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Depression and the Health Care Experiences of Medicare Beneficiaries

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Abstract

Objectives—To compare health care experiences of Medicare beneficiaries with and without symptoms of depression and investigate the role of patient confidence in shaping these experiences.

Data Sources—Data came from the 2009 CAHPS Medicare 4.0 Fee-for-Service (FFS) Survey, which was fielded to a national probability sample of 298,492 FFS Medicare beneficiaries.

Study Design—Linear regression was used to model associations of depression with four global ratings and three composite measures of health care and to test whether beneficiaries' confidence in their ability to recognize the need for care mediates these associations.

Principal Findings—Beneficiaries with depressive symptoms reported worse experiences with care across the full range of patient experience covered by the CAHPS survey. Depressive symptoms were associated with decreased patient confidence and decreased confidence was in turn associated with poorer reports of care.

Conclusions—Our study highlights depressive symptoms as a risk factor for poorer experiences of health care and highlights depressed patients' confidence in recognizing their need for care and for designing programs to improve the health care of this population.

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Keywords

Depression; Medicare population; patient confidence; patient experience

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Depression is a common disabling condition that exacts a high toll on individuals and society (Kessler et al. 2005; Pincus and Pettit 2001; Rice and Miller 1998). Despite the availability of effective psychotherapeutic and pharmacological treatments (Schulberg et al. 1998; Von Korff et al. 1997), less than one-third of adults with depression in the United States receive appropriate treatment (Wang, Berglund, and Kessler 2000; Young et al. 2001). Patients with depressive symptoms also tend to receive poorer care for their comorbid chronic conditions than do patients without depressive symptoms who have the same chronic conditions (e.g., Ciechanowski, Katon, and Russo 2000; Ciechanowski et al. 2003; Katon et al. 2005). Additional research is needed to understand how the health care experiences of patients with and without depressive symptoms may differ, and to suggest ways in which the health care experience of patients with depression may be improved. This study compared the health care experiences of Medicare beneficiaries with and without symptoms of depression, and investigated the role of patient confidence in shaping these experiences.

Eighty-three percent of Medicare beneficiaries are aged 65 and older (Kaiser Family Foundation 2010); the rest are primarily younger adults qualified for Medicare via chronic physical disability. The prevalence of depression among the elderly is estimated at 4–25% depending on definition (i.e., minor vs. major depression), setting (e.g., community-based vs. medical inpatient population), and diagnostic criteria (e.g., DSM vs. other; McCall et al. 2002). Depression among older adults is a public health concern due to its association with decreased functional ability (Kivela and Pahkala 2001), poorer adherence to medical treatment (DiMatteo, Lepper, and Croghan 2000), and increased risk of mortality (Gallo et al. 2005; Penninx et al. 1999; Schulz, Drayer, and Rollman 2002). People with physical disabilities are also at increased risk for depression (Geerlings et al. 2000; Schieman and Plickert 2007; Turner and McLean 1989; Turner and Noh 1988; Yang and George 2005), partly because of mobility impairment (Briesacher et al. 2002) and partly because of other adversities, such as social stigma (Bruce 1999; Graney 2000; Mickelson 2001).

Quality of care for depressed patients is enhanced by good patient-provider communication (Bull et al. 2002; Bultman and Svarstad 2000; Carney et al. 1999; Deveugele, Derese, and De Maeseneer 2002). Depressed patients who report more physician information sharing and more involvement in treatment decisions are more likely to receive guideline-concordant care (Clever et al. 2006). Good patient-provider communication results in a lower symptom burden for patients (Greenfield, Kaplan, and Ware 1985; Little et al. 2001), greater satisfaction with treatment (Brody et al. 1989; Little et al. 2001; Stewart 1984), and improved treatment adherence (Bull et al. 2002; Lin et al. 1995; Stewart 1984).

Patients with depressive symptoms often report poor doctor-patient communication. In recent studies of adults with diabetes (Swenson et al. 2008) and chronic coronary disease (Schenker et al. 2009), depressive symptoms were associated with reports of suboptimal clinician-patient communication across multiple domains, particularly patient-centered communication (e.g., elicitation of patient problems, concerns, and expectations; explanation of condition; and responsiveness to patient preferences).

