15

What Will the Next Generation of Psychosocial Treatments Look Like?

Kim T. Mueser

Abstract

This chapter defines the broad range and scope of psychosocial treatments for schizophrenia (also called psychiatric rehabilitation) and discusses how new conceptualizations of recovery from mental illness, which emphasize meaning and purpose in life over a narrow focus on symptom remission, have shaped the nature and delivery of services. Substantial progress in psychosocial treatment has been made over the past several decades; rigorous controlled and replicated research has demonstrated the effectiveness of a variety of interventions, including contingent reinforcement, family intervention, supported employment, cognitive behavioral therapy, cognitive remediation, illness self-management training, and social skills training. Despite this progress, most of these services are not available in routine care. Obstacles to disseminating psychosocial treatments are considered, including insufficient training of professionals prior to entering the workforce and the need for more research on the science of implementation. Recommendations for improving the quality of psychosocial interventions include targeting predictors of response to treatment, evaluating the critical components or mechanisms underlying effective programs, improved precision of goal setting and monitoring outcomes to facilitate individual tailoring, and training of clinicians across the range of effective treatments to maximize the creative use of clinical expertise.

Introduction

The past four decades have witnessed an unprecedented growth in the development and evaluation of psychosocial treatments of schizophrenia. By the late 1960s, research on the token economy demonstrated that grossly impaired psychosocial functioning in long-term psychiatric inpatients could be improved through contingent reinforcement (Ayllon and Azrin 1968; Paul and Lentz 1977), and in the 1970s, the rudiments of systematic skills training approaches

to rehabilitation for schizophrenia were refined, followed by a growing array of curricula (Liberman et al. 1986). In the 1980s, several models of family intervention were developed and shown to be effective (Falloon et al. 1985; Leff et al. 1985), and in the 1990s, supported employment was standardized and shown to improve competitive work outcomes in controlled research (Drake et al. 1996, 1999).

Despite these advances, concerns have been raised that little progress has been made in the treatment of schizophrenia over the past century (Insel 2009). What accounts for the apparent discrepancy in perspectives on the outcome of schizophrenia, and what are the implications for the future of psychosocial treatment? This chapter seeks to address these issues and to suggest promising directions for the development of more effective psychosocial interventions. Following a discussion of the definition and scope of psychosocial treatment, the current state of knowledge of psychosocial treatment for schizophrenia is reviewed, including empirical support for interventions and issues related to implementation and dissemination. The chapter concludes with suggestions for improving the effectiveness of psychosocial treatment.

Definition and Scope of Psychosocial Treatment

In this chapter, the terms *psychosocial treatment* and *psychiatric rehabilitation* are considered to be interchangeable. Treatment and rehabilitation are sometimes distinguished from one another, with the former defined as focusing on the management of symptoms and the latter addressing the restoration of functioning. This distinction, however, serves little practical use in schizophrenia because both symptoms and impaired functioning are central to the diagnosis of the disorder, both cause significant distress, but they are semi-independent of one another (Strauss and Carpenter 1972). While some interventions focus more on symptoms and others on functioning, treatment needs to address both—often in an integrated fashion.

Psychiatric rehabilitation is broadly aimed at maximizing the ability of individuals with a mental illness to function as effectively and with the greatest satisfaction as possible, in the least restrictive living environment, and with a minimum amount of professional intervention (Anthony et al. 2002; Corrigan et al. 2008). Psychosocial treatment typically focuses on either teaching more effective skills to improve functioning or more adaptive coping with symptoms, or providing environmental supports, prompts, or contingencies to facilitate optimal functioning. The word *psychosocial* distinguishes this type of intervention from other treatment methods that are more biological in nature, such as pharmacological treatment or electroconvulsive therapy.

Psychosocial treatment comprises a broad range and diversity of methods that go far beyond the traditional notions of "talk therapy." The variety of different psychiatric rehabilitation approaches can be described by considering

the domains targeted by interventions, different treatment modalities, and the settings in which treatments may be provided (Liberman and Mueser 1989; Spaulding et al. 2003). A wide range of potential domains or levels are promising targets for psychosocial interventions, including improved functioning in the areas of *cognition* (e.g., cognitive remediation), *social cognition* (e.g., social cognition training), *interpersonal relationships* (e.g., social skills training), *work* or *school* (e.g., supported employment), *socio-environmental adjustment* (e.g., family psychoeducation, contingency management), *symptom severity* and *relapses* (e.g., cognitive behavioral therapy for psychosis, training in illness self-management), and *psychophysiological arousal* (e.g., stress management training). Psychosocial treatment can be provided in a variety of different formats, including naturalistic settings, in individual, group, and family modalities as well as in a similarly wide range of settings, including acute and long-stay inpatient hospitals, residential milieu, community mental health centers, in the client's home, or in other community settings (e.g., workplace, store, or on public transportation).

Rehabilitation and Recovery

It has been over one hundred years since Kraepelin (1919/1971) presented the bold thesis that schizophrenia is a single disease, and the validity of his claim continues to be hotly debated. Although the limitations of Kraepelin's single disease model have frequently been noted (Spaulding et al. 2003; Bentall 1993), no alternative conceptualization of the disorder, including proposed subgroups of diseases, has thus far been shown to be sufficiently more useful or compelling to result in a paradigm shift to a new model. There is, however, abundant evidence that both biological and environmental factors play a role in the development of schizophrenia (van Os and Kapur 2009), and a range of subtle neurodevelopmental, cognitive, and social problems have been established to precede the onset of the disorder for some people by many years (MacCabe et al. 2013). Whether the heterogeneity of schizophrenia reflects multiple causal factors which converge on a final common pathway or separate disease states, by the time schizophrenia is fully manifested, the broad range of impairments across the different levels of systematic functioning have gained a degree of functional independence from one another (Strauss and Carpenter 1972, 1977). Thus, until specific causes of the characteristic impairments of schizophrenia are known and can be targeted for treatment, there is a need for interventions to address problems at different levels of systemic function.

Treatments range from interventions which address more molecular levels of systemic functioning, such as medications for neurophysiological dysfunction, to those which target more molar levels of functioning, such as psychiatric rehabilitation to improve psychosocial adjustment. While psychosocial treatment can viewed as an interim solution that future advances in the

understanding and treatment of schizophrenia may obviate, these interventions are important because they address levels of systemic functioning that have been beyond the reach of pharmacology (e.g., role functioning, social relationships). Indeed, the importance of psychiatric rehabilitation has been highlighted in recent years by an active movement of individuals with major mental illness who have questioned the emphasis of treatment providers on symptoms and associated impairments, arguing that attention to psychosocial functioning and psychological adjustment should be the true focus of treatment.

