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# When Psychopharmacology Is Not Enough

Using Cognitive Behavioral  
Therapy Techniques for Persons  
with Persistent Psychosis



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## About the Authors

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Cover image: "Umbrella Schizophrenie" (1986), oil on canvas, 76 x 101 cm, by Bryan Charnley.  
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## **Dedication**

To our patients.

Thank you for sharing your experiences and for your dedication to the therapy process.

## Cover Image

Bryan Charnley  
*Umbrella Schizophrene* (1986)  
Oil on canvas, 76 x 101 cm



The cover illustration is part of the work of artist Bryan Charnley, whose paintings vividly portray the effects of schizophrenia. The image of a head, blindfolded and gagged, with the mind exposed, stands as a powerful metaphor for schizophrenia. As many sufferers will testify, they are prisoners of their condition, which keeps them apart from society and bound within their own troubles. The sufferer is without a voice, and what he sees is disturbingly affected by his own mind. This experience is very difficult to communicate; the emotional and conceptual upheavals are invisible to the outside observer. In *Umbrella Schizophrene*, the ocean liner, waves, and piano keys stand as images for music, and more specifically, the ocean liner is a metaphor for the oceanic experience of music in which Bryan found great solace. Love and desire are represented by women as nails being driven into the center of the mind and then spinning downwards as though on a wheel. In an open field, a child's rocking horse stands abandoned.

Bryan Charnley was a gifted painter who intended his work to show the common humanity of the sufferer and how an artist can transform the most negative situations into the basis for creative inspiration. He was born on September 20, 1949, in Stockton-on-Tees, England. At the age of 17, he suffered from a first nervous breakdown that represented the beginning of his struggles with symptoms that would ultimately be diagnosed as schizophrenia. Although his formal art education was disrupted by his condition and periods of hospitalization and treatment, Bryan started painting and soon began to address his inner life, dreams, and mental states, particularly the nature of schizophrenia, in his work. The little recognition he received, however, was outweighed by the day-to-day problems of his illness and the heavy medication he was prescribed to counter these difficulties. In July 1991, Bryan Charnley committed suicide.

To learn more about Bryan Charnley's work and life, please visit the artist's website at <http://www.bryancharnley.info/>

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## Preface to the American Edition (2010)

While the 1990s represented the “Decade of the Brain,” its zeitgeist was captured in the primary reliance on psychopharmacology as the treatment for psychotic disorders. Until just recently in the United States, medications have been considered the only possible treatment option for persistent symptoms of schizophrenia. During the last 5 years, cognitive behavioral therapy (CBT) for psychosis has rapidly become accepted as an alternate treatment approach for patients with schizophrenia (when added to antipsychotic medication). A primary goal of CBT is to support patients in achieving their personal goals by taking their perspective. Consequently, this approach is more focused on symptoms rather than diagnoses and may help patients accept necessary treatment without risking a worsening of affective or suicidal symptoms. There is an entire new set of questions and challenges regarding how to integrate CBT and medication treatment, and how to choose between them, regardless of the practical reality that choosing between pharmacologic and psychosocial treatment options often depends on the availability of mental health clinicians trained in the psychosocial intervention.

A major contribution of the CBT approach to the treatment of psychosis is to finally have an evidence-based nonpharmacological alternative for persistent symptoms of schizophrenia. In recent times in the US, the focus of attempts to address treatment-resistant symptoms has been almost exclusively on pharmacologic options. While there have been many pharmacologic advances over the past 20 years, the limitations of current pharmacologic approaches are also better understood. All of the authors of this present work believe that antipsychotic medications are overall needed for the treatment of psychotic disorders, and that once a diagnosis of schizophrenia is established, the advantages of ongoing antipsychotic medications almost always outweigh the disadvantages. However, as the title of this book suggests, medications are not enough. Persons with schizophrenia often continue to have disabling and distressing symptoms even while taking antipsychotic medications. In their efforts to emphasize the benefits, clinicians often do not fully appreciate the level of distress or discomfort that is connected with having to take these kinds of medications regularly and over many years. Bryan Charnley, the gifted artist whose painting is on the cover of this book, has also written about the suffering and havoc caused by his symptoms, and about the debilitating nature of the side effects of his prescribed medications (see <http://www.bryancharnley.info/index.asp>). From his perspective, there was no way out of the dilemma of oppressing symptoms and the feeling of dependency on antipsychotic medication. He committed suicide in 1991. At that time, CBT techniques, which are intended to help patients and therapists to find collaborative ways for more effective coping with the challenges of living with psychosis, were far from being therapeutic options. Almost 50 years after Aaron Beck described a first case of treating psychosis with CBT and nearly 20 years after Bryan Charnley’s tragic death, more and more clinicians now consider CBT a valuable treatment for helping their patients.

The techniques introduced in this book will provide clinicians with a set of tools to first gain an adequate understanding of their patients’ difficulties and struggles related to living with schizophrenia and having to adhere to a long-term medication regimen. Second, the book will lead clinicians to collaboratively work with their patients on facing these chal-

lenges and attempting new and often very creative ways of moving towards a more fulfilling and enjoyable life. In our experience, this approach has positive effects for the clinician as well, because clinicians feel more connected to their patients, and benefit from having more than one treatment approach at their disposal.

