 3-year Qualitative Interviews: Between February and July 2014, we sought to conduct 100 interviews of African American and Latinos representing both interventions and having either persistent depression or being improved, to identify priorities for each group. From a consecutive sample of those completing 3-year surveys, we identified a maximally variant sample of African Americans and Latinos, half improved (PHQ-8 ≤ 10), half with persistent depression (PHQ-8 ≥ 15). Between February and July 2014, we attempted to contact 163 such clients and interviewed 104 (64%); 23 could not be reached, 20 had incorrect contact information, 14 initially agreed but could not be reached subsequently, and 2 refused.

Staff Qualitative Interviews): To achieve a goal of 40 to 50 staff interviews, between October 2014 and February 2015, we reached out by email and telephone to 289 staff completing 12-month administrator or provider surveys, to inform them of 3-year interviews. We conducted purposive follow-up to achieve 51 interviews from health and social-community agencies in both intervention arms and both communities. Interviews focused on perceptions of client needs and strategies to address them. One was not recorded, leaving 50 useable interviews.

Figure 1. CONSORT Diagram for CPIC 3-year Outcome Analysis

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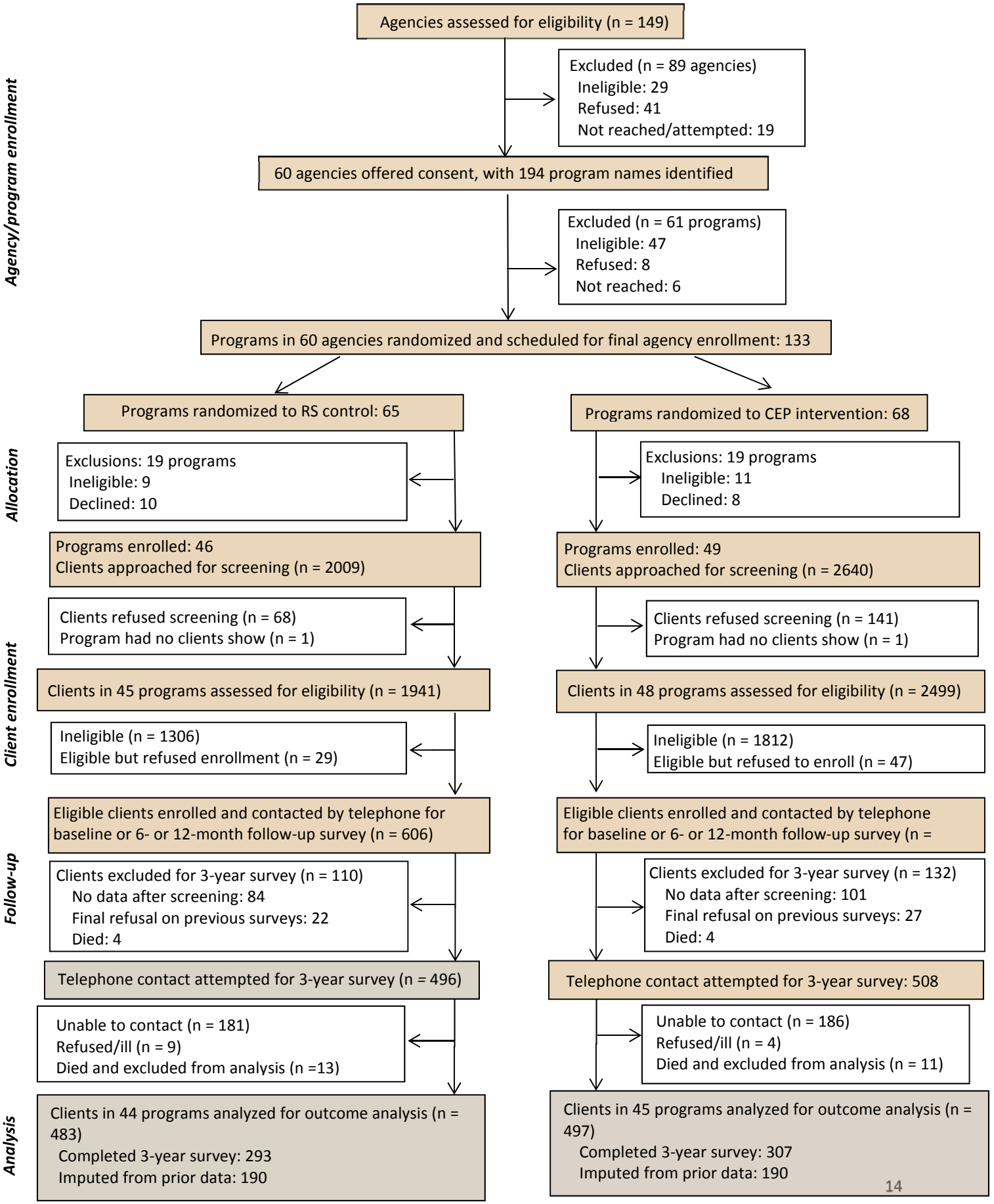

Interventions

Choice of Comparators

The comparison for the main extension study was between a multisector coalition approach versus time-limited, technical assistance to individual programs (RS) for an expanded model of depression collaborative care (CEP). Both use the same evidence-based depression collaborative care toolkits, expanded for case managers and health workers[14,28,30,72,73] (Table 1). Given health care services gaps in underresourced areas, this is a relevant comparison.

RS featured an expert, interdisciplinary team in depression collaborative care that offered programs assigned to this condition the chance to participate in 12 webinars, using a "train-the-trainer" model. Programs could identify a lead expert for each component or invite as many providers as they chose. The webinars covered team-building; assessment and medication management; case management, including screening for and monitoring depression, care coordination, and patient engagement and education; and cognitive behavioral therapy (CBT). In addition, the expert team offered 1 site visit for each primary care program on assessment and medication management. Trainings occurred over a 4-month period per community.

CEP invited administrators for programs assigned to this condition within a given geographic area to attend 2-hour planning CEP council meetings bimonthly for 4 months. Meetings were cochaired by study and community leaders and were designed to support use of the collaborative care toolkits as a network across participating programs. This process included reviewing toolkits, preparing program leaders to be cotrainers for collaborative care components, developing collaboration agreements for referrals or serving clients, reviewing barriers and solutions to collaboration, and developing innovations to enhance fit of toolkits to community culture. Each CEP council was supported by $15 000 from the study for adaptations and payments for unaffiliated community members not paid by agencies. Each CEP council was asked to develop a written plan for training and oversight of implementation. The CEP councils provided trainings based on their plan through full- and half-day conferences, webinars, follow-up supervision for CBT and case management, and site visits to programs to reinforce skills or reach programs not able to attend the main training. Following the initial training period, CEP

coalitions continued to meet bimonthly to quarterly over 6 to 9 months to review progress and support improvements in collaboration.

The toolkits and other intervention features for CEP and RS are summarized in Table 1 and Appendix II. In each intervention, eligible providers could participate in trainings whether or not they enrolled in the provider survey substudy. Providers could use intervention resources for clients regardless of client enrollment in the study. In other words, interventions supported program capacity and tracked outcomes through enrolled clients and providers. The study provided lists of enrolled clients to CEP but not to RS administrators, for safe-keeping in a locked file. In 1 site with programs in both arms, both were given lists. CEP coalitions offered more training and supervision hours relative to RS, and a higher percentage of eligible CEP than RS providers participated in trainings.[52]

TABLE 1. Community Partners in Care Interventions and Training Features by Condition

	Resources for Services (RS)	Community Engagement and Planning (CEP)
Initial model	1) Depression collaborative care toolkit (manuals, slides, medication pocket cards, patient education brochures, and videos) via print, flash drives, and website 2) Trainings via 12 webinars/conference calls to all programs and site visits to primary care 3) Expert trainers: nurse care manager, licensed psychologist cognitive behavioral therapy trainer, 3 board-certified psychiatrists for medication management, experienced community service administrator supporting cultural competence and participation 4) Community engagement specialist for up to 5 outreach calls to encourage participation and fit toolkits to programs 5) Study paid for trainings and materials at $16 333 per community	1) Depression care collaborative care toolkit (manuals, slides, medication pocket cards, patient education brochures, and videos) via print, flash drives, and website 2) Expert trainers: nurse care manager, licensed psychologist cognitive behavioral therapy trainer, 3 board-certified psychiatrists for medication management, experienced community service administrator supporting cultural competence and participation 3) 5 months of 2-hour, biweekly planning meetings for CEP councils to tailor materials and develop and implement a written training and depression service delivery plan for each community, guided by a manual and community engagement model. The goal of the plan was to support increased capacity for depression care through collaboration across myriad community programs. 4) Coleadership by study council following community engagement and social justice principles to encourage collaboration and network building 5) $15 000 per community for consultations and training modifications
Implemented		
Overall	21 webinars and 1 primary care site visit	Multiple 1-day conferences with follow-up trainings at sites; webinar and telephone-based supervision

TABLE 1. Community Partners in Care Interventions and Training Features by Condition

	Resources for Services (RS)	Community Engagement and Planning (CEP)
Cognitive behavioral therapy and clinical assessment	Manuals (individual and group) and 4 webinars offered for licensed physicians, psychologists, social workers, nurses, marriage and family therapists	1) Manuals (individual and group) 2) Tiers of training. For licensed providers plus substance abuse counselors: (a) intensive CBT support included feedback on audiotaped therapy session with 1 to 2 depression cases for 12 to 16 weeks, (b) 10-week webinar group consultation; and for any staff trainee: (c) orientation workshops for concepts and approaches
Case management	Manuals, four webinars, and resources for: depression screening; assessment of comorbid conditions; client education and referral; tracking visits to providers; medication adherence; and outcomes. Introduction to problem solving therapy and behavioral activation for: nurses, case workers, health educators, spiritual advisors, *promotoras* and lay counselors	1) Manuals 2) In-person conferences, individual agency site visits, and telephone supervision for the same range of providers 3) Modifications included a focus on self-care for providers, simplification of materials such as fact sheets, and tracking with shorter outcome measures. Similar range of providers and staff as RS. 3) Training in active listening in 1 community; training of volunteers to expand capacity in 1 community 4) Development of an alternative "resiliency class" approach to support wellness for Village Clinic
Medication and clinical assessment	1) Manuals, medication pocket cards 2) For doctors, nurses, nurse practitioners, physician's assistants; training in medication management and diagnostic assessment; webinar and in-person site visit to primary care	1) Manuals, medication pocket cards 2) Two-tiered approach with training for medication management and clinical assessment coupled with information on complementary/alternative therapies and prayer for depression, through training slides; and second tier of orientation to concepts for lay providers
Administrators/other	Webinar on overview of intervention plan approaches to team building/management and team-building resources	1) Conference break-outs for administrators on team management and building and team-building resources; support for grant-writing for programs 2) Administrative problem-solving to support Village Clinic, including option of delegation of outreach to clients from RAND survey group, identification of programs to support case management, resiliency classes, and CBT for depression
Training events	1. 21 webinars and 1 site visit (22 hours) (combined communities) 2. CBT (8 hours) 3. Care management (8 hours) 4. Medication (1 hours) 5. Implementation support for administrators (5 hours)	6. 144 training events (220.5 total hours) (combined communities) 7. CBT (135 hours) 8. Care management (60 hours) 9. Medication (6 hours) 10. Other skills (19.5 hours)

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Follow-up: The follow-up strategy for each stakeholder group for the extension study is given above. Follow-up is 2 through 2.5 years after the parent study intervention support ended.

Main Extension Study Outcomes

Client Study: Primary outcomes for the parent and extension study were poor mental health–related quality of life,[74] and probable depression PHQ-8 score ≥ 10.[75] For the extension study, we included 2 community-prioritized outcomes, physical functioning (12-item physical composite score, ,[74] and behavioral health hospitalization nights in the prior 6 months. The latter specification differs from the indicator for any behavioral health hospitalization used at prior waves due to low frequency of hospitalization at 3 years. Exploratory outcomes are indicators of outpatient services use: emergency department visits; outpatient primary care visits overall and for depression/mental health services (i.e., client report that a provider talked about depression, depression medication, seeing a specialist, or counseled about depression/emotions); mental health outpatient visits; substance abuse program visits for outpatient, rehabilitation, or self-help services; social service visits for depression (defined as for primary care); behavioral health hotline calls; and days using mental health self-help programs. We measured any outpatient use for depression/mental health in 6 months in a health care sector, social-community sector (eg, social services, faith-based, community center, other community services), or any sector setting. We separately examined faith-based visits for depression/mental health; use of any antidepressant, mood stabilizer, or antipsychotic; and having at least minimally adequate treatment (ie, $\geq$ 2 months of antidepressant use or $\geq$ 4 mental health specialty visits or primary care depression visits in 6 months).[30,49]

All client survey data were self-reported because of low feasibility of accessing health records from many different locations and requiring a comparable measure of depression services across settings that did and did not maintain records of services. In the main study, for each of 7 types of service settings (ie, mental health specialty, substance abuse agencies or self-help, primary care, social service agencies, religious or spiritual programs, parks and recreation community centers, other community settings) for which clients reported use of services for depression/mental health, we asked for up to 4 names and locations of providers or programs

for that type of service. We verified provider/location online or by calling and for community sector programs, to check that the type of service reported was potentially offered. This permitted an estimate of program use in assigned and opposite intervention conditions in the main intervention period (see Appendix II). Due to high respondent burden, we did not collect services location data at 3 years.

Study measures are summarized in Table 2.

TABLE 2. Definition of Key Measures

Primary Outcome	
MCS-12 ≤ 40	SF-12 Mental Health Composite Score, where 40 and below means poor mental health–related quality of life
PHQ-8 ≥ 10	Patient Health Questionnaire, where a score greater than or equal to 10 indicates the presence of depressive symptoms
Community-prioritized and Other Secondary Outcomes	
PCS-12	SF-12 Physical Health Composite Score, where a high score indicates better physical functioning
No. behavioral health hospital nights	Number of nights in the past 6 months respondent stayed in a hospital for any emotional, mental, alcohol, or drug problem
Health Care Sector Use	
No. emergency department or urgent care visits	Number of times during the past 6 months respondent went to a hospital emergency department or an urgent care facility for any health reason
No. visits to a PCP	Number of times during the past 6 months respondent visited a medical provider like a family doctor, general internist, gynecologist, nurse, or physician assistant
No. outpatient primary care services for depression	Number of visits to a medical provider during the past 6 months for depression or mental health*
No. mental health outpatient visits	Number of times during the past 6 months respondent went to any mental health provider, including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors
No. visits to outpatient SA agency or self-help group	Number of times during the past 6 months respondent went to substance abuse agencies or self-help meetings
Social-community Sector	
No. social services for depression	Number of contacts (telephone, office visits, home visits) to a social service agency during the past 6 months for depression or mental health*
No. called hotline for ADM problem	Number of times during the past 6 months respondent called a hotline for problems with emotions, nerves, or mental, alcohol, or drug problems
No. days self-help visit for mental health	Number of days during the past 6 months respondent attended self-help or family support groups for people with emotional or mental health problems (not including AA, CA, or NA)
Any faith-based services for depression	Any visits for depression* to religious or spiritual places during the past 6 months
Medication	
Use of any antidepressant	Use of any antidepressant during the past 6 months
Use of any mood stabilizer	Use of any mood stabilizer during the past 6 months

TABLE 2. Definition of Key Measures

Use of any antipsychotic	Use of any antipsychotic medication during the past 6 months
Summary Utilization	
Any visit in health care sector	Any outpatient visits in the prior 6 months to health care sector (ie, hospital emergency department or an urgent care facility, primary care or public health, mental health, substance abuse)
Any community sector visit for depression	Any outpatient visits for depression services* in the prior 6 months to social-community sector (ie, social services, faith-based, park community centers, hotline calls, and other; not including self-help or family support groups for people with emotional or mental health problems)
Probable appropriate depression treatment	Antidepressant use for at least 2 months or at least 4 outpatient visits to mental health or primary care settings for depression services during the past 6 months

* Visits or contacts for depression or mental health were defined as episodes "where the provider talked to you about depression, stress or emotions in your life or gave you information like a brochure about these problems; suggested that you see a specialist or special program for depression, stress, or emotions in your life; suggested that you take medication for or encouraged you to stay on a treatment plan for depression, stress, or emotions in your life; or spent at least 5 minutes counseling you about depression, stress, or emotions in your life."

Aim 3 Qualitative Interviews

Clients: We asked clients to consider issues they were working on and those they most wanted help with. We asked about specific needs (eg, physical and mental health, housing) from the literature and partner feedback, and for clients to identify their 3 most pressing needs. *Staff*: We asked staff an open-ended question about their clients' concerns, including specific needs using a modified list from client interviews, and to identify clients' 3 most pressing needs. We also asked about strategies used to address those needs and barriers and facilitators encountered. (See Appendix IV for interview guides.)

Data Collection and Sources

Client 3-year Survey: Client telephone surveys were fielded by RAND and contractors with outreach through letters using prior contact information, supplemented by internet searches for updated information). Individuals lost to follow-up were noted as not reached, refused, or reported as deceased by contacted family/friend.

Qualitative Interviews: *Clients*: A consecutive sample of African American and Latino clients completing 3-year surveys was asked permission for follow-up contact using purposive, maximally variant sampling based on gender, depression status, ethnicity, and intervention status, to reach a goal of 100 interviews. *Staff*: CPIC program staff completing 12-month surveys were contacted by study staff for 3-year interviews using initial email and telephone outreach with follow-up purposive outreach for balance by intervention, sector, and community.

Interviews were conducted by trained community and academic partners by telephone, with a goal of 40 to 50 interviews. Participants received gift cards.

Analytic and Statistical Approaches: Partnered Analysis

For all study components (including supplement components discussed below), we convened working groups cochaired by academic and community members to review analysis plans, data output, and findings.

Main Client Survey Analyses

For the parent study and extension study, to represent the eligible population, we created enrollment weights based on propensity weighting adjustment, by fitting logistic regression models to predict enrollment among those eligible. To control for potential response bias (see Appendix I), we used a combination of weighting adjustment[76,77] to address missing data for subjects who did not complete any telephone surveys (ie, nonresponse weighting to address missing data for subjects who completed neither baseline nor any follow-up assessment). For each survey (main and extension study) we used a hot-deck multiple imputation procedure[78] for unit-level (whole survey) missing data among those who had at least 1 data point. For item-level missing data, we used an extended hot-deck multiple imputation based on the predictive mean matching method.[79,80] We imputed 5 data sets, averaged results, and adjusted standard errors for uncertainty due to imputation.[80] All variables in client data sets had missing data < 5% except baseline income and Mini International Neuropsychiatric Interview (MINI) diagnostic variables (10%-15%)..

Analytic sample: The analytic sample for primary analyses included individuals who completed at least 1 survey and were not reported at the follow-up as deceased (with multiple imputation of missing surveys). For 6-month follow-up, the analytic sample was 1018 (excluding 3 deceased and 225 with no baseline or 6-month follow-up); for 12 months, the sample was 1013 (excluding 5 more reported as deceased at 12 months); for 3 years, the sample was 980 (excluding 24 additional deceased, 8 final refusals at 12 months, and removing 1 case identified at 3 years as a duplicate record). For raw data analyses, the actual sample size was 981 for baseline, 759 at 6 months, 733 at 12 months, and 600 at 3 years.

Analyses for Main Extension Study Aim 1-3:

Effect of CEP Versus RS on 3-year Outcomes (Aim 1): Because longitudinal models from baseline to 12 months were previously published,[51] we focus primary analyses on 3-year end-status, permitting use of multiple imputation and response weights to account for attrition. We included longitudinal models as sensitivity analyses (IR-3). We conducted intent-to-treat analyses with intervention status as the main independent variable, using linear regression for continuous, logistic for binary, or Poisson for count variables. Covariates were selected to account for known associations of sociodemographic and clinical status indicators with primary outcome measures.[30] Covariates included age, sex, ≥ 3 chronic general medical conditions from a list of 18, education, race/ethnicity (categorized as any Hispanic, any African American not Hispanic, white/Caucasian only, or other), family income below the federal poverty level, 12-month alcohol abuse or use of illicit drugs, 12-month depressive disorder, baseline status of outcome, and community (stratification variable) (IR-1). Although some methodologists recommend not adjusting for race/ethnicity or socioeconomic status when estimating disparities[81-83] (because these factors are part of the disparity), in this study the entire sample is viewed as underresourced and the disparity focus is on improving outcomes for the entire sample. For this purpose, given some differences across programs, in analyses of intervention effects we retain these and other baseline characteristics as covariates that explain significant variation in outcomes to improve the precision of the analysis as well as support balanced intervention comparisons within the underresourced communities. We also report unadjusted comparisons.[30,69]

We used item- and wave-level imputation for missing data[78-80] to adjust findings to the 3-year eligible sample (1004 eligible minus 24 deceased = 980). We used weighting adjustment to account for nonenrollment[76,77] and attrition (ie, no survey data) (see Appendix I). All analyses used Taylor series linearization with SUDAAN Release 11.0.1 (http://www.rti.org/sudaan/) to estimate variability accounting for clustering within programs, weighting, and multiple imputation. Significance of comparisons was assessed using contrasts among regression coefficients. Results of regression models are presented as between-group differences for linear, odds ratios (ORs) for logistic, and incidence-rate ratios (IRRs) for Poisson with 95% confidence intervals (CI). We illustrated average results adjusted for covariates using

standardized predictions generated from fitted models.[77] We used 2-sided tests with $p <. 05$ for statistical significance. This extension study was designed to achieve a sample of 650 for group differences $\geq$ 11% to 12% in comparing proportions and standardized effects $\geq$ .23 to .25 for comparing means, to achieve 80% power with alpha of .05 (2-sided) and intraclass correlation coefficient equal to .01 to .04.

Given multiple secondary outcomes,[84] we built on the false-discovery-rate (FDR) framework[85] as extended by Yekutieli and Benjamini[86] and used both standard and FDR-adjusted *P* values (pFDR) in interpreting results across a large number of regression analyses.[84-86] Results with pFDR < .05 are viewed as convincing evidence of a difference, and higher pFDR thresholds are considered as suggestive evidence. We separately calculated pFDR for the 2 primary outcomes, the community-prioritized outcomes, service use in the health care sector, service use in the social-community sector, medication use, and summary utilization indicators.

