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Depression in Public Community Long-Term Care: Implications for Intervention Development

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Abstract

The objective of this paper is to increase understanding of geriatric depression in the public community long-term care system to guide intervention development. Protocols included screening 1,170 new clients of a public community long-term care agency and interviewing all clients with major, dysthymia, or subthreshold depression (n=299) and a randomly selected subset of non-depressed older adults (n=315) at baseline, 6-month, and 1 year. Six percent had major

depression, one-half of a percent had dysthymia only, and another 19% had subthreshold depression. Over the year observation period, 40% were persistently depressed; 32% were assessed as depressed only at the first observation; and the remainder was intermittently depressed. There were high levels of comorbid medical, functional, and psychosocial conditions. Mental health service use was low, and clients reported attitudinal and other barriers to depression treatment. Findings suggest the need for universal screening for depression with some strategies for triaging the most severely and persistently depressed for treatment. Although there will be challenges to the development of depression interventions, the public community long-term care system has high potential to assist vulnerable older adults receive help with depression.

Introduction

Depression has long been recognized as a common but treatable psychiatric disorder in late life.¹ The effectiveness of pharmacological, electroconvulsive, and psychosocial therapies for older patients is documented, and consensus statements and practice guidelines identify protocols for their implementation.² Multicomponent intervention packages have proven effective in primary care settings, including such programs as Partners in Care,³ Improving Mood-Promoting Access to Collaborative Treatment (IMPACT),^{4,5} Primary Care Research in Substance Abuse and Mental Health in the Elderly (PRISM-E),⁶ and Prevention of Suicide in Primary Care Elderly Controlled Trial (Prospect).⁷

Although efficacious treatments for depression in later life exist, most elders with depression remain untreated.⁸ Effective interventions can be delivered in both specialty mental health and primary care settings, but both settings face challenges. Few older adults find their way to mental health specialists, and there are issues of supply, stigma, and payment for specialty care. Although more rely on primary care, mental disorder often goes untreated or inadequately treated by nonspecialty providers.⁹⁻¹¹ Although improvements have been achieved in depression treatment in primary care in the last decade, there is still concern about the quality of care and the complexity of the health care system in ensuring the delivery of evidence-based treatments.¹² In sum, the challenge in caring for geriatric depression lies in the service delivery system, not treatment potential.

Older adults with physical disabilities and mental disorder are among those most vulnerable to problems associated with fragmented systems of care.¹³ Innovative efforts are needed to extend quality mental health services to settings that serve vulnerable older adults. The Surgeon General's report identifies the provision of high-quality mental health services in accessible locations as essential to creating a more equitable system.¹⁴ In the case of later-life depression, those locations are community-based and nonspecialty mental health. The importance of home-based care for mental disorder among older adults has long been recognized.¹⁵

Community long-term care (CLTC) is one of the most rapidly growing social service sectors, given population aging and the societal value of maintaining independent living. Unlike nursing homes where researchers have evidenced longstanding interest in mental disorder,^{16,17} community-based care for functionally dependent elders has more recently

become a focus for mental health intervention research,^{18–20} given the potential to extend mental health treatment to older adults through this growing service system.

Every U.S. state provides publicly funded CLTC services, which aim to help low-income people with chronic conditions compensate for functional disabilities and maintain community residence. Although state regulations vary, in general, clients qualify for public CLTC services through low income and functional impairment. CLTC clients are disproportionately women and ethnic minorities. These public systems of long-term care have great potential to extend mental health treatment to socially and economically disadvantaged elders who experience high levels of depression and have historically underutilized mental health care.

The extension of evidence-based treatment models to public CLTC requires an understanding of this system of care and its client population. The requisite first step is to understand more about depression in this service context. Thus, this study seeks to answer the following research questions:

1. What is the extent of major, dysthymia, and subthreshold depression among CLTC clients?
2. How persistent are depressive symptoms after clients begin CLTC services?
3. What medical, functional, and psychosocial comorbidities do depressed elders in CLTC experience?
4. What medical and social services are depressed elders using when they begin CLTC services?
5. What are CLTC clients' attitudes about mental health service use, perceived barriers to treatment, and previous treatment experiences?

