Improving Mental Health Treatment Initiation among Depressed Community Dwelling Older Adults

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Objective: *Depression screening has been widely implemented in community settings to increase detection of late-life depression. Rates of treatment initiation are low without additional structured follow-up, however. The current study evaluates the effectiveness of a brief psychosocial intervention, Open Door, designed to improve initiation of mental health treatment among clients of aging service meals programs.* **Design:** *Older adult social service clients with depressive symptoms were randomized to either the Open Door intervention or a Service Referral control condition. In Open Door, the counselor collaborates with the client to identify and address both attitudinal and structural barriers to seeking mental health treatment. Independent research assessments were conducted 12 and 24 weeks after baseline to document treatment initiation (at least one session).* **Results:** *At follow up, 64.6% (104 out of 161) of participants had initiated a provider visit. Participants in Open Door were more likely to initiate treatment compared with those in the control condition ($\chi^2 = 5.83$, $df = 2$, $p = 0.016$). Among participants with at least mild depressive symptoms, Open Door remained significantly more effective than the control condition ($p < 0.05$). In multivariate analyses controlling for gender differences, both participation in the Open Door group and depression severity predicted treatment initiation ($\chi^2 = 15.18$, $df = 3$, $p = 0.002$).* **Conclusions:** *High rates of depression have been documented among older adults receiving social services (case management or home meals). The Open Door program offers a useful strategy to overcome the barriers to treatment initiation while fitting within the responsibilities of aging service staff. The intervention can improve initiation of late-life depression care.* (Am J Geriatr Psychiatry 2016; 24:310–319)

Key Words: depression, access to care, mental health intervention, treatment initiation

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INTRODUCTION

Depression screening has been implemented in many settings with the assumption that increasing recognition of depression will prompt a successful mental health referral, resulting in treatment participation. In community settings, however, there is a wide chasm between screening, referral, and attending treatment. Aging service staff in New York State report that, without any intervention, only 22% of clients screening positive for depression accept a mental health referral.[1] When screening and referral procedures were standardized, supervised, and administered together in a single session, 38% of depressed homebound adults accepted the referral.[2] In research investigating major depression and service use among older adults, depression prevalence rates as high as 42% have been identified in samples of homebound elders, nearly three times the average rate found in community settings.[3,4] Among depressed, homebound older adults receiving services from Meals on Wheels, a little over half (56%) reported mental health service use in the past year.[5] In another sample of homebound older adults, only 29% of individuals with a diagnosed axis I disorder were found to be seeing a mental health professional, despite the vast majority (97%) reporting being willing to see one.[6] Untreated depression in older adults is associated with increased rates of suicide,[7] non-suicidal mortality,[8] risk of falling,[9,10] and disability.[11]

The need for strategies to enhance the likelihood that community-based screening leads to treatment initiation is consistent with the National Institute of Mental Health priorities for innovative service delivery models to improve treatment access and outcomes of older adults.[12] The World Health Organization mental health survey found that among adults who had a diagnosed mental disorder, low "perceived need" was the greatest barrier reported for those who did not seek mental health care, defined broadly as attending a visit with a range of providers.[13] When adults did perceive a need for mental health care, reported attitudinal barriers (e.g., maladaptive beliefs and attitudes) were a greater hindrance to accessing care than structural barriers (e.g., transportation and finances).[14]

Treatment initiation is a necessary first step toward the goal of full participation in quality mental health care. When mental health treatment is recommended after routine screening in a non–mental health setting (e.g., primary care or aging services), the goal is to make a referral that results in a mental health visit. This first visit typically involves evaluation of the individual's mental health needs and recommendation of care.

