

Methods, Tools, and Strategies

Using Self-Report to Improve Substance Abuse Risk Assessment in Behavioral Health Care

G.S. (Jeb) Brown, Ph.D.
Richard Hermann, M.D.
Edward Jones, Ph.D.
Jingyang Wu, M.S., M.Stat.

During the past decade, market and political forces have contributed to increased pressure on health care systems to improve the quality of health care services and to contain costs. A recent Institute of Medicine (IOM) report on health care in the United States described “a highly fragmented delivery system that largely lacks even rudimentary clinical information capabilities [and] results in poorly designed care processes.”^{1(p. 335)} The IOM called for collaboration among clinicians, payers, purchasers, and managed care organizations (MCOs) to redesign and improve care.

Community-based epidemiological studies have found that approximately 11% of adult Americans meet diagnostic criteria for a substance use disorder (SUD) during a 12-month period.² Higher prevalence rates have been observed among patients treated in primary care³ and in behavioral health specialty care^{4,5} and among persons with behavioral disorders in the community.⁶ Studies have also found that both primary care and behavioral health clinicians frequently fail to detect substance-related problems among their patients.^{7,8} Effective interventions are available to treat SUDs, but when left untreated, these conditions contribute to morbidity and mortality as well as increased health care costs and diminished productivity.⁹

Self-administered questionnaires have proven useful for detecting substance-related problems in general medical settings.¹⁰⁻¹⁴ However, systematic use of self-report measures is uncommon in outpatient behavioral health settings. Although a number of managed care organizations conduct risk assessments of plan

Article-at-a-Glance

Background: Primary care and behavioral health clinicians frequently fail to detect substance-related problems among their patients, thereby leading to increased morbidity and mortality and health care costs. A managed behavioral health care organization (MBHO) conducted a quality improvement initiative in which clients seeking outpatient psychotherapy were screened by self-report for substance-related problems, and clinicians were provided with feedback in cases of discrepant findings.

Method: Client self-report questionnaires, which included items inquiring regarding problems related to substance abuse, were administered at multiple points during treatment episodes. Clinicians were also asked to complete assessments, including indicating the presence of a substance abuse problem.

Results: Clinicians failed to identify substance abuse problems in > 80% of the cases where the patient endorsed items clearly related to substance abuse on the outcome questionnaire. In the quality improvement intervention, the MBHO sent letters alerting clinicians to the clients' self-reported substance abuse problems. The concordance between clinician assessment and client self-reported problems then increased significantly.

Discussion: Results of the study argue for the utility of using client self-report measures as part of a comprehensive effort to measure and improve the effectiveness of behavioral health care treatment services.

enrollees,¹⁵⁻¹⁷ a review of the literature conducted in 2003 found no previous reports describing the use of this information to improve SUD detection.

This article describes a managed behavioral health care organization's (MBHO's) quality improvement initiative in which clients are screened for possible substance-related problems, positive findings are compared with the clinicians' assessments, and clinicians are provided with feedback in cases of discrepant findings.

Methods

Setting

PacifiCare Behavioral Health (PBH) manages behavioral health and employee assistance benefits for 4.3 million members in the United States. The organization's clinical information system uses patient questionnaires to identify clients in ongoing treatment who are potentially at risk for poor outcomes (for example, reporting substance-related problems, suicidality, or worsening symptoms) and brings them to the attention of PBH care managers and treating clinicians.¹⁸

Measures

PBH's clinical information system employs the Life Status Questionnaire (LSQ), a shortened version of the widely used Outcome Questionnaire-45.¹⁹ Patients rate 30 items that assess psychiatric symptoms, substance abuse, interpersonal relationships, and role functioning on a five-point scale. The LSQ has strong reliability (coefficient alpha, 0.93) and correlates highly with similar patient self-report measures.²⁰ Clinicians treating PBH-managed clients are asked to have the patient complete the LSQ at his or her first, third, and fifth sessions and at every fifth session thereafter in the clinician's office before the session. Completion time is typically less than 4 minutes. Clinicians are encouraged to review the client's answers before faxing the completed form to a central repository, where optical recognition software captures the data and makes them available to the clinical information system.

Two questions from the LSQ address substance use and associated functioning. Clients are asked to rate the degree (0, never; 1, rarely; 2, sometimes; 3, frequently; 4, almost always) to which the following statements apply to them over the past week:

- People criticize my drinking (or drug use).
- I have trouble at work/school or other daily activities because of drinking or drug use.

Clinicians are also asked to complete a Practitioner Assessment Report (PAR) at the third session and to return it by fax. The PAR is a one-page, checkbox form that asks the clinician to rate the client's symptoms and functioning, as well as to provide a diagnosis. One item on the PAR asks the clinician to respond yes/no to the question "Does the patient currently have an alcohol/substance abuse problem?"