For over twenty years, the *recovery movement*, spearheaded by individuals with a serious mental illness who have received psychiatric treatment (referred to as *consumers* in the United States or *service users* in Great Britain), has evolved to be a major force in changing how schizophrenia and other major mental illnesses are understood and treated (Silverstein and Bellack 2008). The impetus for this movement came from the objections they raised to the pessimistic messages they were often given about the long-term outcome of schizophrenia and other disorders, pointing out that they were both "spirit-breaking" and inaccurate in light longitudinal research, which showed symptom remission and functional improvement in significant proportions of people (Deegan 1990; Harding et al. 1987). Consumers also called for a reduction in the use of coercive, often "retraumatizing" interventions (e.g., involuntary hospitalization, use of seclusion and restraint, forced medication) (Brase-Smith 1995; Jennings 1994), and a shift from traditional hierarchical medical decision making, based on the assumption that "the doctor knows best," to a more collaborative approach that respects an individual's preferences and the right to determine their own treatment priorities (Chamberlin 1997a; McLean 1995). Perhaps most importantly, this movement challenged the notion that recovery from mental illness can only be defined in medical terms; it was argued that recovery should be defined in more nuanced and personally meaningful ways to empower consumers and give them hope for the future (e.g., Frese 2008; Ralph 2000).

New conceptualizations of recovery focus on personal growth and the establishment of meaning and sense of purpose in life, despite having a mental illness (Anthony 1993). The desire for more personally meaningful definitions of recovery other than symptom remission frequently evokes the need to improve different areas of psychosocial functioning. For example, in the United States, the President's New Freedom Commission on Mental Health (2003:6) defines recovery as "…the process in which people are able to live, work, learn, and participate fully in their communities." The consumer/recovery movement has underscored the importance of improving psychosocial functioning as a treatment priority over a narrow focus on symptom management and relapse prevention.

The focus on functional outcomes need not be to the exclusion of treatment that targets characteristic symptoms and cognitive impairments. However, it does suggest that attention to these areas should be driven primarily by

difficulties in making progress toward established functional goals or attention to high levels of psychological distress. The emphasis of psychosocial treatment on functioning also underscores the fact that, given the relative independence of different levels of systemic dysfunction (Spaulding et al. 2003), targeting one area of systemic dysfunction (e.g., cognitive impairment) will not necessarily lead to benefits in other areas, such as role functioning, unless they are also explicitly targeted for treatment (a summary of research on cognitive remediation is provided below).

Progress in the Psychosocial Treatment of Schizophrenia

Following both the discovery of antipsychotic medications in the 1950s and the deinstitutionalization movement, which began in the 1960s spurred on by economic forces as well as an improved capacity for clinical management (Johnson 1990), an increasing variety of psychosocial interventions for schizophrenia and other serious mental illnesses were developed and empirically evaluated. Meta-analyses show that adding broadly defined psychosocial intervention to pharmacological treatment has a global impact on improving outcome in schizophrenia compared to medication alone, and those individuals with the most severe impairment tend to experience the greatest benefit (Mojtabai et al. 1998). Furthermore, specific approaches to psychosocial treatment are routinely included in treatment guidelines for schizophrenia, such as the PORT recommendations in the United States (Dixon et al. 2010) and the NICE guidelines in the United Kingdom (National Collaborating Centre for Mental Health 2009).

Defining Empirically Supported Psychosocial Treatments

There is no clear consensus on how to categorize specific approaches to psychiatric rehabilitation and the evidence evaluating them. Should the validation of a practice, for example, be highly specific to certain brands or types of programs, such as Beck et al.'s (1979) versus Lewinsohn's (1974) treatment approaches to depression, Linehan's (1993) dialectical behavior therapy for borderline personality disorder, Falloon's approach to behavioral family management for schizophrenia (Falloon et al. 1984), or Hogarty's cognitive enhancement therapy for schizophrenia (Hogarty et al. 2004)? Alternatively, should validation be based on a scientific understanding of the active ingredients of an intervention?

The active ingredient approach would appear more legitimate, but many validated treatment approaches justifiably incorporate procedures that are not validated. Furthermore, the process of dismantling an effective intervention to identify its critical components and better understand its mechanisms of action is complex, time consuming, and costly, and thus not practical for most complex psychosocial interventions for schizophrenia. On the other hand, narrowly

focusing on the validation of specific, "brand-like" interventions without attention to their core ingredients can be misleading when "new" treatments are developed based on methods of established interventions but containing additional unique but unproven components, and such an intervention is touted as both new and effective (Lohr et al. 1999).

In practice, the evaluation of empirical support for psychosocial treatments for schizophrenia has been based on a combination of the theory which guides the intervention and the methods employed, the treatment modality, and the targeted domains of functioning, with less attention paid to the specific "brand" of program. For example, although there are many different approaches or "brands" of cognitive behavioral therapy for psychosis (Beck et al. 2009; Kingdon and Turkington 2004), they are typically grouped together for reviews of research; the basis for this lies in the fact that they share a common general theory of the relationships between thinking, feeling, and behavior and employ a common set of therapeutic techniques to enhance coping and evaluate thoughts and beliefs associated with psychotic symptoms. In contrast, family interventions for schizophrenia tend to be grouped together based on a combination of their shared use of the family treatment modality, their focus on reducing family stress, and their agreement on a common set of principles underlying intervention (e.g., collaborative relationship with mental health professionals, provision of information to the family about mental illness and treatment, inclusion of the client in family sessions), despite differences between programs in theoretical orientation and therapeutic techniques employed (Anderson et al. 1986; Barrowclough and Tarrier 1992).

Empirically Supported Psychosocial Treatments for Schizophrenia

There is some variability in the specific criteria used by different organizations or reviewers to determine whether a psychosocial treatment is empirically supported (Chambless and Ollendick 2001; Drake et al. 2005; Herbert 2000). Generally, empirically supported psychosocial interventions for schizophrenia are identified using similar criteria to those employed for defining evidence-based medicine (Sackett et al. 1997). For schizophrenia, several standardized interventions have been shown to improve broadly accepted, important outcomes (e.g., symptoms, social functioning, work, or school) in multiple randomized controlled trials (RCTs) conducted by independent research teams (e.g., Drake et al. 2001; Ganju 2003). More than thirty years ago, the token economy program, which involves systematically modifying environmental contingencies in individuals living in inpatient settings to reinforce more adaptive behaviors (Ayllon and Azrin 1968), was the first psychosocial treatment approach shown to be effective for people with serious mental illnesses, facilitating discharge from long-stay hospitals into the community (Paul and Lentz 1977). Following empirical validation of the token economy, at least six other

psychiatric rehabilitation programs have demonstrated strong empirical support (Mueser et al. 2013a), as described briefly below.

