How Frequent is Chronic Multiyear Delusional Activity and Recovery in Schizophrenia: A 20-Year Multi–follow-up

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To determine how frequent chronic multiyear delusional activity is in modern-day schizophrenia, we studied 200 patients over a 20-year period. We also studied the relation of delusions to hallucinations and thought disorder-disorganization, to work disability, and to later periods of global recovery and assessed several protective factors against delusional activity. The sample was assessed 6 times over 20 years and includes 43 patients with schizophrenia. Participants were evaluated at each follow-up for delusions, hallucinations, thought disorder-disorganization, work disability, and global recovery. Possible protective factors were assessed prospectively at index hospitalization. Twenty-six percent of the patients with schizophrenia were delusional at all follow-ups over the 20 years. Overall, 57% had frequently recurring or persistent delusions. A subgroup of over 25% of the schizophrenia patients had no delusional activity at any of the 6 follow-ups over 20 years. Schizophrenia patients with posthospital delusional activity had increased work disability (P < .05). Delusions that persisted after the acute phase in schizophrenia patients predicted a lower likelihood of future global recovery (P < .01). In conclusion, slightly over half of modern-day schizophrenia patients are vulnerable to frequent or “chronic” delusional activity after the acute phase. Schizophreniform patients and other types of psychotic disorders are vulnerable to posthospital delusional activity, but less frequently, less severely, and more episodically. Delusional activity is associated with work disability. Internal factors such as good premorbid developmental achievements and favorable prognostic factors are protective factors that reduce the probability of chronic multiyear, delusional activity in schizophrenia (P < .01).

Key words: chronic/delusions/recovery/schizophrenia/followup/work disability/hallucinations/outcome/prognosis/community functioning

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How frequent is chronic multiyear delusional activity in modern-day schizophrenia and schizophreniform disorders, and what are the consequences of vulnerability to frequent delusional activity in regard to work disability and subsequent recovery? Delusions and persistent or recurrent delusional activity have long been viewed as being among the central symptoms of schizophrenia1–3 with much of our efforts and medication treatment centered on the reduction of psychotic activity.4 However, longitudinal multi–follow-up data on how many or what percent of modern-day schizophrenia patients have persistent delusions and what percent do not experience any delusional activity over a multiyear period are relatively scant.5–14 The current article provides this information by reporting multi–follow-up data on delusional activity over a 20-year period in schizophrenia, schizophreniform, and other types of psychotic disorders and explores the relation of delusions to work disability and later periods of global recovery. It also studies several variables that may be protective factors against frequently recurring delusional activity in schizophrenia.

Views by Kraepelin,15 Bleuler,16 and other early theorists emphasized the frequent or continuous positive symptoms experienced by patients with schizophrenia. Modern views, as exemplified by Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) (DSM-IV), note that many patients with schizophrenia remain “chronically ill.”1 Although this characteristic is closely linked to the basic concept of schizophrenia, neither DSM-IV nor other authoritative views have systematically examined how frequently this type of “chronic” course occurs. Conversely, a related issue of importance for recent focus on potential global recovery in schizophrenia is whether some or many patients with schizophrenia experience periods with little or no recurrent delusions over an extended period.

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Two important issues concerning the pathology involved in schizophrenia are the prominence of work disability and the factors that contribute to it, and the even larger issue of potential global recovery for patients with schizophrenia. Some recent evidence has suggested that delusions do not play an important role in work disability in schizophrenia. The present research using a longitudinal framework studied whether delusional activity increases work disability and whether the presence of delusions after the acute phase of hospitalization indicates greater vulnerability and few subsequent periods of global recovery. It also studied the relation of delusional activity to other positive symptoms such as hallucinations and thought disorder-disorganization (TD).