We conducted a longitudinal sensitivity analysis using all waves of data (baseline, 6 months, 12 months, 3 years) without response weights, adjusting for baseline covariates as in the primary analysis. We specified a spline model, with a linear segment between baseline and the first follow-up for initial improvement and another linear segment for the subsequent follow-ups; the 2 linear segments were specified to join at the first follow-up. In analyzing continuously scaled as the dependent variable, we used a 3-level, mixed-effects regression model by using SAS PROC MIXED. To account for the intraclass correlation due to the multilevel structure, we specified random effects at the program level, and a spatial power covariance structure at the client level to account for unequal spacing of waves.[87] Initial explorations of 3-level, random-effects logistic models using SAS PROC GLIMMIX for binary outcomes yielded unstable estimates for program-specific random effects. We utilized a generalized estimating equation framework with logistic regression models for binary outcomes and Poisson models for counts using SAS PROC GENMOD, specifying exchangeable correlation at the program level. From the estimated spline models, we developed a contrast involving a linear combination of coefficients to test intervention effects at each end point (baseline, 6 months, 12 months, and 3 years) and tested differences between intervention groups in change from baseline to 6 months, 12 months, and 3 years.

Heterogeneity (*Effects of CEP versus RS within health care and alternative community-based services sectors and exploration of intervention-by-sector interactions: Aim 2*): For subanalyses, stakeholders prioritized intervention comparisons within health care and within community sector clients, as few studies of depression collaborative care include clients from non–health care community-based sectors. Stakeholders thought it was important to determine if clients in this alternative sector benefited at all time points. Screening sectors, based on setting where participants were enrolled for the study, are defined as "health care" (ie, primary care/public health, mental health specialty, substance abuse outpatient, rehabilitation, or peer-support) or "social-community" (i.e., homeless-serving including food lines, prisoner reentry, family preservation, faith-based, park senior center, hair salon, exercise club, or other). For subanalyses, we estimated intervention effects within sector. We examined intervention-by-sector interaction effects on outcomes and long-term services utilization, and explored stratified findings to confirm whether there is evidence for CEP effects on primary and community-prioritized outcomes at some time point within each sector. We used linear regression for continuous variables, logistic regression for binary variables, and Poisson regression for count variables, adjusted for baseline status of dependent variable and covariates. Given smaller samples for subanalyses, we selected a reduced set of covariates, including baseline status of the dependent variable; age; education; race/ethnicity (any Hispanic, any African American non-Hispanic, and all other races; 2 categories for non-Hispanic white only or other were collapsed into 1); 12-month depressive disorder at baseline; and community. With attrition as a limitation,[47] we present 6- and 12-month and 3-year end status as main analyses, permitting multiple imputation and response weights and unweighted longitudinal trajectory sensitivity analyses. To guide interpretation in the context of multiple comparisons, we used the pFDR method as in Aim 1 analyses.

Client and Staff Priorities; Qualitative Analyses (Aim 3): We calculated percentage of clients and staff who named each client need as among the 3 most pressing. To explore relationships between client needs and depression status, we calculated odds ratios. We used Fisher exact tests to explore differences in health care and community staff listing of clients' top needs. For qualitative analyses of staff interviews, we used interview summaries and verbatim

quotes based on audio recordings, entered into RedCap.[88,89] We used deductive coding to focus on specific questions and inductive approaches[90] across questions. One investigator grouped responses into topics, 2 others reviewed the codebook and results, and 3 jointly discussed and finalized descriptions.[91]

Methods for Aim 4: Supplemental Policy Interviews (LAC HNI Stakeholder and National Conference [CPIC, HNI, ThriveNYC] Attendees)

Design*: LAC HNI Stakeholders*: Between August 2015 and January 2016, views of local LAC stakeholders concerning HNI were obtained to track expectations of and responses to the HNI. Using agency suggestions, 49 leaders representing all 8 LAC service areas were contacted and agreed to be interviewed, including staff of departments of public Health, mental health, and health services (n = 42) and community partners and a nonprofit Medicaid managed-care plan (n = 7). Study staff conducted semistructured interviews in person or by telephone for 1 to 4 leaders, for 25 total individual or group interviews, 60 to 90 minutes each across 49 participants, audio-recorded and transcribed. *National Stakeholders*: We hosted a briefing on CPIC and local policy at RAND in Arlington, Virginia, on January 29, 2016, with participation by federal and nonprofit research, services, and policy agencies. We presented CPIC findings, including preliminary extension study results, alongside invited presentations from leaders of LAC HNI and ThriveNYC. Both of these initiatives cited CPIC findings as evidence for their programs. Between February and March 2016, of 40 attendees invited to participate in postconference interviews, 14 agreed and were interviewed. Participation was voluntary, without financial compensation.

Outcomes: *HNI Interviews:* Local HNI stakeholders were asked about HNI priorities, activities, and potential successes and barriers. Given a focus in HNI on addressing social determinants, we included that focus. *National Stakeholders*: National conference participants were asked impressions of HNI and ThriveNYC as policy initiatives and priorities for integrating social factors into policy and services. (See Appendix IV for interview guides.)

Data Collection and Sources*: HNI interviews:* LAC stakeholders were identified by health agency leaders. Participation requests were made at meetings, by telephone, and by email.

National Stakeholders: All attendees from a RAND Arlington conference were invited to participate by letter and email. Respondents were not paid.

Analyses of Stakeholder Perspectives*: LAC HNI*: We used content and grounded thematic approaches to code data.[92] One investigator marked segments describing interpersonal, environmental, behavioral, and other contextual factors affecting mental health, using frameworks such as the World Health Organization Commission on Social Determinants of Health.[93] Text segments were grouped into categories and unassigned segments discussed with a second coder who reviewed all coding. Discrepancies were discussed, coding finalized, and responses tallied. To examine anticipated impact of partnerships, we used a grounded thematic approach starting with open coding by 1 coder, followed by axial coding to relate concepts to one another by 2 coders. Results were reviewed and discrepancies reconciled. Both coded 18% of the data, achieving a Cohen's kappa coefficient (κ) = .7. Themes were elaborated to capture patterns within coded data.

***National Stakeholders*:** We sought to understand the fit between the theoretical model for a "window of opportunity" for policy change of Kingdon[94] with themes from the qualitative data,[95] using coding by 2 investigators in Dedoose.[96] According to Kingdon,[94,97] a window of opportunity is opened when 3 streams are coupled, in terms of recognition of a need, potential policy solution, and political support. After refining a codebook, each investigator independently coded 25% of the data, achieving κ = .7.

Conduct of the Study (All Aims): The methods described are the final protocol as implemented. The 3-year response rate for clients (60%) was somewhat lower than expected (65%-70%). Many respondents could not be located, given high levels of poverty and homelessness. Outcomes included community-prioritized outcomes defined by a prespecified participatory process. Subanalyses focused on clients of health care and community sectors given stakeholder interest. HNI interviews were extended to national stakeholders. Data collection for the extension study was approved by RAND Institutional Review Board (IRB), coordinated with continued review for main CPIC analyses under funding by National Institute on Minority Health and Health Disparities (NIMHD). The HNI interviews were approved by the University of California, Los Angeles IRB, coordinated with review for the California Behavioral

Health Center of Excellence. Analyses for the supplement to the extension study represent work cofunded by the extension study (PCORI), NIMHD (main CPIC study analyses), and California Behavioral Health Center of Excellence (HNI evaluation).

Results: (All Aims)

3-year Client Outcomes Extension Study

Baseline Characteristics: For the overall sample, clients had similar characteristics across interventions. The majority were of racial and ethnic minority background with family incomes lower than the US federal poverty level, had 12-month depressive disorder, and had multiple chronic medical conditions (see Table 3). Table 3 uses imputed variables and a single, 4-category race/ethnicity variable. Full race and ethnicity defined by the US Census Bureau among the enrolled sample is reported in Appendix Table A1.

Aim 1: Compare Effects of CEP and RS on 3-year Outcomes: Descriptive Results for Primary Outcomes (Raw data): Over time, using raw data (Table 4), there is a trend toward improvement from baseline through 3 years in both intervention conditions: having depression and having poor mental health–related quality of life. However, there is a substantial percentage at each follow-up meeting criteria for depression (at least 60%) or poor mental health–related quality of life (at least 38%). Main Comparative Analyses: For the overall sample, there were no significant effects of CEP versus RS on poor MHRQL (MCS-12 ≤ 40) or probable depression defined as PHQ-8 ≥ 10 (primary outcomes, Table 5).

For the community-prioritized outcomes, there were statistically significant, modest effects of CEP versus RS on improving PHRQL (12-item physical composite score, range from 0 to 100; difference in scores = 1.2; 95% CI, .2-2.2; p = .022) and reducing behavioral health hospital nights (IRR = .2; 95% CI, .1-.8; p = .02); the differences remained significant with a pFDR < .05. For other utilization outcomes, CEP participants were significantly more likely than RS participants to use faith-based depression services (p = .006; pFDR = .023), any community depression service (p = .042; pFDR = .127 suggestive), or mood stabilizers (p = .049; pFDR = .147 suggestive); but no significant differences were found by intervention status for other utilization outcomes (Table 5). In sensitivity analyses with longitudinal models, we found that

intervention effects on end status (3 years) were significant at $p < .05$ for PHRQL, behavioral health hospital nights, use of any faith-based services for depression, and use of mood stabilizers; but intervention effects in longitudinal models with change from baseline to 3 years were either borderline significant ($p = .052$ for hospital nights) or not significant (Table 6).

TABLE 3. Baseline Characteristics of Participants in Community Partners in Care (N = 980) in 3-year Outcomes Analysis, by Intervention Group[a]

Characteristic	Overall (N = 980)	RS (N = 483)	CEP (N = 497)
	n (%)	n (%)	n (%)
Female sex	581 (57.9)	279 (55.9)	302 (59.7)
Race/ethnicity category			
Latino (any)	396 (41.2)	185 (38.7)	211 (43.7)
African American (any, not Latino)	469 (46.0)	230 (47.2)	239 (44.9)
Non-Hispanic white (only)	81 (9.0)	42 (9.3)	39 (8.7)
Other (not Latino, not African American)	34 (3.7)	26 (4.8)	8 (2.7)
Married or living with partner	223 (22.7)	110 (22.4)	113 (23.0)
Less than high school education	430 (43.8)	213 (43.9)	217 (43.7)
Income lower than poverty level	723 (73.8)	356 (74.1)	367 (73.5)
Any work for pay at present time	203 (20.5)	103 (21.1)	100 (20.0)
Homeless or ≥ 2 risk factors for homelessness[b]	514 (53.6)	270 (57.7)	244 (49.7)
No health insurance	525 (54.1)	273 (57.0)	252 (51.3)
≥ 3 chronic general medical conditions from list of 18	521 (54.0)	255 (53.6)	266 (54.4)
12-month depressive disorder[c]	605 (61.8)	297 (62.1)	308 (61.5)
Alcohol abuse or use of illicit drugs 12 months	383 (39.4)	172 (36.3)	210 (42.2)
Mental wellness[d]	392 (39.7)	190 (39.0)	201 (40.4)
Poor mental health quality of life[e]	530 (53.8)	264 (54.7)	267 (52.9)
	Mean (M) ± standard deviation (SD)	M ± SD	M ± SD
Age, years	45.4 ± 12.8	44.6 ± 12.4	46.2 ± 13.1
Patient Health Questionnaire 8-item score (PHQ-8)[f]	15.0 ± 4.1	15.1 ± 4.1	14.9 ± 4.1
SF-12 mental score[g]	39.2 ± 7.3	39.1 ± 7.5	39.3 ± 7.2
SF-12 physical score[h]	39.4 ± 7.2	39.4 ± 7.6	39.5 ± 6.8

TABLE 3. Baseline Characteristics of Participants in Community Partners in Care (N = 980) in 3-year Outcomes Analysis, by Intervention Group[a]

[a]RS = Resources for Services or individual program technical assistance; CEP = Community Engagement and Planning; CPIC 3 years data were multiply imputed (N = 980); chi-square test was used for comparing 2 groups accounting for the design effect of the cluster randomization; $p > .10$ for all comparisons.
[b]Homeless or living in a shelter, or at least 2 risk factors of 4 (at least 2 nights homeless, food insecurity, eviction, financial crisis).
[c] As measured by the Mini International Neuropsychiatric Interview.
[d] At least good bit of time on any of 3 items: feeling peaceful or calm, being a happy person, having energy.
[e] 12-item Mental Composite Score ≤ 40 (1 SD below the population mean).
[f] PHQ-8 = 8-item Personal Health Questionnaire Depression Scale; possible scores range from 0 to 24 with higher scores indicating more distress.
[g] SF-12 mental score = 12-item Mental Composite Score; possible scores range from 0 to 100 with higher scores indicating better mental health.
[h] SF-12 physical score = 12-item Physical Composite Score; possible scores range from 0 to 100 with higher scores indicating better physical health.
From Ong et al. Psychiatric Services 68(12), 1262-1270. Reprinted with permission from Psychiatric Services (Copyright ©2017). American Psychiatric Association. All Rights Reserved. Two variables, "mental wellness" and "poor mental health quality of life' were added for this report.

TABLE 4. Unadjusted Percentage (Raw Data) of Participants With MHRQL or Probable Depression at Each Follow-up, by Intervention Status[a]

	Overall				Social-community Screening Sector				Health Care Screening Sector			
Primary outcomes	At Specific Time,[b] %		Reduction From Baseline,[c] %		At Specific Time,[b] %		Reduction From Baseline,[c] %		At Specific Time,[b] %		Reduction From Baseline,[c] %	
	RS	CEP	RS	CEP	RS	CEP	RS	CEP	RS	CEP	RS	CEP
MCS-12 ≤ 40												
Baseline	53.6	53.7			54.5	45.1			53.3	57.3		
6 mo.	52.2	44.1	–1.4	–9.6	49.2	44.1	–5.3	–1.0	53.6	44.2	0.3	–13.1
12 mo.	50.8	44.3	–2.8	–9.4	53.0	36.2	–1.5	–8.9	49.8	48.2	–3.5	–9.1
36 mo.	41.3	43.7	–12.3	–10.0	38.7	38.8	–15.8	–6.3	42.6	46.0	–10.7	–11.3
PHQ-8 ≥ 10												
Baseline[d]	97.4	98.0			98.0	98.0			97.2	98.1		
6 mo.	67.0	62.0	–30.4	–36.0	65.8	61.9	–32.2	–36.1	67.6	62.1	–29.6	–36.0
12 mo.	63.5	61.0	–33.9	–37.0	60.2	56.7	–37.8	–41.3	65.2	63.2	–32.0	–34.9
36 mo.	66.6	66.3	–30.8	–31.7	66.0	59.2	–32.0	–38.8	66.8	69.8	–30.4	–28.3

[a]RS = Resources for Services or individual program technical assistance; CEP = Community Engagement and Planning.
[b]Percentages were calculated from available raw data.
[c]Difference was calculated by subtracting the percentage at a specific follow-up time from the percentage at the baseline.
[d]Study eligibility was based on a score of ≥ 10 on modified 8-item PHQ including the original and an alternative version of 1 item with and without the word "depression"; of total enrolled, > 97% met criteria for inclusion based on the standard PHQ-8 score.

TABLE 5. Comparison of Outcomes and Service Use at 3-year Follow-up by Intervention Group[a]

	Unadjusted Estimates[b]		Adjusted Analysis[c]				
	RS	CEP	RS	CEP	CEP Versus RS		
	n/N (%)	n/N (%)	Est. (95% CI)	Est. (95% CI)	OR (95% CI)	*p*	pFDR[d]
Primary Outcomes							
MCS-12 ≤ 40[e]	119/288 (41.3)	131/300 (43.7)	39.4 (32.0-47.4)	45 (36.2-54.2)	1.3 (0.7-2.3)	.381	.762
PHQ-8 ≥ 10[f]	195/293 (66.6)	201/303 (66.3)	65.8 (58.6-72.3)	66 (60.1-71.5)	1.0 (0.6-1.7)	.965	.965
Secondary Outcomes							
	M ± SD	M ± SD	Est. (95% CI)	Est. (95% CI)	Difference (95% CI)	*p*	pFDR[d]
PCS-12[g,h]	38.5 ± 7.2	39.6 ± 7.2	38.7 (37.9-39.5)	39.9 (39.2-40.6)	1.2 (0.2-2.2)	.022	.022
	M ± SD	M ± SD	Est. (95% CI)	Est. (95% CI)	IRR[i] 95% CI	*p*	pFDR[d]
No. behavioral health hospital nights[g]	1.1 ± 11.4	0.2 ± 1.1	1.2 (0.3-4.6)	0.2 (0.1-0.4)	0.2 (0.1-0.8)	.020	.022
Health care sector use							
No. emergency department or urgent care visits	1.7 ± 7.7	1.4 ± 7.7	1.5 (1.0-2.2)	1.9 (0.7-4.9)	1.2 (0.4-3.7)	.675	.987
No. visits to a PCP	4.3 ± 9.4	3.9 ± 6.4	3.9 (2.7-5.4)	4.1 (3.5-4.9)	1.1 (0.8-1.5)	.661	.987
No. outpatient primary care services for depression	1.2 ± 5.3	1.0 ± 1.8	1.1 (0.6-2.1)	1.1 (0.8-1.5)	1.0 (0.5-2.1)	.987	.987
No. mental health outpatient visits	5.4 ± 13.3	5.0 ± 13.8	5.5 (3.7-8.0)	5.6 (3.2-9.8)	1.0 (0.7-1.6)	.931	.987
No. visits to outpatient SA agency or self-help group	8.6 ± 29.8	10.2 ± 32.4	11.1 (4.7-24.5)	12.3 (5.6-25.8)	1.1 (0.3-4.0)	.826	.987
Social-community Sector							
No. social services for depression	0.6 ± 3.2	0.6 ± 1.5	0.6 (0.3-1.2)	0.6 (0.4-0.9)	1.1 (0.4-2.7)	.838	.838
No. called hotline for ADM problem	0.2 ± 2.8	0.2 ± 1.1	0.2 (0.1-0.6)	0.3 (0.1-1.1)	1.4 (0.2-8.6)	.732	.838
No. days self-help visit for mental health	6.6 ± 18.5	5.8 ± 15.4	6.3 (4.1-9.6)	5.6 (3.4-9.1)	0.9 (0.4-1.8)	.708	.838
	n/N (%)	n/N (%)	Est. (95% CI)	Est. (95% CI)	OR (95% CI)	p	pFDR[d]
Any faith-based services for depression	29/292 (9.9)	43/305 (14.1)	9.4 (6.5-13.2)	15.2 (10.3-21.7)	1.8 (1.2-2.6)	.006	.023
Medication							
Any antidepressant	91/293 (31.1)	88/307 (28.7)	28.7 (22.5-35.9)	26.9 (19.8-35.4)	0.9 (0.5-1.5)	.688	.688
Any mood stabilizer	8/293 (2.7)	20/307 (6.5)	2.5 (1.1-5.6)	6.4 (3.1-12.3)	2.9 (1.0-8.3)	.049	.147
Any antipsychotic	65/293 (22.2)	74/307 (24.1)	21.7 (16.1-28.7)	23.4 (17.1-30.9)	1.1 (0.7-1.7)	.638	.688
Summary utilization							
Any visit in health care sector	255/293 (87)	258/304 (84.9)	84.2 (78.0-88.9)	84.3 (75.8-90.4)	1.0 (0.5-2.0)	.959	.959
Any community sector visit for depression	82/290 (28.3)	105/302 (34.8)	28.3 (23.9-33.2)	35.6 (30.1-41.5)	1.4 (1.0-2.0)	.042	.127
Probable appropriate depression treatment[j]	134/293 (45.7)	137/305 (44.9)	43.2 (36.1-50.5)	43.5 (33.9-53.6)	1.0 (0.6-1.7)	.947	.959

[a]RS = Resources for Services (technical assistance to individual programs); CEP = Community Engagement and Planning.

[b]Raw data without weighting or imputation (N = 600).

[c]Adjusted analyses used multiply imputed data at 3 years (N = 980), weighted for the sample eligible for enrollment. Linear regression model for PCS-12 (presented as between-group difference), logistic regression models for binary variables (presented as ORs), and Poisson regression models for count variables (presented as IRRs), adjusted for baseline status of the dependent variable, age, sex, 3 or more chronic conditions, education, race/ethnicity, family income below the poverty level, 12-month alcohol abuse or use of illicit drugs, 12-month depressive disorder, and community; models accounted for the design effect of the cluster randomization.
[d]pFDR, adjusted *P* value from the false discovery rate procedure; calculated separately for primary outcomes, secondary outcomes, services use from health care sector, social and community sector, medication, and summary utilization.
[e]A mental composite score (MCS-12 ≤ 40) indicates poor mental health–related quality of life.
[f]A score ≥ 10 on the Patient Health Questionnaire (PHQ-8) indicates the presence of depression symptoms.
[g]Community-prioritized outcome developed under a community input process.
[h]Possible scores on the 12-item physical composite score (PCS) range from 0 to 100, with higher scores indicating better physical health.
[i]Incidence-rate ratio.
[j]Antidepressant use for at least 2 months or at least 4 outpatient visits to mental health or primary care setting for depression services.

