

Physician Personality Characteristics and Inquiry About Mood Symptoms in Primary Care

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BACKGROUND: Depression treatment is often initially sought from primary care physicians.

OBJECTIVE: To explore the influence of physician personality on depression assessments.

DESIGN: Secondary analysis of data collected in a randomized controlled trial.

SETTING: Offices of primary care physicians in Rochester, NY.

PARTICIPANTS: Forty-six physicians; six female actors.

INTERVENTION: Eighty-six unannounced standardized patient (SPs) visits; physicians saw one SP with major depression and one with adjustment disorder.

MEASUREMENTS: SPs listened to audiotapes and completed a form on doctoring behaviors and symptom inquiry immediately following the visit. For the assessment of diagnostic documentation, SPs' medical records were reviewed. Physician personality was assessed via items from the NEO-PI-R.

RESULTS: Physicians who are more dutiful and more vulnerable were more likely to document a diagnosis of depression; those who are more dutiful also asked fewer questions concerning mood symptoms.

LIMITATION: Roles portrayed by the SPs may not reflect the experience of a typical primary care patient. Most of the PCPs were white men. The sample of PCPs was limited to a single geographic location. Effect sizes were modest.

CONCLUSIONS: The clinical, educational, and translational implications of research showing that physician personality traits could affect practice behaviors warrant consideration. Current models of treatment for depression in primary care could be engineered to accommodate the variability in physician personality. Given that there is no single "correct" way to ask about mood disorders or suicide, clinicians are encouraged to adopt an approach that fits their personal style and preferences.

KEY WORDS: mental health; primary care; physician personality; suicide; depression.

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Inquiry about depression and suicide are vital but emotionally challenging and cognitively taxing components of effective primary care.^{1,2} Depression treatment is often initially sought from primary care physicians,³ and many individuals who die by suicide see a primary care physician shortly before death.⁴ Primary care providers (PCPs) must elicit information about sensitive and stigmatized issues in a brief time frame while managing a host of competing demands.⁵⁻⁷ It is not surprising, therefore, that depression is frequently not diagnosed and physicians often do not inquire about suicidal thoughts.^{2,8} Acknowledging that patient attributes⁹ as well as structural aspects of the care delivery system¹⁰ influence the PCP's assessments of depression and suicide risk, physicians' attitudes, beliefs, and values may also be important.¹¹ Yet no prior research has directly considered the role of physician personality in the assessment of depression.

Prior studies are suggestive, however.^{8,12} Even after accounting for the severity of patients' mood disturbance, requests for antidepressant medication, the presence of comorbid physical conditions, physician demographics, and practice characteristics, there is substantial unexplained between-physician variation in the tendency to inquire about suicide.⁸ Interestingly, physicians were more likely to inquire about suicide if they (or a relative or close friend) had been treated for depression. Another study showed that primary care physicians with high levels of openness and average, as opposed to extremely high, levels of conscientiousness are more likely to be trusted by patients.¹² Similarly, research on medical students suggests that interviewing and assessment skills are partially a function of interviewer personality.^{13,14}

No single method or research design has emerged as the gold standard for the examination of physician influences on doctoring activities, such as communication, assessment, referral, or treatment.¹⁵ This article reports secondary analyses of data collected in a larger RCT that was designed to examine the effects on physician prescribing behavior of patient symptomatic presentation and requests for antidepressants.¹⁶ In that study, actors were trained as standardized patients (SP) presenting with a mood disorder that varied in

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severity. The design combined elements of a classic social psychology experiment, in its use of random assignment and tight control over the stimulus (in this case, patient symptomatic presentation and requests for antidepressants), with efforts to maximize ecological validity, in its focus on practicing physicians in communities located in different regions of the United States. The design enabled us to conduct secondary analyses examining the effects of physician personality on inquiries pertaining to depression and suicide ideation, independent of the severity of mood symptoms and requests for depression treatment.

