Community-Partnered Evaluation of Depression Services for Clients of Community-Based Agencies in Under-Resourced Communities in Los Angeles

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BACKGROUND: As medical homes are developing under health reform, little is known regarding depression services need and use by diverse safety-net populations in under-resourced communities. For chronic conditions like depression, primary care services may face new opportunities to partner with diverse community service providers, such as those in social service and substance abuse centers, to support a collaborative care model of treating depression.

OBJECTIVE: To understand the distribution of need and current burden of services for depression in under-resourced, diverse communities in Los Angeles.

DESIGN: Baseline phase of a participatory trial to improve depression services with data from client screening and follow-up surveys.

PARTICIPANTS: Of 4,440 clients screened from 93 programs (primary care, mental health, substance abuse, homeless, social and other community services) in 50 agencies, 1,322 were depressed according to an eight-item Patient Health Questionnaire (PHQ-8) and gave contact information; 1,246 enrolled and 981 completed surveys. Ninety-three programs, including 17 primary care/public health, 18 mental health, 20 substance abuse, ten homeless services, and 28 social/other community services, participated.

MAIN MEASURES: Comparisons by setting in 6-month retrospective recall of depression services use.

KEY RESULTS: Depression prevalence ranged from 51.9 % in mental health to 17.2 % in social-community programs. Depressed clients used two settings on average to receive depression services; 82 % used any setting. More clients preferred counseling over medication for depression treatment.

CONCLUSIONS: Need for depression care was high, and a broad range of agencies provide depression care. Although most participants had contact with primary care, most depression services occurred outside of primary care settings, emphasizing the need to coordinate and support the quality of community-based services across diverse community settings.

BACKGROUND

Current healthcare reforms call for expansions of primary care and integrated medical homes for safety-net populations.[1,2] Primary care is a "de facto" mental health setting,[3] where rates of recognition and treatment for depression are lower than in specialty mental health settings.[4] While collaborative care is effective for primary care depressed patients,[5–7] little is known about how to conceptualize depression management in neighborhoods with high rates of poverty and ethnic minority representation.[8]

Neighborhood poverty is predictive of depression onset,[9] and while prevalence of depressive disorders is similar for Latinos and African Americans relative to non-Hispanic whites,[10,11] African Americans may have greater severity when depressed.[12] Ethnic and socioeconomic disparities in

access to and quality of mental healthcare exist,[13,14] and under-served communities with low provider availability may rely on alternative settings, such as faith-based[15,16] or substance abuse programs.[17,18] A recent Institute of Medicine report suggests that integrating heath and non-health services settings is essential to address chronic health needs.[19] To inform such efforts, this study evaluates the distribution of depression services across diverse health, social and other community-based service settings in two safety-net communities, providing critical information for primary care practices developing community partnerships in an era of medical homes, insurance reform, and parity legislation.[1]

Community-based participatory research (CBPR) is recommended for addressing health disparities.[20–23] While CBPR studies recommend improving depression services by including social and community services settings,[24–27] we know of no application of CBPR to describe the depression services received by clients across service settings in under-resourced communities. To do so, we use baseline data from a community-partnered, participatory randomized trial that screened clients for depression in healthcare and non-healthcare settings. We used CBPR approaches to identify and recruit a much broader range of settings into this study than would have occurred through traditional methods. We hypothesized that 1) non-healthcare settings would play a substantial role in serving depressed clients,[28] posing challenges to coordination; but that 2) most clients across service settings would have at least some access to primary care, which could serve to coordinate care. Given the stigma associated with depression and mental healthcare,[29] we sought to identify client attitudinal barriers and facilitators for using depression services in health and non-health related settings.

METHODS

The study uses baseline data from Community Partners in Care (CPIC),[30] a community-partnered participatory research (CPPR) initiative to improve depression services in Los Angeles, using a randomized participatory public health demonstration approach.[31] CPPR is manualized and gives community and academic partners equal authority to develop and evaluate programs through two-way knowledge exchange.[32] CPIC was designed and implemented by the CPIC Council of 35 leaders from three academic and 24 community-based agencies. This study was approved by the RAND institutional review board.

