# Symptom Monitoring in the Rehabilitation of Schizophrenic Patients

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## Abstract

**Although precise laboratory methods for measuring psychopathology are not available, interviewer-rated instruments developed to assess symptomatology can be used to monitor schizophrenic patients undergoing rehabilitation. By regularly assessing patients, rehabilitation staff can improve the effectiveness of their interventions. Patients can be screened for high levels of symptomatology which might preclude assignment to rehabilitation programs with high levels of social stimulation. Monitoring the prodromal symptoms of relapse can sometimes prevent florid relapses and sustain a rehabilitative trajectory. Standardized instruments for measuring positive symptoms (e.g., hallucinations, delusions, and conceptual disorganization) and negative symptoms (e.g., affective blunting, amotivation, and asociality) are available. Monitoring target symptoms may be particularly cost effective in the rehabilitation milieu. Use of suggested operational criteria for defining clinical states such as relapse would improve outcome studies on rehabilitation interventions.**

The careful and reliable elicitation and rating of psychopathology in the formulation of a *DSM-III* Axis I diagnosis (American Psychiatric Association 1980) is preparatory to rehabilitation efforts with the mentally ill. In the lexicon of the rehabilitation practitioner, the array of characteristic symptoms of psychiatric disorder and the syndromal diagnosis represent the *impairments* of the patient. Given the prime importance of diagnosis in determining phase-specific drug and psychosocial treatments, the role of psychopathology assessment in rehabilitation planning cannot be overstated.

Beyond diagnosis, the repeated or ongoing monitoring of psychopathology is a valuable adjunct to the rehabilitation of individuals with schizophrenic or other major mental disorders. While other medical specialties can monitor the progress of patients through laboratory, radiological, and other quantitative assessments, psychiatric practitioners must rely on regular ratings of psychopathology to determine treatment and rehabilitation decisions. A thorough initial assessment of psychopathology and regular monitoring of symptoms in patients undergoing rehabilitation can improve the quality of treatment decisions in several areas.

1. The selection of an appropriate rehabilitation program is related to type and intensity of symptoms. Goldberg et al. (1977) found that patients assigned to an intensive rehabilitation program varied in their response depending on their initial level of symptomatology. Patients who entered the program with low levels of psychopathology generally benefited from treatment. However, symptomatic patients had high rates of relapse, which suggests that assignment of patients to demanding and socially stimulating programs should be preceded by an assessment of their symptoms. In that way, entry of symptomatic patients could be postponed until their symptoms have receded or stabilized.

The assessment of both positive and negative symptoms, as part of the rehabilitation planning process, can help patients and their caregivers

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avoid programs that might be overstimulating or understimulating. Understimulating social and vocational environments can lead patients to social withdrawal and often foster passivity, anergia, anhedonia, and loss of interest and initiative. On the other hand, placement of the patient in a "total push rehabilitation program" can produce overstimulation with attendant increased risk of exacerbation of florid symptoms of psychosis (Bennett 1978). The patient with schizophrenia, therefore, is often walking a tightrope between exposure to understimulating or overstimulating environments; the means for balance can come from periodic monitoring of symptomatology—including prodromal symptoms. The benefits of symptom monitoring can be amplified by sharing the results of the check-up with the patient and the patient's caregivers, thereby involving them actively in the planning of continued treatment and rehabilitation.

2. The effectiveness of rehabilitation efforts can be evaluated by changes in ratings. For example, by monitoring symptoms regularly, the therapist can determine whether social skills training is reducing the patient's anxiety at work. In addition, exacerbations of symptomatology in response to rehabilitation can be closely monitored and medications, changes in the program, additional therapy, or temporary suspension of the rehabilitation can be implemented to prevent further exacerbation of symptoms.

3. The need for and impact of medication changes can be systematically evaluated. Most medication appointments are brief, with 5 or 10 minutes being the norm. By using a rating scale, a psychiatrist involved in rehabilitation can more accurately, yet efficiently determine whether symptoms are improving or exacerbating. Because they observe patients over a longer time, rehabilitation personnel who are trained to monitor symptoms can provide valuable information to the prescribing psychiatrist about a patient's medication needs.

4. Patients can be taught to monitor their own symptoms and to recognize "warning signs." Patients who are trained to assess symptoms accurately are more capable of participating actively in their treatment decisions. In addition, they can initiate stress-reduction activities when they become sensitive to prodromal symptoms or find that their residual symptoms are exacerbating.

5. Research on rehabilitation would be enhanced by the use of instruments and procedures that accurately assess symptoms and the standardization of criteria for clinical conditions such as relapse. Comparability of psychopathology measures across studies is currently very low and hampers the contributions that research is capable of making to rehabilitation efforts. Accurate assessment of symptoms involves two distinct processes: Symptoms must first be elicited from the patient through interviewing and observation. Then, symptoms need to be categorized and rated for intensity.

## Instruments for Rating Psychopathology

Researchers, concerned about the validity and reliability of their instruments, have developed several high quality instruments which can be incorporated into clinical rehabilitation programs with little or no modification. The three different instruments described below illustrate the options available for practitioners who are interested in assessing psychopathology.

**Brief Psychiatric Rating Scale (BPRS).** The BPRS (Overall and Gorham 1962) originally contained 16 symptom categories and was later expanded to 18 items (Guy 1976). The items are rated on a 1- to 7-point scale of increasing severity. Included in these scales are the psychotic symptoms of greatest importance for assessing the clinical condition of schizophrenic patients, i.e., hallucinations, unusual thought content (including delusions), and conceptual disorganization (including incoherence). The BPRS was designed originally for use by clinical observers of inpatient psychiatric populations in psychopharmacological outcome studies. For a study of schizophrenic outpatients at the UCLA Clinical Research Center for Schizophrenia and Psychiatric Rehabilitation, we found it necessary to devise a brief interview and anchor points applicable to an outpatient population. In addition, a review of the literature on the prodromata of relapse and hospitalization in schizophrenia (Wing 1978; Herz and Melville 1980) led to the addition of three new scales to assess behaviors which might signal a deterioration in an outpatient schizophrenic patient's condition: bizarre behavior, self-neglect, and suicidality. Three scales which assess symptoms of particular importance in the manic phase of bipolar and schizoaffective (manic type) illness were also added (Bigelow and Murphy 1978). The manual, which includes a semistructured interview and anchor points, is presented as Appendix A. Administration of the interview and rating of symptoms takes 10–40 minutes depending upon the interviewer's familiarity with the patient, the number of symptoms

present, and the patient's capacity to describe symptoms. The symptoms can be readily graphed so that changes in baseline levels of one or more symptoms can be quickly detected and intervention mounted Both nonpsychotic, prodromal symptoms and psychotic symptoms can be thus followed

**Schedule for the Assessment of Negative Symptoms (SANS).** In Bleuler's (1911/1950) formulation of schizophrenia as a separate disease entity, negative symptoms were held to be a primary feature of schizophrenia. Although the symptoms considered to be in the grouping differ somewhat across authors (Andreasen 1982, Crowe 1985), negative symptoms usually include deficiencies in psychological and behavioral functions such as motivation (amotivation), ability to experience enjoyment (anhedonia), need for social contact (asociality), flow of thought (alogia), and affective expressiveness and experience (blunted affect). While the positive symptoms of schizophrenia (hallucinations, delusions, and incoherence) have been the primary focus of clinicians and theorists, negative symptoms have again attracted attention and are now considered a significant component of the symptom picture of schizophrenia. In approximately one third of schizophrenic patients, the negative symptoms show greater clinical prominence than the positive symptoms (Andreasen and Olsen 1982).

Negative symptoms can be as incapacitating as positive symptoms and, in one study, patients whose clinical picture was dominated by negative symptoms had a poorer outcome than patients with predominantly positive symptoms (Andreasen and Olsen 1982). In rehabilitation, amotivation often presents a greater obstacle to effective treatment than hallucinations. The SANS (Andreasen 1982) was developed to assess 20 of the negative symptoms divided into five areas: affective flattening, alogia, avolition/apathy, anhedonia/asociality, and attention. Symptoms are rated on a 0- to 5-point scale of increasing severity. A brief interview covering the previous month requires 10–30 minutes depending upon the interviewer's familiarity with the patient, the number of symptoms present, and the patient's capacity to describe symptoms.

**Target Symptoms.** The rating of target symptoms makes use of the finding that patients tend to have exacerbations of the same symptoms across different episodes of relapse (Leff and Wing 1971). Therefore, it is possible and efficient to monitor the specific symptoms that most sensitively reflect a given patient's clinical condition. Battle et al. (1966) first used this approach to monitor progress on target complaints in psychotherapy research. An Idiosyncratic Target Symptom Scale, comprising 100 points for rating one or more symptoms or signs of psychosis, has been used for treatment studies in schizophrenia (May 1980). This, as well as other target symptom scales, can be readily used by clinicians of various stripes, and it correlates well with multidimensional scales of patients' psychopathology (Mintz 1985).

Falloon, Boyd, and McGill (1984) adapted this methodology to monitor the psychopathology of schizophrenic patients who were participating in a 2-year study of family, individual, and drug therapy. For each patient in the study, they selected two symptoms that had recurred in previous exacerbations. Care was taken to specify each symptom exactly as it was manifested in that patient and to avoid behavioral disturbances that might occur in the presence of a nonschizophrenic episode (e.g., social withdrawal during a depressive episode). These target symptoms were monitored monthly and rated on a 1- to 7-point scale of increasing severity similar to the BPRS. The target symptom scale was sensitive to episodes of relapse and better distinguished the treatment conditions than did the BPRS. It is likely that target symptom scales, because they highlight symptoms that are key for each patient, reflect individual differences and are more sensitive to changes in clinical state than multidimensional, more comprehensive instruments.