Although clinicians are asked to complete the PAR at the third session, this does not always occur. Clients are authorized from four to eight sessions initially (depending on the plan design). If the clinician does not anticipate needing more sessions or if the client terminated treatment prematurely, the clinician is free to not complete the PAR. It was later shown that the percentage of clients with a completed PAR did not vary significantly with the client's self-report of substance abuse on the outcome questionnaire.

Concordance

The clinical information system flags a case for potential risk of substance-related problems if the client responds "sometimes" or more often to either of the substance abuse items on the LSQ. If the client's clinician completed a PAR within 14 days of the LSQ completion, the clinical information system's computerized algorithm compares the patient's response with the clinician's assessment on the PAR. A discordant finding is designated in cases where the client's assessment is positive and the clinician's assessment for substance abuse is negative.

In a proportion of cases, the clinician indicated the presence of a substance use problem on the PAR, while the patient's LSQ did not. To improve clinician detection, however, the assessment was treated as discordant only when the client reported a substance problem and the clinician's report was negative.

Sample

Throughout the study period (1999 through August 2002), the number of patients and clinicians involved in the project climbed steadily. The number of new adult

Sample Alert Letter

Thank you for your recent submission of the Life Status Questionnaire (LSQ) for [Patient Name]. The purpose of this alert is to draw attention to one or more risk factors identified by the clinical information system.

The primary reason we are contacting you is that this patient responded to substance abuse items on the LSQ in a manner suggesting that he or she may have a problem with abusing drugs or alcohol, and we noted that a recent PAR indicated that the clinician's assessment of the presence of a substance abuse problem as No. We wanted to be sure that you had fully addressed the possibility of a substance abuse problem. We would support you intensifying treatment with a focus on substance abuse if you feel it would benefit your patient. Please let us know if you need additional services certified at this time.

Figure 1. *This figure presents an excerpt from a letter regarding substance abuse assessment.*

clients participating in the system (as defined by completing at least one LSQ) grew from 4,106 in 1999 to 7,812 in 2000 and then to 25,623 in 2001. The rate of increase slowed in 2002, but nevertheless the number of new adult clients reached 29,000 in the first 8 months of the year. During the same period, the number of solo practitioners participating grew from 328 in 1999 to more than 4,800 by August 2002. In addition to the solo practitioners, 23 multidisciplinary group practices participated in 1999, increasing to 75 practices by late 2002.

The total sample for this study consisted of 60,299 unique adult patients who completed at least one LSQ between 1999 (when the clinical information system was initiated) and August 2002. Some of these patients received more than one episode of care during this period. This sample of all adults is used when describing the rate of responses to items on the LSQ and when estimating the rate of self-identified substance abuse cases in the treatment population. (This is relevant because the quality improvement intervention is targeted at all cases in the system of care that self-report substance abuse difficulties.)

A subset of 5,675 LSQ questionnaires indicating a potential substance abuse problem had a PAR submitted within 14 days of LSQ completion. This subsample of paired LSQ and PAR protocols was used to evaluate the rate of concordance between the clinician assessment and the patient self-report.

Quality Improvement Intervention

Two phases of activity were conducted to address discordant substance abuse screening results. In the program's first two years (1999–2000), the clinical

information system algorithms notified PBH care managers of cases where the client reported a positive screening result and the clinician did not. Care managers were encouraged to contact clinicians by phone to discuss the discordant results. Despite these efforts, the rate of concordance between client report and clinician assessment remained low. In an effort to increase clinician awareness of the information contained on the LSQs, the clinical information system program was enhanced at the start of 2001 to automatically generate letters to treating clinicians in cases of discrepant assessment results. Figure 1 (above) presents an excerpt from a letter regarding substance abuse assessment. Similar letters address suicidal ideation, failure to improve, and other risk indicators. In all instances the letters encourage treatment and offer to certify additional services if needed.

If the client positively endorsed the LSQ substance abuse items, and no PAR was completed within 14 days of that LSQ, a letter was nevertheless sent alerting the clinician to the possible presence of a substance abuse problem. In this case, although the letter made no assumption about the clinician's assessment, it did extend an offer to certify substance abuse services if needed.

We hypothesized that the rate of concordance between clinician and patient assessments would increase during the intervention period (2001–2002) from the baseline period (1999–2000) because of the provision of timely feedback via the alert letters.