The previous version of our book was published in Germany in 2006 and was meant to be an introduction to CBT for German clinicians. Some of its contents have been reproduced in our book (Chapters 3 through 6), but we have taken the opportunity of this current edition to add new material that we believe might be of particular interest to our readers. Namely, a large section of this edition focuses on the integration of CBT and medication management for patients who might continuously experience distressing symptoms such as persistent delusions despite regular adherence to a medication regimen and patients who may choose not to take any medications. We have also expanded the appendices and strategy card selection from the German 2006 edition, to provide readers with assessment tools and session worksheets on medication adherence, for easy use in clinical practice. Although CBT techniques are useful for other psychotic conditions, in this book, we will focus on patients who are diagnosed within the schizophrenia spectrum disorders. The intended readership for this book includes not only physicians and psychologists, but also other mental health care providers such as social workers and nurses working with this patient group. Our hope is to encourage our readers to consider the CBT techniques introduced here as a useful tool for building closer and more trusting, but also empowering and productive relationships with their patients that will help instill hope, self-confidence, and a positive outlook.

Chicago, IL, USA and Münster, Germany, Fall 2010

Rebekka Lencer  
Margret S. H. Harris  
Peter J. Weiden

## Preface to the German Edition (2006)

It is not only to Watzlawick (1989) that we owe the important insight that the ways in which we define problems in a clinical context often hinder their solutions. It is also our daily clinical experience that shows that it is often a different perspective, a different definition or view of a clinical problem that allows us to start working at a solution. This also applies to how we currently conceptualize hallucinations and delusional symptoms. The ICD-10 and DSM-IV merely provide a formal classification. These diagnostic systems are without a doubt a breakthrough for nosologic and differential-diagnostically clear classification according to uniform criteria. Also, the system for a psychopathological report introduced by the Association for Methodology and Documentation in Psychiatry (AMDP) has significantly contributed to a standardization of language in psychiatry and psychotherapy. Consequently, we can exchange information more efficiently and also weigh the results of clinical research based on a uniform diagnostic foundation.

However, this has led to a limited willingness in clinical practice to devote oneself to patients' subjectively experienced aspects of their symptoms – in our context, voice hearing and delusional fears. This may be irrelevant for a diagnostic classification or even for differential decision making in respect to psychopharmacologic therapies. However, it is inadequate when searching for a psychotherapeutic approach to chronic illness and to persistent symptom presentation in spite of neuroleptic treatment. Research by McCabe, Heath, Burns, and Priebe (2002), investigating routine psychiatric outpatient visits, clarified the following: During the currently typical 15-minute consultation practice session, the patient's subjective content of experiencing voices is as inconsequential as the subjective content of patient models explaining their changes in perception – what in clinical terminology is defined as a delusion. That stands in direct contrast to research findings that clearly show that a distinct focus on the patient in session will result in increased adherence, greater satisfaction with treatment, reduction in symptoms, and also reduction in emotional distress due to illness (Little et al., 2001).

But what is the cause for the current situation? The brief duration of appointments? No – we believe that this question requires a more complex answer. For a long time, psychotic experiences have been considered qualitatively different from the laws of everyday experiences to such an extent that a therapeutic approach based on patient experience seemed nonsensical. In addition, the helplessness and severity of disorganization of patients during acute phases of illness shape clinicians' views of the illness and its treatability. Acute phases of illness frequently require a paternalistic configuration of the doctor–patient relationship and to a great extent taking on responsibilities as a representative for the often much compromised patient. However, for long-term treatment approaches, this model of the doctor–patient relationship rather appears to be based on the stigma of the schizophrenia patient as a type of “big child.” The lack of expectancy to win the patient as a partner in the treatment process who can contribute his or her own initiative and responsibility, leads to the dismissal of important chances for the formation of a therapeutic alliance. In addition, the noteworthy development of psychopharmacologic therapies over the past 10 years and the availability of second-generation antipsychotic medications with significantly better efficacy and side effect profiles have limited the focus on the subgroup of 25% to 30% of

affected patients with schizophrenia and schizoaffective disorders who continuously and relatively persistently present with auditory hallucinations (voice hearing) and fixed delusional fears or systems. Further, over the past few years, research has been more likely to concentrate on early phases of illness – specifically, the early presentation of schizophrenic illness or first-episode schizophrenia. The underlying goal for this trend is to positively affect illness prognosis through early optimized treatment. All of this is appropriate and necessary but neglects the reality that persistent symptoms are not only a problem for individuals unwilling to engage in treatment but also still shape the lives of 25% to 30% of affected patients, despite progress in the understanding of neurobiological bases of the illness and further development of treatment options.

The contents of this book regarding voice hearing and delusions are exclusively limited to schizophrenia. Of course, patients with other psychiatric illnesses, such as mood disorders, also present with these symptoms. Of particular interest here are schizoaffective disorders, which are frequently combined with schizophrenia in research studies despite the fact that their nosologic status has not yet been completely determined. Our focus on schizophrenia is based on two factors: First, the greatest number of research studies exist for this group, and second, our own clinical experience is in this area. A number of the therapeutic interventions discussed will most likely also be applicable to or can be adapted to other disorders. However, efficacy has yet to be established.