## Methods and Definitions for Symptomatic Outcome and Clinical States

Although symptoms vary on a continuum, for some purposes it is advantageous to demarcate categories of clinical status such as relapse. While studying the effects of a medication washout, Docherty et al. (1978) identified a sequential unfolding of states with uniform symptom configuration. Other studies have identified the characteristic prodromal symptoms that precede relapse (Herz and Melville 1980). Although the concept of relapse is more problematic to define for schizophrenic disorder than for most other diseases, operational definitions of this state have also been developed in the course of research projects. Relapse may be useful to recognize as a clinical state by rehabilitation practitioners because its frequency and intensity may militate against the referral and

involvement of patient in a rehabilitation program. Symptoms of high intensity that qualify for the definition of "relapse" are generally believed to interfere with productive involvement and progress in rehabilitation (Liberman and Foy 1983; Anderson, Reiss, and Hogarty 1986). Similarly, recognizing the prodromal stages of relapse may equip rehabilitation personnel with the capability of intervening with patients to prevent deterioration of function and cognitive status (Herz, Szymanski, and Simon 1982). Below are listed some definitions of relapse which could be transplanted to rehabilitation settings for clinical decision-making.

**Operational Relapse.** The definition of relapse in schizophrenic disorders is characterized by both methodological and conceptual disarray. In a recent survey of 15 treatment outcome studies conducted during the 1970s, Falloon (1984) found that no two studies used the same criteria to define relapse. The designation of relapse was tied to a host of differing variables.

> Admission to a psychiatric hospital unit, increase of medication, worsening of florid symptoms of schizophrenia, worsening of *any* psychiatric symptoms, and threatened clinical exacerbations have all been variables considered under the rubric of relapse. [Falloon 1984, p. 295]

In addition, none of these definitions reported interrater reliability agreement coefficients. The lack of comparable relapse definitions used in various rehabilitation programs contributes to the difficulty in determining and disseminating effective treatments for schizophrenic patients.

Because of its variable symptom presentation and course, schizophrenia presents a unique challenge to the operationalization of the concept of relapse. Classically, the notion of relapse refers to the reemergence of a florid episode of illness in a person previously in a state of stable remission. This concept is appropriate for illnesses such as tuberculosis and peptic ulcer, which are characterized by periods of full remission alternating with periods of symptomatology. However, longitudinal studies have found that perhaps 50 percent of schizophrenic patients do not attain a stable clinical remission (Bleuler 1974; Ciompi 1980). By the traditional concept of relapse, many schizophrenic patients are in a continuous state of partial or full relapse. The issue of persisting symptoms has been one of the major methodological obstacles to the development of reliable and valid definitions of relapse.

Relapse has been used to refer to a longitudinal outcome and also a cross-sectional clinical state. In treatment studies, relapse typically refers to an *outcome*: that is, a measure of the trajectory of change in clinical condition from the beginning to the end of a study. Although the clinical condition of patients defined as relapsed by this method shows signs of severe decompensation, the range of intensity can vary widely depending on the preexisting baseline level of symptomatology. Patients in full remission at the beginning of the evaluation period may relapse at a lower point of severity. When used to designate a *specific clinical state* rather than a relative exacerbation, the definition adheres more closely to the classical concept of relapse. Patients defined as relapsed by this method would be in a narrower range of severity symptoms.

It is important that both outcome and clinical state definitions be keyed to the psychotic symptoms that are characteristic of schizophrenic disorder. Many of the definitions used in the past have confounded relapse with social factors such as behavioral disturbance and hospitalization. Behavioral disturbances are differentially tolerated by families of different ethnic backgrounds, and a wide variety of social factors that are not related to symptoms affect the likelihood that a given patient will be hospitalized (Wing 1968). Therefore, for relapse to serve as an indicator of the schizophrenic disease process, the definition must be based on the core psychotic symptoms that specifically characterize schizophrenia unconfounded by social variables or more peripherally experienced nonpsychotic symptoms.

Moreover, the mere presence of psychotic symptoms does not always represent a condition that warrants the designation of relapse. Even when the symptoms are diagnostically significant (e.g., mood-incongruent third person auditory hallucinations), they may not be at a level of severity associated with the term "relapse" in usual clinical practice. For example, a schizophrenic patient who hears a voice a couple of times a week or occasionally believes songs on the radio give him messages would not usually create much concern among treatment personnel. It is only when the patient's symptoms reach a certain level of frequency and intensity (e.g., auditory hallucinations throughout the day) and the patient's functioning is impaired (e.g., the messages from the radio tell the patient not to eat or go to his job) that the appellation "relapsed" would usually be applied by treatment personnel. Therefore, the definitions presented below incorporate both specific symptom, frequency, and intensity criteria, as well as the degree to which

symptoms interfere with social functioning.

The level of severity that is set to define relapse will affect the findings of a study. For example, Kane et al. (1983) reported a relapse rate of 56 percent for schizophrenic patients treated with low-dose medication, whereas Hogarty (1984) found that a similar low dose of medication yielded only a 23 percent incidence of relapse. A parsimonious explanation is that these two sets of investigators used different criterion intensities of symptomatology to define relapses.

Outcome definitions require a careful initial assessment of the patient's level of symptomatology to set the baseline from which relapse is determined. The first study to use a definition of relapse that took into account the level of preexisting symptoms was conducted by Brown, Birley, and Wing (1972). They found that 29 percent of their sample of schizophrenic patients were discharged from the hospital with persisting symptoms as elicited by a structured Present State Examination (PSE) interview (Wing, Cooper, and Sartorius 1974). Brown, Birley, and Wing (1972) distinguished two types of relapse: Type I involved a change from a normal or nonschizophrenic state to a state of schizophrenia as defined by the PSE Catego diagnostic system (Wing, Cooper, and Sartorius 1974). Type II relapse involved a marked exacerbation of psychotic symptoms from the patient's baseline level assessed at discharge from the hospital.

The definitions of relapse used in studies at our UCLA Clinical Research Center have been more quantitatively operationalized than previous definitions because we felt it was essential to achieve high degrees of interrater reliability. Moreover, even when a particular patient's clinical state is being monitored for treatment planning, quantitative ratings are helpful because they enable more sensitive distinctions to be made and permit the practitioner to graph the changes in psychopathology over time. Our colleagues in medicine have monitored illness factors in quantitative fashion for generations (e.g., fever charts, blood counts, and other laboratory values); thus, as psychiatric practice develops a biomedical data base, quantitative monitoring of symptoms should become routine.

The first definition (Nuechterlein et al. 1985) was developed for a study in which schizophrenic patients were given BPRS assessments during their regular clinic visits every 2 weeks. At the end of a 1-year period, the researchers wanted to assign outcomes to the patients based on the course of symptoms over a 1-year period. Figure 1 schematically illustrates the criteria and decision-making process used in this outcome definition of relapse. Actually, nine outcome possibilities were operationally defined and then grouped into relapse/no relapse/unchanged categories.

The second set of criteria for relapse as an outcome measure was developed by Drs. Robert P. Liberman, Ian Falloon, and Simon Jones for a study in which it was not possible to assess the patients during regularly scheduled visits to a clinic. The patients were recruited while still hospitalized, for a study of family factors in relapse (Vaughn et al. 1984). The research called for ascertaining which of them relapsed during the 9 months following discharge. Certain family variables, particularly high "expressed emotion" (Brown, Birley, and Wing 1972; Vaughn and Leff 1976), were predicted to be associated with higher likelihood of relapse.

Patients were administered the PSE and the Psychiatric Assessment Scale (PAS) (Krawiecka, Goldberg, and Vaughan 1977) at admission to and discharge from the psychiatric hospital. The PAS is a standardized rating scale that was designed specifically to reflect severity of symptoms among chronic psychiatric patients. It consists of eight items rated on a 0–4 scale of increasing severity.

In the Vaughn et al. (1984) study, the researchers contacted the patient or the patient's family by telephone each month and inquired whether there were any signs of symptomatic exacerbation, deterioration in functioning, or change in medication dosage. The information from the telephone calls was transcribed and retained. A psychiatrist and psychologist trained in the PSE and PAS monitored these reports and made immediate arrangements to conduct a PSE and PAS with any patient for whom the telephone call revealed indications of a possible relapse. All patients who did not have an evaluation triggered by this method were reassessed at the 9-month postdischarge point.

The relapse criteria developed for this study made use of three data sources: PAS, PSE, and anecdotal reports of the patient's clinical and social status. The results from the PAS were reviewed first. Criteria for relapse from a previous study (Wallace 1982) were applied (table 1). A psychoticism score was created from the PSE-elicited symptoms by summing the items that refer to the characteristic symptoms of schizophrenia (table 2). A determination of relapse was made based on the comparison of the discharge psychoticism score versus the followup score. If both the PAS and PSE produced the same outcome, the patient was rated accordingly. However, if they produced differing

outcomes or if high levels of symptoms present at discharge persisted to the followup evaluation, the anecdotal information (with all identifying features removed) was reviewed. In some cases this additional information allowed the patient to be assigned to the relapsed or nonrelapsed outcome category. Even with these three sources of symptom data, 22 percent of the patients had such high persisting and unremitting symptoms for the full 9-month followup period that they could not be assigned into the relapsed or nonrelapsed category. Agreement between two psychiatrists across 76 cases was 92 percent.

For an ongoing longitudinal follow-through study of schizophrenic patients, "Developmental Processes in Schizophrenic Disorders" (Principal Investigator: Keith H. Nuechterlein, Ph.D.), an operational definition for relapse as a clinical state has been derived from the BPRS by Drs. Lukoff and Nuechterlein. This study aims to determine predictors of schizophrenic relapse and remission as well as vulnerability-linked versus symptom-linked markers of disorder. The investigators developed a definition that enables patients whose psychotic symptoms have exacerbated to a high level of intensity to be identified immediately. Patients are assessed biweekly, and extensive cognitive and psychophysiological tests are administered to patients who are found to be in a state of relapse.