Sampling

Communities. South Los Angeles (South LA) and Hollywood-Metropolitan (Hollywood) were selected based on established partnerships.[24,33] South LA has a population of 1.5 million (63.3 % Hispanic, 32.4 % African American), high rates of morbidity and mortality, and low rates of educational attainment and insurance coverage.[34] Hollywood has a half-million population (56.7 % Hispanic, 5.6 % African American, 20.7 % non-Hispanic white, 16.7 % Asian American), with the majority having less than high school education[35] and low rates of insurance or regular source of healthcare.[34] Council leaders selected these groups for over-sampling: African Americans and substance abuse clients (South LA), and seniors and homeless clients (Hollywood).

Agencies and Programs

County directories were combined with community member nominations to identify agencies within five settings: 1) outpatient primary care and public health (Primary Health); 2) outpatient mental health (Mental Health); 3) substance abuse residential and outpatient (Substance Abuse); 4) homeless social and housing services (Housing); and 5) other social and community-based services (Social), including family preservation, prisoner re-entry, senior centers, hair salons, exercise clubs, and faith-based. Eligible agencies had to provide services for adults or parents of child clients and be financially stable, i.e., not expecting to close during the study time period. The CPIC Council explained the study through community "kick-off" conferences and telephone and site briefings. From 149 agency names, we used a four-stage process to reach agencies; enumerate their programs and determine eligibility; randomize potentially eligible programs; and conduct site visits to finalize program enrollment.[36] To be eligible, programs had to serve at least 15 clients per week, have two or more staff (one for senior centers, businesses, and faith-based programs), and be willing to identify a staff liaison. Across recruitment stages, 19 agencies were not reached or lost to follow-up; 33 were ineligible; 47 refused and 50 consented (52 % (50/97) of reached and eligible agencies). These 50 agencies had 122 programs, of which 16 were ineligible, 11 declined and 95 enrolled (89.6 % of eligible programs in enrolled agencies). The Council excluded programs mainly serving persons with psychotic disorders or delivering home-based services, or that were financially unstable. At two programs, no clients showed at screening, leaving 93 programs, including 17 primary care/public health, 18 mental health, 20 substance abuse, ten homeless services, and 28 social/other community service programs. We used census data to compare average household characteristics at zip code level (age, sex, race, population density, income) for programs that did and did not participate, with no significant differences (each p value > 0.10).

Clients

Within programs, clients were screened in waiting rooms from March 2010 to November 2010. Study screenings were conducted by the RAND Survey Research Group. Staff approached 4,645 adults age 18 and older during 2–3 days per program; 4,440 (95.6 %) agreed to screening. Eligibility was based on having a score ≥ 10 on a modified eight-item Patient Health Questionnaire (PHQ-8),[37] which has scoring and operational characteristics of the PHQ-9. The modification was counting a response to the original or alternative version of one item with and without the word "depression"; Pearson correlation of the two items was 0.99. Exclusion criteria were under age 18, gross cognitive disorganization by screener staff assessment or providing no contact information. Of 4,440 screened, 1,322 (29.8 %) were eligible and 1,246 (94.3 %) consented. Between April 2010 and January 2011, 981 enrolled depressed participants (78.7 %) completed a baseline telephone survey; two were deceased; 36 refused; and 227 were not reached. The response rate is acceptable for quality improvement studies.[7,38–40]

Measures

Demographic and Health Status. From the screener, we used data on sociodemographic factors (age, gender, marital status, family income, education, insurance status, employment status), race/ethnicity (any Latino, African American not Latino, non-Hispanic white, and other); and PHQ-8[37] score ≥ 10 to indicate moderate to severe depression. From survey data, we categorized chronic conditions as ≥ 3 versus < 3, out of 18; and derived an indicator of meeting federal family poverty criteria. Using the Mini-International Neuropsychiatric Interview (MINI),[41] we created indicators for 12-month major depressive or dysthymic disorder, and alcohol abuse or use of illicit drugs in 12 months.

Service Use

We used retrospective, self-report data to develop indicators of any service use in the past 6 months for overnight hospital stays for mental health or substance abuse (ADM) issues; emergency room (ER) visits for ADM issues, outpatient visits to mental health providers and self/family groups, calls to mental health hotlines, and use of outpatient primary care or public health clinics, substance abuse or social services programs, parks and community centers, and faith-based and other community locations counting as depression-related visits for which the client reported receiving information, referral, counseling, or medication management for depression or emotional problems. We developed indicators for any use and counts of contacts.