Over the past 5–10 years, the trend away from conventional medical approaches to psychotherapeutic and psychological knowledge and towards an evidence-based view of disorders and their treatment has furthered modern psychology's analysis of the understanding of chronic voice hearing and persistent delusions as much as has the development of problem-specific methods in cognitive behavioral therapy. Although these techniques have been known for some time, they find embarrassingly little use in routine care. For the sake of our patients, these methods should be incorporated into the training curricula for behavioral therapies and psychotherapies, and future psychiatrists, clinical psychologists, and psychotherapists need to be educated in methods that apply to this field of practice. This book is meant to be a contribution to this goal.

Basel, Switzerland, Fall 2006

Roland Vauth  
Rolf-Dieter Stieglitz

# 1 Review of Treatment Approaches for Psychosis

## 1.1 The Biomedical Model: Psychoeducation Directed Toward Medication Adherence

The concept of the patient as expert on his or her own illness can represent an important prerequisite for many components of successful treatment, such as shared decision making and cooperative work with treating clinicians, therapeutic goal setting, active cooperation in behavioral assignments or homework exercises, and medical decision making. As in the case of physicians treating most chronic diseases, clinicians treating patients with psychotic disorders should also aim to educate their clients about their illness, including symptom presentation and recognition, treatment options, and relapse prevention strategies. Psychoeducation is a systematic and structured behavioral intervention, providing didactic information about the illness and its treatment to patients, but also to family members. The approach also integrates emotional aspects into the treatment content in order to enable patients as well as family members to better cope with the illness (Bäumel & Pitschel-Walz, 2003). Thus, psychoeducation interventions represent a powerful strategy to inform patients of the risks and benefits associated with the self-management of their illness.

*Psychoeducation is considered a widely adopted intervention for the treatment of schizophrenia* (Rummel-Kluge, Pitschel-Walz, Baumel, & Kissling, 2006). Such interventions are offered in 72% of psychiatric hospitals in Germany, Austria, and Switzerland. In this subset of hospitals, only about 40% of inpatients with schizophrenia and 13% of their family members are reported to participate in psychoeducational programs. However, when considering all hospitals including those not providing psychoeducation, only about 21% of patients with schizophrenia and 2% of their family members receive such programs. *Underuse of interventions for families*, including psychoeducation, has not only been reported for Europe but also for the United States (Brent & Giuliano, 2007).

While psychoeducation for schizophrenia and other psychotic disorders is frequently used in clinical practice, it has generally not been sufficiently evaluated through empirical investigations. More recent reviews (Rummel-Kluge & Kissling, 2008) give us some evidence for psychoeducation as a powerful intervention for the treatment of psychotic disorders. Meta-analytic data have demonstrated efficacy for psychoeducation only when interventions included family members (Lincoln, Wilhelm, & Nestoriuc, 2007). That study showed

**Psychoeducation is considered a widely adopted intervention for the treatment of schizophrenia**

**Underuse of interventions for families**



**Both patients and family members received the intervention**

medium effect sizes for relapse prevention and reduction in rehospitalization rates at posttreatment assessments when *both patients and family members received the intervention*, but only small effect sizes for the improvement of disorder-related and treatment-related knowledge in patients. In contrast, psychoeducation had no effect on symptom reduction, role functioning, or antipsychotic medication adherence. Effects for relapse prevention and decreased number of rehospitalizations remained significant for 12 months after treatment but failed significance tests for longer follow-up periods. Effects achieved for psychoeducation directed at patients alone were not significant.

Even a brief, eight-session psychoeducation program resulted in fewer hospitalizations and reduced lengths of inpatient treatment stays (Bäumel, Pitschel-Walz, Volz, Engel, & Kessling, 2007). Over the course of a 24-month follow-up, patients in the psychoeducation intervention group were hospitalized on average 1.5 times for 75 days compared to patients in the control group, who, on average, were hospitalized 2.9 times for 225 days. Aguglia, Pascolo-Fabrizi, Bertossi, and Bassi (2007) replicated these findings in a randomized controlled study. Add-on psychoeducation programs for patients and families resulted in significantly fewer hospitalizations and days in the hospital after 1 year of treatment compared with a control group undergoing treatment as usual (TAU). In conclusion, efforts to integrate families into psychoeducational interventions appear to be essential for the success of the treatment. Whether psychoeducation directed solely at patients is also effective remains unclear, and further research is necessary.

**Future treatment directions**

*Future treatment directions* for the use of psychoeducation include joint groups of patients with different psychotic disorders – e.g., schizophrenia, psychotic bipolar disorder, and major depression with psychosis (Rummel-Kluge & Kissling, 2008). This intervention may not only be helpful for new, short-term psychoeducational approaches, but also for smaller psychiatric units with too few patients of the same diagnostic category to make separate treatment groups feasible. The content of session materials has also been updated to integrate issues relevant to providing culturally competent services, to address quality-of-life issues as well as gender-specific aspects of treatment. And most recently, peer-to-peer educational programs for patients and also for family members have been developed.

**Use the vulnerability–stress model of illness development**

Cognitive behavioral therapy (CBT) approaches for the treatment of persons with persisting voices or delusional ideas suggest the development of a *working model* of illness in collaboration with the patient. This working model is developed through the negotiation between the therapist and the patient and their different perspectives. Traditional psychoeducation approaches, however, frequently use the *vulnerability–stress model* of illness development to suggest that antipsychotic medications and their effects on biological causes of illness play a major role in symptom control and relapse prevention. This model has also been considered by some as helpful in reducing feelings of guilt and failure in patients when emphasizing the biological aspects of predisposition to illness expression. Additionally, by teaching patients about the importance of reduced stress for optimal symptom management, they learn that relapses are generally not an all-or-nothing phenomenon and that individual early warning signs usually precede acute episodes. When aware of their individual triggers, patients alone or with the help of family may thus more readily take charge

of learning relapse prevention strategies and more easily engage in preparing crisis plans.