Operational criteria for two categories of relapse were developed: (1) *psychotic relapse*, which is based on the core BPRS psychotic symptom scales of hallucinations, unusual

**Figure 1. Flow chart for determining relapse outcome after 1 year based on Brief Psychiatric Rating Scale (BPRS)**

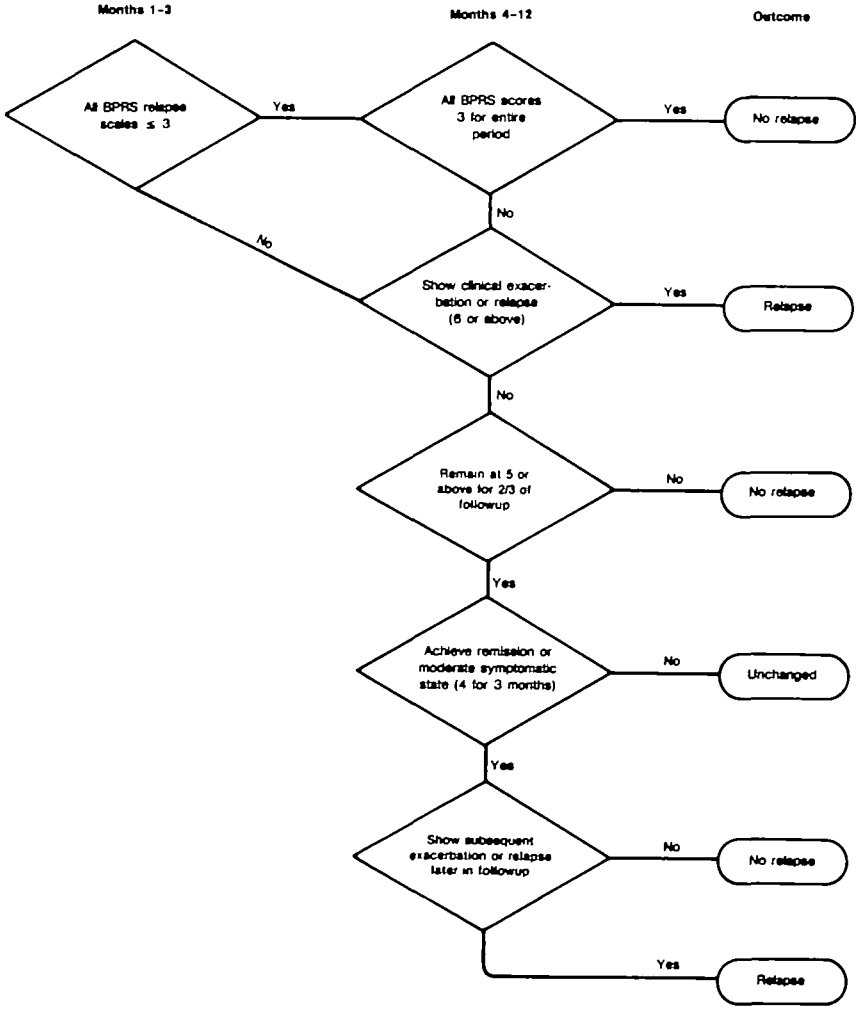



**Table 1. Relapse criteria based on the Psychiatric Assessment Scale**

**Type I.** If a change from discharge rating occurs on only 1 of the 3 scales, a 2-point increase is designated as a relapse, providing that a maximum severity score of 4 on that scale occurs. Thus, score increases from 0 to 2 or from 1 to 3 would not be considered a relapse, but an increase from 2 to 4 would be a relapse.

**Type II.** A total increase of 3 points on 1 or more of the 3 scales is designated a relapse, with the caveat that single point changes from 0 to 1 are not counted (0 = symptoms absent; 1 = symptoms not clearly pathological).

**Table 2. Relapse rating form from Vaughn et al. (1984)**

| **Case No. _____** | | | |
|---|---|---|---|
| **Psychiatric Assessment Scale Scores** | **Initial** | **Discharge** | **Followup** |
| Delusions | | | |
| Hallucinations | | | |
| Incoherence | | | |
| Decision (circle one) . . . . . | | Relapse | No relapse |
| **Present State Examination (PSE) item scores** | | | |
| Thought disorder symptoms (Score "1" if rated "1" or "2" on PSE) | | | |
| Thought insertion | 55 | | |
| Thought broadcasting | 56 | | |
| Thought echo/commentary | 57 | | |
| Thought block/withdrawal | 58 | | |
| Delusion of thoughts read: (Score "1" if rated "2" on PSE) | 59 | | |
| Hallucinations (Score "1" if rated "1" or "2" on PSE) | | | |
| Nonverbal auditory | 60 | | |
| Voice commentary/3rd persons | 62 | | |
| Voices to subject | 63 | | |
| Visual | 66 | | |
| Olfactory | 68 | | |
| Other | 70 | | |
| Delusion of odors (Score "1" if rated "2" on PSE) | 69 | | |
| Delusions (Score "1" only if full delusions are rated "2" on PSE) | | | |
| Control | 71 | | |
| Reference | 72 | | |
| Misinterpretation | 73 | | |
| Persecution | 74 | | |
| Assistance | 75 | | |
| Grandiose abilities | 76 | | |
| Grandiose identity | 77 | | |
| Religious | 78 | | |
| Paranormal | 79 | | |
| Physical forces | 80 | | |
| Alien forces | 81 | | |
| Primary | 82 | | |
| Jealousy | 84 | | |
| Pregnancy | 85 | | |
| Sexual | 86 | | |
| Fantastic | 87 | | |
| Guilt | 88 | | |
| Appearance | 89 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Depersonalization | | | | 90 | | |
| Hypochondriacal | | | | 91 | | |
| Catastrophe | | | | 92 | | |
| | **Scoring** | | **PSE rating** | 95 | | |
| Preoccupation | 0 | = | 0–2 | | | |
| | 1 | = | 3 | | | |
| | 2 | = | 4 | | | |
| | 3 | = | 5 | | | |
| Insight | 1 | = | 2 | 104 | | |
| | 2 | = | 3 | | | |
| **Interview behavior:** | **Scoring** | | **PSE rating** | | | |
| | 1 | = | 2 | | | |
| | 2 | = | 2 | | **Initial** | **Discharge** | **Followup** |
| Distractibility | | | | 114 | | | |
| Mannerisms & posturing | | | | 116 | | | |
| Behaves as if hallucinated | | | | 118 | | | |
| Catatonic movements | | | | 119 | | | |
| Suspicion | | | | 125 | | | |
| Perplexity | | | | 126 | | | |
| Incongruity of affect | | | | 129 | | | |
| Muteness | | | | 133 | | | |
| Neologisms | | | | 135 | | | |
| Incoherence | | | | 136 | | | |
| Total PSE psychoticism score | | | | | | | |
| Decision (circle one) | | | | | | Relapse | No relapse |
| **Global Ratings** of severity of symptoms and acting out symptoms based on telephone and other followup sources | | | | | | | |
| Decision (circle one) | | | | | | Relapse | No relapse |
| **Overall judgment using all data sources** | | | | | | Relapse | No relapse |

**Comments** _____

thought content, and conceptual disorganization; and (2) *other types of relapse*, which signal gross impairments in the patient's functioning or thinking, but which are not clearly related to schizophrenic psychotic processes, i.e., depression, suicidality, self-neglect, bizarre behavior, hostility. (See table 3.) A rating of 6 (severe) or 7 (extremely severe) on any of the key symptom items signifies a relapse The intraclass

**Table 3. Brief Psychiatric Rating Scale and behavioral anchors used to define types of relapse in the "Developmental Processes in Schizophrenic Disorders Project"**

| Scale item | Rating | Definition | Reliability coefficient[1] |
|---|---|---|---|
| | | **Psychotic relapse** | |
| Unusual thought content | 6 Severe | Full delusion(s) present with much preoccupation *or* many areas of functioning are disrupted by delusional thinking | .93 |
| | 7 Extremely severe | Full delusion(s) present with almost total preoccupation *or* most areas of functioning are disrupted by delusional thinking | |
| Hallucinations | 6 Severe | Several times a day *or* many areas of functioning are disrupted by hallucinations | |
| | 7 Extremely severe | Persistent throughout the day *or* most areas of functioning are disrupted by hallucinations | .97 |
| Conceptual disorganization | 6 Severe | Speech is incomprehensible due to severe impairments most of the time | .73 |
| | 7 Extremely severe | Speech is incomprehensible throughout interview | |
| | | **Other types of relapses** | |
| Depression | 6 Severe | Deeply depressed most of the time *or* many areas of functioning are disrupted by depression | .90 |
| | 7 Extremely severe | Deeply depressed constantly *or* most areas of functioning are disrupted by depressive thinking | |
| Suicidality | 6 Severe | Wants to kill self Searches for appropriate means and time *or* suicide attempt that is a potentially serious threat to life with patient knowledge of possible rescue | .97 |
| | 7 Extremely severe | Specific suicidal plan and intent (e.g., "as soon as _____, I will kill myself by doing X") *or* suicide attempt characterized by plan that the patient thought was lethal or an attempt in secluded environment | |
| Self-neglect | 6 Severe | Hygiene and eating potentially life-threatening (e.g., eats and/or bathes only when prompted) | .78 |
| | 7 Extremely severe | Hygiene and eating life-threatening (e g , does not eat or engage in hygiene) | |
| Bizarre behavior | 6 Severe | Unusual petty crimes (e.g , directing traffic, public nudity, contacting authorities about imaginary crimes) | .84 |
| | 7 Extremely severe | Unusual serious crimes (e g., setting fires, asocial theft, kidnapping committed in bizarre fashion or for bizarre reasons) | |
| Hostility | 6 Severe | Has assaulted others but with no harm likely (e.g., slapped or pushed others *or* destroyed property, knocked over furniture, broken windows) | .89 |
| | 7 Extremely severe | Has attacked others with definite possibility of harming them or with actual harm (e.g., assault with hammer or weapon) | |

[1]Median ICC among the 7 Developmental Processes BPRS raters

correlation coefficient among seven raters across 17 cases was .81.

