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Future directions for research studies and clinical work on recovery from schizophrenia: questions with some answers

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Summary

To promote recovery in larger numbers of persons with schizophrenia, considerable research will be required in generating and validating a variety of operational definitions of the construct of 'recovery'. Definitions will vary both in terms of the inclusiveness of their dimensions and their use of dimensional or categorical criteria. When categorical criteria are used, differences in quantitative thresholds for meeting the criteria for recovery will require long-term follow-up studies to choose from. A multi-modal approach to validation of criteria for recovery will likely be most desirable. There will be the need for research and development on instruments for measuring psychosocial functioning, including surveys and focus groups that can clarify the range of normative behavior in the general population using these instruments and their psychometric properties. Studies for identifying those who recover from schizophrenia will need to be longitudinal and prospective, including controlled clinical trials, effectiveness and field studies that view recovery as unfolding over many years in dynamic ways. One benefit of research on the construct of recovery will be to improve the differentiation of schizophrenia as a heterogeneous set of disorders rather than a unitary disease. The role of various malleable factors related to recovery, including treatment and rehabilitation, should lead to advances in services for persons with schizophrenia as well as in training of mental health professionals.

The series of articles in this special issue of the International Review of Psychiatry marks a starting point for research and clinical work on the construct of recovery. It would be an error for readers of this issue to consider the assertions and findings more than points of departure for future scientific and clinical studies. The editors of the special issue hope that the articles will generate further theoretical and empirical activity on the definition of recovery as well as generate hypotheses for identification of factors that might facilitate recovery.

While we believe that any definition of recovery must include psychosocial dimensions such as work and relationships as well as symptomatic remission, there are many ways to cut this cake. For example, some clinicians have reported that anxiety and depression are more disabling to persons with schizophrenia than positive psychotic symptoms. There is general agreement that negative symptoms are more disabling and more closely associated with abnormalities in brain structure and functioning as well as neurocognitive functioning (Cabeza & Nyberg, 2000).

The presence or absence of particular symptoms will not likely be as important in the construct of recovery than the degree to which symptoms intrude on psychosocial functioning and are managed by the individual. Most normal people when queried describe episodes of anxiety and depression and even acknowledge experiencing hallucinations. But normality is almost always viewed as requiring a reasonable degree of functional independence, positive social relationships, and the ability to work. Thus, arguments over cut-off points of '4' (moderate severity) or '2' (very mild severity) will likely dissolve when placed in the context of the sustained functional capacity of the individual. The recent interest in the book and movie '*The Beautiful Mind*' (Nasar, 1998), depicting the life story and recovery from schizophrenia of the Nobel laureate John Nash, has highlighted one person's gradual control and mastery over delusions and hallucinations, which enabled him to regain a functional lifestyle. One evidence-based method of vocational rehabilitation, supported employment, has achieved rates of 50–75% in competitive employment of persons with severe mental disorders; however, less than 50% of those employed have been able to sustain their work function beyond six months (Lehman *et al.*, 2002). Thus, definitions of recovery as well as treatment and natural history factors that propel recovery will have to meet stringent criteria for psychosocial functioning.

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What are the research issues that will elucidate the construct of recovery?

The central question for researchers as they build operational models to define recovery from schizophrenia will be, 'What are the appropriate dimensions to include for defining recovery?' The dimensions outlined by Liberman and his colleagues in the second article in this special issue are admittedly arbitrary and could be supplanted or supplemented by others. Quality of life, spiritual satisfaction, financial independence, material possessions, and membership in reference groups are but some plausible dimensions that could be included in a definition of recovery. It will be important to conduct systematic and methodologically sound social and professional validation studies of any combination of variables for defining recovery. In addition, the psychometric properties of each dimension's measures should be nailed down to meet customary standards. The informal focus groups described in the second article of this special issue (Liberman *et al.*, this issue) represent only an initial foray in this direction.

