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Geriatric depression assessment by rural primary care physicians

M Glasser[1], L Vogels[2], J Gravdal[3]

[1]*National Center for Rural Health Professions, Rockford, Illinois, USA*

[2]*Department of Family Medicine, Maastricht University, Maastricht, Netherlands*

[3]*Department of Family Medicine, Lutheran General Hospital, Park Ridge, Illinois, USA*

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Glasser M, Vogels L, Gravdal J

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ABSTRACT

Introduction: Depression is the fourth leading cause of the global disease burden, and approximately one in four elderly people may suffer from depression or depressive symptoms. Depression in later life is generally regarded as highly treatable, but under-treatment is still common in this population, especially among those in rural areas where access to healthcare is often an issue. In this study rural primary care physicians' practices, attitudes, barriers and perceived needs in the diagnosis and treatment of geriatric depression were described, and trends in care delivery examined.

Methods: A survey was sent to 162 rural Illinois family physicians and general internists. The survey focused on current practices, attitudes and perceptions regarding geriatric depression, barriers to and needs for improvement in depression care and physician and practice characteristics.

Results: Seventy-six physicians (47%) responded. The rural physicians indicated that over one-third of their patients aged 60 years and older were depressed. All reported routine screening for depression, with 24% using the Beck Depression Inventory. Overall, physicians expressed positive attitudes about their involvement in treating older depressed patients. However, 45% indicated a 'gap' between ideal and available care in their rural practices. Physicians with higher proportions of elderly patients in their panels were more likely to feel that more training in residency in geriatric care would be helpful in improving care, and that better availability of psychologists and counselors would be important for improvement of care for older, depressed patients.

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Conclusions: This study responds to recent calls to better understand how primary care physicians diagnose and treat depression in older adults. Generally, primary care physicians appear comfortable and prepared in depression diagnosis and management, but factors such as availability of appropriate care remain a challenge.

Key words: depression, geriatric, primary care, USA.

Introduction

Depression is the fourth leading cause of the global disease burden[1]. By 2020, depression will be second only to heart disease in its contribution to the global burden of disease in relation to disability-adjusted life years[2]. Several studies have shown that up to 23% of elderly patients suffer from depression or depressive symptoms[3,4]. Although major depression is relatively rare in the population of older adults, minor depressive symptoms are particularly common in later life. Importantly, the *consequences* of these minor depressive disorders for the well-being and functioning of older adults seem to be similar when compared with major depressive disorders, contributing to adverse effects on quality of life[5,6].

Depression in later life is generally regarded to be highly treatable, but under-treatment is still common in this population[7-13]. Up to 20% of people attending primary healthcare providers in developing countries suffer from the often-linked disorders of anxiety and depression, but symptoms of these conditions often go unrecognized, with under-reporting of depression being a major problem worldwide[1]. Additionally, past research has shown that only 35% of those with depression receive treatment[14]. Based on a convenience sample of 482 primary care visits by patients 65 years and older, Adelman and colleagues found that depression was discussed in only 7% of medical visits[15]. The researchers note that this low figure could be related to the cross-sectional design of their study; nonetheless, they express surprise at the low rate of depression discussion in a population where depression is prevalent. Given that the majority of depressed elderly people are treated in the primary care sector[8,16-19], and that depressed older patients are more than twice as likely as non-elderly patients to visit their primary care physician at least once a month, even after controlling for co-morbidities[20], it is critical to better understand how primary care physicians approach and treat depression in their older adult patients[21].

The treatment of depression in older adults by primary care physicians may be especially important in rural regions, where ready access to healthcare providers is an issue. For instance, in the USA, while more than 20% of the population lives in places defined as rural, only 9% of all physicians practice in these communities[22,23]. However, the greatest need may be in rural America, where patients have rates of suicide and major depression equal to or slightly higher than their urban counterparts[24-26]. The disparity in mental health services between rural and urban areas is a major concern[27,28]. To improve mental health care in rural areas, it is important to examine and understand the barriers and needs that primary care physicians experience in their care of depressed elderly people.

Methods

Study population

The present study focused on rural Illinois primary care physicians: family physicians and general internists. Surveys were sent to a convenience sample of 68 primary care physicians affiliated with 6 different hospitals in rural Illinois, and to all 94 graduates and preceptors of the Rural Medical Education (RMED) Program of the University of Illinois College of Medicine at Rockford. This represents a sample of approximately 25% of rural family and general practice physicians in Illinois.

Instrument

The data collection instrument consisted of a four-page survey composed of 5 parts, based on an earlier survey of primary care physicians[29] and updated to reflect the recent literature on the treatment of depression, especially that related to older adults (Appendix I).

Part 1: Current practices: Data collected on current practices was in regard to recognizing and managing depression in older adults, including questions about routine screening methods, use of screening tests and guidelines, laboratory examinations, gaps between preference of treatment and the availability of that treatment and the use of patient education materials.

