# Comparison of Two Five-Year Follow-Up Studies: 1947 to 1952 and 1967 to 1972

BY J. SANBOURNE BOCKOVEN, M.D., AND HARRY C. SOLOMON, M.D.

*Results of a 5-year follow-up of 100 randomly selected patients committed to a community-oriented mental hospital in 1947 are compared with those of a 5-year follow-up of 100 randomly selected patients admitted to a community-based mental health center in 1967. The data show that both programs were successful in keeping patients with histories of long-standing mental illness in the community, even though the 1947 group did not receive any modern psychotropic medication. One unexpected finding of the comparison is the suggestion that these drugs might not be indispensable; in fact, they might actually prolong the social dependency of some discharged patients.*

WE HAVE HAD a long-standing interest in the history and social outcome of major mental illness and an extensive association with the development of alternatives to institutional confinement of patients with major illnesses. These have combined to present a somewhat unusual opportunity to observe the similarities and differences between two community-oriented programs that share a common philosophy of patient care but are separated by a time interval of two decades and by their separate locations in two quite different urban communities.

This opportunity was further strengthened by the fact that rather detailed data are available in a 5-year follow-up study, which we prepared in the early 1950s (1), of 100 patients committed to the Boston Psychopathic Hospital. We found that a review of this paper suggested that interesting and perhaps worthwhile data might be brought to light by applying in full detail the method of approach of this study to the first 100 admissions to the inpatient service of the Dr. Harry C. Solomon Mental Health Center in Lowell, Mass., which was established in 1967.

The central feature of the Boston Psychopathic Hospital study was the presentation of time the patients spent in and out of state, private, and Veterans Administration mental hospitals during a period of 5 years. A single measure, number of weeks spent in mental hospitals during a 5-year period following admission, provided a basis for comparing outcome of the various diagnostic categories and social conditions. We considered this measure to be especially useful as a basis for reflecting changes in outcome that might have occurred over the 25 years between the time the Boston Psychopathic Hospital initiated its intensive treatment and community care program and the Solomon Mental Health Center completed its first 5 years of operation as Massachusetts' first community mental health center. (Both facilities are part of the Massachusetts Department of Mental Health; the Boston Psychopathic Hospital is now the Massachusetts Mental Health Center.)

The two groups of patients were not selected as matched groups to compare point-for-point effectiveness of therapeutic programs. They were selected as random samplings of admissions from their respective communities so that we could learn from their similarities and differences what new perspectives their outcomes might suggest for community psychiatry.

As mentioned above, Boston Psychopathic and Solomon Center share a common philosophy of clinical and social management. This philosophy is based on the idea that the majority of mental illnesses, especially the most severe, are largely self-limiting in nature if the patient is not subjected to demeaning experiences or loss of rights and liberties. Therapeutic management consists first and foremost of removing these negative influences and replacing them with a positive attitude of respect for the patient's needs for human companionship and interest-holding activity. Somatic treatments are prescribed in this context to relieve specific kinds of suffering and thereby to expedite the spontaneous healing process.

## METHOD

In both follow-up studies the names of 100 patients successively admitted or committed to each hospital were traced in the file of the Massachusetts Department of Mental Health. Each discharge to the community, each transfer from one hospital to another, and each readmission to a public or private mental hospital in Massachusetts was recorded. Each patient's sex, diagnosis, admission status (i.e., whether first or subsequent admission), and treatment were also recorded.

One major difference between the two studies is that the names of the first 100 patients committed to Boston Psychopathic were selected, while the names of the first

Dr. Bockoven, formerly Senior Psychiatrist in Research, Boston Psychopathic Hospital, Boston, Mass., is Superintendent, Dr. Harry C. Solomon Mental Health Center, 391 Varnum Ave., Lowell, Mass. 01854. Dr. Solomon, formerly Superintendent, Boston Psychopathic Hospital, is Emeritus Professor of Psychiatry, Harvard Medical School, Boston, Mass.

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Inpatients admitted to Solomon Center, irrespective of commitment status, were selected. The reason for latter criterion of selection is that changes in the laws erning commitment and changes in administrative icy in regard to voluntary admission of psychotic ients rendered application of the criterion of com- ment at Solomon Center both artificial and useless. is criterion would have reduced the size of the sample too few patients. Observation of both groups of ients does not suggest, however, that Solomon Center ients suffered from milder or less tenacious disorders an those at Boston Psychopathic.

Another major difference between the two studies is at the Boston Psychopathic follow-up period (1947 to 952) preceded the introduction of psychotropic drugs. he Solomon Center patients, on the other hand, who ere followed from 1967 to 1972, were treated with psy- hotropic drugs when indicated, on admission, and dur- g aftercare following discharge from the inpatient serv-

Another difference between these studies is that no or- anized day program was available to patients dis- harged from Boston Psychopathic Hospital during the ollow-up period. At Solomon Center, on the other hand, wo types of day programs were available to discharged atients. One was a recreation club located outside of the enter, and the other was a more structured program at he center. Outpatient services were available to the atients of both facilities.