In addition, decisions will have to be made—also based on measurement properties—regarding the use of categorical *vs.* dimensional approaches to each domain. Because customary definitions of normality fall on continua, it is likely that most of the domains will be best measured using continuous variables—rather than the somewhat arbitrary categorical definitions offered in the UCLA definition in the second article of this issue. Much research will have to be done to cross-validate the operational criteria with normative reference groups, surveys and focus groups. When empirical studies are conducted to find out the number of individuals who actually meet the criteria for recovery, the value of the criteria should come into clearer view. For example, in a study of 118 individuals with first episode schizophrenia treated for a minimum of five years, the cumulative recovery rate was 17% when the UCLA categorical criteria were used (Robinson *et al.*, in press). These findings stand in contrast to one-year symptomatic remission rates from the same study where 87% reached remission. Thus, both time and the use of multiple criteria markedly reduced the recovery rate in this sample. It is not clear how much this fall-off in improvement occurred as a result of failure to sustain the continuity, comprehensiveness, coordination, and consumer-orientation of the services rendered by the clinic.

Another issue for research on recovery will be to investigate whether or not comprehensive, continuous, coordinated, collaborative, consumer-oriented and competent evidence-based services actually change the *trajectory of the disease* or simply make their impact for a subset of individuals. It is possible, for example that the recovery criteria may be reached almost exclusively by individuals with good premorbid functioning, those without primary negative symptoms or those who have normal neurocognitive functioning. Research would spur the elucidation of the long-held view of the heterogeneity of schizophrenia and help determine whether or not schizophrenia is a unitary or multiplex disease.

Controversy in schizophrenia has been generated by the findings by some, but not all investigators, that there is a relationship between duration of untreated psychosis and poor outcomes (Norman & Malla, 2001). If this is the case, then there are important implications for early identification and treatment of psychosis, both in first episode and relapse-prone individuals When symptomatic and functional dimensions are being monitored in studies of recovery and individuals are being followed for two years or longer to determine if they are meeting criteria for recovery, there is a much greater likelihood that prodromal signs of psychosis or relapse will be picked up. Thus, the role of untreated psychosis as a malleable factor in determining recovery becomes a 'reactive' variable for which interventions can be provided. Studies could be designed so that subjects with schizophrenia are followed prospectively for periods when psychotic or non-psychotic with one cohort randomly assigned to close monitoring for prodromata and rapid intervention and another cohort assigned to treatment as usual. While findings to date on the relationship of untreated psychosis to outcome have been indecisive, experimental, prospective and longitudinal studies of the role of this putative factor in recovery could help to clarify its true role.

What dilemmas face researchers and clinicians attempting to understand and promote recovery?

We have established the possibility of a 50% rate of recovery from schizophrenia in the first article in this special issue for heuristic purposes. This optimistic level of outcome, especially if defined in the multimodal terms described in the first two articles of the series, is based on very high rates of symptomatic remission reported in several studies of first episode schizophrenia as well as symptomatic and functional recovery rates reported by long-term follow-up studies in Europe, Japan, the USA and the multinational World Health Organization project (Jablensky *et al.*, 1992). However, we are well aware that marshalling all of the malleable factors that can promote recovery (see Liberman *et al.*, this issue) is an ideal that may not be often feasible in the real world. The majority of individuals with schizophrenia receive marginal, fragmented and inadequate services that hamper recovery. Moreover, their families and other natural caregivers rarely gain the benefit of psycho-education and training in coping and problem-solving skills that have been shown to be associated with significantly better outcomes

(Leff, 2002). Therefore, recovery may remain a distant dream for the huge reservoir of chronic schizophrenics who live in all countries of the world, including those with nil resources for mental health, and are unlikely to have access to the kinds of high quality, continuous and well-coordinated, evidence-based services that may be expected to magnify good outcomes.

Some critics of pursuing research on recovery might argue that the fact that the meager number of individuals who may benefit from the findings of this research will lead to disgruntlement, guilt and even greater stigma among the larger number of patients, their families and caregivers who will not be beneficiaries of the research. While this may be true, it is more likely that documenting the prospects and mediators related to recovery will lead to a wide scale de-stigmatization of schizophrenia and other serious mental disorders, not unlike what happened to cancer when prospects for recovery and improved outcomes surfaced with better means of screening, early identification and treatment. When one segment of the population with a disease or disorder is obtaining benefits that come from spin-offs of research, the other segments that have been left out are usually not likely to be left behind for very long. For example, as treatments become better documented for their efficacy and contribution to recovery, they will be made more widely available to the full range of individuals with schizophrenia.

