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BACKGROUND: With increasing emphasis on integrating behavioral health services, primary care providers play an important role in managing patients with suicidal thoughts.

OBJECTIVE: To evaluate whether Patient Health Questionnaire-9 (PHQ-9) Item 9 scores are associated with patient characteristics, management, and depression outcomes in a primary care-based mental health program.

DESIGN: Observational analysis of data collected from a patient registry.

PARTICIPANTS: Eleven thousand fifteen adults enrolled in the Mental Health Integration Program (MHIP).

INTERVENTIONS: MHIP provides integrated mental health services for safety-net populations in over 100 community health centers across Washington State. Key elements of the team-based model include: a disease registry; integrated care management; and organized psychiatric case review.

MAIN MEASURES: The independent variable, suicidal ideation (SI), was assessed by PHQ-9 Item 9. Depression severity was assessed with the PHQ-8. Outcomes included four indicators of depression treatment process (care manager contact, psychiatric case review, psychotropic medications, and specialty mental health referral), and two indicators of depression outcomes (50 % reduction in PHQ-9 score and PHQ-9 score < 10).

KEY RESULTS: SI was common (45.2 %) at baseline, with significantly higher rates among men and patients with greater psychopathology. Few patients with SI (5.4 %) lacked substantial current depressive symptoms. After adjusting for age, gender, and severity of psychopathology, patients with SI received follow-up earlier (care manager contact HR=1.05, $p<0.001$; psychiatric review HR=1.02, $p<0.05$), and were more likely to receive psychotropic medications (OR=1.11, $p=0.001$) and specialty referral (OR=1.23, $p<0.001$), yet were less likely to achieve a PHQ-9 score < 10 (HR=0.87, $p<0.001$).

CONCLUSIONS: Suicidal thoughts are common among safety-net patients referred by primary care providers for behavioral health care. Scores on Item 9 of the PHQ-

9 are easily obtainable in primary care, may help providers initiate conversations about suicidality, and serve as useful markers of psychiatric complexity and treatment-resistance. Patients with positive scores should receive timely and comprehensive psychiatric evaluation and follow-up.

KEY WORDS: suicidal ideation; primary health care; community health centers; mental health services; disease management.

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INTRODUCTION

Recent calls for measurement-based mental health care have advanced the use of standardized instruments. In primary care, one of the best-studied instruments for depression screening and treatment monitoring is the Patient Health Questionnaire-9 (PHQ-9). Despite its routine adoption in numerous healthcare systems and practice settings,¹ little is known about how scores on the individual items of the PHQ-9 can be used clinically. Recent data suggest that Item 9 may be useful for identifying suicidality among depressed patients.²

Primary care practices have the potential to play an important role in identifying and managing patients with suicidal thoughts, given that primary care providers play a major role in treating depression and anxiety, and that nearly half of patients who commit suicide may be seen in primary care within a month preceding their death.³ Suicidal ideation is associated with depression severity, which is in turn associated with poorer response to treatment.

In order to effectively manage primary care patients with suicidal thoughts, more information is needed about the patients' characteristics and outcomes. Furthermore, in the context of growing implementation of integrated care models nationally, little is known about the care provided to suicidal patients when such models are adopted in real-world practice settings. Using observational data from a

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large state-wide program providing integrated mental health services in primary care to referred patients, we compare the characteristics, clinical management, and depression outcomes for enrolled patients with versus without suicidal ideation (SI) at the time of initial assessment.

METHODS

Setting

The Mental Health Integration Program (MHIP) has provided integrated mental health services for safety-net populations in over 100 community health clinics across Washington State since 2008. MHIP is funded by the State of Washington and King County and administered by the Community Health Plan of Washington, in collaboration with Public Health-Seattle & King County. MHIP services are provided for several eligibility programs, the largest of which is Disability Lifeline, formerly General Assistance-Unemployed, a group that is largely middle-aged, male, unemployed, and disabled, with high rates of homelessness and substance abuse.⁴ Approximately 26 % of individuals with insurance eligibility enroll in MHIP.