Data come from a sample of older clients of the public community long-term care system in a Midwestern state. Persons age 60 or older or persons age 18–59 who require assistance with activities of daily living constitute the clients eligible for these services. Similar to other states, Medicaid, Older Americans Act, and block grant monies are used to provide personal care, homemaker/chore, nursing services, transportation, meal, respite, and case management services in home, group home, or day care settings. Referrals come to the agency from medical and social service agencies, from an abuse/ neglect hotline, and from family, friends, and older adults themselves. A professional case manager assesses the client face-to-face to determine service eligibility and type and amount of services needed. The case manager then authorizes the receipt of necessary supportive services. Paraprofessionals, procured through contract arrangements, provide the authorized services of personal care, nursing, housekeeping, transportation, and meal service. Clients can also be approved for day care and some residential care. The case manager follows the client and reassesses and adjusts services as needed over time. The state agency that was the site of this study served 73,802 clients in 2004, 49,899 of which received in-home services.

Methods

Design

To ascertain the extent of depression, a cross-sectional survey was used to screen all new clients to community-based care services in a defined geographic area of the state. The area, which covers about one-fourth of the state, includes a large urban area, several smaller cities, small towns, and rural areas. To document comorbid conditions, service use, and attitudes about mental health treatment, longer interviews were conducted with the group of clients who screened positively for depression and a randomly selected comparison group of nondepressed clients. To establish the persistence of depression after entry into the CLTC system, depressed clients were followed over a 1-year observation period, conducting interviews at entry into the CLTC service system, at 6 months, and at 1 year.

Clients were solicited into the depressed group if they had a diagnosis of major depressive disorder or dysthymia, as established by the screening interview of the Diagnostic Interview Schedule (DIS). Major depressive disorder, as per the Diagnostic and Statistical Manual of Mental Disorder (DSM-IV), exists when a person exhibits five or more specified symptoms every day, most of the day, for at least 2 weeks. Dysthymia, as defined by DSM-IV, is less severe in that two or more depressive symptoms are required, but duration must be 2 or more years.²¹ Clients were also solicited into the depressed group for subthreshold depression. That is, they did not meet DSM-IV criteria for major depression or dysthymia, but had high depressive symptomatology (these instruments are described in detail in the measurement section). Whereas all clients meeting these criteria for depression were solicited into the depressed group, only a random sample of nondepressed elders was solicited into the comparison group. In an effort to retain a comparison group of nondepressed older adults throughout the 1-year observation period to study service use and outcomes, only clients with modified Center for Epidemiologic Studies Depression Scale (CES-D) scores less than 5 and no life-time history of depression were selected. This strategy decreased the likelihood that clients in the nondepressed group would become depressed in the observation period.

Informed consent was obtained over the telephone and copies of the completed consent forms mailed to study participants. The study was approved by the Washington University Committee on Human Subjects (#E99-201). Study participants were paid \$20 for completing an interview.

Sample

Clients eligible for the study met the following criteria: 1) they were 60 years of age or older; 2) they qualified for public community-based services by virtue of their level of need for supportive care and their eligibility for Medicaid; 3) they were their own guardians; 4) their spoken English was adequate enough to complete the interviews (which were not translated to other languages); and 5) they were new clients to the system in that a new case record was being opened at the time of referral to the study. During the study period, 1,170 new clients were screened, and full baseline interview with 299 depressed clients and 315

nondepressed clients was conducted. Throughout this paper, the term depressed is used to include clients with major depression, dysthymia, and subthreshold depression.

Recruitment of study participants

Study participants were recruited from October 2000 to May 2003. During the assessment of new clients, the case managers obtained client permission for the researchers to contact them. Of the 2,736 eligible clients who were approached by the case managers, 1,788 agreed to be contacted by the researchers (65.35% assent rate). The researchers then called the potential study participants, described the study, and gained informed consent. The consent rate was 84.34%, leaving 1,508 clients for the screening interview. During that interview phase, the researchers eliminated those discovered to be ineligible or those who could not be located (174 or 12%). Also, those who screened positive for cognitive impairment were eliminated (169 clients or 11%). Thus, 1,170 clients completed the screening interview.