Yet, *nonadherence to medication regimens remains a large problem* throughout the course of treatment for patients with psychotic disorders, and no one existing treatment model, including psychoeducation, has been successful in significantly improving treatment adherence over extended periods of time. To improve adherence effectively, we have to think beyond the vulnerability–stress model and become familiar with patients’ attitudes that may support or undermine the use of antipsychotic medication or other treatments for their psychotic illness. Only if we know these supporting or undermining attitudes will we be able to challenge them, using cognitive techniques (e.g., restructuring or inducing cognitive dissonance between goal attainment and nonadherence) or using motivational interviewing techniques (DiClemente, Bellino, & Neavins, 1999) to gently encourage changes in patients’ adherence behaviors. Here, deficits in insight are addressed as anticipatory anxiety regulating behavior. For example, a motivational conflict may exist between the identity threat of being mentally ill and internally or externally stigmatized (Kleim, Vauth, Stieglitz, Corrigan, & Hayward, 2007; Vauth, Kleim, Wirtz, & Corrigan, 2007) and the anticipation of pharmacologic side effects. This may result in the conflict of objecting to medications on the one hand and desiring to avoid future relapses and their negative consequences (rehospitalization, loss of job and friends, etc.) on the other. Finally, *exploring the learning histories of patients’ experiences* with their illness and how they have previously been engaged or disengaged in treatment is essential for adherence building in persons with schizophrenia. Only through the assessment of adjustment patterns to illness and attitudes toward medication adherence can adherence-improving strategies have a powerful and long-lasting impact.

**Nonadherence to medication regimens remains a large problem**

**Exploring the learning histories of patients’ experiences**

## 1.2 Family Therapy

For many years, the effects of *family interaction patterns* have been regarded as *potentially significant triggers* for the onset of schizophrenia and also as modifying factors for the course of the illness, rather than being its primary cause. Above all, an important role is attributed to the concept of *expressed emotion*, which has been identified as a predictor for relapse in multiple studies (Butzlaff & Hooley, 1998). *Expressed emotion* refers to the communication of hostility, critical thoughts, or emotional overinvolvement by family members to the patient, resulting in increased stress and vulnerability to relapse. The focus of the family therapeutic approach is to foster change in the patient’s social environment by providing psychoeducation to family members and correcting any false beliefs about the illness. This in turn can help in effectively adjusting attitudes toward the patient and the illness, and thus achieving a reduction in stress levels and an increase in coping ability for the whole family.

**Family interaction patterns as potentially significant triggers**

**Expressed emotion**

Behavioral therapy-oriented approaches used for family interventions have been developed by several working groups, the best known being that of Leff, Falloon, and Tarrier (review in Hahlweg & Wiedemann, 2002). In spite of differences across these individual approaches – e.g., with respect to setting

**Table 1.** Main psychotherapeutic elements of family management (Falloon, Boyd, & McGill, 1984)

- Psychoeducation
- Communication training
- Problem-solving training

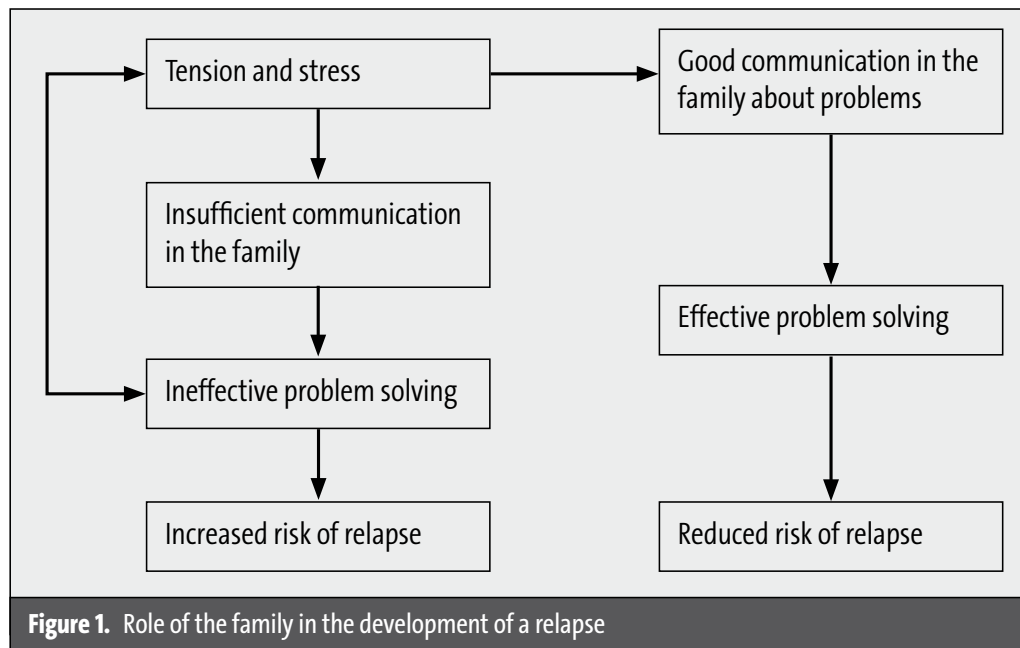
**Clear structure and highly organized session content**