Interventions to improve treatment initiation among older adults in varied settings have had mixed success. The challenge of making mental health referrals in primary care was documented by the PRISME study; among older adults with major depressive disorder referred to outside mental health providers, only 54% followed through on the referral. Among those with milder symptoms, rates of successful referral were as low as 38%.[15] Motivational interviewing has been found to improve the rates of successful referral and treatment initiation among returning veterans referred to a mental health provider.[16] When the Veterans Administration Primary Care-Mental Health Integration program (depression screening and referral) occurred on the same day as a primary care visit, it was found to increase the likelihood of initiating mental health services;[17] in addition, increased odds of returning for a second visit for psychotherapy and antidepressant medication were increased when initial mental health services were delivered on the same day.[18]

The challenge of successfully referring depressed older adults documented in primary care settings is compounded among older adults found in community social service settings. Older adults who are applying for in-home aging services such as home meals or case management face significant structural and attitudinal barriers to initiating mental health care. At the same time, integrating mental health interventions into aging services provides a unique opportunity to address unmet mental health needs with high rates of depression (25%) and both structural and attitudinal barriers to treatment.[19–21] Although depression screening has been recommended and implemented by many providers, in this setting it has been challenging to translate recommendations for depression screening and referrals into actual visits with mental health providers, because of high rates of social isolation, chronic medical conditions, disability, and patient preferences for more "informal" sources of care.[22–24]

The aim of this study was to evaluate the effectiveness of a brief psychosocial intervention (Open Door) to improve initiation of depression treatment among homebound older adults eligible for a home-delivered meals program. The Open Door intervention was designed to address the individual-level barriers faced

when depression is detected and a mental health referral is offered. We hypothesized that older adults who participated in the Open Door intervention would be more likely to accept a mental health referral and attend a minimum of one mental health visit compared with those in the Referral control condition.

METHODS

The Open Door study (NIMH 079265) is an effectiveness study with research methods designed as part of our academic-community partnership to fit within Area Agencies on Aging that provide support services to older adults. Collaborators from the Westchester County Department of Senior Programs and Services and the New York City Department for the Aging have been involved in all phases of the intervention research since 2007, including pilot testing and feasibility.[1,19] Collaboration with aging service providers on the intervention design and implementation was intended to increase the likelihood that the program would ultimately be sustained by the community.[25]

Population

The U.S. Department of Health and Human Services Administration for Community Living's Administration on Aging authorizes Area Agencies on Aging to provide meals to individuals that are homebound through the Elderly Nutrition Program.[26] To be eligible for home-delivered meals, an older adult must be confined due to a chronic condition, illness, or injury that restricts his or her ability to leave the home without assistance. These meals sustain adequate dietary patterns, improve nutritional intake,[27] and support the fastest growing older adult population in the United States, those persons aged 85 years and older. Compared with the overall older adult population, home meal recipients are more likely to be older, poor, black, living alone, and in poor health.[28,29]

Participants

We recruited 179 older adults (age ≥60 years) eligible for home meal service provided in both urban (Bronx and Yonkers, NY) and suburban (Westchester County, Lower CT) settings. Verbal consent was obtained for meal clients who endorsed depressive symptoms on the PHQ-2[30] in routine screening. If the subject agreed to hear about the study and chose to participate, a study counselor made an in-home visit to obtain written informed consent and conduct a baseline assessment. Recruitment was conducted from October 2007 until January 2012. The study was approved by the Weill Cornell institutional review board (protocol 0707009247) and listed on Clinicaltrials.gov (NCT00605358; Increasing Use of Mental Health Services: Open Door).

Exclusion criteria included substance abuse, psychotic disorders, active suicidal ideation requiring immediate attention, cognitive impairment (Mini-Mental State Exam [MMSE] < 24), an inability to communicate in English, or current mental health treatment (either antidepressant medication or psychotherapy). Most exclusions took place during the initial scheduling call, although in some cases an exclusion condition emerged during the baseline assessment.

Study Design

Clients were randomized using a 1:1 ratio to either the Open Door intervention or a Services Referral control condition. Randomization occurred before the baseline assessment with study slots replaced when an adult was excluded. The primary study outcome (treatment initiation) was assessed based on client report during research interviews conducted face-to-face both 12 and 24 weeks after the baseline assessment. Counselors and follow-up research staff were trained together on all clinical assessment protocols, and reliability was conducted quarterly to minimize drift.