Results

Table 1 (page 451) provides a breakdown of the responses to the substance abuse items from the first

Table 1. Responses on Client Self-Assessment of Substance-Related Problems on First Administration of the Life Status Questionnaire

	People criticize my drinking (or drug use).	I have trouble at work/school or other daily activities because of drinking or drug use.
Total protocols	60,299	60,299
Almost always	492 (0.8%)	227 (0.4%)
Frequently	958 (1.6%)	422 (0.7%)
Sometimes	3,003 (5.0%)	1,203 (2.0%)
Rarely	4,154 (6.9%)	2,430 (4.0%)
Never	50,979 (84.6%)	55,348 (91.8%)
Missing	713 (1.1%)	669 (1.1%)

questionnaire completed by each adult client in the sample. Using the criterion of a response of “sometimes” or more frequently on either of the substance abuse items, 5,056 (8%) of 60,299 clients were designated as having a possible substance-related problem on the basis of their first LSQ.

Table 2 (right) provides a breakdown by period of the number of LSQs submitted and the frequency with which they were flagged for possible substance abuse. Because multiple LSQs may be submitted for each client, it was possible for a case to be flagged at more than one point in time. The frequency of LSQs flagged for substance abuse problems remained unchanged from the baseline to the intervention period.

During this same period, a total of 50,343 PARs were received for 43,348 patients. For 2,886 (5.7%) of them, the clinician answered “yes” to the question, “Does the patient currently have an alcohol/substance abuse problem.” The PARs identify a much higher percentage of cases with substance abuse problem than is apparent from the diagnoses submitted with the claims for services. In

the claims data, fewer than 1% of the clients in this sample were diagnosed with a substance abuse problem. Table 3 (page 452) provides a breakdown of PAR submissions by period.

A fivefold increase in the number of cases with PARs available between the baseline period and the intervention period can be noted in Table 3. The percentage increase in the number of PARs mirrors the fivefold increase in the number of LSQs available because the analysis was limited only to PARs for clients who also completed the outcome questionnaire.

On the basis of the criterion that the LSQ and PAR occur within a 14-day window of each other, a total of 5,675 LSQ protocols positive for substance abuse were matched with PAR protocols. As reported in Table 4 (page 452), only 18% of clients reporting a potential substance abuse problem received a positive clinician assessment of a substance abuse problem in the baseline period. The concordance rate increased to 33% after the intervention was implemented (two-sided binomial test, $p < .001$).

The proportion of clients self-reporting a substance-related problem on LSQ responses was constant across time, whereas the proportion of clinician assessments that were positive for substance abuse on the PAR decreased slightly from the baseline to intervention periods. Therefore, the increase in concordance between patient report and clinician assessment from the baseline to intervention periods did not result simply from increased clinician assessment of substance abuse.

Table 2. Self-Reported Substance Abuse Problems by Period*

Period	Total no. of clients submitting LSQs	Total no. of LSQs submitted	No. and percentage (%) of LSQs flagged for possible substance abuse
Baseline	10,252	19,542	1,602 (8.2%)
Intervention	50,046	93,573	7,680 (8.2%)
Combined totals	60,298	113,115	9,282 (8.2%)

* LSQ, Life Status Questionnaire.

Table 3. Practitioner Assessment Report (PAR) Submissions by Period

Period	Total no. of clients with PARs	Total no. of PARs submitted	No. and percentage (%) of PARs for which substance abuse assessed as "yes"
Baseline	7,051	7,298	528 (7.2%)
Intervention	36,297	43,045	2,358 (5.5%)
Combined totals	43,348	50,343	2,886 (5.7%)

Discussion

Findings from this naturalistic study in an MBHO show that clinicians reported the presence of a substance abuse problem for fewer than one-third of the clients who self-reported problems with substance use. Concordance between clinician and patient reports of potential substance abuse improved after the MBHO began routinely notifying clinicians of assessments inconsistent with client reports.

Matching LSQ responses to the diagnosis from claims data is a possible alternative method of drawing clinician attention to underidentification of substance abuse. However, data from claims submissions lag several weeks to several months behind data obtained from the PAR. Because the focus of the intervention is on timely feedback, the PAR assessment provides the more useful source of data.