(clinic versus home) or duration (6 to 24 sessions per year) – certain elements are common to all of these interventions, both with respect to the formal nature of the therapies and also in terms of basic content. All of these programs are characterized by a *very clear structure and highly organized session content*. The focus is on the “here and now” as well as *positive aspects and strengths of the family system*, and emphasizes the ability of families to bring about change. Session content includes three main components (see Table 1). Families receive psychoeducation with the goal of providing them with information and increasing their knowledge about schizophrenia. Further, communication and problem solving training aim to bring about an improvement in competencies and the personal responsibilities of all family members, and subsequently an improvement in everyone’s quality of life. Ultimately, the aim is to facilitate relapse prevention goals and thus reduce relapse rates and number of rehospitalizations overall.

The theoretical background to the family management approach is based on the assumption that a recurrence of psychotic symptoms is likely to happen when tension and stress in the family environment exceed the patient’s vulnerability threshold. Factors are assumed to be poor communication about problems within the family and ineffective problem solving strategies. By improving both communication skills and the ability to solve problems of all family members, the overall risk for relapse is expected to decrease. Additional strategies addressing specific problems such as anxiety, obsessive-compulsive symptoms, delusions, and hallucinations can be taught as needed.

**Family management approach**

To illustrate an example, the *family management approach* according to Falloon, Boyd, and McGill, (1984) is explained here in more detail. The first step of the intervention is a detailed behavior analysis of the family situation, including an assessment of strengths and weaknesses of the family as a problem solving unit, a description of relationships between the individual goals and problems of each family member, and observation of the family during the discussion of a problem. The actual treatment period consists of an information phase, communication training, and problem solving training. During the information or *psychoeducation* phase, families are provided with detailed information about the illness, including symptoms of psychosis, common causes, the frequency and course of the illness, options for medical treatment, and early warning signs for relapse. *Communication training* aims to teach basic techniques to improve the family’s interactions, such as expression of positive or negative feelings and active listening. The subsequent *problem solving training* provides a multilevel, structured procedure for the solving of problems within the family, including collecting and discussing potential solutions, choosing the best solution, and implementing it. The significance of both training units and their interactions are shown in Figure 1.



Evidence for family interventions has been well established over the past 30 years. With regard to efficacy, a number of reviews and meta-analyses (Hahlweg & Wiedmann, 1999; Solomon, 2000) have concluded that the use of behavioral therapy-oriented *family interventions can achieve a reduction in relapse* for at least 1 year. Falkai et al. (2006) point out that family therapy furthermore *encourages compliance with medication and may improve general social impairment and the levels of expressed emotion in the family*. Therefore several guidelines recommend family interventions in the treatment of schizophrenia, beginning either during the acute phase of illness, including in inpatient settings, or at a later time. For example according to the UK National Institute for Health and Clinical Excellence (NICE), an independent organization providing national guidelines for the treatment of diseases (National Institute for Health and Clinical Excellence (NICE), 2009), family interventions should be offered to all individuals who live with, or are in close contact with, a patient suffering from schizophrenia.

**Family interventions can achieve a reduction in relapse**

### 1.3 Personal Therapy: An Individualized Stepwise Treatment Approach

Hogarty's personal therapy (PT) (Hogarty, 2002; Hogarty et al., 1995) is a well-validated, disorder-specific therapy for schizophrenia that integrates a variety of efficacious psychotherapeutic principles, and can be tailored to different types of patients in relation to their symptomatology and level of impairment. The efficacy of PT for relapse prevention and adjustment to illness was evaluated in two 3-year trials, one for persons with schizophrenia living with their families and a second for those living alone. Results suggest improvements over time for patients receiving PT (Hogarty, 2002; Hogarty et al., 1995).

PT addresses three main aspects (Hogarty, 2002):

- disorder-relevant practice principles,

- the gradual staging of interventions by stepwise integration of increasingly sophisticated techniques according to patient's level of recovery, and
- affect dysregulation as a main treatment focus.

Hogarty postulates that a psychosocial approach designed to help patients manage their own distress might have a broader and longer lasting impact on relapse prevention than techniques designed to control only certain aspects of the patient's environment, e.g., the family. The regulation of affect represents the key component of this therapeutic approach. A range of both new strategies such as internal coping techniques, as well as more traditional strategies such as progressive muscle relaxation and social skills training, for managing stress and dysregulated affect are introduced in the treatment. Techniques are chosen to accommodate both the applicable phases of illness and also each individual patient's needs. The principles are offered as practical suggestions for a wide range of problems that may hinder stabilization, relapse prevention, and social recovery.

The primary goal of PT is to achieve and maintain clinical stability through a reduction in relapses by providing patients with *stress management and affect regulation techniques* that are linked to their stage of recovery from illness. Additional tools include the use of appropriate pharmacotherapy in combination with adaptive strategies appropriate for the management of potentially stressful relationships and life events that may act as triggers for illness exacerbation. To achieve these goals, PT is divided into three distinct phases as described by Hogarty et al. (1995): the basic phase, the intermediate phase, and the advanced phase. These phases were designed to accommodate a wide range of patients: from those recently discharged from inpatient settings, to those who have been living independently in the community for several years. The internal flexibility of this approach makes PT a true "disorder-relevant psychotherapy" for persons with a diagnosis of schizophrenia.