In both the Open Door intervention and the Services Referral control condition, participants received three in-person visits over 6 weeks and one telephone call 2 weeks after the last in-person visit. The control condition matched the counselor–client contacts provided in intervention to account for the effect of individual attention on the likelihood of accepting a referral and initiating treatment.

For both groups, the baseline assessment was conducted at the initial visit by the study counselor. Integrating the baseline assessment into the first intervention or control visit mirrored the delivery of standard support services (evaluation followed by services offered) and reduced the research burden on participants (in contrast to traditional clinical trials design where a participant is screened, followed by a

research assessment, and finally followed by an intervention visit). This design also took into account the appropriate reluctance of homebound older adults to let "strangers" into their homes. Over the course of the study, three counselors delivered the Open Door intervention and four counselors delivered the Services Referral control condition.

Open Door Intervention

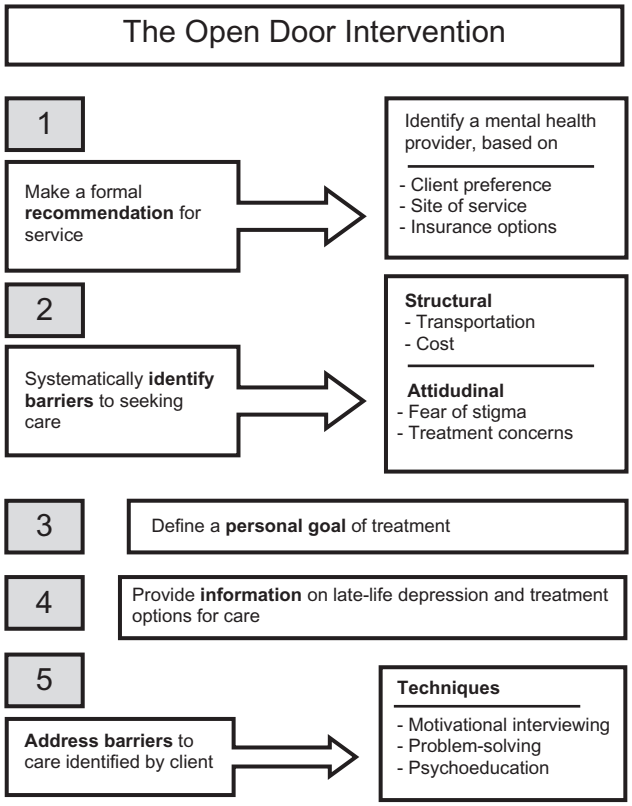
Open Door is a brief and individualized psychosocial intervention designed to identify and address collaboratively the barriers to accepting a mental health referral and initiating mental health treatment. The barriers to care targeted in the intervention were those obstacles identified in prior research such as stigma, limited perceived need for care, and limited knowledge about treatment options[31,32] and reported by participants in open-ended questions. By engaging the older adult in the processes of identifying barriers, expressing treatment preferences, and building a plan to seek treatment, the intervention both models the collaborative process of quality behavioral health care and creates a treatment initiation plan that is personalized and thus more likely to be implemented.[33] The Open Door counselor serves a function similar to that of the patient navigator, whose role in a hospital setting is to improve access to cancer screening and treatment.[34,35]

Open Door is delivered in five steps: 1) recommend a referral using standardized referral options, 2) conduct a barriers assessment, 3) define a treatment preference and a personal goal that could be achieved with care, 4) provide education about depression treatment options, and 5) address the barriers to accessing care. During the intervention sessions, the counselor uses techniques drawn from motivational interviewing to help activate an individual's wish to seek help.[36] The Open Door sequence is illustrated in Figure 1. A more detailed description of the intervention is provided in Sirey et al.[1]

Services Referral

Services Referral was a control condition designed specifically for this study to be consistent with aging service procedures for making referrals to needed services. Aging service providers routinely recommend and refer clients to other service providers. Clients in the Services Referral group received a recommendation to seek follow-up mental health care, handouts about depression, and sources of transportation. Counselors provided information for multiple mental health treatment options, including depression research studies and service providers billing Medicaid or offering a sliding scale, to take into account clients' financial considerations. To keep the number and duration of visits in the Service Referral group equivalent to those of the Open Door intervention, clients were also offered information on the agency's temperature assistance programs (either heating or cooling services) and how to utilize them. Services Referral counselors were supportive and empathic but did not work with the client specifically to problem-solve or set goals or plans.