In the study regions, there were 126 case managers, and the researchers could not enlist the full cooperation of all of them. Although there was widespread support for the study, the case managers were very difficult to engage because of their very demanding work situation. They have large caseloads, and the agency was under great stress because of public budget cuts and reorganization. Anything outside of required duties was given little attention. Additionally, state employees could not receive incentives for assistance with the study protocols. Also, the case managers did not approach clients they believed could not participate in the study because of severe illness or very stressful circumstances. Although the researchers requested record-keeping that documented all such situations, the records of those eligible clients who were not approached are incomplete. State records indicated that 7,392 clients could have been eligible for the study during that time period. Thus, only 37.01% of eligible clients were approached to participate in the study. However, the state staff calculated descriptive statistics on new clients over the age of 60 in the study time period, and this sample differed in two ways: the clients referred to the study were younger by .64 years ($F=10.563$, $p<.02$) and were more likely to be African American ($\chi^2=8.1$, $p<.02$) than all clients eligible for the study in the observation period.

For study participants solicited into the depressed and nondepressed comparison groups, interviewers continued directly on from the screening interview to collect more information. These baseline interviews lasted for 1 hour on the average. Table 1 overviews the variables included in the screening and baseline interviews. The descriptive statistics on the screening variables were calculated on 1,170 study participants; and for the baseline interview, they were calculated on 299 participants in the depressed group and 315 in the nondepressed group.

Instrumentation and variables

Data were collected through telephone interviews when possible, using the CATI program (computer-assisted telephone interview). About 10% of the interviews required face-to-face contact because of sensory impairment or other conditions precluding telephone communication.

The screening interview assessed for depression and suicidality as well as basic demographic variables. The computerized screening version of the Diagnostic Interview Schedule (DIS) was used to establish diagnoses of major depression and dysthymia. It is important to note that assessment protocol called for those clients with double depression to be included in the major depression group only. The DIS is a well-established instrument for yielding DSM diagnosis through lay interviewers.²² The DIS also has a series of questions about suicidality, and the interviewers used a protocol established by Life Crisis, the largest suicide prevention hotline in the state, to assess whether the threat of suicide demanded action outside of the interview protocol. The modified CES-D²³ was used to yield a continuous measure of symptom severity. The modified CES-D consists of the 20 items of the original instrument, but the response options are limited to yes or no. A score of 9 on the modified CES-D is comparable to 16 on the original version and indicates probable depression. This cutoff is used to yield a categorization of subthreshold depression.

To assess the persistence of depression over time, the Jacobson–Traux method²⁴ was used as follows: all study participants with a modified CES-D of 9 or higher (the clinical cut-off for depression) were assessed again after 6 months and 1 year. If the CES-D score dropped below 9 *and* dropped by two points or more, they were coded as not being depressed at that observation. (The researchers also reanalyzed the data with a change score of 3, and the findings were the same.)

Study participants provided information about age, sex, race, education, marital status, and living alone. Income was abstracted from agency records, and urban residence was determined from zip code. The Duke Depression Evaluation Schedule (DDES)²⁵ was used to ascertain functioning and comorbid medical conditions. Seven activities of daily living (e.g., walking, toileting, bathing) and nine instrumental activities of daily living (e.g., housekeeping, shopping, traveling) were reviewed with the study participant; and information yielded number and severity of impairments. A list of 14 chronic conditions is also reviewed, yielding the presence of the condition and the severity of the condition. Summative scores were derived.

Psychosocial comorbidities were assessed with the number of life events using the Duke Life Event Scale²⁶ and perceived stress during the past 6 months using the DDES.²⁵ Respondents reported whether they had problems affording food (yes/no) and whether they ate alone most of the time (yes/no), items from the Nutritional Checklist, Bureau of Aging and Long-Term Care Resources. Social support was assessed through the 11-item Duke Social Support Index (DSSI).²⁷ Finally, items from the WHO-DAS II²⁸ and SF-8²⁹ that capture difficulty in social functioning were included.

Study participants reported use of medical, social, and mental services in the 6 months before the interview. Interviewers reviewed a list of services and queried about use as well as purpose of the visit, when applicable. Services included medical doctor, psychiatrist, emergency room, hospitalization, nursing home, day care center, senior center, home delivered/congregate meals, home health care, mental health specialist, and religious leader for a problem in life. To assess attitudes and perceived barriers to mental health treatment, interviewers utilized questions developed by Leaf and colleagues³⁰ as well as added related

items to meet study needs. Responses were yes/no or interval level, but all items were collapsed to yes/no for analytic purposes.

Univariate statistics were calculated to describe the sample; and independent *t* tests and chi-square tests were used to test the difference in comorbidities, service use, attitudes, and perceived barriers between depressed and nondepressed groups.