We coded other outpatient contacts (primary care, substance abuse, social services, community centers, homeless, faith-based) as including "depression" if the client reported any provider: a) talked about depression, stress or emotions or gave information like a brochure; b) suggested visiting a specialist or program for depression, stress or emotions; c) suggested taking medication or encouraged the respondent to stay on a treatment plan for depression, stress or emotions; or d) spent > 5 min counseling about these issues, or gave suggestions about how to cope or encouragement to do things the respondent enjoyed. Client reports of "other" services for depression were assigned to specific categories using provider names and addresses, internet information and phone calls. For each setting, we measured any outpatient service use, visit counts, and proportion of visits mental health-related, for five sectors of outpatient services: 1) Primary Health; 2) specialty Mental Health; 3) self-help or family support groups for people with emotional or mental health problems (Self Help); 4) Substance Abuse including self-help meetings; and 5) other Social services. We developed an indicator of any mental health-related outpatient use and a count of settings visited.

Treatment Acceptability

We created binary indicators for acceptable/not acceptable for use of anti-depressant drugs; one-on-one counseling from a mental health specialist; and waiting to get over feelings of depression naturally.

Analyses

We conducted univariate analyses to describe the sample and bivariate analyses to compare types of screening locations (Primary Health; Mental Health; Substance Abuse; Housing; Social) for sociodemographic factors and probable depression; and among depressed clients at baseline, in clinical characteristics, services utilization, and satisfaction and treatment acceptability. We present means or percentages with standard errors and significance based on Chi-square tests from bivariate analyses. We account for intra-class correlation within program using SUDAAN 10.0.[42] To control for potential response bias, attrition weights were constructed by fitting logistic regression models stratified by intervention condition to predict enrollment status and baseline completion from screener predictors (for enrollment: age, community, and screener program category; for baseline: age, sex, ethnic group, family income < $10 K, homeless, community, and screener program category).[43,44] For item level missing data, we used an extended hot-deck multiple imputation based on the predictive mean matching method.[45,46] We imputed five data sets, averaged results and adjusted standard errors for

uncertainty due to imputation.[47] All variables had missingness rates of less than 5 %, except for income and MINI variables, which had 10–15 %.

We conducted three sensitivity analyses: 1) multiple imputation for missing surveys to the full eligible sample (1,322); 2) raw data; and 3) sex and age adjustment. Conclusions from the imputed main model were nearly identical with raw data and sex-adjustment; several findings were not significant with multiple imputation to the eligible sample owing to reduced precision; we focus on the main model and show exact p values. We use $p < 0.05$ to denote significance, but focus on the overall pattern of results.

RESULTS

Sociodemographic Characteristics. All sociodemographic characteristics differed significantly by screening program location at $p < 0.05$ (Table 1). While the sample overall is half from each community, those from South LA varied from 85.9 % in Substance Abuse programs (a sampling priority for South LA) to 24.8 % Housing programs (a priority for Hollywood). Average age was highest in social community (Social). While the majority of women participants were in Mental Health, Housing and Social programs, the majority of men were in Primary Health and Substance Abuse. Those married were highest (38.0 %) in Social and lowest (14.8 %) in Housing programs. Those with less than a high school education ranged from 47.6 % in Mental Health to 27.8 % in Housing. Those clients who self-identified as Latino were 51.4–52.0 % across Primary Health, Mental Health and Social programs, but 23.1–36.2 % in Housing and Substance Abuse, where the majority (54.1–59.1 %) was African American. Overall, 22.5 % of clients worked. Those uninsured ranged from 61.2 % in Primary Health to 28.6–33.2 % in Social and Mental Health. Overall, 64.5 % of clients had less than $10 K annual family income, with 78.4 % in Housing to 48.4 % in Social programs. The prevalence of probable moderate to severe depression (PHQ-8 score ≥ 10) was