### ocation of Patients

It can be seen in table 1 that the great majority of atients of both Boston Psychopathic Hospital and Solo- mon Center were in the community at the end of each fol- ow-up year for 5 successive years. The data presented lso suggest a tendency for more patients rather than ewer to be in the community each year. The difference etween the number of Boston Psychopathic Hospital atients and Solomon Center patients who were in the ommunity at each admission anniversary would not eem to be of particular importance because the two roups of patients were not originally selected as natched groups to compare effectiveness of therapeutic rograms.

A major difference between the groups of patients, as mentioned above, is that the Boston Psychopathic patients were committed by a court, while almost all of the Solomon Center patients were voluntary. The Solomon Center patients also included more readmissions than the Boston Psychopathic group (66 versus 44). Many of the readmissions to Solomon Center were former patients of Worcester State Hospital with histories of long-standing mental illness. This is mentioned to point out that an important contribution of the present-day community mental health center is providing care for former state mental hospital patients in varying stages of convalescence from major mental illness.

### *Readmissions and Discharges*

Table 2 presents a further subdivision of the patients who were in the community or in a mental hospital to identify and separate patients who did or did not relapse and whose illness did or did not remit. A notable datum in this table is the figure 45 for the number of Boston Psychopathic patients who had no relapse during the 5 years of follow-up. This is an especially high figure in light of the fact that none of our present-day psychotropic drugs were available during these years. This figure can be attributed to Boston Psychopathic's aftercare program for discharged inpatients, which was carried out by its social service department and outpatient clinic, the Southard Clinic.

Solomon Center's nonrelapse figure of 31 appears substantially smaller in comparison, surprisingly so in view of the fact that the center's policies, including its aftercare program, were modeled after those of Boston Psychopathic. Although important as an indicator of clinical effectiveness, the nonrelapse figure does not tell the whole story. The figure for total number of patients in the community at the fifth anniversary is also important. Solomon Center had 87 patients in the community in 1972, and Boston Psychopathic had 76 in 1952. This difference does not appear to be especially important until the factor of time spent in mental hospitals is introduced (see table 3).

### *Time Spent in Mental Hospitals*

Table 3 presents the special feature of this study, namely, the comparison of clinical results in terms of time spent in mental hospitals during the 5-year follow-

TABLE 1

*tatus of Boston Psychopathic Hospital Patients (N = 100) and Solomon Mental Health Center Patients (N = 100) at Admission Anniversaries*

| dmission niversary | In the Community | | In a Mental Hospital | | Deceased | | Unknown* | |
|---|---|---|---|---|---|---|---|---|
| | Boston Psychopathic | Solomon Center | Boston Psychopathic | Solomon Center | Boston Psychopathic | Solomon Center | Boston Psychopathic | Solomon Center |
| irst | 72 | 87 | 20 | 13 | 4 | — | 4 | 0 |
| econd | 76 | 93 | 13 | 7 | 7 | — | 4 | 0 |
| hird | 76 | 93 | 12 | 7 | 8 | — | 4 | 0 |
| ourth | 77 | 90 | 11 | 10 | 8 | — | 4 | 0 |
| ifth | 76 | 87 | 12 | 10 | 8 | 3 | 4 | 0 |

These patients had moved out of Massachusetts.

TABLE 2

*Readmissions and Discharges of Boston Psychopathic Hospital Patients (N = 100) and Solomon Mental Health Center Patients (N = 100) at Admission Anniversaries*

| Admission Anniversary | Discharged Patients in the Community | | | | Patients in a Mental Hospital | | | |
|---|---|---|---|---|---|---|---|---|
| | Never Readmitted | | Readmitted | | Discharged and Readmitted | | Never Discharged | |
| | Boston Psychopathic | Solomon Center | Boston Psychopathic | Solomon Center | Boston Psychopathic | Solomon Center | Boston Psychopathic | Solomon Center |
| First | 54 | 58 | 18 | 29 | 13 | 13 | 7 | 0 |
| Second | 51 | 45 | 25 | 48 | 8 | 7 | 5 | 0 |
| Third | 49 | 37 | 27 | 56 | 9 | 7 | 3 | 0 |
| Fourth | 46 | 33 | 31 | 57 | 8 | 10 | 3 | 0 |
| Fifth | 45 | 31 | 31 | 56 | 10 | 10 | 2 | 0 |

TABLE 3

*Status of Boston Psychopathic Hospital Patients (N = 100) and Solomon Mental Health Center Patients (N = 100) at Fifth Admission Anniversary by Time Spent in Mental Hospitals*

| Status | Boston Psychopathic | | Solomon Center | |
|---|---|---|---|---|
| | N | Average Time in Hospitals (in weeks) | N | Average Time in Hospitals (in weeks) |
| In the community | 76 | 29 | 87 | 18 |
| In a mental hospital | 12 | 197 | 10 | 136 |
| Deceased | 8 | 42 | 3 | 15 |
| Unknown (moved out of state) | 4 | 16 | 0 | — |

up periods. With this measure, interesting differences emerge: the average number of weeks Boston Psychopathic Hospital patients spent in mental hospitals was nearly 50 percent greater than the average number for Solomon Center patients (47 weeks versus 32 weeks, respectively). The difference holds true for patients in the community and for patients in a mental hospital at the end of the follow-up periods.