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TABLE 6. Longitudinal Analyses for Alternative Modeling of Intervention Effects on Outcomes and Service Use[a,b]

	CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline		
Primary Outcomes	OR (95% CI)	*p*	pFDR[c]	OR (95% CI)	*p*	pFDR[c]
MCS-12 ≤ 40						
Baseline	0.98 (0.77-1.25)	.88	.88			
6 mo.	0.69 (0.55-0.87)	.002	.005	0.7 (0.51-0.97)	.035	.069
12 mo.	0.89 (0.73-1.09)	.249	.387	0.91 (0.68-1.22)	.53	.63
36 mo.	1.15 (0.78-1.71)	.442	.884	1.18 (0.76-1.83)	.454	.834
PHQ-8 ≥ 10						
Baseline	1.11 (0.47-2.62)	.816	.88			
6 mo.	0.78 (0.52-1.17)	.209	.209	0.7 (0.27-1.85)	.477	.477
12 mo.	0.89 (0.66-1.18)	.387	.387	0.8 (0.32-1.99)	.63	.63
36 mo.	1.00 (0.72-1.41)	.977	.977	0.91 (0.37-2.25)	.834	.834
Community-prioritized and Other Secondary Outcomes	Group Difference (95% CI)	*p*	pFDR[c]	Group Difference in Change From Baseline (95% CI)	*p*	pFDR[c]
PCS-12						
Baseline	0.36 (–0.59-1.3)	.456	.66			
6 mo.	0.55 (–0.41-1.52)	.259	.519	0.19 (–0.98-1.37)	.743	.743
12 mo.	0.85 (0.15-1.54)	.017	.034	0.49 (–0.54-1.52)	.351	.351
36 mo.	1.14 (0.23-2.05)	.015	.022	0.78 (–0.47-2.03)	.218	.218
No. Behavioral Health Hospital Nights	IRR (95% CI)	*p*	pFDR[c]	IRR (95% CI)	*p*	pFDR[c]
Baseline	0.86 (0.43-1.72)	.66	.66			
6 mo.	1.39 (0.49-3.95)	.538	.538	1.62 (0.48-5.53)	.438	.743
12 mo.	0.53 (0.23-1.2)	.124	.124	0.61 (0.23-1.68)	.341	.351
36 mo.	0.2 (0.05-0.79)	.022	.022	0.23 (0.05-1.02)	.052	.105
Health care sector use						

TABLE 6. Longitudinal Analyses for Alternative Modeling of Intervention Effects on Outcomes and Service Use[a,b]

	CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline		
No. emergency department or urgent care visits						
Baseline	1.0 (0.77-1.28)	.976	.976			
6 mo.	0.67 (0.35-1.29)	.196	.327	0.67 (0.34-1.32)	.227	.566
12 mo.	0.87 (0.58-1.31)	.488	.742	0.87 (0.57-1.34)	.528	.972
36 mo.	1.13 (0.39-3.31)	.807	.978	1.13 (0.39-3.31)	.8	.896
No. visits to a PCP						
Baseline	1.01 (0.82-1.25)	.9	.976			
6 mo.	0.95 (0.71-1.26)	.701	.701	0.94 (0.7-1.26)	.649	.809
12 mo.	1.01 (0.82-1.25)	.932	.932	1 (0.77-1.28)	.972	.972
36 mo.	1.07 (0.73-1.58)	.701	.978	1.06 (0.69-1.62)	.778	.896
No. outpatient primary care services for depression						
Baseline	1.05 (0.76-1.44)	.769	.976			
6 mo.	1.28 (0.88-1.86)	.19	.327	1.22 (0.76-1.97)	.406	.677
12 mo.	1.12 (0.71-1.78)	.594	.742	1.07 (0.61-1.88)	.796	.972
36 mo.	0.99 (0.41-2.39)	.978	.978	0.94 (0.37-2.43)	.893	.896
No. mental health outpatient visits						
Baseline	0.94 (0.65-1.36)	.755	.976			
6 mo.	0.69 (0.4-1.19)	.166	.327	0.73 (0.44-1.2)	.195	.566
12 mo.	0.82 (0.56-1.21)	.308	.742	0.87 (0.59-1.29)	.485	.972
36 mo.	0.98 (0.62-1.54)	.937	.978	1.04 (0.62-1.76)	.88	.896
No. visits to outpatient SA agency or self-help group						
Baseline	0.83 (0.53-1.31)	.429	.976			
6 mo.	0.88 (0.5-1.55)	.648	.701	1.05 (0.67-1.66)	.809	.809
12 mo.	0.88 (0.55-1.41)	.592	.742	1.06 (0.72-1.55)	.771	.972
36 mo.	0.88 (0.33-2.37)	.784	.978	1.06 (0.4-2.78)	.896	.896
Social-community sector						
No. social services for depression						
Baseline	1.4 (0.67-2.96)	.371	.741			
6 mo.	0.82 (0.29-2.31)	.702	.702	0.58 (0.18-1.84)	.355	.818
12 mo.	1.02 (0.48-2.15)	.962	.962	0.72 (0.31-1.71)	.46	.842
36 mo.	1.27 (0.45-3.58)	.623	.741	0.9 (0.31-2.6)	.844	.934
No. called a hotline for ADM problem						
Baseline	2.81 (1.28-6.15)	.01	.04			
6 mo.	3.79 (0.77-18.66)	.098	.39	1.35 (0.28-6.52)	.702	.818
12 mo.	2.37 (0.64-8.69)	.178	.636	0.84 (0.24-2.92)	.779	.842
36 mo.	1.48 (0.29-7.61)	.631	.741	0.53 (0.11-2.59)	.421	.842
No. days self-help visit for mental health						
Baseline	0.93 (0.48-1.8)	.82	.82			
6 mo.	0.84 (0.44-1.62)	.602	.702	0.91 (0.41-2.02)	.818	.818
12 mo.	0.87 (0.54-1.4)	.563	.751	0.94 (0.52-1.7)	.842	.842
36 mo.	0.9 (0.47-1.73)	.741	.741	0.97 (0.5-1.9)	.934	.934
	OR (95% CI)	*p*	pFDR[c]	OR (95% CI)	*p*	pFDR[c]
Any faith-based services for depression						
Baseline	1.08 (0.75-1.55)	.669	.82			
6 mo.	0.9 (0.56-1.44)	.653	.702	0.83 (0.49-1.42)	.495	.818

TABLE 6. Longitudinal Analyses for Alternative Modeling of Intervention Effects on Outcomes and Service Use[a,b]

	CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline		
12 mo.	1.18 (0.84-1.66)	.318	.636	1.09 (0.72-1.66)	.669	.842
36 mo.	1.56 (1.04-2.32)	.031	.123	1.44 (0.9-2.29)	.124	.494
Medication						
Use of any antidepressant						
Baseline	1.19 (0.8-1.79)	.388	.508			
6 mo.	0.82 (0.46-1.47)	.485	.894	0.69 (0.4-1.18)	.152	.455
12 mo.	0.9 (0.63-1.28)	.544	.802	0.75 (0.56-1.01)	.057	.172
36 mo.	0.97 (0.63-1.51)	.898	.898	0.81 (0.54-1.23)	.326	.49
Use of any mood stabilizer						
Baseline	1.39 (0.82-2.36)	.224	.508			
6 mo.	1.18 (0.63-2.19)	.596	.894	0.85 (0.43-1.68)	.612	.612
12 mo.	1.63 (1-2.65)	.051	.154	1.17 (0.66-2.06)	.568	.568
36 mo.	2.25 (1.21-4.19)	.012	.036	1.62 (0.81-3.23)	.163	.49
Use of any antipsychotic						
Baseline	1.19 (0.71-1.99)	.508	.508			
6 mo.	1.01 (0.59-1.73)	.961	.961	0.85 (0.55-1.32)	.455	.612
12 mo.	1.05 (0.7-1.6)	.802	.802	0.89 (0.61-1.28)	.52	.568
36 mo.	1.1 (0.7-1.73)	.689	.898	0.92 (0.57-1.48)	.74	.74
Summary						
Any visit in health care sector						
Baseline	1.13 (0.63-2.02)	.675	.711			
6 mo.	1.11 (0.68-1.81)	.666	.839	0.98 (0.59-1.65)	.945	.945
12 mo.	1.15 (0.8-1.64)	.457	.684	1.01 (0.65-1.59)	.956	.956
36 mo.	1.18 (0.69-2.02)	.525	.787	1.04 (0.56-1.95)	.892	.892
Any community sector visit for depression						
Baseline	1.06 (0.77-1.46)	.711	.711			
6 mo.	1.04 (0.72-1.48)	.839	.839	0.98 (0.65-1.46)	.906	.945
12 mo.	1.16 (0.91-1.47)	.216	.647	1.09 (0.8-1.5)	.578	.867
36 mo.	1.3 (0.93-1.81)	.117	.352	1.22 (0.82-1.82)	.317	.836
Probable appropriate depression treatment						
Baseline	1.21 (0.8-1.83)	.373	.711			
6 mo.	1.08 (0.65-1.78)	.759	.839	0.89 (0.56-1.43)	.604	.945
12 mo.	1.07 (0.78-1.46)	.684	.684	0.88 (0.65-1.2)	.427	.867
36 mo.	1.06 (0.71-1.58)	.789	.789	0.87 (0.56-1.38)	.557	.836

[a]RS = Resources for Services or individual program technical assistance; CEP = Community Engagement and Planning; see Table 2 for variable definitions.

[b]A longitudinal analysis using all waves of data (baseline, 6 months, 12 months, 3 years) multiply imputed (N = 1018) adjusted the same set of baseline covariates as in the main analysis in Table 5; see analysis section for model specification.

[c]pFDR, adjusted *P* value from the false discovery rate procedure, calculated separately for services use from health care sector, services use from social-community sector, medication, and summary utilization.

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Aim 2: Subanalyses at all follow-up waves (main and extension study) of CEP versus RS effects within health care and community-based services sectors

Of the enrolled sample that took at least 1 survey, 715 were screened in health care sectors and 303 in social-community sectors. Baseline factors did not differ significantly by intervention status within screening sector, except in the social-community sector, where CEP clients were on average 6 years older than RS clients (p = .03) (Table 7). Intervention-by-sector interactions were not significant for primary and community-prioritized outcomes at any follow-up, except for behavioral hospitalization nights at 6 months, with significantly greater reductions under CEP compared with RS among community versus health care clients (community sector: IRR = .3; CI, .1-1.0; p = .04; pFDR = .089 suggestive; health care sector: IRR = 1.5; CI, .4-5.3; p = .497; pDFR = .497; interaction: p = .048, pFDR = .193 suggestive) (Table 8).

TABLE 7. Baseline Characteristics of Depressed Clients (N = 1018), by Intervention Arm and Screening Services Sector[a]

	Social-community Screening Sector			Health Care Screening Sector		
	Overall (N = 303)	**RS (N = 149)**	**CEP (N = 154)**	**Overall (N = 715)**	**RS (N = 355)**	**CEP (N = 360)**
Characteristic	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Female sex	199 (65.1)	94 (61.7)	105 (68.2)	396 (53.5)	192 (51.9)	204 (55.1)
Race/ethnicity category						
Latino (any)	99 (33.1)	41 (28.2)	58 (37.6)	310 (44.4)	153 (43.4)	157 (45.5)
African American (any, not Latino)	154 (48.0)	82 (53.3)	72 (43.1)	334 (45.1)	157 (44.2)	177 (45.9)
Non-Hispanic white (only)	40 (14.6)	20 (14.9)	20 (14.3)	46 (6.9)	25 (7.4)	21 (6.4)
Other (not Latino or African American)	10 (4.3)	6 (3.6)	4 (5.0)	25 (3.6)	20 (5.0)	5 (2.2)
Married or living with partner	60 (19.4)	30 (20.3)	30 (18.7)	171 (24.0)	86 (23.6)	85 (24.3)
Less than high school education	107 (35.1)	53 (35.6)	54 (34.6)	338 (47.3)	168 (47.2)	170 (47.4)
Income lower than poverty level	214 (70.7)	111 (75.0)	103 (66.8)	536 (75.0)	262 (74.2)	274 (75.8)
Any work for pay at present time	78 (24.9)	36 (23.8)	42 (25.9)	127 (17.8)	69 (19.2)	58 (16.5)
Homeless or ≥ 2 risk factors for homelessness	161 (53.8)	94 (64.5)	67 (43.9)	377 (54.3)	189 (55.2)	188 (53.3)
No health insurance	145 (47.7)	77 (51.3)	68 (44.3)	400 (56.9)	209 (59.9)	191 (54.1)
≥ 3 chronic general medical conditions from list of 18	177 (58.6)	84 (56.6)	93 (60.5)	371 (53.1)	186 (53.4)	185 (52.7)
12-month depressive disorder	174 (58.0)	86 (59.1)	87 (56.9)	456 (63.6)	225 (63.8)	231 (63.5)
Alcohol abuse or use of illicit drugs 12 months	80 (27.4)	38 (26.5)	43 (28.3)	318 (44.5)	142 (40.6)	175 (48.3)
Mental wellness	125 (40.7)	61 (39.9)	65 (41.4)	282 (39.2)	139 (38.9)	143 (39.5)
Poor mental health quality of life	150 (49.6)	81 (54.9)	70 (44.8)	395 (54.8)	190 (53.3)	205 (56.2)
	M ± SD	M ± SD	M ± SD	M ± SD	M ± SD	M ± SD
Age, years	49.6 ± 13.5	46.1 ± 12.8	52.8 ± 13.4	44.1 ± 12.2	44.4 ± 12.2	43.8 ± 12.2
Patient Health Questionnaire 8-item score	14.7 ± 4.2	14.9 ± 4.2	14.5 ± 4.2	15.1 ± 4.1	15.1 ± 4.1	15.0 ± 4.0
SF-12 mental score	39.6 ± 7.1	38.9 ± 7.5	40.3 ± 6.6	39.1 ± 7.4	39.2 ± 7.4	38.9 ± 7.5
SF-12 physical score	39.2 ± 7.2	39.3 ± 7.5	39.0 ± 6.8	39.5 ± 7.2	39.3 ± 7.5	39.6 ± 6.9

TABLE 7. Baseline Characteristics of Depressed Clients (N = 1018), by Intervention Arm and Screening Services Sector[a]

[a] RS = Resources for Services or individual program technical assistance; CEP = Community Engagement and Planning; see Table 2 for variable definitions; data were multiply imputed (participants who completed 1 or more surveys, N = 1018); chi-square test was used for comparing 2 groups accounting for the design effect of the cluster randomization; $p > .10$ for all comparisons except for age within social-community screening sector, for which $p = .03$.

We explored patterns of intervention differences within each screening service sector for client enrollment to inform future research. There was support in each sector for favorable effects at some time point for CEP relative to RS on 1 primary and 1 or more community-prioritized outcomes. No outcomes favored RS. For primary outcomes, CEP compared with RS was associated with a lower likelihood of poor MHRQL at 6 months for health care clients (OR = .7; 95% CI, .5-.9; $p = .015$; pFDR = .03) and at 12 months for social-community clients (OR = .6; CI, .3-1.0; $p = .045$; pFDR = .089 suggestive). For community-prioritized outcomes, among health care clients, CEP compared with RS was associated with a higher likelihood of mental wellness at 6 months (OR = 1.9; CI, 1.0-3.3; $p = .039$; pFDR = .157 suggestive) and greater PHRQL at 36 months (between-group difference = 1.6; CI, .2-3.0; $p = .025$; pFDR = .101 suggestive); and CEP compared with RS was associated with lower likelihood of homelessness risk at 6 months among social-community sector clients (OR = .4; CI, .2-.9; $p = .018$; pFDR = .071 suggestive).

For services use, there were few significant interactions or within screening sector intervention effects at 6 or 12 months during the main study period (Table 8). Among health care clients, CEP compared with RS reduced use of mental health specialty medication visits at 6 months (IRR = .4; CI, .2-.6; $p < .001$; pFDR = .001) and probability of antidepressants use at 12 months, without significant interaction tests.

For 3-year follow-up, interaction tests were significant for all but 3 service variables (emergency department, mental health outpatient counseling, and medication visits). Specifically, significant 36-month interaction tests suggested greater increases under CEP than RS for client participants initially enrolled in community (rather than health care) programs; in primary care visits; days with mental health self-help or family support group visits, and use of antidepressants; antipsychotics and probable appropriate treatment (each $p < .05$), and a trend for any health care visit ($p < .10$). In addition, there were greater increases under CEP than RS among client participants enrolled in health care (rather than community) sector programs, in social service depression visits and having any community sector depression visit.

Sensitivity analyses using the longitudinal model confirm that all outpatient utilization interactions remain significant (Table 9), except for 6-month behavioral health hospital nights, which has borderline significance (p = .08).

Table 8. Client Outcomes and Service Use by Intervention Status From Intervention-by-Sector Interaction Model[a]

	Social-community Screening Sector					Health Care Screening Sector						
	Unadjusted Estimates[b]		Adjusted Analysis[c]			Unadjusted Estimates[b]		Adjusted Analysis[c]			Interaction Effects[c]	
	RS	CEP	OR, IRR, Difference	*P*	pFDR[d]	RS	CEP	OR, IRR, Difference	*p*	pFDR[d]	*p*	pFDR[d]
Primary Outcomes	n/N (%)	n/N (%)	OR (95% CI)			n/N (%)	n/N (%)	OR (95% CI)				
MCS-12 ≤ 40												
6 mo.	58/118 (49.2)	52/118 (44.1)	0.8 (0.5-1.4)	.511	.766	140/261 (53.6)	114/258 (44.2)	0.7 (0.5-0.9)	.015	.030	.502	.545
12 mo.	62/117 (53.0)	42/116 (36.2)	0.6 (0.3-1.0)	.045	.089	119/239 (49.8)	118/245 (48.2)	0.9 (0.7-1.2)	.530	.830	.131	.262
36 mo.	36/93 (38.7)	38/98 (38.8)	1.2 (0.5-2.6)	.692	.692	83/195 (42.6)	93/202 (46.0)	1.3 (0.6-2.7)	.389	.553	.798	.798
PHQ-8 ≥ 10												
6 mo.	77/117 (65.8)	73/118 (61.9)	0.9 (0.4-1.9)	.766	.766	177/262 (67.6)	162/261 (62.1)	0.7 (0.4-1.2)	.156	.156	.545	.545
12 mo.	71/118 (60.2)	68/120 (56.7)	0.9 (0.4-2.0)	.859	.859	159/244 (65.2)	156/247 (63.2)	1.0 (0.7-1.4)	.830	.830	.950	.950
36 mo.	62/94 (66.0)	58/98 (59.2)	0.7 (0.4-1.5)	.363	.692	133/199 (66.8)	143/205 (69.8)	1.2 (0.7-1.9)	.553	.553	.225	.449
Community-prioritized and other secondary outcomes												
Mental wellness												
6 mo.	45/118 (38.1)	52/118 (44.1)	1.5 (0.7-3.0)	.307	.315	86/261 (33.0)	121/261 (46.4)	1.9 (1.0-3.3)	.039	.157	.618	.740
12 mo.	54/118 (45.8)	55/121 (45.5)	0.9 (0.5-1.8)	.768	.992	110/246 (44.7)	121/247 (49.0)	1.2 (0.7-1.8)	.534	.540	.538	.773
36 mo.	38/94 (40.4)	43/101 (42.6)	1.2 (0.4-3.6)	.679	.882	94/199 (47.2)	90/205 (43.9)	0.7 (0.5-1.2)	.207	.276	.224	.447
Homeless or ≥ 2 risk factors for homelessness												
6 mo.	53/118 (44.9)	27/118 (22.9)	0.4 (0.2-0.9)	.018	.071	97/261 (37.2)	82/260 (31.5)	0.7 (0.4-1.1)	.125	.251	.179	.359
12 mo.	39/115 (33.9)	38/121 (31.4)	1.2 (0.5-2.4)	.682	.992	75/246 (30.5)	85/244 (34.8)	1.1 (0.8-1.7)	.540	.540	.948	.948
36 mo.	38/94 (40.4)	29/101 (28.7)	0.7 (0.3-1.8)	.451	.882	65/199 (32.7)	74/205 (36.1)	1.1 (0.7-1.8)	.701	.701	.460	.613
	M ± SD	M ± SD	Group Difference (95% CI)			M ± SD	M ± SD	Group Difference (95% CI)				
PCS-12												
6 mo.	40.0 ± 7.3	40.3 ± 7.5	0.8 (–0.8-2.4)	.315	.315	39.7 ± 7.3	40.3 ± 6.9	0.5 (–0.8-1.7)	.440	.497	.740	.740
12 mo.	39.9 ± 7.1	39.1 ± 7.2	0.0 (–1.6-1.6)	.992	.992	39.6 ± 7.1	40.7 ± 6.7	0.8 (–0.6-2.2)	.248	.540	.447	.773
36 mo.	38.4 ± 7.6	38.4 ± 7.1	0.1 (–1.5-1.7)	.882	.882	38.5 ± 7.1	40.1 ± 7.3	1.6 (0.2-3.0)	.025	.101	.192	.447
	M ± SD	M ± SD	IRR (95% CI)			M ± SD	M ± SD	IRR (95% CI)				
No. behavioral health hospital nights												
6 mo.	1.1 ± 4.4	0.3 ± 1.7	0.3 (0.1-1.0)	.044	.089	0.7 ± 4.2	1.2 ± 12.4	1.5 (0.4-5.3)	.497	.497	.048	.193

Table 8. Client Outcomes and Service Use by Intervention Status From Intervention-by-Sector Interaction Model[a]

	Social-community Screening Sector					Health Care Screening Sector						
	Unadjusted Estimates[b]		Adjusted Analysis[c]			Unadjusted Estimates[b]		Adjusted Analysis[c]			Interaction Effects[c]	
	RS	CEP	OR, IRR, Difference	*P*	pFDR[d]	RS	CEP	OR, IRR, Difference	*p*	pFDR[d]	*p*	pFDR[d]
12 mo.	0.3 ± 1.3	0.3 ± 2.0	1.1 (0.3-3.8)	.916	.992	0.3 ± 1.6	0.4 ± 2.9	1.6 (0.7-3.9)	.273	.540	.580	.773
36 mo.	1.0 ± 6.9	0.1 ± 1.0	0.2 (0.0-1.6)	.126	.503	1.1 ± 13.0	0.3 ± 1.2	0.2 (0.0-2.0)	.174	.276	.915	.915
Health Care Sector Use												
No. visits to a PCP												
6 mo.	3.9 ± 7.3	4.3 ± 6.0	1.0 (0.6-1.6)	.944	.944	4.0 ± 8.2	3.9 ± 7.0	0.9 (0.6-1.3)	.484	.666	.709	.980
12 mo.	3.2 ± 4.4	4.0 ± 5.3	1.2 (0.8-1.9)	.338	.752	3.4 ± 6.3	3.4 ± 5.5	1.1 (0.8-1.6)	.580	.963	.671	.777
36 mo.	2.7 ± 3.9	4.8 ± 7.2	1.9 (1.3-2.8)	.003	.013	5.0 ± 11.0	3.5 ± 5.9	0.9 (0.6-1.4)	.578	.956	.035	.088
	M ± SD	M ± SD	IRR (95% CI)			M ± SD	M ± SD	IRR (95% CI)				
No. MH outpatient visits received advice for medication												
6 mo.	1.5 ± 3.0	2.5 ± 4.6	1.1 (0.2-5.2)	.870	.944	7.2 ± 23.9	3.1 ± 6.8	0.4 (0.2-0.6)	< .001	.001	.100	.500
12 mo.	1.3 ± 3.6	1.8 ± 4.4	1.2 (0.4-3.2)	.752	.752	3.6 ± 10.8	3.7 ± 9.5	1.0 (0.6-1.7)	.992	.992	.777	.777
36 mo.	1.4 ± 4.1	2.9 ± 6.6	2.1 (0.9-5.1)	.081	.113	3.8 ± 11.6	3.1 ± 13.6	1.0 (0.4-2.6)	.956	.956	.243	.361
No. MH outpatient visits received counseling												
6 mo.	4.4 ± 15.5	4.7 ± 11.9	0.8 (0.3-2.5)	.684	.944	9.7 ± 25.8	6.3 ± 11.5	0.6 (0.4-1.0)	.060	.150	.617	.980
12 mo.	1.8 ± 4.6	2.9 ± 7.9	1.2 (0.6-2.6)	.621	.752	5.5 ± 12.5	4.1 ± 9.8	0.8 (0.5-1.3)	.329	.963	.289	.777
36 mo.	1.9 ± 5.5	4.5 ± 9.8	2.0 (0.9-4.5)	.090	.113	4.8 ± 13.8	4.1 ± 15.0	1.1 (0.6-2.1)	.725	.956	.293	.361
	n/N (%)	n/N (%)	OR (95% CI)			n/N (%)	n/N (%)	OR (95% CI)				
Any emergency department or urgent care visits												
6 mo.	52/118 (44.1)	49/118 (41.5)	1.0 (0.6-1.7)	.895	.944	100/262 (38.2)	102/261 (39.1)	1.0 (0.6-1.6)	.907	.907	.980	.980
12 mo.	40/117 (34.2)	47/121 (38.8)	1.1 (0.6-2.1)	.675	.752	89/246 (36.2)	78/246 (31.7)	0.9 (0.6-1.2)	.414	.963	.451	.777
36 mo.	41/94 (43.6)	37/100 (37.0)	0.8 (0.5-1.3)	.294	.294	82/199 (41.2)	80/204 (39.2)	1.0 (0.6-1.6)	.930	.956	.361	.361
Any visit in health care sector												
6 mo.	99/118 (83.9)	102/118 (86.4)	0.8 (0.4-1.8)	.646	.944	238/262 (90.8)	234/260 (90.0)	0.8 (0.4-1.6)	.533	.666	.950	.980
12 mo.	92/117 (78.6)	104/121 (86.0)	1.4 (0.7-2.7)	.375	.752	205/243 (84.4)	210/244 (86.1)	1.1 (0.7-1.8)	.770	.963	.592	.777
36 mo.	74/94 (78.7)	87/100 (87.0)	2.0 (0.9-4.5)	.082	.113	181/199 (91.0)	171/204 (83.8)	0.7 (0.3-1.6)	.402	.956	.025	.088
Community Services												
Social services for depression												
6 mo.	23/118 (19.5)	17/118 (14.4)	0.7 (0.3-1.3)	.203	.407	37/261 (14.2)	51/260 (19.6)	1.2 (0.7-1.9)	.578	.633	.126	.252
12 mo.	16/117 (13.7)	10/121 (8.3)	0.6 (0.2-1.9)	.376	.751	22/246 (8.9)	28/244 (11.5)	1.4 (0.7-2.8)	.315	.315	.133	.267

