

# Counseling by Primary Care Physicians of Patients Who Disclose Psychosocial Problems

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**BACKGROUND.** Most descriptive studies of psychosocial counseling by US primary care physicians (PCPs) have relied on the PCPs' recollections rather than researchers' observations of actual visit content. The latter approach should yield more accurate measurement of counseling frequency and duration.

**METHODS.** Our sample consisted of 308 patients whose scores signified psychological distress on the 28-item General Health Questionnaire. Their visits to 69 community-based PCPs had been audiotaped for an earlier study of the benefits of communication skills training for PCPs. Using those tapes, we identified the disclosure of psychosocial problems by patients and subsequent counseling and psychotropic drug prescribing by their PCPs. We timed counseling and visit lengths. Effects of patient and PCP variables on visit duration and on counseling occurrence and duration were assessed using generalized estimating equations to accommodate the correlation among patients who shared PCPs.

**RESULTS.** After adjusting for the effects of the communication skills training, we found that PCPs counseled 60% of patients who disclosed psychosocial problems. Given disclosure, counseling probability was lowest for new patients ( $P < .001$ ); among patients with previous visits, counseling probability was inversely related to the number of visits ( $P < .001$ ). When provided, counseling had a mean duration of 5.2 minutes. Counseling was associated with a 28% (95% confidence interval, 9% - 49%) increase in visit duration after adjustment for the effects of other significant variables. PCPs prescribed psychotropic medications in 30% of visits with disclosure.

**CONCLUSIONS.** PCPs treated psychosocial problems with brief counseling twice as often as with medication. Brief counseling interventions caused small but significant increases in visit durations.

**KEY WORDS.** Primary health care; mental health; counseling. (*J Fam Pract* 1999; 48:698-705)

**D**escriptive studies of mental health treatment by primary care physicians (PCPs) have tended to emphasize pharmacotherapy,<sup>1,7</sup> while fewer studies have described the PCPs' psychosocial counseling practices. On the basis of physician self-reports, 2 large nationally representative studies found very different rates of counseling by PCPs of patients who were given a diagnosis of a mental disorder. In the 1980, 1985, and 1989 National Ambulatory Medical Care Surveys (NAMCSs) PCPs reported they provided "psychotherapy or therapeutic listening" to 37%, 34%, and 29%, respectively, of patients diagnosed with depressive disorders.<sup>4</sup> In contrast, in the Medical Outcomes Study (MOS), family physicians and general internists reported "counseling" 68% and 61%, respectively, of patients in whom they recognized depression.<sup>8</sup>

The large differences in PCP-reported counseling

rates between the NAMCSs and the MOS may be partly due to perceived differences between "psychotherapy or therapeutic listening" and "counseling" and the narrower geographic coverage of the MOS. However, differences in estimated counseling rates may also stem from inconsistent physician recollection and reporting. Investigators have found that PCPs' self-reports of counseling provided during office visits disagree with both their patients' reports<sup>9</sup> and findings from audio recordings of the visit.<sup>10</sup>

Recording or direct observation of office visits should yield more reliable measurements of PCP counseling by eliminating errors of recollection and ensuring that a uniform definition of counseling is used. Using videotapes of office visits, US family practice and internal medicine residents were found to provide counseling more often when they recognized depression than when they did not.<sup>11</sup> Also, using videotaping, investigators found that Dutch community-based PCPs counseled approximately 55% of patients in whom they recognized mental health problems.<sup>12</sup> When designing our study in 1995, we were unable to find any studies of US community-based PCPs that used recordings or direct observation of office visits to measure how often PCPs counseled patients with mental health problems. In 1998, how-

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ever, on the basis of direct observation of office visits, Callahan and colleagues<sup>13</sup> reported that community-based family physicians counseled 66% of psychologically distressed patients in whom they recognized depressive or anxiety disorders.