Part 2: Information on attitudes and perceptions: Data on attitudes and perceptions included responses to statements on the diagnosis and treatment of geriatric depression in primary care, where physicians were asked to specify the extent of agreement or disagreement using a 5 point Likert scale.

Part 3: Identification of barriers: Barriers to adequate diagnosis and treatment of geriatric depression were identified, including the stigma of psychiatric treatment, access to mental healthcare in the community, inadequate insurance coverage for mental health care and not enough time for discussion.

Part 4: Physicians' reports of needs and directions: Physicians' reports of needs and directions to improve care for depressed geriatric patients was collected by asking the respondents to rate 15 items, including increased time with each patient, better availability of psychologists, increased reimbursement for counseling and mental health services located in primary care practice.

Part 5: Background and demographics: Background and demographics data included physicians' sex, age, specialty, percentage of depressed patients in practice, percentage of depressed elderly patients and involvement in teaching medical students and residents.

The survey was a self-report, self-administered instrument, taking approximately 10–15 min to complete. It was tested and piloted in relation to content and completion time. The survey instrument and study methods were approved by the university Institutional Review Board.

Data collection

All physicians in the study sample were initially contacted by mail, which included the survey instrument, a personalized cover letter stating the purpose of the study, a pre-addressed, stamped return envelope and a postcard. The physicians were requested to either fill out the written survey or were given the option to complete the survey online at a designated website location, as an option to the written questionnaire. A second wave of surveys, accompanied by a reminder letter, was sent after 3 weeks. Additionally, 1 week after the second mailing, randomly selected non-respondents received an email or telephone call to request the physician to complete the survey.

Analysis

Data were analyzed using SPSS statistical software (SPSS; Chicago, IL, USA; www.spps.com). Univariate analysis described physicians' current practices, attitudes toward geriatric depression, experienced barriers and needs to improve the diagnosis and treatment of depression in the geriatric population. Chi-square tests, independent *t*-tests and *F*-tests, as appropriate, were used to assess possible differences in physicians' responses related to the demographic variables of age and sex, and the practice characteristic of proportion of elderly patients in the physicians' patient panels.

Results

A total of 76 rural primary care physicians (47%) responded to the survey. Demographic and practice characteristics of the responding physicians are presented (Table 1). More than 90% of responding physicians were family doctors. Most were male (59.2%) and the mean age was 40 years (SD = 10.2).

Thirty percent of the doctors reported practices where over 50% of their patients were older adults (over the age of 60). In response to the question 'About what percent of your patients do you estimate to be depressed?' most physicians (47.4%) estimated the percentage of depressed patients in their practices as 25% or less, but over one-quarter reported greater than 25% depressed patients. The figure increased to approximately one-third for depressed patients over the age of 60. There was a strong correlation between overall estimate of depressed patients in the physicians' practices and percentage of older adults with depression ($r = .80$; $p < .001$).

Nearly 45% of the physicians indicated having attended continuing medical education programs relating to older adult healthcare within the past year. And almost three-fifths of the physicians were involved in teaching medical students and/or residents. In terms of building mental health capacity within their own practices, five physicians (6.6%) indicated that psychologists or counselors were on-site in their clinics, and four physicians (5.3%) were certified in geriatric medicine.

Physician practices in depression screening and treatment: All responding physicians indicated they routinely screened for depression in their older patients. Information is presented on the symptoms these rural primary care physicians used in conducting screenings, as well as tests or interviews in the diagnosis of depression in older adults (Table 2). Six symptoms were identified by 90–100% of the physicians as used in screening for depression in their patients: sad mood; loss of interest/pleasure; decreased energy; anxiety/irritability; sleep disturbance; and multiple worries/distress. The symptom least often mentioned in relation to depression screening was pain (45%). On average, the physicians indicated approximately 9 symptoms considered in the screening and diagnosis of depression in older patients.

Sixty-one percent of the primary care physicians reported that they did not use a standard test or screening instrument for depression diagnosis. When a depression assessment instrument was used, most often mentioned was the Beck Depression Inventory (24%), followed by the Geriatric Depression Scale. The Mini-Mental State Exam (29%) was also commonly used to evaluate geriatric patients.

In establishing a new diagnosis of depression in elderly patients, laboratory tests most often used to screen for causes other than depression were for thyroid stimulating hormone (84%), a complete blood count (75%) and a comprehensive metabolic profile (41%). Specific medications most often mentioned in the treatment of depression were escitalopram (47%) and sertraline (30%). Besides medications, counseling was reported by the majority of physicians (80%) as another treatment modality. Exercise (12%), social activities (7%) and psychotherapy (7%) were mentioned considerably less frequently.

When asked 'Do you use clinical guidelines for diagnosis and treatment of geriatric depression?' 10 of the primary care physicians (13%) responded yes. Forty percent of the doctors indicated that they routinely gave patient education materials to those suspected of being depressed or diagnosed with depression. When asked about a gap between the treatment physicians preferred and availability of that treatment, 45% somewhat or strongly agreed that a gap existed. To some extent this view was related to the age of the patient panel, where primary care physicians with higher proportions of patients aged 60 years and older were more likely to agree that there were gaps between available and preferred treatment of depression in older adults (42.3% vs 35.1% of patients >60; $p = .081$).