Table 8. Client Outcomes and Service Use by Intervention Status From Intervention-by-Sector Interaction Model[a]

	Social-community Screening Sector					Health Care Screening Sector						
	Unadjusted Estimates[b]		Adjusted Analysis[c]			Unadjusted Estimates[b]		Adjusted Analysis[c]			Interaction Effects[c]	
	RS	CEP	OR, IRR, Difference	*P*	pFDR[d]	RS	CEP	OR, IRR, Difference	*p*	pFDR[d]	*p*	pFDR[d]
36 mo.	16/94 (17.0)	9/99 (9.1)	0.4 (0.1-1.3)	.122	.243	23/198 (11.6)	40/204 (19.6)	2.3 (1.1-4.8)	.030	.030	.034	.036
Community sector visit for depression												
6 mo.	33/118 (28.0)	35/118 (29.7)	1.1 (0.6-1.8)	.813	.813	72/262 (27.5)	82/261 (31.4)	1.1 (0.7-1.7)	.633	.633	.892	.892
12 mo.	25/116 (21.6)	26/120 (21.7)	1.1 (0.5-2.2)	.859	.859	50/246 (20.3)	54/244 (22.1)	1.2 (0.8-1.9)	.285	.315	.640	.640
36 mo.	28/93 (30.1)	25/99 (25.3)	0.8 (0.4-1.4)	.337	.337	54/197 (27.4)	80/203 (39.4)	1.8 (1.2-2.8)	.009	.018	.036	.036
Community and/or health care service												
	M ± SD	M ± SD	IRR (95% CI)			M ± SD	M ± SD	IRR (95% CI)				
No. days attended self-help or family support groups for MH problem												
6 mo.	1.3 ± 4.7	3.9 ± 14.4	1.6 (0.5-5.1)	.395	.541	6.6 ± 23.9	4.4 ± 16.4	0.7 (0.4-1.3)	.262	.523	.180	.350
12 mo.	1.4 ± 11.1	6.1 ± 22.3	2.6 (0.7-10.0)	.169	.169	10.7 ± 29.3	5.6 ± 18.9	0.6 (0.3-1.0)	.060	.121	.046	.047
36 mo.	2.5 ± 9.7	6.9 ± 19.2	3.1 (1.2-8.1)	.024	.048	8.5 ± 21.2	5.2 ± 13.1	0.7 (0.3-1.6)	.301	.305	.033	.054
	M ± SD	M ± SD	IRR (95% CI)			M ± SD	M ± SD	IRR (95% CI)				
No. outpatient contacts for depression all sectors												
6 mo.	12.1 ± 31.1	21.3 ± 43.6	1.2 (0.6-2.6)	.541	.541	25.1 ± 52.0	21.8 ± 44.1	0.9 (0.5-1.5)	.628	.628	.350	.350
12 mo.	7.1 ± 23.9	17.4 ± 37.4	1.7 (0.8-3.7)	.147	.169	25.3 ± 49.3	18.3 ± 41.8	0.8 (0.5-1.1)	.190	.190	.047	.047
36 mo.	10.9 ± 23.4	17.3 ± 32.2	1.6 (0.8-3.0)	.144	.144	25.6 ± 53.0	19.3 ± 40.8	0.8 (0.6-1.2)	.305	.305	.054	.054
Treatment												
	n/N (%)	n/N (%)	OR (95% CI)			n/N (%)	n/N (%)	OR (95% CI)				
Use of any antidepressant												
6 mo.	29/118 (24.6)	38/117 (32.5)	1.0 (0.5-2.0)	.894	.894	124/262 (47.3)	97/260 (37.3)	0.6 (0.4-1.2)	.131	.394	.300	.895
12 mo.	26/118 (22.0)	40/121 (33.1)	1.1 (0.5-2.5)	.743	.928	104/246 (42.3)	71/245 (29.0)	0.6 (0.4-0.9)	.016	.047	.143	.428
36 mo.	14/94 (14.9)	35/102 (34.3)	3.2 (1.6-6.4)	.002	.003	77/199 (38.7)	53/205 (25.9)	0.6 (0.3-1.2)	.135	.169	.011	.016
Use of any antipsychotic												
6 mo.	17/118 (14.4)	25/117 (21.4)	1.2 (0.5-2.8)	.710	.894	72/262 (27.5)	74/260 (28.5)	0.9 (0.5-1.6)	.751	.751	.597	.895
12 mo.	17/118 (14.4)	25/121 (20.7)	1.0 (0.4-2.5)	.928	.928	69/246 (28.0)	68/245 (27.8)	0.9 (0.5-1.5)	.623	.623	.745	.745
36 mo.	9/94 (9.6)	28/102 (27.5)	4.0 (1.8-9.0)	.001	.003	56/199 (28.1)	46/205 (22.4)	0.7 (0.5-1.1)	.151	.169	< .001	.001
Probable appropriate depression treatment[e]												
6 mo.	82/117 (70.1)	91/118 (77.1)	1.1 (0.6-2.1)	.802	.894	210/262 (80.2)	209/257 (81.3)	1.1 (0.7-1.8)	.727	.751	.991	.991

Table 8. Client Outcomes and Service Use by Intervention Status From Intervention-by-Sector Interaction Model[a]

	Social-community Screening Sector					Health Care Screening Sector						
	Unadjusted Estimates[b]		Adjusted Analysis[c]			Unadjusted Estimates[b]		Adjusted Analysis[c]			Interaction Effects[c]	
	RS	CEP	OR, IRR, Difference	*P*	pFDR[d]	RS	CEP	OR, IRR, Difference	*p*	pFDR[d]	*p*	pFDR[d]
12 mo.	79/117 (67.5)	90/120 (75.0)	1.2 (0.5-2.5)	.693	.928	191/244 (78.3)	181/246 (73.6)	0.8 (0.5-1.2)	.327	.490	.427	.641
36 mo.	56/94 (59.6)	79/100 (79.0)	2.2 (1.1-4.5)	.033	.033	150/199 (75.4)	131/205 (63.9)	0.7 (0.4-1.2)	.169	.169	.031	.031

[a]RS = Resources for Services (technical assistance to individual programs); CEP = Community Engagement and Planning; see Table 2 and 3 for variables definitions.
[b]Raw data without weighting or imputation (6 months, N = 759; 12 months N = 733; 3 years, N = 600).
[c] Intervention-by-sector interaction models used multiply imputed data (participants who completed 1 or more surveys and alive: N = 1018 at 6 months, 1013 at 12 months, 980 at 3 years), weighted for eligible sample for enrollment; linear regression models for PCS-12 (presented as between-group difference), logistic regression models for binary variables (presented as odds ratio, OR), or Poisson regression models for count variables (presented as incidence rate ratios, IRR), interacted of intervention condition by screening sector adjusted for baseline status of the dependent variable, age, education, race/ethnicity, 12-month depressive disorder, and community and accounted for the design effect of the cluster randomization.
[d]pFDR, adjusted *P* value from the false discovery rate procedure; calculated separately for primary outcomes, secondary outcomes, services use from health care sector, community services, community and/or health care service, and treatment.
[e]Antidepressant use for at least 2 months or at least 4 outpatient visits to mental health or primary care setting for depression services.

From Sherbourne et al., in Psychiatric Services. Permission to be used has been requested. The pFDR columns were added for this report.

TABLE 9. Longitudinal Analyses for Alternative Modeling of Intervention-by-Sector Interaction Model[a,b]

	Social-community Screening Sector						Health Care Screening Sector							
	CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			Interaction	
	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	*p*	pFDR[c]
Primary Outcomes	OR (95% CI)			OR (95% CI)			OR (95% CI)			OR (95% CI)				
MCS-12 ≤ 40														
Baseline	0.63 (0.38-1.05)	.076	.151				1.18 (0.87-1.61)	.296	.495				.044	.087
6 mo.	0.69 (0.41-1.16)	.166	.332	1.09 (0.59-2.01)	.777	.777	0.69 (0.53-0.89)	.004	.008	0.58 (0.38-0.89)	.012	.024	.98	.98
12 mo.	0.75 (0.52-1.08)	.116	.233	1.18 (0.67-2.07)	.576	.647	0.89 (0.73-1.09)	.273	.546	0.76 (0.53-1.08)	.128	.257	.405	.697
36 mo.	0.8 (0.49-1.31)	.382	.382	1.27 (0.62-2.59)	.519	.557	1.16 (0.83-1.62)	.395	.561	0.98 (0.64-1.49)	.927	.927	.239	.241
PHQ-8 ≥ 10														
Baseline	1.34 (0.21-8.34)	.755	.755				1.43 (0.51-3.95)	.495	.495				.953	.953
6 mo.	0.91 (0.45-1.85)	.797	.797	0.68 (0.07-6.46)	.738	.777	0.76 (0.52-1.1)	.147	.147	0.53 (0.18-1.55)	.245	.245	.656	.98
12 mo.	0.81 (0.46-1.45)	.483	.483	0.61 (0.07-5.08)	.647	.647	0.93 (0.66-1.31)	.687	.687	0.65 (0.22-1.98)	.451	.451	.697	.697
36 mo.	0.73 (0.41-1.29)	.28	.382	0.54 (0.07-4.14)	.557	.557	1.15 (0.72-1.85)	.561	.561	0.81 (0.24-2.67)	.725	.927	.241	.241
Community-prioritized and other secondary outcomes														
Mental wellness														
Baseline	1.03 (0.64-1.66)	.902	.902				1.01 (0.7-1.44)	.969	.969				.941	.941
6 mo.	1.24 (0.65-2.35)	.513	.684	1.2 (0.64-2.27)	.57	.682	1.8 (1.28-2.53)	< .001	.003	1.79 (1.14-2.82)	.012	.048	.314	.602
12 mo.	1.1 (0.76-1.61)	.61	.813	1.07 (0.73-1.58)	.732	.732	1.24 (0.92-1.68)	.16	.32	1.23 (0.8-1.9)	.342	.683	.635	.635
36 mo.	0.98 (0.58-1.67)	.946	.946	0.95 (0.55-1.66)	.865	.879	0.86 (0.55-1.32)	.484	.645	0.85 (0.5-1.46)	.555	.555	.7	.935
Homeless or ≥ 2 risk factors for homelessness														
Baseline	0.5 (0.25-1.01)	.055	.109				0.91 (0.63-1.31)	.61	.814				.143	.286
6 mo.	0.56 (0.28-1.12)	.103	.325	1.11 (0.67-1.83)	.682	.682	0.76 (0.53-1.1)	.15	.299	0.84 (0.63-1.11)	.223	.297	.451	.602
12 mo.	0.73 (0.44-1.23)	.238	.476	1.45 (0.9-2.35)	.127	.255	0.92 (0.63-1.34)	.655	.655	1.01 (0.7-1.45)	.962	.997	.491	.635
36 mo.	0.96 (0.54-1.7)	.888	.946	1.9 (0.95-3.83)	.071	.143	1.1 (0.64-1.9)	.72	.72	1.21 (0.68-2.16)	.509	.555	.73	.935
	Difference (95% CI)			Difference-in-Difference (95% CI)			Difference (95% CI)			Difference-in-Difference (95% CI)				
PCS-12														
Baseline	–0.41 (–2.43-1.62)	.694	.902				0.45 (–0.96-1.85)	.531	.814				.496	.661

TABLE 9. Longitudinal Analyses for Alternative Modeling of Intervention-by-Sector Interaction Model[a,b]

	Social-community Screening Sector						Health Care Screening Sector							
	CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			Interaction	
	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	*p*	pFDR[c]
6 mo.	0.41 (–1.72-2.53)	.706	.706	0.81 (–1.08-2.7)	.398	.682	0.51 (–0.98-2.01)	.5	.5	0.07 (–1.2-1.33)	.919	.919	.937	.937
12 mo.	0.09 (–1.6-1.79)	.914	.914	0.5 (–1.24-2.24)	.574	.732	1.05 (–0.19-2.29)	.096	.32	0.6 (–0.56-1.76)	.309	.683	.371	.635
36 mo.	–0.22 (–2.31-1.87)	.836	.946	0.18 (–2.19-2.56)	.879	.879	1.59 (0.07-3.1)	.04	.161	1.14 (–0.46-2.74)	.163	.537	.17	.68
	IRR (95% CI)			IRR (95% CI)			IRR (95% CI)			IRR (95% CI)				
No. behavioral health hospital nights														
Baseline	2.66 (1.09-6.48)	.031	.109				0.69 (0.34-1.42)	.316	.814				.021	.083
6 mo.	0.39 (0.11-1.46)	.163	.325	0.15 (0.04-0.54)	.004	.016	2.16 (0.54-8.61)	.276	.368	3.1 (0.73-13.25)	.126	.252	.08	.32
12 mo.	0.31 (0.11-0.86)	.024	.097	0.12 (0.04-0.33)	< .001	< .001	0.7 (0.28-1.75)	.44	.587	1 (0.36-2.81)	.997	.997	.25	.635
36 mo.	0.25 (0.06-1.03)	.055	.22	0.09 (0.02-0.4)	.002	.006	0.22 (0.03-1.56)	.131	.263	0.32 (0.04-2.39)	.269	.537	.935	.935
Health care sector														
No. visits to a PCP														
Baseline	1.06 (0.77-1.47)	.708	.708				1.04 (0.8-1.36)	.771	.994				.917	.917
6 mo.	1.08 (0.71-1.63)	.72	.932	1.01 (0.73-1.4)	.936	.936	1.01 (0.74-1.37)	.951	.951	0.97 (0.67-1.4)	.872	.872	.802	.907
12 mo.	1.4 (1.08-1.81)	.012	.058	1.31 (0.99-1.74)	.061	.304	0.85 (0.65-1.12)	.258	.469	0.82 (0.62-1.09)	.179	.432	.01	.052
36 mo.	1.81 (1.25-2.62)	.002	.009	1.7 (1.05-2.75)	.03	.151	0.72 (0.47-1.11)	.142	.709	0.7 (0.46-1.04)	.078	.388	.002	.008
No. MH outpatient visits received advice for medication														
Baseline	1.85 (0.93-3.68)	.081	.31				1.05 (0.67-1.62)	.843	.994				.172	.472
6 mo.	1.47 (0.69-3.14)	.314	.932	0.8 (0.56-1.13)	.208	.52	0.48 (0.31-0.73)	< .001	.004	0.46 (0.3-0.68)	< .001	< .001	.011	.055
12 mo.	1.62 (0.86-3.05)	.135	.248	0.88 (0.59-1.3)	.511	.833	0.69 (0.45-1.08)	.107	.469	0.66 (0.45-0.99)	.044	.221	.032	.08
36 mo.	1.78 (0.85-3.73)	.128	.213	0.96 (0.47-1.96)	.917	.933	1.01 (0.47-2.17)	.97	.97	0.97 (0.47-2.01)	.936	.936	.3	.375
No. MH outpatient visits received counseling														
Baseline	1.83 (0.85-3.95)	.124	.31				1 (0.63-1.59)	.994	.994				.189	.472
6 mo.	1.09 (0.4-2.99)	.862	.932	0.6 (0.31-1.14)	.116	.52	0.65 (0.42-1.02)	.061	.153	0.65 (0.46-0.92)	.015	.038	.358	.895
12 mo.	1.67 (0.83-3.37)	.149	.248	0.91 (0.6-1.4)	.678	.833	0.79 (0.51-1.22)	.281	.469	0.79 (0.52-1.2)	.259	.432	.072	.12
36 mo.	2.56 (1.16-5.68)	.021	.052	1.4 (0.64-3.07)	.4	.933	0.95 (0.47-1.9)	.882	.97	0.95 (0.46-1.97)	.884	.936	.064	.161
	OR (95% CI)			OR (95% CI)			OR (95% CI)			OR (95% CI)				

TABLE 9. Longitudinal Analyses for Alternative Modeling of Intervention-by-Sector Interaction Model[a,b]

	Social-community Screening Sector						Health Care Screening Sector							
	CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			Interaction	
	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	*p*	pFDR[c]
Any emergency department or urgent care visits														
Baseline	0.85 (0.5-1.46)	.564	.705				1.04 (0.74-1.47)	.821	.994				.539	.899
6 mo.	1.02 (0.64-1.63)	.932	.932	1.19 (0.75-1.91)	.459	.766	0.99 (0.72-1.35)	.931	.951	0.95 (0.67-1.33)	.758	.872	.907	.907
12 mo.	0.92 (0.61-1.39)	.699	.699	1.08 (0.68-1.72)	.751	.833	0.93 (0.73-1.18)	.545	.681	0.89 (0.64-1.24)	.496	.619	.976	.976
36 mo.	0.83 (0.49-1.42)	.499	.499	0.97 (0.53-1.8)	.933	.933	0.87 (0.62-1.24)	.45	.97	0.84 (0.53-1.32)	.448	.936	.884	.884
Any visit in health care sector														
Baseline	1.31 (0.62-2.74)	.48	.705				1.07 (0.48-2.37)	.87	.994				.72	.9
6 mo.	1.22 (0.58-2.58)	.603	.932	0.93 (0.54-1.63)	.808	.936	1.34 (0.75-2.39)	.326	.544	1.25 (0.66-2.39)	.496	.827	.848	.907
12 mo.	1.38 (0.77-2.49)	.283	.353	1.06 (0.63-1.77)	.833	.833	1.1 (0.7-1.71)	.688	.688	1.02 (0.51-2.05)	.945	.945	.536	.67
36 mo.	1.56 (0.82-2.98)	.176	.22	1.2 (0.59-2.44)	.622	.933	0.9 (0.52-1.54)	.694	.97	0.84 (0.35-2.03)	.697	.936	.196	.327
Community services														
Any social services for depression														
Baseline	0.57 (0.32-1.05)	.071	.142				1.31 (0.92-1.85)	.133	.133				.022	.045
6 mo.	0.64 (0.31-1.3)	.219	.438	1.11 (0.61-2.04)	.729	.729	1.4 (0.83-2.36)	.206	.413	1.07 (0.58-1.97)	.823	.823	.081	.162
12 mo.	0.49 (0.24-1)	.05	.101	0.86 (0.48-1.55)	.608	.608	1.56 (0.99-2.46)	.057	.114	1.19 (0.72-1.98)	.498	.859	.009	.018
36 mo.	0.38 (0.14-0.99)	.048	.097	0.66 (0.28-1.58)	.349	.698	1.73 (0.85-3.54)	.133	.133	1.32 (0.65-2.71)	.441	.617	.019	.031
	OR (95% CI)			OR (95% CI)			OR (95% CI)			OR (95% CI)				
Any community sector visit for depression														
Baseline	0.67 (0.35-1.26)	.211	.211				1.3 (0.92-1.83)	.131	.133				.069	.069
6 mo.	1 (0.56-1.78)	.997	.997	1.5 (0.8-2.82)	.205	.409	1.05 (0.71-1.56)	.801	.801	0.81 (0.53-1.24)	.33	.659	.89	.89
12 mo.	0.79 (0.51-1.22)	.28	.28	1.18 (0.69-2)	.54	.608	1.26 (0.9-1.75)	.175	.175	0.96 (0.65-1.43)	.859	.859	.1	.1
36 mo.	0.62 (0.34-1.12)	.11	.11	0.93 (0.47-1.83)	.823	.823	1.5 (0.92-2.45)	.105	.133	1.15 (0.66-2.01)	.617	.617	.031	.031
Community and/or health care service														
	IRR (95% CI)			IRR (95% CI)			IRR (95% CI)			IRR (95% CI)				
No. days self-help visit for mental health														
Baseline	1.83 (0.47-7.14)	.382	.733				0.86 (0.41-1.78)	.68	.68				.335	.547
6 mo.	3.03 (1-9.17)	.049	.099	1.65 (0.51-5.38)	.402	.402	0.69 (0.38-1.25)	.218	.435	0.8 (0.37-1.76)	.586	.88	.021	.041
12 mo.	2.7 (1.21-6.03)	.015	.031	1.47 (0.41-5.31)	.554	.554	0.67 (0.43-1.03)	.068	.136	0.78 (0.38-1.59)	.487	.536	.003	.005

TABLE 9. Longitudinal Analyses for Alternative Modeling of Intervention-by-Sector Interaction Model[a,b]