Improvement in rates of positive clinician assessments among clients reporting substance abuse problems after the MBHO intervention suggests that low concordance rates may have been due in part to clinician failure to assess, detect, or document a substance abuse problem. However, there are several possible alternative explanations for our results. First, the naturalistic nature of this study does not permit the conclusion that there is a causal relationship between the clinical information system feedback and the change in concordance rates. Also, it is impossible to rule out the possibility that newly participating clinicians in 2001 were better at conducting substance abuse assessments. Second, a two- or three-question screener for substance-related problems has limited sensitivity and specificity,^{21,22} whereas the clinician's conception

of "a substance-related problem" may vary. The clinician may have reviewed the client's LSQ response, discussed it with the client, and determined that a problem was not present. Third, clients may provide different information at different points in time or in a face-to-face interview compared with a paper-and-pencil questionnaire. Finally, the clinician may have detected substance abuse but may have chosen not to disclose the problem to PBH. Anecdotal reports suggest that some clinicians are reluctant to disclose substance-related problems to payers or their agents because of concern about confidentiality.²³

The fact that the alert letters included an offer to certify additional sessions if the clinician assessed substance abuse may have been a factor in the increased recognition of substance abuse. However, the offer of more sessions was not unique to substance abuse. The system sent out alert letters for a variety of risk indicators, including worsening of symptoms or a patient report of suicidal ideation. In each case, the letters always offered to authorize more intensive services if the clinician feels that they are needed.

On the basis of the lessons from this study and reports of similar studies using clinical information system data,^{18,24,25} PBH decided to implement an automated authorization process. Since November 2002, the system has automatically authorized additional sessions each time an outcome questionnaire is completed, regardless

Table 4. Comparison of Clinician and Client Assessment of Substance-Related Problem for Baseline and Intervention Periods

Period	No. of positive client reports	Clinician substance abuse assessment	
		Positive	Negative
Baseline	N = 1,114	205 (18%)	908 (82%)
Intervention	N = 4,561	1,507 (33%)	3,054 (67%)

of the test scores or responses to particular items and without the requirement for a PAR submission. Although clinicians are encouraged to continue to complete the PAR, it is no longer a requirement for continuation of treatment so long as completed LSQs are faxed to the clinical information system. This has proved to be a powerful incentive to clinicians to frequently administer the measure.

More needs to be learned about whether discordant results reflect a failure on the part of clinicians to assess for or detect substance-related problems. One explanation for the increase in concordance rates over time is that clinician performance in this area is improving in response to feedback. Further investigations, using focus groups and other qualitative methods, should evaluate causes of low rates of clinician-reported problems. More rigorous study is also needed of the impact of MBHO-initiated screening and feedback on substance-abuse detection and outcomes.

Feedback of LSQ results to clinicians is intended to provide information that may have been overlooked or underestimated in the course of a clinical assessment. Anecdotal reports by clinicians to PBH care managers suggest that some clinicians find the information helpful. There have been few complaints from clients, and these complaints were resolved by explaining the purpose of the program and that participation was voluntary. The increase in the number of LSQs received over time demonstrates the feasibility of implementing this approach across a large system of care. A similar improvement in the concordance between patient report and clinician assessment of suicidal ideation was observed after implementing the feedback letters,²⁴ which suggests that the approach used in this study is generalizable to improving assessments of other important risk indicators.

The model presented here is based on a view of the treatment process that expands on the clinician-client relationship to include a role for MBHOs in coordinating and assuring quality of care. In this case, the MBHO provides clinical and information-system resources to improve the detection of serious clinical problems that

are often overlooked. Along with this expanded role, the MBHO also takes on an obligation to ensure confidentiality of patient information.

Although a two-item screener has limited validity, it reflects a compromise with the need to minimize the burden on patients and clinicians. Screening with fewer questions followed by more detailed assessment of those who screen positive is a well-established practice with good supporting evidence.⁹

PBH has motivated clinician participation in the outcomes management system in two ways. First, fax-based submission of the LSQ results in automatic certification of additional outpatient visits without the need for further justification. Second, PBH provides clinicians with superior treatment outcomes an annual award conferring recognition and a check for \$1,000.

Future development of the clinical information system includes increased feedback to participating clinicians regarding the quality and consistency of their data as well as their treatment outcomes. A longer-term goal is to better identify the clinicians who provide effective treatment with sufficient rigor to inform MBHO patient referrals.

Conclusions

A simple technique that used pre-existing, validated questionnaires which did not significantly alter the workflow for the clients or the clinicians and which used a relatively low-resource technique, successfully alerted providers about patients' self-reported substance abuse problems. **1**

G.S. (Jeb) Brown, Ph.D., is Director, Center for Clinical Informatics, Salt Lake City. Richard Hermann, M.D., is Director, Center for Quality Assessment and Improvement, Mental Health, Tufts–New England Medical Center, Boston. Edward Jones, Ph.D., is Vice President and Chief Clinical Officer, PacifiCare Behavioral Health, Van Nuys, California. Jingyang Wu, M.S., M.Stat., is a Biostatistician, Center for Clinical Informatics. Please address requests for reprints to G.S. (Jeb) Brown, Ph.D. jebbrown@clinical-informatics.com.

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