Table 1. Characteristics of Clients Screened for Depression by Program Location

Characteristic	Overall (*N*=4440) % or mean (SE)	Primary Care (*N*=1399) % or mean (SE)	Mental Health (*N*=458) % or mean (SE)	Substance Abuse (*N*=799) % or mean (SE)	Homeless Services (*N*=656) % or mean (SE)	Social Community Services (*N*=1128) % or mean (SE)	χ^2(df)[*]	*P*
South Los Angeles (%)	49.9 (7.0)	35.3 (14.4)	60.5 (15.4)	85.9 (8.1)	24.8 (17.3)	52.7 (13.2)	9.5 (4)	0.049
Mean Age (years)	46.6 (1.4)	43.7 (1.1)	42.3 (1.5)	41.5 (2.2)	46.5 (1.2)	55.5 (3.9)	15.5 (4)	0.004
Female (%)	53.8 (3.7)	41.8 (7.4)	69.9 (4.8)	38.7 (5.6)	62.3 (11.1)	67.7 (3.3)	28.0 (4)	< 0.001
Married or living with partner (%)	28.4 (2.3)	30.3 (5.1)	27.8 (4.1)	23.0 (1.7)	14.8 (3.2)	38.0 (5.0)	18.0 (4)	0.001
Less than high school (%)	38.8 (2.1)	38.9 (4.2)	47.6 (3.6)	39.6 (2.2)	27.8 (4.8)	41.0 (4.8)	9.9 (4)	0.041
Race/Ethnicity (%)							55.1 (12)	< 0.001
Latino	44.6 (3.5)	51.7 (6.9)	52.0 (6.6)	36.2 (6.6)	23.1 (2.5)	51.4 (7.3)	NA	
African American	40.3 (3.6)	33.8 (6.2)	39.5 (5.6)	54.1 (7.5)	59.1 (5.6)	27.8 (7.0)	NA	
Non-Hispanic white	10.6 (1.7)	9.9 (2.6)	6.1 (1.8)	6.1 (1.6)	11.5 (2.6)	16.0 (5.0)	NA	
Other ethnicity	4.5 (0.7)	4.5 (1.0)	2.4 (0.8)	3.5 (0.7)	6.3 (2.0)	4.8 (1.8)	NA	
Working status (%)							50.7 (8)	< 0.001
Working	22.5 (2.0)	26.4 (3.3)	21.0 (4.2)	15.5 (3.2)	13.7 (3.1)	28.3 (4.6)	NA	
Unemployed, in work force	27.7 (1.7)	30.5 (2.4)	25.7 (2.0)	38.2 (2.9)	33.5 (3.7)	14.4 (2.5)	NA	
Unemployed, not in work force	49.8 (2.3)	43.2 (2.8)	53.3 (4.8)	46.3 (4.4)	52.8 (4.4)	57.3 (5.8)	NA	
No health insurance (%)	49.6 (2.8)	61.2 (2.4)	33.2 (5.9)	62.7 (5.6)	56.2 (4.3)	28.6 (5.7)	35.5 (4)	< 0.001
Family income from work ≤ $10,000/year (%)	64.5 (2.1)	66.8 (4.4)	68.2 (6.0)	70.0 (2.4)	78.4 (1.9)	48.4 (3.7)	53.0 (4)	< 0.001
Probable depression[†] (%)	33.2 (1.6)	35.3 (2.4)	51.7 (3.6)	34.9 (3.1)	39.0 (1.5)	18.5 (2.1)	67.1 (4)	< 0.001
Probable depression[‡] (%) age-sex adjusted		36.2 (2.5)	51.9 (3.7)	36.3 (3.0)	38.7 (1.8)	17.2 (2.2)	15.2 (4)	< 0.001

Multiple imputation at the item level; sample completing screener
[*]*To compare differences across five service settings, Chi-square tests were calculated using SUDAAN software and take into account clustering (clients within programs)*
[†]*PHQ-8 (modified) ≥ 10*
[‡]*Estimates and test statistic for comparison of differences across five service settings, adjusted for sex and age*

33.2 %, varying from 51.7 % in Mental Health to18.5 % in Social programs, and was not substantially altered by sex-age adjustment (χ^2=15.2, $p < 0.001$).

Health and Mental Health Conditions. As shown in Table 2, over half of depressed clients (54.9 %) reported three or more chronic medical conditions, from 64.4 % in Housing to 46.7 % in Substance Abuse programs. Those in poverty ranged from 80.8 % in Housing to 57.6 % in Social programs. Mean physical and mental health quality of life scores were about 40 (not shown in Table 2), a standard deviation (SD) below national norms.[37] Those with 12-month

depressive disorder was 61.9 %, ranging from 47.2 % in Social to 66.5–71.0 % in Housing and Mental Health programs. 12-month alcohol abuse or illicit drug use affected 19.9 % in Social but 71.0 % in Substance Abuse programs.

