

Chapter 4

ASSESSMENT INSTRUMENTS

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Assessment Instruments in Treatment Planning
Characteristics of Valid Assessment Instruments
Instruments for Standardized Assessment
Introducing Assessment Instruments into Practice

A prerequisite for effective treatment planning is the ability to conduct a valid assessment of the patient's illness and needs. Interest in assessment instruments is no longer limited to research domains because managed care entities have produced incentives for physicians to consider routine use of such instruments as well. This chapter considers a variety of available instruments for assessing diagnosis, severity, and treatment readiness. The instruments are the Structured Interview for DSM-III-R (SCID), the Addiction Severity Index (ASI), and the Recovery Attitude and Treatment Evaluator (RAATE). The instruments are reviewed in terms of their known properties, potential applications, and feasibilities.

The field of addiction medicine was challenged to examine the status of patient evaluation after coming under particular scrutiny by the U.S. Congress, which asked the Institute of Medicine (IOM) to study treatment services for persons with alcohol problems. The IOM study noted that society is struggling with two questions that juxtapose costs and quality concerns: first, how to ensure that the sick receive needed medical care without spending so much that other social objectives are compromised; and, second, how to discourage unnecessary and inappropriate use of medical services without jeopardizing access to needed, high-quality care. The committee's report (IOM, 1990) defined a need for improvements in pretreatment assessment of alcohol problems as a means of facilitating appropriate treatment decisions (Institute of Medicine, 1990).

These considerations demand new approaches to clinical assessment and documentation. The clinical record, which once served exclusively as a database for

patient care, now also must function as an instrument for quality assurance determination. With the advent of the Peer Review Organization, whose role includes rejecting insurance payment and thus (usually) services, clinical documentation now holds a pivotal role. The patient record has become critical to determinations as to the type of care the patient will receive and even whether the patient will receive care at all.

Using Assessment Instruments in Treatment Planning
Formal assessment instruments for treatment planning do exist and generally offer several advantages over conventional clinical interviews. These advantages are universally acknowledged in clinical research, and they may hold true for clinical work as well. A valid instrument offers a uniform inquiry, comprehensive coverage of essential areas, quantification of data, and standardization of the interpretations of the data. Assessments without instruments cannot provide these features, because interviewers may vary widely in style (e.g., use of open versus closed ended questions), areas of inquiry (e.g., severity of substance dependence versus psychopathology), depth of inquiry (superficial screening in some areas versus detailed probing in others), units of measure (e.g., severity of drug use may be measured in terms of quantity, frequency, recency, and/or expenditures); most importantly, interviewers may vary widely in the assumptions they employ in interpreting test results.

Moreover, as the demands of third-party payers increase, so does the need for clear communication between providers and managed care monitors; thus, uniform assessment becomes a necessity. In many circum-

stances, reviewers require providers to assess patients in at least the following areas to gain authorization for treatment: (1) diagnosis, (2) severity of dependence, (3) motivation and rehabilitation potential. For these areas, formal assessment instruments may provide the standardization and credibility necessary for effective negotiation of treatment planning resources.

To meet this need, three instruments might be configured as a "model" assessment package: for diagnosis, the Structured Clinical Interview for DSM-III-R (SCID); for severity of dependence, the Addiction Severity Index (ASI); and for motivation and rehabilitation potential, the Recovery Attitude and Treatment Evaluator-Clinical Evaluation (RAATE-CE). Many other measures are available (Letteri et al, 1985), but these three are recommended by their utility in treatment planning, their strong psychometric properties (e.g., reliability and validity), and their current widespread use. Completion of such a battery provides a rigorous and well-rounded profile of the patient. All three are semistructured clinical interviews designed to obtain information directly from the patient, while also employing the clinical expertise of a trained rater. The importance of clinical judgment is especially important in assessing patients with alcohol or other drug use problems, who may be poor historians due to denial, cognitive impairment secondary to their addiction, and feelings of shame and embarrassment about their past. In addition, an interview format can assess nonverbal information that is unavailable from a patient who merely completes a questionnaire.