**Detecting Prodromal Symptoms.** Several recent studies have pointed to the existence of identifiable intermediate states between remission and relapse in schizophrenic illness. When Herz and Melville (1980) retrospectively interviewed schizophrenic patients and their relatives about the period preceding a relapse, most were able to report a distinct prodromal period. The symptoms mentioned most frequently by patients and their relatives were nonpsychotic:

> symptoms of dysphoria that nonpsychotic individuals experience under stress, such as eating less, having trouble concentrating, having trouble sleeping, depression, and seeing friends less. [Herz and Melville 1980, p. 803]

In a prospective study of schizophrenic outpatients, Marder et al. (1984) also found evidence for a prodromal period by noting changes in ratings on quantitative scales just before relapse. The interpersonal sensitivity, depression, anxiety, paranoid ideation, and psychoticism scales of the Symptom Checklist-90 (Derogatis, Lipman, and Covi 1973) and the thought disorder, depression, and paranoia factors on the BPRS were significantly elevated from previous administrations during the 1- to 3-month period before a significant exacerbation or return of patients' characteristic psychotic symptoms.

From the viewpoint of specificity in the prediction of relapse, it is unfortunate that both of these research teams reported that prodromal symptoms did not always signal an impending relapse. The team led by Marder developed a predictive model but found that there was a distinct trade-off between sensitivity and specificity. When the predictive equation was adjusted for high sensitivity, it identified 92 percent of the patients who subsequently relapsed, but was mediocre in specificity, predicting relapses incorrectly for 51 percent of the patients who did not relapse. Conversely, when specificity was set low to avoid false positives in predicting relapses, false positives could be reduced to 2 percent. However, only 42 percent of actual relapses were identified.

Of course, one would not expect every instance of raised psychopathology to herald a relapse since protective factors in the individual and his social network would occasionally buffer and interdict the stress-linked relapse process. Clinicians who use such criteria to assess impending relapse need to judge the costs versus the benefits of false positives versus false negatives in deciding the level of prodromal symptoms to consider noteworthy. High sensitivity and only modest specificity in predicting actual prodromata would serve an important function in continuing care and rehabilitation programs, permitting clinicians to intervene preventively by increasing the dose of medication or psychosocial therapies. Providing additional treatment even on occasions that would not have led to relapse, from this vantage point, would hardly constitute wasted resources.

Clearly, it would be desirable to be able to identify impending relapses during their formative prodromal stage. Preventive medication and psychosocial treatment strategies could be used in tandem with identification of prodromata. The development of intermittant medication strategies (Herz, Szymanski, and Simon 1982; Carpenter and Heinrichs 1983), a promising innovation in psychopharmacological treatment, requires the ability to recognize the early signs of relapse that signal the reintroduction of medication. By becoming familiar with the prodromal signs of relapse, rehabilitation staff who interact with patients on a regular basis may often be in a position to recognize and forestall patient relapses.

With increased awareness and understanding of the prodromal stage of relapse, schizophrenic patients, who are usually relegated to a passive role regarding their illness, can become more actively involved with their treatment. Mendel (1976) developed a program where schizophrenic patients in the community were trained to recognize their own "warning signs." Each patient carried a list of his or her own idiosyncratic symptoms, ranging from "thinking a lot about past hospitalizations" to "trouble sleeping," along with a phone number to call if these warning signs developed.

In the Herz and Melville (1980) study, the symptom configuration reported by the patients and relatives seemed to show a high degree of intraindividual specificity and stability across incidents of relapse. Yet there was much variability in the types of symptoms present during the prodromal period and also in the time period over which the symptoms developed. Only a small percentage of patients (8 percent) reported that the period between onset of prodromata and frank relapse was less than 1 day. However, 50 percent of patients reported that they noticed symptoms for less than 1 week before florid return of psychosis. Thus, it would seem that a rating of target symptoms would be most appropriate for monitoring prodromal symptoms since the symptoms being

monitored would be mostly nonpsychotic and idiosyncratic. A detailed phenomenological interview covering previous relapse periods would be necessary to determine the specific symptoms to be monitored. Checking with the patient's relatives and treating professionals would also contribute to a clearer picture of the patient's prodromal periods. While prodromal symptoms should be monitored on at least a weekly basis, the rating of target symptoms, by patient and responsible clinician, would not be time-consuming.

Training schizophrenic patients in the use of stress-reduction techniques could also play a role in preventing the onset of prodromal symptoms and the exacerbation of prodromal symptoms into relapses. The relationship between stressors such as life events (Brown and Birley 1968) and familial tension (Vaughn et al. 1984) has been established in several studies (for review, see Lukoff et al. 1984). Herz and Melville (1980) found that the most common prodromal symptom that appeared before hospitalization of schizophrenic patients was feeling tense and nervous—reported by 80 percent of the patients. Many of the other prodromal symptoms uncovered in their study are also thought to be related to stress, e.g., trouble sleeping and restlessness.

Lukoff et al (1986) at the UCLA Clinical Research Center for the Study of Schizophrenia developed a 10-week inpatient program that incorporated aerobic exercise, meditation, and educational sessions on stress. While the schizophrenic patients were in the hospital, they participated actively in the program and showed substantial decreases in psychopathology. Upon discharge, however, they discontinued practicing the stress-reduction techniques. Given the relationship between stress and schizophrenic relapse, the regular use of stress-reduction techniques might act prophylactically. A program incorporating techniques such as exercise, relaxation, and stress-monitoring would need to use behavioral principles and procedures (e.g., reinforcement and modeling) in the training phase and for maintenance of the stress-reduction activities.

## Clinical Vignettes That Illustrate Symptom Monitoring

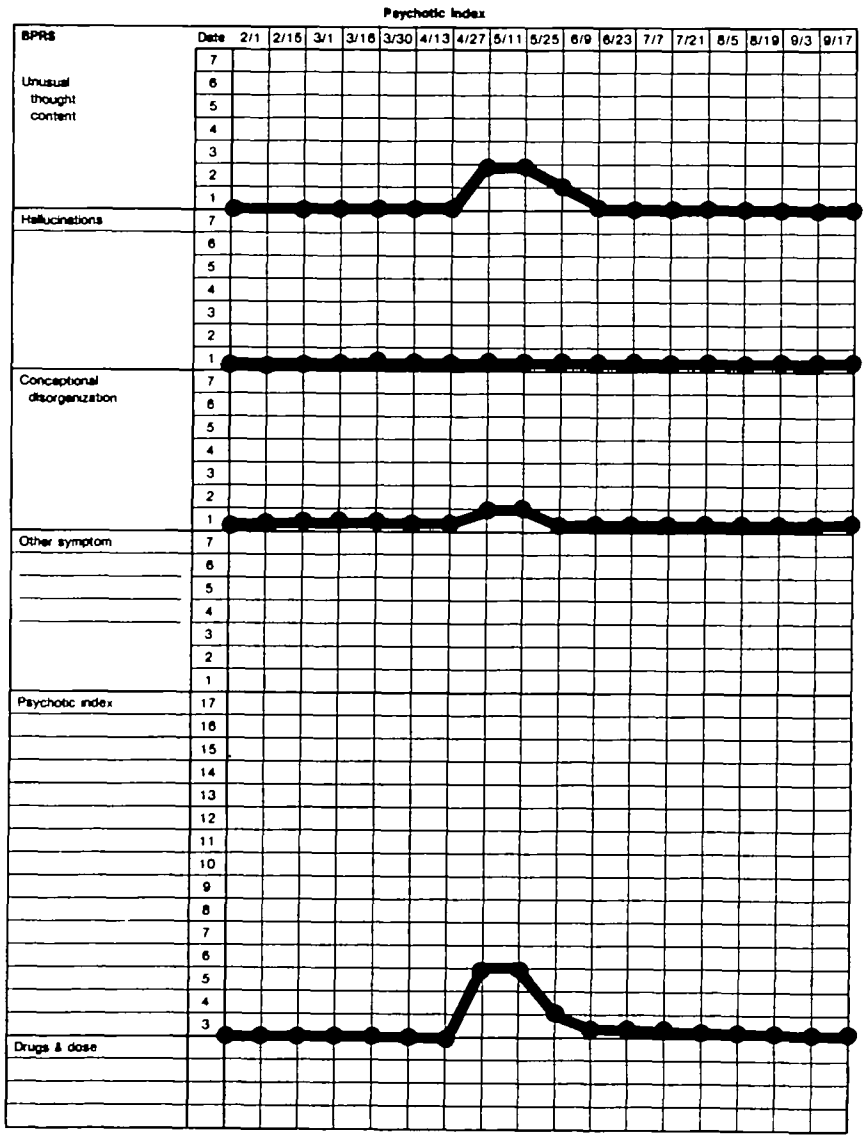
The following examples (with fictitious names) are compilations drawn from the UCLA Aftercare Clinic, where patients are monitored every 2 weeks with the BPRS. For each patient, a psychotic index consisting of the sum of the ratings on the hallucinations, unusual thought content, and conceptual disorganization scales from the BPRS is graphed. These data provide the case managers with a longitudinal perspective that shows previous levels of psychopathology against which the current levels can be compared. By regular monitoring of psychopathology and computation of the psychotic index, the case managers can evaluate the significance of fluctuations in clinical status and readily mount effective treatment interventions.