Service Use. Overall, 69.2 % had a Primary Health visit, varying from 76.9 % for those screened in Primary Health programs to 54.3 % in Substance Abuse programs (some screened in Primary Health accompanied someone and did not have a visit). Those having a mental health-related Primary Health visit, 41.7 % overall, did not differ significantly by program type. Those with a Mental Health visit varied from

Table 2. Depressed Client Sample Characteristics and Past 6-Month Self-Report of Service Use for Alcohol, Drug, or Mental Health (ADM) or Depression*

Background Characteristics	Overall (*N*=981)	Primary Care (*N*=278)	Mental Health (*N*=187)	Substance Abuse (SA) (*N*=223)	Homeless Services (HO) (*N*=159)	Social-Community (SC) (*N*=134)	χ^2(df=4)[†]	P value
	% or mean (SE)	% or mean (SE)	% or mean (SE)	% or mean (SE)	% or mean (SE)	% or mean (SE)		
Age, Mean	45.7 (0.9)	46.0 (0.8)	42.9 (1.7)	42.3 (1.9)	47.7 (0.9)	51.4 (3.7)	12.5	0.014
Female (%)	56.9 (3.5)	48.7 (6.3)	72.6 (4.7)	45.3 (6.9)	62.1 (10.3)	66.1 (5.4)	15.0	0.005
≥ 3 chronic conditions (%)	54.9 (2.7)	56.2 (5.2)	55.4 (5.0)	46.7 (6.3)	64.4 (5.4)	53.1 (5.5)	4.7	0.32
Income < federal poverty (%)	73.6 (2.1)	75.9 (4.1)	73.9 (3.8)	74.9 (4.5)	80.8 (3.1)	57.6 (6.4)	10.6	0.032
12-month depressive disorder (%)	62.0 (2.3)	58.2 (5.0)	71.6 (3.5)	66.0 (3.6)	65.8 (5.3)	47.5 (3.8)	25.2	< 0.001
Alcohol abuse or use of illicit drugs 12 months (%)	39.1 (3.3)	36.4 (5.0)	25.9 (4.1)	71.0 (4.0)	32.2 (5.8)	19.9 (5.0)	66.6	< 0.001
Services use								
Any primary care or public health visit	69.2 (2.5)	76.9 (3.5)	71.0 (2.6)	54.3 (5.9)	69.3 (3.0)	73.7 (3.6)	12.2	0.016
Primary care or public health visit with Mental Health service (%)	41.7 (2.4)	45.7 (4.3)	47.2 (4.5)	31.2 (4.6)	43.0 (4.7)	40.7 (5.3)	6.9	0.14
Outpatient Mental Health (%)	57.5 (3.5)	52.2 (7.1)	80.6 (4.4)	57.6 (3.6)	64.8 (8.8)	30.2 (4.1)	49.8	< 0.001
# of outpatient Mental Health visits if any (*N*=568), Mean	13.4 (1.0)	10.2 (1.2)	16.9 (2.2)	16.5 (2.7)	11.5 (1.7)	9.0 (1.3)	14.5	0.006
Mental Health, Self-Help (%)	18.9 (2.3)	13.6 (3.2)	36.1 (7.4)	19.5 (2.0)	17.6 (4.4)	8.4 (2.9)	15.7	0.003
Any substance abuse visits	33.1 (4.2)	25.9 (6.2)	14.2 (4.1)	78.4 (6.3)	28.8 (6.5)	7.1 (2.2)	65.2	< 0.001
Substance Abuse visit with Mental Health service (%)	24.0 (3.0)	19.4 (4.1)	12.0 (3.3)	57.1 (5.1)	18.3 (4.0)	4.0 (1.9)	71.8	< 0.001
Any Social-Community services visits	85.6 (1.3)	84.5 (2.7)	84.2 (2.8)	84.8 (2.8)	88.4 (2.6)	88.0 (3.3)	2.0	0.74
Social-Community services visit with Mental Health service (%)	47.0 (2.0)	44.7 (3.3)	44.2 (3.1)	50.7 (4.5)	56.8 (5.3)	38.2 (4.0)	9.2	0.057
Any outpatient Mental Health service (%)	81.9 (2.3)	76.6 (4.7)	94.1 (1.8)	87.1 (3.0)	83.2 (5.1)	67.6 (4.9)	31.3	<0.001
# outpatient settings visited for Mental Health service‡, Mean	2.0 (0.1)	1.8 (0.2)	2.3 (0.2)	2.3 (0.1)	2.1 (0.2)	1.3 (0.1)	76.2	< 0.001
Overnight hospital stay for alcohol, drug or mental health (ADM) (%)	13.8 (1.3)	9.9 (1.7)	14.6 (2.4)	20.1 (3.0)	20.0 (3.7)	4.2 (1.3)	29.4	< 0.001
ER visit for ADM (%)	26.5 (1.9)	23.2 (3.1)	29.3 (5.0)	34.5 (3.5)	30.9 (4.0)	12.7 (2.7)	22.8	< 0.001