Table 1: Demographic and practice characteristics of responding rural primary care physicians

Characteristic	Physicians *n* (%)
Specialty	
Family medicine	70 (92.1)
Internal medicine	6 (7.9)
Sex	
Male	45 (59.2)
Female	31 (40.8)
Age (mean 40.0; SD 10.2)	
29–35	39 (51.3)
36–45	15 (19.7)
46–55	15 (19.7)
≥56	7 (9.2)
% Patients >60 years in clinic (mean 38.6; SD 17.8)	
0–25	21 (27.6)
26–49	32 (42.1)
≥50	23 (30.3)
% Depressed patients in clinic (mean 22.2; SD 13.9)	
0–10	20 (26.3)
11–25	36 (47.4)
>25	20 (26.3)
% Depressed patients >60 years (mean 25.3; SD 16.7)	
0–10	20 (26.3)
11–25	31 (40.8)
>25	25 (32.9)
Certification in geriatric medicine	
Yes	4 (5.3)
No	72 (94.7)
Attended CME programs on older adults	
Yes	34 (44.7)
No	42 (55.3)
Involved in teaching medical students and/or residents	
Yes	44 (57.9)
No	32 (42.1)
Psychologists or counselors located in clinic/office	
Yes	5 (6.6)
No	71 (93.4)

CME, Continuing medical education.

Physician attitudes towards depression diagnosis and management: As presented (Table 3), all of the rural physicians agreed that helping depressed patients was important to them. Further, nearly all the physicians (99%) agreed that they felt confident in accurately diagnosing depression in the elderly. This confidence carried over into diagnosis and treatment of depression and prescription of antidepressants in the elderly, with 97% and 89% of physicians, respectively, reporting confidence in their abilities in these areas. Consistent with these perceptions, all the physicians agreed that diagnosis and treatment of depression in elderly patients was their responsibility as primary care doctors. Additionally, 92% of the physicians agreed that treating depressed patients is an aspect of practicing medicine that is rewarding, and no physician agreed with the statement that there is nothing that can be done for older patients with depression. In this regard, 96% of the physicians agreed with the view that elderly patients expect primary care physicians to deal with depression in their patients.

Table 2: Rural physicians' reported practices in the screening and diagnosis of depression in older adults

Screening and diagnosis practice	Physicians *n* (%)
Symptom†	
Sad mood	76 (100)
Loss of interest/pleasure	74 (97)
Decreased energy	70 (92)
Anxiety/irritability	70 (92)
Sleep disturbance	68 (90)
Multiple worries/distress	68 (90)
Numerous unexplained symptoms	66 (87)
Weight loss/gain	59 (78)
Work/relationship dysfunction	52 (68)
Sexual complaints	38 (50)
Pain	34 (45)
Instrument	
Mini-Mental State Exam	22 (29)
Beck Depression Inventory	18 (24)
Geriatric Depression Scale	12 (16)
Zung Self-Rating Depression Scale	7 (9)
Primary Care Evaluation of Mental Disorders	3 (4)
Other	8 (10)

† Mean symptoms listed = 8.8 (SD = 2.1).

Eighty-six percent of the rural physicians disagreed that they were too pressured for time to routinely investigate depression in their older patients, including 32% who strongly disagreed. Similarly, 76% disagreed that elderly patients have so many problems that the physician does not always have time to consider depression. For the most part, the primary care physicians disagreed that depressed, older patients frustrated them (84%). Ninety percent of the physicians disagreed that it is preferable *not* to use the term depression because it potentially labels or stigmatizes the patient. Finally, only 3% of physicians agreed that they would send elderly patients for a psychiatric consult, rather than diagnose and treat depression themselves.

In relation to attitudes toward treatment modality as well as involvement of family members, 93% of the physicians felt that psychotherapy can help depressed elderly patients. The physicians also tended to disagree (77%) that psychotherapy is less efficacious for older, compared with younger, patients. The majority of the physicians (94%) felt comfortable dealing with family members of depressed patients, with 99% indicating that family member information was useful in the diagnosis of depression in older adults. Consequently, 88% of the rural doctors agreed that family members should be included in decisions and plans about the treatment and management of depression in their elderly patients.

Overall, related to physicians' attitudes and perceptions, there was a mixed reaction to caring for older patients with depression currently, compared with 5 years in the future. Over half (54%) disagreed that in 5 years, caring for elderly patients with depression would be more important than at present.