The association between depression and poor patient-provider communication may extend to other aspects of care, as depressed patients are often disengaged, unassertive, and poorly informed, and therefore may be unlikely to negotiate care or to expect or demand timely and proper care (Gask et al. 2003; Rogers, May, and Oliver 2001; Savard 2004). However, studies comparing experiences of care reported by depressed and non-depressed patients have so far limited their scope to patient-provider communication, omitting other specific aspects of care and overall evaluations of care. Moreover, little is known about factors that mediate the association between depressive symptoms and poorer experiences of care.

One mediating mechanism may be patients' confidence in their ability to actively participate in their health care. To participate, patients must be able to monitor and accurately report on changes in their health condition and feel confident in their ability to do so (Lorig 1996). Confident patients ask more questions, have a greater sense of control over their health, and adhere better to treatment (DiMatteo 1998; Hibbard et al. 1999). Because depression generally entails feelings of pessimism and inefficacy, it is reasonable to assume that patients with depressive symptoms lack confidence in their ability to take an active role in their care. If so, they are likely to also be less satisfied with their care and—according to the chronic care model (Wagner et al. 1996)—to actually experience poorer care.

Current Study

In this study, we examined the association between depressive symptoms and several aspects of patient experience, including doctor communication, access to care, timeliness of care, and overall ratings of care, including specialty care. Our primary aim was to determine whether beneficiaries with and without depressive symptoms evaluate their experiences with care differently. Our secondary aim was to understand the reason for any differential evaluations of care. We addressed this secondary aim in several ways. First, we investigated whether differences between depressed and non-depressed beneficiaries remain after controlling for global self-rated mental health, which is highly predictive of patients' ratings of care and therefore commonly included in models for case-mix adjustment of patient reports and ratings of health care (Elliott et al. 2009; O'Malley et al. 2005). Second, we investigated whether accounting for beneficiaries' confidence in their ability to help manage their own care helps explain associations between depression and ratings of patient experience.

A key challenge in investigating associations between depression and ratings of care is distinguishing true differences in care between depressed and non-depressed patients from differences in scale use (Atkinson and Caldwell 1997; Schenker et al. 2009). An analysis of differential item functioning (DIF; Zumbro 1999) can help make this distinction. A DIF analysis evaluates whether subgroups of respondents (e.g., those with and without depressive symptoms) who have equivalent levels of some underlying construct (e.g., patient experiences) respond similarly to individual items that measure that construct. To investigate the possibility of differential scale use by depressed and non-depressed beneficiaries and to further illuminate our findings, we subjected a subset of our outcome measures to a DIF analysis.

We hypothesized that Medicare beneficiaries with depressive symptoms would report poorer experiences with care than would beneficiaries without depressive symptoms. Given that there are plausible reasons to expect patient behaviors associated with depression to adversely affect the process of care, we hypothesized that findings from our DIF analysis would support an interpretation of these differences as reflecting real differences in care (as opposed to differences in scale use). We expected that Medicare beneficiaries with depressive symptoms would have less confidence in their ability to manage their own care than would beneficiaries without depressive symptoms and that less confidence would be associated with poorer experiences of care.

Methodology

Data

We tested our hypotheses using data from the 2009 CAHPS Medicare 4.0 Fee-for-Service (FFS) Survey, which was fielded to a national probability sample of 298,492 FFS Medicare beneficiaries. FFS beneficiaries, those not enrolled in Medicare Advantage, the managed care version of Medicare, represent 77 percent of all Medicare beneficiaries (Kaiser Family Foundation 2009). Different versions of the survey were completed by FFS beneficiaries with ($N = 112{,}412$) and without ($N = 58{,}228$) prescription drug coverage. Because the survey completed by beneficiaries with prescription drug coverage (about half of all FFS beneficiaries) did not include a measure of depressive symptoms, only data from beneficiaries without prescription drug coverage were included in this analysis. Surveys were distributed by mail, with follow-up of non-respondents by phone. The overall response rate for the 2009 CAHPS Medicare FFS survey was 58% among eligibles (and 58% among FFS beneficiaries without prescription drug coverage), with 21% of completions by phone. Unit response to the survey followed patterns typical for other health surveys (Elliott et al. 2005), including higher response rates with age through age 75, higher response rates for non-Hispanic Whites than for other racial/ethnic groups, and lower response rates for beneficiaries dually eligible for Medicaid. Poststratification weights, using respondents' states of residence as strata, accounted for sample design and nonresponse.

