

# Poor and Depressed, The Tip of the Iceberg: The Unmet Needs of Enrollees in an Indigent Health Care Plan

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Depression is a leading cause of disability [World Health Organization (WHO), 2001] with economic costs exceeding \$63 billion per year in the US [U.S. Department of Health and Human Services (DHHS), 1999]. The challenges of treating depression among the poor are compounded by broader social needs. This study examined the prevalence of depression and psychosocial needs among enrollees in an indigent health care plan. Results indicated clinical levels of depression were present in 28.6% of respondents ( $n = 1,405$ ). Depressed respondents were significantly more likely ( $p < .001$ ) to have co-occurring alcohol (OR = 1.78; CI<sub>95</sub> = 1.32–2.40), drug (OR = 2.67; CI<sub>95</sub> = 1.80–3.98), and health (OR = 5.44; CI<sub>95</sub> = 4.12–7.19) problems compared to non-depressed respondents. Significantly more social needs were also associated with depression. Depressed respondents averaged 7.8 needs compared to 3.6 among non-depressed respondents. Needs included a significantly increased likelihood ( $p < .001$ ) of lacking sufficient food (OR = 2.56; CI<sub>95</sub> = 1.97–3.34), shelter (OR = 3.67; CI<sub>95</sub> = 2.23–6.05), or money (OR = 3.18; CI<sub>95</sub> = 2.39–4.23) and having more legal (OR = 2.95; CI<sub>95</sub> = 2.22–3.92) and family (OR = 3.00; CI<sub>95</sub> = 2.32–3.86) problems. The high rates of co-occurring social needs among individuals with clinical depression underscores the need for comprehensive, coordinated care in order to improve their quality of life and also reduce high utilization of crisis management services.

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**KEY WORDS:** depression; social needs; indigent care.

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## INTRODUCTION

Approximately one in five adults in the United States (US) or nearly 45 million people, experience some form of mental disability in any given year (DHHS, 1999). A recent study conducted by the

World Health Organization (2001) ranked depression as the leading cause of disability in the US, Canada, and Western Europe, accounting for almost 25% of all the disability in these countries. The loss to the US economy resulting from depression has been estimated at \$63 billion dollars (DHHS, 1999).

Recently, studies have documented that only half of the people who need mental health services receive treatment (Kessler et al., 2001; Substance Abuse and Mental Health Service Administration [SAMHSA], 2002). A number of factors hamper the identification and provision of services to these individuals. Barriers include the unavailability of services (Sturm & Sherbourne, 2001), perceived

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substandard quality services (Kessler et al., 2001) fragmented services (DHHS, 2003), missed diagnoses (Perez-Stable, Miranda, Munoz, & Ying, 1990), and the stigma associated with mental illnesses that cause people to be reluctant to seek help (Corrigan, 2004; Dinos, Stevens, Serfaty, Weich, & King, 2004).

Most individuals experiencing depression have some contact with a primary care physician during their depressive episode (Coyne, Fechner-Bates, & Schwenk, 1994) and when recognized, treatment most often occurs in a primary care setting (Regier et al., 1993). Furthermore, it has been found that economically disadvantaged individuals are disproportionately more likely to rely on primary care providers for their mental health treatment (Olsson & Pincus, 1996). However, it is well documented that unfortunately, primary care physicians frequently fail to diagnose depression in their patients and thus it remains untreated (Ormel, Koeter, van den Brink, & van de Willig, 1994; Perez-Stable et al., 1990; Simon, & VonKoff, 1995). Given this, it is not surprising that the President's New Freedom Commission on Mental Health (2003) called for enhanced coordination and increased interaction between mental health care and primary care.

In this article, we summarize the findings from an evaluation of a county-sponsored indigent health care plan as it implemented a disease management program to diagnose and treat enrollees with depression within a primary care setting. The findings reported examine the prevalence of depression and addictive disorders among health care plan enrollees and contrast the unmet social needs between enrollees with and without depression.

### **Description of the County-Sponsored Health Care Plan**

The county-sponsored health care plan was specifically designed for working county residents (less than 30% of its members are unemployed) whose income is at or below the federal poverty level and cannot afford health care coverage, but whose income keeps them from receiving Medicaid. A single adult can have an annual income of \$8,980 while a family of four can have an annual income of \$18,400. In some special instances, residents with income over 100% of the poverty level with no other health care coverage can qualify. For most enrollees, this is not a permanent health care plan as more than 70% of members remain in the program for less than 1 year.