While delusions are one of the central symptoms in schizophrenia, they also play a role in other types of psychotic disorders. However, precise data are not available on whether patients with schizophreniform or other types of psychotic disorders are vulnerable to subsequent delusional episodes after the original acute phase. If one uses a stress-diathesis model for both schizophrenia patients and patients with other types of psychotic disorders, one might expect that patients with other types of psychotic disorders (who already showed vulnerability to delusions at the acute phase) also have some genetic-biological vulnerability to delusional activity. With this diathesis, one might expect that some or many patients with other types of psychotic disorders also show vulnerability to delusions after the acute phase.

Another factor of considerable importance is identifying the protective factors that may increase the probability of patients with schizophrenia experiencing less delusional activity over a prolonged period. A number of modern theorists have begun to study cognitive factors that may be involved in delusional activity. The present research examines several factors internal to the patient that have the potential to identify the characteristics of the subgroup of schizophrenia patients with little or no delusional activity over a prolonged period.

Overall, in this longitudinal research the following questions were addressed:

1. How vulnerable are modern-day patients with schizophrenia to frequently recurring or continuous delusional activity when assessed longitudinally? Is there a strong link between delusions and hallucinations in schizophrenia?
2. Is there a subgroup of modern-day patients with schizophrenia who show little or no delusional activity when assessed longitudinally?
3. Is delusional activity one of the factors contributing to work disability in schizophrenia?
4. For those schizophrenia patients whose delusions persist after the acute phase of hospitalization, does this indicate a more severe vulnerability to psychotic activity, fewer periods of global recovery, and a poorer subsequent prognosis over a multiyear period?
5. Are patients with schizophreniform disorders and with other types of psychotic disorders vulnerable to delusional activity after they recover from their acute phase delusional episode?
6. Can one identify characteristics of schizophrenia patients that serve as protective factors and are associated with little or no delusional activity over a prolonged period?

**Methods**

**Patient Sample**

The current investigation is based on data from the Chicago Follow-up Study, a prospectively designed, longitudinal, multi-follow-up research program studying major symptoms (including psychosis, negative symptoms, and TD), outcome, recovery, and factors involved in psychopathology and recovery in schizophrenia and other types of psychotic disorders. Two hundred young patients, relatively early in their illness, were studied prospectively at the acute phase of hospitalization and then reassessed at 6 subsequent follow-ups over a 20-year period. The follow-ups occurred at 2, 4.5, 7.5, 10, 15, and 20 years posthospital.

The sample of 200 patients included, using *Diagnostic and Statistical Manual of Mental Disorders (Third Edition)* criteria, 43 patients with schizophrenia, 10 schizophreniform patients, 66 other types of psychotic disorders (including 29 bipolar patients, 23 unipolar psychotic depressive patients, and 14 patients with other types of psychotic disorders), and a control sample of 81 nonpsychotic patients (including 51 unipolar nonpsychotic depressive patients). After Institutional Review Board approval, signed informed consent was obtained from all subjects. The research diagnoses were based on structured research interviews conducted during index hospitalization, supplemented by intake interviews at hospital admission. The research interviews consisted of at least one of 2 structured interviews: (1) the Schedule for Affective Disorders and Schizophrenia (SADS) and/or (2) the Schizophrenic State Inventory, with each interview being tape-recorded. Satisfactory interrater reliability was established for diagnosis (eg, a kappa of 0.88 for schizophrenia).

The mean age of the patients at index hospitalization was 23 years and at the 20-year follow-ups was 43.4 years. The ages did not differ across diagnoses. The mean level of education at index was 13 years. Fifty-one percent of the patients were male, with more of the schizophrenia patients being males and more of the nonpsychotic depressives being females. Recent evidence indicates that this type of sex ratio difference is typical for early young patients with schizophrenia who have been...
Follow-up Evaluations and Assessment of Delusions, Other Positive Symptoms, and Work Functioning

The follow-up evaluations involved an established protocol that included a structured interview on symptoms, a structured interview on functioning, and performance tests, including 3 tests to derive a composite index of TD. The follow-up interviews and ratings were conducted by trained raters who were not informed of diagnosis. Patients were assessed at each follow-up for positive and negative symptoms, for affective syndromes, on work and social functioning, on global outcome and potential recovery, and on treatment.