Components of the basic phase (Phase I) include:

- building a therapeutic alliance with the patient
- establishing a treatment plan
- basic elements of psychoeducation
- basic elements of social skills training.

Components of the intermediate phase (Phase II) include:

- maintenance of clinical stability
- personalized psychoeducation
- extended internal coping techniques
- introduction to relaxation techniques and additional social skills training.

Components of the advanced phase (Phase III) include:

- psychoeducation tailored to the patient's individual situation
- advanced internal coping techniques
- transition from solitary home activities to community reintegration.

Hogarty developed several criteria required for patients to meet for the transition from one phase to the next (Hogarty, 2002; Hogarty et al., 1995). Transition criteria for Phase I to Phase II include:

- successful maintenance of the prescribed antipsychotic medication dose
- a basic understanding of the illness
- sufficient sustained attention to permit participation in all components of Phase II – e.g., role-play scenes.

Criteria for the transition from Phase II to Phase III include

- gaining a basic understanding of the effects of stress on a vulnerable person
- completing homework assignments.

A process rating scale is used to assess whether or not the patient has met all criteria to move on to the next phase of treatment – e.g., items for the basic phase status involve (1) the patient takes medication as prescribed, (2) the patient knows one or more of his or her individual prodrome signs of psychotic relapse, and (3) the patient performs basic household tasks as expected.

In summary, PT can be characterized as an *evidence-based, phase-relevant, flexible individual psychotherapy for schizophrenia* (Fenton, 2000).

**Evidence-based,  
phase-relevant,  
flexible individual  
psychotherapy for  
schizophrenia**

## 1.4 Cognitive Remediation

*Cognitive deficits* in schizophrenia occur during early stages of the disease and most often remain throughout its course, mainly caused by prefrontal dysfunction in dopamine metabolism (Jann, 2004). Common deficits include reduced selective attention and maintenance of concentration over time, and deficits in verbal memory or working memory and learning (Ba, Zanello, Varnier, Koellner, & Merlo, 2008). Researchers have consistently found that 90% of persons with schizophrenia show meaningful deficits in at least one cognitive domain and that 75% show deficits in at least two domains of cognitive functioning (Bilder et al., 1995; Heaton et al., 1994; Palmer et al., 1997; Velligan & Miller, 1999). These deficits appear to persist even when the illness is in remission (Gold & Harvey, 1993; Sharma & Harvey, 2000).

Over the past 2 decades, a large number of studies have outlined the role of *cognitive impairment as a rate limiting factor* for psychosocial outcomes and response to psychosocial interventions in schizophrenia (Green, 1996; Green, Kern, Braff, & Mintz, 2000; Green & Nuechterlein, 1999). Therefore, focusing on these rate-limiting factors as therapeutic targets may improve psychosocial outcomes and expand rehabilitation readiness for people with schizophrenia (Green et al., 2000; Wiedl, 1999). Despite the fact that *second-generation antipsychotic medications* have been shown to be superior to first-generation antipsychotic medications in improving cognitive function (Keefe, Silva, Perkins, & Lieberman, 1999; Meltzer & McGurk, 1999), many cognitive impairments are not entirely normalized by treatment with these newer agents (Goldberg, Hyde, Kleinman, & Weinberger, 1993; Meltzer & McGurk, 1999; Weinberger, Aloia, Goldberg, & Berman, 1994). In spite of initial optimism about the improvement in medication treatment options (Ginsberg, Schooler, Buckley, Harvey, & Weiden, 2005; Harvey, 2006), more *recent studies failed to demonstrate persuasive efficacy of any drug treatments targeting cognitive deficits* in

**Cognitive  
impairment as a  
rate limiting factor**

**Efficacy of any  
drug treatments  
targeting cognitive  
deficits are not  
demonstrated**

schizophrenia, or they showed only moderate to low effect sizes, including for first-episode schizophrenia patients (Carpenter & Conley, 2007; Davidson et al., 2009; Keefe et al., 2004). Partial compliance may be the primary reason for the low efficacy of antipsychotic drug treatment, and the availability of long-acting injectable second-generation drugs such as olanzapine or risperidone may offer a novel opportunity to overcome nonadherence problems, as has been shown recently (Alam & Janicak, 2005; Burton, 2006; Houthoofd, Morsens, & Sabbe, 2008). However, it should be noted that even long-acting agents will not eliminate noncompliance. And further, medications alone are not sufficient for the improvement of cognitive function in patients with schizophrenia. The observed detrimental impact of cognitive impairment on day-to-day functioning and on the openness to psychotherapeutic and rehabilitative interventions has led to the development of cognitive rehabilitation techniques (Kern, Glynn, Horan, & Marder, 2009; Krabbendam & Aleman, 2003).

*Cognitive remediation* programs are designed to enable persons with schizophrenia to better cope with disabling aspects of cognitive dysfunction and subsequently increase their chances of achieving personal goals. In this role, cognitive remediation may be an important intervention prior to the beginning of CBT. The majority of cognitive remediation programs can be characterized as

- (1) “cognition-enhancing” approaches, focusing on the improvement of cognitive impairments by repetitive laboratory-based exercises that are directly related to the cognitive domain being trained, or
- (2) “compensatory” approaches, focusing on building compensatory cognitive strategies (Ben-Yishay & Diller, 1993).