METHODS

Design and Procedures

The present analyses involved data from one site (Rochester, NY), which collected PCP personality data as part of a multisite randomized trial on depression diagnosis and treatment in primary care.¹⁶

Six SPs received training in the portrayal of either 1) a 45-year-old divorced Caucasian woman presenting with mild depressive symptoms equivalent to the DSM-IV¹⁷ diagnostic criteria for Adjustment Disorder with Depressed Mood (AD), along with comorbid low back pain; or 2) a 48-year-old divorced Caucasian woman with more severe depressive symptoms approximating the DSM-IV diagnostic criteria for major depression disorder (MDD), with accompanying carpal tunnel syndrome. A national advisory committee helped the study team develop SP biographies and role guidelines appropriate for a 15–20 minute “new patient” visit to a primary care physician. Within both the AD and MDD conditions, SPs either requested no medication, made a request for an “antidepressant,” or specifically requested Paxil®. For the purposes of this article, the latter two types of request were combined, leading to a 2 (request vs. no request) X 2 (AD vs. MDD) factorial design.

With prior physician consent and cooperation of practice managers and health plans, SPs were issued insurance cards and other paperwork corresponding to their false identities. SPs audiotaped encounters using concealed tape recorders. For the first six visits and randomly thereafter, SP recordings were evaluated for role fidelity and drift.

The physician sample consisted of internal and family medicine specialists affiliated with a single health plan in Rochester, NY. Practice managers were enlisted as confederates to make “new patient” appointments for the SPs. The randomization scheme was designed to provide each physician with a visit from one SP presenting with AD and another presenting with MDD. Of the 49 participating physicians, 46 returned usable personality data; of these, 42 saw both an AD and MDD SP, one saw only an AD SP and three saw only an MDD SP (88 visits). Medication requests were distributed evenly across AD and MDD conditions. SP visits to the same doctor were separated by at least two months. Institutional review board approval was received.

Measures

Our three primary outcome measures included a *depression assessment score* (count of the number of clinician queries about depression-related symptoms and risk factors; theoret-

ical range, 0–16); whether or not the clinician asked about suicide; and whether the clinician documented a diagnosis of depression. Data on the depression assessment, including suicide inquiry, were collected from an immediate post-visit questionnaire completed by the SP, which asked whether the physician ascertained information about the following: 1) depressed mood; 2) loss of interest or pleasure; 3) duration of fatigue, low energy or mood disturbance; 4) sleep difficulties; 5) appetite or weight change; 6) whether mood or anergic symptoms impeded functioning; 7) difficulty concentrating; 8) personal history of depression; 9) family history of depression; 10) alcohol use; 11) drug use; 12) current medications; 13) recent stressors; 14) tobacco use; 15) medical history and 16) thoughts of death, self-injury, or suicide. An independent judge rated a random sample of 12 audiotaped physician-SP encounters. Agreement between the SP and the independent judge concerning individual physician behaviors (i.e., specific elements of history taking, physical examination, and medical decision making) averaged 92% (mean Kappa=0.82).

To measure diagnostic documentation, a physician blinded to the experimental condition and other study data reviewed SPs' medical records and classified physicians' dictated or handwritten assessments as (1) depression; (2) adjustment disorder or reactive/situational depression; or (3) other diagnosis (e.g., fatigue, stress, insomnia). The diagnosis of depression was said to be made if options 1 or 2 were coded.

Predictors and covariates were assessed as follows: Within two weeks of an SP visit, physicians completed a form asking whether they suspected that a patient seen in the last two weeks had been an SP, and if so, to describe briefly the patient's personal appearance and clinical presentation. Several months later, physicians completed a background questionnaire that included selected items from the NEO-PI-R,¹⁸ a well-validated instrument that has been used in previous research on physician personality.^{12,19} To reduce respondent burden, 36 items were selected from the NEO-PI-R that, on an a priori basis seemed germane to the issues examined in the larger RCT. Items chosen included the anxiety and vulnerability facets of neuroticism (k=8 items, such as “I am easily frightened” and “When I'm under a great deal of stress, sometimes I feel like I'm going to pieces”), the tender-mindedness facet of agreeableness (k=8, “We can never do too much for the poor and elderly”), the dutifulness facet of conscientiousness (k=8, “I pay my debts promptly and in full,” “When I make a commitment, I can always be counted on to follow through”), and selected items from the openness to feelings facet of openness to experience (k=4, “I find it easy to empathize—to feel myself what others are feeling”).