	Social-community Screening Sector						Health Care Screening Sector							
	CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			Interaction	
	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	*p*	pFDR[c]
36 mo.	2.4 (0.9-6.44)	.081	.163	1.31 (0.25-7)	.751	.751	0.64 (0.38-1.08)	.094	.149	0.75 (0.34-1.67)	.479	.479	.02	.041
No. outpatient contacts for depression all sectors														
Baseline	1.13 (0.56-2.31)	.733	.733				0.89 (0.62-1.27)	.508	.68				.547	.547
6 mo.	1.81 (0.78-4.17)	.164	.164	1.6 (0.87-2.93)	.128	.256	0.86 (0.58-1.27)	.453	.453	0.97 (0.68-1.39)	.88	.88	.114	.114
12 mo.	1.65 (0.88-3.11)	.118	.118	1.46 (0.9-2.37)	.123	.245	0.79 (0.56-1.12)	.19	.19	0.89 (0.63-1.28)	.536	.536	.045	.045
36 mo.	1.51 (0.76-3.01)	.24	.24	1.34 (0.67-2.66)	.41	.751	0.73 (0.47-1.12)	.149	.149	0.82 (0.51-1.31)	.409	.479	.078	.078
Treatment														
	OR (95% CI)			OR (95% CI)			OR (95% CI)			OR (95% CI)				
Use of any antidepressant														
Baseline	1.2 (0.61-2.39)	.595	.807				1.11 (0.7-1.76)	.649	.697				.852	.915
6 mo.	1.01 (0.47-2.17)	.97	.983	0.84 (0.49-1.47)	.544	.817	0.74 (0.46-1.18)	.204	.612	0.66 (0.49-0.89)	.007	.021	.488	.738
12 mo.	1.48 (0.79-2.77)	.225	.337	1.23 (0.79-1.9)	.356	.741	0.64 (0.4-1.03)	.066	.199	0.58 (0.44-0.76)	< .001	< .001	.04	.119
36 mo.	2.15 (1.13-4.1)	.02	.06	1.79 (1.06-3.02)	.03	.09	0.56 (0.32-0.98)	.041	.073	0.50 (0.35-0.73)	< .001	< .001	.002	.007
Use of any antipsychotic														
Baseline	1.35 (0.54-3.38)	.521	.807				1.13 (0.6-2.12)	.697	.697				.753	.915
6 mo.	0.88 (0.36-2.16)	.775	.983	0.65 (0.43-0.97)	.035	.106	1.08 (0.6-1.94)	.802	.802	0.95 (0.67-1.36)	.787	.929	.701	.738
12 mo.	1.36 (0.61-3.03)	.448	.337	1.01 (0.58-1.74)	.978	.978	0.88 (0.48-1.64)	.690	.69	0.78 (0.52-1.16)	.222	.222	.395	.395
36 mo.	2.11 (0.85-5.29)	.109	.06	1.56 (0.63-3.87)	.332	.332	0.72 (0.35-1.49)	.377	.377	0.64 (0.37-1.1)	.106	.106	.074	.074
Probable appropriate treatment[d]														
Baseline	1.07 (0.6-1.92)	.807	.807				1.12 (0.66-1.92)	.673	.697				.915	.915
6 mo.	1.01 (0.55-1.83)	.983	.983	0.94 (0.44-1.98)	.863	.863	1.14 (0.72-1.82)	.572	.802	1.02 (0.68-1.53)	.929	.929	.738	.738
12 mo.	1.36 (0.83-2.23)	.222	.337	1.27 (0.64-2.49)	.494	.741	0.85 (0.59-1.22)	.379	.569	0.76 (0.49-1.18)	.22	.222	.128	.192
36 mo.	1.84 (1.01-3.34)	.045	.067	1.71 (0.8-3.66)	.165	.247	0.63 (0.4-1.0)	.048	.073	0.56 (0.3-1.05)	.073	.106	.005	.008

TABLE 9. Longitudinal Analyses for Alternative Modeling of Intervention-by-Sector Interaction Model[a,b]

	Social-community Screening Sector						Health Care Screening Sector							
	CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			CEP Versus RS at Specific Time			CEP Versus RS in Change From Baseline			Interaction	
	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	OR, IRR, Difference	*p*	pFDR[c]	*p*	pFDR[c]

[a]RS = Resources for Services (technical assistance to individual programs); CEP = Community Engagement and Planning; see Tables 2 and 3 for variables definitions.
[b]A longitudinal analysis using all waves of data (baseline, 6 months, 12 months, 36 months) without unit imputation but including item imputation to permit consistent sample sizes (N = 980 at baseline, 759 at 6 months, 733 at 12 months, and 600 at 36 months), adjusted the same set of baseline covariates as in the end-status analysis in Table 6. A spline model was used, with a linear segment between baseline and the first follow-up for initial improvement, and another linear segment for the subsequent follow-ups; the 2 linear segments are specified to join at the first follow-up. A 3-level mixed-effect regression model was used for PCS-12 by using SAS proc mixed specified random effects at the clinic level, including random intercepts at program level and a spatial power covariance structure at the client level to account for the unequal spacing of waves. A generalized estimating equation with logistic regression model was used for a binary outcome and a Poisson regression model for a count data using SAS proc genmod due to unstable estimates for program-specific random effects with SAS proc glimmix, specifying exchangeable correlation at the program level.
[c]pFDR, adjusted *P* value from the false discovery rate procedure; calculated separately for primary outcomes, secondary outcomes, services use from health care sector, community services, community and/or health care service, and treatment.
[d]Antidepressant use for at least 2 months or at least 4 outpatient visits to mental health or primary care setting for depression services.

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Aim 3: *Qualitative CPIC Client and Staff Interviews on Client Priorities*

The client interview subsample (N = 104) included 61 (59%) African Americans (non-Hispanic) and 43 (41%) Latino participants; 60 (58%) females and 44 (42%) males; 45 (43%) CEP clients and 59 (57%) RS; 53 (51%) with persistent depression (PHQ-8 $\geq$ 15) (for this group, mean 3-year PHQ-8 = 20.34, SD = 2.16) and 51 (49%) improved or PHQ8 $\leq$ 10 (for this group, mean 3-year PHQ-8 = 4.08, SD = 2.90). Those improved showed an average PHQ-8 score decrease of 8.71. A decrease of 5 is considered clinically meaningful.[98,99] We interviewed 20 (40%) administrators and 30 (60%) providers, two-thirds (67%) from CEP; a majority were female (84%) from social-community sectors (64%) and half were African American (49%) (Table 10).

TABLE 10. Characteristics of Qualitative CPIC Client and Staff Interviews on Client Priorities

Characteristic	Clients (N = 104)	Agency Representatives (N = 50)
Study arm[a]	n (%)	n (%)
CEP	45 (43.3)	34 (68.0)
RS	59 (56.7)	16 (32.0)
Race/ethnicity[b]		
Hispanic	43 (41.3)	11 (22.4)
African American	61 (58.7)	24 (49.0)
White		9 (18.4)
Other		5 (10.2)
Gender		
Male	44 (42.3)	8 (16.0)
Female	60 (57.7)	42 (84.0)
Education[b]		
Less than high school	43 (41.3)	
High school/GED	19 (18.3)	5 (10.0)
Some college or technical school	31 (29.8)	3 (6.0)
Bachelor's degree	9 (8.7)	14 (28.0)
Master's degree	2 (1.9)	19 (38.0)
MD or doctorate		9 (18.0)
Clients' depression at 3 years		
Persistent depression (PHQ-8 ≥ 15)	53 (51.0)	
Improved depression (PHQ-8 ≤ 10)	51 (49.0)	
Provider's position		
Administrator		20 (40.0)
Provider		30 (60.0)
Service sector		
Community trusted agency		5 (10.0)
Homelessness		5 (5.0)
Mental health		7 (7.0)
Primary care		6 (6.0)
Social services		18 (36.0)

Substance abuse	9 (18.0)

[a]RS = Resources for Services (technical assistance to individual programs); CEP = Community Engagement and Planning.
[b]Percentages may not sum to 100 due to missing data.

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Clients' Top Needs: For the 3 top client needs reported in qualitative interviews following the main extension study 3-year surveys, physical and mental health were top concerns, followed by housing, caring for and building relationships, and employment. For individuals with persistent depression, mental health was the top priority followed by physical health, housing, employment, and food. Those with improved depression prioritized caring for and building relationships, physical health, employment, mental health, and housing (Table 11).

TABLE 11. Clients' Report of Top 3 Concerns in Qualitative Interviews at 3-year Follow-up[a]

Concerns/Needs	Total (N = 104) n (%)	Persistent Depression (N = 53) n (%)	Improved Depression (N = 51) n (%)	Persistent Depression Versus Improved Depression OR (95% CI)	*P*
Treating your physical health	39 (37.5)	22 (41.5)	17 (33.3)	1.42 (0.64-3.15)	.389
Improving your depression or low mood	38 (36.5)	24 (45.3)	14 (27.5)	2.19 (0.96-4.96)	.059
Arranging housing	31 (29.8)	20 (37.7)	11 (21.6)	2.20 (0.93-5.25)	.072
Caring for others and your relationships with others	30 (28.8)	11 (20.8)	19 (37.3)	0.44 (0.18-1.06)	.063
Finding work that will make you money	29 (27.9)	14 (26.4)	15 (29.4)	0.86 (0.37-2.03)	.733
Improving your spiritual health	20 (19.2)	11 (20.8)	9 (17.6)	1.22 (0.46-3.25)	.688
Financial	18 (17.3)	9 (17.0)	9 (17.6)	0.95 (0.35-2.64)	.928
Finding food for you and your family	17 (16.3)	14 (26.4)	3 (5.9)	5.74 (1.54-21.43)	.005
Completing everyday tasks like finding transportation or fixing things	17 (16.3)	11 (20.8)	6 (11.8)	1.96 (0.67-5.78)	.215
Other	12 (11.5)	5 (9.4)	7 (13.7)	0.65 (0.19-2.21)	.493
Getting benefits that you're eligible for (SSI, disability, unemployment)	11 (10.6)	8 (15.1)	3 (5.9)	2.84 (0.71-11.40)	.127
Finding safety and avoiding violence around you	4 (3.8)	2 (3.8)	2 (3.9)	0.96 (0.13-7.09)	.969
Stopping your use of drugs or alcohol	2 (1.9)	1 (1.9)	1 (2.0)	0.96 (0.06-15.79)	.978

[a]Numbers in this table are counts and percentages. They show frequencies with which each need was mentioned as 1 of the top 3 concerns by clients. Results are presented for the total sample first and then broken down by the depression status.

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Staff Perceptions: Program staff (administrators and providers) perceived housing, employment, and mental health to be clients' top needs/concerns (Table 12), similar to client-reported priorities. We found no statistically significant difference in ranking for health care and community sector staff. Health care staff described relationships with others as clients' top priority but community sector staff prioritized housing and employment.

TABLE 12. Program Staff Ranking Of Clients' Top 3 Concerns, Qualitative Interviews[a]

	Total (N = 50)	Health Care Sector (N = 13)	Social-Community Sector (N = 37)
Concerns/Needs	N (%)	N (%)	N (%)
Arranging housing	27 (54.0)	6 (46.2)	21 (56.8)
Finding work/employment	21 (42.0)	5 (38.5)	16 (43.2)
Improving depression or low mood	20 (40.0)	7 (53.8)	13 (35.1)
Improving relationships with other people (family members, partners, coworkers, etc)	15 (30.0)	8 (61.5)	7 (18.9)
Improving their physical health	10 (20.0)	5 (38.5)	5 (13.5)
Help with stopping drug or alcohol use	9 (18.0)	1 (7.7)	8 (21.6)
Taking care of others (children, elderly parents)	7 (14.0)	2 (15.4)	5 (13.5)
Completing everyday tasks like finding transportation or fixing things	5 (10.0)	0	5 (13.5)
Getting benefits they are eligible for (SSI, disability, unemployment)	5 (5.0)	0	5 (13.5)
Finding safety and avoiding violence	4 (8.0)	0	4 (10.8)
Immigration issues	3 (6.0)	1 (7.7)	2 (5.4)
Finding food	3 (6.0)	1 (7.7)	2 (5.4)
Improving their spiritual health	1 (2.0)	0	1 (2.7)
Additional Needs			
Financial	6 (12.0)	1 (7.7)	5 (13.5)
Access to health care (mental and physical health)	3 (6.0)	1 (7.7)	2 (5.4)
Addressing multiple health needs (physical/mental/substance abuse)	3 (6.0)	0	3 (8.1)
Legal	2 (4.0)	0	2 (5.4)
Educational/academic	2 (4.0)	0	2 (5.4)
Social support	2 (4.0)	1 (7.7)	1 (2.7)
Missing	3 (6.0)	1 (7.7)	2 (5.4)

[a]Numbers in this table are counts and percentages (in parentheses). They show frequencies with which each agency representatives mentioned each need as 1 of the top 3 concerns of their clients. Results are presented for the total sample first and then broken down by the agency sector. Health care sector includes participants from primary care and mental health agencies. Social-community sector includes participants from homelessness, social services, community-trusted, and substance abuse agencies.

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Staff described social, interpersonal, and health concerns as interrelated targets of treatment interventions. One mental health provider said, "*The relationships feed so closely with the mental health issues.*" A primary care provider stated that depression can affect "*just the basic ability to take care of daily needs . . . or taking care of getting into stable housing, or to integrate in social settings, to basically function in a healthy way.*" Most staff reported trying to address multiple needs as they care for clients and considered addressing social needs as a gateway to wellness. As one legal and financial services provider said, "*When housed, people feel better about themselves and feel that there is a lot less confusion going on in the world.*"

Staff described using 3 strategies to meet client priorities: needs assessment, engaging in a client-centered manner, and overcoming resource shortages to link clients to needed services. A majority reported using a formal needs assessment while others described informal activities, including talking to clients, referral information, and home visits. Staff linked conducting needs assessments to building trusting relationships and client-centered care. "*We do assessments. We meet them where they're at. We are there on the front line*," said a substance abuse provider. An administrator noted, "*We involve clients in their treatment planning and development. We try to adjust it to what the client sees as his or her immediate needs, instead of prescribing them treatment as we see best.*" Providers described the importance of clients' feeling respected, heard, and not judged. Some emphasized the importance of supporting clients' self-efficacy and minimizing stigma of seeking mental health services. Others described educating clients about their rights so that they could advocate for themselves. Most staff suggested that addressing clients' needs required linking them to resources and agency collaboration. However, they noted challenges, including understaffing, financial limitations, staff turnover, and limited ability to hire staff. Other barriers included eligibility requirements and system limitations, varying with agency type. For example, a social

services program staff member cited legal documentation and/or legal/court approvals as barriers. Some thought provider education on social determinants was needed. A primary care provider said, "*I do think that medical providers would benefit from increased awareness of determinants, such as socioeconomic status and the influence that has on health.*"

Aim 4: Perspectives of local and national stakeholders on CPIC-related, policy dissemination Local LAC Health Neighborhood Initiative leader interviews:

Much of the first wave of LAC HNI leader interviews focused on innovative directions, especially addressing social determinants of health and mental health. Table 13 summarizes how often LAC HNI stakeholders discussed social determinants, by leader type.

TABLE 13. Type of Leader by Instances of Discussion of Social Determinants of Mental Health From LAC Health Neighborhood Initiative Interviews

Leader Type	Number of Interviews	Housing	Violence	Substance Abuse	Employment	Education
Community partner	4	7	2	0	0	0
Public health	6	11	5	1	3	1
Mental health	11	8	7	11	4	4
Health services	4	4	2	3	0	0
Total	25	30	16	15	7	5

Based on interviews of HNI stakeholders between August 2015 and January 2016.

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Most stakeholders focused on housing insecurity, violence, and substance abuse, while a minority focused on employment and education. HNI leaders described social determinants as interconnected, noting that it would be difficult to address only one without others. Leaders endorsed partnering across agencies to address social determinants for specific high-risk populations, such as persons reentering society from jails. Leaders perceived that efforts to improve health would be ineffective unless social determinants of health were addressed, but recognized challenges. One leader noted, "[*We try to] . . . get them to read more to their kids. But the problem is that you're working for minimum wage, coming home tired, trying to get something into their stomachs with limited money, and then Saturday you're spending half the time at the laundromat. When do you have time and energy to really read? Maybe your husband is unfortunately getting drunk and beating you up*."

HNI leaders described safe housing with appropriate sanitation as a priority. As one leader stated, "*Everyone has the right to safe housing. . . . Safe and stable housing and food*." Safe environments were discussed in terms of community violence and substance abuse. One leader noted, "*I think the biggest [problem] is the violence that they see. Both from gangs as well as domestic violence*." Yet for another leader, "*To me, the big one, the huge one, is substance abuse services*." In addition to concerns about housing and neighborhood safety, HNI leaders described that employment opportunities and better education were frequently voiced by community members as urgent needs. One leader noted, "*There are no jobs in this community*." One leader described education as a pathway to a healthier future: "*Not getting a good education is tied to so many other things*." In describing employment and education, one leader stated, "*Just giving them jobs isn't the answer. You've got to give them some of the skills and make sure they have everything from bus passes, etc. Because there are so many gangs in that area, they can't safely get to school or to work*."

Leaders advocated for HNI agencies to address social determinants of health in a partnered approach to build capacity in the communities they served. One leader provided an example of a strategy pursued by one neighborhood: "*They have a narrator. She is called a 'Rock'. The 'Rock' meets once a week in different places to have coffee with women. And that is how the women are starting to connect. They are also organizing all kinds of activities on the weekends. They don't want to be told—they want to have a voice*."

National Stakeholders (January 29, 2016 Invited Conference Attendees)

The briefing conference, attended by research and policy administrators from federal and nonprofit agencies, reviewed the approach and findings of CPIC and outlined LAC HNI/ThriveNYC goals, planning processes, and activities. LAC HNI leaders described the framework for using a coalition approach to support coordination of services and information sharing for agencies serving behavioral health clients, while addressing through collaborations social determinants of mental health that were locally prioritized. ThriveNYC provided a framework for instilling a culture change for services innovation, quality improvement, addressing mental health disparities, and promoting community engagement to improve mental health at the community level. Following the conference, 14 attendees interviewed

described a shared concept of local mental health policy innovation represented by HNI and ThriveNYC to address social determinants of mental health, envisioned as the structural context in which mental health difficulties develop or persist. As a federal agency leader noted, "*Social determinants is one of those things that seems to be on everybody's mind*." Yet application of this perspective to behavioral health was viewed as novel. As one leader noted, "*There were plenty of programs that worked on improving hypertension, diabetes, things like that, but I think the attempt of looking at social determinants, behavioral health issues, that's what's probably newer and novel that is even different than some of the models done certainly in rural areas*." Finally, many participants recognized the importance of working with communities to address social needs, and saw HNI and ThriveNYC as approaches in which communities could have a voice. One federal funder summarized the vision for HNI and ThriveNYC as innovation in collaboration, stating, "*I think we are envisioning a new era for public health that is more nimble and more flexible and more multisectorial*."

Participants varied in views of next steps in policy development. Some focused on the theme of coordination of programs and information sharing featured in LAC HNI. A federal policymaker stated, "*there were lots of issues discussed at that meeting. . . . One of my takeaways: how to better coordinate all these efforts even in the same jurisdiction*." A local health agency leader defined HNI success as "*the local collaborative, including the providers, actually is able to share information on common clients and provide mutual support to the success of those common clients in the real best way*." For some stakeholders, sustainability was a central issue as well as producing reliable data on success and replicability. A federal agency leader noted, "*Well I think one of the key major challenges is, how do you measure impact and what type of metrics would you use that seem to be both reasonable and that everybody would agree you know shows true impact*." CPIC was viewed as an important example of rigorous evaluation of innovation that framed the meeting.

Discussion

1. <u>Decisional Context</u>

This is the first evaluation of long-term outcomes for depressed clients enrolled in the study from health care and alternative community-based service programs, where programs were assigned to either a multisector coalition (CEP) or individual program-level technical

assistance (RS) approach for an expanded model of depression collaborative care. The project had multiple components, including (1) a 3-year extension study focusing on client end-status analyses 2 years after study intervention support ended; (2) supplemental subanalyses for depressed clients screened in health care or alternative community-based service sectors across all follow-up waves; (3) qualitative interviews of a subset of depressed African American and Latino clients (improved and persistently depressed) and of program staff views of clients' priorities and options to address them; and (4) qualitative interviews of stakeholders for the LAC HNI, and of a sample of national stakeholders from a conference reviewing CPIC findings and plans for LAC HNI and ThriveNYC as dissemination activities. These diverse activities yield largely complementary findings in terms of potential meaning to patients, systems, and policy, reflecting a "story" of the journey from study to policy. As a unique study and with extension study findings limited to secondary outcomes, these findings largely inform future research, but also consistently have had strong meaning to community, patient and policy stakeholders. In particular, the findings as a group (1) affirm the importance of quality of life and wellness as client outcomes; (2) suggest that community collaboration with health care through coalitions may provide added value both initially and in long-term follow-up at least for community-prioritized outcomes (PHRQL and reduced hospitalization nights); and (3) over follow-up waves, the breadth of primary and secondary outcomes improved by CEP compared with RS (mental and physical health–related quality of life, mental wellness, hospitalization rates, and homelessness risk factors) touch on priority areas for clients with depression and for providers. In addition to informing the LAC HNI and ThriveNYC policy initiatives, the CPIC approach is now being used to support mental health recovery postfloods in Baton Rouge (Resilient Baton Rouge website) and during CPIC's development it was used concurrently for mental health recovery post-Katrina in New Orleans.[100] In this respect, the approach of community-engaged, multisector coalition support for evidence-based depression collaborative care programs relative to individual program expert training, even across the same range of sectors, can be seen as having current relevance for stakeholder decisions while suggesting areas for further research to confirm findings, and potentially strengthen effects.

2. *Results in Context*

Aim 1: For 3-year follow-up, we found no main intervention effects (CEP versus RS) on primary outcomes (depressive symptoms and mental health–related quality of life) that are usual targets of collaborative care. This could be due to the fact that both of the compared interventions supported evidence-based collaborative care for depression. It may also have been due to the 2-year gap from study support for interventions to follow-up data collection, with likely turnover in program staff, or discontinuation of services by programs or of client use of services at assigned program sites. Further, depression can be chronic or recurrent, and raw data suggested that in both intervention conditions, clients improved somewhat over time, but there were substantial rates of residual depression and poor mental health–related quality of life, suggesting further room for improvement in services. These are important potential issues for further research. However, we found statistically significant but modest effect sizes at 3 years on community-prioritized outcomes—PHRQL and behavioral health hospitalization nights—favoring CEP relative to RS. Long-term physical health improvements with CEP might be due to earlier (6-12 months) CEP effects on reducing poor mental health quality of life, increasing physical activity, or reducing homelessness risk factors.[49] A reduction in behavioral health hospital nights with CEP at 3 years is consistent with findings of reduced likelihood of any behavioral health hospitalization at 6 months and primary analyses for 12 months.[49,51] Long-term effects on hospitalization nights could reflect effects of CEP on improving PHRQL or increasing community supports, given increased faith-based depression services with CEP relative to RS at 3 years. Given the high clinical complexity of CPIC participants, the greater use of mood stabilizers in CEP than in RS, also observed at 3 years, could be a factor in reducing hospital nights. However, this medication finding was sensitive to statistical modeling (not significant in longitudinal analysis models) and not as robust with pFDR adjustment for multiple statistical comparisons. Systematic reviews support effectiveness of depression collaborative care for primary care patients in terms of depression outcomes[19]; a few studies show improved physical functioning [26,32-34]; and some provide evidence of similar or greater effectiveness for racial and ethnic minorities as for whites.[38-41] Longer-term outcome studies beyond 1 to 2 years are rare.[55] A Cochrane review[47] identified CPIC as the main rigorous study internationally of the added value of coalitions over an alternative to improve health of minority populations. Thus,

long-term outcome findings, even if exploratory, may be important for informing research and filling an information gap to inform policy on coalitions for addressing disparities in depression outcomes. Modest intervention effects on improving physical health could be associated with subsequent gains in mental health, an issue for future research.