Measures

Ratings of health care experiences—The dependent measures were respondents' reports of their health care experiences in the past six months. We analyzed four global ratings (personal physician or nurse, specialists, all health care received, and all experiences with Medicare) and three composite measures of reported care: ease of getting needed care, getting care quickly, and how well doctors communicate. Global ratings were on 11-point scales, verbally anchored only at 0 ("worst possible") and 10 ("best possible"). To measure ease of getting needed care ($\alpha = 0.54$), we asked respondents how often (1 = "never" to 4 = "always") it was easy to get (a) appointments with specialists and (b) the care, tests, or treatment they thought they needed through their health plan. Getting care quickly ($\alpha = 0.54$), used a similar response scale with respect to (a) receiving care as soon as needed when sick or injured and (b) getting an appointment for care at a doctor's office or clinic as soon as they thought they needed it when they were not sick or injured. Doctor communication ($\alpha = 0.88$), similarly addressed how often patients' personal physician or nurse (a) explained things in a way that was easy to understand, (b) listened to them carefully, (c) spent enough time with them, and (d) showed respect for what they had to say. To facilitate comparisons across measures of health care experiences, we transformed scores linearly to a 0–100 possible range.

Depression—We measured depression symptoms with the PHQ-2, a 2-item depression screener (Kroenke, Spitzer, and Williams 2003). Respondents used a 4-point response scale (1 = "not at all," 2 = "several days," 3 = "more than half the days," 4 = "nearly every day") to report how often in the past 2 weeks they had been bothered by "having little interest or pleasure in doing things" and by "feeling down, depressed, or hopeless." Alpha reliability for these two items in our sample was 0.73. Following instructions in Kroenke et al. (2003), we summed responses to these two items and categorized respondents whose sum was 5 or higher as screening positive for depressive symptoms (hereafter referred to as "depressed") and respondents whose sum was below 5 as screening negative for depressive symptoms (hereafter referred to as "not depressed"). Compared with a structured clinical interview, the PHQ-2 has high sensitivity (0.8 to 1.0) and moderate to high specificity (0.6 to 0.9) for detecting major depression among general primary care samples (Arroll et al. 2010;

Kroenke, Spitzer, and Williams 2003) and samples of older patients (Li et al. 2007; Thombs et al. 2008; Watson et al. 2009). Moreover, among older patients, the PHQ-2 performs similarly to the lengthier PHQ-9 as a “first step” screener for depression (Thombs et al. 2008).

Self-rated mental health—Respondents rated their general mental health as “poor,” “fair,” “good,” “very good,” or “excellent.” Global self-rated mental health has been found to be moderately correlated ($|0.45| < r < |0.50|$) with other measures of mental health, including the PHQ-2 screener for depression, in a nationally representative sample (Fleishman and Zuvekas 2007). In our data, the polychoric correlation between self-rated mental health and depression as measured by the PHQ-2 is −0.55.

Patient confidence—We measured patients’ confidence in their ability to manage their own care with a single item from Heller et al. (2009): “How confident are you that you can identify when it is necessary for you to get medical care (1 = “not at all confident” to 4 = “very confident”)?”

Control variables—Potential confounders that were controlled for in all multivariate models include: gender, age (younger than 45 years, 45–54, 55–64, 65–74, 75–79, 80–84, and 85 years or older), education (no high school, some high school, high school graduate or GED, some college, 4-year college graduate, and >4 years of college), self-rated physical health (poor, fair, good, very good, and excellent), receipt of a low-income subsidy (an indicator of being below 150% of the federal poverty level), dual eligibility for Medicaid (a subset of the previous category),and whether the beneficiary received assistance in completing the survey or had a proxy respondent (2 separate indicators)[1]. We also included dummy indicators of state of residence.

Missing Data and Imputation

Listwise deletion of cases missing at least one predictor would omit 22% of cases from the study. To avoid the resultant bias and loss of precision, we imputed values for the independent, but not dependent, variables used in our analyses. Seven percent of respondents did not complete one or both depression items, and 7 percent omitted the patient confidence item. Missing data on the control variables ranged from 0% to 12% (see Table 1 for more specific information on missing data). Only beneficiaries who reported applicable experiences were asked to complete some dependent measures, such as the rating of specialists. Of those eligible to respond, rates of missingness on our dependent measures (i.e., the four global ratings and three composites) were 3–11%.