Statistical Analyses

Outcomes were indicators of history taking and documentation: 1) depression assessment score, 2) whether or not the physician ascertained thoughts of suicide, self-injury, or death, and 3) whether or not charts included a depression diagnosis. Effects of physician personality were modeled using generalized estimating equations to account for the nesting of SP visits within physician. Rather than enter all five traits and run the risk of overfitting the models, we conducted exploratory bivariate analyses that identified the traits most likely to be associated with the outcomes of interest: vulnerability, openness to feelings, and dutifulness; p values for anxiety and

tendermindedness were $>.3$ for all outcomes examined). Covariates included physician age, gender, suspicion that an SP had recently been seen, SP role, and SP request for antidepressant medication. SP visit length, not suspicion, was covaried in secondary analyses. Sensitivity analyses treating brand-specific and general antidepressant requests as separate conditions were also conducted. For depression assessment, we used a linear transformation accomplished by subtracting the mean from each score and dividing by the SD. This places the variable on a z-score metric (mean=0, SD=1), but does not change the distribution's shape. Suicide inquiry and depression diagnosis documentation were treated as binomial variables with logit link functions. Models used an exchangeable working correlation structure and robust standard errors. Analyses were performed in Intercooled Stata 9.²⁰

RESULTS

Most physician participants were middle-aged, male, white, and specialists in internal medicine (Table 1). Mean (SD) visit duration was 27.28 (11.95) minutes. Physicians reported having "definite" or "probable" suspicions that the patient was an SP in 27/86 visits (31.3%). The mean depression assessment score was 10.43 (SD=3.15) out of 16 possible depressive risk markers. Some historical elements were almost universally assessed (duration of mood, appetite, or sleep disturbance, 93%; stressors, 93%; medications, 88%; sad mood, 86%). Others were ascertained less commonly (e.g., concentration difficulties, 16%). Thoughts of suicide, death, or self-harm were elicited in 36% of visits. Physicians documented a diagnosis of depression or adjustment disorder (situational depression) in 73% of the visits.

Table 2 shows the effects of physician personality traits on outcomes. Findings reveal that more dutiful physicians were more likely to document a diagnosis of depression. More dutiful physicians also had lower depression assessment scores, with a one standard deviation increase in dutifulness translating into a 0.24 standard deviation decrease in score.

As expected, depression severity (MDD vs. AD) was a significant covariate across all outcomes. Specifically, physicians who encountered a patient with MDD had higher depression assessment scores were more likely to ask about suicide and were more likely to document a depression diagnosis. Making a medication request affected depression diagnostic documentation but not assessment: physicians were more likely to diagnose depression if patients requested

an antidepressant, but requests for medication had no influence on depression history taking or suicide inquiry.

Analyses that adjusted for visit duration yielded similar findings. Of 88 visits, data on visit duration were unavailable for two, resulting in 86 visits (analyses not shown). Again, dutiful physicians had lower depression assessment scores (Beta=-.19; 95% CI=-.36, -.02), while dutiful (OR=1.92; 95% CI=1.19, 3.16) and vulnerable (OR=1.81, 95% CI=1.09, 3.01) physicians were more likely to document a depression diagnosis.

A series of models testing centered interaction terms revealed that personality effects did not differ as a function of depression severity or medication request (all p values $>.15$). Sensitivity analyses treating brand-specific and general antidepressant requests as separate conditions yielded comparable findings.