This study presents a reanalysis of data collected for an earlier study.<sup>14</sup> The earlier study was a randomized controlled trial of communication skills training to improve PCPs' management of their patients' emotional distress. Following the training, approximately 10 office visits of each PCP were audiotaped, to assess the PCP's use of the newly taught skills. For our study, we re-examined the audiotapes to identify patient disclosure of psychosocial problems and subsequent PCP counseling for those problems. This is a descriptive study because the system of definitions used to re-rate the audiotapes was developed after completion of the randomized trial. Our goals were to measure the frequency and duration of counseling provided to patients who disclosed psychosocial problems during office visits to their PCPs, to identify patient and physician variables predictive of counseling by PCPs, and to measure the effect of counseling on office visit duration.

## METHODS

### PHYSICIAN PARTICIPANTS

For the earlier study, full-time PCPs in the greater metropolitan area of Baltimore, Maryland, were recruited from local medical society mailing lists. Sixty-nine PCPs (13% of those contacted) agreed to participate and completed all aspects of the study. Of these, 29 were board certified in family practice, 27 in internal medicine (practicing general internal medicine), and 1 in both family practice and internal medicine. Six PCPs were third-year family practice residents, and 6 listed no board certification. Sixty-three were men. Median physician age was 39 years (range = 27 - 67), and median years in practice was 10 (range = 1 - 39). Of the 69 PCPs, 19 (28%) were in solo practice, 23 (33%) in group practice, 21 (30%) in a staff-model health maintenance organization, and 6 (9%) in a community-based teaching clinic (family practice residents).

Before receiving the communication skills training of the earlier study, PCPs completed the Physician Belief Scale, a self-report instrument that measures strength of psychosocial orientation.<sup>15</sup> As reported previously,<sup>16</sup> study physicians' scores on this scale suggested their mean strength of psychosocial orientation did not differ significantly from that of the validation sample that had been selected by the instrument's authors to represent a broad range of psychosocial orientations. Physicians were randomized into 3 groups: 22 received emotion-handling skills training; 23 received problem-defining skills training; and 24 controls received no intervention. The training is described in detail elsewhere.<sup>14</sup>

### PATIENT VISITS

On randomly selected days following the communication skills training, patients aged 16 years or older presenting to study PCPs' waiting areas were invited to participate. Of invited patients, 72% agreed to participate in all aspects of the study. Before seeing their PCPs, participating patients completed a questionnaire eliciting the major reason for the visit, a rating of physician-patient familiarity, the number of previous visits to the physician, and demographic information. Participants also completed the 28-item version of the General Health Questionnaire (GHQ-28), a self-report instrument designed to detect mental health problems in primary care settings.<sup>17,18</sup> Using a cutoff score of 5, in primary care settings the GHQ-28 has a sensitivity of 87% to 88% and a specificity of 75% to 84% for detecting mental disorders.<sup>19,20</sup> Typically, patients needed 8 to 12 minutes to complete the questionnaire and the GHQ-28. Following each visit, PCPs reported whether they had provided counseling for psychological problems.

### RATING VISIT AUDIOTAPES

Each of the 652 patient visits was audiotaped in entirety, unless a patient or physician elected to temporarily pause the recording. For our study, a board-certified psychiatrist (J.W.R.) rated the audiotapes from the 308 visits by patients with GHQ-28 scores of 5 or higher (GHQ-positives) to measure newly defined variables and to time counseling and visit lengths.

Psychosocial problems were defined as any of the following: (1) distressing feelings or moods; (2) problems, concerns, or losses involving important relationships, including relationships with family members, partners, friends, employers, or work associates; or (3) evaluation or treatment for mental health problems by clinicians other than the PCP. Psychosocial disclosure was rated as present if a patient reported a psychosocial problem occurring during the 2 weeks preceding the visit. Prior psychosocial inquiry was rated as present if the physician inquired about the presence of a psychosocial problem before any disclosure. For visits without disclosure, psychosocial inquiry at any time during the visit was rated as a prior inquiry.