Table 3: Rural physicians' attitudes and perceptions regarding the diagnosis and treatment of depression in older adults

Item/perception	Rating *n* (%)			
	SD	D	A	SA
Helping depressed patients is important to me.	0	0	5 (7)	71 (93)
Feel confident I can accurately diagnose depression in elderly.	0	1 (1)	45 (59)	30 (40)
Treating depressed patients a rewarding aspect of practicing medicine.	1 (1)	5 (7)	36 (47)	34 (45)
Do not focus on depression diagnosis until ruling out organic disease.	6 (8)	30 (40)	33 (43)	7 (9)
Family members included in decisions and plans on treatment/management of depression in elderly.	1 (1)	8 (11)	42 (55)	25 (33)
Too pressured for time to routinely investigate depression in older patients.	24 (32)	41 (54)	10 (13)	1 (1)
Confidence in my ability to prescribe antidepressants for elderly patients.	2 (3)	6 (8)	36 (47)	32 (42)
When depression and dementia coexist, depression should still be treated.	0	0	19 (25)	57 (75)
Feel I am intruding when probing emotional concerns of my patients.	62 (82)	11 (14)	2 (3)	1 (1)
Consider my knowledge of diagnosis/treatment of depression is up-to-date.	0	2 (3)	54 (71)	20 (26)
Elderly patients have so many problems, do not always have time to consider depression.	24 (31)	34 (45)	15 (20)	3 (4)
I think psychotherapy can help depressed, elderly patients.	0	5 (7)	46 (60)	25 (33)
Consider diagnosis/treatment of depression in elderly patients to be my responsibility.	0	0	34 (46)	42 (55)
Will send elderly patients for psychiatric consult rather than diagnose/treat myself.	44 (58)	30 (39)	2 (3)	0
Elderly patients expect primary care physicians to deal with depression.	0	3 (4)	28 (37)	45 (59)
Generally nothing that can be done for older patients with depression.	73 (96)	3 (4)	0	0
Depression is normal concomitant of aging.	59 (78)	17 (22)	0	0
Priority is to treat medical problems first, then investigate psychological problems.	16 (21)	47 (62)	12 (16)	1 (1)
Given chronic illnesses elderly patients suffer, depression is understandable.	9 (12)	15 (20)	38 (50)	14 (18)
Older adults with depression likely experienced episodes of depression when younger adults.	4 (5)	22 (29)	43 (57)	7 (9)
Diagnosing depression automatically burdens me with responsibility for treatment.	17 (22)	28 (37)	25 (33)	6 (8)
Feel comfortable dealing with family members of depressed patients.	0	5 (6)	41 (54)	30 (40)
Management of depressed elderly people is different from management of younger adults.	3 (4)	10 (13)	49 (65)	14 (18)
Depressed elderly patients frustrate me.	27 (35)	37 (49)	10 (13)	2 (3)
It is preferable not to use the term 'depression' to avoid labeling or stigmatizing the patient.	36 (47)	33 (43)	4 (5)	3 (4)
Psychotherapy is less efficacious for older patients compared to younger patients.	14 (18)	45 (59)	16 (21)	1 (1)
Five years from now, caring for geriatric patients with depression will be more important to me than now.	10 (13)	31 (41)	28 (37)	7 (9)
In my experience, family member information is useful in diagnosing depression in older patients.	0	1 (1)	27 (36)	48 (63)

SD, Strongly disagree = 1; D, disagree = 2; A, agree = 3; SA, strongly agree = 4.

Physician reports on barriers to care and views on improving ability to care for depressed, geriatric patients: Physicians were asked to respond to a list of 9 possible barriers to the diagnosis and treatment of geriatric depression by indicating the extent to which each was perceived as a barrier. Results of the physicians' assessments are presented (Table 4). Most likely to be viewed as barriers to diagnosis and treatment of geriatric depression were inadequate insurance coverage for mental healthcare and lack of access to mental healthcare in the community (both with a mean score >3 on a 4 point scale). These two most often reported factors reflect access or system-level obstacles to care. On the individual side, approximately 62% of the physicians agreed barriers to diagnosis and treatment of geriatric depression could be patients' rejection of psychotherapy and perceptions of the stigma associated with psychiatric treatment in general. Least likely to be viewed as barriers in depression diagnosis and care were: low confidence by the patient in treatment involving counseling, and the patient's reluctance to discuss emotional problems (with mean scores of 2 and 1.5, respectively).

Future needs and directions in the care of older, depressed patients were assessed by physician responses to a list of 15 items that could be helpful in improving their ability to care for depressed, geriatric patients. All but three of the responding physicians agreed that it would be helpful or very helpful to have a better availability in rural areas of psychologists and counselors for improving care for older patients with depression (Table 5). This was followed most closely by increased time to spend with patients, improved patient compliance with treatment and increased reimbursement for counseling services. Also highly evaluated in terms of helpfulness for patients was location of mental health services in primary care offices. At the level of physician education, evaluated as potentially helpful were: greater emphasis in training on the link between mental and physical health; greater emphasis in residency training on geriatric mental health; and availability of continuing medical education conferences on geriatric depression. Better relationships with referral colleagues was interesting in terms of distribution of responses – 50% of the physicians, respectively, reported that better referral relationships would be not at all/possibly helpful versus helpful/very helpful. Viewed as least helpful in patient care was the availability of telephone hotline or consulting services.