We first imputed missing values for control variables and self-rated mental health status, using the mean within the beneficiary’s area of residence (278 such areas). To preserve correlational relationships among key predictors, we used least-squares regression imputation for depression and patient confidence. Regression imputation employed all predictors in our multivariate analyses, including nonmissing values of the depression indicator to predict patient confidence, and nonmissing values of the two depression items to predict the depression indicator. These commonly used imputation approaches efficiently handle missing data, produce more reliable estimates than those obtained with listwise deletion, and reasonably approximate other commonly employed imputation approaches

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[1] To evaluate whether our results were sensitive to the inclusion of data from beneficiaries for whom proxy respondents completed surveys, we tested all multivariable models with and without these beneficiaries’ data. Results were similar and all substantive conclusions were the same regardless of whether data from these beneficiaries were included in the analysis.

when rates of missingness are low and missing values are spread uniformly across the data (Schaefer and Graham 2002).[2]

Analytic Approach

We used linear regression with weighted least squares estimation to model the association between depression and each of the four global ratings and three composite measures of health care. We tested four models for each outcome variable. In Model 1, we included as predictors the depression indicator and all control variables. Model 2 added self-rated mental health to the set of predictors in Model 1 to assess whether associations observed in Model 1 are attributable to depression rather than general (self-rated) mental health. In our next model (Model 3), we added patient confidence to the predictors in Model 2 to test whether it mediates associations between depression and ratings of health care. Evidence of mediation would be present if patient confidence were significantly associated with depression status (this association was tested in a separate model), and if the association of depression with ratings of health care became smaller when patient confidence was added to the model. When these conditions were met, we conducted a Sobel test of mediation (Sobel 1982) to determine whether the proportion of the association of depression with patients' ratings that is attributable to patient confidence is statistically significant. Finally, to investigate the possibility of differential scale use by depressed versus non-depressed beneficiaries, we subjected the composite measures of health care experiences to an analysis of differential item functioning (DIF). Details of this analysis are in the Appendix.

Results

Table 1 presents beneficiaries' demographic characteristics and self-rated physical and mental health, and provides descriptive data on the measures of depression and patient confidence. As can be seen in this table, 13 percent of the sample was categorized as depressed. This rate of depressive symptoms is comparable to rates found in other samples of primarily or exclusively older adults (Alexopoulos 2005; Gallo and Lebowitz 1999; Gurland et al. 1996; Spitzer et al. 1994; Unutzer 2007). Bivariate comparisons of depressed and non-depressed beneficiaries on the four global rating items, the three composite measures of health care experiences, and the individual items that underlie the composite measures are presented in Table 2. This table demonstrates clear differences between depressed and non-depressed beneficiaries on all measures of patient experience, with depressed beneficiaries uniformly reporting worse patient experiences than non-depressed beneficiaries.

Table 3 presents the multivariate models of the association between depression and ratings on the three CAHPS composites. As the first column (Model 1) of the table shows, depression status remained strongly associated with each of the three composites even after accounting for all control variables. Compared with non-depressed respondents, depressed respondents reported more difficulty getting needed care and getting care quickly as well as poorer communication with their personal doctors or nurses. The strongest association was between depression and ease of getting needed care. Our DIF analyses of the CAHPS composites, described in the Appendix, produced no evidence of differential scale use by

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[2] To evaluate how robust our results are to the imputation procedures used in this study, we performed a sensitivity test in which we created three dummy variables to represent beneficiaries' standing on our observed (non-imputed) measure of depression: depressed, not depressed, or missing data on either of the depression items. We then re-estimated each of our four models (see the Analytic Approach section of the Methodology for a description of these models) for all outcome measures to determine whether the results of these reconstituted models support the same conclusions as ones that employed imputed data on depression. In our re-constituted models, categories of "depressed" and "missing data on depression" were compared with a reference category of "not depressed." In all cases, the results of these re-constituted models led to the same substantive conclusions as the models presented in Tables 3 and 4. The data from this sensitivity test are available upon request.

depressed and non-depressed beneficiaries. Thus, we conclude that the differences observed between these two groups of beneficiaries on the composite measures are likely to reflect real differences in experience.