How much and what type of services are actually needed to achieve recovery?

Many studies reveal the presence of a proportion of individuals, both early and late in their 'careers' with schizophrenia, who appear to improve and even recover without the use of continuous, daily antipsychotic medication. For example, in the Soteria Project, minimal use of antipsychotics during the initial six weeks of acute psychosis was associated with good outcomes in many cases given the context of intensive staff-patient contact, skilled and empathic supportive interventions, and graded, realistic expectations for improvement (Mosher & Bola, 2002). In some cases, substantial improvement occurred even without neuroleptic drugs (Mosher *et al.*, 1995). In Harding's landmark 20–30 year follow-up study of well-diagnosed schizophrenics who had been discharged from the Vermont State Hospital, less than a third of those functioning well later in life were taking antipsychotic medications on a daily basis.

In one study of intermittent use of antipsychotic drugs—keyed to the emergence of prodromal or psychotic symptoms—women (but not men) with schizophrenia did as well with the intermittent approach to medication as did women who received continuous medication. There does seem to be a exchangeable protection against relapse between antipsychotic drugs and certain salutary psychosocial treatments which may reduce the amount of medication that patients with schizophrenia require if they receive the benefits of optimal psychosocial interventions (Liberman, 2001). For example, in one study, schizophrenic outpatients who were receiving very low doses of maintenance fluphenazine were randomly assigned to receive, on a double-blind basis, either supplementary and time-limited fluphenazine, or placebo at times of symptomatic exacerbation. These individuals were also randomly assigned to two different psychosocial treatment conditions: supportive group psychotherapy or social skills training. The patients who received social skills training experienced as few relapses when they received placebo as when they received active drug supplementation. On the other hand, patients who were participating in supportive group therapy did not show any protective effect from that intervention and only had reduced rates of relapse when they received supplementary medication (Liberman *et al.*, 1998). Until well-established, routine programs with unconventional medication regimens can be documented and replicated in effectiveness as well as efficacy studies, discretion in using regular and continuous antipsychotic medications will be the better part of valor.

What are some of the generic mediators and factors promoting recovery?

Almost three decades ago, Jerome Frank (1973) described five factors which treatment research had shown to be related to good outcomes in a variety of psychiatric disorders. These were:

- A *healing context* with high levels of consumer satisfaction with the services rendered.
- Development of a relationship infused with confidence, respect, trust, empathy and hope.
- Acquiring a plausible cause and effect and understanding of the nature of the disorder, symptoms or disability.
- Interactions between the patient and therapist that generate *positive expectations for improvement* and a willingness to *remain committed to long-term improvement* even when relapses or plateaus ensue.
- A therapeutic process that provides *opportunities, encouragement and reinforcement for success experiences and improvement in symptoms and functioning.*

The studies in this special issue devoted to the examination of processes mediating improvement and recovery lend support to Frank's five principles and elaborate others as well. Granted that most of the studies were intensive, qualitative studies of the recovery process, the findings generate hypotheses for more rigorous, prospective and controlled research in the future.

Buttressing the factors outlined in the second article of this special issue (Liberman *et al.*, this issue), patient characteristics and attributes of the therapeutic relationship and context appear critical to the *prediction and process of recovery*. Higher levels of functioning and psychosocial accomplishments at the time when treatment and rehabilitation begin clearly predict outcome and ultimate chances of recovery. These factors may be *proxies for* the neurodevelopmental and genetic vulnerabilities to the development or severity of schizophrenia or may be *protective factors* that buffer stress and vulnerability. Similarly, primary negative symptoms or the *deficit syndrome* is an important predictor of outcome, perhaps by being linked to general refractoriness to treatment and serious impairments in neurocognitive and brain functioning.