Family Intervention

Research in the 1970s demonstrated that high levels of family stress (i.e., "expressed emotion") were predictive of increased risk of relapse and hospitalization in recently discharged people with schizophrenia who were living, or in close contact, with their relatives (Brown et al. 1972). This finding led to the development and empirical validation of five different family intervention programs aimed at improving family coping, lowering overall stress in the family, and reducing client risk of relapse (Anderson et al. 1986; Barrowclough and Tarrier 1992; Falloon et al. 1984; Kuipers et al. 2002; McFarlane 2002). These programs differ in their specific targets for treatment and methods to achieve them: some train families in stress management or communication skills (Barrowclough and Tarrier 1992; Falloon et al. 1984), whereas others increase family support through multifamily groups (Kuipers et al. 2002; McFarlane 2002). Despite differences in theoretical orientation and specific therapeutic methods used in these family intervention programs, they share a common set of features which may, in part, explain some of the similar beneficial effects found across the programs (Lucksted et al. 2012; Pitschel-Walz et al. 2001). These common features include

- long-term (minimum nine months) family intervention provided by mental health professionals,
- emphasis on creating a collaborative relationship with family, and avoiding blame and pathologizing of relatives' behavior,
- inclusion of the client in some or all family work,
- provision of information about schizophrenia and its treatment, and
- focus on reducing family stress.

Most research on family intervention programs has targeted clients with a recent symptom relapse or hospitalization. Research findings (Pharoah et al. 2010) include 53 RCTs conducted throughout the world; family intervention reduces relapses and hospitalizations over a period of one to two years and may facilitate treatment adherence. In addition, clients in families who receive family intervention show modest improvements in psychosocial functioning, and relatives experience some reduction in stress and tension.

Supported Employment

Traditional vocational rehabilitation approaches for schizophrenia have typically focused on extended training programs to prepare clients to enter the workforce, with some including work experiences in sheltered or other protective settings. Research has shown, however, that these "train-place" approaches

fail to improve vocational outcomes for people with a serious mental illness (Bond 1992). Based on the "train-place" philosophy, supported employment focuses on helping clients obtain competitive work, and then provides the training and support necessary to succeed at these jobs. The most thoroughly standardized and evaluated supported employment program is the *individual placement and support program* (Becker and Drake 2003), which is defined by the following characteristics:

- Desire for competitive work is the only inclusion criterion for participation in the program (e.g., clients are not excluded because of symptoms or cognitive impairments).
- Focus is on rapid search for competitive jobs in integrated community settings and no required prevocational training.
- Client preferences are respected regarding the type of desired employment and disclosure about psychiatric disorder to prospective employers.
- Follow-along supports are provided after job attainment.
- Vocational and clinical services are integrated.
- Counseling is provided to inform clients about special incentives for work and impact of work on disability benefits.

Research on supported employment indicates that out of 25 RCTs, 15 used the individual placement and support model (Bond et al. 2012). Most studies were conducted in the United States, with some in Europe. Over the one- to two-year study period, supported employment was found to be superior to other vocational programs in terms of competitive work outcomes (e.g., proportion who worked, hours and weeks worked, wages earned). The effect sizes ranged from .58 to .67. However, the impact of supported employment on work after vocational supports are removed is unclear, given the limited research that has addressed this question.

Cognitive Behavioral Therapy for Psychosis

The persistence of hallucinations and delusions in a significant proportion of people with schizophrenia (Lindenmayer 2000) and the distress and functional impairment associated with these symptoms (Racenstein et al. 2002) led to the adaptation of techniques from cognitive behavioral therapy that were used to treat depression and anxiety to psychotic symptoms. Multiple programs for cognitive behavioral therapy for psychosis have been developed (e.g., Beck et al. 2009; Chadwick 2006; Kingdon and Turkington 2004) and generally share the following features:

- "normalization" of psychotic symptoms to reduce embarrassment and stigma,

- identification of individual and situational factors that influence severity of symptoms,
- development of a shared formulation of symptoms,
- the teaching of more effective coping strategies,
- evaluating thoughts and beliefs related to psychotic symptoms, and
- conducting behavioral experiments to obtain more information about psychosis-related beliefs.

Research on cognitive behavioral therapy for psychosis indicates (Granholm et al. 2009; Wykes et al. 2008) that over 33 RCTs were conducted, mostly in United Kingdom. Effect sizes ranged from .35 to .44. Significant effects were found for psychotic symptoms, and there was some indication of effects on negative, mood, and anxiety symptoms, as well as psychosocial functioning. The latter outcomes, however, need to be replicated by more rigorous trials.

Social Skills Training

Impaired social and self-care functioning are hallmarks of schizophrenia that often precede the onset of the disorder and are also associated with a worse course of illness. To systematically teach more effective interpersonal and self-care skills, social skills training approaches were developed based on the principles of social learning (Bandura 1969), with the broader aim of improving social and community functioning. Social skills are usually taught in groups according to the following sequence (Bellack et al. 2004a; Liberman et al. 1989):

- Establish a rationale for learning a skill, and break complex skills into component parts.
- Model (demonstrate) a skill in role play.
- Engage each client in practicing the skill in role play (one at a time).
- Elicit and provide positive reinforcement about client's performance, followed by suggestions for improved performance.
- Engage client in 1–3 more role plays, followed by positive and corrective feedback.
- Collaboratively develop home assignment for each client to practice skills on their own.
- Program generalization of skills through *in vivo* community practice and/or involvement of natural supports in the client's environment (e.g., family, residential workers).

Skills training programs have been developed to address specific areas of impaired functioning, such as independent living (e.g., personal hygiene, use of public transportation), occupational functioning (e.g., job interviewing, responding to feedback on the job), interpersonal relationships and leisure (e.g., conversation skills, making friends, exploring leisure activities), psychiatric and physical illness self-management (e.g., taking medication, discussing

medication side effects with prescribers, developing relapse prevention plans), and coping with social situations that involve alcohol or drugs (e.g., resisting offers to use substances). Although summaries of research on skills training tend to focus on broad outcomes that are evaluated across multiple applications of skills training (e.g., social and community functioning), the implementation of skills training programs usually targets very specific domains, with research supporting its effects across different areas. In addition, skills training methods are often incorporated into other, previously described practices: teaching communication skills in some family intervention programs (Falloon et al. 1984), improving work-related skills in supported employment (Mueser et al. 2005; Wallace et al. 1999), and teaching coping skills in cognitive behavioral therapy (Tarrier et al. 1993) for psychosis and illness self-management (Gingerich and Mueser 2011). Research on social skills training indicates (Kurtz and Mueser 2008; Pfammatter et al. 2006) that over 25 RCTs were conducted. Significant effects were found on learning specific social skill-related information and behavioral competencies, improving social and community functioning, and improving negative symptoms. Effect sizes ranged from .39 to .77. Skills training programs also exert smaller but significant effects on reducing symptoms and relapses, possibly through improved social support and interpersonal coping, leading to reduced sensitivity to stress, in line with the stress-vulnerability model of schizophrenia (Liberman et al. 1986; Nuechterlein and Dawson 1984).