CLINICAL DIAGNOSIS. Of the three categories of information listed above, clinical diagnosis is perhaps the most fully developed assessment area because of the general acceptance of the criteria of the Diagnostic and Statistical Manual of the American Psychiatric Association. Several clinical interview instruments exist for establishing DSM-III-R diagnoses of psychoactive substance use disorders; the best studied of these is the Structured Clinical Interview for DSM-III-R (SCID). Despite its predominant use in clinical research, the SCID offers many features for clinical evaluation as well.

SUBSTANCE ABUSE AND DEPENDENCE SEVERITY. Instruments for assessing severity of alcohol or other drug dependence are in widespread use in clinical research. One of the oldest of these, the Addiction Severity Index (ASI), has been available for over a decade.

A challenge for severity assessment instruments is that severity is a multidimensional construct. To illustrate this problem, consider two examples: one patient with severe dependence uses infrequently but in binges of large quantity that are self-destructive in terms of legal violations and physical injury to self and others. Another patient with severe dependence uses regularly without intoxication but with multiple medical, career and family

disruptions and losses. An effective instrument must be capable of characterizing these differing patterns, while yielding some absolute level of severity that renders a similar score for both patients. This feature is present in instruments such as the ASI.

MOTIVATION AND TREATMENT READINESS. Treatment readiness is a more recent area of investigation, so the repertoire of available instruments is more sparse and less well studied than in the case of diagnosis or assessment of severity. For example, in a NIAAA compendium of alcoholism treatment assessment research instruments, few or none addressed treatment readiness (Letteri et al, 1985). Similarly, in a review of 36 studies that attempted to develop accurate outcome prediction scales for alcohol treatment, almost all considered drinking behavior history and sociodemographic characteristics but omitted motivation (LaJeunesse & Thorenson, 1988).

Clinicians routinely report motivation as a global quality that seems to predict the patient's likelihood of treatment success. For example, a 1990 pilot study of newly admitted patients found that demographic factors and co-morbidity collectively accounted for only one third of the variance in outcomes, while nurses' global ratings of patients' motivation significantly added to the prediction of outcome (Schuckit, personal communication). Yet, apart from such global subjective ratings, a well-validated instrument for characterizing motivation has been wanting. The RAATE-CE, in use since 1985, assesses treatment readiness as a multidimensional construct that combines patient awareness of problems, behavioral intent to change, capacity to anticipate future treatment needs, and medical, psychiatric or environmental impediments. While other measures of treatment motivation for substance abuse disorders exist (Miller & Rollnick, 1991; Prochaska & DiClemente, 1992), their reliability and validity are not as extensively reported.

Characteristics of Valid Assessment Instruments

An assessment instrument should demonstrate several qualities if it is to be accepted for clinical research or routine clinical use. Some basic psychometric qualities are that the items that make up the instrument should have clear meanings, should be distinct and parsimonious (i.e., non-redundant), and should relate to one another in a coherent way (i.e., items that are logically connected should be grouped with one another in subscales). Different raters should be able to use the instrument and obtain similar ratings (inter-rater reliability) and the same patient should obtain similar results on two different, closely spaced administrations (test-retest reliability).

In addition to reliability, a valuable instrument also should demonstrate validity. The instrument and its items should be based on an underlying logical framework, or construct. The instrument should make sense as an effort

to assess the intended area, i.e., it should demonstrate face validity. If an accepted "gold standard" measure exists, a comparative trial between the two instruments should yield similar results, demonstrating convergent validity. Ideally, different scores of an assessment instrument should distinguish different outcomes, demonstrating predictive validity. Finally, the instrument should obtain different results than another instrument designed for a different purpose (discriminant validity).

Clinical assessment in addictions treatment is a challenge because the reliability of patient self-report is imperfect. Effective interviewing depends on helping patients to understand the meaning of each question, to organize their recollections, and to avoid defensiveness about their behaviors. In general, the reliability of patient self-report can be improved by using a consistent sequence of questions that progresses from general to specific information and uses an interview style that moves from an open-ended to a closed-ended question format. The set of instruments described here incorporates these principles.