Integrated Care Model

Integrated mental health care is provided through a team-based approach adapted from research trials of collaborative care.^{5–7} Key elements of the model include a disease registry, integrated care management, and organized psychiatric case review.⁸ Patients identified by primary care providers as needing mental health services are referred to a care manager, who engages patients in care via a comprehensive intake assessment using standardized instruments (see Measures below), and educates patients regarding treatment options. The referral process is developed within each organization and thus varies across organizations, but typically is based on clinical referral, depression screening, or some combination. Using a web-based disease registry,⁹ the care manager follows patients longitudinally in clinic and via telephone to provide brief psychotherapeutic interventions, coordinate medication management with the primary care provider, and facilitate referrals to specialized services as indicated (e.g., substance abuse treatment). Patient outcomes are monitored with standardized instruments, and treatment is modified for patients who do not improve. A consulting psychiatrist provides weekly supervision to care managers, conducts case reviews for patients who have not improved, and provides telephone-based consultation to primary care providers to support management.

Participants

All patients ages 18 and over enrolled in MHIP prior to October 31, 2010 with valid PHQ-9 data at the initial assessment were included.

Data Collection

Registry data were collected in the routine course of delivering clinical care. Analyses used de-identified data on patient demographics (age and gender), service use and dates, scores on standardized instruments, and prescription of psychotropic medications. Data was extracted in early 2011, ensuring at least 12 weeks of potential observation time. This analysis of de-identified data obtained for clinical care and quality improvement purposes was not considered research requiring individual consent by the Institutional Review Board at the University of Washington.

Measures

The PHQ-9 asks how often in the last 2 weeks (“not at all”, “several days”, “more than half the days”, “nearly every day”) respondents were bothered by each of the nine core major depression symptoms.^{10–12} Individuals who endorsed Item 9 (“thoughts that you would be better off dead or of hurting yourself in some way”), at the initial assessment were classified as having suicidal ideation (SI). The remaining items (PHQ-8) were used to measure depression severity. PHQ-8 scores share similar properties to the full scale, with a cut-off score of 10 indicating clinically significant depressive symptoms.^{1,13} The PHQ-2, which has been used for depression screening with a cut-off score of 3, consists of the first two items.^{1,14} The Generalized Anxiety Disorder 7-item scale (GAD-7), a self-report instrument using the same response set as the PHQ-9, measured anxiety symptom severity.¹⁵ Substance use disorders were evaluated with the substance disorders subsection of the GAIN Short Screener (GAIN-SS).¹⁶ During the initial assessment, care managers assessed clinically for chronic pain and pregnancy, and selected working diagnoses from the following list: depression, anxiety, bipolar disorder, psychotic disorder, PTSD, alcohol/substance abuse, and cognitive disorder.

Treatment Process Measures

Registry data were used to evaluate four treatment process measures: care manager contact (timing and number), psychiatric case review (dichotomous indicator and timing if applicable), and dichotomous measures for psychotropic medication prescription and specialty mental health referral.

Depression Outcomes

Depression outcomes were determined only for patients with PHQ-8 \geq 10 at baseline. Two indicators of improvement were calculated: 50 % reduction in PHQ-9 at follow-up and PHQ-9 $<$ 10, indicating minimal to mild residual depressive symptoms.¹⁰

Statistical Analysis

Data were analyzed using STATA Version 12. Chi-squared analysis (for categorical measures) and analysis of variance (for continuous measures) examined bivariate associations between SI and demographic and clinical characteristics, treatment process measures, and depression outcomes. Mixed regression models were constructed to evaluate demographic and clinical correlates of SI and to evaluate associations between baseline SI and two treatment process measures (psychotropic medication prescription and specialty mental health referral). Cox proportional hazards models were specified to evaluate associations between SI and time to two additional process measures (first follow-up contact and psychiatric case review) and, for patients with baseline PHQ-8 \geq 10, two depression outcome measures (50 % improvement and PHQ-9 $<$ 10). Multivariate models were adjusted for age, gender, baseline clinical characteristics (PHQ-8, GAD-7, GAIN-SS, and diagnoses), and the clustering of patients within organizations. Participants with missing data on demographic variables or instrument scores were omitted from analyses involving those variables.

RESULTS

Demographic and Clinical Correlates

Among 11,015 patients enrolled in MHIP across 125 clinics, thoughts of death and suicide were commonly reported at the initial assessment, with 4,976 (45.2 %) reporting some suicidal ideation in the last 2 weeks and 1,153 (10.5 %) reporting these thoughts nearly every day. Suicidal thoughts at baseline were significantly associated with patients' demographic and clinical characteristics (Table 1). A greater proportion of individuals with SI were male and middle-aged than those without SI. Compared to those without SI, patients reporting SI were more complex clinically, with significantly higher baseline PHQ-8, GAD-7, and GAIN-SS scores, and significantly higher likelihood of having psychiatric comorbidities, substance abuse, and chronic pain, but significantly lower rates of pregnancy. In a multivariate mixed regression model, gender and psychiat-