Also important as correlates of recovery are *beliefs that one is able to control or influence one's own fate* (internal locus of control), which is strongly related to *hope, sustained and active coping efforts and expectancy of improvement*. As individuals with schizophrenia proceed on the pathway toward improvement and recovery, they may acquire attributes to their self-concepts that fuel further progress. For example, in the article by Noordsy and his colleagues in this special issue, operational criteria and scales have been developed to measure three key attributes of the self-concept: *hope from spiritual beliefs and treatment relationships, personal responsibility* and *getting on with life*. These may be related to similar mediators of recovery described by others; for example, personality responsibility is isomorphic with internal locus of control and getting on with life clearly overlaps with an active, coping style of dealing with the challenges of life in the community.

One of the critical challenges in moving forward with research in this field will be to design studies that can identify which of the variables identified as putative mediators of recovery are actually linked to the more objective indicators of recovery. If recovery is a longitudinal process, how do the milestones along the way relate to and affect the traveler so that he/she is more likely to arrive at the criterion definition of recovery? For example, if consumer activism promotes internal locus of control or empowerment, what types of consumer involvement in treatment and rehabilitation are likely to be helpful? Consumer-run services clearly facilitate sharing, cohesion, role-modeling and positive modes of self-expression; sometimes they even develop needed social and vocational skills. However, it would be expecting too much from them to believe that all consumer-run services will promote recovery. There are some that are militantly anti-psychiatric and anti-medication which hold all biological views of causality of schizophrenia as suspect. These consumer-run services, at the minimum, fail to coordinate or liaise collaboratively with mental health teams and can run the risk of exerting centrifugal forces on individuals with schizophrenia that may paradoxically reduce their chances for recovery.

Research on recovery requires development of new and standardized instrumentation, as well as dynamic, longitudinal designs

Long-term, international studies of the process and outcome of schizophrenia have highlighted the great heterogeneity, complexity and non-linear process in the course of this disorder or variants of a disorder. Recovery should not be seen as a stable 'end state' because individuals change too often for that to be an accurate reflection of community re-integration. Even after 30–40 years of active symptoms and disability, some individuals are able to demonstrate improvements that can be tantamount to our definition of recovery. A variety of research designs can be utilized that will do justice to the lengthy process by which recovery often occurs: within subject analyses over time, random assignment to different treatment conditions, subgroup analyses within a longitudinal cohort, and meta-analytic studies of many projects. The most powerful technique is the randomized, controlled treatment trial; however, it is unlikely that such preferred designs will be implemented unless funding agencies give priority to long-term investments in following cohorts.

Important elements in the process of recovery that are relevant to assessment are the personal attributes of the individual interacting with those professional and natural caregivers and supporters providing help and with his or her social environment. Some attributes, which should be measured, include resilience, active coping, a good history of psychosocial functioning and the yield from interactions with those treating the condition, family and other natural supporters that include hope, expectations for improvement, empowerment and adherence to treatment. While well developed, validated and standardized instruments are available to measure symptoms and remission, measurement of these variables and other dimensions of psychosocial functioning have not achieved a consensus for scientific standardization.

How, then, can social recovery be measured? Moving beyond loose definitions, instruments available include the Global Assessment Scale (a mixture of symptom and functional ratings), Levels of Functioning Scale, the Community Adjustment Scale, the Social Adjustment Scale II, the Independent Living Skills Survey, the Independent Living Skills Inventory, the Community Adjustment Scale, and the Clients' Assessment of Strengths, Interests and Goals (Wallace *et al.*, 2000; 2001). In the Vermont follow-up study, a combined approach was taken with simultaneous measurement of functioning using the first three of the above instruments. Almost 30% of the Vermonters with schizophrenia demonstrated a level of functioning and remission of

psychosis commensurate with 'recovery' while about 36% were found to have poor functioning. Another 35% were in between these two extremes, individuals with persistent positive symptoms of schizophrenia but who were quite functional in their communities of residence; that is they worked, had cordial relations with their families, enjoyed their friends, were satisfied with life and had acquired the ability to control or manage their symptoms so they wouldn't intrude on their everyday life.