**Cognition-enhancing approaches based on the neuroplasticity model of brain development**

More specifically, *cognition-enhancing approaches* aim at improving cognitive functioning through the stimulation of specific areas of impaired cognition. The approach is based on the *neuroplasticity model of brain development*, which assumes the brain’s lifelong capacity for physical and functional change. Computer-based programs are most often used for this kind of training, although paper-and-pencil exercises can also be included. The training involves exercises designed to target a particular cognitive function such as selective attention. The trainer can modulate the difficulty of the task so that each individual is provided with challenging but realistic training tasks. The number and length of training sessions varies considerably across programs but typically involves two to five weekly 1-hour sessions over a period of up to 6 months. Results of outcome studies on computer-based programs for cognitive remediation in schizophrenia have generally been encouraging for improving targeted cognitive functions (Bell, Bryson, Greig, Corcoran, & Wexler, 2001; Kurtz, Moberg, Gur, & Gur, 2001; McGurk, Twamley, Sitzler, McHugo, & Mueser, 2007; Twamley, Jeste, & Bellack, 2003; Velligan, Kern, & Gold, 2006a). A recent meta-analysis of research on cognitive remediation (McGurk et al., 2007) reported a *medium effect size for improvement in cognition*, slightly lower levels for improvement in social functioning, and a small effect size for symptom improvement. Notably, effect sizes for studies in which cognitive remediation served as an adjunct to rehabilitation programs were higher than for studies using cognitive remediation techniques alone.

Although remediation programs have been shown to improve discrete cognitive functions in schizophrenia, there is a dearth of studies that include more

real-world outcomes and longitudinal evaluation techniques (Krabbendam & Aleman, 2003). Only recently have researchers begun to focus on cognitive remediation as a method for improving response to therapy, e.g., social skills training (Spaulding et al., 1999) and in vocational rehabilitation settings as an adjunct therapy (Bell et al., 2001). In the latter study, patients were randomly assigned to one of two conditions: (1) work therapy alone for 15 to 20 hours per week or (2) work therapy combined with neurocognitive enhancement therapy for two to three sessions per week and up to 5 hours for 26 weeks. The computer-assisted cognitive exercises focused specifically on attention, memory, and executive functioning. Results show that patients receiving work therapy combined with neurocognitive enhancement therapy achieved *greater improvements in executive functioning, working memory, and affect recognition*. An investigation of cognitive training, integrated into vocational rehabilitation and focusing on strategy building and skill transfer to vocational functioning, demonstrated not only improvement in cognitive function but also showed higher rates of successful vocational and educational integration compared with vocational rehabilitation alone (Vauth et al., 2005). *Improvements in social functioning* through the use of cognitive remediation therapy has been reported by multiple investigators as detailed below (Eack, Hogarty, Greenwald, Hogarty, & Keshavan, 2007; Hogarty et al., 2004; Wykes et al., 2003).

**Improvements  
in executive  
functioning,  
working memory,  
affect recognition,  
and social  
functioning**

Cognitive enhancement therapy (CET) (Eack et al., 2007; Hogarty et al., 2004), a 2-year therapy program, begins with 75 hours of computer-based cognitive exercises focusing on attention, memory, and problem-solving. The training progressively increases in complexity throughout the treatment. Following this first phase of treatment, 56 sessions of group-based training exercises are added for 1.5 hours per week. These group sessions focus on various aspects of social cognition, including communication, solving of real-life social conflicts, and appraisal of affect and social contexts. At 1-year follow-up, CET demonstrated marginal differences in cognitive style, social cognition, and social adjustment compared with supportive therapy alone. At *2-year follow-up, CET showed significant training effects* on neurocognition, social cognition, and social functioning relative to the comparison group.

Wykes et al. (2003) evaluated a *3-module cognitive remediation therapy (CRT)* addressing cognitive flexibility, working memory, and planning. CRT encompassed one-on-one instructions, with a strong emphasis on teaching methods that include procedural learning principles of errorless learning, targeted reinforcement, and mass practice using paper-and-pencil exercises. The same teaching methods were also used in the compensatory approaches described below. Training was conducted for 1 hour per day for 3–5 days per week, resulting in a total of 40 sessions. In contrast to an occupational training control group, CRT showed differential improvement on measures of executive functioning. Participants who met the criteria for reaching a specified threshold for improvement in cognitive flexibility also showed improvements in social functioning at a 3-month follow-up.

**3-module cognitive  
remediation  
therapy**

The *neuropsychological educational approach to remediation (NEAR)* (Hodge et al., 2008; Medalia, Revheim, & Herlands, 2009) is a hybrid approach that uses a top-down teaching approach emphasizing higher order strategy-based methods and the drill-and-practice types of exercises that focus on learning of more basic, elementary cognitive skills (bottom-up approach). The train-

**Neuropsychological  
educational  
approach**



ing was conducted in two 1-hour sessions per week for 10–15 weeks. Results showed improvements in sustained attention, verbal memory, visual memory, and executive functioning, which persisted at 4-month follow-up. Partial support was also found for improvement in social and vocational functioning.