ric characteristics were independent correlates of baseline suicidality, whereas age, chronic pain, and pregnancy were not (Table 2). The vast majority of individuals with SI scored above the thresholds for depression on the PHQ-2 ($n=4,484$; 90.1 %) and the PHQ-8 ($n=4,709$; 94.6 %). Among people with SI and a PHQ-8 score below 10, most had a clinical diagnosis of depression ($n=155$; 58.1 %), and few had no psychiatric or substance disorder diagnosis recorded ($n=39$; 14.6 %). Of the 112 individuals who endorsed SI but did not have an elevated PHQ-8 score or a depression diagnosis, 109 (97.3 %) had a score of 1, corresponding to these thoughts occurring "several days" in the last 2 weeks.

Treatment Process Measures

Although individuals reporting SI at baseline received follow-up earlier and more intensively and were more likely to receive specialty referrals, the magnitude of some differences is small (Table 1). Psychotropic medications were prescribed more often and psychiatric case reviews were performed more often and earlier for patients with SI compared to those without. In general, the associations between baseline SI and treatment process measures evidenced a graded pattern across the range of Item 9 scores, with those individuals reporting thoughts of death or self-harm nearly every day (score=3) receiving the most intensive services (Table 1). In multivariate analyses, baseline SI was a significant independent correlate of all four indicators of care: time to follow-up contact; time to psychiatric review; psychotropic medication prescription; and specialty referral (Table 3). Patients with SI received more intensive services, on average, than those without SI; however, variability was evident across the organizations. For example, among the organizations treating at least 100 patients, on average patients with SI received a psychiatric case review 9 days sooner than patients without SI, but this difference ranged across organizations from 62.8 days earlier to 19.8 days later.

Depression Outcomes

Among 9,014 patients depressed at baseline, SI was associated with a slightly lower likelihood of achieving 50 % improvement (28.9 % versus 31.8 %, $p<0.01$) and a substantially lower likelihood achieving a follow-up PHQ-9 $<$ 10 (26.8 % versus 40.1 %, $p\leq 0.001$), with differences again demonstrating a graded pattern across the range of Item 9 scores (Table 1). In Cox proportional hazards models adjusting for age, gender, baseline severity and diagnosis, and the clustering of patients within organizations, baseline SI was not significantly associated with time

Table 1. Demographic and Clinical Characteristics of Patients by Baseline Phq-9 Item 9 Score