These needs and directions (Table 5), were examined in relation to the earlier question of primary care physicians' views of a possible gap between available care in the rural setting and preferred treatment practices by the physicians. Physicians who responded that they agreed there was a gap between available and preferred treatments were also more likely to indicate: there should be better availability of psychologists and counselors (p = .003); there should be greater emphasis during training on the link between physical and mental health (p = .021); and there should be increased reimbursement for counseling (p = .057).

Attitudes and reports of behavior by physician age, gender and proportion of patient panel 60 years and older: Also examined were physicians' reported practices and perceptions and attitudes by age (physicians less than or equal to 49 years vs greater than 50 years), sex and patient panel age (5–35% less than 60 vs 40–85% greater than or equal to 60). Younger physicians reported higher estimates of patients in their panel who were depressed: 24.4% vs 15.6% (p = .002). They were also somewhat more likely than older physicians to indicate that they could be too pressured for time to routinely investigate for depression in older adults (p = .043). However, older physicians were more likely to state that: family members are included in decisions and plans on the treatment and management of older adult depression (p = .034); inadequate insurance coverage can be a barrier to mental health care in rural areas (p = .019); and there is a need for increased time to spend with patients to improve care for older adults with depression (p = .008).

Table 4: Rural physicians' views of potential barriers to adequate diagnosis and treatment of geriatric depression

Physician view	Barrier rating† *n* (%)				Mean (SD)
	No	Somewhat	Often	Major	
Insurance coverage of mental care is inadequate	1 (1.3)	12 (15.8)	31 (40.8)	32 (42.1)	3.2 (.76)
Access to mental healthcare is a problem in our community	4 (5.3)	15 (19.7)	25 (32.9)	32 (42.1)	3.1 (.91)
Patients will reject psychotherapy	1 (1.3)	22 (28.9)	29 (38.2)	18 (23.7)	2.9 (.75)
Patients are concerned about medication side effects	3 (3.9)	22 (28.9)	37 (48.7)	14 (18.4)	2.8 (.78)
Co-morbidity in depressed elderly	5 (6.6)	18 (23.7)	43 (56.6)	10 (13.2)	2.7 (.76)
Stigma of psychiatric treatment	7 (9.2)	22 (28.9)	29 (38.2)	18 (23.7)	2.7 (.92)
Appointment is too short	6 (7.9)	29 (28.2)	28 (36.8)	13 (17.1)	2.6 (.86)
Low confidence in treatment with counseling	21 (27.6)	33 (43.4)	20 (26.3)	2 (2.6)	2.0 (.81)
Patient reluctance to discuss emotional problems	50 (65.8)	19 (25)	5 (6.6)	2 (2.6)	1.5 (.74)

†No barrier = 1; somewhat of a barrier = 2; often a barrier = 3; major barrier = 4.

Attitudes and reports of behavior by physician age, gender and proportion of patient panel 60 years and older: Also examined were physicians' reported practices and perceptions and attitudes by age (physicians less than or equal to 49 years vs greater than 50 years), sex and patient panel age (5–35% less than 60 vs 40–85% greater than or equal to 60). Younger physicians reported higher estimates of patients in their panel who were depressed: 24.4% vs 15.6% (p = .002). They were also somewhat more likely than older physicians to indicate that they could be too pressured for time to routinely investigate for depression in older adults (p = .043). However, older physicians were more likely to state that: family members are included in decisions and plans on the treatment and management of older adult depression (p = .034); inadequate insurance coverage can be a barrier to mental health care in rural areas (p = .019); and there is a need for increased time to spend with patients to improve care for older adults with depression (p = .008).

In relation to gender, female physicians, compared with males, reported higher rates of depressed patients in their practices: overall, 31% compared with 16.1% (p <.001) and with respect to geriatric depressed patients, 33.2% compared with 19.9% (p < .001). While males were more likely to report patient rejection of psychotherapy as a barrier to care (p = .016), females were more likely to view patient reluctance to discuss emotional problems as a barrier (p = .014). Finally, males were more likely to indicate that a better availability of psychologists or counselors was a need in improving care in rural areas (p = .047).

Possible variations in reports of attitudes and care delivery were, additionally, examined in relation to proportion of elderly patients in the physicians' practices. Those rural physicians with proportionately more older patients in their practices, on average, checked more needs and directions for improving their ability to care for older adult patients, 10.3 vs 8.8 (p = .056). These physicians were also more likely to: feel that more training/attention in residency to geriatric care would be helpful in improvement of care (p<.001); indicate the need for greater emphasis in and training on the link between physical and mental health (p = .041); and mention that better availability of psychologists and counselors would be important for the improvement of care for older, depressed patients (p = .020).