**Case 1.** Bill, a patient at the Aftercare Clinic, requested that the social worker help him move from a small board-and-care facility where he had been living for the past 2 years to a board-and-care facility closer to his parents. The social worker arranged a transfer to a much larger facility in the neighborhood where his parents lived. One month after the move, the social worker had a session with the patient and asked him how he was doing. Bill replied that he enjoyed being able to spend some evenings and weekends with his parents. If she had stopped the interview at that point, everything would have seemed fine. However, when the social worker proceeded to ask questions from the BPRS, she uncovered the patient's belief that others at the board-and-care facility were staring at him and talking about him, an increase from very mild (2) to mild (3) on the unusual thought content item. She also noted the presence of mild conceptual disorganization for the first time. These prodromal symptoms were of concern to the social worker because they represented a definite exacerbation from the level of symptomatology present before the patient's move (see figure 2) even though these symptoms were not at full psychotic levels. Additional questioning revealed that Bill felt overwhelmed at the new larger placement and had not made even any casual friendships. However, he did not want to move further away from his parents. The social worker immediately scheduled an appointment that afternoon with his psychiatrist to determine if an increase in medication was warranted. With the patient's consent, she notified the board-and-care manager and suggested that he pay special attention to the patient. Then she contacted other board-and-care facilities in the area to locate one which housed a smaller number of residents. Medication dose was not increased, but Bill's visits to his social worker therapist were temporarily increased. Three weeks later, a more suitable placement was found and Bill's symptoms soon thereafter returned to their previous level. Through the social worker's careful monitoring of the patient's symptomatology and her efforts to alter the stressful situation, a potential relapse was averted.

**Case 2.** John told his psychologist that he both wanted to and was very worried about starting to take college courses again. One year before, he had a psychotic relapse which resulted in hospitalization 2 weeks after starting a new

semester. John had completed six semesters of college and stated that he wanted to finish college but said that his parents were worried that taking college courses would make him ill again. Dr. Smith arranged for a family session. After allowing time for John's parents to discuss their concerns, she encouraged the family to develop a "game plan" that would allow John to tackle college again. John's family made the suggestion that John should drop down from his usual load of three or four courses to two courses. John's mother also agreed to support John by making him breakfast and bag lunches on his school days. John's father, who initially argued that John should defer one more semester, agreed to take a "wait-and-see" attitude. Dr. Smith said that she would arrange a time when John would call her twice-a-week during the first 2 weeks. In addition, Dr. Smith said that she would be monitoring John's clinical condition very closely using a standardized rating scale that would reveal any trends toward relapse. As figure 3 shows, the first week of classes did produce a mild exacerbation. Dr. Smith consulted the aftercare clinic psychiatrist who managed John's medications and arranged for a temporary increase in dosage. By the fourth week, John had acclimated to the demands of school and reported that he was doing fine in his courses and enjoying being active again. His dose of antipsychotic drug was subsequently reduced when the psychotic index returned to its baseline level.

**Figure 2. Graph of psychotic index for "Bill"**

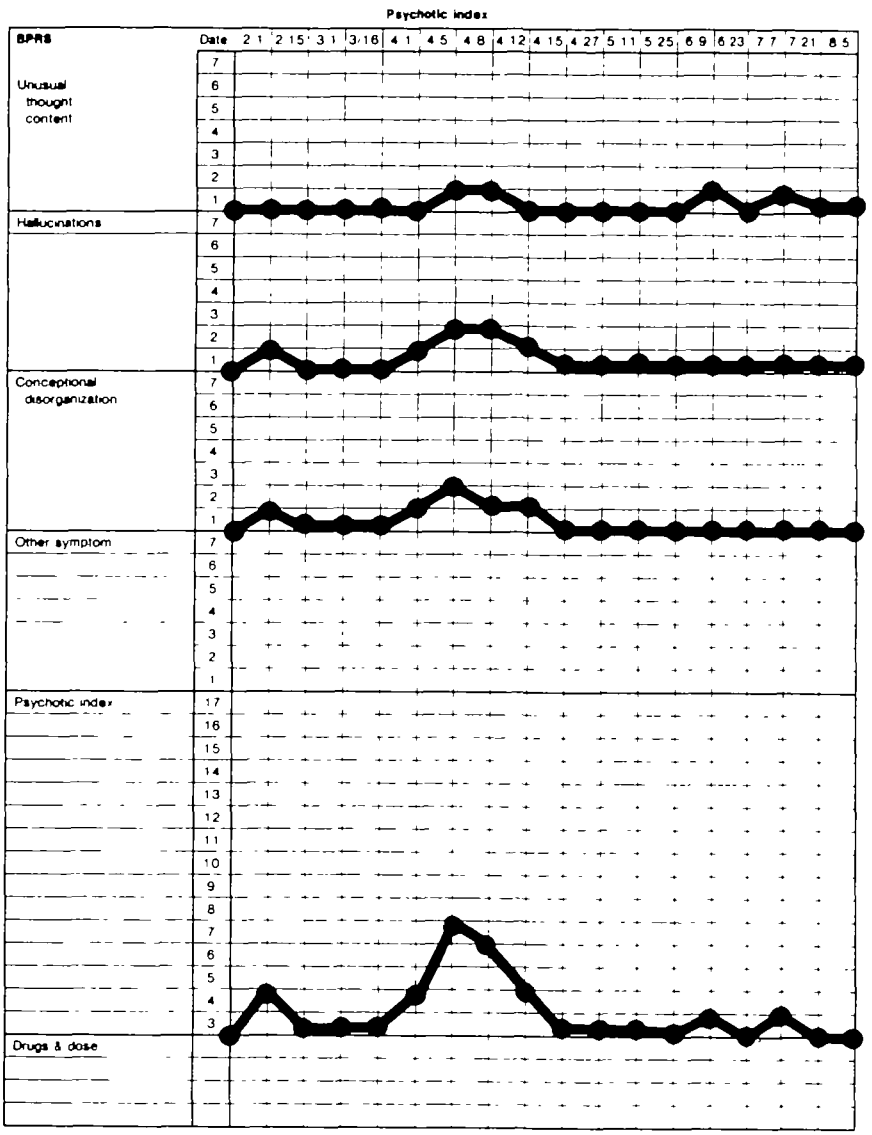



BPRS = Brief Psychiatric Rating Scale.

**Case 3.** When Joan was first seen in the hospital, she was administered the BPRS by one of the aftercare clinic psychologists. The unusual thought content item was rated a 7, the highest possible rating, due to Joan's almost total preoccupation with messages from TV, radio, and computers. She also reported hallucinations several times a day, thereby warranting a 6 on that item. She was taking oral Prolixin, 20 mg daily. By hospital discharge, her hallucinations had remitted totally. When she came to the aftercare clinic for the first time 2 days after her discharge from the hospital, Joan told her case manager that she still was getting messages but only from the radio. She did not think about them and they did not interfere with her functioning, which warrants a rating of 4 on the BPRS Unusual Thought Content item. After she had been seen for 4 weeks as an outpatient, the case manager was concerned about the persistence of Joan's delusions of reference about messages from the radio even though they were at a low level of intensity. The finding of persisting

delusional thinking was discussed with one of the aftercare clinic psychiatrists and a decision was reached to increase Joan's daily Prolixin dosage to 30 mg. Six weeks later, another BPRS revealed no change in her ratings. With the patient's agreement, she was switched to biweekly 20 mg i.m. Prolixin to rule out compliance as a factor in her persisting symptomatology. When Joan came in for her injection, she announced she would not take her shot. She stated that the injections were embarrassing to her and that she wanted pills. After reviewing the BPRS ratings and finding no additional therapeutic impact from the increased dosage or from i.m. administration, the case manager and psychiatrist agreed to place her back on oral Prolixin at the original postdischarge dosage. (See figure 4.)

**Figure 3. Graph of psychotic index for "John"**




BPRS = Brief Psychiatric Rating Scale

## Conclusion

In treatment studies, psychopathology has often been the sole outcome variable used to evaluate effectiveness. In particular, relapse has been overused as the sole criterion for evaluating treatment program. Psychopathology offers only a limited view of the overall functioning of schizophrenic patients. In a study of outcome, Strauss and Carpenter (1974) followed 85 schizophrenic patients for 2 years after a hospitalization. They found that