Delusions and hallucinations at each follow-up were assessed with the SADS. Delusions were rated on 3-point scales as follows: 1 = delusion absent; 2 = weak or equivocal delusion; 3 = full delusion present. Hallucinations were rated separately on a similar 3-point scale designed to assess the strength of hallucinations. In regard to delusions, our SADS covers the occurrence within the past month and past year of 16 individual types of delusions. Because patients are usually regarded as delusional regardless of whether they show clear delusions in one or in several areas, a single composite rating of the 16 delusional categories was made based on the highest score for each patient on any given type of delusion.

TD was assessed using a comprehensive index scored from a battery of 3 tests: the Gorham Proverbs Test, the Goldstein-Scheerer Object Sorting Test, and the comprehension subtest of the WAIS. TD was scored on the 3 tests based on qualities associated with formal thought disorder such as loose associations, illogical or autistic thinking, incoherent speech, and bizarre or strange expressions. The scoring system is described in a detailed manual. Good internal consistency and adequate reliability of the index has been obtained, the TD index discriminates patient groups with schizophrenia and mania from other groups, has been assessed longitudinally, and has been used in a number of reported studies.

To assess work functioning, a scale designed by Strauss and Carpenter and used in a number of previous studies was employed. This 5-point scale, scored from questions on the functioning interview was scored as follows: “4” employed continuously; “3” employed more than half of the year, but less than continuously; “2” employed part-time or full-time about half the time in the past year; “1” employed less than half the time in the past year, “0” no useful work.

Recovery

The criteria for global “recovery” during a follow-up year, defined operationally, required no positive or negative symptoms, and no rehospitalizations during the follow-up year. Also required were partially adequate (or better) work and social functioning (scores of “2” or greater on the Strauss-Carpenter scales).

Early Prognostic Potential and Premorbid Developmental Achievements

Two important measures, assessed prospectively at index hospitalization, provided indices of early prognostic potential and premorbid development achievements of the schizophrenia patients. These measures could be viewed as tapping early risk and protective factors for later delusional activity.

One measure is a composite index of prognostic potential. This index is derived from factors outlined in the research of Vaillant, of Stephens, and others. The good prognostic factors assessed prospectively at index hospitalization included an acute onset, precipitating stress at index, adequate work and social adjustment before index, preoccupation with death, the presence of depressive symptoms, confusion, guilt, being married, and no blunted affect.

The other measure, the Zigler-Phillips Scale, is an index of premorbid developmental achievements. This scale has been applied to developmental theory, adult psychopathology and outcome, medication status, self-image, and to mental retardation. The scale is based on patients’ work history, education, marital status, age at first break, and IQ.

Medications

Data on medications are presented in the “Results” section.
Results

Vulnerability of Patients With Schizophrenia and Other Psychotic Disorders To Delusional Activity Over the 20-Year Period

Figure 1 reports the course of delusional activity at 6 follow-ups over 20 years for patients with schizophrenia vs patients from the other psychotic and nonpsychotic patient groups. A 4 × 6 mixed design, repeated-measures analysis of variance (4 diagnostic groups and 6 follow-up assessments) showed large significant diagnostic differences ($F = 18.69$, $df = 3, 106$, $P < .001$), with schizophrenia patients having more delusional activity. Separate analyses comparing the schizophrenia patients with the patients with other types of psychotic disorders on delusional activity showed the schizophrenia patients as having significantly more delusional activity at 5 of the 6 follow-ups ($P < .05$). There also was a significant effect for time ($F = 2.92$, $df = 5, 530$, $P < .02$) with less delusional activity at the 15- and 20-year follow-ups than at the 2-year follow-ups. There was not a significant interaction ($F = 0.50$, $df = 15, 530$, NS).

Vulnerability to Frequently Recurring or Persistent Delusions Over the 20-Year Period

Figure 2, based on the 86% of the patients with 5 or 6 follow-ups, presents the results on what percent of patients with schizophrenia experienced delusional activity at all follow-ups assessed over the 20 years, vs those with frequently recurring delusional activity over the 20-year period (ie, showing delusional activity at 3 or more of the follow-ups), vs those with less frequent delusional activity and those with no delusional activity during the follow-up years over the 20-year period.