Psychosocial counseling was defined as verbal communication that included at least one "active verbal intervention" by the physician concerning a disclosed psychosocial problem. Active verbal interventions were defined as any of the following: exploratory questions, clarifying remarks, offered insights, remarks of encouragement, or advice. The physician's first active verbal intervention marked the beginning of a counseling segment. The end of the segment was marked by the first statement from the physician or patient shifting the topic to a physical problem that neither the patient nor the PCP implied was related to the disclosed psychosocial problem or to a medication used to treat that problem. For visits with multiple



counseling segments, segment durations were summed to yield the visit counseling duration.

Visit duration was measured from when the patient and physician first began discussing health-related concerns to when the physician left the room at the close of the visit, excluding any time that the physician was out of the room or on the phone regarding matters unrelated to the patient.

All occurrences of the physicians' prescriptions of psychotropic medication for mental health problems were identified along with the types of medication prescribed.

### RELIABILITY OF AUDIOTAPE RATING

A systematic 10% sample of the audiotapes were re-rated by the same psychiatrist who performed the initial rating. Agreement between first and second ratings was high for the occurrence of disclosure, counseling, and psychotropic drug prescribing, with Cohen<sup>21</sup> Ks of .870, .924, and 1.00, respectively. For the 10 (of 31 sampled) visits with counseling, the difference in measured counseling duration was 10% or less for all but 2. For those 2 visits, counseling durations measured by the first and second ratings were 213 and 169 seconds for one visit, and 0 and 116 seconds for the other.

### STATISTICAL ANALYSIS

Since the units of analysis — patient visits — were clustered by physician, we performed regression analyses using generalized estimating equations (GEEs), which adjust for the correlation among clustered observations.<sup>22,23</sup> We used the SAS Macro for GEE, Version 1.24. We assumed an exchangeable intra-cluster correlation structure,<sup>22,23</sup> implying that the correlation between any pair of patient visits to a physician was the same as between any other pair of visits to that physician, a conceptually reasonable assumption.

Regression model-building was conducted in a stepwise forward fashion, taking into account information learned from univariate regressions and conceptual relationships between covariates. At each step, variables with coefficient estimates that had *z* scores less than 1.645 in absolute value (corresponding to  $P > .10$ ) were removed from subsequent steps. We used this type of approach because we anticipated significant correlation between several of our independent variables (eg, between patient age, number of prior visits, and physician-patient familiarity).

Of the 308 recordings, 25 were incomplete because the recorder was turned off for a portion of the visit, and 2 had inaudible segments (of more than just a few words). We conducted all regression analyses twice, with and without the incompletely recorded visits. None of the regression results were significantly affected by exclusion of the incompletely recorded visits.

TABLE 1

#### Characteristics of Physicians in Visits with Psychosocial Disclosure (n = 157)

Characteristic	%
Female	8
Younger than 40 years	54
Less than 10 years in practice	43
Specialty	
Family practice*	38
Internal medicine*	41
Family practice and internal medicine†	2
General practice‡	12
Family practice resident	7
Setting	
Solo private practice	30
Group private practice	36
Staff-model HMO	27
Teaching clinic§	7
Training group	
Emotion-handling skills	32
Problem-defining skills	41
Control	27

HMO denotes health maintenance organization.

\*Board certified.

†Board certified in both.

‡Not board certified.

§Residents.