FIGURE 1. Open door sequence of steps.



Supervision and Adherence to Intervention

Counselors were assigned to only one arm of the study in order to reduce contamination. To minimize

bias in both counselors and participants, the Services Referral and Open Door groups were relabeled as "East" and "West". Both Services Referral and Open Door counselors were trained during separate two-day training sessions provided by the principal investigator (JS) with collaborating faculty and staff. All counselors were selected to be consistent with staff hired by aging service providers.

The Open Door training included a review of the literature and current research on depression, barriers to care, conducting assessments, making referrals, problem solving, motivational interviewing, and goal-setting. Counselors additionally engaged in role-playing with mock patients. The Open Door intervention is delivered using a three-page guide that details all intervention steps and strategies. This guide was developed to organize the visits and document the steps taken, barriers assessed, and intervention strategies offered. The guide also records all contacts with participants and is designed to minimize drift.

The Services Referral training included an overview of depression, existing treatments, the services available to offer, and the role of the counselor during mental health visits. Training was provided both through didactics and role-playing, and included our community partners to offer instruction on the local temperature assistance programs. Counselors in both groups received separate weekly supervision for their first 6 months followed by monthly supervision thereafter.

Format for Mental Health Referral

To eliminate variability in the services offered, clients in both conditions were offered mental health referrals using a prepared script. The script included a sentence on each of the referral options with an advantage and disadvantage noted for each referral type. Clients selected a referral based on their preferences regarding type of treatment (medication or psychotherapy) and treatment setting (mental health, primary care, or research when applicable).

Measures

Treatment initiation was defined as attendance of one or more sessions with a clinician who could provide traditional mental health evaluation. Initiating treatment was counted if it occurred within 6 months of the baseline assessment based on data from the PRISME study.[37] Given the heterogeneity of depression severity and needs for care, clients were recommended to attend at least a single consultation visit with a provider of their choice. Treatment initiation was assessed by client self-report using standardized follow-up questions and visits reported on the Cornell Service Index,[38] which documents the site of service, the provider, and the primary reason (e.g., depression, physical problem) for each visit. A small validation study on the measurement of treatment initiation was conducted on a subsample of 71 participants, comparing the clinic's documentation of attendance with the participant's self-report. There was adequate concordance (Kappa = –0.133, T = –4.60, $p < 0.001$) between self-report and clinic documentation.

Diagnostic Interview, Depression Severity, and Suicide Risk

Depression diagnosis and symptom severity were assessed using the Structured Clinical Interview for DSM-IV Axis I Disorders and the Montgomery-Asberg Depression Rating Scale (MADRS). Inter-rater consistency for the MADRS was 94% between all study raters conducting baseline and follow-up assessments. Individuals who endorsed active or passive suicidal ideation were additionally evaluated using the Suicide Risk Assessment,[39] a protocol used to determine both the suicide risk level and an appropriate course of action. These risk assessment and review procedures have been used in multiple protocols for community-based research with older populations.[39,40]

Functioning

Functioning was assessed using the Instrumental Activities of Daily Living scale from the Multi-level Assessment Inventory (MAI). The MAI list of medical conditions was used to determine medical burden. Cognitive functioning was evaluated using the MMSE (cognitive impairment defined as MMSE score <24). The level of nutritional risk was evaluated using a standard questionnaire administered by all home meal programs in New York State.[41] Individual with scores 6 or higher are considered to be at nutritional risk. Participants were also asked if they had fallen during the prior 6 months, and if so, whether they had sustained

any injuries that required a physician visit. Prior use of mental health treatment was documented using the Cornell Services Index.[38]