The data indicate that 26% of the patients with schizophrenia had delusional activity at all follow-ups over the 20-year period. When the sample of schizophrenia patients with delusional activity at all follow-ups and the additional 31% of schizophrenia patients with frequently recurring delusions are combined, slightly over half (57%) of the schizophrenia patients formed a subgroup with frequently recurring or persistent delusions. Significantly more of the schizophrenia patients than of the patients with other types of psychotic disorders (57% vs 24%) had frequently recurring or persistent delusions ($\chi^2 = 9.88$, 1 df, $P = .001$). However (figure 2), the great majority (over 70%) of patients with other types of psychotic disorders, in addition to their delusional activity at the acute phase, also experienced at least some delusional activity after the acute phase.

For the initially nonpsychotic patient group, delusional activity over the 20-year period was considerably less frequent and less severe. Fitting with their lower vulnerability in this area, 66% of these initially nonpsychotic patients showed no evidence of delusional activity over the 20-year period. None of them were continuously delusional, and only 8% showed frequent delusional activity.

Severity of Delusional Activity

There were group differences in the severity of psychotic symptoms. Among the subgroup of patients with delusional activity at a particular follow-up, a larger percent...
of the schizophrenia patients than of the other psychotic disorders had full delusions in separate comparisons at each of the 6 follow-ups. In contrast to the weak or equivocal delusions (which were scored a “2”), these full delusional beliefs (assigned a score of “3”) were held firmly by the patients, they were not infrequent or weak, and the patients did not have good perspective on them. These full delusional beliefs were, however, often not as flagrant as those held at the acute phase of hospitalization. The differences in severity between schizophrenia patients and other psychotic patients were significant at the 2-year follow-ups (χ² = 6.06, 1 df, P = .01) and at the 4.5-year follow-ups (χ² = 7.30, 1 df, P < .01).

Schizophrenia Patients With Little or No Posthospital Delusional Activity

There was a subgroup of 29% of the schizophrenia patients with no delusional activity at any of the 6 follow-ups over 20 years (see figure 2). Some of these patients had other problems (eg, social or work disability), but others were functioning adequately and experiencing a period of recovery. Consistent with other research indicating a relationship between psychosis and work disability, the majority of these patients (70%) were working full-time during at least 3 of their 6 follow-ups.

Medications

As frequently found in the natural clinical course of outpatients, there was no single, uniform treatment plan that applied to all patients. At the 20-year follow-ups, 65% of the schizophrenia patients were on psychiatric medications, with this including 54% on antipsychotic medications. At the 20-year follow-ups, 56% of the patients with other types of psychotic disorders were on psychiatric medications, including 29% on antipsychotics.

The current results and data from other studies suggest that some schizophrenia patients not on antipsychotics function well for a period of time.35,37,70,71 Data by Fenton and McGlashan,72 other data from our earlier studies,37,38 and more recent data35,41 suggest some distinct characteristics of the schizophrenia patients who do well after discontinuing antipsychotic medications. They had better premorbid developmental achievements and more favorable prognostic characteristics 20 years before, at index hospitalization, prior to the initiation of posthospital treatment, and are more resilient and less vulnerable to psychopathology leading to their better functioning and lower rate of posthospital psychosis.35 Like most other medical disorders, where many of the favorable responders no longer feel they need treatment and eventually leave treatment, many of the subsample of schizophrenia patients who are functioning well eventually leave treatment. Hence, a larger percent of the schizophrenia patients not in treatment were experiencing a period of recovery than those on antipsychotics at the 15-year follow-ups (χ² = 9.81, 1 df, P < .01) and the 20-year follow-ups (χ² = 12.99, 1 df, P < .001).35,41 Patients with schizophrenia who were not in treatment generally had less delusional activity than those on antipsychotic medications at the 15-year follow-ups (χ² = 2.20, 1 df, P < .15) and at the 20-year follow-up (χ² = 5.12, 1 df, P < .05). This type of schizophrenia patients who have left the mental health care–taking system for a sustained period of time are not usually included in most studies because they are not easy to locate or recruit for research, and their long-term course is typically not evaluated.