Cognitive Remediation

The cognitive impairment characteristic of schizophrenia (Heaton et al. 1994) and the association between cognitive and psychosocial functioning (Green 2006) makes cognitive functioning an obvious treatment target for the disorder. Cognitive remediation is defined by an intervention that directly focuses on improving attention, memory, psychomotor speed, and executive functions, or reducing the effects of cognitive impairment on psychosocial functioning. Over the past 30 years, a wide variety of cognitive remediation approaches have been developed that range in focus from elemental cognition to complex social cognition and problem solving (e.g., McGurk et al. 2007), with some packaged modalities incorporating the entire range and even interfacing with social skills training (Brenner et al. 1994; Hogarty et al. 2004). Common elements of programs include (a) practice of cognitive exercises on computer or paper and pencil tests and (b) use of self-monitoring and errorless learning. Some programs provide coaching on cognitive strategies to improve cognitive performance during practice tasks, some programs teach coping or compensatory strategies to reduce the impact of impaired cognitive functioning on psychosocial functioning, and some do both.

Significant progress in research on cognitive remediation has occurred, especially over the past decade. Major findings from two meta-analyses (McGurk et al. 2007; Wykes et al. 2011) indicate that over 40 RCTs were conducted,

mostly in Europe or the United States. Significant effects were found on cognitive functioning (effect sizes were .41 to .45) and psychosocial functioning (effect sizes were .36 to .42), with weaker effects on symptoms (effect sizes were .18 to .28). The impact of cognitive remediation on psychosocial functioning is moderated by the provision of adjunctive or integrated psychiatric rehabilitation; cognitive remediation improves functional outcomes when it is added to (or integrated with) psychiatric rehabilitation (compared to psychiatric rehabilitation alone) but not to usual services (compared to usual services alone). In addition, impact is dependent on whether strategic training was provided; when strategy training is provided in the context of rehabilitation, effect size is doubled.

Training in Illness Self-Management

The recovery/consumer movement emphasized the importance of actively involving clients in their own treatment, involving them in collaborative decision making with treatment providers, and empowering them to determine their own treatment goals (Farkas 2007). Illness self-management programs are aimed at providing clients with the information and skills needed to manage their illness in collaboration with others (e.g., reducing symptoms, preventing relapses). A variety of programs have been developed and evaluated, including individual and group formats, with durations ranging from several months to over a year (Gingerich and Mueser 2011; Hogarty 2002; Kopelowicz et al. 1998). Common components of illness self-management training programs include

- education about serious mental illness and its treatment,
- teaching strategies for improving medication adherence,
- training in coping skills to manage persistent symptoms,
- developing a relapse prevention plan, and
- social skills training to strengthen social supports.

Research has been conducted on both the individual components of illness self-management and comprehensive programs which target the broad range of skills. The benefits of teaching illness self-management, including psychoeducation, behavioral tailoring to incorporate medication adherence into the client's personal routine, coping skills training, and relapse prevention have been shown in over forty controlled studies (Lincoln et al. 2007; Mueser et al. 2002). Three RCTs of the illness management and recovery program (Gingerich and Mueser 2011), which incorporate the aforementioned strategies, have shown significant improvement on outcomes related to self-management. Some evidence indicates that consumer-provided training in illness self-management is effective (e.g., Wellness Recovery and Action Plan, or WRAP) (Cook et al. 2012).

Other Programs

There is growing evidence for the effects of other psychiatric rehabilitation approaches for serious mental illness: integrated treatment of co-occurring psychiatric and substance use disorders (Drake et al. 2008; Barrowclough et al. 2010), training in social cognition (Kurtz and Richardson 2012), and modifying the living environments of individuals with severe cognitive impairment to prompt self-care behaviors and sustain community living (Velligan et al. 2002, 2006). Although not a rehabilitation approach per se, alternative methods for delivering pharmacological and psychosocial treatment to clients with serious mental illness living in the community who do not access available services on their own (i.e., assertive community treatment) (Stein and Santos 1998) have been developed and shown to be effective, primarily in the United States, where access to psychiatric services for this population is most problematic, but also in Australia (Coldwell and Bender 2007; Nelson et al. 2007; Rosen et al. 2007).

In summary, the preponderance of evidence across multiple studies (more than 20 RCTs for most interventions) indicates that potent psychosocial interventions have been developed, with most producing effect sizes in the moderate range (Cohen 1992). New interventions continue to be developed, and along with them a growing body of evidence supporting them. The progress that has been made in psychiatric rehabilitation for schizophrenia provides realistic hope for improving the quality of lives of people with this disorder, if access to these effective services can be assured.

Poor Adoption of Effective Psychosocial Treatments

Despite steady advances in the development and validation of effective psychosocial treatments for schizophrenia, the gap between science and implementation of effective interventions has continued to widen in some countries. The problem of poor access to empirically supported psychosocial treatment has been well known for many years (e.g., Drake and Essock 2009; Lehman and Steinwachs 1998; Resnick et al. 2005). As awareness of this problem has grown, repeated calls have been issued to increase access to effective practices (Drake et al. 2001; Institute of Medicine 2001; President's New Freedom Commission on Mental Health 2003), although the success of these calls has not been readily apparent. This situation seems to differ from other countries where national guidance and audit define the types of treatments that should be available. In more coherent health systems, successful implementation is difficult but not impossible. However, even where mandatory guidance and training are available, difficulties remain.

What accounts for the failure to disseminate effective psychosocial treatments for schizophrenia? There is no single answer to this question, as there

are likely multiple obstacles to dissemination which vary as a function of country and its economic wealth, the geographic setting (e.g., urban vs. rural), and the intervention itself. Below, two different explanations for the poor dissemination of empirically supported interventions for schizophrenia are offered: (a) policy failures in training mental health professionals despite adequate tools for implementing effective treatments; (b) more research is needed to inform the process of implementing and adapting effective interventions in the context of routine service delivery.