Instruments for Standardized Assessment

THE STRUCTURED CLINICAL INTERVIEW FOR DSM-III-R (SCID). The Structured Clinical Interview for DSM-III-R (SCID) is a widely used, semistructured interview that obtains Axis I and II diagnoses using DSM-III-R criteria. It is designed for use by a trained clinical evaluator at the masters or doctoral level, although in research settings it has been used by bachelor's level technicians with extensive training. Administration of the complete battery may require more than two hours for patients with multiple diagnoses, although the Psychoactive Substance Use Disorders module usually can be completed in 30 to 60 minutes.

The SCID is designed for use with psychiatric, medical or community-based adults (Spitzer et al, 1989). It consists of one module for each major syndrome group in DSM-III-R (such as anxiety disorders, affective disorders, and psychotic disorders) with each module related to assessment of that particular diagnostic syndrome. Each question on the SCID addresses the DSM-III-R criteria, carefully obeying the decision rule process and yielding a diagnosis only if the patient meets the requisite DSM-III-R criteria.

For the Psychoactive Substance Use Disorder module, the SCID poses a query for each DSM-III-R criterion for alcohol abuse/dependence and non-alcohol psychoactive substance abuse/dependence. It asks patients for data about possible lifetime diagnoses, as well as the age of onset of the symptoms, current severity, and severity in the past five years (Spitzer et al, 1992).

Validity data are not presented in the SCID manual (Spitzer et al, 1989), in part because there is no "gold

standard" for psychiatric diagnoses. Also, clinical judgment is involved whenever one administers the SCID. As a result, the reliability of the instrument is a function of the particular circumstances in which it is administered.

Inter-rater reliability for SCID drug abuse/dependence diagnoses in multiple patient populations has been reported as (Kappa) 0.63 and 0.83 for current and lifetime diagnoses, respectively (Williams et al, 1992) and reliability is good for co-morbid diagnoses as well (Skre et al, 1991). Publication of the DSM-IV version will be followed by a revised SCID. Also, it can be difficult to distinguish between substance abuse symptoms (e.g., depressive symptoms during withdrawal) and other discrete disorders. A variant of the SCID, the SCID-Alcohol and Drug Version (SCID A/D) is specifically designed to address this problem; however, it requires 2-5 hours to administer for Axis I alone.

Because the SCID is constructed around the DSM-III-R, it uses symptom criteria based on the loss of behavioral control model for the spectrum of dependence-producing substances. Although it does measure criteria-based symptomatology, the SCID is too limited for a comprehensive treatment evaluation and should be supplemented with an instrument that has been designed for severity assessment, such as the ASI.

THE ADDICTION SEVERITY INDEX (ASI). The Addiction Severity Index (ASI) is a widely used semi-structured interview that is designed to provide information about areas of the patient's life that may contribute to his or her alcohol or other drug use problem (McLellan et al, 1980). The ASI was developed and initially validated in methadone maintenance populations and has shown an excellent capacity for characterizing severe dependence with multiple areas of dysfunction.

The ASI assesses seven dimensions that typically are of foremost concern in patients with alcohol or other drug problems: medical status, employment/support status, drug/alcohol use, legal status, family history, family/social relationships, and psychiatric status. The ASI goes into greater detail about severity than does the SCID. For example, the ASI asks factual questions about the amount of alcohol and drug use within the preceding 30 days and lifetime use, living arrangements, and number of legal charges resulting in convictions.

The ASI has been used for both clinical and research purposes and has been incorporated into some large-scale intake and referral programs, such as the U.S. Target Cities Program demonstration project for city-wide drug treatment improvement. It is designed to be administered by a trained technician and requires approximately 40 minutes to one hour. The confidentiality of the interview is repeatedly stressed because of the personal nature of some of the questions (such as those that ask about violations of the law). The full ASI is used in an initial

Section 4

screening, while a smaller subset of items is used in follow-up interviews to assess the patient's progress over time. The ASI can be administered as often as once a month to assess serial change.

A powerful feature of the ASI is that it establishes with the patient a detailed list of adverse behaviors and consequences of addiction. Having acknowledged these consequences, the patient is asked to assess the severity of his or her problems in each area. A Severity Rating Scale asks "How important to you now is treatment for these alcohol problems?" on a continuum of 0 ("not at all") to 4 ("extremely").