In subanalyses of intervention effects within each type of screening sector (health care or community-based program) for initial participant enrollment, we found across all follow-up survey periods that only 1 community-prioritized outcome (behavioral hospitalizations at 6 months) had a significant intervention-by-sector interaction (greater reduction under CEP relative to RS in community than health care sectors). The lack of significant interactions suggests that the pattern observed at each follow-up of favorable effects of CEP relative to RS may apply to clients across sectors. In addition, exploratory subanalyses of intervention effects within sector confirmed benefits of CEP relative to RS for each sector, in terms of at least 1 primary outcome at 1 follow-up (MHRQL for health care sector clients at 6 months and for community sector clients at 12 months) and 1 or more community-prioritized outcomes across follow-ups (for health care clients, greater likelihood of mental wellness at 6 months and greater PHRQL at 36 months; and for social-community sector clients, lower likelihood of having homelessness or multiple risk factors for homelessness at 6 months).

For services use, there were multiple significant intervention-by-sector interactions at 3 years, largely confirmed in sensitivity analyses including longitudinal models. The pattern of findings showed greater increase in use of health care visits and of at least minimally appropriate treatment at 3 years under CEP relative to RS among clients initially enrolled in community rather than health care sectors. But there were greater increases under CEP relative to RS in use of faith-based and any community depression services among clients enrolled in health care rather than community sectors. This could be due to client learning, after having greater exposure under the CEP model, through referrals across sectors, about services they were less familiar with, or from ongoing collaborative program ties. These are also issues for future research. Our stakeholders found it important that community sector clients, considered at higher risk for not accessing health care services, had long-term increases in depression care under CEP relative to RS. At the same time, we found less use of specialty medication visits (at 6

months) followed by less use of antidepressants (at 12 months) among health care clients under CEP compared with RS, without significant interactions. This pattern may suggest greater attention is needed to medication management in CEP for health care clients. Alternatively, this might reflect earlier MHRQL improvement under CEP in this sector, an issue for future research.

In qualitative follow-up interviews (Aim 3) for a subsample, we found that African American and Latino depressed clients in underresourced Los Angeles communities have multiple needs, ranging from physical and mental health to housing, employment, and managing relationships. Clients' concerns extended beyond health status. While clients with improved depression prioritized support for relationships with others, those with persistent depression prioritized mental health. Clients with improved symptoms may be able to focus on other priorities, providing a window for social intervention. Interviews of a subsample of program staff showed that they understood depressed clients' complex health and social needs, viewing housing, employment, and mental health as the most pressing. Regardless of sector, staff described their mission as providing care to the whole person, not services for a specific problem, and described clients' needs as best addressed together. Staff articulated an ideal of agency collaboration for clients' well-being and access to needed services. These qualitative findings are broadly consistent with studies of overlapping social risk factors for groups at risk for disparities in chronic conditions such as diabetes,[101] and multisector interventions for persons with serious mental illness.[102]

*3. Implementation of Results**):*** One option for improving CEP may be increasing the focus on access to evidence-based antidepressant medications, given that there was not an initial effect of CEP relative to RS on increasing evidence-based treatments, but rather an effect at 3 years within clients initially enrolled in community-based service sectors. Implementation relied largely on in-person trainings and toolkits available online, on flashdrives, and in writing. Dissemination might be facilitated through greater use of technology supports.

Interviews with key leaders implementing LAC HNI (Aim 4) reinforced the view voiced by CPIC stakeholders that multiple social determinants of health—housing, employment, education, substance use, and various forms of violence and safety issues—affect clients' mental health in their neighborhoods. Leaders emphasized the importance of simultaneously

addressing multiple social determinants while viewing this as a role of HNI, in addition to services coordination. Leaders recognized the importance of HNI coalitions building community capacity, social cohesion, and collective efficacy across sectors of care. National stakeholders who convened in Arlington, Virginia, to review CPIC, HNI, and ThriveNYC viewed the findings and initiatives, consistent with the model of Kingdon,[94] as providing a window of opportunity for behavioral health policy change. Within this framework, attendees recognized the problem of persistent disparities in behavioral health outcomes and in accessing care. They shared an understanding that these new policies offered an approach to engage communities in service improvements and to address social determinants, with CPIC as an example with promising evidence. They also noted that the HNI and ThriveNYC initiatives had developed political support to proceed, with potential initial resources identified. Stakeholders acknowledged the importance of impact data on these initiatives for sustainability.

4. *Generalizability:* The CPIC study and PCORI 3-year extension study and qualitative evaluation of HNI were based in 2 underresourced communities in LAC, and the population was primarily African American and Latino with smaller samples of whites and other ethnic groups, and largely focused on safety-nets which serve health care and community-based organizations. Generalizability to other communities, areas, and cultural groups is not established and is an important issue for future research.

5. *Subpopulations*: CPIC and the 3-year extension study had ethnically and clinically diverse samples with high representation of persons with comorbid chronic medical conditions or psychiatric conditions including substance use disorders. Subanalyses focused on depressed clients screened and enrolled in either health care (two-thirds of sample) or social-community (one-third of sample) service sectors are a novel feature of this study. For primary and community-prioritized outcomes, there were few intervention-by-sector interactions, but there was evidence within each sector of consistent benefits of CEP relative to RS in 1 primary outcome and 1 or more community-prioritized outcomes. This pattern of findings suggests that the main conclusion of some benefits of CEP relative to RS for the combined sample apply across and within sectors. In addition, there was a consistent pattern of intervention-by-sector interactions in outpatient services use at 3 years. The findings included greater increase in

health care depression services under CEP than RS for community instead of health care screening sector clients, consistent with a long-term effect on care of exposure to alternative sectors through the coalition model.

6. *Limitations:* Limitations include having only 2 Los Angeles communities; self-report measures for all variables including services use, as we wanted a consistent indicator of use of depression services across programs that had and did not have records; and program-level randomization, which could lead to contamination across intervention conditions in the same community. Because both interventions used the same toolkits, the main contamination would be exposure of RS clients to CEP network effects, particularly as programs and clients were not restricted to use of specific networks or approaches to treatments or referrals. Given that outcome results all favored CEP, this design feature reflects a conservative bias and we may underestimate CEP benefits. As noted in Appendix II and Ong et al.,[59] during the main study, the highest rates of contamination occurred in the 6 months prior to baseline (prior to most client intervention exposure) and affected about 10% to 13% of clients in both conditions during the active intervention period—a nontrivial but moderate level of contamination. Further, Ong et al.,[59] reported moderate rates of use of depression services in programs in the assigned intervention condition, declining from about 50% to 30% over the first 12 months. This suggests that lack of active intervention exposure may be a limitation, an area for improvement of patient engagement in future studies. Other limitations include attrition, noted in the Cochrane Collaborative Review as a main limitation[47]; but we apply response weights and use multiple imputation in primary models. Other strategies that fit 3-level mixed-effects models for longitudinal analyses did not consistently converge for binary and count outcome variables; therefore we used a generalized estimating equation model for the primary outcomes. We examined sensitivity of conclusions to statistical modeling including raw data and longitudinal models (without response weights) and noted some sensitivity of main intervention outcomes for the overall sample at 3 years, but not for 3-year utilization intervention-by-sector interactions.

While results are subject to multiple outcome comparisons, we provided guidance for interpretation in the context of multiple statistical comparisons using an extension of the false

discovery rate.[86] We provided CEP but not RS sites (with the exception of 1 site having 2 different programs, randomized to different intervention arms) with lists of participating clients for administrators to keep in locked files; there is little evidence that providing depression screening results alone affects outcomes and lists were not shared across sites. However, if used by programs, the lists may have cued intervention activities with potential bias toward overstating CEP's effectiveness. Limitations of the qualitative components include (1) systematic convenience sampling of CPIC provider respondents rather than random sampling; (2) interviews of HNI stakeholders early in the initiative's development process, and mostly provider stakeholders; and (3) relatively few national stakeholders, who may have been more positive about CPIC-related policy initiatives (HNI, ThriveNYC). Sampling goals and distributions were met for qualitative interviews and the data support a range of responses and themes.

7. *Future Research*: Overall, we think an important direction for research is to further examine the comparative effectiveness of multisector coalition models for expanded collaborative care for depression and other conditions, relative to other support strategies for collaborative care such as time-limited technical assistance to individual programs, as well as to usual care. It would be important to determine, for example, if long-term outcomes are strengthened through continued intervention support, and when applying models to whole communities rather than within-community. Given that this is one of the first rigorous studies of the added value of a coalition over an alternative approach to affect health for minority communities,[47] replication would be valuable, including for long-term outcomes. Replication is also important given early application in policy initiatives such as LAC HNI and ThriveNYC, with a similar model used post-Katrina in New Orleans[73,103] and postfloods in Baton Rouge. Future replications may strengthen the focus on medication management in health care, requiring stronger engagement of prescribing providers. The qualitative findings suggest that an important focus for research may include addressing social determinants of health/mental health—such as housing, safety, employment, and poverty—over and above mental health services improvement. Investing in this line of research could inform national and local initiatives, such as the Robert Wood Johnson Foundation's Culture of Health initiative,[104] Accountable Care Communities,[105] and pilots in California's 1115 Medicaid waiver[106] promoting

collaboration across health and nonhealth sectors. Yet little is known about best practices for such collaboration.[47,107,108] Staff representatives in our extension study emphasized the importance of trusting and respectful relationships with clients and use of shared decision making, consistent with recommendations for collaboration.[109,110] The literature on quality improvement learning collaboratives[90,111-114] and multimodality programs for persons with severe mental illness[102,115,116] may provide collaboration models, structures, and management strategies. The growth of place-based initiatives supporting health equity in nonhealth sectors, such as schools, may be an important direction,[117] as well as "windows of opportunity" for policy change, suggested by Kingdon,[94,97] both for CEP dissemination and for evaluation of broader initiatives informed by CPIC that have expanded the coalition approach.

Conclusions

This 3-year extension study of CPIC, 2 years after the end of main study intervention support, suggests no continued effects of the CEP coalition intervention, relative to RS individual program technical assistance, on clients' primary mental health outcomes. However, there were modest effects favoring CEP on community-prioritized outcomes of improved physical health quality of life and reduced behavioral health hospitalization nights. In addition, there were few significant intervention-by-sector interactions on outcomes across all study periods, but evidence of benefits for CEP relative to RS for clients screened in both sectors, suggesting overall outcome results apply across the social-community and health care sectors for the main and extension studies. There was evidence at 3 years of intervention-by-sector interactions on outpatient use, consistent with CEP encouraging greater use of depression services in health care settings for community sector enrollees and in community settings for health care sector enrollees. This suggests a greater network exposure effect from the coalition model. These findings are subject to limitations, including moderately high attrition, reliance on self-reported measures, 2 LAC communities with an emphasis on African Americans and Latinos, and potential for intervention contamination. However, even modest long-term client health and utilization effects of program capacity-building interventions may be important to inform future research and practice regarding addressing disparities in depression outcomes. This study included qualitative studies of stakeholder priorities, indicating that CPIC clients and

providers prioritized addressing social determinants and mental and physical health, a direction reinforced by national stakeholders briefed on CPIC findings and LAC HNI and ThriveNYC. In addition to evaluating such innovative policy initiatives, comparing the effectiveness of alternative approaches to integrating depression disparities and underlying social determinants may be an important direction for future research that is also responsive to patient, provider, and policy stakeholder priorities.

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Related Publications

Published:

1. Ong MK, Jones L, Aoki W, Belin TR, Bromley E, Chung B, Dixon E, Johnson MD, Jones F, Koegel P, Khodyakov D, Landry CM, Lizaola E, Mtume N, Ngo VK, Perlman J, Pulido E, Sauer V, Sherbourne CD, Tang L, Vidaurri E, Whittington Y, Williams P, Lucas-Wright A, Zhang L, Southard M, Miranda J, Wells K. A community-partnered, participatory cluster-randomized study of depression care quality improvement: Three-year outcomes. Psychiatric Services, 2017; 68 (12): 1262-1270.
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3. Figueroa C, Castillo EG, Norquist G, Wells KB, Griffith K, Kadkhoda F, Jones F, Shorter P, Bromley E. A window of opportunity for equity: visions and strategies for behavioral health policy innovation. Ethnicity Dis, 2018. In press.
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Appendix

Table of Contents

I	Description of Main Study Design
II	Estimate of Use of Programs for Depression Services for Programs in Unassigned Intervention (Contamination) and Assigned Intervention During the Main Study (baseline to 12 months)
III	Community Partners in Care Collaborative Care Resources
IV	Community Engagement and Planning
V	Qualitative Interview Guides
	Client 3-Year Qualitative Interviewer Guide
	Staff Qualitative Interviews Guide
	HNI Stakeholder Interviews Questionnaire
	Policy and Funder Stakeholders Interviews Questionnaire
VI	References

I. Description of Main Study Design

Sampling of Communities, Agencies/Programs and Randomization:

The *communities*, selected by convenience, are South Los Angeles (1.5 million people) and Hollywood-Metro Los Angeles (500K people) with majority Latino and substantial African American populations and high rates of unemployment and indicators of health disparities. *Agencies/Programs*: The CPIC Council used County lists and community recommendations to create a sampling frame for service programs viewed by stakeholders as relevant to depression: mental health specialty; primary care/public health; substance abuse outpatient, residential and self-help; social services (i.e., prisoner re-entry, family preservation and homeless-serving outpatient and residential); and "community-trusted" including faith-based, senior/community centers, hair salons, and exercise clubs. We intentionally included agencies serving four community-prioritized special populations (African Americans, substance abuse programs, elderly, homeless). Within agencies, programs delivering this range of services were eligible if they had ≥15 clients/week, ≥1-2 staff, and viewed participation as economically feasible. Through a multiple-step process, we identified 60 eligible agencies having 194 programs, of which 133 were potentially eligible pending final determination post-randomization at site visits, a strategy used for feasibility given the number of programs and study time frame. Among potentially eligible programs, we used group-level randomization[1]. Within sectors, programs were first matched on client size and smaller programs (e.g. faith-based, hair salons) were joined based on established relationships. Then, matched pairs of programs or clusters of programs were randomized within community, one in a pair to each intervention arm; but a few unique unmatched programs were individually randomized. We used a random number generator and Council members provided seed numbers to initiate randomization (65 programs RS, 68 CEP). Site visits post- randomization to confirm eligibility and finalize enrollment were conducted by staff blinded to assignment: 20 programs were ineligible, 18 refused, and 95 programs (already randomized) from 50 agencies enrolled ((46 RS, 49 CEP) (Figure 1)). We determined that participating and nonparticipating programs were comparable in neighborhood demographics (age, sex, race, population density and income) by zip code-level census-tract data (each $p>.10$)[2,3].

Participating Program Staff

Post enrollment, programs were asked to assign administrators as study liaisons. We offered providers with client contact enrollment in a substudy. Enrolled administrators and providers (referred to as program staff) were invited to complete on-line/ written baseline and 12-month surveys; new staff could enroll at the second wave. Of 1607 staff, 536 enrolled (257 RS, 279 CEP), 457 completed any survey.

Clients (Main Study)

Within programs, consecutive adult clients or parents of child clients were asked by RAND staff to participate in screening over several days per program, March to November 2010, following a protocol tailored to location (e.g., waiting rooms, food lines/events, residential) and client volume. In all but 2 locations (large food lines for homeless), all program visits during screening hours were identified to be approached for screening, in a random order and then approached; in 4 of these sites, some clients left the site prior to being approached (N=33); otherwise all clients were approached in these sites. In the 2 large food lines, a random sample of total clients (30% in one site, 50% in the other) were approached. Over 95% of clients approached across all programs agreed to screening and among those screened, 1,322 were eligible based on depression [modified, 8-item patient health questionnaire (PHQ-8) score ≥10, with 2 versions of 1 item with and without the word depression, a positive response to either counting), providing contact information, not grossly cognitively impaired by staff assessment and speaking English or Spanish (all study materials and surveys were in both languages). Of screened, 1,322 (30 %) participants were eligible and of these 1,246 (94 %) enrolled, of whom 79% (N=981) completed baseline surveys. Of 1,093 participants approached for 6-month surveys, 69% (N=759) participated; of 974 participants approached for 12-month surveys, 75% (N=733) participated. The analytic sample for the main study comprised 1018 individuals (77% of eligible; 82% of enrolled) who completed ≥1 surveys at baseline, 6 months, or 12 months. Table A1 presents the number of enrolled participants by ethnicity and race.

Table A1. Enrolled Community Partners in Care Participants by Ethnicity and Race Categories (N=1,246)	
Ethnic Category	N
Hispanic or Latino	509
Not Hispanic or Latino	734
Unknown (individuals not reporting ethnicity)	3
Racial Categories	
American Indian/Alaska Native	17
Asian	19
Native Hawaiian or Other Pacific Islander	4
Black or African American	543
White	498
More Than One Race	71
Unknown or Not Reported	94

Main Study Interventions

***Choice of Comparators*:**

The comparison for the main and extension study was between a coalition approach across programs for expanded depression collaborative care versus technical assistance to individual programs. Both use the same evidence-based toolkits, expanded for health workers[4-8]. Given services gaps in under-resourced areas, this is a highly relevant comparison.

Resources for Services (RS). An expert, interdisciplinary team in depression collaborative care provided this intervention, with a community-engagement consultant for outreach to encourage program participation. RS offered 12 webinars for each community coalition on team-building; assessment and medication management; case management; and CBT, encouraging a "train-the-trainer" model where those participating could bring the materials back to other staff in their programs. RS also offered one site visit for each primary care program on clinical assessment, medication management and collaborative care overview.

Community Engagement and Planning (CEP) invited program administrators to 2-hour planning meetings bimonthly for 4 months, co-chaired by study and community leaders as a CEP Council. The CEP Council goals were to support use of the collaborative care toolkits as a network. This included reviewing the toolkits, promoting community leaders as co-trainers, developing collaboration agreements, reviewing barriers and solutions to collaboration, and

developing innovations to enhance fit of the toolkits to community culture. Each CEP Council was supported by $15K from the study for adaptations and consultations and payments for unaffiliated community members (not paid by agencies). Each CEP Council was asked to develop a written plan for training and oversight of implementation. The CEP Councils then provided trainings through full and half-day conferences, webinars, follow-up supervision for CBT and case management and site visits to increase reach to staff. RS and CEP both had online, flashdrive and written toolkits (Table 1). In each intervention condition, eligible providers from participating programs could participate in trainings whether or not they enrolled in the provider substudy (for tracking outcomes for providers through surveys). Clients in participating programs could use intervention resources regardless of whether or not they enrolled in the study (for tracking outcomes with surveys). In the main study, CEP coalitions relative to RS offered more training and supervision hours and a higher percentage of eligible CEP than RS providers participated in trainings[9]. The study provided lists of enrolled clients to CEP but not RS administrators for safe-keeping in a locked file; but in one site with both study arms in different programs, both were given such lists.

Weights

Enrollment: The enrollment weight was intended to make the enrolled sample (n=1,246) representative of a specific target population. That target population was defined as people who were: aged 18 or older, visited a participating CPIC sties during our screening window, screened positive for PHQ-8, and provided contact information. We created enrollment weights based on propensity weighting adjustment, by fitting logistic regression models to predict the enrollment among those eligible. The reciprocal of the predicted response probability was used as the enrollment weight for each participant. Five versions of the enrollment weight were created corresponding to five imputed screener data, because imputed predictors from the screener data were used in fitting logistic regressions. Common predictors of age, community, and type of programs were used in all models.

Attrition: To control for potential nonresponse bias, we used nonresponse weighting to address missing data for subjects who did neither complete baseline nor 6-month follow-up assessments (n=227). We started with a large set of independent categorical variables to be considered for a logistic regression on the outcome of response (coded 1 if completed either

baseline or 6 months follow-up and 0 otherwise). The final model included all predictors that were significant ($p<0.05$) for either the intervention group or the control group (age, gender, ethnicity, living situation, income, US born), as well as for the levels of two design variables (community, and type of programs).

Multiple Imputation

Item-level Missing Data: We used an extended hot deck multiple imputation technique to impute missing values for item- level nonresponse[10,11]. The procedure was based on cycling through each missing-data pattern on each variable with incomplete items. This method involved two steps: 1) forming imputation classes based on the predicted mean of the variable being imputed from a multiple regression model, and 2) drawing imputations at random from observed data within each class based on an approximate Bayesian bootstrap. To reflect the uncertainty of donor cells we created bootstrap weights and then used the product of the bootstrap weights in the multiple imputation model. Five imputed datasets were created. Each of the imputed data sets differs by the bootstrap weight and the seed used to obtain the random number employed in the hot deck imputation. Data on several hundred, multi-item scales were collected at screener, baseline and follow-up time points. Most variables had item-level missingness rates of less than 5% except for baseline income and MINI variables. With imputations stratified by intervention arms, 5 alternative imputed datasets were produced for screener, baseline, 6-month, and 12-month follow-ups, and multiple imputation inferences were used in all analysis[12,13].

The approach for selecting variables for multiple regression models was intended to preserve the associations and relationships among variables. In general, we identified common predictors for all imputation models including design variables (community, type of programs), social demographic variables (age, gender, ethnicity, marital status, education, living situation, income, and working status), and PHQ-8 score. For baseline, 6, and 12-month data, baseline health variables (count of chronic medical conditions, PCS12 and MCS12) were included. In addition to these common predictors, each imputation model also included other predictors to be used in later analyses of interest. The order in which variables were imputed was determined based on a judgment of the analytic importance of the variables and the degree of

missing data. Earlier imputed values were used during subsequent imputation steps, implying some dependence on the order in which variables were imputed.