Consistency of Delusional Activity Over Time and Its Presence as a Predictor of Subsequent Delusional Activity

Table 1 reports the correlations between delusional activity at successive follow-ups, 2.5–5 years later, for the patients with schizophrenia and for those with other types of psychotic disorders. The correlations at successive follow-ups years later were very high for the patients with schizophrenia (P < .001). The tendency for both of these groups was for patients who were vulnerable to delusional activity at one follow-up to be delusional at the next follow-up (P < .05), although (see table 1) this tendency was stronger for the schizophrenia patients.

Recovery Over Time From Delusional Activity: Patients With Schizophrenia and With Other Types of Psychotic Disorders

The schizophrenia patients with delusional activity at a follow-up were compared with patients from the other psychotic disorder group who had delusional activity at that follow-up on the likelihood of improvement (ie, no delusional activity) at the next follow-up years later.

These diagnostic comparisons of improvement over time indicated a tendency at each follow-up for comparatively greater improvement at the next follow-up for the other psychotic disorder group than for the schizophrenia patients. This greater improvement at the next follow-up for the other psychotic disorder group vs the schizophrenia patients was significant at the 4.5- vs the 2-year follow-ups (χ² = 13.56, 1 df, P < .001) and at the 10- vs the 7.5-year follow-ups (χ² = 6.68, 1 df, P = .01).
The slower recovery of the schizophrenia patients vs the other psychotic disorders points to their greater vulnerability to chronic delusional activity.

Relation Between Postacute Delusional Activity and Both Work Disability and Subsequent Periods of Global Recovery

Figure 3 reports data on the relationship between delusional activity and work disability for patients with schizophrenia at the 15- and 20-year follow-ups. Overall, there were strong significant differences in work performance between delusional and nondelusional schizophrenia patients at the 10-year follow-ups ($\chi^2 = 9.21, 1 df, P < .01$), the 15-year follow-ups ($\chi^2 = 10.98, 1 df, P < .001$), and the 20-year follow-ups ($\chi^2 = 7.04, 1 df, P < .01$). Over half of the schizophrenia patients who did not have delusional activity were working more than half time at the 4.5-, the 10-, the 15-, and the 20-year follow-ups. In contrast, among the schizophrenia patients with full delusional activity at a follow-up, at 5 of the 6 follow-ups 10% or fewer were working more than half time.

Figure 4 reports the relationship between delusional activity at the 2-year follow-ups and global recovery over the next 18 years. The data indicate that schizophrenia patients without delusional activity at the 2-year follow-ups were more likely to experience one or more periods of global recovery over the next 18 years ($\chi^2 = 7.77, 1 df, P < .01$). One view of these data is that the persistence of delusions for the first few posthospital years for the schizophrenia patients may be an index of their vulnerability to psychosis and their lower potential for future periods of global recovery.

Relation Between Delusional Activity and Both Hallucinations and TD

Table 2 reports the relationship at each of 6 follow-ups over 20 years between delusional activity and 2 other major types of positive symptoms, hallucinations and TD. Not surprisingly, the correlations between delusions and hallucinations were all extremely high with all 6 correlations over a 20-year period achieving significance at $P < .001$.

The correlations between delusions and TD for the schizophrenia patients were at the $r = 0.30$ level or higher at 3 of the 6 time frames assessed over the 20-year period. However, only the correlation at the 2-year follow-ups was statistically significant ($r = 0.53, P < .01$). Overall, the data indicate an extremely strong relationship at multiple follow-ups between delusions and hallucinations and some (but a limited one) relationship over time between delusional activity and TD.