The plan is a comprehensive managed health care system focused on prevention and early detection that is funded by a special county sales tax. The plan covers a full array of diagnostic and hospital services as well as prescriptions, vision, dental, home health and other medically necessary services, including mental health services. There are no premiums associated with the plan, however there are co-payments for certain services such as dental care and eyeglasses.

The health care plan serves approximately 27,000 county residents per year through services provided by four networks offering primary care at clinics located throughout the county and has more than 1,000 physicians participating.

The county received funding from the Health Resources and Services Administration (HRSA) to expand the mental health benefit. The goal of this funding was to design and implement the necessary infrastructure to initiate a disease management program to effectively diagnose and treat plan enrollees with depression. The rationale is based upon the assumption that by early and accurate identification of mental health challenges and psychological distress an alternative to crisis management can be offered thereby increasing the opportunity to reduce high costs for utilization of emergency services, and health services in general, as well as potentially improving the prognosis for long-term outcomes.

## **METHODS**

### **Design**

The evaluation design involved a population-based assessment of health care plan enrollees, the goal of which was to estimate the prevalence of health, mental health, and substance abuse problems as well as any social service needs existing among the enrolled population. This approach involved the use of systematic mail survey procedures that are described in detail below.

### **Participants**

Participants included a stratified random sample of 3,600 health care plan enrollees (approximately 30% of the enrolled population) selected on four stratifying variables: *Gender* (2

strata; male, female), *Race/Ethnicity* (3 strata; White, Black, Other), *Age* (2 strata; 21–40, over 40), and *Provider Network* (4 strata; A, B, C, D). This process resulted in 48 different strata. All current plan enrollees were classified into their respective stratum and a quota sample of 75 enrollees was randomly selected from within each stratum to receive a mail questionnaire.

## Measures

The mail survey was specifically developed for this evaluation. The questionnaire incorporated a number of previously developed and psychometrically tested self-report health, mental health and substance abuse status measures.

The Patient Health Questionnaire-9, a depression screen often used in primary care settings, was used in this study (Kroenke, Spitzer, & Williams, 2001). The PHQ-9 has good sensitivity (88%) and specificity (88%) for major depression (Spitzer et al., 1999). The PHQ-9 offers concurrent validity with measures of functional impairment, high internal consistency and good test–retest reliability (Kroenke et al., 2001, 2002). Scores of 15–20 represent “moderately severe depression” while scores of 20–27 are indicative of “severe depression.” In this study, respondents with scores of 15 or above were considered as screening positive for depression.

Alcohol abuse was measured using the CAGE (Ewing, 1984), a four item self-report measure commonly used in primary care settings. Previous studies have reported the sensitivity and specificity of the CAGE are generally high using a two question cutoff (Bush, Shaw, Cleary, Delbanco, & Aronson, 1987; Cherpitel, 1998; King, 1986; National Institute on Alcohol Abuse and Alcoholism, 1993). Endorsement of two or more questions is generally considered clinically significant and suggests a respondent is at risk of having alcohol problems (National Institute on Alcohol Abuse and Alcoholism, 1995). This was the criterion used in this study to classify respondents as having alcohol problems.

Substance abuse was measured with the DAST-10 (Addiction Research Foundation, 1982), a 10-item self-report measure. Results from previous studies have shown that the DAST-10 has internal consistency exceeding .85 and test–retest reliability above .70 (Skinner, 1982; Skinner & Allen, 1982). Previous studies have also indicated that the DAST-10 has good sensitivity (.85) and specificity (.74) at a

cutpoint of 2 (Maisto, Carey, Carey, Gordon, & Gleason, 2000). Endorsement of 3 or more items was used to identify enrollees with potential substance abuse problems.

The questionnaire also included the SF-12 (Ware, Kosinski, & Keller, 1996), a 12-item self report measure designed to assess respondents’ health status. Two week test–retest reliabilities are .89 and .76 for the physical and mental health components, respectively (Ware et al., 1996). The median validity estimate across 14 tests on the physical component is .67 while the median validity estimate for the mental component on 6 tests is .97 (Ware et al., 1996). Regression methods were used to score this measure, which has been standardized to a mean of 50 and a standard deviation of 10 in a general population. In this study individuals with physical component scores in excess of 1.5 standard deviations below the general population mean (i.e., 35) were classified as having health problems.