It will be eventually necessary for the construct of recovery to be compared with societal norms. Unfortunately, there is very little empirical work with instruments measuring psychosocial functioning that have been applied to both normative community populations and individuals with schizophrenia. One exception to this is the Lehman Quality of Life Scale, which has shown repeatedly that persons with severe mental illnesses fall outside the normal range by at least one standard deviation (Lehman *et al.*, 1994). Another exception is the Independent Living Skills Survey that was designed to yield a profile reflecting approximations to normal community functioning (Wallace *et al.*, 2000).

The Social Adjustment Scale has also been administered to over 400 non-patients in one Maryland county to generate norms (Hogarty & Katz, 1971). In this normative study, it was found that instrumental and affiliative behavior varied according to age, marital status, social class and gender. As might be expected in that era, women engaged in more household work and less competitive employment than men and adolescents showed more negativism and less stability in their social roles. A more recent assessment of social functioning has found women, in contrast to men, performing both work in the home and in jobs as well as having more contact with family members (Holstein & Harding, 1992).

Research on recovery may change the prognosis of the disorder and the therapeutic climate

While some skeptics of increasing the salience of recovery may fret that policymakers and funding bodies might cut back on services for the mentally ill if it is known that a certain proportion of individuals with schizophrenia recover, the very opposite is likely to happen. Since the vast majority of the risk and protective factors that influence recovery are *malleable* through interventions, publicizing the need for *comprehensive, continuous, coordinated, competent, caring* and *consumer-oriented services* to achieve better outcomes and recovery will inevitably bring more pressure to bear on those legislators and administrators who determine the flow of funds to support mental health service systems.

Examples of this already abound; for example, family advocates in California formed lobbying groups that persuaded the state legislature and governor to include clozapine in the state's Medicaid formulary so that all in need of this effective agent would have access to it regardless of ability to pay. Another example is the favorable response by state mental health agencies and legislators to the growing demand by consumers and advocates for fiscal appropriations of new funding streams for evidence-based programs in dual diagnosis and assertive community treatment. When effective treatments emerged to enable a sizeable proportion of cancer patients to reach criterion-referenced states of recovery, health insurers and the federal government provided funds for these new, evidence-based treatments as well as enormous new grants for research comprising the 'war on cancer'.

As research on recovery develops momentum and methodological rigor, based on operationalized definitions of recovery and hypothesis-testing studies on factors viewed as possibly promoting recovery, the zeitgeist should change in the direction of a more favorable view of schizophrenia. The past 100 years of pessimism about the long-term prospects for persons with schizophrenia, which began with Kraepelin's seminal descriptions of the syndrome, should shift in the 21st century to a realistic optimism based on controlled studies showing that factors related to the course of illness are malleable and can be favorably influenced by new and effective treatments. The culture surrounding the treatment of schizophrenia will change for the better, in part resulting from training new generations of mental health practitioners in evidence-based services. Training programs will slowly mirror what we know to be important in improving the course and outcome of schizophrenia. Psychiatrists will not simply be trained to make a DSM IV diagnosis and scribble on a prescription pad—more comprehensive services will be taught to psychiatric residents, including psychosocial interventions, such as family psycho-education and social skills training.

These innovations in research, services and training will not come easily. But if the field of psychiatry is to meet its obligations to optimize treatment for persons with schizophrenia, obstacles to the dissemination and adoption of new techniques that will promote recovery must be overcome. Methods for improving the utilization of evidence-based treatments have been delineated. These include dealing with barriers at the levels of the patient, the family, the clinician, the administration of programs, and the mental health delivery system (Corrigan *et al.*, 1990; Liberman & Corrigan, 1994; Persons, 2000). If we set clear goals so we know where we are going in learning more about recovery and how to expand its benefits to more persons with schizophrenia, there is a good chance that we will find our way. We hope that this special issue will stimulate the efforts of researchers, clinicians, administrators, consumers of services, advocates and other stakeholders to diligently proceed

toward the goal of improving the rate of recovery in schizophrenia. Holding ourselves to the goal of recovery, while recognizing the challenges and interdisciplinary activities that are needed to make incremental progress toward this goal, will render recovery feasible for many more persons with schizophrenia within the next generation. Our commitment to expanding the possibility of recovery in the future should be a widely shared interest since that is where we and our patients will be spending the rest of our lives.

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