Training Obstacles

A clear prerequisite to the dissemination of empirically supported psychosocial treatments for schizophrenia is the availability of suitable resource materials for different practices and established methods for implementing those practices in routine treatment settings. As previously described, empirically supported psychosocial treatments are standardized in manuals to guide clinicians in providing the intervention. Fidelity scales have also been developed to evaluate whether psychosocial interventions are provided with good adherence to the defining principles of each treatment approach (Bond et al. 2000; Teague et al. 2012). In addition, standard training methods have been developed to facilitate the implementation of different treatment programs. One research project has evaluated the effectiveness of combining these three resources into a cohesive package for implementing empirically supported psychosocial treatments for severe mental illness, as described below.

The National Implementing Evidence-Based Practices Project

This study was aimed at evaluating whether empirically validated practices could be implemented and sustained in routine mental health treatment settings (Bond et al. 2009; McHugo et al. 2007; Mueser et al. 2003). For each of five different psychosocial treatment approaches (supported employment, family intervention, illness management and recovery, integrated treatment for co-occurring disorders, and assertive community treatment), a standardized "toolkit" was created and included the following components:

- practitioner's manual,
- information brochures for different stakeholders, including clients, family members, practitioners, supervisors, and policy makers,
- instruments for evaluating outcomes,
- implementation tips,
- a 15–20 minute introductory video to the practice, and
- a 1–3 hour training video for the practice.

For each practice, a standardized two-day training to be delivered by experts was developed and access to expert consultation was facilitated for a two-year period.

A total of 53 publicly funded mental health centers participated in this study by receiving training and implementing two of the five interventions, which were chosen by each agency. Routine fidelity evaluations were conducted at baseline and at six-month intervals for two years. Findings indicate that all five programs were implemented with acceptable levels of adherence to the program models over the first 6–12 months of the project, and that acceptable fidelity levels were maintained up to the two-year assessment point. Results show that empirically supported psychosocial interventions for schizophrenia can be successfully implemented in routine treatment settings and suggest that other factors may be at least partly responsible for the failure of such treatments to be more widely implemented and disseminated.

Policy Implications for Training Mental Health Professionals

To ensure the provision of empirically supported psychosocial treatment for schizophrenia, four basic requirements are needed:

1. Standardized manuals for the intervention and methods for monitoring the quality of its delivery.
2. Practitioners who are trained in the treatment models.
3. Sufficient resources to support the provision of the treatment, including, if necessary, the training of practitioners.
4. Guidelines or incentives that prioritize the delivery of the treatment over less empirically supported interventions.

Standardized manuals for different empirically supported treatments exist, as do fidelity scales for evaluating implementation quality. In the National Implementing Evidence-Based Practices Project (McHugo et al. 2007), the cost of training practitioners was borne by the research project, not the agency; the voluntary engagement of agencies in the project probably ensured some level of motivation or incentive to implement the chosen practices as faithfully as possible to the fidelity criteria. This suggests that policy implications in the training of mental health professionals in psychosocial treatment deserve special scrutiny.

Training of Mental Health Professionals

In the United States, individuals who enter the mental health profession from fields such as clinical psychology, social work, nursing, occupational therapy, and even psychiatry receive little training in specific empirically supported psychosocial treatments for schizophrenia or even in programs with an evidence base over two decades old, such as family intervention (Dixon et al. 2001). For example, clinical psychologists graduating from Ph.D. programs in the United States, accredited by the American Psychological Association (APA), are not required to demonstrate competence in either the assessment

or treatment of people with schizophrenia, nor does any state require such competence for the licensing of psychologists. Consequently, there are limited training opportunities for working with people with schizophrenia in clinical psychology Ph.D. programs, and many programs lack any faculty expertise in the treatment of serious mental illness (Reddy et al. 2010). The problem is not appreciably different in the other fields of social work, occupational therapy, or nursing. This shifts much of the cost of training in psychosocial treatments for schizophrenia from professional schools to the healthcare system, which leads to financial strain on limited resources. As proposed for clinical psychology (Mueser et al. 2013b), requiring competency in the psychosocial treatment of serious mental illness from students, who obtain advanced degrees and are licensed in the mental health profession, could reduce the burden of training clinicians on the healthcare system.

The relative lack of training in empirically supported psychosocial treatments for schizophrenia in professional programs in the United States for disciplines such as clinical psychology could also reflect the absence of generally understood roles or niches for the special skills of each profession within the psychiatric rehabilitation community and postgraduate career disincentives to working with this population. This is in marked contrast to the situation in Great Britain and Europe, where more defined roles for clinical psychologists and other mental health professionals in the treatment of serious mental illness have been established.

Still, even concerted training efforts may be insufficient to foster the broad uptake of some psychosocial interventions for schizophrenia. The most notable case example of this is family intervention for schizophrenia. Despite the development and empirical validation of several family interventions for schizophrenia, as reviewed here, and programs for training clinicians and disseminating the practice (Tarrier et al. 1999), access to these interventions remains problematic in both the United States and Great Britain. A wide variety of factors have been identified that influence the implementation of family intervention programs, including clinicians' attitudes about the effectiveness of family programs, organizational issues, clinicians' specific profession, and the willingness of relatives to engage in services (Fadden 1997; McCreadie et al. 1991; McFarlane et al. 2001; Wright 1997). These issues have been insufficiently addressed in research on the implementation of family intervention and other empirically supported programs.

Research on Implementation and Dissemination

The problem of poor access in routine care to effective psychosocial treatments for schizophrenia is not unique to the disorder, but is also present across the broader range of mental health and preventive interventions, where numerous other relatively complex interventions also enjoy a strong evidence base

(Glasgow et al. 2003; Institute of Medicine 2006). The challenge of making effective treatments widely accessible has led to a growing interest in the rapidly evolving field of implementation science, which has been described as the translational step between the development and empirical validation of interventions and the integration of these services into systems of care (Proctor et al. 2009). Although still in its infancy, a better understanding of the processes and factors relevant to the implementation of psychosocial treatments may be necessary to close the gap between science and practice.

The terms diffusion, dissemination, and implementation should be distinguished. *Diffusion* refers to the spread and uptake of new practices into systems of care (Rogers 2003), with *diffusion research* being the study of factors critical to the adoption of empirically supported interventions by providers of treatment for a specific population (Proctor et al. 2009). A wide range of contextual factors has been identified as influencing the spread of new practices, such as norms and attitudes about particular health conditions, organizational structure and process, resources, policies and incentives, networks and linkages within the organization, and media and other change agents (Mendel et al. 2008). Whereas diffusion may be a passive process, *dissemination* refers to active, targeted efforts to persuade key stakeholder groups to adopt a specific intervention, and the distribution of related information and materials designed to promote its successful adoption (Greenhalgh et al. 2004). Finally, *implementation* is the use of specific strategies aimed at introducing an empirically supported intervention within a specific treatment setting (Proctor et al. 2009).