	Item 9 score *				F-statistic or chi-square (df)
	0	1	2	3	
	Not at all	Several days	More than half the days	Nearly every day	
	<i>n</i> =6,039	<i>n</i> =2,554	<i>n</i> =1,269	<i>n</i> =1,153	
Demographic Characteristics					
Age					
18-34, N (%)	2132 (35.3)	829 (32.5)	388 (30.6)	332 (28.8)	37.4 (9) §
35-49, N (%)	2312 (38.3)	1060 (41.5)	542 (42.7)	468 (40.6)	
50-64, N (%)	1501 (24.9)	633 (24.8)	325 (25.6)	340 (29.5)	
65+, N (%)	94 (1.6)	32 (1.3)	14 (1.1)	13 (1.1)	
Gender					
Male, N (%)	2956 (49.3)	1322 (52.0)	651 (51.6)	607 (52.9)	8.7 (3) †
Female, N (%)	3036 (50.7)	1221 (48.0)	611 (48.4)	541 (47.1)	
Clinical Characteristics					
PHQ-8 score, mean (SD)	12.9 (6.1)	16.6 (4.7)	18.7 (3.9)	21.0 (3.4)	1080.3 (3, 11011)
PHQ-8 score<10, N (%)	1734 (28.7)	226 (8.9)	26 (2.1)	15 (1.3)	> 1000 (3)
PHQ-2 score<3, N (%)	2309 (38.2)	404 (15.8)	63 (5.0)	25 (2.2)	> 1000 (3)
GAD-7 score, mean (SD)¶	11.9 (6.0)	14.6 (4.9)	15.9 (4.4)	17.8 (3.9)	435.7 (3, 8546)
GAIN-SS score, mean (SD)¶	1.0 (1.6)	1.2 (1.8)	1.2 (1.8)	1.2 (1.8)	12.3 (3, 7734)
Clinical Diagnosis					
No Diagnosis, N (%)	883 (14.6)	54 (2.1)	13 (1.0)	12 (1.0)	925.0 (15) §
Depressive Disorder, N (%)	1403 (23.2)	539 (21.1)	220 (17.3)	180 (15.6)	
Other Psychiatric Disorders, N (%)	441 (7.3)	113 (4.4)	35 (2.8)	23 (2.0)	
Substance Abuse, N (%)	79 (1.3)	11 (0.4)	2 (0.2)	0 (0.0)	
2 Or more Psychiatric Disorders, N (%)	2259 (37.4)	1230 (48.2)	701 (55.2)	663 (57.5)	
C>o-occurring Psychiatric Disorder and Substance Abuse, N (%)	974 (16.1)	607 (23.8)	298 (23.5)	275 (23.9)	
Chronic Pain, N (%)	350 (5.8)	173 (6.8)	99 (7.8)	96 (8.3)	15.1 (3) ‡
Pregnant at Enrollment, N (%) #	211 (9.4)	42 (4.7)	12 (2.7)	9 (2.5)	52.3 (3) §
Treatment Process Measures					
Follow-Up					
Days to First Follow-up, mean (SD)¶	39.0 (78.2)	35.2 (68.4)	35.8 (75.7)	30.3 (56.9)	4.02 (3, 8102) ‡
Within 2 weeks, N (%)	2661 (44.1)	1320 (51.7)	677 (53.4)	648 (56.2)	96.8 (3) §
Number of visits within 2 weeks, mean (SD)	0.57 (0.78)	0.71 (0.86)	0.74 (0.87)	0.81 (0.91)	43.7 (3, 11011)
Within 4 weeks, N (%)	3354 (55.5)	1612 (63.1)	816 (64.3)	765 (66.4)	87.7 (3) §
Number of visits within 4 weeks, mean (SD)	0.97 (1.16)	1.17 (1.23)	1.22 (1.27)	1.35 (1.36)	45.0 (3, 11011)
Within 12 weeks, N (%)	3947 (65.4)	1865 (73.0)	923 (72.7)	857 (74.3)	80.2 (3) §
Number of visits within 12 weeks, mean (SD)	2.15 (2.44)	2.53 (2.51)	2.70 (2.72)	2.79 (2.79)	36.6 (3, 11011)
Psychiatric Case Review					
Days to Psychiatric Review, mean (SD)¶	61.8 (104.1)	56.8 (98.6)	52.4 (88.8)	44.9 (77.3)	6.5 (3, 5873) §
Within 4 weeks, N (%)	1835 (30.4)	988 (38.7)	535 (42.2)	509 (44.2)	142.5 (3) §
Any, N (%)	2992 (49.5)	1533 (60.0)	810 (63.8)	742 (64.4)	179.4 (3) §
Psychotropic Medication Prescription, N (%)	3932 (65.1)	1994 (78.1)	1008 (79.4)	949 (82.3)	280.8 (3) §
Specialty Mental Health Referral, N (%)	730 (12.1)	512 (20.1)	312 (24.6)	332 (28.8)	283.8 (3) §
Depression Outcomes **					
PHQ-9 50 % improvement, N (%)	1367 (31.8)	709 (30.5)	346 (27.8)	308 (27.1)	13.6 (3) ‡
PHQ-9<10, N (%)	1727 (40.1)	747 (32.1)	302 (24.3)	213 (18.7)	246.4 (3) §

* Item 9 asks respondents how often in the last 2 weeks/he was bothered by "thoughts that you would be better off dead or of hurting yourself in some way".

† $p \leq 0.05$, ‡ $p \leq 0.01$, § $p \leq 0.001$, || $p \leq 0.0001$

¶ Due to missing data, *n* for some variables is lower than 11,015 as follows: Gender, *n* = 10,945; GAD-7 score, *n* = 8,550; GAIN-SS score *n* = 7,738; Days to First Follow-up, *n* = 8,106; Days to Psychiatric Review, *n* = 5,877

Among females ages 18-49, *n* = 3,956

** Among patients with baseline PHQ-8 score ≥ 10 , *n* = 9,014

to 50 % improvement, but was significantly associated with time to PHQ-9 <10 (Table 3).

DISCUSSION

Thoughts of death or suicide are extremely common among this large sample of patients presenting to a

statewide, integrated mental health program in safety-net primary care settings, with nearly half of patients (45.2 %) reporting such thoughts within the preceding 2 weeks. In this program, as in prior research in primary care,¹⁷ such thoughts were significantly more common among men than women, although the difference was small. Men may be especially vulnerable to suicidal ideation in the face of environmental factors, such as disability and financial strain.