As a check on the subjective quality of patient self-report, the ASI incorporates the judgment of the rater about the patient's apparent comprehension or misrepresentation. The interviewer's severity rating asks the observer to estimate severity in each ASI dimension, using a 10-point scale. These ratings have been shown to produce reliable and valid estimates of patient status (McLellan et al, 1985; Hodgins D & el-Guebaly, 1992).

The original version of the ASI has been improved by the introduction of composite scoring, which increases standardization because, being mathematically derived, it obviates the need to use the rater's judgment to calculate the quantitative severity rating (McGahan et al, 1986).

Limitations of the ASI are that it relies heavily on historical data and gross consequences of use. Because it was developed for use in severely dependent heroin addicts, the ASI may lack sufficient resolution to characterize problems in less severe patients such as alcoholic outpatients.

Severity-of-illness based on past and recent history of drug use and consequences establishes an initial assessment of severity, but no ongoing short-term measurement of improvement. To plan efficient individualized treatment, assessment of severity requires instruments that provide not only a comprehensive severity assessment upon admission, but that also are sensitive and flexible enough to measure short-term treatment response, e.g. within a five- to seven-day inpatient detoxification. The ASI was developed for re-administration, but at a minimum of 30-day intervals, because it measures gross functional impairments that are not likely to change in brief timeframes or restrictive treatment settings.

Finally, the ASI and most severity-oriented evaluation tools lack items for assessing patient attitudes, cognitive understanding of dependence, treatment expectations, and commitment to treatment. Yet these are areas of great significance in treatment and are widely regarded as concurrent indicators of progress. This is the basis for supplementing severity assessment with a measure of motivation and treatment readiness.

THE RECOVERY ATTITUDE AND TREATMENT EVALUATOR (RAATE). Patient readiness is a fundamental

consideration in treatment planning, yet it almost always is evaluated on an intuitive basis. This construct is frequently called into question during third party reviews, yet providers lack a valid objective method for its evaluation. The Recovery Attitude and Treatment Evaluator (RAATE) was designed to quantitatively assess patient resistance and impediments to treatment. The RAATE-Clinical Evaluation (RAATE-CE) is a clinician-rated structured interview that assesses five subscales relevant to substance use disorder treatment planning decisions: (A) degree of resistance to treatment, (B) degree of resistance to continuing care, (C) acuity of biomedical problems, (D) acuity of psychiatric problems, and (E) extent of social/family/environmental systems that do not support recovery (Mee-Lee, 1985; 1988). It is designed to be administered by a trained counselor in about 35 minutes.

The RAATE-CE consists of 35 items (such as "Is the patient aware of an addiction problem?"), rated on a 1 to 4 fixed-interval scale, on which higher scores represent greater resistance or impediments to recovery. RAATE also permits serial assessment of treatment progress (Mee-Lee, 1988).

Inter-rater reliability on the five RAATE dimensions has been reported to range from .59 to .77, in a study of 139 public sector, high severity patients. Internal consistency coefficients ranged from .65 to .87 (Smith et al, 1992). The validity of the RAATE-CE has been studied in 220 consecutive admissions to an inpatient treatment unit. Patients were assessed on the RAATE-CE by counselors shortly after admission, and the results were compared to patients' discharge dispositions. All five RAATE dimensions yielded one or more associations with subsequent treatment outcomes in the expected directions, thus providing initial evidence of predictive validity of the instrument. In particular, on the RAATE-B, C, D and E dimensions, significant mean group differences occurred between subjects who required extended hospital rehabilitation compared to those who were discharged to less restrictive settings ($p=.046$ to $.001$). RAATE-B, D, and E significantly differentiated between the persons who would accept intensive treatments and those who left against medical advice (AMA) ($p=.071$ to $<.001$).