The contribution of hallucinations or anomalous perceptual experiences to delusions have been proposed by a number of investigators and looked at conversely the potential contribution of delusional thinking to hallucinations can be posed. Table 3 provides data bearing on this issue in terms of the percent of hallucinating schizophrenia patients who are delusional and also the percent of delusional schizophrenia patients who are hallucinating. Consistent with the very high correlations reported in Table 2 between these 2 types of psychotic phenomenon, Table 3 indicates that a very high percent of schizophrenia patients with either delusions or hallucinations also showed the other type of psychotic phenomenon as well.

Delusional Activity Over Time in Schizophreniform Patients

The frequency of delusional activity for the schizophreniform patients, on an overall basis, was better (less frequent) than that of the schizophrenia patients and
poorer (more frequent) than that of the other types of psychotic and nonpsychotic disorders. Overall, 90% of them showed at least some recurrence of delusional activity over the 20-year period. The delusional activity was, in general, less severe and less frequent, or more episodic, than that of the schizophrenia patients. None of the schizophreniform patients were delusional at all follow-ups, and only 29% of them showed frequent delusional activity. Thus, the schizophreniform patients showed some vulnerability to delusional activity, but most experienced delusional activity at a few, or at only one, follow-up rather than persistently showing delusional activity over time.

Protective Factors That May Contribute to Reduced Delusional Activity

Figure 5 reports the data on the classical prognostic indices of Vaillant and Stephens as a predictor of frequently recurring delusional activity over the subsequent 20-year period. Only 14% of the schizophrenia patients with good prognostic indices at index experienced frequent or continuous delusional activity over the subsequent 20-year period.

Using the Zigler scale, there also were differences associated with premorbid developmental achievements. Significantly fewer of the schizophrenia patients with good premorbid developmental achievements had frequent or continuous delusional activity over the 20-year period than the schizophrenia patients with poor premorbid developmental achievements ($\chi^2 = 9.66, 1 df, P < .01$).

Discussion

The current research reports prospectively designed longitudinal data on delusional activity in modern-day patients with schizophrenia, with schizophreniform disorders, and with other types of psychotic disorders that have not previously been available to the field. Earlier views about basic differences between schizophrenia and other types of psychotic disorders emphasized persistent or very frequently recurring delusional activity as one of the defining symptoms of schizophrenia. The current longitudinal data provide evidence on a subgroup of modern-day schizophrenia patients who have frequently recurring or continuous delusions and another subgroup with little or no subsequent delusional activity over many years. It also provides data on differences in the course of delusional activity between patients with schizophrenia and those with other types of psychotic disorders, primarily with bipolar or unipolar mood disorders.

Vulnerability of Patients With Schizophrenia To Frequently Recurring or Persistent Delusional Activity

The data in figure 1 provide evidence that patients who were psychotic at the acute phase (i.e., patients with schizophrenia and those with other types of psychotic disorders) are generally more vulnerable to some subsequent delusional activity. Cumulatively, a subgroup of about
Continuity of Delusional Activity Over Time and Interference With Global Recovery

The very high correlations for delusional activity over time in the patients with schizophrenia (table 1) also bear on the issue of the greater vulnerability of these patients to delusional activity. These data fit in with the view that a moderate to large subgroup of schizophrenia patients are particularly vulnerable to delusional activity, and that schizophrenia patients with delusional activity at one follow-up are particularly likely to be experiencing it at the next follow-up many years later. Patients with other types of psychotic disorders also are vulnerable to delusional activity, but the lower frequency (figure 1), less severity, and lower correlations (table 1) over time would suggest that they are less vulnerable than schizophrenia patients.

Figure 4 provides evidence on the link between increased vulnerability to delusional activity and fewer subsequent periods of global recovery in schizophrenia. Thus, the correlational data in table 1 and the data in figure 4 suggest that positive symptoms still present a few years after the most recent acute phase tend to predict which schizophrenia patients are more likely to show later “chronic” difficulties in global adjustment. The persistence of delusions (usually at a lower level of severity) after the acute phase, which occurs in some, but not all, patients with schizophrenia may provide evidence of a more severe diathesis, often with a poorer long-term prognosis.