Table 5: Rural physicians' views of items potentially helpful in improving ability to care for geriatric patients with depression

Item	Helpfulness rating† *n* (%)				Mean (SD)
	Not at all helpful	Possibly helpful	Helpful	Very helpful	
Better availability of psychologists/ counselors	1 (1.3)	2 (2.6)	22 (28.9)	51 (67.1)	3.62 (.61)
Increased time to spend with each patient	1 (1.3)	8 (10.5)	37 (48.7)	30 (39.5)	3.26 (.70)
Improved patient compliance with treatment	0 (0.0)	7 (9.2)	44 (57.9)	25 (32.9)	3.24 (.61)
Increased reimbursement for counseling	3 (3.9)	11 (14.5)	28 (36.8)	34 (44.7)	3.22 (.84)
Mental health services located in primary care office	3 (3.9)	11 (14.5)	33 (43.4)	29 (38.2)	3.16 (.82)
Greater emphasis in training on link between mental and physical health	5 (6.6)	15 (19.7)	38 (50.0)	18 (23.7)	2.91 (.84)
More training/attention in residency to geriatric mental health	6 (7.9)	20 (26.3)	35 (46.1)	15 (19.7)	2.78 (.86)
CME conferences about geriatric depression	7 (9.2)	26 (34.2)	32 (42.1)	11 (14.5)	2.62 (.85)
More support staff in the office	6 (7.9)	33 (43.4)	25 (32.9)	12 (15.8)	2.57 (.85)
Better relationship with referral colleagues	10 (13.2)	28 (36.8)	24 (31.6)	14 (18.4)	2.55 (.94)
More self-assessment tools about depression	11 (14.5)	24 (31.6)	34 (44.7)	7 (9.2)	2.49 (.86)
More training/attention in under-graduate to geriatric mental health	14 (18.4)	21 (27.6)	31 (40.8)	10 (13.2)	2.49 (.95)
More review articles/pamphlets about depression	10 (13.2)	32 (42.1)	26 (34.2)	8 (10.5)	2.42 (.85)
Access to on-line web site information	13 (17.1)	25 (32.9)	32 (42.1)	6 (7.9)	2.41 (.87)
Depression telephone hotline/ consulting service	18 (23.7)	36 (47.4)	17 (22.4)	5 (6.6)	2.12 (.85)

†Not at all helpful = 1; possibly helpful = 2; helpful = 3; very helpful = 4.

Discussion

This study contributes to the recent call by the American Geriatrics Society to understand how primary care physicians diagnose and treat depression in older adults, with a specific focus on rural primary care physicians[21]. Responding primary care doctors in Illinois reported higher averages of their older patient panels suffering from depression than is indicated in the existing literature: 33% compared with 23%[3,4]. By sheer numbers alone, the need is reinforced for better understanding the diagnosis and treatment of older, depressed adults.

There are many positive outcomes in this study of rural primary care physicians. All responding physicians indicated routine screening for depression in their older patients. While the majority of physicians did not indicate the use of specific instruments or inventories for depression assessment, they reported a range of symptoms addressed in depression diagnosis (average = 8.8), and two-fifths provided patients with educational materials related to depression. Approximately one-quarter of the physicians

used the Beck Depression Inventory in their geriatric assessments.

Interestingly, just 13% of the rural physicians responded that they used clinical guidelines in diagnosis and management of depression. At first glance, this seems low. However, this finding is consistent with the depression clinical guidelines research of Feldman and colleagues who found that while 90.5% of primary care physicians treated depression, only 13.1% reported having a copy of depression guidelines[30]. Perhaps more importantly, nearly 45% of the physicians had attended continuing medical education programs focused on the health needs of older adults. Related to Feldman et al.'s analysis, the rural physicians in our study appeared to have the 'content knowledge' important for geriatric depression diagnosis and care.

Our study does indicate areas for future attention. First, while being willing to take on depression in the elderly in rural primary care (all physicians agreed that diagnosis and treatment of depression in older patients was their responsibility as primary care doctors), the physicians themselves provided ample indications that there are ongoing needs to be addressed in this area of primary care. In comparing available versus ideal treatment, nearly half the rural physicians reported a gap between their preferred treatment and the availability of treatment for their older patients. It will be important to identify what rural primary care physicians specifically refer to as gaps in care.

Second, the physicians identified a number of needs or directions in depression care, diagnosis and treatment. Most important was better availability of psychologists and counselors for attending to the needs of older depressed rural people. This was particularly emphasized by male physicians and those with higher proportions of older patients in their practice. Perhaps not surprisingly, more time to spend with patients was also mentioned as a major need in depression-related care. These are system-level factors that, if addressed, could potentially improve the mental healthcare of the rural elderly.