DISCUSSION

In this secondary analysis of a practice-based randomized trial, the most potent predictor of physician behavior was patient presentation (major depression versus adjustment disorder); physicians dug more deeply (and inquired about suicide more consistently) when the SPs portrayed bona fide depression than when they portrayed adjustment disorder. Requests for antidepressants affected documentation but not history-taking. Interestingly, nearly 70% of physicians were not aware that they had recently been visited by an SP. Physicians harboring such suspicions asked more questions about depression and were more likely to inquire about suicide, but were not more likely to document a depression diagnosis. These physicians might be more emotionally attuned. It is also possible that they assumed they were being "tested," and merely performed accordingly.

Perhaps the most novel and intriguing findings concern the contributions of physician personality. Effects of physician personality on depression assessment and diagnostic documentation were independent of physician demographic and design variables. More dutiful physicians were more likely to document a depression diagnosis, and they did so by asking fewer questions. Vulnerable physicians were also more likely to document a depression diagnosis, but there was no relationship between vulnerability and depression assessment.

While preliminary, these findings may reflect individual differences in the cognitive processes involved in depression assessment and the documentation of a depression diagnosis. A personality disposition characterized by higher levels of dutifulness (an indicator of conscientiousness) may facilitate diagnosis and documentation because it entails task-adherence and behavioral routinization in the service of the reliable fulfillment of professional obligations. That dutiful physicians had lower depression assessment scores suggests that, in the context of evaluating possible depression, they are economical in their use of time. In other analyses (not reported), we found no evidence to support the idea that they use this time to inquire about physical symptoms. Vulnerable physicians appear to arrive at a correct depression diagnosis via a less economical process, albeit an effective one.

Turning to suicide inquiry, silence in the consultation room represents a modifiable barrier to suicide prevention and other public health strategies.²¹ Doctors must be emboldened to take the lead in these discussions, particularly when patients

Table 1. Physician Demographics and Specialty (N=46)

Characteristic	Value
Age, M (SD)	45.43 (7.83)
Gender	
Female	13 (28%)
Male	33 (72%)
Race, N (%)	
White	40 (87%)
Minority	6 (13%)
Specialty, N (%)	
Internal medicine	33 (72%)
Family medicine	13 (28%)

M=mean; SD=standard deviation

Table 2. Predictors of History Taking, Suicide Inquiry, and Depression Documentation

Predictor	Number of questions asked about mood disorder		Inquiry about thoughts of death, suicide, or self harm		Documentation of depression diagnosis	
	Linear model		Logistic model		Logistic model	
	SD change (95% CI)	p value	OR (95% CI)	p value	OR (95% CI)	p value
Physician age	-.01 (-.04,.01)	.422	.99 (.91, 1.07)	.725	.95 (.89-1.02)	.156
Male physician (vs. female)	-.33 (-.78,.12)	.147	1.33 (.40,2.47)	.638	.33 (.11,1.01)	.052
SP presents with major depression*	.60 (.31,-.89)	.000	2.87 (1.23,6.70)	.015	4.75 (1.13-19.94)	.033
SP requests antidepressant †	.15 (-.22,-.53)	.422	.99 (.40,2.48)	.987	5.95 (1.69,29.95)	.005
Physician suspects SP (vs. does not suspect)	.72 (.31,1.12)	.001	7.83 (2.49, 24.64)	.000	.79 (.32, 1.98)	.622
Physician dutifulness	-.24 (-.46,-.01)	.036	.79 (.44, 1.43)	.439	1.92 (1.15,3.21)	.013
Physician vulnerability	-.01 (-.23,.21)	.943	1.49 (.72, 3.06)	.284	1.88 (1.10, 3.22)	.022
Physician openness to feelings	.10 (-.14,.34)	.422	1.73 (.89, 3.34)	.104	1.61 (.90,2.86)	.106

SP=standardized patient; OR=odds ratio; CI=confidence interval; SD=standard deviation. Results from GEE models of 88 SP visits to 46 physicians; *Reference group=SP presents with adjustment disorder with depressed (coded 0, baseline category); † Reference group=SP did not request an antidepressant

are habitual nonconfiders.^{22,23} We found scant evidence for the relationship between physician personality and suicide inquiry, though the findings for trait openness are suggestive ($p=.1$). Yet individual differences in social-cognitive processes might account for some of the variance between physicians in suicide inquiry, as physicians were more likely to inquire about suicide when they suspected they were seeing a SP.