Multiple imputation at the item level, weighted to characteristics of eligible sample (for enrollment offer and baseline response)

[†]*To compare differences across five service settings, Chi-square tests were calculated using SUDAAN software and take into account clustering (clients within programs), and weighting*

‡*Five settings: 1) primary care or public health; 2) outpatient specialty mental health; 3) mental health self-help group; 4) substance abuse including self-help; 5) other social-community services*

Table 3. Total Contacts for Depression/Mental Health in 6 Months, If Any Contact (Baseline Depressed Clients)* by Type of Program for Screening and Setting for Services Received*

Contacts	Type of Program for Screening																	
	Overall			Primary Care			Mental Health			Substance Abuse			Homeless			Social		
	N	Sum	%	N	Sum	%	N	Sum	%	N	Sum	%	N	Sum	%	N	Sum	%
Total	808	29,072	100	212	7,130	100	176	6,826	100	194	9,031	100	133	4,919	100	93	1,167	100
Primary Care or ER	509	2,229	7.7	142	695	9.8	112	433	6.3	103	546	6.0	91	363	7.4	61	192	16.5
Mental Health Specialty	568	7,728	26.6	145	1,474	20.7	151	2,552	37.4	129	2,145	23.8	103	1,194	24.3	41	363	31.1
Mental Health, Self-help or family support group	190	5,085	17.5	37	916	12.8	69	2,185	32.0	43	1,232	13.6	29	654	13.3	11	98	8.4
Substance Abuse	238	7,739	26.6	52	2,108	29.6	22	629	9.2	128	4,007	44.4	30	931	18.9	5	64	5.5
Social or community services	462	6,291	21.6	123	1,936	27.2	83	1,027	15.1	113	1,101	12.2	90	1,776	36.1	53	450	38.6

*Excludes overnight stays in a hospital or residential substance abuse programs, but includes services in homeless housing programs. Substance abuse services include self-help for substance abuse, but Mental Health specialty excludes self-help for mental health. Social or community services includes social services such as family preservation or prisoner reentry services, faith-based services, use of parks and recreation community centers, telephone hotlines, and personal services such as hair salons or exercise clubs.
N Number of clients who reported one or more contacts of that type; Sum total number of contacts; ER emergency room;

80.6 % for those screened in Mental Health to 30.2 % in Social programs. Those with a Self-Help visit varied from 8.4 % in Social to 36.1 % in Mental Health. Those with a Substance Abuse visit varied from 78.4 % in Substance Abuse to 7.1 % in Social programs, and with a mental health-related Substance Abuse visit varied from 57.1 % in Substance Abuse to 4.0 % in Social programs. Those with a Social visit were 85.6 %, and with a mental health-related Social visit were 47.0 %; these percentages did not vary significantly by program type. The percent with any mental health-related visit in any setting varied from a low of 67.6 % in Social to 94.1 % in Mental Health. The 808 users with any mental health-related visit had a total of 29,162 visits within 6 months, of which 7.6 % were Primary Health, 26.4 % Mental Health, 17.3 % in Mental Health support group, 26.5 % in Substance Abuse treatment or self-help, and 22.2 % in other Social services. The mean number of settings visited for depression varied from 1.3 in Social to 2.3 in Mental Health and Substance Abuse. Those with any ADM hospital visit varied from 20.1 % for Substance Abuse to 5.0 % for Social programs, and those with any ER ADM visit varied from 34.5 % for Substance Abuse to 12.7 % for Social programs. Mean visits for those with any ER ADM use (2.9 [SE=0.2] did not differ significantly by program type (χ^2=5.8, p> 0.05) (Table 3).