Just as successful treatments for schizophrenia are evaluated by changes in client outcomes (such as symptoms and relapses, cognitive functioning, and psychosocial functioning), implementation efforts require attention to a different set of outcomes (Glisson and Schoenwald 2005; Proctor et al. 2009). Primary outcomes of interest to implementation research include:

- Feasibility: Is it possible for the intervention to be incorporated into routine services in an agency, including organizational structures and costs?
- Fidelity: Can the intervention be provided with good adherence to the defining elements of the practice?
- Penetration: What proportion of the targeted population in the setting receives the treatment?
- Acceptability: Can clients be engaged in the intervention and complete it, and are they satisfied with it?
- Sustainability: Can the intervention be maintained over the long-term?

The successful implementation of a practice is not sufficient to ensure that it will continue to be provided. A host of factors (e.g., organizational leadership, change in funding priorities) can lead to the dismantling of new practices (Massatti et al. 2008).

The issue of evaluating fidelity to the program model is a thorny one, as modifications to the original model may be undertaken to ensure the feasibility of implementing the practice into routine treatment, and to achieve acceptable levels of penetration (Aarons et al. 2011). Successive modifications of an intervention lead to the inevitable question: When has the implemented practice deviated significantly from the original practice, and is the deviation better or worse? A related issue is that high levels of program standardization are required to attain the necessary precision to evaluate an intervention's impact on the targeted outcomes and to establish its efficacy and effectiveness. For example, most cognitive remediation programs specify a core curriculum of cognitive skills and exercises as well as a set number or range of hours or sessions during which the training is to be completed (McGurk et al. 2005; Wykes and Reeder 2005). Similarly, family intervention programs also recommend curricula in terms of information and skills to be taught to families, and specific timeframes in which the teaching is to be accomplished (Barrowclough and Tarrier 1992; Falloon et al. 1984). However, in routine practice, there is a need to provide clinicians with practical guidance about how to tailor the intervention to the client's (or family's) needs (e.g., targeted teaching of curricula), how to determine whether the client has benefited, and when the intervention should be abbreviated or extended from the standard parameters originally developed for it. Implementation research is needed to address how (a) to modify and develop practical clinical guidelines for providing empirically supported interventions for schizophrenia in routine practice settings, (b) to evaluate whether adapted programs continue to improve targeted client outcomes, and (c) to alter fidelity criteria accordingly.

Models for guiding the evaluation of implementation efforts are still in the developmental stage and tend to be more descriptive than theoretical in nature (Aarons et al. 2011; Atkins 2009). Proctor et al. (2009) have proposed a heuristic framework for implementation research which provides a classification of the multiple levels that implementation strategies may target and that need to be assessed to evaluate performance improvement; this includes the larger system and environment (e.g., reimbursement, regulatory policies), the organization (e.g., structure, leadership), groups or teams (e.g., cooperation, coordination, sharing of knowledge), and the individual (e.g., knowledge, skill, expertise). The importance of recognizing the broad scope of change agents and factors which may be critical to successful implementation has led to interdisciplinary approaches that are more broadly inclusive and collaborative in involving multiple stakeholders (e.g., clients, clinicians, family members) over the full range of treatment development, implementation, and dissemination (Gonzales et al. 2002; Wells et al. 2004). The recent growth in use of participatory action research approaches to mental health (Knightbridge et al. 2006), including psychosocial treatments for serious mental illness (Cook et al. 2010), is an example of this trend, which has long-term potential to improve access to effective psychiatric rehabilitation for schizophrenia.

Increasing the Effectiveness of Psychosocial Treatments

While great progress has been made in psychosocial treatments for schizophrenia, even the most potent interventions fail to help a significant proportion of individuals. For many who do benefit, improvement is only modest. For example, although the majority of people with serious mental illness who receive supported employment obtain some competitive work over a period of 1.5–2 years, many clients work little or not at all, and those who do work often have brief job tenures marked with unsuccessful job endings (Bond et al. 2008; Mueser et al. 2004). In addition, the current armamentarium of psychiatric rehabilitation approaches targets a limited range of domains of functioning and consequences of schizophrenia. There is a need for effective interventions that address needs in other areas, such as psychological well-being, the effects of stigma and self-stigma, physical health, close personal relationships, and parenting skills. Several approaches to improving the effectiveness of psychosocial interventions and research on treatment are described below.

Targeting Factors Related to Change in Effective Psychosocial Treatments

Research aimed at understanding the individual who fails to benefit from empirically supported psychosocial interventions for schizophrenia, and the mechanisms underlying effective treatments, has the potential to lead to more effective interventions.

Who Benefits from Psychiatric Rehabilitation?

The identification of illness-related predictors of response to psychosocial treatment can lead to interventions which directly target those areas. Two examples illustrate the utility of research that has identified impaired cognitive functioning as a predictor of attenuated response to psychiatric rehabilitation. First, the severity of cognitive impairment is associated with poorer vocational functioning in schizophrenia and less benefit from a range of vocational rehabilitation approaches, including supported employment (McGurk and Mueser 2004). To address this issue, several research teams have developed cognitive remediation programs aimed at improving cognitive functioning and employment outcomes, in the context of vocational rehabilitation programs. RCTs of these combined intervention programs suggest that the addition of cognitive remediation is associated with greater improvements in both cognitive abilities and employment rates compared to vocational rehabilitation alone (e.g., Lindenmayer et al. 2008; McGurk et al. 2009; Vauth et al. 2005).

Second, more impaired cognitive functioning is associated with reduced acquisition of skills in social skills training (Mueser et al. 1991; Smith et al. 1999). Several approaches have been developed to address this problem and

improve the ability of clients with more impaired cognitive functioning to learn social skills. Silverstein et al. (2009b) developed an attention training program for clients whose inattention prevents them from learning in social skills training groups and showed that the incorporation of this training into skills training groups led to better skills acquisition than social skills training alone. Brenner and colleagues (Brenner et al. 1994; Roder et al. 2011b) developed Integrated Psychological Therapy (IPT) to target systematically impairments in cognitive functioning, social cognition, and social skills, with the initial focus on practicing basic cognitive processes thought to be critical to learning more complex social cognition and interpersonal skills. Research has shown that the IPT program improves social functioning in schizophrenia (Roder et al. 2011a).