As the second column (Model 2) of Table 3 shows, adding self-rated global mental health to these models diminished but did not eliminate the association between depression and the composite measures of care.[3] In all cases, patient confidence significantly mediated the association between depression status and care received (Table 3, Model 3). Depression was negatively associated with patient confidence ($\beta = -0.66$, $p < .001$, results not tabled), which in turn was positively associated with ease of getting needed care and getting care quickly and with better quality communication with one’s personal physician or nurse. Sobel tests confirmed that a statistically significant proportion of the association between depression and the composite measures is accounted for by patient confidence in all cases: ease of getting needed care ($z = 13.56$, $p < .001$), getting care quickly ($z = 12.54$, $p < .001$), and how well doctors communicate ($z = 13.84$, $p < .001$).

Table 4 presents the multivariate models of the association between depression and the four global ratings of care. As with the composites, global ratings of care were all strongly associated with depression even after accounting for all control variables (Model 1). Compared to non-depressed respondents, depressed respondents provided less favorable ratings of personal physicians/nurses, specialists, care received in the prior 6 months, and experiences with Medicare in general. By far, the strongest association was between depression and ratings of care received in the prior 6 months. The addition of self-rated global mental health to the model diminished but did not eliminate the associations between depression and the global ratings of care (Model 2; see footnote 2).

Evidence that patient confidence mediates the association between depression and global ratings of care was present in all four cases (Table 4, Model 3). Depression was negatively associated with patient confidence, which in turn was positively associated with global ratings of care. Sobel tests confirmed that a statistically significant proportion of the association between depression and the global ratings is accounted for by patient confidence in all cases: ratings of personal physicians/nurses ($z = 13.42$, $p < .001$), specialists ($z = 12.36$, $p < .001$), care received in the prior 6 months ($z = 13.70$, $p < .001$), and experiences with Medicare in general ($z = 13.41$, $p < .001$).

Discussion

Our study demonstrates that Medicare beneficiaries with depressive symptoms report worse experiences with care across the full range of patient experience covered by the CAHPS Medicare 4.0 Survey, extending previous findings that patients with depressive symptoms tend to provide poorer ratings of patient-provider communication. Our research shows that

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[3] To further test the independence of depression and self-rated mental health, we conducted a sensitivity test in which we categorized beneficiaries into one of the following four bins: (1) not depressed, high (positive) self-rated mental health (≥4 on the 1–5 scale); (2) depressed, high self-rated mental health; (3) not depressed, low self-rated mental health (≤3 on the 1–5 scale); and (4) depressed, low self-rated mental health. We then re-estimated regression models for each of our seven outcome measures, including dummy variables to represent membership in the various depression by self-rated mental health categories and all control variables as predictors. We estimated these models twice, once with “not depressed, high self-rated mental health” as the reference category and a second time with “not depressed, low self-rated mental health” as the reference category. Based on the first estimation, we assessed whether depression status was associated with our outcome variables among beneficiaries with high self-rated mental health; based on the second estimation, we assessed whether depression status was associated with our outcome variables among beneficiaries with low self-rated mental health. Among beneficiaries with high self-rated mental health, depression status was associated with all outcomes except the global rating of Medicare. Among beneficiaries with low self-rated mental health, depression status was associated with all outcomes except the composite measure of getting care quickly. (Full data are available upon request.) Considering that this sensitivity test provides less power than the original analysis, we interpret this as strong evidence of an effect of depression above and beyond self-rated mental health.

patients with depressive symptoms also report experiencing greater problems in accessing needed care and getting that care in a timely way. They also provide less favorable overall ratings of their health plans, the primary and specialty care providers they see, and the care that they have recently received. Based on our analyses, we conclude that at least part of the depression effect is due to beneficiaries with depressive symptoms actually having worse interactions with the health care system. These findings suggest deficits in access to care and interactions with health care providers as plausible mechanisms for some of the known correlates of depression, including worse adherence and worse outcomes for chronic conditions (Wells et al. 1996)

In most cases, the differences we observed between depressed and non-depressed beneficiaries were in the range of 2 to 4 points on a 0–100 scale. In evaluating these differences, it is important to consider that approximately 60–70% of ratings on the original 0–10 scales used for the global ratings are in the 9 or 10 categories. Thus, a 3-point deficit on a 0–100 scale is approximately equivalent to the difference between a health plan's having 20% vs. 50% of its members rating it a 10 vs. 9 on a 0–10 scale. Likewise, a 3-point deficit on the composite measures is roughly equivalent to a plan's having 40% vs. 50% of its members report "always" vs. "usually" on a 4-level scale.