In addition, a social screen was developed in conjunction with County social workers to assess broader social needs among plan enrollees. Many of the questions included in the screen previously have been used in other studies (Human Services Research Institute, 2002), although some new questions were added. The 20 social needs in the screen were defined through four latent constructs: (1) psychosocial needs (7 items,  $\alpha = .75$ ); (2) tangible assistance needs (7 items,  $\alpha = .70$ ); (3) daily functioning needs (3 items,  $\alpha = .63$ ); and (4) housing needs (3 items,  $\alpha = .57$ ). The internal consistency of the two longer constructs is good while those of the two three-item scales are somewhat low.

A focus group was conducted during which ten randomly selected plan enrollees diagnosed with depression reviewed and commented on the draft questionnaire and accompanying correspondence. Several changes (e.g., placement of some scales in the survey, clarification of the directions) were made to the draft questionnaire based upon their comments and suggestions. All standardized scales were retained as originally developed. The final version of the questionnaire was translated into Spanish by a bilingual member of the evaluation team who has extensive experience translating questionnaires. Although a formal back translation was not completed, the Spanish translation of the survey was reviewed and approved by two bilingual county personnel.

## Mailing Procedures

A highly systematic and structured approach to survey design and follow-up was used following the recommendations of Dillman (1978) and Salant and Dillman (1994). Five separate mailings were conducted. The first consisted of a prenotification postcard informing the plan enrollees that they would receive a questionnaire in the mail about their health care plan in about a week. A week later a second mailing was conducted that included a personalized cover letter and questionnaire, in both English and Spanish, an explanation of the purpose of the study, that respondents would be paid \$7.00 for returning a completed questionnaire, and information about the days and hours of operation of a toll-free telephone number. The toll-free number was available for addressing questions and to accept survey responses over the telephone. A preaddressed stamped return envelope was also included in the mailing.

One week later, a reminder postcard emphasizing the importance of the study and including information on the toll-free telephone number they could call, was mailed to each non-respondent. Two weeks following the postcard reminder, a fourth mailing containing a cover letter, questionnaire, and return envelope was mailed to each non-respondent. Finally, 4 weeks later, a fifth mailing was sent via certified mail to individuals who still had not responded. As with the second and fourth mailing, enrollees received a personalized cover letter, questionnaire, and a preaddressed, stamped return envelope.

As recommended by Dillman (1978), first class postage was used on both the outgoing and return envelopes of each mailing and address correction was requested from the post office so that mailing lists could be updated. These mailing procedures were based on the findings of a feasibility study conducted to assess the validity of using mail survey procedures with a Medicaid population. The findings from this feasibility study are summarized in Boothroyd and Shern (1998). The readability of the cover letter was at an 8.2 grade level and that of the questionnaire was at a 6.8 reading level.

Prior to the start of this evaluation, all proposed procedures and protocols were reviewed and approved by the University's Institutional Review Board. All study participants were fully informed that their participation was completely voluntary and that a decision to not participate would have no

impact on the services they received as an enrollee in the county health care plan. Given that the survey was not conducted anonymously, the identities of participants and non-participants were not shared with anyone associated with the county's health care plan.

## Analysis

### *Assessment of Survey Response Rates*

Mail survey response rates were examined and reported as both an overall rate (i.e., number of returned questionnaires/number of questionnaires mailed), and an adjusted rate (number of returned questionnaires/(number of questionnaires mailed – (incorrect addresses + deceased individuals))). Adjustments were made to the overall response rate for those surveys that were undeliverable and those mailed to deceased individuals.

### *Examination of Response Bias*

The demographic characteristics (i.e., age, gender, race/ethnicity) of the mail survey respondents and non-respondents were compared to assess the overall representativeness of individuals responding to the survey with those in the larger sample (i.e., response bias). Chi square analyses were used to test for gender and race/ethnicity differences between respondents and non-respondents while an independent *t*-test was used to assess age differences between the two groups.

### *Estimation of Prevalence Rates*

A series of descriptive analyses were conducted on the mail survey responses to estimate the prevalence of self-reported health, mental health, and substance abuse status and service needs among plan enrollees. A retrospective, stratified weighting scheme proposed by Rosenbaum (1995) was used to adjust for significant differences found in the characteristics of respondents and non-respondents (i.e., response bias). This procedure adjusted for differences in enrollees' age, gender, and race across networks to control for potential response rate bias thus allowing the prevalence rate estimates to be more directly compared across the four networks.