Findings

Given that the state agency provides CLTC services to low-income elders, all study participants are Medicaid eligible. About 90% are also covered by Medicare. Compared to community samples of older adults, the study sample is disproportionately women, widowed, and African American, as would be expected in this economically and functionally disadvantaged population. The mean level of education is below the national average.³¹

Over 6% ($n=70$) of the 1,170 clients that participated in the screening interview had a current diagnosis of major depression. This is at least two times higher than estimates from community-dwelling samples of older adults.¹ However, the researchers used a very stringent operationalization of current—within the last 30 days—whereas other studies used a more liberal definition of “current,” usually the last year. About 2% (24) clients had dysthymia, with most of them (18) also having major depression. Thus, only six clients or .5% had dysthymia only. Another 19% ($n=223$) of the sample screened positive for subthreshold depression. Considering all three types of depression together, 25.5% (299) of the clients in the sample were assessed as depressed.

When depression symptoms are tracked over time, 40% of the participants assessed as depressed at screening had symptoms above the cutoff on the CES-D at the second and third observation. Of the 60% who did not have high symptoms throughout the 1-year observation period, three subgroups emerged: 32% were only assessed as depressed at the first observation; 15% were assessed as depressed on the first and last observation; and 13% were depressed at the first and second observation but not the third. In sum, over the 1-year observation period, the largest subgroup was persistently depressed, whereas the remaining 60% of the sample was evenly divided between those who were intermittently depressed and those who were depressed only at the first observation.

To understand the medical, functional, and psychosocial comorbidities of the depressed elders in this sample, the researchers focused on the depressed clients and compared them to a sample of nondepressed CLTC clients. As Table 2 shows, levels of functional limitation are high for both groups, as would be expected given that clients qualify for CLTC services by virtue of need for supportive services; yet depressed clients had worse physical functioning than nondepressed clients. Depressed clients rated their health worse and reported more chronic health conditions. The average number of chronic conditions reported by the depressed group was over 5, and they reported higher rates on 8 out of the 13 medical conditions queried.

Table 3 demonstrates that depressed clients report higher levels of stress and have experienced more negative life events in the past year, including more hospitalizations, deaths of loved ones, and deterioration of financial situation. Depressed clients reported higher occurrences of 8 out of the 13 negative events queried. It is notable that over 45% of the depressed clients reported trouble affording food and 70% eat alone most of the time. There is also more social isolation among the depressed clients, who had significantly worse scores on all the social functioning/social support measures.

Interviewers queried the study participants about the service use in the 6 months before they began using CLTC services, and in general, use of the medical service sector is high. Almost every study participant saw a medical doctor in the last 6 months (over 90%). As many as half of the depressed clients talked to the primary care doctor about mental health issues. Depressed and nondepressed clients were hospitalized at the same rate; of the 50% of the depressed clients who were hospitalized in that period, only 2.5% reported the reason for hospitalization as an emotional condition. This high level of hospitalization reflects both the high levels of medical conditions in CLTC clients, but also reflects the fact that hospital discharge planners often refer clients to the state agency. Thirty-two percent of the depressed clients and 23% of nondepressed clients (a significant difference) used an emergency room in the 6 months before entering the CLTC system.

Depressed clients were more likely to see a psychiatrist (9%) or a mental health specialist (7%). Almost one-third (28.8%) talked to a religious leader about an emotional problem, as compared to 11% of nondepressed CLTC clients. Use of senior centers, congregate meals, activity programs, and telephone support services was low for both groups, but a substantial percentage of both groups used home-delivered meals (29% of depressed group and 25% of nondepressed group), transportation (21% and 19%), and medical home health services (46% and 40%).

Table 4 reveals that on most items regarding attitudes and perceived barriers to mental health treatment, depressed and nondepressed clients did not differ. In general, CLTC clients reported receptivity to mental health treatment. For example, over 90% thought that people with emotional problems should seek professional help; and almost the same percent reported that they could talk to a mental health professional about personal problems. Yet there is also evidence of stigma. A large number of CLTC clients anticipate negative reaction from others. Depressed clients differed from nondepressed clients in four items: depressed clients reported to be less likely to seek treatment if it was not close by and more likely to believe that the problem would get better by itself. They responded more negatively when asked if they would like to seek treatment in the face of a mental disorder; and they would avoid treatment because others may find out. Both depressed and nondepressed clients report that family doctors would be a great help in the face of emotional problems and over half of both groups indicated that clergy members would also be helpful.