In considering the magnitude of the depression effect found here, it may also be useful to compare it to another source of variation in patient experience that is recognized as important: geography. Quality of patient care varies geographically in both outpatient (Zaslavsky et al. 2004) and inpatient settings (Jha et al. 2008; Lehrman et al. 2010). To put the depression effect in the context of this geographic variation, we used hierarchical models to compare the coefficients for depression from our multivariate Model 2 to the standard deviations of the state-level distributions of scores on our measures. Under normal approximations, we found that the differences between care experiences of depressed and non-depressed beneficiaries on most measures are as large as the difference between getting care in a state at the 90th percentile versus one at the 50th percentile. Differences of these magnitudes have been associated significantly with disenrollment from a Medicare health plan (Lied et al. 2003). Thus, we conclude that the differences observed in this study between depressed and non-depressed beneficiaries are likely to represent important differences in care experiences.

Patients' confidence in their ability to recognize their need for care appears to play a significant role in the relationship between depression and experiences of care. A growing literature suggests that patients who actively participate in their own care have improved health outcomes and patient experience (Hibbard et al. 2004; Lorig et al. 1999; Rohrer 1999). For patients to assume responsibility for their own health care, they need knowledge, skills, and confidence that they can do so. Our study suggests that patients with depressive symptoms lack confidence needed to actively participate in their own care. As a result, patients with depressive symptoms may act in ways that result in lower quality care and poorer health outcomes, for example, by being less discerning regarding their need to seek appointments, asking fewer questions of their doctors, and adhering less well to their medication regimens. This finding is consistent not only with the chronic care model, which emphasizes patient activation as integral to the health care process and a factor influencing outcomes of care, but also a substantial literature that demonstrates the importance of self-efficacy in chronic disease self-management (Marks, Allegrante, and Lorig 2005).

Our study is limited in that we tested our hypotheses among a sample of FFS beneficiaries not enrolled in prescription drug plans. We do not know whether the associations we identified are also present among FFS beneficiaries with prescription drug plans. Approximately half of the 75–80% of Medicare beneficiaries with FFS coverage are enrolled in a Medicare-sponsored prescription drug plan (PDP). There are no published data on whether or how Medicare beneficiaries with or without PDP coverage differ, though one might reasonably expect both health and socioeconomic differences between the two groups. Those not enrolled in a PDP may be in poorer health because they lack drug coverage (though some have coverage from sources other than Medicare), but on the other hand, may be in better health and have less need for prescription drugs. One might also expect that beneficiaries without PDP coverage are of lower socioeconomic status than covered beneficiaries, although this difference is likely offset somewhat by low-income supplements for those with income levels at <150% of the federal poverty level.

Although our DIF analyses increase our confidence in interpreting the associations between depression and composite measures of care experiences, the global ratings of care items do not permit DIF analyses. Given the lack of evidence for differential use of the composite scales by depressed and non-depressed beneficiaries, it seems unlikely that measurement bias fully explains the observed associations between depression and the global ratings. Nevertheless, future studies should investigate the possibility that the CAHPS global ratings function differently for individuals with and without depressive symptoms.

Despite its limitations, our study has important implications for interventions at the plan or beneficiary level to improve the experience of depressed beneficiaries. For example, a simple 3-item screener consisting of the PHQ-2 and the confidence item could be administered periodically upon enrollment, in waiting rooms, or other health care settings to all plan members to identify a subset of beneficiaries who may be at risk for worse health care experiences, less engagement in their own health care, less adherence, poorer outcomes, and of course, depression. It may especially important to identify such individuals who also have significant chronic disease comorbidities.

Depressed seniors might benefit from a variety of interventions that seek to address the specific obstacles to optimal health care experiences imposed by depression and identified in this research. For example, to address the issue of inadequate confidence in the domain of health care, such seniors may benefit from seminars designed to increase their knowledge, health literacy and sense of self-efficacy regarding health care. In addition, providers and office staff could be trained to communicate with such seniors in a manner that elicits their input and reinforces their health care self-efficacy. More instrumentally, health information technology resources, such as electronic appointment reminders (e.g., via cell phone), could be targeted to such beneficiaries. Future research should implement and evaluate such initiatives, which have the promise of improving health care experiences and outcomes for a large, growing, and vulnerable segment of patients.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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Table 1