The RAATE shares some similarities with the ASI. Both the RAATE and the ASI are multidimensional, suitable for serial use and include biomedical and psychiatric dimensions. Both instruments use a combination of data sources to enhance accuracy. The RAATE differs from the ASI, however, in its focus on clinical treatment rather than research, and in considering patient motivation and resistance to treatment. Whereas the ASI emphasizes the level of recent alcohol or drug use and associated losses, the RAATE emphasizes denial, social

Table 1. Format of Selected Instruments for Assessment in Addiction

MEASURE	PURPOSE	METHOD	RATER	DURATION	SAMPLE QUESTION
Structured Clinical Interview for DMS-III-R (SCID)	To obtain DSM-III-R diagnoses (Axes I & II)	Semi-structured clinical interview	Trained clinical evaluator (≥ B.A.)	Axis I modules: 1-2 hrs; Axis II modules: 1-2 hrs	"Was there ever a period in your life when you drank too much?"
Addiction Severity Index (ASI)	To assess severity of substance abuse and level of function. Six dimensions: psychiatric, legal, employment, family, medical, social.	Semi-structured clinical interview	Trained clinical evaluator (technician level or higher)	40-60 mins.	"Are you on probation or parole?"
Recovery Attitude & Treatment Evaluator-Clinical (RAATE-CE-R)	To assess patient's level of motivation for substance abuse treatment & potential obstacles to treatment success. Five subscales: resistance to treatment; resistance to continuing care; biomedical; psychiatric; & environmental problems.	Semi-structured clinical interview	Trained clinical evaluator (technician level or higher)	Initial administration 30 mins. Repeat administrations 10-15 mins.	"How committed are you to seeking help or treatment?"

obstacles, and response to treatment. These areas may be more informative for decisions about treatment intensity (inpatient versus outpatient) and treatment modality (for example, peer counseling versus psychotherapy). Because the RAATE was developed on inpatient units populated by a diverse patient population rather than in a more homogeneous intravenous heroin-dependent population, it may offer a broader range of assessment activity than the ASI.

Even prior to thorough validation, the RAATE has generated considerable interest among treatment professionals. This seems to have occurred on the basis of its perceived face validity. Over 250 requests have been received for the instrument and related materials from sources in 34 U.S. states, Canada, Columbia, Mexico, the Netherlands, and Spain. The RAATE-CE has been revised for use in clinical research by adding probe questions in preparation for each scored item; the revised version also provides descriptive anchors to explain quantitative ratings. Validation of the RAATE-CE/R is currently in progress with a sample of 240 patients enrolled in the Cocaine Collaborative Study of the National Institute on Drug Abuse, a randomized psychotherapy outcome trial.

Introducing Assessment Instruments into Practice

Most patients view assessment instruments positively as a means to further understand themselves and as a thought-provoking inquiry. However, for a small subset, implementing such a protocol can require finesse and interpersonal skills, at least initially, as resistance to the measures is sometimes strong. Particularly if the data are to be used for research as well as clinical purposes, it is not uncommon for the patient to feel like a "research guinea pig." For such patients, it is important to emphasize that the results will help the staff to help them. Providing frequent breaks, a supportive and nonjudgmental style, and a highly conversational style (rather than a "checklist" approach) are essential to developing an atmosphere in which the assessment is perceived as a routine part of the clinical endeavor.

It is essential that clinicians receive thorough training in use of the instrument, that their feedback about patient responses be solicited on an on-going basis, and to that they receive updates about the usefulness of the data they have collected.

USING ASSESSMENTS TO INDIVIDUALIZE TREATMENT PLANNING. Studies of spontaneous smoking cessation have conceptualized motivation in terms of stages of behavioral change. This literature, subsequently generalized to all alcohol and other drug dependence, contradicts the view of low motivation as a trait characteristic, but rather describes a dynamic forward spiraling pattern (Prochaska & DiClemente, 1992), through which change

efforts may successfully progress as a result of the interaction between patient and clinician (Miller & Rollnick, 1991). These findings suggest that the clinician needs to go beyond conventional data-gathering to measure and then influence the patient's motivational state (Prochaska & DiClemente, 1992).

The diagnostic (SCID) and severity (ASI) data-gathering processes can promote behavioral change by providing detailed objective feedback to the patient about behaviors, symptoms and consequences. Sometimes, the objective interview process itself can help the patient to move from the pre-contemplation stage to the contemplation stage (during which he or she becomes aware of a need to change). When further strategies are necessary to enhance this transition, comprehensive history data that has been gathered through assessment instruments can be helpful in confronting denial about how alcohol or drug use has been a causal factor in losses.