## RESULTS

### PHYSICIAN AND PATIENT CHARACTERISTICS

Tables 1 and 2 contain physician and patient characteristics, respectively, of the 157 visits by GHQ-positive patients who disclosed psychosocial problems. We have previously<sup>16</sup> described patient and PCP characteristics predictive of psychosocial disclosure. In brief, the odds of disclosure were increased by prior psychosocial inquiry ( $P > .001$ ), greater physician-patient familiarity ( $P > .001$ ), and higher GHQ score ( $P < .001$ ).<sup>16</sup>

### PSYCHOSOCIAL COUNSELING

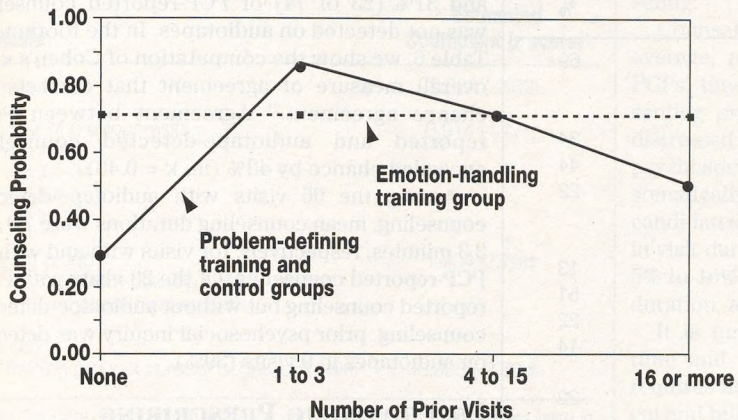
PCPs provided psychosocial counseling during 64% of visits with disclosure (101 of 157). Counseling was provided during at least 1 visit by 86% of PCPs to whom psychosocial problems were disclosed (54 of 63).

To estimate the adjusted effects of the variables in Tables 1 and 2 on counseling following disclosure, we fit a GEE regression model with the log odds of counseling as the dependent variable, using the 157 visits with disclosure. The final model shown in Table 3 indi-



**FIGURE 1**

The estimated probability of psychosocial counseling given disclosure by number of prior visits and PCP training group (n=157).



Note: Based on the final generalized estimating equation regression model in Table 3.

icates that after adjustment for number of previous visits, counseling probability was significantly increased by training in emotion-handling skills, but not by training in problem-defining skills. In Figure 1, we plot estimated counseling probabilities for each combination of the 2 variables — training group and number of previous visits — using the final model in Table 3. These results show that for visits to PCPs in the control group and problem-defining training group, having any previous visits increased the counseling probability relative to no previous visits; however, as the number of previous visits increased beyond 3, counseling probability declined. In contrast, for PCPs in the emotion-handling training group, the interaction between training group and number of previous visits negated the effect of number of previous visits on counseling.

The 64% crude frequency of counseling given disclosure is unadjusted for communication skills training effects. Such adjustment was accomplished by excluding the visits to PCPs with training in emotion-handling skills. This yielded a counseling frequency given disclosure of 60% (65 of 107), free of statistically significant training effects.

**COUNSELING DURATION**

Figure 2 shows the distribution

of counseling duration for the 101 visits with counseling. Mean counseling duration was 5.2 minutes for these visits.

To estimate the adjusted effects of the variables in Tables 1 and 2 on counseling duration, we fit a GEE regression model with log of counseling duration (measured in seconds) as the dependent variable. The final regression model is shown in Table 4 where in addition to estimated coefficients we present estimated effects of significant variables on counseling length, expressed as relative durations.

**VISIT DURATION**

Disclosure occurred in 144 visits (to 60 PCPs) out of a total of 281 completely recorded visits. For these 144 visits, mean visit durations were 18.9 and 16.5 minutes for visits with and without counseling, respectively.

For the 137 completely recorded visits without disclosure, mean visit duration was 12.6 minutes.

To estimate the effect of counseling on visit duration adjusted for significant effects of the variables in Tables 1 and 2, we fit a GEE regression model with log of visit duration as the dependent variable. The final regression model is shown in Table 5, where in addition to estimated coefficients we present estimated effects of significant variables on visit duration expressed as relative durations. The final model shows

**FIGURE 2**

The distribution of counseling durations (n=101).