Doctors high in dutifulness are more likely to document a depression diagnosis but ask fewer questions about depression. They are no more (or less) likely to ask about suicide than their less dutiful peers. Concern with time-economy could explain why, despite their apparent level of vigilance, they ask fewer questions about depression and are not more likely to inquire about suicide, arguably the most important symptom of depression. Perhaps they believe that asking about suicide will extend the office visit. Perhaps, on account of their high standards for personal competence, they do not feel they could address the topic of suicide with great effectiveness. Dutiful physicians can be expected to respond appropriately to policies that reinforce more extensive depression assessments involving effective questions about suicide. Absent of such interventions, dutiful physicians will likely continue to respond to perceived organizational expectations. In this context it is worth noting that patients prefer doctors who are merely average in dutifulness,¹² not higher, perhaps because the latter are seen as ignoring important patient concerns in the service of the expeditious fulfillment of professional obligations. Other findings are consistent with this interpretation.²⁴

Numerous barriers to the detection and treatment of depression in primary care have been documented. Decreasing the burden of mood disorders requires multi-component initiatives that address these barriers. Large-scale studies of collaborative referral and care,²⁵⁻²⁷ have proven to be reasonably effective but the 'real-world' feasibility and sustainability of these initiatives is questionable.²⁸ It is probably not useful to conceptualize specific "physician personality traits" as yet another barrier that must be removed or modified. Indeed, a sociological perspective on personality suggests that the relationship between personality and organizational culture is bidirectional. Institutionalized policy initiatives that shape organizational culture could also shape and reinforce personality.^{29,30} Effective workplace and organizational settings are those designed to respond to the personal needs and traits of those inhabiting the setting.

What are the translational implications of research showing that physician personality traits could affect practice behaviors? This question has rarely if ever been considered. The goal is not to change physician personality. Rather, in the context of depression care, it would be useful to consider how current models of collaborative care or other treatments for depression in primary care could be engineered to accommodate variability in physician personality, which is manifest in differences in assessment and referral behavior.^{31,32} The health communications literature suggests that patients respond to different types of health promotion messages tailored to personality style.³³ One might expect similar effects in physicians. Policies constructed to encourage screenings or assessments by "dutiful" physicians may be less effective among "open" or "vulnerable" physicians. Conceivably, educators could also make use of personality information to tailor their teaching. Messages that are persuasive to dutiful physician-trainees ("This is the standard of care here") may not reach those who are characterized by openness ("Watch carefully how the patient connects to you when you ask forthrightly about depression"). Practicing physicians should reflect on the possibility that their personal traits and attitudes might have implications for their approach to the assessment of depression and perhaps other clinical behaviors.

Although screening for mental health concerns in primary care settings is controversial,³⁴ the need for innovative techniques to enhance dialogue about depression and suicide is not. Physicians who are uncomfortable asking patients about depression or suicide might wish to administer brief screens. Affirmative responses could lead to appropriate referrals or provide a natural segue into deeper discussion.

Several qualifiers must be noted. The sample was limited to a single geographic location. Effect sizes were modest. The physicians were mostly white men. Finally, the SP roles were circumscribed: depressed women in their 40s. Would physicians behave differently if faced with members of demographic subgroups at higher risk for suicide and under-treated mood disorders, such as older white men or younger black men?³⁵ Future studies should examine this issue, especially as physicians may be less likely to recognize and diagnose mood disorders in these demographic groups.^{36,37}

This observational study used an experimental design to examine the relationship between physician personality and doctoring behavior. Research on the specific affective, cognitive

and behavioral mechanisms through which personality traits influence doctoring behavior might further inform current debates concerning the most cost-effective ways of decreasing the morbidity and mortality of mood disorders. There is no single clinically correct way to ask about mood disorders or suicide. Clinicians are encouraged to adopt an effective approach that fits their personal needs and is responsive to the preferences of individual patients.

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