Data Analyses

All study data were entered into an Access database and converted to SPSS files for analyses using SPSS 19.0.[42] Descriptive analyses were conducted to compare the two treatment groups for baseline differences after randomization on clinical and demographic characteristics. We also performed univariate analyses to compare outcomes (treatment initiation) on clinical and demographic characteristics. For descriptive and univariate analyses independent two-sample t test, χ^2 test, and Fisher's exact test were used. Clinical or demographic characteristics that were significantly different between treatment groups were included in the multivariable analysis. Finally, we performed multivariable analyses to test the intervention effect (Open Door versus Services Referral) on treatment initiation using a logistic regression model after controlling for baseline depression severity and gender. We report goodness of fit using the Hosmer-Lemeshow test, odds ratios of independent variables, and their 95% Wald-type confidence intervals.

RESULTS

Home meals staff referred 362 clients who endorsed depressive symptoms on the PHQ-2. Of those referred, 53 declined to consider participation. An additional 15% were found ineligible through telephone screening because of study exclusion criteria (see Methods). Of those 256 deemed eligible, an additional 95 (37%) were excluded during the baseline assessment because of previously undetected conditions (See Figure 2) The final sample consisted of 161 home meal program participants (Intervention: 81, Control: 80). There were no significant group differences with respect to dropout and response rates. Full follow-up data at 12 weeks was available for all Open Door clients and 99% of those in the Services Referral group. Data at 24 weeks was collected from 90% of Open Door and 80% of Services Referral participants, respectively, with no additional missing data in the primary outcome.

FIGURE 2. Consort chart.

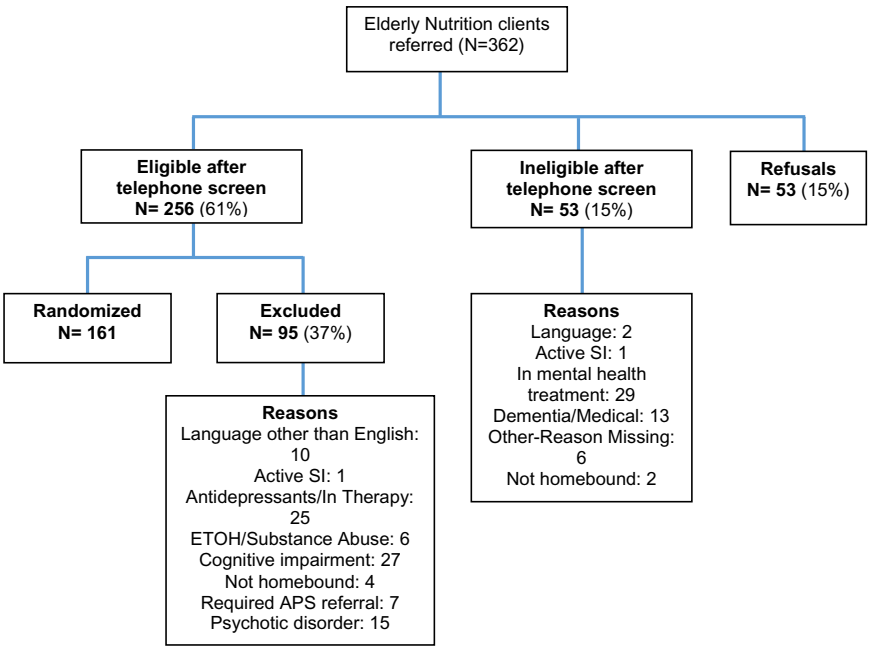


TABLE 1. Demographic and clinical characteristics (N = 161)