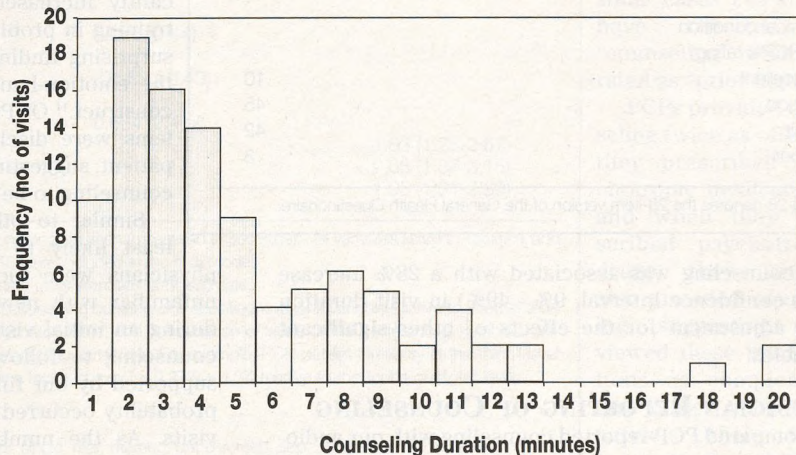




TABLE 2

**Characteristics of Patients in Visits with Psychosocial Disclosure (n = 157)**

Variable	%
Female	69
Age, years	
16-39	34
40-64	44
≥65	22
Marital status	
Single	13
Married	51
Separated or divorced	22
Widowed	14
Nonwhite race	22
Annual income <\$30,000	61
High school education or less	60
GHQ-28 score	
Mildly elevated (5-7)	28
Moderately elevated (8-13)	46
Highly elevated (14-28)	26
Physician-patient familiarity (by patient's rating)	
Not at all	18
Mild	10
Moderate	41
High	31
Number of previous visits (by patient's rating)	
None	18
1-3	17
4-15	40
16 or more	25
Physical condition (by PCP's rating)	
Excellent	10
Good	45
Fair	42
Poor	3

GHQ-28 denotes the 28-item version of the General Health Questionnaire.

that counseling was associated with a 28% increase (95% confidence interval, 9% - 49%) in visit duration after adjustment for the effects of other significant variables.

### PHYSICIAN REPORTING OF COUNSELING

We compared PCP-reported counseling with our audiotape findings, using the 281 completely recorded visits.

Results are presented in Table 6. Disagreement was substantial: 47% (45 of 96) of audiotape-detected counseling was not reported by PCPs, and 31% (23 of 74) of PCP-reported counseling was not detected on audiotapes. In the footnote to Table 6, we show the computation of Cohen's  $\kappa$ , an overall measure of agreement that corrects for chance agreement.<sup>21</sup> Agreement between PCP-reported and audiotape-detected counseling exceeded chance by 43% (ie,  $\kappa = 0.43$ ).

Among the 96 visits with audiotape-detected counseling, mean counseling durations were 7.0 and 3.3 minutes, respectively, for visits with and without PCP-reported counseling. Of the 23 visits with PCP-reported counseling but without audiotape-detected counseling, prior psychosocial inquiry was detected on audiotapes in 9 visits (39%).

### PSYCHOTROPIC PRESCRIBING

Excluding 11 visits during which patients reported current psychotropic drug prescribing for mental health problems by other physicians, PCPs prescribed psychotropic drugs for mental health problems during 30% (44 of 146) of visits with disclosure and 35% (33 of 95) of visits with counseling. Thus, PCPs provided counseling in 75% (33 of 44) of visits during which they prescribed psychotropic medications. Approximately equal numbers of antidepressants (22 visits) and anxiolytics were prescribed (23 visits), with a smaller number of prescriptions given for hypnotics (6 visits).