Beneficiary Characteristics (N = 58,228)

Variable	Percentage
Gender	
Male	43.6 (49.3)
Female	44.8 (50.7)
Missing	11.6
Age (years)	
18–44	0.8 (0.8)
45–54	2.2 (2.3)
55–64	5.7 (6.1)
65–74	46.6 (49.8)
75–84	29.2 (31.2)
85+	9.2 (9.8)
Missing	6.4
Education	
Eighth grade or less	4.2 (4.8)
Some high school	7.5 (8.4)
High school graduate or GED	29.9 (33.8)
Some college or 2-year degree	23.5 (26.6)
4-year college graduate	9.6 (10.9)
More than 4-year college degree	13.7 (15.5)
Missing	11.6
Self-rated physical health	
Excellent	8.2 (8.6)
Very good	26.6 (27.8)
Good	35.0 (36.6)
Fair	20.1 (21.0)
Poor	5.7 (6.0)
Missing	4.3
Self-rated mental health	
Excellent	31.0 (32.4)
Very good	32.3 (33.8)
Good	23.3 (24.3)
Fair	7.3 (7.6)
Poor	1.8 (1.8)
Missing	4.3
Proxy status	
Proxy respondent	2.1 (2.3)
Proxy assistance	5.7 (6.3)
No proxy	81.8 (91.4)
Missing	10.4

Variable	**Percentage**
Depressive symptoms	
Yes	12.2 (13.1)
No	80.4 (86.9)
Missing	7.4
Confidence to identify when it is necessary to get care	
Very confident	53.1 (56.8)
Confident	33.0 (35.4)
Somewhat confident	6.4 (6.8)
Not at all confident	0.9 (1.0)
Missing	6.6

Note. Values in parentheses are percentages among participants with non-missing data.

Table 2

Bivariate Comparison of Depressed and Non-Depressed Beneficiaries on Measures of Patient Experience

	Depressed ***M* (*SD*)**	**Non-Depressed** ***M* (*SD*)**	***t***
Ease of getting needed care[a]	81.08 (24.05)	86.40 (19.88)	15.14*
Getting appointments with specialists	3.37 (0.78)	3.55 (0.66)	7.72*
Getting needed care, tests, and treatment	3.49 (0.76)	3.65 (0.61)	12.71*
Getting care quickly[a]	66.47 (25.74)	70.29 (23.97)	11.39*
Getting care when sick or injured	3.48 (0.78)	3.61 (0.68)	9.23*
Getting routine care at doctor’s office or clinic	3.36 (0.83)	3.49 (0.75)	11.34*
Quality of doctor communication	86.80 (19.23	90.13 (16.00)	12.54*
Provides easy-to-understand explanations	3.59 (0.68)	3.70 (0.56)	11.70*
Listens carefully	3.63 (0.65)	3.72 (0.54)	10.26*
Shows respect	3.69 (0.62)	3.77 (0.51)	9.39*
Spends enough time	3.51 (0.74)	3.63 (0.62)	11.16*
Global rating of personal physician or nurse	87.37 (17.06)	89.74 (14.32)	10.10*
Global rating of specialists	85.70 (18.64)	89.13 (15.26)	10.95*
Global rating of care received in past 6 months	79.72 (20.60)	85.95 (16.26)	22.12*
Global rating of Medicare	79.84 (23.26)	82.54 (19.85)	9.10*

[a] Means provided for the composite measure as well as its underlying items. Ratings on the composites are presented on a 0–100 scale. Ratings on the underlying items are presented on their original 1–4 scale.

* $p < .001$

Table 3

Multivariate Models Predicting Ease of Getting Needed Care, Getting Care Quickly, and Quality of Doctor Communication from Depression, Self-Rated Mental Health, and Patient Confidence