Unit-Level Multiple Imputation The analytic sample is comprised of 1,018 (77% of eligible, 82% of enrolled) who completed at least 1 survey and not reported deceased at the given follow-up. (Table A2).

Table A2. Unit response pattern over waves in analytic sample a

Baseline	6-month	12-month	Overall (n=1018)	RS (n=504)	CEP (n=514)
X	X	X	641	329	312
X	X	M	80	39	41
X	M	X	61	26	35
X	M	M	147	72	75
X	M	N	22	10	12
X	N	X	2	2	0
X	N	M	4	0	4
X	N	N	23	14	9
M	X	X	29	7	22
M	X	M	9	5	4

[a]X: responded; M: missing the wave (approached by the project survey group but not completed); N: Not approached for telephone survey because the previous survey status was in one of following categories: final refusal, ill or incarceration, unable to contact, or deceased.
No. of programs: 90 programs in total (46 CEP, 44 RS).

Unless otherwise specified, the imputed analytic N for 6 months outcome analysis is 1,018 but the actual sample is 759. For 12 months outcome analysis is 1,013 but the actual sample is 733. Cumulatively, there were 2, 3, and 8 participants who were deceased at the baseline, 6-, and 12-month follow-ups, and their values were not imputed. There were 38 cases without baseline and 256 without 6 months follow-up data. We used a hot-deck multiple imputation procedure based on an approximate Bayesian bootstrap method for unit-level missing data[14,15]. This model assumes that both missingness and dropout arise from mechanisms that are missing at random (MAR) in the sense defined by Rubin[12,13].

Our imputation techniques attempted to include information related to the missing values whenever possible. To impute baseline, we first modeled the propensity of response at the baseline given data from screener. In Step 2, we stratified cases based on the quintiles of the propensity scores and use the approximate Bayesian bootstrap to select donors. In applications, we fitted multiple logistic regression models separately by two intervention arms. We started with imputing baseline. For each of the 5 item-level imputed screener datasets, we

imputed a unit-level imputation baseline dataset. Limited to analytic sample of 1018, we then used baseline as predictors for modeling 6-month follow-up data and produced a unit-level imputation dataset. In modeling the logistic regression of predicting response propensities, we started with a large set of independent variables. The final baseline model included predictors: age, gender, ethnicity, income, living situation, US born, community, and type of programs. The 6-month models included participants' characteristics assessed at screener (age, gender, ethnicity, health insurance, and type of screening program.), and baseline clinic and service variables (multiple chronic conditions, alcohol abuse or use of illicit drugs, any depression care). The 12-month models included additional variables: community, PHQ-8 assesses at screener, mental wellness, homeless status at baseline. Values for five participants who were deceased were not imputed.

II. Estimate of Use of Programs for Depression Services for Programs in Unassigned Intervention (Contamination) and Assigned Intervention During the Main Study (baseline to 12 months)

To facilitate interpretation of intervention effects over time, we include descriptive information from the main study intervention support period (baseline, six months, and 12 months) on the extent to which clients received services for depression from any program in their assigned intervention as well as to the intervention not assigned as an indicator of potential contamination. To do this, we used data collected in baseline, 6 and 12 month surveys. For each of 7 sectors reported as used for mental health or depression services, we asked for up to 4 names and locations of providers for that type of service, verified provider/location online or through calling and checked that the type of service reported was potentially offered for community-based locations. For each location reported, we categorized the location as from an assigned intervention for that participant based on screening location for enrollment, or from the opposite intervention, or not an intervention location. We identified at the client level, use of any assigned intervention service and any use of opposite intervention service in a given survey[16].

Table A3 presents descriptive data on the distribution of use of depression services stratified by intervention group and intervention status of programs visited for six months prior to baseline and six- and twelve-month follow-up.

Table A3. Depression services use, intervention exposure, and contamination among study participants in Community Partners in Care (CPIC) at baseline and six- and 12-month follow-ups, by intervention group[a]

	Baseline				Month 6				Month 12			
	RS (N=492)		CEP (N=489)		RS (N=380)		CEP (N=379)		RS (N=364)		CEP (N=369)	
Variable	N	%	N	%	N	%	N	%	N	%	N	%
No depression services used	96	20	101	21	102	27	95	25	132	36	127	34
Received services only from sites not participating in CPIC	112	23	110	22	87	23	115	30	96	26	101	27
Any exposure to the assigned intervention	261	53	241	49	167	44	151	40	112	31	116	31
Any exposure to the nonassigned intervention (contamination)	58	12	91	19	36	9	50	13	33	9	46	12

[a]RS, Resources for Services (technical assistance to individual programs); CEP, Community Engagement and Planning. Percentages do not sum to 100% because of overlap from individuals who used both the assigned and the nonassigned intervention

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Across survey periods for both CEP and RS, the percentage of clients with any exposure to depression services delivered by a site in the same intervention condition as their screening site was about 50% at baseline, 40% at six months, and 30% at 12 months. Levels of exposure to services at a site assigned to the other intervention were moderate for six months before baseline (19% for CEP, 12% for RS), but more modest yet nontrivial at six and 12 months (about 10%), suggesting contamination was present not high during the active intervention support period. At the same time, level of active assigned intervention exposure was moderate and declining over time.

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III. Community Partners in Care Collaborative Care Resources

Treating depression often works best with a team approach. In busy agencies, no one person has the time or expertise to do everything necessary for treating depression. For example, physicians are needed to write prescriptions for individuals who want to take medicines to improve their mood. Psychotherapists are necessary for those who want talk therapy to treat their depression. Both medicines and talk therapy are helpful for many people who are depressed.

Medicines and talk therapy are the cornerstone treatments for depression. However, a team beyond a physician and psychotherapist are often needed to make depression treatment really work. First, it is helpful to have someone to spend extra time with a depressed person to help her understand depression and treatments that can help. This often takes more time than a physician has in a busy schedule.

A service provider such as a nurse, social worker, case manager, or outreach worker can often spend time with a depressed person to teach about depression and depression treatment options, and to help her get an appointment with a physician or therapist. This same provider is also essential for following up with the person. Through a series of phone calls, this provider is often able to keep the depression treatment on track.

One other person is necessary for a team approach to depression treatment. A psychiatrist needs to be available to general physicians, nurses, or psychotherapists to help them care for clients who don't respond to medication or psychotherapy within six to eight weeks. The psychiatrist might suggest other medicines or treatments and can be an important resource for helping those who don't respond at first to depression treatment.

For depression treatment to be truly successful, a team approach is often best.

In the collaborative care model, the team is composed of a primary care provider, a therapist, a depression care manager, and a psychiatrist. Many different kinds of providers may play the care manager role and ensure that a client is connected with the other types of providers needed to treat depression within a single agency or across many agencies, through referrals.

In Community Partners in Care, the role of care managers was expanded to include case managers, health outreach workers, and community leaders such as faith-based leaders, based largely on an expansion of Collaborative Care developed post-Katrina in New Orleans for the Mental Health Infrastructure and Training project[8,17]. Below is a review of the roles and resources for different members of the collaborative care team. All of these materials were available to both the Resources for Services (RS) or expert training intervention for individual

programs, and for Community Engagement and Planning (CEP) a multi-sector coalition approach to support collaborative care for depression.

Primary Care Provider

Primary care providers are a diverse group of people including physicians, nurse practitioners, physician assistants, and nurses. In the collaborative care model, primary care providers may use the evaluation algorithm in the Clinician Toolkit for evaluating people with symptoms of depression. This algorithm takes account of the wide variety of comorbidities and diagnoses in individuals presenting symptoms of depression. The algorithm helps providers to manage depressed patients efficiently while staying focused on the main therapeutic problems of treating major depression and dysthymia.

Tasks and activities of the primary care provider treating depression in the collaborative care model include:

- Assess patient/client screened positive for potential depression
- Educating the patient about depression and treatment options
- Reaching an agreement on diagnosis and treatment strategy
- Reduce severity of depression by treatment, medication, referrals:
- Provide care in a culturally competent/sensitive manner
- Strengthen ability of patient/client to cope more effectively
- Communicate patient/client status to care/case manager for appropriate follow-up
- Monitor outcomes and seek consultation/referral as needed
- Prevent relapse and recurrence among patients with prior episodes of depression

Treatment tips: For antidepressants:

- Use an adequate dosage level. Primary care physicians often 'undertreat' depression with subtherapeutic doses.
- Continue medications for 6 to 9 months after recovery to ensure long-term success. About 35% of patients stop taking their antidepressants in the first month of treatment.

For psychotherapy:

- Use/refer for a type known to be successful for depression.
- Continue monitoring psychotherapy patients for relapse during the 6 to 9 months after treatment

Psychiatrist

The providers implementing collaborative care for depression benefit from consultation with a psychiatrist. A psychiatrist can help primary care providers, care managers, and therapists when clients don't seem to respond to treatment

Tasks and activities include:

- Oversee medication management
- Provide educational sessions and consultations to primary care providers and therapists
- Provide antidepressant prescription if requested by a client's primary care provider
- Have in-person consultations with clients if necessary
- Respond to emergency situations with clients
- Make treatment plans for clients with co-morbid depression and anxiety disorders

Resource: Clinician Toolkit

The above mentioned information and much more on depression assessment and management can be found in the CPIC Clinician Guide. This guide is intended to increase the skills, confidence, and adherence to national guidelines for depression among primary care clinicians, including physicians, nurse practitioners, physician assistants, and nurses. It is also intended as a foundation for collaboration between mental health specialists and primary care clinicians.

Therapist

Therapists will learn more about or Cognitive Behavioral Therapy (CBT) for depression. Talk therapy has been shown to improve depression, particularly CBT. Therapists will hold individual and group CBT sessions for depressed clients.

Therapist tasks and activities in CPIC also include:

- Reduce stigma of depression and of seeking help
- Reduce risk or severity of depression through treatment and referrals
- Strengthen ability of patient/client to cope more effectively
- Provide care in a culturally competent/sensitive manner
- Complete contact reports and monitor outcomes
- Using contact reports, provide the Council with aggregated client outcome data
- Improve care for depression utilizing available unit/site resources

Psychotherapy/CBT Manuals

Psychotherapy is a form of therapy, in this case for depression, where talking is key. Psychotherapy typically occurs between a mental health professional and a patient, and it can be done in a one-to-one session or group setting.

There are various types of psychotherapy, but the focus in the CPIC initiative is on Cognitive Behavioral Therapy (CBT). CPIC offers a number of BRIGHT CBT manuals in English and Spanish to help therapists and other types of providers with the process of treating depression.

BRIGHT can be provided in both group and individual treatment sessions. Each manual includes a provider guidebook and client workbook. In the group session, treatment can be done in an open or closed format. In a closed format, group membership remains the same throughout the entire treatment program, starting from the first module onto the second and third. In an open format, members can join at whichever module and do not necessarily have to wait 12 weeks for the next program to begin.

The CBT Therapist toolkit provided includes a variety of clinical tools and forms like Intake/Assessments Worksheets and Forms, Therapy Process and Outcome Tracking, Coordination of Care, and Forms for Patients. The manuals in the toolkits include manuals for group leaders and members and for providers and individual clients, in English and Spanish.

Resources:
Therapist Toolkit
Bright SA Manual
CBT Forms

Group Therapy Manuals for Group Leaders and Members in English here:
CBT Manual for Member closed group (English)
CBT Manual for Leader English Closed Group
CBT Manual for Member open group (English)
CBT Manual for Leader open group (English)

Group Therapy Manuals for Group Leaders and Members in Spanish here:
CBT Manual for Member closed group (Spanish)
CBT Manual for Leader closed group (Spanish)
CBT Manual for Member open group (Spanish)
CBT Manual for Leader open group (Spanish)

Individual Therapy Manuals for Providers and Clients in English here:
CBT Manual Client Individual Session (English)
CBT Manual Provider Individual Session (English)

and Individual Therapy Manuals for Providers and Clients in Spanish here:
CBT Manual for Client Individual session (Spanish)
CBT Manual for Provider Individual session (Spanish)

Depression Care Managers

Care managers help clients take an active role in their own care and coordinate care with other providers to help manage their clients' depression. Tasks and activities for the depression care manger include:

- Screening – using a tool to identify people with depression and stress

- Education – providing and explaining materials about depression and stress
- Help make and follow up on referrals if a client's screening shows that they may have depression and stress. This involves using resource materials or existing referral processes at your agency
- Provide support through behavioral activation and problem solving skills
- Advocacy – promoting and encouraging positive health behaviors; possibly working closely with clinical care managers to check on client's progress and coordinating care for patients
- Follow-up – checking client progress and continue providing assistance to connect to services if needed, within the scope outlined by your organization

These activities may take place in settings such as clinics, churches, schools, and community centers. Overall goals for the Care Manager include:

- Promote mental health and wellness of community-at-large
- Reduce stigma of mental disorders and symptoms, and of seeking help
- Reduce risk or severity of mental disorders among underserved clients
- Assist in making and following up on referrals for treatment and care
- Assist those who are experiencing stress to change the way they deal with problems and to help themselves
- Strengthen ability of individuals to cope more effectively with stressful life situations
- Provide outreach and care in a culturally competent/sensitive manner
- Use knowledge of language, cultural practices, beliefs, etc., to structure plan of care and strengthen relationship with client

The care management toolkit contains a care management manual and forms to assist the depression care manager in coordination and in helping clients manage their depression.

Resource:
Care Manager Toolkit
Care Management Forms and Manual

Screening

Screening involves the use of a simple questionnaire to evaluate whether a client may be in need for an assessment for depression. This type of questionnaire is simple enough to be administered and scored by non-clinical/non-mental health professionals. Screening is necessary because many people are not aware of the fact that they might be experiencing depression symptoms.

There are different tools that can be used to aid in screening for depression. Once such tool is the Patient Health Questionnaire 9 (PHQ-9). It consists of 9 questions about different depression symptoms. After the questionnaire is administered to the client or completed by the client, one can use the PHQ-9 scoring card to make an assessment.

There can be two possible outcomes from the questionnaire, either positive or negative, which should be explained in detail to the client. If the outcome is positive, it's important to let the client know that further evaluation from a clinician or a counselor would be highly recommended. If the outcome is negative, it's important to let the client know that there could be a possibility that symptoms might reoccur if he/she has a history of depression but that at that moment there are no drastic indicating signs that immediate treatment is required.

When using any screening tool, it's important to take and discuss it in a private setting that is comfortable for the client.

The PHQ-9 screening tool as well as the PHQ-9 scoring card are available in English and in Spanish.

Patient Education Materials for all Providers, Outreach Workers, Community Leaders

Patient education is meant to promote awareness on mental health and wellness for both patients and the community-at-large. Patient education helps to reduce stigma of mental disorders, symptoms, and of seeking help.

The CPIC toolkit includes several patient education materials including:

- "Beating Depression: The Journey to Hope"; This book is for people who are experiencing the symptoms of depression as well as for someone who is caring for another individual suffering from depression like a patient, friend, or family member. "Beating Depression" addresses the causes and symptoms of depression, treatment options, how to get care, and ways to help oneself get well and stay well.
- An educational video titled "Beyond Depression" that was previously developed for the Partners in Care (PIC) study. The video is available both in English and Spanish and can be viewed free of charge on this page. This material is copyrighted by the RAND Corporation and has been posted with their permission. Please scroll to the bottom of this page to view either language versions.
- A brochure, also from the PIC study, which asks the question "Are you feeling tired, sad, angry, irritable, hopeless?". This brochure is also available in both English and Spanish in an easy-to-print format so that providers can give a copy to patients for them to take home and share with their loved ones if they so choose.

Resources:
Client & Community Education Toolkit
Click Here to Watch "Beyond Depression" English – YouTube
Click Here to Watch "Beyond Depression" Spanish Spanish –YouTube

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IV. Community Engagement and Planning

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The Community Engagement and Planning (CEP) intervention supports multiple kinds of agencies and academic partners in developing a community plan to improve the community's ability to address the problem of depression. Community planning for integrated services is an important part of planning in many communities.

In this project (CPIC), we are asking each CEP group to take the collaborative care toolkits for managing depression available through the study and customize these materials in partnership with the CPIC Steering Council to fit their agencies. If our new partnering agencies are unable to offer all the necessary pieces of the program to manage depression care in, we will work together to develop a referral plan to get clients the depression care they need.

The additional resources for this intervention (over and above those for Resources for Services or collaborative care for depression, expanded for community outreach workers and agencies and the toolkits supporting this intervention) include:

- Guidebooks and resources for community outreach workers and case workers that have not been extensively evaluated for their effectiveness and therefore are not part of Resources for Services. We would like to see if these resources are effective.
- Cultural competence resources (such as training in engaging culturally diverse groups in services for depression) developed in the community to fit the community.
- Resources to support community-academic, partnered planning to develop a stronger network of services for persons suffering from depression. That planning will include: 1) tailoring Resources for Services to community needs; 2) integrating Resources for Services with other community programs; 3) developing strategies to share programs across community agencies as needed; 4) co-development of strategies for multi-agency management of care.

Resources:
Community Engagement and Planning Manual (PDF)
Community Engagement and Planning Facilitators Manual (PDF)

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Appendix V

Client 3-Year Qualitative Interviewer Guide

Staff Qualitative Interviews Guide

HNI Stakeholder Interviews Questionnaire

Policy and Funder Stakeholders Interviews Questionnaire

DETAILS FOR CONDUCTING INTERVIEWS

STEPS

1. SUMMARIZE REPORT

Please review the Report Card (see sample in *Appendix A*) so that you have an understanding of the participant's issues/needs. This will help guide you in what types of questions to ask during the interview. Translate the Report Card information into a 2 or 3 sentence summary that you can share with the participant when you begin the interview. This will help you to quickly connect and relate to his or her recent situation.

2. TURN ON RECORDER

Prepare to call the participant by getting your digital recorder and head piece ready in case the participant is available to complete the interview at the time of your call. Test your equipment to make sure everything is recording properly.

START RECORDING. Leave the ear bud microphone on the table until you have secured the participant's permission to record them. Speak into the recorder:

Today's date is [DATE] and the time is [TIME]. The participant's ID number is [ID NUMBER] and my name is [INTERVIEWER NAME].

3. CALL AND CHECK AVAILABILITY

Call the participant at the numbers provided on the report card.

Hello. May I speak to [NAME]?

A. If the participant answers the phone then identify yourself and evaluate if the participant is available to conduct the interview.

Hello, my name is [INTERVIEWER NAME] and I'm calling from UCLA about Community Partners in Care. You recently completed a telephone survey and said that you would be interested in participating in a more in-depth interview about your experiences. I am calling now to conduct that follow-up interview. It will take about 30 to 45 minutes and if you complete the interview, we will send you a $25 gift card as a thank you. Are you available to do the interview now?

1. If the participant is available to complete the interview, evaluate if the participants is in a private setting to conduct the interview.

   Are you in a quiet, private setting where you will feel free to speak your mind?

   IF NO→ ASK TO MOVE TO A MORE PRIVATE ROOM
   IF YES→ CONTINUE -- GO TO STEP 4 (INFORMED CONSENT)

   If the current setting is not ideal, but is as good as it gets, then say:
   If there is an interruption, just let me know.

2. If the participant is **not** available to complete the interview at this time or could arrange to be in a more private setting later, schedule a date and time that is convenient for the participant.

   When would be a better time for us to call you back to complete the interview?

   Even if it doesn't work with your schedule, someone on the team can call them to do the interview. Write down the interview date and time on the participant's record.

B. If the participant does **not** answer the phone …

1. If there is an option to leave a voicemail, use the following message script to let them know you are trying to reach them for the interview.

Hello, this message is for [NAME]. My name is [INTERVIEWER NAME] and I'm calling from Community Partners in Care. I would like to schedule a date and time that is convenient for you to complete an interview which you agreed to participate in. Please call me at 000-000-0000 at your earliest opportunity to schedule the interview by phone. Thank you.

Write a note on the participant's record about your call attempt (date, time) and what you did (ex. left VM).

2. If there is no option to leave a voicemail, write a note on the participant's record about your call attempt (date, time) and try calling at a later time or another day.

3. If someone other than the participant answers the phone and tells you that the participant is not available, use the following message script.

Could you please have [NAME] call [INTERVIEWER'S NAME] at [Number]

If the person asks what the call is about, DO NOT reveal the nature of the study. Do not mention depression or anything that would break the participant's confidentiality.

[NAME] agreed to complete an interview for one of our community programs. Please have him/her call me. Thank you.

Write a note on the participant's record about your call attempt (date, time) and what you did (ex. left message with wife/husband/mother etc).

4. INFORMED CONSENT

If you have successfully reached the participant and are ready to begin the interview, you must first secure informed consent.

Before we begin, I want to tell you about your rights as a research participant. First, I want to make sure you understand that this interview is completely voluntary. You can skip any question that you do not want to answer or stop the interview at any time. Ok?

IF NO→ CLARIFY THAT THE INTERVIEW IS VOLUNTARY
IF YES→ CONTINUE WITH CONSENT SCRIPT

Your information is confidential. The only situation that would compel me to disclose information is if you talked about an immediate danger to yourself or others.

I would like to record this interview. This way the information you share will be recorded exactly as you say it. No one except members of the research team will listen to these tapes. When we type up the interview, we will change your name and any information that identifies you, so that your confidentiality will be protected. After the study is completed, all the tapes will be destroyed. May I have your permission to use the tape recorder?

IF NO→ THANK PARTICIPANT FOR THEIR TIME AND END CALL
IF YES→ CONTINUE WITH CONSENT SCRIPT AND INSERT EAR BUD INTO YOUR EAR

Okay. I am turning on the recorder now.

I want you to know that this research has been approved by RAND's Human Subjects Research Protection Committee. There are phone numbers to call if you have questions about this study or your rights. Would you like me to give you those numbers now?

IF NO→ CONTINUE WITH CONSENT SCRIPT
IF YES → *If you have any questions about your rights as a research participant in this interview, you may contact RAND at [Number]. The Principal Investigator at RAND and can be reached through the CPIC project coordinator [Number].*

Now that I have told you about your rights as a research participant, are you ready to start the interview?

IF NO→ THANK PARTICIPANT FOR THEIR TIME AND END CALL -- OR RESCHEDULE
IF YES → START INTERVIEW.

5. BUILD RAPPORT

Great. Well, as I said my name is [INTERVIEWER NAME]. I am a [SELF DESCRIPTION] (ex: public health worker, clinical psychologist, student, member of the community) and I am working on this project because I am interested in [AREA OF INTEREST] (ex: public health, depression, health services). So that's me.

I know a little bit about you from your answers to our last survey.
[INSERT PARTICIPANT INFO FROM REPORT CARD]

(Example: You let us know that you've been feeling pretty down for the past two weeks, but that you've also been able to find a job recently. You also mentioned you're feeling pretty good about where you live. You weren't so happy about your relationships with your family? Did I get that right?)