### DISCUSSION

After adjustment for significant effects of the communication skills training, PCPs counseled 60% of patients who disclosed psychosocial problems, which is similar to the frequency reported by others.<sup>12,13</sup> Training in emotion-handling skills significantly increased counseling probability, while training in problem-defining skills did not, a not-surprising finding given the greater similarity of the emotion-handling skill set to the counseling construct.<sup>14</sup> Of PCPs to whom psychosocial problems were disclosed, 86% counseled at least 1 patient, suggesting that nearly all PCPs considered counseling to be within their purview.

Similar to other findings,<sup>25-27</sup> we found PCPs least likely to counsel new patients. Perhaps physicians were too busy gathering history or too unfamiliar with new patients to provide counseling during an initial visit. If so, they may have deferred counseling to follow-up appointments, a possibility supported by our finding that the highest counseling probability occurred for patients with 1 to 3 previous visits. As the number of previous visits increased beyond 3, counseling probability declined proportion-



TABLE 3

**Final Generalized Estimating Equation Regression Model for Psychosocial Counseling**

Variable	Estimated Coefficient (z score)*
Intercept	-0.882 (-2.32)
Number of previous visits = 0 if 0 = 3 if 1-3 = 2 if 4-15 = 1 if 16+	0.914 (4.17)†
Training group = 0 if problem-defining skills or control = 1 if emotion-handling skills	1.804 (2.78)‡
Interaction Training group x number of previous visits	-0.900 (-2.60)‡

Note: The dependent variable is the log odds of counseling. All variables listed in Tables 1 and 2 were tested for fit and only those with  $P < .10$  were included in the final model.

\*The z score is the ratio of the coefficient estimate to its standard error estimate.

† $P < .001$ .

‡ $P < .01$ .

TABLE 4

**Final Generalized Estimating Equation Regression Model for Counseling Duration**

Variable	Estimates	
	Coefficient (z score)*	Relative Duration† (95% CI)
Intercept	5.018 (26.59)	
PCP-Patient Familiarity = 0 if none or slight = 1 if moderate = 2 if high	0.277 (2.81)‡	1.00 1.32 (1.09-1.60) 1.74 (1.18-2.57)
Physical Condition = 0 if poor/fair/good = 1 if excellent	-0.508 (-2.38)§	1.00 0.60 (0.40-0.92)
Sex (= 1 if female)	0.066 (0.44)	
Marital Status (= 1 if div/sep)	-0.063 (-0.40)	
Interaction: Female x div/sep (v fem x sgl/mar/wid) (v male x div/sep) (v male x sgl/mar/wid)	0.664 (2.47)§	1.82 (1.25-2.67) 2.08 (1.37-3.15) 1.95 (1.31-2.89)

Note: The dependent variable is the log of counseling duration (measured in seconds). All variables listed in Tables 1 and 2 were tested for fit, and only those with  $P < .10$  were included in the final model.

\*The z score is the ratio of the coefficient estimate to its standard error estimate.

†Relative duration is the multiplicative effect on counseling duration of a specified level of a variable relative to another level of that variable (or for the interaction, the multiplicative effect of a combination of levels of the 2 interacting variables relative to another combination of levels of the 2 interacting variables). For example, PCP-patient familiarity at the "high" level is estimated to increase counseling duration by a factor of  $\exp(2 \times 0.277) = 1.74$  relative to the "none or slight" level.

‡ $P < .01$

§ $P < .02$

CI denotes confidence interval; fem, female; sgl, single; mar, married; div, divorced; sep, separated; wid, widowed.

ately, suggesting some PCPs may have been presented with persistent psychosocial problems that they believed would not respond to further counseling.

Counseling lengthened visit durations by 28% on average, representing a significant investment of PCPs' time. Since 31% to 46% of somatically presenting primary care patients are psychologically distressed,<sup>28-36</sup> and of these, two thirds will disclose psychosocial problems,<sup>16</sup> at least 20% to 30% of somatically presenting primary care patients are candidates for counseling by PCPs. A 28% increase in visit durations for these patients could result in a 5% to 10% increase in a PCP's overall average visit duration, a small but significant increase.