Research on How Psychosocial Treatments Work

Empirically supported psychosocial interventions for schizophrenia tend to be complex and multifaceted, creating a challenge for any concerted effort aimed at disentangling the mechanisms or critical ingredients responsible for treatment effects. Nevertheless, there are common or defining elements and goals of each intervention which may serve as beginning hypotheses. For example, the core features of family intervention programs are developing a therapeutic alliance between the family and treatment team, the provision of information to families about schizophrenia and its treatment, and the reduction of stress in the family. Critical elements of social skills training include systematic teaching (i.e., shaping) and practice of social skills in simulated situations, encouragement to try skills in social situations, and facilitated practice of skills in real-world settings. Although many different approaches to cognitive remediation have been developed, all seek to increase cognitive performance. The most effective approach for improving functioning includes a combination of practice and teaching strategies on cognitive exercises, which aids the transfer to psychosocial functioning. Key elements of illness self-management programs include providing information about mental illness and its treatment, teaching strategies to improve medication adherence, developing relapse prevention programs, and teaching coping strategies for persistent symptoms. Defining components of cognitive behavioral therapy for psychosis include the development or enhancement of coping strategies as well as cognitive restructuring aimed at helping people evaluate the evidence which supports upsetting thoughts and beliefs. Critical features of supported employment include rapid job search for competitive work, provision of practical supports in finding and keeping jobs, and attention to client preferences.

Evaluating whether an intervention succeeds in modifying the immediate targets of treatment (e.g., improved knowledge about schizophrenia in family intervention and illness self-management training programs), and the association between changes in those targets and functional outcomes, could serve to identify which targets are most critical. Similarly, determining which elements

of an intervention are necessary for improving outcomes, and which are not, could shed light on the critical mechanisms that underlie benefit from treatment. For example, there is some evidence supporting many of the individual components used to define supported employment, such as rapid job search and follow-along supports (Bond 2004; Bond and Kukla 2011). Of course, different targets may be critical for different individuals under different circumstances, further complicating the process but underscoring the importance of efforts to understand how interventions work.

Increasing Specificity and Routine Monitoring of Targeted Outcomes

Psychosocial treatment methods for schizophrenia developed over the last several decades have the potential to incorporate considerable detail in assessment, treatment planning, decision making, and outcome evaluation of interventions (Spaulding et al. 2003). Such detail is necessary for the personalization and tailoring of treatment to the individual. These methods represent a convergence of several lines of work, including the case formulation approach to cognitive behavioral therapy (Beck et al. 1979), social learning theory (Bandura 1969), functional assessment and analysis of behavior (Bijou and Peterson 1971), problem-solving models of clinical practice (D'Zurilla and Goldfried 1971), and new conceptualizations of recovery (Anthony 1993).

The essence of person-oriented treatment is that individuals are actively involved in setting their own treatment goals, identifying the outcomes they most want to change and the treatment strategies they want to use, and actively working together to implement interventions. It should be noted that the individual's perspective, attitudes, values, and beliefs are incorporated into a biosystemic understanding of mental illness, as part of the individual's psychosocial functioning (Spaulding et al. 2003). To personalize psychosocial treatment and to make it as effective as possible, several issues related to the targeted outcomes need to be addressed, including

- a comprehensive assessment leading to the identification of specific goals or outcomes,
- access to reliable and sensitive measures of these outcomes, and
- the routine monitoring of progress toward desired outcomes.

Despite advances in the technology of treatment, the ability of clinicians to provide personalized treatment for schizophrenia is limited by overemphasis on symptoms and deficits, goals which focus on treatment adherence rather than desired outcomes, poorly specified goals, and lack of time and effort invested in monitoring progress toward goals. The scope of goal setting needs to address a broad range of psychosocial needs and desires beyond (or often instead of) coping with symptoms, such as:

- emotional well-being (e.g., experience of positive emotions, hope),
- role functioning (e.g., work, school, parenting, homemaker),
- social relationships (e.g., family, friends, intimacy),
- leisure activities,
- self-care and independent living (e.g., money management, grooming/hygiene, shopping/food preparation),
- physical health (e.g., diet, exercise, smoking, management of physical illnesses such as diabetes),
- creative expression, and
- community inclusion and involvement.

In addition, it is important to seek to understand the individual's perspective or experience of mental illness, such as demoralization (Birchwood et al. 1993), self-defeating thinking (Grant and Beck 2009), stigma, and self-stigma (Drapalski et al. 2013). Assessing these perspectives can be informative about other areas of impaired functioning (e.g., unemployment, social isolation) and may serve as potential targets for treatment. Some research suggests that negative attitudes or unhelpful beliefs can be fruitfully targeted, such as defeatist thinking (Granholm et al. 2009) and self-stigma (Lucksted et al. 2011; Yanos et al. 2012), which may contribute to improved well-being, personal growth, and better functioning (Roe and Chopra 2003).

Initial engagement and treatment focused on identifying and pursuing client-centered goals is critical to developing a therapeutic relationship (Tryson and Winograd 2001) and instilling motivation to learn illness self-management (Corrigan et al. 2001). Goals need to be described with sufficient specificity to permit reliable measurement and assessed frequently enough to provide useful information about whether progress is being made. The process of setting and making progress toward personal goals is important to psychological well-being and growth (Elliot et al. 1997; Sheldon et al. 2002). To ensure that clients are able to reap the full benefits of goal setting and attainment, large goals need to be broken down into smaller ones, and periodic monitoring of progress needs to be conducted to reinforce effort and to maintain the therapeutic alliance. Routine monitoring of targeted outcomes also enables the clinician and client to evaluate whether the strategies they are using to achieve the desired goals are working and should be continued, or whether alternative approaches should be considered.

Clinicians often have difficulty specifying goals with clients, and infrequently monitor progress toward goals, sometimes only when required by an agency (e.g., treatment planning conducted every six months). This makes it difficult for clinicians to "keep their eye on the ball" of the goal and to customize their work to the individual client accordingly. Assessment tools are needed which tap the broad range of needs that clients may have, are easy to administer and score, and for which targeted outcomes can be routinely assessed (e.g., monthly) to gauge progress. For the assessment and treatment of

serious mental illness, increasing innovation in the use of e-technology may hold promise for the development of more comprehensive assessment packages that can be used both to identify needs treatment goals and to track progress routinely over time (Ben-Zeev et al. 2012).

The notion that rigorous clinical evaluation and systematic treatment are necessary to evaluate outcomes rigorously on a case-by-case basis, even for interventions that have been validated in controlled trials, is increasingly referred to as *practice-based medicine* (Horn and Gassaway 2007; Horn et al. 2010). There is a growing interest in this approach in the broader field of psychotherapy, with the development of commercialized clinical decision supports systems designed to facilitate this practice (Bickman 2008; Chorpita and Daleiden 2009; Lambert 2005), and a few applications for treatment of serious mental illness (Chinman et al. 2004; Iyer et al. 2005; Paul 1986). The recognition of clinical practice has the promise to inform research and treatment development and has led to initiatives aimed at enhancing the capacity of clinicians to use research methods to evaluate the effects of their interventions (Sulivan et al. 2005), and calls for *practice research networks* to facilitate the integration of research methods into clinical practice (Borkovec 2004).