### Improvements in work functioning

The computer-based cognitive remediation programs of Bell's and McGurk's groups (Bell, Tsang, Greig, & Bryson, 2009; McGurk, Mueser, & Pascaris, 2005) demonstrated *improvements in work functioning*. Patients receiving remediation therapy in addition to supportive employment showed a higher number of total hours worked and a greater percentage of employment compared with patients receiving supportive employment only. It is, however, difficult to attribute these gains to CRT alone because the programs included additional interventions such as cognitive assessment and job loss analysis, job search planning, remediative and compensatory cognitive skills training addressing on-the-job performance issues, and consultations with employment specialists and cognition specialists (McGurk et al., 2005).

### Compensatory approaches to cognitive remediation

In contrast to cognition-enhancing approaches, *compensatory approaches to cognitive remediation* “aim to bypass or ‘compensate’ for cognitive impairments by devising training methods to emphasize recruitment of relatively intact cognitive processes or by establishing supports or prosthetic devices in the environment to promote role functioning” (Kern et al., 2009, p. 353; Vauth, Dietl, Stieglitz, & Olbrich, 2000). As an example, 1–6 hours of “errorless learning” is directed toward eliminating errors during learning and response automation by bypassing deficits in the ability to self-correct. *Implicit but not explicit memory processes are stimulated*. Improvements have been demonstrated in entry-level job tasks, social problem solving abilities, and in different sheltered work settings (Kern, Green, Mintz, & Liberman, 2003; Kern, Liberman, Kopelowicz, Mintz, & Green, 2002).

A second example for compensatory approaches is presented by Velligan and colleagues (Draper, Stutes, Maples, & Velligan, 2009; Velligan et al., 2006c, 2009a,) in their work on cognitive adaptation training (CAT). CAT uses in-home environmental supports (e.g., alarms, signs, and checklists) and structures (e.g., reorganizing placement of belongings) to facilitate independent living in the home environment. This individualized intervention is based on an assessment of cognitive and behavioral functioning and focuses specifically on executive functioning. CAT was demonstrated to be effective in improving medication adherence and community functioning (Draper et al., 2009; Velligan et al., 2006c, 2009a).

### Predictors of response to cognitive remediation interventions

Few studies have investigated *predictors of response to cognitive remediation interventions* in patients with schizophrenia. To date, predictor studies have used selected treatment outcome measures that were either part of the remediation intervention itself or closely linked to the intervention. Only a few studies investigated factors that predict generalization to measures of everyday life skills as an index for treatment-related improvement of role functioning in schizophrenia. A more recent study by Kurtz, Seltzer, Fujimoto, Shagan, & Wexler (2009) examined the factors that may predict changes on a performance-based measure for everyday life skills after 1 year of computer-assisted cognitive remediation offered as part of intensive outpatient rehabilitation treatment. Possible predictors of interest included in the analysis were four measures of neurocognitive function (crystallized verbal ability, auditory sus-

tained attention and working memory, verbal learning and memory, and problem solving), two measures of psychopathology (total positive and negative symptom scores), and the process variables of treatment intensity and duration. Results revealed that auditory attention and working memory predicted changes in performance-based measures of everyday life skills, even when all other neurocognitive variables in the model and baseline life skill scores, symptoms, and treatment process variables were controlled for.

## 2 Moving Beyond a Biological Model

Current views characterizing schizophrenia as a brain disorder have dictated the use of a biomedical orientation for psychoeducation (Anderson, Hogarty, & Reiss, 1980). Biomedical models are widely accepted concepts for explaining and delivering treatment plans to patients, not only in the case of schizophrenia. They share the concept that a specific diagnosis, such as schizophrenia, has a final common pathway that causes significant abnormalities in central nervous system functioning. Consequently, *biomedical models tend to regard antipsychotic medication as the most important* and sometimes even the *single relevant possibility for treating brain dysfunction*. While biological approaches are very important, like all therapies they have limitations and shortcomings, and the potential complications that arise from communicating this disease concept to patients and caregivers may not be fully appreciated.

**Biomedical models tend to regard antipsychotic medication the most important**

While we cannot say with absolute certainty what causes schizophrenia, *psychoeducation approaches require patients to acknowledge that they are ill* and suffer from a brain disorder. Overconfidence in theories of schizophrenia and psychosis has not gone out of style, although we cannot be absolutely sure that what we tell patients about their illness will be true 50 years from now. Current theories focus on the biological basis of the illness, and patients are often told that they cannot recover and that deterioration is common. Another “softer” version of this message is given when patients are told that untreated psychosis is neurotoxic to the brain, despite little evidence to substantiate this theory. This information is conveyed to patients with great enthusiasm, with the hope it will scare the person into taking antipsychotic medication. The point here is that it is not so much that treatment models are incompatible, but rigid and dogmatic statements that push patients into making forced choices when in fact they do not have to is more a reflection of our own stubbornness than it is the patients’.

**Psychoeducation approaches require patients to acknowledge that they are ill**

It is widely accepted that many patients reject the label of schizophrenia and view their problems solely as being caused by stress, adverse life situations, or by the actions of others who wish them harm. In fact, one of the central problems to psychosocial interventions designed to improve treatment adherence in schizophrenia is the lack of insight and acknowledgment of existing difficulties related to the presence of an illness rather than due to external circumstances. This *lack of insight does not only present in patients*, but very frequently in family members and other caregivers as well. The use of the term *schizophrenia* or *psychosis* alone can create a significant barrier to engaging people to enter treatment.

**Lack of insight does not only present in patients**

An important reason for *patients* to reject a diagnosis of psychosis is the *attempt to maintain a functional image of the self* and to avoid an association