Demographic Characteristics	Open Door Intervention (N = 81)	Service Referral Control (N = 80)	Difference
Age, years	82.9 (SD: 9.0)	81.0 (SD: 9.5)	0.19
% Female	61.3	81.5	**0.004**
% Hispanic	8.8	7.4	0.76
Race			0.15
% Black	21.0	31.3	
% White	79.0	66.3	
% Asian	0.0	2.6	
% Pacific Islander	0.0	2.6	
Years of education	12.4 (SD: 3.3)	12.9 (SD: 4.1)	0.44
% Eligible for food stamps in New York State (income ≤$21,775)	67.6	59.7	0.42
Self-perceived financial status			0.15
% Can't make ends meet	16.1	27.8	
% Just enough to get along	58.0	45.6	
% Currently comfortable	25.9	26.6	
Clinical Characteristics			
MADRS score	17.8 (SD: 9.8)	18.1 (SD: 9.6)	0.83
% Endorsed suicidal ideation			0.95
None endorsed	72.8	73.8	
Mild risk	21.0	21.3	
Intermediate risk	6.2	5.0	
MMSE score	27 (SD: 2.5)	27 (SD: 2.9)	0.52
Nutritional risk score	5.4 (SD: 3.7)	5.4 (SD: 3.9)	0.99
Overall Functioning (SF-12)			
Mental Health Composite	38.5 (SD: 13.4)	40.6 (SD: 13.8)	0.33
Physical Health Composite	29.8 (SD: 12.3)	32.4 (SD: 12.8)	0.19
Number of medical conditions	6 (SD: 2.8)	6 (SD: 2.4)	0.81
Number of daily medications	7 (SD: 3.0)	7 (SD: 3.6)	0.29
Number of IADL activities requiring assistance	2.6 (SD: 1.7)	2.4 (SD: 1.8)	0.48
% Fell in last 6 months	38.3	33.8	0.55
% Prior mental health treatment	40.5	35.6	0.54

Notes: IADL: instrumental activities of daily living; SF-12: 12-item Short Form Health Survey; MADRS: Montgomery-Asberg Depression Rating Scale; MMSE: Mini-Mental State Exam.

The demographic characteristics of the sample are described in Table 1. After randomization the groups were comparable except for gender, with more women in the Services Referral group than in the Open Door group. Just under half of participants (47.2%, 76 out of 161) met DSM IV diagnostic criteria for major depressive disorder, and an additional 13.7% (22 out of 161) met criteria for minor depression. Almost one-third (26.7%; 43 out of 161) of all participants endorsed suicidal ideation and received the suicide risk assessment. Suicide risk was not significantly associated with race, age, gender, or education.

The overall rate of treatment initiation over the 6-month follow up was 65.2% (105 out of 161). Most of these participants (90 out of 105) made the visit during the first 12 weeks. Open Door participants were more likely to initiate mental health treatment during the 6-month follow-up period compared with adults in the Services Referral condition (74.1% versus 56.3%, $\chi^2_{(1)} = 5.64$, $p = 0.018$). When analyses were restricted to participants with at least mild depressive symptoms (defined as MADRS scores ≥10, N = 124), success rates were elevated in both groups, although the Open Door group rate remained significantly higher than that of the Services Referral condition (80.6% versus 62.9%, $\chi^{22}_{(1)} = 4.18$, $p = 0.028$). Treatment initiation was unrelated to age, gender, household income, instrumental activities of daily living disability, prior episodes of depression, or the number of reported medical conditions. In multivariable analyses controlling for the gender difference between groups, adults in the Open Door group had 2.4 times higher odds of treatment initiation compared with the Services Referral group (odds ratio [OR]: 2.4, 95% confidence interval [CI]: 1.17–4.93, $\chi^2 = 15.18$, $df = 3$, $p = 0.002$). The Hosmer and Lemeshow test showed acceptable goodness of fit for the final model.

In addition, a one-unit increase in MADRS score was associated with 5% increased odds of treatment initiation (95% CI: 1.01–1.09).