Case mix differences were controlled for by proportionally weighting observations in each age/gender/race stratum within network to reflect the aggregate population weight across all four networks. Differences in prevalence estimates among enrollees in the four provider networks were tested using a one-way analysis of variance performed on the weighted data. When significant omnibus  $F$ 's were obtained, post hoc analyses were conducted to examine paired comparisons using a Fisher's Protected Significant Difference Test (Snedecor & Cochran, 1989). This procedure has been used and reported in other studies involving the use of mail survey techniques among low-income individuals (Boothroyd & Olufokunbi, 2001; Boothroyd, Shern, & Bell, 2002).

### Examination of Social Needs

Principal components analysis was used to explore the dimensionality of unmet social needs among plan enrollees. Components were determined by eigenvalues exceeding 1.00 (Kaiser, 1960), and items were considered loading on a component if the loading exceeded .35 (Norman & Streiner, 1994). Cronbach's alphas were calculated for the four principal components to assess the internal consistency of enrollees' responses to these items. Logistic regression was used to estimate the odds ratios, confidence intervals, and significance levels associated with the likelihood of various social needs between respondents screening positive for depression on the PHQ-9 relative to those who did not meet criteria for depression while controlling for demographic differences in respondents' age, gender, and race/ethnicity. Because the county's health care program was developing a disease management program specifically for enrollees with depression, unmet social needs were compared for these two groups (i.e., depressed and non-depressed) to provide guidance to social workers affiliated with the health care plan.

## RESULTS

### Response Rates

The unadjusted response rate to the mail survey was 39% (i.e., 1,405/3,600). However, because over 800 questionnaires were returned with incorrect

addresses, the adjusted response rate was 51%. The number of responses to the survey (i.e., 1,405) represented nearly 12% of the enrolled population.

### Characteristics of Survey Respondents and Non-respondents

Table 1 provides a comparison of the characteristics of survey respondents and non-respondents. As is typical in many mail surveys, respondents were significantly older ( $M = 43.8$ ,  $SD = 12.90$ ) than non-respondents ( $M = 39.4$ ,  $SD = 13.07$ )  $t(3598) = 4.34$ ,  $p < .001$ . Significant gender differences were also noted  $\chi^2(1) = 21.27$ ,  $p < .001$  between respondents and non-respondents. Women responded to the mail survey at a higher rate (54.8%) and men at a lower rate (45.2%) compared to non-respondents (46.9% and 53.1%, respectively). With respect to race/ethnicity, respondents were more likely to be White (37.5%) and less likely to be Black/African American (31.6%), Hispanic (28.4%) or from other minority groups (2.5%) compared to non-respondents (30.9%, 34.8%, 30.6%, and 3.7%, respectively),  $\chi^2(3) = 19.91$ ,  $p < .001$ . No significant difference was found between respondents and non-respondents regarding the provider network to which they belonged. The use of the case mix adjustment procedures previously described helped control for differences between respondents and

**Table 1.** Comparison of Survey Respondents and Non-respondents

Characteristic	Respondents ( $n = 1,405$ )	Non-respondents ( $n = 2,195$ )	$p <$
Gender			.001
Male	45.2%	53.1%	
Female	54.8%	46.9%	
Race/Ethnicity			.001
White	37.5%	30.9%	
Black	31.6%	34.8%	
Hispanic	28.4%	30.6%	
Other	2.5%	3.7%	
Age			.001
Mean	43.8	39.4	
	years old	years old	
$SD$	12.90	13.07	
Range	1–79	1–83	
Provider			N.S.
A	27.0%	24.8%	
B	26.6%	28.3%	
C	24.4%	22.6%	
D	22.0%	24.3%	

non-respondents' age, gender, and race and permits the prevalence rate estimates to be more directly comparable among enrollees across the four provider networks.

**Prevalence of Depression, Alcohol, and Substance Abuse Problems**

The overall self-report prevalence estimates of depression, alcohol, and substance abuse are summarized in Table 2. Clinical levels of depression were present in 28.6% of respondents (CI<sub>95</sub> = ± 2.6%). Furthermore, an additional 20% of the respondents fell in a borderline range, suggesting potential need for services.