Table 2. Multivariate Correlates of Baseline Suicidality ($n=7,456$)

Dependent Variable	OR	95 % Confidence Interval	p
Demographic Characteristics			
Age			
18–34 (reference)	1		
35–49	1.02	0.90, 1.14	0.80
50–64	1.05	0.91, 1.20	0.49
65+	1.16	0.70, 1.93	0.57
Male	1.19	1.07, 1.31	0.001
Clinical Characteristics			
PHQ-8 score	1.16	1.14, 1.18	< 0.001
GAD-7 score	1.03	1.01, 1.04	< 0.001
GAIN-SS score	1.06	1.01, 1.12	0.03
Clinical Diagnosis			
No Diagnosis (reference)	1		
Depressive Disorder	1.98	1.27, 3.09	0.002
Other Psychiatric Disorders	1.89	1.17, 3.04	0.009
Substance Abuse	1.66	0.76, 3.64	0.21
Two or More Psychiatric Disorders	2.04	1.34, 3.12	0.001
Co-occurring Psychiatric Disorder and Substance Abuse	2.10	1.33, 3.31	0.001
Chronic Pain	1.10	0.91, 1.33	0.33
Pregnant at Enrollment	0.63	0.36, 1.12	0.11

Model adjusted for clustering of patients within clinic sites

Although age, pregnancy, and chronic pain were associated with SI in unadjusted analyses, these associations did not persist in models adjusted for psychiatric complexity. Interestingly, SI was only half as common among pregnant women (23.0 %), who also had less psychopathology and substance abuse, consistent with the possibility that providers had a lower threshold for referring pregnant women for mental health services.

Among this large, heterogeneous sample, it was exceedingly uncommon for individuals to endorse SI on the PHQ-9 without also experiencing significant depressive symptoms. Only 25 of 1153 people (2.2 %) who scored 3 on Item 9 would have been missed through screening with the PHQ-2. This finding suggests that screening for depression would identify the vast majority of those at risk, and underscores the need for good depression screening in primary care settings. In this sample, individuals with SI were more clinically

complex, as evidenced by higher severity of depressive and anxiety symptoms and more psychiatric and substance use co-morbidity, a finding consistent with past research that has demonstrated that SI, suicide attempts, and completed suicides are more common among people with a range of psychiatric disorders.^{17–19}

On average, patients in MHIP who presented with SI received earlier follow-up by a care manager and more intensive treatment. Triaging services to a group with greater clinical complexity is consistent with the stepped care principle, by which treatment is escalated or intensified when an individual does not respond to an intervention of lower intensity. However, despite average differences favoring greater treatment intensity for patients with SI, some of these differences were small or were evident only at certain sites. Variation in care across sites suggests that quality improvement efforts may further increase the program's effectiveness

Table 3. Multivariate Associations of Baseline Suicidality Score with Treatment Process Measures and Depression Outcomes

Dependent Variable	N	Adjusted OR or HR *	95 % Confidence Interval	p
Treatment Process Measures				
Time to first follow-up †	5,797	1.05	1.03, 1.07	< 0.001
Time to psychiatric review ‡	4,508	1.02	1.00, 1.05	0.02
Psychotropic medication prescription	7,456	1.11	1.04, 1.19	0.001
Specialty mental health referral	7,456	1.23	1.16, 1.31	< 0.001
Depression Outcomes §				
Time to PHQ-9 50 % improvement	6,193	0.99	0.96, 1.01	0.29
Time to PHQ-9 < 10	6,187	0.87	0.84, 0.90	< 0.001

* Odds ratios and hazard ratios for Item 9 score (range 0–3) adjusted for patient age, gender; baseline PHQ-8, baseline GAD-7, baseline GAIN-SS, and clinical diagnosis (coded as: no disorder; depressive disorder; other psychiatric disorders; substance abuse; two or more psychiatric disorders; co-occurring psychiatric disorder and substance abuse)

† Among patients with any follow-up

‡ Among patients with a psychiatric review

§ Among patients with baseline PHQ-8 score ≥ 10

by targeting treatment to patients with the greatest need. In response to prior observations of variation in care, MHIP initiated quality improvement efforts, including pay-for-performance incentives for timely follow-up, psychiatric review for patients not improving, and regular medication tracking, that have led to substantial improvements in performance measures and patient outcomes.²⁰ It would be possible to tailor performance metrics further to account for additional indicators of clinical status, such as suicidality.