Those clients who initiated mental health treatment went to a range of providers (non-MD clinicians, primary care physicians, and specialty physicians). Nearly half of participants (49%, 51 out of 104) who initiated care went to see a physician for a consultation. Less than one-third (28.8%, 30 out of 104) saw a non-MD clinician for psychotherapy, with an additional one-quarter (25.9%, 27 out of 104) of participants who went to both a non-MD clinician for therapy and a physician for medication.

CONCLUSIONS

This study supports the use of the Open Door intervention to improve treatment initiation in mental health care among older adults with depressive symptoms (as identified by aging service providers). More than three-quarters of participants who received the Open Door intervention attended at least one visit with a mental health provider who could evaluate their symptoms and offer treatment for depression. Taking into account the level of depression severity, this rate of treatment initiation was significantly better than that of the Services Referral control condition, matched for contact time (three visits over 6 weeks and one follow-up phone call).

Meaningfully higher rates of treatment initiation were found in both groups compared with our naturalistic community sample.[2] Although the Open Door intervention yielded significantly higher rates of treatment initiation than the control condition, our data indicate that both strategies were more effective than a simple screening and referral. This finding suggests that a manualized evaluation and structured referral program, with follow-up visits to improve treatment initiation, improves the rates of successful referral among older adults with depressive symptoms. Clients in both groups received informational handouts on depression and transportation options as well as encouragement by service providers, elements which have all been found to facilitate treatment initiation.[6] In addition, other experts in the field have suggested that homebound older adults may show relatively higher rates of service utilization in part because they are already accustomed to receiving in-depth assistance from outside providers.[5]

Although over one-third of clients in each group had received prior mental health services, past treatment was not associated with treatment initiation in this sample. Research has suggested that prior treatment for mental health significantly predicts current treatment preferences but is unrelated to outcomes among older adults, even when preferences match the actual services received.[43] Future analyses will explore potential mediators associated with increased rates of treatment initiation.

The aging service network has unique potential to serve as a bridge between older adults who need mental health care and actual mental health treatment.[22] Many of the older adults who endorsed symptoms had untreated depression and reported suicidal ideation in the context of disability, comorbid medical conditions, and social isolation. In addition, our sample is consistent with the characteristics reported for home meal program participants nationwide.[44] Although research implementation of Open Door included fidelity monitoring and reliability, the Open Door intervention could be implemented by agencies supported by the Administration on Aging as an evidence-based program to improve mental health referrals. The training protocol and supervision schedule are consistent with community implementations of evidence-based programs. In New York City, case management program caseloads are tiered to allow for additional visits with clients who have greater need.[45] Although aging service staff have heavy caseloads, recent research indicates that case managers are already devoting extra time to clients with depression, who often require frequent medical visits and emotional support.[46] Training staff to identify and address common treatment barriers using the Open Door intervention may help to ease the burden on case managers by improving clients' rates of treatment initiation with a mental health service provider. Because Open Door was developed in collaboration with aging service providers it may be uniquely suited for sustainability and integration into the aging service network.

We recognize that potential biases of the availability of mental health resources may limit generalizability of these results. This study was conducted in urban and suburban areas where mental health resources may be more available than in other communities. Although

all older adults with Medicare confront the scarcity of geriatric psychiatrists and psychologists who accept their insurance, these challenges may be even greater in rural settings. To implement Open Door, counselors need to work within the available resources for referrals. Without the availability of high quality mental health care, Open Door can be seen as potentially necessary but not sufficient to reduce the burden of clinically significant depression in this population. Finally, although we worked closely with agencies who believed that their clients were very willing to consider participation and agencies were appreciative of the help making referrals, it is possible that those clients who refused at the agency level may have included those adults with the greatest barriers to care.

Home-delivered meal programs offer the opportunity to identify mental health needs in homebound older adults, a population hidden from other mental health strategies—although screening and case identification do not automatically lead to utilization of mental health services. The Open Door intervention offers a strategy to overcome attitudinal barriers and to improve treatment initiation, while working within the roles and responsibilities of aging service staff who link clients to needed services.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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