Discussion

Prevalence and persistence

Studies of depression among older adults in the community yield estimates of 1–3% for major depression, 2–4.6%^{32,33} for dysthymia, and 10–15% for subthreshold.³⁴ This study suggests that major and subthreshold depressions are more prevalent among the clients of public community long-term care. Given that double depression is subsumed in major depression group, it is not surprising that only a small number of clients have dysthymia only. The rates of clinically significant depression (considering these three types of depression together) found here are similar to those of older adults in other clinical settings. For example, it is estimated that 17–35% of primary care patients evidence depressive symptoms,³⁵ 20–27% of older residents in public housing,¹⁸ and over 30% of home health care clients report high levels of symptoms of depression.³⁶ These settings have been recognized as promising sites for the development of depression interventions, given the potential to reach large numbers of older adults with depression. Public community long-term care similarly has potential to improve quality of care for depressed older adults by identifying depression and securing mental health treatment. Like primary care, CLTC case managers have first contact with those needing mental health care and often maintain contact with clients over several years.

Given that over 25% of older clients entering the CLTC system report depression, a universal screening for depression may be warranted. That is, a brief, standardized depression screen could be added to the formal assessments used by CLTC systems to determine service needs. Whereas most states systematically query clients about morale or mood, only a few states currently use standardized screening instruments, like the Geriatric Depression Scale. It is feasible to add a screen and train workers to use it, but the challenge is following up with those who screened as depressed. It would not be appropriate to screen without adequate provisions for more thorough assessment and resources for depression treatment.

Public service systems are generally short on resources, and especially at this time of cutbacks in public budgets for social services. The CLTC system may not be able to respond to depression in a quarter of the clients. Triaging of clients for depression treatment may be necessary, based on some assessment of the urgency of the situation, client preference, and the impact of the depression on client functioning. Suicidal clients and those with major depression could be the focus for depression treatment. Medicare and in some cases Medicaid will pay for medical attention for clients diagnosed with major depression.

Yet most of the depression among CLTC clients, as in other clinical settings, is subthreshold; and there are several rationales to exclude subthreshold depression from an intervention. Guidelines on the treatment of subthreshold depression are not well established; the condition is not reimbursable by third party payers without a diagnosis; and there are so many clients with this condition that it may overload any system of care. However, subthreshold depression is a serious condition with negative and enduring effects on physical functioning; and thus subthreshold depression may thwart the achievement of the primary goal of the CLTC system—to maintain client functioning and independent

living. Further, over time, these elders are at risk of developing major depression.^{37,38} Thus, there are compelling reasons to target both CLTC clients with subthreshold as well as major depression.

CLTC clients with subthreshold depression could be triaged so that only a reasonable subgroup receives depression treatment. Triaging is supported by these data, which suggest that a substantial amount of clients with subthreshold depression are not assessed as depressed at a 6-month reassessment. It is possible that some watchful waiting period after CLTC services are initiated may be appropriate, allowing the supportive services, like transportation, day care, and food preparation, to have a positive effect on everyday lives. Furthermore, some portion of clients with depression will not accept interventions, and watchful waiting will again be appropriate.

This study is not able to test why depression does not persist in a substantial portion of this sample, given its design. There are several potential explanations. First, although reliability of the CES-D is good,²³ instability of measurement cannot be ruled out. Second, there is a natural course to depression and, in some cases, symptoms remit without intervention. Third, some CLTC clients will initiate depression treatment or continue in depression treatment and positive results may be obtained. Fourth, the health and social services provided by the CLTC service system may aid in the resolution of depressive symptoms. Further research is clearly warranted on this topic.

Comorbidities

The study findings highlight the high levels of medical, functional, and psychosocial comorbidities that these depressed elders are experiencing. Depression treatment in CLTC must respond to the competing demands posed by these co-occurring conditions. Some clients may not be capable of nor prefer addressing mental health needs; instead they invest their capabilities and resources in other problems in their lives. Similarly, CLTC case managers may have to deal with severe housing or safety issues, rendering the inattention to depression a rational choice. Thus, triaging of depression treatment could also be based on the medical, functional, and psychosocial conditions of the elder. The remediation of these other conditions may lead to the resolution of some depressive symptoms. A reassessment of depression over time could identify those whose symptoms are persistent and who may become better candidates for depression treatment after the resolution of other pressing problems.