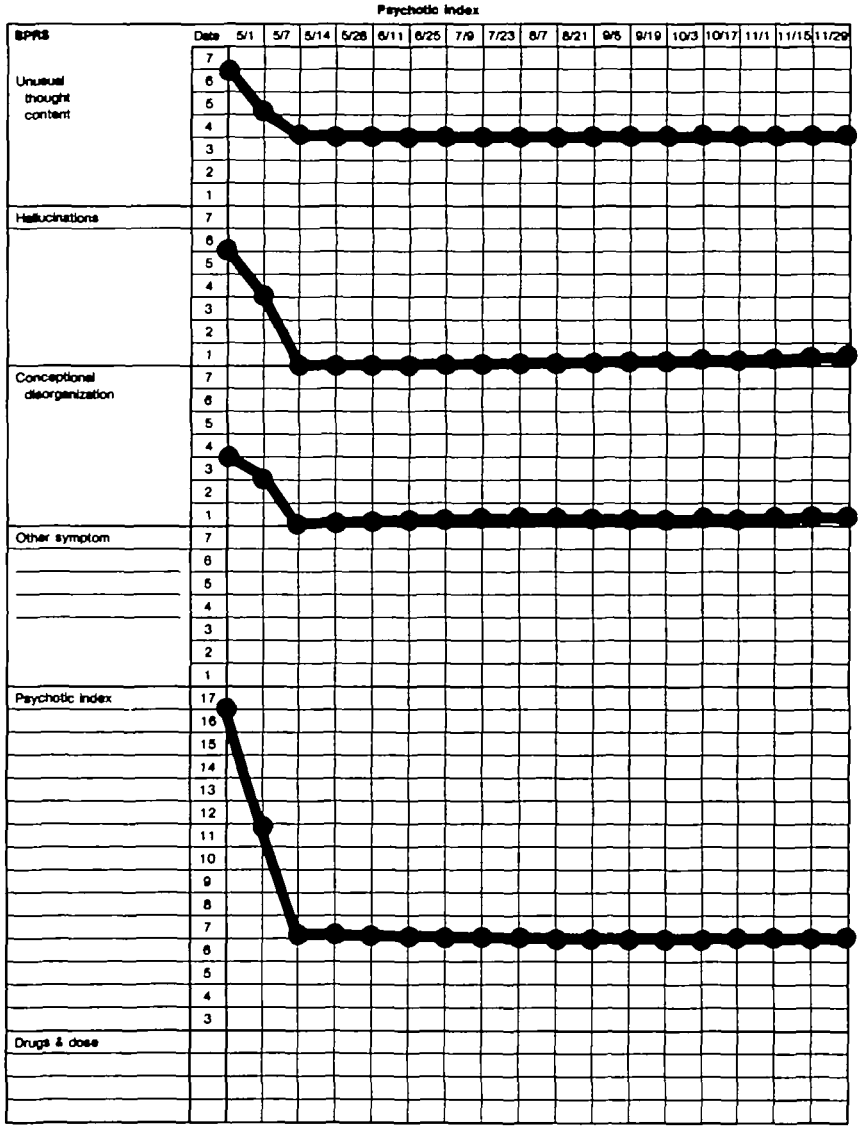
> outcome is not a singular phenomenon but that there are several areas of outcome function—interrelated but also partly independent of each other. [p. 37]

They included social relations and employment status in their multidimensional approach to evaluating outcome. A full spectrum of functional behaviors needs to be assessed by rehabilitation workers throughout the patient's participation in a program (see Wallace, this issue). Rehabilitation staff members may view their responsibilities and efforts as more directed toward improving social functioning than symptom reduction. However, they are interrelated. Exacerbations of schizophrenic symptomatology have been clearly related to a host of social variables (Lukoff et al. 1984). Rehabilitation is one source of social stimulation that may improve clinical status or, at times, exacerbate symptoms.

Psychopathology assessment instruments can be used to improve the rehabilitation of schizophrenic

patients. When psychopathology is monitored through structured interviews developed originally for research, highly symptomatic patients can be diverted from intensive rehabilitation programs, negative reactions to rehabilitation efforts can be identified, and prodromal signs of impending relapse detected. Similarly, individual and program-wide benefits from rehabilitation can also be accurately and convincingly documented.

**Figure 4. Graph of psychotic index for "Joan"**




BPRS = Brief Psychiatric Rating Scale.

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# Appendix A. Manual for Expanded Brief Psychiatric Rating Scale (BPRS)

***Developed by David Lukoff, Keith H. Nuechterlein, and Joseph Ventura***

The following guidelines are designed for use with an outpatient psychiatric population. This manual contains an interview schedule, symptom definitions, and specific anchor points for rating symptoms. The ratings for items 1-10 and 19-22 are based on the patient's answers to the interviewer's questions. The time frame for these items is the past 2 weeks. Items 11-18, 23, and 24 are based on the patient's behavior during the interview and the time frame covered is the interview period only. When psychotic symptoms (e.g., hallucinations and unusual thought content) have had a period of exacerbation lasting at least 1 day, the rating should reflect mainly the peak period. When the anchor point definitions contain an "*or*," the patient is assigned the *highest* rating that applies, e.g., if a patient has hallucinations persistently throughout the day (a rating of 7) but the hallucinations only interfere with functioning to a limited extent (a rating of 5), a rating of 7 is given. An additional guideline which is often helpful involves the distinction between pathological and nonpathological intensities of symptoms. Ratings of 2-3 indicate a nonpathological intensity of a symptom whereas ratings of 4-7 indicate a pathological intensity of that symptom.

**Rate items 1-10 on the basis of patient's self-report**

1. **Somatic concern:** Degree of concern over present bodily health. Rate the degree to which physical health is perceived as a problem by the patient, whether complaints have realistic bases or not

| | | |
|---|---|---|
| 2-3 | Mild | Occasional complaint or expression of concern |
| 4-5 | Moderate | Frequent expressions of concern or exaggerations of existing ills. Some preoccupation. Not delusional |
| 6-7 | Severe | Preoccupied with physical complaints *or* somatic delusions |

*Have you been concerned about your physical health?*
Have you had any physical illness or seen a medical doctor?

2. **Anxiety:** Reported apprehension, tension, fear, panic or worry. Rate *only* patient's statements—not observed anxiety which is rated under **tension**.

| | | |
|---|---|---|
| 2 | Very mild | Reports feeling worried more than usual or some discomfort due to worry |
| 3 | Mild | Worried frequently but can turn attention to other things |
| 4 | Moderate | Worried most of the time and cannot turn attention to other things easily but no impairment in functioning *or* occasional anxiety with automatic accompaniment but no impairment in functioning |
| 5 | Moderately severe | Frequent periods of anxiety with autonomic accompaniment *or* some areas of functioning are disrupted by anxiety or constant worry |
| 6 | Severe | Anxiety with autonomic accompaniment most of the time *or* many areas of functioning are disrupted by anxiety or constant worry |
| 7 | Extremely severe | Constantly anxious with autonomic accompaniment *or* most areas of functioning are disrupted by anxiety or constant worry |

Have you felt worried or anxious?
Do unpleasant thoughts constantly go round and round in your mind?

Did your heart beat fast (or sweating, trembling, choking)?
Has it interfered with your ability to perform your usual activities/work?

3. **Depression:** Include *mood*—sadness, unhappiness, anhedonia; and *cognitions*—preoccupation with depressing topics (can't switch attention to TV, conversations), hopelessness, loss of self-esteem (dissatisfied or disgusted with self). Do not include vegetative symptoms, e.g., motor retardation, early waking

| | | |
|---|---|---|
| 2 | Very mild | Reports feeling sad/unhappy/depressed more than usual |
| 3 | Mild | Same as 2, but can't snap out of it easily |
| 4 | Moderate | Frequent periods of feeling very sad, unhappy, moderately depressed, but able to function with extra effort |
| 5 | Moderately severe | Frequent periods of deep depression *or* some areas of functioning are disrupted by depression |
| 6 | Severe | Deeply depressed most of the time *or* many areas of functioning are disrupted by depression |
| 7 | Extremely severe | Constantly deeply depressed *or* most areas of functioning are disrupted by delusional thinking |

Have you felt unhappy or depressed?
How much of the time?
Are you able to switch your attention to more pleasant topics when you want to?
Have your interests in work, hobbies, social or recreational activities changed?
Has it interfered with your ability to perform your usual activities/work?

4. **Guilt:** Overconcern or remorse for past behavior. Rate *only* patient's statements—do not infer guilt feelings from depression, anxiety, or neurotic defenses

| | | |
|---|---|---|
| 2–3 | Mild | Worries about having failed someone or at something. Wishes to have done things differently |
| 4–5 | Moderate | Preoccupied about having done wrong or injured others by doing or failing to do something |
| 6–7 | Severe | Delusional guilt *or* obviously unreasonable self-reproach |

Have you been thinking about past problems?
Do you tend to blame yourself for things that have happened?
Have you done anything you're still ashamed of?

5. **Hostility:** Animosity, contempt, belligerence, threats, arguments, tantrums, property destruction, fights, and any other expression of hostile attitudes or actions. Do not infer hostility from neurotic defenses, anxiety, or somatic complaints. Do not include isolated appropriate anger

| | | |
|---|---|---|
| 2 | Very mild | Irritable, grumpy |
| 3 | Mild | Argumentative, sarcastic, *or* feels angry |
| 4 | Moderate | Overtly angry on several occasions *or* yelled at others |
| 5 | Moderately severe | Has threatened, slammed about or thrown things |
| 6 | Severe | Has assaulted others but with no harm likely, e.g., slapped, pushed, *or* destroyed property (knocked over furniture, broken windows) |
| 7 | Extremely severe | Has attacked others with definite possibility of harming them or with actual harm, e.g., assault with hammer or weapon |

How have you been getting along with people (family, board-and-care residents, co-workers)?
Have you been irritable or grumpy lately?
Have you been involved in any arguments or fights?

6. **Suspiciousness:** Expressed or apparent belief that other persons have acted maliciously or with discriminatory intent Include persecution by supernatural or other nonhuman agencies (e.g., the devil)

| | | |
|---|---|---|
| 2–3 | Mild | Seems on guard. Unresponsive to "personal" questions. Describes incidents where other persons have harmed or wanted to harm him/her that sound plausible. Patient feels as if others are laughing at or criticizing him/her in public |
| 4–5 | Moderate | Says other persons are talking about him/her maliciously *or* says others intend to harm him/her. Beyond likelihood of plausibility but not delusional |
| 6–7 | Severe | Delusional. Speaks of Mafia plots, the FBI, or others poisoning food |

Do you ever feel uncomfortable as if people are watching you?
Is anyone trying to harm or interfere with you in any way?
Are you concerned about anybody's intentions toward you?
Have you felt that any people are out to get you?