It is important that PCPs be credited for the time and effort they invest in counseling. This requires accurate recording of counseling in clinical and billing records. Yet, like others,<sup>9,10</sup> we found evidence that PCPs' self-reports may not provide an accurate reflection of the counseling they provide: PCP-reported and audiotape-detected counseling disagreed substantially. However, these findings should be interpreted cautiously, since

PCPs' reports were completed before the development of the definitions of counseling and prior inquiry used to rate the audiotapes. Thus, for self-reporting, PCPs used a narrower and less detailed definition of counseling ("counseling for psychological problems") than we used to rate the audiotapes. Additionally, in some cases PCPs may have reported as "counseling" what we rated as "prior inquiry."

PCPs provided counseling twice as often as they prescribed psychotropic medications, and when they prescribed psychotropic drugs, they usually also provided counseling, suggesting they viewed these interventions as complementary rather than alternative. Others have reported similarly high



**TABLE 5**

**Final Generalized Estimating Equation Regression Model for Visit Duration**

Variable	Estimates	
	Coefficient (z score)*	Relative Duration† (95% CI)
Intercept	6.283 (89.76)	
Psychosocial counseling = 0 if absent = 1 if present	0.244 (3.05)‡	1.00 1.28 (1.09-1.49)
Psychosocial disclosure = 0 if absent = 1 if present	0.175 (2.25) §	1.00 1.19 (1.02-1.39)
Resident physician = 0 if not = 1 if family practice resident	0.423(3.95)	1.00 1.53 (1.24-1.88)
Patient age, years = 0 if 17-29 = 1 if 30-59 = 2 if ≥60	0.207 (4.57)	1.00 1.23 (1.13-1.34) 1.51 (1.27-1.81)

Note: The dependent variable is the log of visit duration (measured in seconds). All variables listed in Tables 1 and 2 were tested for fit and only those with *P* < .10 were included in the final model.

\*The z score is the ratio of the coefficient estimate to its standard error estimate.

†Relative duration is the multiplicative effect on visit duration of a specified level of a variable relative to another level of that variable. For example, patient age of 60 years or older is estimated to increase visit duration by a factor of  $\exp(2 \times 0.207) = 1.51$  relative to patient age of 17-29 years.

‡*P* < .01.

§*P* < .05.

||*P* < .001.

CI denotes confidence intervals.

rates of PCP counseling relative to psychotropic drug prescribing.<sup>37-39</sup>

**LIMITATIONS**

Since invited PCPs were aware of the earlier study's

possible since the rating definitions were designed for use by a mental health clinician, and only 1 was available to the study team. Thus, to minimize the possibility that the audiotape rating would be biased, we defined counseling as unambiguously as possible.

Further, if such a bias did occur, it should not have affected our regression findings, since it would have affected all visits equally, irrespective of the values of the independent variables.

By testing a large number of independent variables for our regression models, we risked spurious findings of statistical significance. However, since most of the coefficient estimates in our final models were highly significant (ie, *P* < .01), we believe our regression findings can be relied on with high confidence.

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**TABLE 6**

**Comparison of Primary Care Physicians' Self-Reported Counseling with Audiotape-Detected Counseling (n = 281)**

Audiotape-Detected Counseling	Visits (%)		Row Totals
	Self-Reported Counseling		
	Yes	No	
Yes	51 (18.1)	45 (16.0)	96 (34.2)
No	23 (8.2)	162 (57.7)	185 (65.8)
Column Totals	74 (26.3)	207 (73.7)	281 (100.0)

Note: Based on completely recorded visits only.

$$K = \frac{[(51+162)/281] - E}{1-E} = 0.43 \quad \text{where 'E' = Expected agreement} = \frac{(74 \times 96) + (207 \times 185)}{281^2} = 0.575$$



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