In regard to the severity of delusions, other data and theoretical views indicate that one factor involved in severity is the extent of “emotional commitment” by schizophrenia patients to their delusions, with this often associated with acute episodes, when psychotic patients are “profoundly immersed” in their delusions. Data on the importance of emotional commitment as one major factor in the severity of delusions would fit with the views of Kapur and others about the role of dopamine in mediating salience. A second factor of importance is a suspension of, or failure in, self-monitoring in select areas, with this involved in the patient’s selective ignoring of previously learned consensual norms in the specific areas of the patient’s unrealistic or delusional beliefs.

Delusions and Work Disability

Previously there has been mixed evidence on the impact in schizophrenia of positive symptoms such as delusions on instrumental work functioning. An important review has concluded that there is a strong relationship between work disability and neurocognitive impairment but little relationship between psychosis and work disability. Our own previous empirical research in this area has found evidence of a strong link between neurocognitive impairments and work disability, but we also have reported evidence indicating a relationship between positive symptoms and work disability. Additionally, we have found a significant relationship in schizophrenia between negative symptoms and work disability as well as between depression and work disability.

The above data and other very strong data on neurocognition would lead to the conclusion that impaired neurocognition as well as multiple other factors (including major symptoms) can interfere with work functioning in schizophrenia. Considered from this viewpoint, impairments in multiple different areas, rather than only one area, would be candidates to interfere with work functioning and lead to work disability in schizophrenia. Of considerable importance, of some surprise, and providing hopeful indications, are the data indicating that after the earlier 2-year follow-ups, at the 4.5-, the 10-, the 15-, and the 20-year follow-ups slightly over half of the patients with schizophrenia who were not delusional were working over half time. In contrast, after the first 7 years, full delusional activity was strongly linked to work disability.

Community functioning is a key feature of outcome in schizophrenia. Work disability represents one important aspect of community functioning, and the data point to the importance of the interrelationship of both delusional activity and this aspect of community functioning in considering outcome in schizophrenia. Overall, work disability, as a key aspect of community functioning, represents one of the major problems associated with schizophrenia, both in terms of the economic cost to society and the emotional cost to individual patients. Eventual improved treatment methods concerning reduction of major symptoms in schizophrenia may be one path to reduction of work disability in these patients.

The Link Between Delusional Activity and Hallucinations

The data in tables 2 and 3 support views about the close relationship between delusions and hallucinations and...
support other data about these 2 types of psychosis fitting in as a common factor over the years. A major theoretical view that has been advanced is that delusions are partly due to patients trying to explain or deal with their own anomalous experiences or aberrant perceptual experiences and/or hallucinations with empirical support for this for select people. As an alternate possibility, almost the converse of the above view, one could propose the primacy of delusional thinking, with many or most full hallucinations in schizophrenia being based on patients’ regarding them seriously because of their delusional-like thinking. Fitting in with this view, some “normal” people who are not delusional occasionally hear a voice calling their name or even a voice from a deceased love one calling to them or speaking to them. Most of these “normal” people do not have a delusional framework and are reality oriented, enabling them to recognize the voice as coming from their imagination and ignore it.

The data in table 3 could fit in with the view that hallucinations precipitate delusions, or delusions precipitate hallucinations. The very high percent of hallucinating patients who are also delusional (at several follow-ups it was 100%) could be interpreted as supporting views about the role of delusional thinking in making hallucinations seem more real or important to schizophrenia patients, although these data could be interpreted either way. The data indicating that some patients with schizophrenia were delusional without hallucinations would indicate that in schizophrenia delusions can occur without anomalous or hallucinatory experiences. However, the overall data from table 3 could be interpreted as indicating that either of these psychotic symptoms may play a role in the genesis of the other one. The 2 above views concerning the nature and genesis of psychotic factors are important ones. In general, the issue of how delusions and hallucinations may each contribute to the other one has not been fully explored and deserves further major research.