These comorbid conditions also have implications for the source of depression treatment. Clients with certain medical conditions may be best served in primary care. Previous studies show that depressed older adults with more physical illness are more likely to receive depression treatment from primary care.³⁹ Thus, in CLTC, case managers can work with primary care doctors to pursue depression treatment. Specialty care may be obtained for more severe cases, with the assistance of primary care doctor. As these data indicate, social isolation is a common condition among depressed CLTC clients. The mental health needs of these clients might be met through activity and group therapies at a day care center or day treatment center.

Service use and attitudes

Study findings show that older adults in CLTC find primary care doctors and religious leaders most helpful and that these professionals are frequently used. Thus, partnering with primary care for the treatment of depression seems promising. Case managers or other professional staff may be in a position to screen a large number of people and to initiate efforts to secure depression care. They could perform monitoring, support, and linking roles that may ensure the adequate treatment of depression initiated by primary care providers.

The literature speaks of the importance of religious leaders, the frequency with which older adults turn to them for counsel, and the underdeveloped referral network that they utilize in securing specialized mental health treatment.^{40–43} Perhaps depression treatment through CLTC could be augmented by strategies to include religious leaders as partners in motivating, educating, and supporting depressed clients who need specialty treatment.

Findings of studies reveal that depressed elders in the CLTC system lack treatment optimism, experience stigma, and perceive multiple barriers—all of which play a part in the underutilization of services. Indeed, psychoeducation and motivational interviewing have been identified as necessary components of intervention packages that have been tested among depressed older adults. The CLTC system offers the possibility of involving a wide variety of professionals and paraprofessionals in motivating and supporting depression treatment.

States vary into the personnel deployment patterns in CLTC; generally, however, these CLTC systems rely on case managers to assess and arrange supportive services, and then a variety of paraprofessionals provide the necessary assistance with activities of daily living. These paraprofessionals include personal care aides for grooming, bathing, meal preparation, etc; chore workers for housekeeping; drivers for door-to-door transportation services. These home care personnel provide high levels of hands-on service to clients; yet they are generally not trained to deal with depression. These aides see their clients several times a week and, with training and individualized instruction, could be instrumental in supporting clients in depression treatment. In addition to medication and symptoms monitoring, they could motivate the client to continue in their treatment and assist the client with daily routines of grooming, exercise, etc.

Limitations

As reported in the method section, all eligible CLTC clients were not referred to the study. Study staff continually dealt with the challenge of training and motivating case managers in a large geographic area to use study protocols. Despite high interest in the study findings, case managers did not prioritize these referral protocols in their busy schedules. The researchers were able to obtain state data and confirm that the clients that were referred to the study were similar to those who were not referred but could have been. Nonetheless, generalizability is constrained in unknowable ways. Given that case managers tended not to refer clients that they thought too ill or limited in capacity, it is possible that depressed clients were under referred. On the other hand, it is possible that case managers were more likely to refer those clients they thought to be depressed because of the focus on

the study. Thus, the effects of referral patterns on generalizability of depression rates are not known. Another limitation stems from the fact that the study only focused on depression and eliminated other sections of the DIS. In doing so, the findings cannot speak to other psychiatric disorders among other comorbid conditions. Of course, a fuller assessment of mental health will be an important part of interventions protocols that are developed for the CLTC system. Finally, it must be noted that the decision to include clients with no depression history and very low CES-D scores in the comparison group achieved the study purposes, but may accentuate the differences between the groups on comorbid conditions, service use, and attitudes/barriers.