The RAATE is useful in determining whether interventions will be needed because it includes attitudinal items such as whether the patient believes he or she is an alcoholic or addict, attributes dependence to stress, minimizes losses or risks, or regards abstinence as a passive rather than an active endeavor. Beyond this, it includes items such as whether the patient has considered and is committed to specific behavioral goals (such as attending group counseling or self-help meetings, avoiding triggers for relapse, and calling on sober support persons in response to cravings).

Conclusions

At its best, the clinical practice of addiction medicine offers the patient treatments that, because they are tailored to his or her needs, are effective *and* efficient. The rapid rise in health care costs has alarmed many employers and payers of care; coupled with the perception that much care is unnecessary or provided inefficiently, such cost concerns have given rise to new techniques to manage health benefits and hold clinicians more accountable for services provided (Institute of Medicine, 1990). Clinicians must continually advocate for their patients' access to quality care while meeting demands for cost containment.

The instruments described here can assist in this process, while providing clear benefits for initiating treatment planning. The SCID diagnostic instrument comprehensively assesses use of all addictive substances and yields definitive data on the need for psychiatric evaluation. The ASI delineates case management needs and is ideal for outlining a comprehensive treatment plan. The RAATE determines the patient's acceptance of and willingness to engage in active treatment and targets specific impediments to intervention. While there are as yet no standards for discrete scores or thresholds which

Table 2. Characteristics of Selected Instruments for Assessment in Addiction

MEASURE	STRENGTHS	WEAKNESSES	PSYCHOMETRICS
SCID	<p>Highly reliable, thorough & objective diagnostic work-up</p> <p>Corresponds to DMS-III-R & thus is useful for clinical purposes (e.g. treatment decisions, 3rd party review) & research (e.g. treatment outcome studies).</p>	<p>Time-consuming</p> <p>Difficult to differentiate substance abuse associated symptoms from other Axis I disorders</p> <p>Low reliability for some disorders (particularly Axis II)</p>	<p>Reliability: Alcohol use disorder: .96; Other psychoactive substance use disorder: .85; Axis I ranges of -.03 (somatoform disorder) to .95 (generalized anxiety disorder), with most in the high range. Agreement good for co-morbid diagnosis Axis II: limited data.</p> <p>Validity: No data available.</p>
ASI	<p>Provides both objective data (frequency, quantity, recency & duration of problems) & subjective patient ratings</p> <p>The most comprehensive & widely used assessment of problem areas particular to substance abusers</p>	<p>Not recommended for older, cognitively impaired, adolescent or young criminally-involved abusers.</p> <p>30-day time frame not appropriate for short-term hospital stays</p>	<p>Reliability good for male & female, black & white & alcohol & other drug abusers from various treatment settings; & also with dually diagnosed patients.</p> <p>Validity good for predicting treatment outcome</p>
RAATE-CE-R	<p>Assessment of motivation & treatment obstacles is directly relevant to clinical planning outcome assessment.</p> <p>Designed to be sensitive to short-term motivation & attitude change</p> <p>Relatively brief measure</p>	<p>Relies heavily on clinical judgment for some questions</p> <p>Not yet as extensively used or studied as SCID or ASI</p>	<p>Reliability ranges among subscales: .59 to .77 (interrater); .65 to .87 (internal consistency)</p> <p>Validity found strong for all subscales in initial study of prediction to aftercare setting</p>

Section 4

would make these instruments capable of categorizing patients for targeted treatments, the instruments are useful in categorizing samples and determining whether randomization between two comparison treatment groups has been effective. Further research is needed to validate the use of these instruments for predicting specific individuals' treatment outcomes.

All three of these measures, particularly when incorporated into treatment planning as a set, can be expected to improve the uniformity, comprehensiveness and inter-agency or inter-provider reliability of clinical assessment. Despite the costs of training, staff adaptation, and additional time for administration of the instruments, these gains can be expected to yield improvements in time and cost efficiency as well.

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