Variable	Model 1	Model 2	Model 3
Ease of getting needed care (N = 40,202)			
Depressed	−3.56 (.33)[***]	−2.45 (.35)[***]	−1.77 (.34)[***]
Self-rated mental health[†]			
Very good	–	−3.27 (.26)[***]	−2.33 (.26)[***]
Good	–	−4.97 (.31)[***]	−3.17 (.31)[***]
Fair	–	−5.90 (.47)[***]	−3.40 (.47)[***]
Poor	–	−6.32 (.85)[***]	−2.12 (.85)[*]
Patient confidence	–	–	5.07 (.17)[***]
Getting care quickly (N = 50,421)			
Depressed	−2.52 (.34)[***]	−1.90(.36)[***]	−1.38 (.36)[***]
Self-rated mental health[†]			
Very good	–	−2.66 (.28)[***]	−1.93 (.28)[***]
Good	–	−3.68 (.32)[***]	−2.26 (.33)[***]
Fair	–	−4.90 (.50)[***]	−2.94 (.51)[***]
Poor	–	−1.68 (.91)	1.47 (.91)
Patient confidence	–	–	3.98 (.18)[***]
Quality of doctor communication (N= 42,896)			
Depressed	−2.16 (.25)[***]	−0.99 (.26)[***]	−0.44 (.26)
Self-rated mental health[†]			
Very good	–	−3.31 (.21)[***]	−2.53 (.20)[***]
Good	–	−5.11 (.24)[***]	−3.57 (.24)[***]
Fair	–	−6.18 (.36)[***]	−4.04 (.36)[***]
Poor	–	−7.49 (.67)[***]	−4.05 (.67)[***]
Patient confidence	–	–	4.35 (.13)[***]

Note. Entries are unstandardized beta coefficients and standard errors. Model 2 adds self-rated mental health to Model 1. Model 3 adds patient confidence to Model 2. Control variables included in all models but not shown in the table include age, education, general health status, dual eligibility status, low-income subsidy status, proxy respondent status, and state of residence.

[*] $p < .05$;

[**] $p < .01$;

[***] $p < .001$

[†] Comparison category is excellent self-rated mental health.

Table 4

Multivariate Models Predicting Global Ratings of Personal Physician or Nurse, Specialists, Care Received in the Past Six Months, and Medicare from Depression, Self-Rated Mental Health, and Patient Confidence

Variable	Model 1	Model 2	Model 3
Global rating of personal physician or nurse (*N* = 44,371)			
Depressed	−1.48 (.22)***	−0.51 (.23)**	−0.09 (.23)
Self-rated mental health[†]			
Very good	–	−2.99 (.18)***	−2.40 (.18)***
Good	–	−4.55 (.21)***	−3.38 (.21)***
Fair	–	−5.18 (.32)***	−3.55 (.32)***
Poor	–	−6.32 (.59)***	−3.72 (.59)***
Patient confidence	–	–	3.29 (.12)***
Global rating of specialists (*N* = 30,429)			
Depressed	−2.39 (.29)***	−1.16 (.31)***	−0.77 (.31)*
Self-rated mental health[†]			
Very good	–	−3.39 (.23)***	−2.81 (.23)***
Good	–	−4.56 (.27)***	−3.45 (.27)***
Fair	–	−5.98 (.41)***	−4.37 (.42)***
Poor	–	−7.13 (.77)***	−4.59 (.77)***
Patient confidence	–	–	3.22 (.15)***
Global rating of care received in past six months (*N* = 44,881)			
Depressed	−3.83 (.25)***	−2.56 (.26)***	−2.08 (.26)***
Self-rated mental health[†]			
Very good	–	−3.32 (.20)***	−2.58 (.20)***
Good	–	−5.17 (.24)***	−3.73 (.24)***
Fair	–	−6.18 (.37)***	−4.16 (.37)***
Poor	–	−8.24 (.67)***	−4.92 (.67)***
Patient confidence	–	–	4.12 (.13)***
Global rating of Medicare (*N* = 51,559)			
Depressed	−1.64 (.28)***	−0.68 (.29)*	−0.16 (.29)
Self-rated mental health[†]			
Very good	–	−2.22 (.22)***	−1.49 (.22)***
Good	–	−3.57 (.26)***	−2.12 (.26)***
Fair	–	−3.91 (.41)***	−1.84 (.41)***
Poor	–	−7.90 (.74)***	−4.64 (.74)***
Patient confidence	–	–	4.07 (.14)***

Note. Entries are unstandardized beta coefficients and standard errors. Model 2 adds self-rated mental health to Model 1. Model 3 adds patient confidence to Model 2. Control variables included in all models but not shown in the table include age, education, general health status, dual eligibility status, low-income subsidy status, proxy respondent status, and state of residence.

[*] $p < .05$;

[**] $p < .01$;

[***] $p < .001$

[†] Comparison category is excellent self-rated mental health.