Implications for Behavioral Health and Future Research

This study of a public community long-term care system documents the high prevalence of depression and the comorbid medical, functional, and psychosocial demands that will complicate its assessment and treatment. The high prevalence suggests that universal screening may be warranted. Yet, given that symptoms did not persist for many of the clients who were assessed as depressed at baseline, some strategy for triaging via fuller assessment of severity and duration may be necessary. Given that case managers in public CLTC report a need for more knowledge about depression⁴³ and that depression often goes unnoted in agency records,⁴⁴ more systematic training in assessment is needed. Perhaps the co-location of a mental health specialist would be a more effective strategy to identify and target depressed older adults for treatment. There is evidence that attitudinal and other barriers to depression treatment are prevalent among CLTC clients and motivation and ongoing support for depression treatment will be needed. Family members could be included in psychoeducational interventions to increase the potential of engaging clients in treatment.⁴⁵ CLTC clients are often more comfortable with primary care providers, and primary care doctors are logical partners with CLTC case managers. Yet communication protocols must be refined so that more successful partnerships are established. Also, given the frequency with which CLTC clients report contact with religious leader around personal problem, these professionals could be included as important sources of motivation and support. It is important to note that each of these potential interventions, including screening, triaging, psychoeducation for clients and families, communication protocols with primary care, and partnerships with clergy, require adaptation and tailoring to this system of care and its clients. Thus, there is need for intervention development and implementation research. Although there will be challenges to the development of depression interventions, the public community long-term care system has high potential to assist vulnerable older adults receive help with depression.

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Table 1Sample characteristics ($N=1,170$)

Variables	Frequency % (<i>n</i>)	Means (SD)
Age		72.31 yrs (7.98 yrs); range 58–104; median: 71.00
Female	76.75 (898)	
Race		
Caucasian	71.71 (839)	
African American	27.78 (325)	
Other	00.51 (006)	
Education		9.62 yrs (2.98 yrs); range 0–17; median: 10.00
0–6th grade	12.39 (145)	
7th–9th grade	34.70 (406)	
10th–12th grade	41.54 (486)	
13th & above	11.35 (133)	
Monthly income		\$739.08 (\$334.61) ^a ; range: 0–\$2,273; median=\$667.00
Marital Status		
Married	23.10 (270)	
Separated	3.68 (43)	
Divorced	20.62 (241)	
Widowed	47.99 (561)	
Never married	4.62 (54)	
Living alone	54.02 (632)	
Urban	43.34 (504)	
Clinical Characteristics		
Major depression	6.00 (70)	
Dysthymia (no Major)	.50 (6)	
Sub-threshold depression	19.06 (223)	

^aExtracted from agency record ($N=497$). Not assessed among “screener only” participants.

Table 2

Functioning and comorbid conditions: by depression status

Variables	Percentage or mean (SD)		Bivariate tests	
	Depressed (N=299)	Not depressed (N=315)	t or χ^2	p
Functioning				
Total number of functional impairments (range 0–16) ^a	5.94 (2.96) Range 0–15	4.65 (3.10) Range 0–13	5.19	<.0001
Perceived severity of impairments (higher, more severe, 1–48)	31.53 (6.09) Range 16–48	28.14 (6.70) Range 14–44	6.52	<.0001
Number of ADL impairments (0–7)	0.83 (1.15) Range 0–6	0.61 (0.99) Range 0–5	2.48	0.0136
Number of IADL impairments (0–9)	5.11 (2.22) Range 0–9	4.04 (2.48) Range 0–9	5.54	<.0001
Medical				
Self-reported overall health (higher, poorer, range 0–5)	3.63 (1.12) Range 0–5	2.64 (1.18) Range 0–5	10.55	<.0001
Total number of chronic medical conditions (0–14)	5.04 (1.99) Range 1–13	3.96 (1.75) Range 0–11	7.02	<.0001
Perceived severity of chronic medical conditions (higher, more severe; 0–42)	11.40 (5.35) Range 2–31	7.61 (4.29) Range 0–23	9.69	<.0001
Asthma	20.40	10.29	10.89	0.0010
Diabetes	35.38	35.68	0.0064	0.9398
Heart trouble	59.80	40.57	22.2784	<.0001
Hypertension	72.84	70.67	0.36	0.5518
Arthritis or rheumatism	84.21	75.30	7.3984	0.0066
Stroke	33.11	23.75	6.3001	0.0120
Cancer	12.64	9.65	1.1881	0.2766
Emphysema, chronic bronchitis, or brown lung	34.05	19.43	16.1604	<.0001
Ulcers	20.07	7.17	18.49	<.0001
Hardening of arteries	23.14	13.52	8.5264	0.0037
General neurological problem or Parkinson's disease	9.63	5.65	3.24	0.0723
Anemia	15.92	8.70	7.0756	0.0077
Glaucoma, cataracts, or other eye problems	51.71	49.46	0.3025	0.5841

^aThose who answered that they could not perform the listed tasks (excluding those who reported that they could perform with difficulties).