7. **Unusual thought content:** Unusual, odd, strange, or bizarre thought content. Rate the degree of unusualness, not the degree of disorganization of speech. Delusions are patently absurd, clearly false, or bizarre ideas verbally expressed. Include thought insertion, withdrawal, and broadcasting. Include grandiose, somatic, and persecutory delusions even if rated elsewhere

| | | |
|---|---|---|
| 2 | Very mild | Ideas of reference (people stare/laugh at him/her). Ideas of persecution (people mistreat him/her). Unusual beliefs in psychic powers, spirits, UFO's. Not strongly held. Some doubt |
| 3 | Mild | Same as 2 with full conviction but not delusional |
| 4 | Moderate | Delusion present but not strongly held—functioning not disrupted; *or* encapsulated delusion with full conviction—functioning not disrupted |
| 5 | Moderately severe | Full delusion(s) present with some preoccupational *or* some areas of functioning disrupted by delusional thinking |
| 6 | Severe | Full delusion(s) present with much preoccupation *or* many areas of functioning disrupted by delusional thinking |
| 7 | Extremely severe | Full delusion(s) present with almost total preoccupation *or* most areas of functioning disrupted by delusional thinking |

Have things or events had special meanings for you?
Did you see any references to yourself on TV or in the newspapers?
Do you have a special relationship with God?
How do you explain the things that have been happening (specify)?
Have you felt that you were under the control of another person or force?

8. **Grandiosity:** Exaggerated self-opinion, self-enhancing conviction of special abilities, powers, or identity as someone rich or famous. Rate only patient's statements about self, not demeanor

| | | |
|---|---|---|
| 2 | Very mild | Feels great and denies obvious problems |
| 3 | Mild | Exaggerated self-opinion beyond abilities and training |
| 4 | Moderate | Inappropriate boastfulness, claims to be "brilliant," understands how everything works |

| | | |
|---|---|---|
| 5 | Moderately severe | Claims to be great musician who will soon make recordings or will soon make patentable inventions—but not delusional |
| 6 | Severe | Delusional—claims to have special powers like ESP, to have millions of dollars, made movies, invented new machines, worked at jobs when it is known that he was never employed in these capacities |
| 7 | Extremely severe | Delusional—claims to have been appointed by God to run the world, controls the future of the world, is Jesus Christ, or President of the U.S. |

Is there a special purpose or mission to your life?
Do you have any special powers or abilities?
Have you thought that you might be somebody rich or famous?

9. **Hallucinations:** Reports of perceptual experiences in the absence of external stimuli. When rating degree to which functioning is disrupted by hallucinations, do not include preoccupation with the content of the hallucinations. Consider only disruption due to the hallucinatory experience. Include thoughts aloud-*gedankenlautwerten*

| | | |
|---|---|---|
| 2 | Very mild | While resting or going to sleep, sees visions, hears voices, sounds, or whispers in absence of external stimulation, but no impairment in functioning |
| 3 | Mild | While in a clear state of consciousness, hears nonverbal auditory hallucinations (e.g., sounds or whispers) or sees illusions (e.g., faces in shadows) on no more than two occasions and with no impairment in functioning |
| 4 | Moderate | Occasional verbal, visual, olfactory, tactile, or gustatory hallucinations (1-3 times) but no impairment in functioning *or* frequent nonverbal hallucinations/visual illusions |
| 5 | Moderately severe | Daily *or* some areas of functioning are disrupted by hallucinations |
| 6 | Severe | Several times a day *or* many areas of functioning are disrupted by hallucinations |
| 7 | Extremely severe | Persistent throughout the day *or* most areas of functioning are disrupted by hallucinations |

Have you heard any sounds or people talking to you or about you when there has been nobody around?
Have you seen any visions or smelled any smells others don't seem to notice?
Have these experiences interfered with your ability to perform your usual activities/work?

10. **Disorientation:** Does not comprehend situations or communications. Confusion regarding person, place, or time

| | | |
|---|---|---|
| 2-3 | Mild | Occasionally seems muddled, bewildered, or mildly confused |
| 4-5 | Moderate | Seems confused regarding person, place, or time. Has difficulty remembering facts—e.g., where born—or recognizing people. Mildly disoriented as to time or place |
| 6-7 | Severe | Grossly disoriented as to person, place, or time |

May I ask you one or two standard questions we ask everybody?
How old are you?
What is the date?
What is this place called?

**Rate items 11-18 on the basis of observed behavior and speech**

11. **Conceptual disorganization:** Degree to which speech is confused, disconnected, or disorganized. Rate tangentiality, circumstantiality, sudden topic shifts, incoherence, derailment, blocking, neologisms, and other speech disorders. Do not rate *content* of speech. Consider the first 15 minutes of the interview

| | | |
|---|---|---|
| 2 | Very mild | Peculiar use of words, rambling but speech is comprehensible |
| 3 | Mild | Speech a bit hard to understand or make sense of due to tangentiality, circumstantiality, or sudden topic shifts |
| 4 | Moderate | Speech difficult to understand due to tangentiality, circumstantiality, or topic shifts on many occasions *or* 1–2 instances of severe impairment, e.g., incoherence, derailment, neologisms, blocking |
| 5 | Moderately severe | Speech difficult to understand due to circumstantiality, tangentiality, or topic shifts most of the time *or* 3–5 instances of severe impairment |
| 6 | Severe | Speech is incomprehensible due to severe impairments most of the time |
| 7 | Extremely severe | Speech is incomprehensible throughout interview |

12. **Excitement:** Heightened emotional tone, increased reactivity, impulsivity

| | | |
|---|---|---|
| 2–3 | Mild | Increased emotionality. Seems keyed up, alert |
| 4–5 | Moderate | Reacts to most stimuli whether relevant or not with considerable intensity. Short attention span. Pressured speech |
| 6–7 | Severe | Marked overreaction to all stimuli with inappropriate intensity, restlessness, impulsiveness. Cannot settle down or stay on task |

13. **Motor retardation:** Reduction in energy level evidenced in slowed movements and speech, reduced body tone, decreased number of spontaneous body movements. Rate on the basis of observed behavior of the patient only. Do *not* rate on the basis of patient's subjective impression of his/her own energy level. Rate regardless of medication effects

| | | |
|---|---|---|
| 2–3 | Mild | Noticeably slowed or reduced movements or speech compared to most people |
| 4 | Moderate | Large reduction or slowness in movements or speech |
| 5 | Moderately severe | Seldom moves or speaks spontaneously *or* very mechanical stiff movements |
| 6 | Severe | Does not move or speak unless prodded or urged |
| 7 | Extremely severe | Frozen, catatonic |

14. **Blunted affect:** Restricted range in emotional expressiveness of face, voice, and gestures. Marked indifference or flatness even when discussing distressing topics

| | | |
|---|---|---|
| 2–3 | Mild | Some loss of normal emotional responsiveness |
| 4 | Moderate | Emotional expression very diminished, e.g., doesn't laugh, smile, or react with emotion to distressing topics except on 2 or 3 occasions during interview |
| 5 | Moderately severe | Emotional expression extremely diminished, e.g., doesn't laugh, smile, or react with emotions to distressing topics except for a maximum of 1 time during interview |
| 6 | Severe | Mechanical in speech, gestures, and expression |
| 7 | Extremely severe | Frozen expression and flat speech. Shows no feeling |

15. **Tension:** Observable physical and motor manifestations of tension, nervousness, and agitation. Self-reported experiences of tension should be rated under the item on anxiety

| | | |
|---|---|---|
| 2–3 | Mild | Seems tense. Tense posture, nervous mannerisms some of the time |
| 4–5 | Moderate | Seems anxious. Fearful expression, trembling, restless |
| 6–7 | Severe | Continually agitated, pacing, hand wringing |

16. **Mannerisms and posturing:** Unusual and bizarre behavior, stylized movements, or acts, or any postures which are clearly uncomfortable or inappropriate. Exclude obvious manifestations of medication side effects

| | | |
|---|---|---|
| 2–3 | Mild | Eccentric or odd mannerisms or activity that ordinary persons would have difficulty explaining, e.g., grimacing, picking |
| 4–5 | Moderate | Mannerisms or posturing maintained for 5 seconds or more that would make the patient stand out in a crowd as weird or crazy |
| 6–7 | Severe | Posturing, smearing, intense rocking, fetal positioning, strange rituals that dominate patient's attention and behavior |

17. **Uncooperativeness:** Resistance, unfriendliness, resentment, or lack of willingness to cooperate with the interview. Rate only uncooperative behavior observed during interview, not uncooperativeness with relatives

| | | |
|---|---|---|
| 2–3 | Mild | Gripes or tries to avoid complying but goes ahead without argument |
| 4–5 | Moderate | Verbally resists, or negativistic but eventually complies. Some information withheld |
| 6–7 | Severe | Refuses to cooperate. Physically resistant |

18. **Emotional withdrawal:** Deficiency in patient's ability to relate emotionally during interview situation. Use your own feeling as to the presence of an "invisible barrier" between patient and interviewer

| | | |
|---|---|---|
| 2–3 | Mild | Tends not to show emotional involvement with interviewer but responds when approached |
| 4–5 | Moderate | Emotional contact not present most of the interview. Responds only with minimal affect |
| 6–7 | Severe | Actively avoids emotional participation. Unresponsive or yes/no answers. May leave when spoken to or just not respond at all |

19. **Suicidality:** Expressed desire, intent, or actual actions to harm or kill self

| | | |
|---|---|---|
| 2 | Very mild | Occasional feelings of being tired of living. No overt suicidal thoughts |
| 3 | Mild | Occasional suicidal thoughts without intent or specific plan. *Or* feels he would be better off dead |
| 4 | Moderate | Suicidal thoughts frequent, without intent or plan |
| 5 | Moderately severe | Many fantasies of suicide by various methods. May seriously consider making specific attempt with specific time or worked out plan. *Or* impulsive suicide attempt using nonlethal method or in full view of potential saviors. |
| 6 | Severe | Wants to kill self. Searches for appropriate means and time. *Or* potentially medically serious suicide attempt with patient knowledge of possible rescue |
| 7 | Extremely severe | Specific suicidal plan and intent (e.g., "as soon as _____, I will do it by doing X"). *Or* suicide attempt characterized by plan patient thought was lethal or attempt in secluded environment |

Have you felt that life wasn't worth living?
Have you thought about harming or killing yourself?
Do you have a specific plan?