Improving Outcomes by Thorough Training in Empirically Supported Interventions

The primary value of empirically supported interventions is often thought of in terms of having a standardized treatment that improves a targeted outcome. This is important, but as previously reviewed, these interventions do not work for everybody, and there are many domains of functioning for which effective practices have yet to be identified. Providing clinicians with a solid foundation in empirically supported psychosocial treatments may, however, yield additional benefits to clients, both in terms of better outcomes in domains which are the focus of established practices as well as other domains not previously targeted by those practices.

Empirically supported psychosocial treatments are standardized in manuals, and learning them usually involves a combination of reading, attending lectures, observing how other skilled practitioners use the model, practicing skills (both in role plays and with actual clients), and receiving regular supervision on efforts to implement the program. The structure imposed by each specific practice, and the process of learning a practice through observing how experts model it, combined with repeated opportunities to practice specific skills and receive supervisory feedback (i.e., shaping), provides an ideal platform for teaching core clinical competencies that extend beyond the specific practice itself. The repeated practice and honing of skills incorporated into an empirically supported program, to the point of overlearning, may enable clinicians to develop expert performance capabilities in the practice (Ericsson and Charness

1994). Clinicians may then be able to use this expertise in new, creative ways to improve their ability to address other problems and goals.

For example, training in family interventions involves learning how to reach out and engage significant others (along with the client) in a collaborative relationship with the treatment team, demonstrating concern and empathy for the challenges faced by relatives and significant other people, evaluating the concerns and priorities of family members, providing information, enlisting family support, and teaching stress reduction strategies. While family intervention programs were originally developed to reduce the risk of relapse and hospitalization following a recent relapse, the clinical skills involved in working with families have many other potential applications:

- The clinician working with a young mother with schizophrenia who had difficulty caring for her infant enlisted the help and support of her parents and sister to reduce the burden of caring for her child, to help her improve her parenting skills, and to facilitate the management of her mental illness.
- Two leaders of a social skills training program in a residential setting serving severely ill, formerly institutionalized clients with schizophrenia engaged and regularly met with frontline residential staff to educate them about serious mental illness, obtain their perspectives on problematic social situations experienced by the clients, review skills targeted in the skills training program, and collaboratively work out plans to help clients practice and use skills in appropriate situations in the residence (Bellack et al. 2004a).
- The supported employment specialist of a client who frequently missed appointments, and whose family was not supportive of him getting a job, reached out and engaged the family, and identified their chief worry about work-related stress causing a relapse. The specialist addressed these concerns by explaining to the family that involvement in meaningful and structured activities (such as work) can actually *protect* people with schizophrenia from stress, and then reviewed with them the client's current strategies for preventing relapses. This information allayed the family concerns, ensured their support, and led to several job leads from friends of the family.

Similar examples could be provided for other empirically supported treatments. For example, cognitive restructuring, a core skill learned by clinicians who provide cognitive behavioral therapy for psychosis, can be used to:

- address self-defeating thinking in a client who has had difficulty getting work ("I'll never get a job") and shows minimal follow-through on job search activities when participating in supported employment;

- reduce the severity of symptoms such as ideas of reference and thought broadcasting that interfere with a client practicing social skills in community situations; and
- help the parents with a son who has schizophrenia, who are participating in family intervention together, cope with and move past their pervasive feeling of loss and despair about his mental illness by reframing their understanding of what recovery means, and appreciating his potential to live a meaningful and rewarding life, despite having this disorder.

Thus, investment in training clinicians in multiple effective psychosocial practices could have synergistic benefits as many of the practices involve complementary skill sets. Expertise across different practices could increase competence at each of the established practices.

Summary and Conclusions

Psychosocial treatment (or psychiatric rehabilitation) of schizophrenia encompasses a great variety of interventions aimed at improving functioning across multiple domains, including cognitive functioning, social relationships, independent living skills, work or school, socioenvironmental adjustment, symptoms, and well-being. Psychosocial treatments can be provided in a variety of different modalities (e.g., individual, group, family) and may involve environmental modifications such as the provision of practical supports or contingent reinforcement of adaptive behavior. Over the past two decades, the recovery movement (led by persons with a mental illness, referred to as "consumers" in the United States or "service users" in Great Britain) has successfully challenged traditional medical definitions of recovery from mental illness as the remission of all symptoms and relapses, and has argued for a new definition of recovery that emphasizes living a personally meaningful life, including quality of social relationships, independent living, role functioning, and well-being. The recovery movement has also underscored the importance of a client participating actively in their own treatment, including the setting of goals and participation in shared decision making about treatment options.

Significant progress has been made in the development and validation of effective psychosocial treatments for schizophrenia, including contingent reinforcement (i.e., token economy), supported employment, cognitive behavioral therapy, social skills training, cognitive remediation, family intervention, and training in illness self-management. Most of these interventions, however, have not been routinely implemented in standard clinical practice, including programs for which there is an evidence base for well over a decade. Research shows that empirically supported psychosocial interventions can be implemented in routine treatment settings with good fidelity to the models. However,

major obstacles to dissemination remain. One obstacle is the relative lack of training in empirically supported interventions for serious mental illness in graduate schools for mental health professionals (e.g., clinical psychologists, social workers). A second challenge is the need for more attention to understanding the processes involved in implementing an effective practice into routine care, such as organizational and financing factors, clinicians' attitudes and skills, the involvement of clients and other stakeholders, and methods for adapting a practice to the treatment setting while maintaining fidelity to the original model. Implementation science is still in its infancy but stands to play an increasingly important role in the field as further psychosocial treatments are empirically validated but wait to become integrated into usual practice.

Future psychosocial interventions for schizophrenia will benefit from further research aimed at understanding the predictors of benefit from empirically supported interventions and the critical components of effective treatment programs. Such research has the potential to target factors that limit response to treatment (e.g., impaired cognitive functioning) and to enhance the most important elements of intervention. There is a need to facilitate accurate and sensitive measurement of goals and outcomes so that clinicians can routinely monitor progress and tailor their interventions accordingly, thereby leading to more personalized treatment. The importance of individual tailoring of treatments also suggests that a linear process of research informing practice should not be assumed, and that practice has much to contribute to research. Thus, practice-based treatment, and establishing practice research networks, has the potential to improve treatment. Finally, the training of clinicians in empirically supported psychosocial interventions may reap benefits above and beyond their ability to provide any one practice. Training clinicians across the spectrum of effective treatments may lead to superior clinical competencies that improve their ability to tailor treatment to the personal needs of the client, and to target other areas for which established effective practices do not yet exist.