In addition, there is a third strong possibility. This third possibility is that the patients with schizophrenia have a general vulnerability to reality distortions and to multiple types of psychoses, and this general vulnerability is responsible for both delusions and hallucinations. The outlook that a general vulnerability to reality distortions underlies the genesis of both hallucinations and delusions has a long history with concepts such as “anomalous experience,” “heightened cognitive arousal,” and altered salience. The view here is that psychosis is not primarily the result of wrong ideas, beliefs, percepts, or cognitions but rather the transient distortion and poor self-monitoring of these phenomena by a separate system (possibly an affective, or salience producing system) that attributes aberrant significance to them.

This view is consistent with the evidence that during remission most psychotic persons regain coherence regarding the very ideas that previously constituted their delusion. Over time these alterations in cognition and perception can become very persistent even in some patients that are adequately treated with antipsychotic medications. If one adopts this outlook, the most important factor as to whether a given patient does or does not develop persistent psychotic symptoms is their level of vulnerability rather than life experience or medication history. The high correlations in table 2 and the data in table 3 would fit any of the above 3 possible views.

Patients With Other Types of Psychotic Disorders
The data provide further evidence that vulnerability to delusional activity during the posthospital period is not exclusive to schizophrenia. The great majority of patients with other types of psychotic disorders (most had mood disorders) also eventually reexperienced delusional activity. These data support previous results indicating that patients with initial psychotic bipolar and unipolar mood disorders also are vulnerable to subsequent delusional activity. The data, however, indicate that while patients with other types of psychotic disorders also are vulnerable during the posthospital period to delusional activity, they experience it less frequently and less severely and recover from delusional activity more quickly than patients with schizophrenia. In this sense, one might view the other psychotic disorders as having a less severe diathesis for delusional activity and/or as being more resilient than schizophrenia patients.

Results reported previously suggest that when bipolar and unipolar mood-disordered patients show positive symptoms at follow-up, it is during periods when many of them also are actively experiencing new affective syndromes. This raises the issue of whether the set of vulnerability factors that predispose for delusions for schizophrenia patients target a different biological-genetic diathesis from those patients with other types of psychotic disorders. An alternative is that the diathesis is fundamentally the same across diagnostic groups with only the degree of vulnerability constituting the distinguishing factor (ie, a more severe vulnerability for patients with schizophrenia).

The current results support data indicating that patients without schizophrenia who have psychotic mood disorders are more vulnerable on a longitudinal basis to experience delusional episodes than parallel samples of mood-disordered patients who do not have delusional activity at the acute phase (ie, unipolar nonpsychotic depressives).

Schizophreniform Patients and Delusional Activity
Although schizophreniform disorders are categorized separately from schizophrenia, while viewed by some as schizophrenia spectrum disorders, there are only a limited
The present data suggest that better premorbid developmental achievements and more favorable prognostic factors at index hospitalization may serve as protective factors against delusions in schizophrenia. The great majority of schizophrenia patients who showed no delusional activity had favorable scores on one or both of these indices. However, it is quite possible that a third factor that is related to both of these variables explains the associations. In addition, there are other potential protective factors, as well as other factors which influence outcome, some based on internal characteristics or biological features of patients with schizophrenia. Further research to identify these factors would seem important.

These data on delusional activity fit a stress-diathesis model for both patients with schizophrenia and for those with other types of psychotic disorders. The greater vulnerability to delusional activity. The current data and that of others indicate that among these 2 groups of vulnerable patients, those with schizophrenia have a greater vulnerability than those with other types of psychotic disorders. This latter finding could lend support to those who argue for an impaired neurocognitive brain circuit unique to patients with frequent psychotic activity, although more substantive evidence is needed in this area. Looked at from the opposite direction, that of protective factors, both good premorbid developmental achievements and favorable prognostic indices decrease the chances of the overt expression of delusional activity in otherwise vulnerable patients.

Funding
National Institute of Mental Health (USPHS grants MH-26341 and MH-068688 to M.H.).

Acknowledgments
The authors are indebted to Robert Faull for his assistance with data preparation and statistical analysis.

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