The challenges of time could potentially be addressed through interprofessional interventions and taking a team approach to the treatment and management of depression in older adults. Certainly, this may be more difficult in rural areas where access to healthcare professionals remains a concern. But models of care might include those similar to the primary care or patient-centered medical home, in which physicians work in a team environment to address the diverse healthcare needs of their patients[31]

An important message to the health education community provided by the primary care physicians in this study was the potential role of teaching in preparing physicians to address geriatric depression, as well as other mental health issues. In addition to other recommendations related to access and availability factors in geriatric mental health, the responding physicians indicated there could be greater emphasis in their training on the link between mental and physical health. One aspect of this could be more training or attention in residency on geriatric mental healthcare awareness and practices.

A possible limitation of the study is that while it had a respectable response rate for a physician survey, still less than 50% of physicians in the sampling frame responded to the study questions. It is possible that a more positive picture of physician attitudes and experiences was obtained if physicians less positive in attitude and less sure of their care opted to not respond to the survey. The responses also reflect reports of attitudes and experiences, rather than observations or chart reviews. However, our response rate is consistent with past research on physician attitudes and practices[32], and we are able to provide information on an often under-examined group of physicians in the realm of mental healthcare delivery[33]. With respect to the latter, the study is responsive to the conclusion of a recent *Lancet* editorial stating 'Mental health must be one of the key priorities in any country's clinical and public health agenda'[34]. Overall, the study has identified the types of barriers primary care physicians experience in their diagnosis and treatment of geriatric depression, and has demonstrated a need for more attention to be directed to this important topic in rural healthcare delivery.

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Appendix I: University of Illinois College of Medicine at Rockford physician survey: geriatric depression in primary care

By completing the following questionnaire, I am consenting to participate in this study. I understand that my responses will be confidential and no individual results of this survey will be reported.

Current Practice: Please answer the following questions about how you routinely diagnose and treat depression in geriatric patients (older than 60 years).

1. For which of the following presenting symptoms do you routinely screen for depression?

Check all that apply:___
___ Sad mood
___ Pain (headache, abdominal pain)
___ Decreased energy
___ Anxiety/irritability
___ Sexual complaints
___ Weight loss/weight gain
___ Loss of interest or pleasure
___ Numerous unexplained symptoms
___ Work or relationship dysfunction
___ Sleep disturbance
___ Multiple worries and distress
___ Do not routinely screen for depression
___ Other; specify:_____

2. Which, if any, standard screening tests or interviews do you use to diagnose depression in the elderly?

Check all that apply:
___ Beck Depression Inventory
___ Mini-Mental State Exam
___ Primary Care Evaluation of Mental Disorders, Patient Health Questionnaire (2 items)
___ Zung Self-Rating Depression Scale
___ Geriatric Depression Scale
___ Other; please list:_____
___ No standard test used

3. In establishing a new diagnosis of depression in an elderly patient, what lab tests/special examinations do you routinely order?
_____
_____

4. Which one medication do you most often prescribe for depression in elderly patients?
Class of medication: _____ Specific drug: _____
Please list any others that you frequently prescribe: _____
_____

5. Which, if any, additional treatment modalities do you use for depression
(other than antidepressant medication)? Please list: _____

6. Do you use clinical guidelines for diagnosis and treatment of geriatric depression?
___ Yes ___ No
If "yes", please specify: _____

7. Do you routinely give patient education materials to patients with a suspicion or diagnosis of depression?
___ Yes ___ No
If "yes", please describe the materials: _____

8. There is a gap between the treatment I prefer and the availability of that treatment.
("1"=strongly disagree, "2"=somewhat disagree, "3"=somewhat agree, "4"=strongly agree)

Strongly Disagree			Strongly Agree
1	2	3	4

If you marked 3 or 4, please comment: _____

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Attitudes and Perceptions: Please indicate whether you agree or disagree with the following statements by circling a number 1-4.					
	("1"=strongly disagree, "2"=somewhat disagree, "3"=somewhat agree, "4"=strongly agree)				
		Strongly Disagree			Strongly Agree
1.	Helping depressed patients is important to me.	1	2	3	4
2.	I feel confident that I can accurately diagnose depression in elderly patients.	1	2	3	4
3.	Treating depressed patients is an aspect of practicing medicine that I find rewarding.	1	2	3	4
4.	I do not focus on depression as a diagnosis until I have ruled out organicdisease.	1	2	3	4
5.	Family members are included in my decisions and plans regarding treatment and management of depression in the older patient.	1	2	3	4
6.	I am too pressured for time to routinely investigate depression in elderly patients.	1	2	3	4
7.	I have confidence in my ability to prescribe antidepressants for elderly patients	1	2	3	4
8.	When depression and dementia co-exist, depression should still be treated.	1	2	3	4
9..	I feel I am intruding when I probe the emotional concerns of my patients.	1	2	3	4
10.	I consider my knowledge of diagnosis and treatment of depression up to date.	1	2	3	4
11.	Elderly patients have so many problems that I don't always have time to consider depression	1	2	3	4
12.	I think psychotherapy can help my elderly patients who are depressed.	1	2	3	4
13.	I consider diagnosing and treating depression in elderly patients to be my responsibility.	1	2	3	4
14.	I will send an elderly patient for a psychiatric consult rather than diagnose and treat myself.	1	2	3	4
15.	Elderly patients expect their primary care physician to deal with depression.	1	2	3	4
16.	There is generally nothing that can be done for geriatric patients with depression.	1	2	3	4
17.	Depression is a normal concomitant of aging.	1	2	3	4
18.	My priority is to treat medical problems first then to investigate psychological problems.	1	2	3	4
19.	Given the chronic illnesses that elderly patients suffer, depression is understandable.	1	2	3	4
20.	Older adults with depression likely experienced episodes of depression when they were younger adults.	1	2	3	4
21.	Diagnosing depression automatically burdens me with the responsibility for treatment.	1	2	3	4
22.	I feel comfortable dealing with the family members of depressed patients.	1	2	3	4
23.	Management of elderly people with depression is different from management of younger adults.	1	2	3	4
24.	Depressed elderly patients frustrate me.	1	2	3	4
25.	It is preferable not to use the term “depression" to avoid labeling or stigmatizing the patient.	1	2	3	4
26.	Psychotherapy is less efficacious for the older patient compared to younger patients.	1	2	3	4
27.	Five years from now, caring for geriatric patients with depression will be more important to my practice than it is now.	1	2	3	4
28.	In my experience, family members' information is useful in the identification and diagnosis of depression in the older patient.	1	2	3	4