Acceptability of Services. Those viewing one-on-one counseling from a specialist as acceptable ranged from 94.3 % in Mental Health to 85.5 % in Social programs. Those finding anti-depressant medication acceptable ranged from 62.7 to 68.3 % in Substance Abuse, Mental Health and Housing to 45.7–55.4 % in Social and Primary Health. Those finding waiting to get over depression acceptable varied from 59.4 to 61.8 % for Primary Health and Social to 34.2 % in Mental Health programs.

CONCLUSIONS

This "portrait" of depression services in two Los Angeles communities was developed using rigorous CPPR and framed within each community's views of relevant services for depression.[30] We found it feasible to implement a rigorous partnered evaluation of depression services, and had relatively high cooperation among programs and clients in enrolled agencies. In terms of substantive findings, clients had a high prevalence of depression, 33 % overall and 35 % in primary care/public health settings with even higher prevalence in other screening locations; by comparison, depression rates in primary care are typically 6–20 %.[7,40,48–50] Thus, clients in safety net populations within under-resourced communities have a high burden of depression meriting evaluation. The clients were primarily African American or Latino and most were uninsured, met federal poverty criteria, or were not

employed. Over half of the depressed at baseline had 12-month depressive disorder and moderate to high rates of substance abuse and medical comorbidity.

We found that depressed clients reported use of multiple types of mental health-related services in 6 months. Over 40 % of clients reported primary care/public health visits for mental health/depression and nearly 70 % reported contact with primary care/public health services. However, primary care/public health settings had only 8 % of the total volume of depression contacts reported; most depressed clients reported that they received most of their depression services elsewhere, with an average of two settings. With only one-quarter of depression services reported to be in mental health specialty care, most contacts, 67 %, were outside of healthcare settings. These findings suggest that primary care/public health services are appropriate for organizing depression care through partnering with a broader set of programs.

The majority of clients viewed individual counseling as acceptable, and as expected from prior studies,[29] antidepressant medication was acceptable to over half of clients. The acceptability of watch and wait, a component of "stepped care" for mild depression in primary care, was highest for clients in primary care and social-community programs; however, this strategy requires outcomes monitoring,[51,52] which may be hard to implement in safety-net programs.[53] In developing medical homes for under-served populations, partnering with other community programs for counseling could potentially be acceptable to clients and clinically effective. For example, group cognitive behavioral therapy, provided in substance abuse treatment settings can improve depression and reduce substance abuse.[54] Although counseling services could be co-located in primary care, given our findings, it may be necessary to coordinate services in any case with multiple settings, raising the issue of whether it is more effective and efficient to support quality of existing alternative settings that are visited anyway or create internal capacities.

Our findings are limited to clients of programs in two under-resourced communities. Our response rates for clients and programs were acceptable (78 to over 90 %), but low to moderate (50 %) for agencies relative to the field. Many studies of quality improvement in specific sites or applying CBPR to health rely on convenience samples,[7,38,55–61] and use integrated systems or households or settings in government districts.[39,49,62–66] The study findings are based on client self-report and may not accurately reflect actual service use due to problems such as client recall. In addition, our findings are limited to financially stable, community-based safety-net programs in Los Angeles.

While the study's limitations are clear, our CPPR approach supported community involvement in all aspects of the research.[67] Our findings highlight the extensive provision of depression services in non-healthcare locations, where staff are unlikely to be reimbursed for or receive training in depression services. Exploring how to collaborate to organize

and support diverse settings in addressing depression is an important direction for future work. As we move into healthcare reform, with an emphasis on accountability, efficiency, and patient-centeredness, mechanisms are needed to involve all stakeholders, but especially for vulnerable populations, in the process of understanding the needs of their community. This study represents an approach for working with vulnerable communities in a participatory way to understand community strength and needs for support services for depression. Community input was particularly important in identifying and recruiting the relevant agencies and obtaining high recruitment rates in vulnerable populations.

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