Table 3

Psychosocial comorbidities: by depression status

Variables	Percentage or mean (SD)		Bivariate tests	
	Depressed (N=299)	Not depressed (N=315)	t or χ^2	p
Life events / Stress				
Perceived stress during the past 6 month (scale 1–10, higher more stressful)	6.34 (2.99) Range 1–10	3.45 (2.63) Range 1–10	77.75	<.0001
Total number of negative life events, past year ^a	1.69 (1.49) Range 0–8	0.93 (1.13) Range 0–4	6.99	<.0001
Hospitalization	66.82	52.51	12.5316	0.0004
Illness or injury that kept the person from usual activities	67.96	52.95	13.212	0.0003
Family member's illness or injury	34.52	29.27	1.8769	0.1697
Getting divorced or having a important relationship end	8.16	4.51	3.2041	0.0744
Death of a spouse	9.36	4.00	5.5225	0.0204
Child's or other household member's leaving home	10.23	6.54	2.6244	0.1059
Death of a loved one (other than a spouse)	32.04	24.89	3.8025	0.0517
Own/family member's legal problem	13.51	5.78	9.2416	0.0025
Getting retired from work	5.42	4.63	0.16	0.6859
Being unemployed	5.42	2.41	3.2761	0.0707
Considerable improvement in own/family's financial situation	15.79	12.70	1.1449	0.2836
Considerable deterioration of own/family's financial situation	39.33	21.97	21.3444	<.0001
Moving	24.15	14.67	8.6436	0.0033
Trouble affording the food needed	45.82	27.56	20.9764	<.0001
Social functioning / Social support				
Duke Social Support Index (DSSI, 11–33, higher, more support)	25.31 (4.24) Range 13–31	27.99 (2.97) Range 14–33	9.00	<.0001
Difficulty in dealing with strangers (1:none-5:extreme/cannot do)	2.08 (1.40) Range 1–5	1.38 (0.98) Range 1–5	6.89	<.0001
Difficulty in maintaining a friendship (1: none; ~5: extreme/cannot do)	1.56 (1.07) Range 1–5	1.11 (0.47) Range 1–5	6.65	<.0001
Interference with usual social activities because of physical health or emotional problems (0: not at all; ~4: extreme/cannot do) ^c	2.43 (1.35) Range 0–4	1.31 (1.40) Range 0–4	10.08	<.0001
Eating alone most of the time	69.10	58.67	7.0225	0.0080

^aThe number of life-events perceived negatively by participants

Table 4

Attitudes and perceived barriers about mental health treatment: by depression status

Variables	%		Bivariate Tests	
	Depressed (N=299)	Not depressed (N=315)	χ^2	P
Situational barriers				
Know where to obtain tx. for mental health	41.61	41.14	0.0121	0.9107
Cost of tx. would be more than you could afford	82.34	84.00	0.2601	0.6089
Psychological receptivity:				
A mental health professional would understand the kinds of problems	74.31	78.16	1.1664	0.2800
Believe you should always handle mental/emotional problems by yourself	35.59	33.84	0.1849	0.6640
People with mental/emotional problems should seek professional help	92.24	92.83	0.0729	0.7853
Could talk about your most personal problems with a mental health professional	86.69	90.82	2.4649	0.1164
Would consider obtaining mental health care if the place was not close by	48.83	60.95	7.8961	0.0053
Would like to seek tx. if you had a mental/emotional problem	89.43	94.22	4.0	0.0466
Believe that a mental/emotional problem would get better by itself	23.81	16.83	4.41	0.0360
Anticipated Negative Reactions from Others				
If your boss knew you were receiving tx. for a nervous/emotional problem, it would affect your job	47.16	40.38	2.4649	0.1171
You family would be upset if they knew you were receiving help for a mental/emotional problem	16.25	17.65	0.1936	0.6572
Someone in your family would object if you wanted to go for treatment of an emotional problem	10.90	6.67	3.1329	0.0779
Would avoid tx. of mental/emotional problems because of friends might find out	5.08	1.08	4.2436	0.0474
Other				
Feel that most family doctors can be a great help with a mental or emotional problem	73.31	79.62	3.0276	0.0597
Would find talking to a clergy as useful as talking to a mental health specialist	53.58	53.46	0.0009	0.9770