Barriers: Please indicate *in what degree you consider the following statements to be a barrier to adequate diagnosis and treatment of geriatric depression. Please circle number 1-4*

(“1”= no barrier, “2”= somewhat of a barrier, “3”= often a barrier, “4”= major barrier)

		No barrier			Major barrier
1.	Psychiatric treatment is stigmatizing	1	2	3	4
2.	Patients will reject psychotherapy	1	2	3	4
3.	Co-morbidity in depressed elderly	1	2	3	4
4.	Reluctance to discuss emotional problems	1	2	3	4
5.	Access to mental health care is a problem in our community	1	2	3	4
6.	Insurance coverage of mental care is inadequate	1	2	3	4
7.	Low confidence in treatment with counseling	1	2	3	4
8.	Appointment time is too short	1	2	3	4
9.	Patients are concerned about medication side effects	1	2	3	4
	Which *one* of the above choices do you consider the most significant barrier? (Please choose a number 1-9): ____				
	What other barriers do you experience? (please list): _____				

Needs and Directions: Please indicate *whether each of the following would be helpful* for improving your ability to care for geriatric patients with depression by circling 1-4.

(“1”= not at all helpful, “2”= possibly helpful, “3”= helpful, “4”= very helpful)

		Not At All Helpful			Very Helpful
1.	Increased time to spend with each patient	1	2	3	4
2.	Increased reimbursement for counseling	1	2	3	4
3.	More support staff in office	1	2	3	4
4.	Better relationship with referral colleagues	1	2	3	4
5.	Improved patient compliance with treatment	1	2	3	4
6.	CME conferences about geriatric depression	1	2	3	4
7.	More review articles/pamphlets about depression	1	2	3	4
8.	More self-assessment tools about depression	1	2	3	4
9.	Access to on-line website information	1	2	3	4
10.	Depression telephone hotline/consulting service	1	2	3	4
11.	More training/attention in undergraduate years	1	2	3	4
12.	More training/attention in residency	1	2	3	4
13.	Greater emphasis in medical training on link between physical				
	and mental health	1	2	3	4
14.	Better availability of psychologists/counselors	1	2	3	4
15.	Mental health services located in primary care office/practice	1	2	3	4
	Which *one* of the above choices would be the *most* helpful to your current practice? (Please choose a number 1-15): ____				
	Other suggestions for improving care (please list): _____				

Background and Demographics

1. Have you ever been diagnosed with depression?
   ___ Yes ___ No

2. Which of the following describes your practice?
   ___ Family Practice
   ___ General Internal Medicine
   ___ Other (please list): _____

3. Do you have psychologists or counselors located in primary care office?
   ___ Yes ___ No

4. How old are you? ___ years

5. Are you: ___ male ___ female

6. About what percent of the patients in your practice are over age 60? _____%

7. Approximately what percentage of your patients reside in extended care facilities? _____%

8. About what percent of your patients do you estimate to be depressed? _____%

9. About what percent of your *geriatric* patients do you estimate to be depressed? _____ %

10. Have you attended conferences/CME activities which specifically focus on the health needs of older adults?
    ___ Yes ___ No

11. Do you hold a certification in geriatrics?
    ___ Yes ___ No

12. Are you involved in teaching medical students or residents?
    ___ Yes ___ No

    Please briefly describe these activities, if any: _____

    _____

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Thank you very much for taking the time to complete this survey!

If you would like to receive a summary of the results of this study when completed, please indicate your name and address on the enclosed postage-paid postcard. You may mail this separately from your survey in order to maintain confidentiality.