Depression estimates were quite variable and differed significantly across the four provider networks  $F(3, 1401) = 94.91, p < .001$ , ranging across the networks from 26.2% to 33.3%. Examination of the post hoc comparisons revealed that enrollees in provider network B reported significantly higher rates of depression compared to enrollees in the other three networks.

The overall self-reported prevalence rate of alcohol problems among health care plan enrollees was 16.2% (CI<sub>95</sub> = ± 2.4%). Alcohol prevalence estimates also varied significantly across the four provider networks  $F(3, 1401) = 143.64, p < .001$ , ranging between 12.1% and 22.1%. Pair wise post hoc comparisons indicated that enrollees in provider networks B and D reporting significantly higher rates of alcohol abuse compared to those in provider networks A and C.

The overall self-report prevalence of drug abuse problems among plan enrollees was 7.4% (CI<sub>95</sub> = ± 1.8%). A significant difference was found in the prevalence estimates of drug abuse problems among enrollees in the four provider networks  $F(3, 1401) = 167.07, p < .001$ . As was the case with alcohol problems, enrollees from provider networks B and D (11.5% and 11.3%, respectively) reported

significantly higher rates of drug abuse compared to individuals enrolled in provider networks A and C (4.6% and 4.3%, respectively).

The co-occurrence of alcohol, substance abuse problems, and health problems were also examined among respondents screening positive for depression. Respondents who met the criteria for depression were 1.78 times (CI<sub>95</sub> = 1.32–2.40) more likely to also screen positively for a co-occurring alcohol problem than were respondents who did not screen positively for depression (22.9% versus 15.2%, respectively). Similarly, screening positive for depression was significantly related to higher rates of drug (i.e., non-alcohol) problems. Respondents meeting the depression criteria were 2.67 times (CI<sub>95</sub> = 1.80–3.98) more likely to screen positively for a serious drug problem compared to individuals who did not meet the criterion score for depression (14.0% versus 5.8%, respectively). Finally, respondents meeting the criteria for depression were 5.44 times (CI<sub>95</sub> = 4.12–7.19) more likely to have physical health scores more than 1.5 standard deviations below the general population as compared to respondents who did not screen positive for depression (79.1% versus 37.0%, respectively).

**Depression and Social Needs**

The results of the principal components analysis indicated that the 20 social needs items were best explained by four need categories which were interpreted as (1) psychosocial needs, (2) tangible assistance needs, (3) daily functioning needs, and (4) housing needs. The relative likelihood of having each need was then examined for respondents screening positive for depression with enrollees who did not meet criteria for depression. Multiple social needs were found to be associated with meeting criteria for depression. The results of this social needs analysis are summarized in Table 3.

**Table 2.** Prevalence of Depression, Alcohol Problems and Substance Abuse Problems

Prevalence of	Provider network				Overall (%)	CI <sub>95</sub> (%)	p < (%)
	A (%)	B (%)	C (%)	D (%)			
Depression	28.0	33.3	26.2	29.0	28.6	± 2.6	.001
Alcohol problems	12.1	19.8	13.4	22.1	16.2	± 2.4	.001
Substance abuse problems	4.6	11.5	4.3	11.3	7.4	± 1.8	.001
Alcohol or substance problem	13.7	22.5	14.3	23.8	17.9	± 2.4	.001