20. **Self-neglect:** Hygiene, appearance, or eating behavior below usual expectations, below socially acceptable standards, or life threatening.

| | | |
|---|---|---|
| 2 | Very mild | Hygiene/appearance somewhat below usual standards, e.g., shirt out of pants, buttons unbuttoned |
| 3 | Mild | Hygiene/appearance much below usual standards, e.g., clothing disheveled and stained, hair uncombed |
| 4 | Moderate | Hygiene/appearance below socially acceptable standards, e.g., large holes in clothing, bad breath, hair uncombed, oily, eating irregular and poor |
| 5 | Moderately severe | Hygiene highly erratic and poor, e.g., extreme body odor, eating very irregular and poor, e.g., eating only potato chips |
| 6 | Severe | Hygiene and eating potentially life threatening, e.g., eats and/or bathes only when prompted |
| 7 | Extremely severe | Hygiene and eating life threatening, e.g., does not eat or engage in hygiene |

How often do you take showers; change your clothes?
Has anyone (parents/staff) complained about your grooming or dress?
Do you eat regular meals?

21. **Bizarre behavior:** Reports of behaviors that are odd, unusual, or psychotically criminal. Not limited to interview period. Exclude mannerisms and posturing, verbalizations with bizarre content

| | | |
|---|---|---|
| 2 | Very mild | Slightly odd behavior, e.g., hoarding food in private, wears gloves indoors |
| 3 | Mild | Peculiar behavior, e.g., talking loudly in public, fails to make appropriate eye contact when talking with others |
| 4 | Moderate | Moderately unusual, e.g., bizarre dress or makeup, "preaching" to strangers, fixated staring into space while in public, collecting garbage |
| 5 | Moderately severe | Highly unusual, e.g., wandering streets aimlessly, eating nonfoods, fixated staring in a socially disruptive way |
| 6 | Severe | Unusual petty crimes, e.g., directing traffic, public nudity, contacting authorities about imaginary crimes |
| 7 | Extremely severe | Unusual serious crimes, e.g., setting fires, asocial theft, kidnapping committed in a bizarre fashion or for bizarre reasons |

Have you done anything that has attracted the attention of others?
Have you done anything that could have gotten you into trouble with the police?
Have you done anything that seemed unusual or disturbing to others?

22. **Elevated mood:** A pervasive, sustained, and exaggerated feeling of well-being, cheerfulness, euphoria (implying a pathological mood), optimism that is out of proportion to the circumstances. Do *not* infer elation from increased activity or from grandiose statements alone

| | | |
|---|---|---|
| 2 | Very mild | Seems to be unusually happy, cheerful without much reason |
| 3 | Mild | Some unaccountable feelings of well-being |
| 4 | Moderate | Reports excessive or unrealistic feelings of well-being, cheerfulness, confidence, or optimism *inappropriate to circumstances*, some of the time. May frequently joke, smile, be giddy, or overly enthusiastic *or* few instances of marked elevated mood with euphoria |

| | | |
|---|---|---|
| 5 | Moderately severe | Reports excessive or unrealistic feelings of well-being, confidence or optimism *inappropriate to circumstances* much of the time. May describe feeling "on top of the world," "like everything is falling in place," or "better than ever before," *or* several instances of marked elevated mood with euphoria |
| 6 | Severe | Mood definitely elevated almost constantly throughout interview and inappropriate to content, or many instances of marked elevated mood with euphoria |
| 7 | Extremely severe | Seems almost intoxicated, laughing, joking, giggling, constantly euphoric, feeling invulnerable, all inappropriate to immediate circumstances |

Have you been feeling cheerful and on top of the world without any reason?
How long does that last?
Have you felt so good or high that other people make comments to you about it?

23. **Motor hyperactivity:** Increase in energy level evidenced in more frequent movement and/or rapid speech. (Note: In making this rating, consider the 15-minute period of most severe symptomatology)

| | | |
|---|---|---|
| 2 | Very mild | Some restlessness, difficulty sitting still, lively facial expressions, or somewhat talkative |
| 3 | Mild | Occasionally very restless, definite increase in motor activity, lively gestures, 1–3 brief instances of pressured speech |
| 4 | Moderate | Very restless, fidgety, excessive facial expressions, or nonproductive and repetitious motor movements. Much pressured speech, up to one-third of interview |
| 5 | Moderately severe | Frequently restless, fidgety. Many instances of excessive nonproductive and repetitious motor movements. On the move most of the time. Frequent pressured speech, difficult to interrupt. Rises on 1–2 occasions to pace |
| 6 | Severe | Excessive motor activity, restlessness, fidgety, loud tapping, noisy, etc., throughout most of the interview. Constant pressured speech with only few pauses. Speech can only be interrupted with much effort. Rises on 3–4 occasions to pace |
| 7 | Extremely severe | Constant excessive motor activity throughout entire interview, e.g., constant pacing, constant pressured speech with no pauses, interviewee can only be interrupted briefly and only small amounts of relevant information can be obtained |

24. **Distractibility:** Degree to which observed sequences of speech and actions are interrupted by minimal external stimuli. Include distractibility due to intrusions of visual or auditory hallucinations. Interviewee's attention may be drawn to noise in adjoining room, books on a shelf, interviewer's clothing, etc. Do not include preoccupation due to delusions or other thoughts.

| | | |
|---|---|---|
| 2 | Very mild | Generally can focus on interviewer's questions with only 1 distraction or inappropriate shift of attention of brief duration due to minimal external stimuli |
| 3 | Mild | Same as above but occurs 2 times |
| 4 | Moderate | Responsive to irrelevant stimuli in the room or in the environment much of the time |
| 5 | Moderately severe | Same as above, but now interferes with comprehensibility of speech |
| 6 | Severe | Extremely difficult to conduct interview or pursue a subject due to preoccupation with unimportant and irrelevant stimuli or almost totally incomprehensible because attention shifts rapidly between various irrelevant external stimuli and interviewer's questions |

| | | |
|---|---|---|
| 7 | Extremely severe | Impossible to conduct interview due to preoccupation with unimportant and irrelevant external stimuli |

## Brief Psychiatric Rating Scale

Patient's name_____ Date_____ Interviewer's name_____
Hospital _____ Ward_____ Date of admission _____

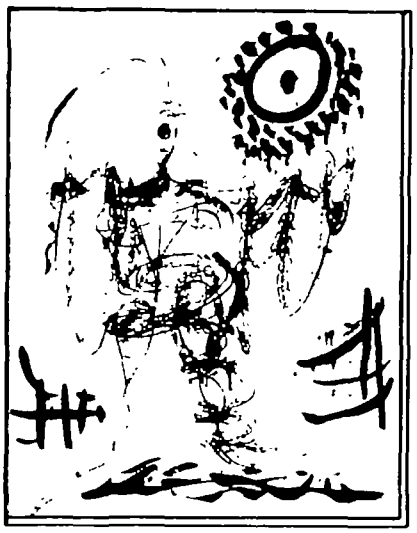
*Instructions:* This form consists of 24 symptom constructs, each to be rated on a 7-point scale of severity ranging from "not present" to "extremely severe." If a specific symptom is not rated, mark "NA" (not assessed). Circle the number headed by the term that best describes the patient's present condition

| NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Not assessed | Not present | Very mild | Mild | Moderate | Moderately severe | Severe | Extremely severe |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. | Somatic concern | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. | Anxiety | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. | Depression | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. | Guilt | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. | Hostility | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. | Suspiciousness | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. | Unusual thought content | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. | Grandiosity | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. | Hallucinations | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. | Disorientation | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. | Conceptual disorganization | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. | Excitement | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. | Motor retardation | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. | Blunted affect | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. | Tension | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. | Mannerisms and posturing | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. | Uncooperativeness | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. | Emotional withdrawal | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. | Suicidality | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. | Self-neglect | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. | Bizarre behavior | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. | Elated mood | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. | Motor hyperactivity | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. | Distractibility | NA | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

# People Encouraging People, Inc.
# P.E.P.

Maryland's largest community support program for the deinstitutionalized mentally ill, established in collaboration with the Department of Psychiatry of Sinai Hospital.



by LEONARD B. STANLEY

PEP seeks your assistance in collecting exceptional works of art, painting, sculpture, and craft by persons who have, or have had mental illness. It is our intention to establish a dynamic, national museum center for the exhibition of fine works which express the complexity, power, and beauty of the human spirit.

The art work of many talented individuals with histories of mental illness has too often failed to gain the support and recognition it merits. In addition to evolving a large, quality, nonsaleable permanent museum collection through donations, PEP needs help in identifying especially talented artists whose works warrant exhibition in the gallery component. The greater percentage of gallery art sales will go directly to the artist and the rest to help us assist other artists with mental illness to continue their craft.

Initial inquiry should be made by sending photographs of specific pieces. All work will be juried by the PEP Art Advisory Committee for possible inclusion into the museum and/or gallery. Please provide brief biographical information on the artist when possible. Confidentiality wishes will be respected.

PEP Art Museum/Gallery
Advisory Committee:
Robert P. Bergman, *Director, The Walters Art Gallery*
Leroy Hoffberger, *Art Collector*
John B. Imboden, M.D., *Chief of Psychiatry, Sinai Hospital*
Samuel Keith, M.D., *Chief, Schizophrenia Research Branch, NIMH*
Fred Lazarus, *President, Maryland Institute College of Art*
Karl Metzler, *Art Therapist*
Amalie Rothschild, *Artist*

Direct all photographs and questions to:
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