Despite receiving more intensive services, patients with baseline SI had worse depression outcomes than their non-suicidal counterparts, underscoring the chronicity of depression among patients with SI. Somewhat fewer patients with SI (28.9 %) than those without SI (31.8 %) experienced a 50 % reduction in PHQ-9, a difference that was not significant in multivariate analyses accounting for clinical complexity. However, substantially fewer patients with SI (26.8 %) than without (40.1 %) achieved a PHQ-9 score below 10, a difference that persisted even after accounting for their greater overall psychopathology.

Our findings support the notion that PHQ-9 Item 9 may serve as a useful marker of clinical complexity among patients identified by primary care providers as having mental health needs. Independent of score on the remaining PHQ items, patients who endorse Item 9 are sicker and less likely to achieve adequate outcomes than counterparts. This finding has relevance, given that comprehensive psychiatric evaluation is not feasible for all patients presenting with mental health symptoms in primary care settings, yet the PHQ-9 can easily be administered in such settings. Therefore, above and beyond its utility as a measure of depression severity, specific attention to Item 9 scores may provide additional information that is useful for assessment and prognosis.

The high prevalence of SI in this sample underscores the need for primary care providers to ask about suicidal thoughts as an essential component of the evaluation of all mental disorders, and particularly depression. Although suicide risk should always be assessed as a routine component of depression evaluation, patients often do not disclose their suicidal thoughts and evidence suggests that primary care providers infrequently ask about suicidality when evaluating depression.^{21,22} Using Item 9 from the PHQ-9 does not replace clinical evaluation of suicide risk; however, its use may help primary care providers become more comfortable initiating such discussions. The need for careful suicide risk assessment of all individuals with mental health concerns is underscored by the fact that a small number of individuals reporting SI on Item 9 scored below the threshold on the PHQ-2 and on the PHQ-8. Although we found that the presence of SI was associated with greater psychopathology and poorer outcomes, the absence of SI cannot be assumed to indicate an absence of complexity or of suicide risk.²

In considering the implications of these findings, several limitations are important. Because all patients were referred for evaluation and management of mental health concerns, the findings may not generalize to an unselected sample of primary care patients. Fewer patients in an unselected sample would be expected to have mental health problems or SI, although this does not necessarily imply that the pattern of association between SI, psychopathology and outcomes would differ. With a large sample of patients treated in 125 community clinics, our results are likely to reflect patterns in a wide variety of safety-net settings. These analyses were also limited by the unavailability of certain data of interest, because registry data were collected during the routine course of delivering clinical care. The registry did not contain information on medical conditions, as well as important outcomes, such as hospitalizations for suicide attempts or suicide completions. Item 9 of the PHQ-9 does not distinguish between passive thoughts of death and active suicidality, nor were detailed information on suicidal intent or plans available in the registry. Specific information about the treatment provided, such as psychotropic medications or the actual use of specialty mental health care, was unavailable. Other outcomes, such as social and vocational functioning and outcomes associated with psychiatric co-morbidities, were not assessed and yet may be important for safety-net populations. Since depression outcomes were based on whether patients had ever achieved symptom reduction and did not account for relapse, the outcomes likely underestimate the true chronicity of depressive symptoms among safety-net patients. Finally, although we report on patterns of care, the data did not allow us to disentangle contributions from healthcare providers versus patients themselves, an important step in identifying potentially modifiable factors in treatment.

Suicidal ideation is common among safety-net populations with mental health needs, and is a marker for poorer response to treatment. While this does not contradict a stepped care approach, providers should be alert to the presence of SI and anticipate a need to increase treatment intensity sooner rather than later. Our findings provide evidence that the PHQ-9 suicide question (Item 9) is a valuable marker of severity and treatment resistance, and that endorsement of this item is uncommon in the absence of significant depressive symptoms. MHIP has now provided management to thousands of individuals presenting with SI, and thus serves as a useful model for the integrated care of patients with SI in primary care settings.

As community health centers add behavioral health treatment to the services they offer, many centers will be adopting instruments such as the PHQ-9 to facilitate patient management. As illustrated by our findings, the individual items of the instrument may yield additional important clinical information. Valuable directions for future research would be to evaluate additional outcomes, including suicidal

behavior and functioning, among patients who present with SI, and to determine whether specific quality improvement efforts directed at patients with SI improve their outcomes.

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Conflicts of Interest: Dr. Unützer is the principal investigator on a contract from Community Health Plan of Washington to the University of Washington that supports training, technical assistance, and quality improvement for the Mental Health Integration Program. The authors declare no other conflicts of interest.

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