**Table 3.** Unmet Social Needs among Depressed and Non-Depressed Enrollees

During the past two months how often have you ...	Not depressed	Depressed	Odds ratio <sup>a</sup>	95% CI	<i>p</i> <
<i>1st Component: psychosocial needs</i>					
a. gone to bed hungry or lacked enough food?	20.2	38.9	2.56	1.97–3.34	.001
l. had difficulty communicating with others or experienced a language barrier?	23.0	44.6	2.85	2.20–3.68	.001
m. felt isolated or had little contact with family or friends?	25.8	69.8	6.90	5.28–9.01	.001
n. experienced problems with a family member (e.g., child, spouse)?	27.6	51.7	3.00	2.32–3.86	.001
r. needed help getting along with people?	9.8	36.3	5.83	4.28–7.94	.001
s. needed help managing or budgeting your money?	20.1	37.6	2.50	1.91–3.27	.001
t. not known how to spend your free time?	19.8	49.4	4.40	3.78–5.75	.001
Percent of respondents experiencing psychosocial needs	59.8	88.3			
<i>2nd Component: tangible assistance needs</i>					
d. lacked money to pay important bills?	57.8	81.2	3.18	2.39–4.23	.001
e. been unable to get help for a medical condition?	19.9	40.8	2.93	2.24–3.83	.001
f. been unable to get help for a mental health problem?	7.4	26.9	5.07	3.59–7.15	.001
g. been unable to get help for a substance abuse problem?	2.2	5.5	2.72	1.45–5.12	.005
h. needed help getting schooling or job training?	14.1	24.6	2.11	1.56–2.86	.001
i. had contact with the legal system or needed legal help?	14.7	32.9	2.95	2.22–3.92	.001
j. not been able to get somewhere because you did not have transportation?	30.7	57.2	3.21	2.50–4.15	.001
Percent of respondents experiencing tangible assistance needs	66.5	88.0			
<i>3rd Component: daily functioning needs</i>					
k. been unable to work?	38	74.5	4.91	3.74–6.44	.001
o. needed help with personal things like grooming, bathing, or dressing?	7.7	32.4	6.08	4.39–8.42	.001
p. needed help with things around the house such as laundry, cleaning, or cooking?	23.3	57.7	4.75	3.68–6.14	.001
Percent of Respondents Experiencing Daily Functioning Problems	46.3	84.8			
<i>4th Component: Housing Needs</i>					
b. not had a place to sleep at night?	3.5	10.0	3.67	2.23–6.05	.001
c. felt unsafe or been victimized where you live?	7.7	19.1	2.99	2.10–4.27	.001
q. needed help finding or keeping a place to live?	8.3	24.0	3.66	2.62–5.12	.001
Percent Experiencing Housing Needs	14.8	34.3			

<sup>a</sup>The odds ratios have been adjusted for respondents' age, gender, and race/ethnicity.

Depressed respondents averaged 7.85 social needs compared to 3.69 among non-depressed respondents. This difference is statistically significant  $t(593) = 16.78$ .<sup>1</sup> Examination of the odds ratios indicated that several of the largest differences between respondents meeting criteria for depression and those who did not were associated with two psychosocial needs; being isolated or having little contact with family or friends (OR = 6.90; CI<sub>95</sub> = 5.28–9.01,  $p < .001$ ) and needing help getting along with people (OR = 5.83; CI<sub>95</sub> = 4.28–7.94,  $p < .001$ ). Additional differences between the two groups included, one tangible assistance need; being unable to get help for a mental health problem (OR = 5.07; CI<sub>95</sub> = 3.59–7.15,  $p < .001$ ) and all three daily functioning needs; being unable to work

(OR = 4.91; CI<sub>95</sub> = 3.74–6.44,  $p < .001$ ), needing help with personal things like grooming, bathing, or dressing (OR = 6.08; CI<sub>95</sub> = 4.39–8.42,  $p < .001$ ), and needing help with things around the house such as laundry, cleaning, or cooking (OR = 4.75; CI<sub>95</sub> = 3.68–6.14,  $p < .001$ ).

Items reflecting other psychosocial needs, tangible assistance needs and housing needs had less dramatic differences between depressed and non-depressed respondents although in each case, individuals meeting the criteria for depression had a significantly higher likelihood ( $p < .001$ ) of unmet needs relative to respondents who were not depressed. Specifically, enrollees screening positive for depression had significantly increased likelihood of lacking food (OR = 2.56; CI<sub>95</sub> = 1.97–3.34), shelter (OR = 3.67; CI<sub>95</sub> = 2.23–6.05), and money (OR = 3.18; CI<sub>95</sub> = 2.39–4.23) and were more likely to have legal (OR = 2.95; CI<sub>95</sub> = 2.22–3.92), and family (OR = 3.00; CI<sub>95</sub> = 2.32–3.86) problems.

<sup>1</sup>The degrees of freedom have been adjusted to correct for unequal variances within the two groups.

## DISCUSSION

Clearly the nearly 29% prevalence of depression among the enrollees in this county-sponsored health care plan supports the need for a focused effort to implement a disease management model to effectively diagnose and treat persons with depression. Given that approximately 15% of the general public will suffer from a major depressive disorder at sometime during their life (Carta et al., 1995), the rates of depression obtained among these enrollees exceed national estimates of “any mental disorder” by nearly 50% (Narrow, Rae, Robins, & Reigier, 2002). These estimates are not surprising, however, given that this rate reflects the significantly increased likelihood (OR=1.81) of depression among individuals who are poor (Lorant et al., 2003).