In the previous surveys you've answered a lot of questions and provided a lot of information about yourself. Today's interview will be different – it will be more like a conversation. I have just a few questions. I want to hear you talk openly about your experiences getting help for your problems and especially your ideas for how the people who are trying to help you could do a better job providing you with the help you need.

6. PRIORITIZING NEEDS

Be sure to write down what they say so you can use their exact words later.

➔ **As you think about all of the problems you are facing, which one do you most want help with right now?**

_____

➔ **I'm going to read a list of issues that you might want help with. Please tell me if it is a problem you are facing right now.**

o Improving your depression or low mood YES / NO _____
o Finding safety and avoiding violence around you YES / NO _____
o Treating your physical health YES / NO _____
o Completing everyday tasks like finding transportation or fixing things YES / NO _____
o Stopping your use of drugs or alcohol YES / NO _____
o Arranging housing YES / NO _____
o Finding food for you and your family YES / NO _____
o Getting benefits that you're eligible for (SSI, disability, unemployment)YES/NO_____
o Improving your spiritual health YES / NO _____
o Finding work that will make you money YES / NO _____
o Caring for others and your relationships with others YES / NO _____
o Getting Food Stamps YES / NO _____

1) **Thinking about all these issues, what do you most want help with right now?** (The answer could be the same or different than problem initially named.)
PROBLEM 1 _____

2) **What's the next most important issue that you most want help with right now?**
PROBLEM 2 _____

3) **What's the next most important issue that you most want help with right now?**
PROBLEM 3 _____

4) **What makes [PROBLEM 1] the most pressing issue right now? Why is it your priority?** *Obviously this is a big problem for you and my question may seem strange, but people have different ways of handling these things. I want to know why this is a priority for you right now.*

7. EXPLORING PROBLEM 1

All *italicized* prompts are optional. They should be used as needed, such as when participant has difficulty answering OR has a lot of relevant information to share and needs direction.

➔ **Let's talk about [PROBLEM 1], which is the need or problem that you most want help with now.**

1) **Do you have anywhere to go now to get help for this? Tell me about all of the places you are getting help from for this now, or all of the people who help you with this.** *Tell me about the most recent time you tried to get help for this?*
2) **Are you getting the help you need there?** *Is it working for you to get help there? Is it working for you to get help at this combination of places?*
3) **Tell me about the ways that this is working out for you.** *What did you like most about this? What works best about this?*
4) **Tell me about the ways that this is not working out for you.** *Why is this not the right kind of help for you? What help did you expect or hope to receive that*

you did not receive? Tell me about the things that you wish had happened when you tried to get help.

5) **Tell me about all the things that make it *difficult* to get help for this issue.** *Tell me about what keeps you from doing more to get help for this. What are the obstacles?* (Skip if the participant has no difficulty getting the right kind of help.)
6) **Can you think of anything that could turn things around for you in getting the help you need for this problem?** *Who else are you thinking of turning to for help? Where else are you thinking of going for help?*
7) **Are you talking to a healthcare provider – your doctor or someone at a mental health clinic -- about this problem? Why or why not?** (Skip if the participant has mentioned healthcare provider/clinic already.)

*If the participant is getting **no help** now for this problem, encourage him or her to talk about the most recent efforts to get help and the ways in which this worked and did not work. **If the participant has difficulty answering, focus on questions 5,6, and 7.***

8. EXPLORING DEPRESSION

If participant discussed low mood as most important problem, explore PROBLEM 2.

➔ **Let's talk about your low mood or depression.**

1) **Do you have anywhere to go now to get help for your low mood? Tell me about all of the places you are getting help from for your low mood now, or all of the people who help you with this.** *Tell me about the most recent time you tried to get help for your low mood?*
2) **Are you getting the help you need there?** *Is it working for you to get help there? Is it working for you to get help at this combination of places?*
3) **Tell me about the ways that this is working out for you.** *What did you like most about this? What works best about this?*
4) **Tell me about the ways that this is not working out for you.** *Why is this not the right kind of help for you? What help did you expect or hope to receive that you did not receive? Tell me about the things that you wish had happened when you tried to get help.*
5) **Tell me about all the things that make it *difficult* to get help for this issue.** *Tell me about what keeps you from doing more to get help for your low mood. What are the obstacles?* (Skip if the participant has no difficulty getting the right kind of help.)
6) **Can you think of anything that could turn things around for you in getting the help you need for this problem?** *Who else are you thinking of turning to for help? Where else are you thinking of going for help?*
7) **Are you talking to a healthcare provider – your doctor or someone at a mental health clinic -- about your low mood? Why or why not?** (Skip if the participant has mentioned healthcare provider/clinic already.)

*If the participant is getting **no help** now for this problem, encourage him or her to talk about the most recent efforts to get help and the ways in which this worked and did not work. **If the participant has difficulty answering, focus on questions 5,6, and 7.***

9. MORE EXPLORATION

If time remains, explore PROBLEM 2 and PROBLEM 3.

10. IMAGINING BETTER SERVICES

➔ **Now is your chance to tell us what you think service providers and healthcare providers should do differently to help you better. Consider all of the issues that we've talked about.**

1) Tell me more about what you think should change about how you receive help for all of your needs.

Where do you most like to go to get help for the needs you encounter? Tell me about that.

Of all of the places you go for help, where do you feel most welcome? Tell me about that.

Of all of the places you go for help, where do you feel most respected? Tell me about that.

Of all of the places you go for help, where do you feel most safe? Tell me about that.

What could providers do better to work with you around your needs?

Tell me more about how you would prefer to get help for the needs in your life.

Can you tell me anything more about what would make it easier to get help for your needs?

Can you think of anything that could turn things around for you?

I could imagine that things would be better if services were available all in one place or if you had a helper or a case manager to guide you through services. What do you think?

Try to imagine that you could redesign these services from scratch. How would you do it?

Raise issues and solutions that they already discussed to further explore what is possible.

11. CLOSING

➔ **Those are all of the questions I have for you. What else do you think is important to add?**

Thank you for this interview. As we move forward with this study, you may be eligible to participate in other activities, and you may be interested in participating in projects to improve services in your community. We may have other follow-up surveys in the future and would like to contact you if we get that chance. We may ask some participants to help us understand the findings or serve as advisors to the project.

1) Would you be interested in any of these activities? YES / NO

2) If so, could we have your permission to contact you again? YES / NO

3) What are the three best ways to contact you in the next month?

_____

_____

_____

We will send you a $25 gift card to Target this week.

12. 211 RESOURCE

I wanted to share a helpful resource with you. Have you heard of the LA County information line 2-1-1? You can call 2-1-1 anytime and find out about services available to you in LA County. Their advisors help callers with critical issues such as health care, shelter, food, financial assistance, substance abuse, domestic violence, programs for children and seniors, legal assistance, and mental health services. I just wanted to make sure that you know about this resource in case you haven't tried it to get help for the issues we have been talking about.

Thank you so much for participating in this interview, [NAME]. I really appreciate your time. Goodbye.

Hang up the phone and **STOP RECORDING**.

13. REPORT CARD

After completing the interview, fill in the bottom part of the participant's report card. Interviewer Name, QI Completed (Yes/No), QI Completed Date, Future Participation (Yes/No), Contact Information, and Gift Card Preference (Target) in the comments section.

14. START OVER

Take a break, if necessary. Then, start at STEP 1 for the next interview…
and the next
etc...

15. RETURN REPORT CARD & RECORDER

At the end of your shift, turn in the completed report cards to Esmeralda so that she can update the electronic records.

Leave the completed interview recording on the digital recorder. PLEASE do not delete or save the recording onto a non-secure computer. There will be a designated box in the office at UCLA where you will deposit the recorder at the end of your shift. This is so that the next interviewer can also use the recorder. We will then upload all of the interview recordings onto a secured folder on the UCLA center server.

16. COMPLETE INTERVIEW DEBRIEF

Fill out the 1-page debriefing report and place it in the inbox. If there is an urgent issue, such as a reportable event, contact the study PI immediately!

STEPS	DETAILS FOR CONDUCTING INTERVIEWS
1. GOOGLE DOCS	Please review the Administrator or Provider's information on the excel file that Esmeralda shared with you through Google Docs (https://docs.google.com/spreadsheets/d/1wwFUEjwbRcdLGm6N8OAFy4phpOXABP1gI12VmPKryWQ/edit?usp=sharing). Know the person's name, agency, sector, provider type and anything else that will help guide you in what types of questions to ask during the interview. Visit agency website to learn more about services it offers.
2. BUILD RAPPORT	Prepare to call the participant by getting your digital recorder and head piece ready. Test your equipment to make sure everything is recording properly (ex. Battery is good, memory is sufficient) Hello, may I please speak with [PARTICIPANT NAME]. My name is [INTERVIEWER NAME] and I'm calling from [UCLA, RAND, HAAF] with the Community Partners in Care study. You recently agreed to participate in a telephone interview. I am calling now to conduct that interview. It will take about 45 to 60 minutes and after completing the interview, we will send you a $40 Target gift card as a thank you.
3. INFORMED CONSENT	Participants will receive a 1-page checklist by email beforehand explaining their rights and interview procedures including recording the interview. Ask the participant if they had a chance to review the checklist, if they have any questions and if they give their permission to record the interview before you begin. Were you able to review the 1-page checklist that was emailed to you along with the reminder for today's interview? Do you have any questions about your rights as a research participant? May I have your permission to audio record this interview? If the participant **HAS NOT** reviewed the checklist, take a couple of minutes to briefly read over it with them (SEE CHECKLIST IN APPENDIX BELOW), ask if they have any questions and if they give their permission to record the interview before you begin. IF THEY DO **NOT** CONSENT TO BEING RECORDED→→ THANK PARTICIPANT FOR THEIR TIME AND END CALL IF THEY **DO** CONSENT→→ CONTINUE WITH THE INTERVIEW Okay. I am turning on the recorder now.
4. TURN ON RECORDER	**START RECORDING.** Once the participant gives you permission to record, turn on the recorder. GO TO QUESTION 1 ON NEXT PAGE

Interviewee Name: _____

SPA: _____ **Study Arm:** _____ **Sector:** _____

Agency: _____ **Role:** _____

Topic 1: Agency and its clients:

1. **Agency:** Could you please tell me a little bit about your agency. What services does your agency offer? [IF NEED BE, STATE THAT YOU UNDERSTAND THAT MAIN SERVICES THEY OFFER ARE (LIST BASED ON THE AGENCY TYPE AND INFO YOU LEARNED FROM THEIR WEBSITE), BUT ARE INTERESTED IN ANY ADDITIONAL SERVICES THE AGENCY PROVIDES]

2. **Clients:** Could you please describe your agency's typical clients? In other words, who are the people who come through your doors?

Topic 2: Clients' service needs:

3. **Concerns and service needs:** What are some of the main concerns and service needs that your clients have?

   LIST WHAT THEY MENTION AND THEN GO DOWN THE LIST IN Q.4 BELOW, ASKING ONLY ABOUT THOSE THAT HAVE NOT BEEN MENTIONED BY PARTICIPANTS.

   _____

   _____

   _____

   _____

4. **List of concerns and service needs:** I would like to go over a list of concerns and service needs that clients may have. Would you consider any of the following to be a significant concern or need that your clients have and would want help with?

- Improving depression or low mood YES / NO _____

PROBE: If YES, ask: Could you please tell us how depression or low mood affects your clients' lives?

- Finding safety and avoiding violence YES / NO _____
- Improving their physical health YES / NO_____
- Completing everyday tasks like finding transportation or fixing things YES / NO_____

  _____
- Help with stopping drug or alcohol use YES / NO_____
- Arranging housing YES / NO_____
- Finding food YES / NO_____
- Getting benefits they are eligible for (SSI, disability, unemployment) YES/NO_____

  _____
- Improving their spiritual health YES / NO _____
- Finding work/employment YES / NO _____
- Taking care of others (children, elderly parents) YES / NO _____
- Improving relationships with other people (family members; partners, co-workers etc.) YES / NO _____
- Immigration issues YES / NO _____

5. **The most important concerns/needs:** Thinking about all these concerns/needs, what are the three most important concerns/needs that you think your clients want help with? Why?

   CONCERN/NEED 1 _____

   CONCERN/NEED 2 _____

   CONCERN/NEED 3 _____

6. **Learning about clients' problems:** How do you typically find out about your clients' concerns/needs?

SAY: BEFORE WE MOVE ONTO THE NEXT SET OF QUESTIONS, I WANTED TO SHARE WITH YOU SOME PRELIMINARY FINDINGS FROM OUR INTERVIEWS WITH CPIC CLIENTS. WE TALKED TO 104 CPIC CLIENTS AND ASKED THEM THE SAME QUESTIONS ABOUT THE MOST PRESSING CONCERN/NEED THEY NEED HELP WITH. THE FOLLOWING IS THE LIST OF THE TOP NEEDS:

- MENTAL HEALTH (N=25, 24%)
- PHYSICAL HEALTH (N=19, 18%)

- FINDING HOUSING (N=15, 14%)
- FINDING WORK (N=10, 10%)

7. **Comments about client interview results:** Do you have any comments or thoughts about this list? Why is this list different from/ similar to yours?

Topic 3: Agency capacity:

NOW LET'S TALK ABOUT THE MOST IMPORTANT CONCERNS/NEEDS YOU MENTIONED EARLIER.

8. **Agency capacity:** What does your agency do to help your clients with these concerns/needs?

   [MAKE SURE THEY TALK ABOUT ALL THREE NEEDS/CONCERNS, KEEPING IN MIND THAT WHAT THEY OFFER MAY BE THE SAME FOR ALL THREE NEEDS, E.G., REFERRALS]

   If THEY REPORT DOING SOMETHING, ASK:

   - How well do you think your agency is addressing these concerns/needs?
   - What do you think could be done differently to better help your clients with these concerns/needs?

   If THEY REPORT DOING NOTHING, ASK:

   - Would your agency be interested in helping address these needs/challenges even if it is outside of the scope of services it offers?

9. **Barriers within agency:** What makes it difficult for your agency to help clients with these concerns/needs?

   [MAKE SURE THEY TALK ABOUT ALL THREE NEEDS/CONCERNS, KEEPING IN MIND THAT THE BARRIERS MIGHT BE THE SAME FOR ALL THREE NEEDS]

   PROBES, IF NEEDED: [DO NOT GO OVER THE LIST IF PARTICIPANTS HAVE SOMETHING TO SAY HERE. GO OVER THE LIST ONLY IF THEY CANNOT COME UP WITH A RESPONSE TO THE ORIGINAL QUESTION]

   - Financial resources: YES / NO _____

- Human resources (staff resistance, limited staff): YES / NO _____
- High staff turnover rate: YES / NO _____
- Large client case load: YES / NO _____
- Organizational challenges (poor coordination): YES / NO _____
- Cultural competency or linguistic barriers: YES / NO_____
- No protected time/overtime (for trainings, extra work): YES / NO _____

10. **Facilitators within agency:** What makes it easier for your agency to help clients with these concerns/needs?

[MAKE SURE THEY TALK ABOUT ALL THREE NEEDS/CONCERNS, KEEPING IN MIND THAT THE FACILITATORS MIGHT BE THE SAME FOR ALL THREE NEEDS]

PROBES, IF NEEDED: [DO NOT GO OVER THE LIST IF PARTICIPANTS HAVE SOMETHING TO SAY HERE. GO OVER THE LIST ONLY IF THEY CANNOT COME UP WITH A RESPONSE TO THE ORIGINAL QUESTION]

- Networking and relationships with other agencies: YES / NO_____
- Budget/Funding: YES / NO _____
- CPIC Support: YES / NO _____
- Trainings, Materials, or Additional Programs: YES / NO_____
- Staff Support (protected time for staff): YES / NO _____

11. **Collaboration:** Do you currently collaborate or partner with other departments from your agency or other agencies in the community to help your clients address concern/need?

If YES,

- Could you please describe your collaboration?
- How well do you think this collaboration helps your agency address these concerns/needs?
- What could be done differently to increase the impact your collaboration could have on your clients' concerns/needs?

If NO,

- Why not?
- Would you be interested in working together with other departments from your agency or other agencies in the community to help solve these concerns/needs?

- What are some of the things that make collaboration difficult or impossible?
- What resources do you need to collaborate with other departments or agencies?

Topic 4: Clients' Preferred Outcomes and Engagement:

12. **Opinions about service delivery:** What do you think your clients like about the way your agency provides services?

13. **Clients' preferred service outcomes:** What do you think your clients want as the final outcome of the care/services they receive from your agency?

14. **Client engagement:** With the move towards patient-centered care, how are you engaging clients?

    PROBE: Do your clients serve as members of your agency's advisory boards or committees?

PROBE (ONLY ASK IF RELEVANT TO THE TYPE OF AGENCY: E.G., MAY NOT BE RELEVANT FOR FAITH ORGANIZATIONS):

a) Do you engage your clients in the process of delivering services? To put it differently, do your clients serve as members of your agency's advisory boards or committees?

   If YES:

   - How do you do this?
   - What are some of the things in your clients' lives that make it difficult for them to get help from you? What keeps them from being engaged with you?

   If NO:

   - Why not?
   - Do you think it is important to engage clients? Why?
   - What keeps you from engaging clients in this process?
   - What resources do you need in order to engage your clients?

Topic 5: Impact of CPIC:

15. **Impact of CPIC on your agency:** What it impact did your agency's participation have on the way you deliver services to your clients? On the way you work with other agencies?

16. **CPIC involvement:** Are you still involved with the CPIC study? If yes, how? If no, why not? What impact did your agency's participation in CPIC have on how you deliver services?

17. **CPIC resources:** Are you using any of the CPIC resources in working with your clients? If so, how often?

PROBE: ASK ABOUT THE FOLLOWING CPIC RESOURCES:

Manuals and tracking forms for Cognitive Behavioral Therapy (CBT): YES / NO_____

IF YES, HOW OFTEN? _____

IF YES, HOW USEFUL ARE THEY? _____

Manuals and tracking forms for Care Management: YES / NO_____

IF YES, HOW OFTEN? _____

IF YES, HOW USEFUL ARE THEY? _____

Manuals and tracking forms for Medication Management: YES / NO_____

IF YES, HOW OFTEN? _____

IF YES, HOW USEFUL ARE THEY? _____

Patient education materials like brochures, videos, and resource guides: YES / NO_____

IF YES, HOW OFTEN? _____

IF YES, HOW USEFUL ARE THEY? _____

5. CLOSING

Those are all of the questions I have for you. What else do you think is important to add?

Thank you so much for participating in this interview, [NAME]. I really appreciate your time. We will send you a $40 Target gift card. Which one would you prefer? Could you please tell me the best address where we can mail your gift card:

_____

Goodbye.

Hang up the phone and **STOP RECORDING**.

6. AUDIO UPLOAD

Follow the instructions on page 10 to upload the completed interview audio file onto the file sharing website. Esmeralda will then download the recording onto a secured folder on the UCLA center server.

PLEASE DO NOT delete the recording until Esmeralda has confirmed that it has been successfully downloaded and is playing correctly. Also DO NOT save the recording onto a non-secure compute

HNI Baseline: Key Stakeholder Interview
HEALTH NEIGHBORHOOD INITIATIVE

1. Has your organization been involved in **current efforts to implement the HNI** in Los Angeles County? If so, please describe your role in the HNI.

2. From your perspective, what should be the key **priorities** of the HNI initiative?

3. From your perspective, what would be key **activities** for the HNI? (short and long term)

4. In your opinion, what are some of the key factors that will help the HNI succeed?

5. What might be key **barriers** to the success of the HNI?

6. Are you involved in the LACare HNI? If so, tell us how that differs from the DMH HNI.

7. What is **your understanding** of the approach to community engagement or partnering across community and academic agencies, used in CPIC?

8. **What relevance could the CPIC approach** to partnerships or the CPIC findings have for the HNI? How?

9. Can you provide **examples of other initiatives**, such as community partnerships or multi-sector partnerships, that you have pursued to address social determinants of health?

10. What is the scope of your agency's **partnerships with health agencies** -- including DMH, DPH, and DHS -- related to addressing the health needs of your community?
    a. Describe any of your efforts related to mental health **in partnership with DMH**.
    b. What are some of these efforts **key activities and aims**?
    c. How **organized and impactful** are these efforts? What makes you say this?
    d. **Why and how** did these partnerships come about?
    e. What **role** will they play in the HNI?
11. What is the scope of your agency's **partnerships with other community organizations** related to social determinants of mental health, such as housing, employment, or violence?

12. What are the **main** community-based agencies, organizations, or coalitions that do work related to **mental health** in your district?

13. What are some of the **barriers** to partnership across healthcare and community sectors in your district?
    a. What **strategies** could be used in the HNI to address these barriers?

14. Is there anything else that you would like to talk about? What questions do you have for us?

HNI Baseline: Key Stakeholder Interview: Policy and Funder Stakeholders Attendees, Jan 29, 2016 Arlington, VA
HEALTH NEIGHBORHOOD INITIATIVE

1. What made you interested in attending the meeting at RAND in Arlington, VA on January 29th?
    a. *Prompt*: That is, what seemed particularly compelling to you about the activities around social determinants of mental health taking place in NYC and LAC?

2. In your understanding, what are the key **priorities** of the HNI and ThriveNYC initiatives?
    a. *Prompt*: What are some of the key similarities and differences between the LAC and NYC initiatives?

3. In your view what would be the most promising strategies for addressing social determinants of mental health?
    a. *Alternate (if this raises COI concerns)*: Or, tell us a few of your thoughts about where you hope these initiatives lead …
    b. …or what you imagine could be their impact.

4. Other than New York and Los Angeles, to what extent have you seen other approaches to addressing social determinants of mental health across the country?

    a. *Prompt*: Or, what other policy initiatives might you identify as similarly focused on address social determinants of mental health?
    b. *Prompt*: What do you see as key challenges to implementing these kinds of initiatives?
    c. *Prompt if relevant (e.g., for funders or policy makers)*: Given that your mandate is to improve mental health how would you address social determinants so that it falls within the scope of your agency?

5. What are you **doing** differently or **thinking about** differently as a result of the meeting?
    a. *Follow-up*: If nothing has changed for you, why do you think that's the case?

6. For you, what was a **key take-away** from the meeting?
    a. *Prompt*: That is, what was a key lesson you learned as a result of hearing more about these initiatives?

7. What do you think would be key **next steps** for the group that came together at that meeting?
    a. *Prompt*: What kinds of activities – e.g., establishing workgroups, continuing communication -- would help us maintain momentum?

8. Is there anything else that you would like to talk about? What questions do you have for us?

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