The significantly higher rates of alcohol problems, substance abuse, and health issues among persons screening positive for depression found in this study reflects the multiplicity and complexity of patient needs. These high rates of co-morbid alcohol and substance abuse problems are consistent with levels found in other studies (SAMHSA, 2002; Rieloffs, Wells, Ziedons, Tang, & Unützer, 2002) and emphasize a need for comprehensive and coordinated services that span beyond the traditional health care arena. The higher rates of social needs among plan enrollees meeting the criteria for depression further support the need for a focused and coordinated effort if the services provided to these individuals are to be effective. Perceived unmet social needs have been found to be a significant predictor of mortality in older adults (Blazer, Sachs-Ericsson, & Hybels, 2005). In addition, previous research has documented that the quality of life for persons diagnosed with mental illnesses is significantly higher among individuals who do not have broader unmet social needs related to domains such as housing, finances, and social relationships (Skinner et al., 1999). The increased levels of stress among individuals with these unmet needs have been identified as a significant predictor of depression and other mental disorders (Jackson, Houston, Hamling, Trehaar, & Yun, 2001).

We support the notion proposed by Pincus, Pechura, Elinson, and Pettit, (2001) that an important component in treating depression in a primary care context involves linking patients with community resources. The challenges, however, in developing and implementing these comprehensive interventions are well documented in the literature.

Successful efforts must take into account the organizational (e.g., carve-out structures) and fiscal constraints (e.g., reimbursement mechanisms) that frequently impede program implementation (Frank, Huskamp, & Pincus, 2003). Initiatives must also consider patient barriers such as stigma and physician barriers such as the training needed to diagnose and treat depression (Pincus et al., 2001). Frank et al. (2003) identified several critical elements common among many promising primary care models for treating depression that include the use of case managers to track and monitor patients receiving treatment, the availability of consultation with mental health specialists, and the use of evidenced-based practice guidelines.

We conclude with the belief that a primary care disease management approach to depression lacking collaborative practices that include physician and support-services providers is but the “tip of the iceberg” in eliminating or alleviating the problems of the uninsured, especially those with mental health challenges. Simply addressing depression from a narrow clinical or biomedical perspective by only dispensing medications is perhaps a mere band-aid that in fact may impede or reduce the possibility of remedying the upstream or deeper social factors of poor social skills and access to basic needs.

### Study Limitations

Four limitations associated with survey procedures that raise some concerns about the representativeness of the findings must be acknowledged. First, the unadjusted survey response rate of 39% was low. This having been stated, it should also be noted that this response rate is substantially higher than the rates reported in previous studies involving similar populations (Barrilleaux, Phillips, & Stream, 1995; Brown & Nederend, 1997; Rohland & Rohrer, 1996). Additionally, re-weighting of the observed responses to reflect the enrolled population through the use of the post stratification procedure described in the analysis section helps control for response bias when estimating the prevalence rates.

Second, the significant differences found in the demographic characteristics of respondents and non-respondents with respect to gender, race/ethnicity, and age also raise concerns regarding the sample’s representativeness of the health care plan’s larger enrolled population. Again, the post stratification analytic procedure re-weights the observed



responses to reflect the enrolled population thereby increasing the representativeness of the findings and minimizing this concern.

Third, the reliability of self-report data has been questioned by some, especially when data collection involves individuals from vulnerable populations. Certainly, all sources of data contain some level of unreliability and invalidity; the question is whether the level contained within a particular source of data is so dramatically higher (or lower) that one source of information should be used over another. A number of investigators have examined the reliability of self-report data obtained from persons with mental illnesses and from homeless individuals (Calsyn, Morse, Klinkenberg & Trusty, 1997; Hennessy & Reed, 1992; Kashner, Suppes, Rush, & Alstshuler, 1999; Spector & Bedell, 1982). The general conclusion of these studies is that collectively, self-report data reasonably approximate data obtained from archival records, although when taken individually, self-report data have been found to be somewhat less robust (Kashner et al., 1999).

Finally, the newness of the social screen used in this study and the limited information on its psychometric properties is also a limitation. An improved understanding of the measure would aid in the interpretation and stability of these findings.

Despite these limitations, the results clearly document the increased multiplicity and complexity of issues associated with being poor and depressed. The results also highlight the need for support services in addition to more traditional medical interventions to assist economically disadvantaged individuals with depression.

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