These differences are substantial enough to warrant explanation. Two factors may be offered to explain the differences. The first is the difference between the catchment areas of the two facilities. Boston Psychopathic Hospital, located in Boston, drew its patients largely from the entire urban population of eastern Massachusetts. Solomon Mental Health Center draws its patients from a compact area made up of the city of Lowell and eight surrounding towns. The nearness of the homes of Solomon Center patients favors early and frequent release on trial periods at home. The presence of a day program at Solomon Center further facilitates release of patients to live at home. Thus it can be said that Solomon Center carries out to a fuller extent in the 1960s and 1970s what Boston Psychopathic had demonstrated in the 1940s and 1950s: patients with major mental illness can be given better care outside of the confinement of a hospital.

The second factor that may explain the reduction in time spent in mental hospitals by Solomon Center patients is the use of psychotropic drugs. It is highly probable that the majority of Solomon Center patients were maintained on these drugs for at least part of the follow-up period. The actual utilization rates of these drugs during this period has not been documented.

### *Previous Admissions*

Table 4 shows that a greater proportion of Boston Psychopathic Hospital patients who had one or more previous admissions than of those who had no previous admissions were in the community after 5 years (82 and 71 percent, respectively). In the case of Solomon Center patients the opposite was true: a greater proportion of patients who had no previous admissions were in the community after 5 years (94 percent), compared with those who had one or more previous admissions (83 percent).

The importance of these trends in opposite directions for the two groups of patients is strengthened by the finding that all of the Boston Psychopathic patients who had one or more previous admissions spent less time in mental hospitals (average, 36 weeks) than patients who had no previous admissions (average, 55 weeks), while all of the Solomon Center patients who had no previous admissions spent less time in mental hospitals (average, 17 weeks) than those who had previous admissions (average, 27 weeks).

It is also noteworthy that the contrast between Boston Psychopathic and Solomon Center is greatest in the case of patients who had no previous admissions in regard to both the proportion of patients in the community at the fifth admission anniversary (71 percent of Boston Psychopathic patients, 94 percent of Solomon Center patients) and average time spent in mental hospitals (55 weeks and 17 weeks, respectively).

It is of interest to recall that for decades the statistical reports of mental hospitals routinely showed lower discharge rates for first admissions than for readmissions. This was expected because first admissions would involve more patients with less potential for early total recovery. The reason for this derived from the generally consistent clinical administrative practice of not discharging patients who were less than totally recovered to the c

TABLE 4

*Status of Boston Psychopathic Hospital Patients (N=100) and Solomon Mental Health Center Patients (N=100) at Fifth Admission Anniversary by Whether or Not They Had One or More Previous Mental Hospital Admissions*

| Status | Patients with No Previous Hospital Admissions | | | | | | Patients with One or More Previous Hospital Admissions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Boston Psychopathic (N=56) | | | Solomon Center (N=34) | | | Boston Psychopathic (N=44) | | | Solomon Center (N=66) | | |
| | N | Percent | Average Time in Hospitals (in weeks) | N | Percent | Average Time in Hospitals (in weeks) | N | Percent | Average Time in Hospitals (in weeks) | N | Percent | Average Time in Hospitals (in weeks) |
| In the community | 40 | 71 | 27 | 32 | 94 | 10 | 36 | 82 | 24 | 55 | 83 | 14 |
| In a mental hospital | 9 | 16 | 196 | 1 | 3 | 228 | 3 | 7 | 198 | 9 | 14 | 125 |
| Deceased | 5 | 9 | 42 | 1 | 3 | 8 | 3 | 7 | 43 | 2 | 3 | 6 |
| Unknown (moved out of state) | 2 | 46 | 26 | 0 | — | — | 2 | 4 | 6 | 0 | — | — |

munity. Thus few partially recovered convalescent discharged patients resided in the community and therefore rarely numbered among the ranks of readmissions to mental hospitals. This practice was still in effect in the late 1940s, when the Boston Psychopathic Hospital patients in this study were admitted. As shown in table 4, Boston Psychopathic patients who had one or more previous admissions had a better outcome than those who had no previous admissions.

When the Solomon Center patients were admitted in the late 1960s, the clinical administrative practices of mental hospitals had changed drastically. Total recovery was no longer the single criterion for discharge to the community. Indeed, discharge itself became part of the patient's treatment program. The census of state hospitals dropped dramatically during the 1960s. The state hospital serving the Lowell catchment area, Worcester State Hospital, was the leader in reducing its census (2). This hospital showed a steady yearly reduction in census starting in 1951.

By 1967, when the Solomon Center patients in this study were admitted, the Worcester State Hospital census had dropped to 1,000 from a figure of 2,800 in 1951. Thus it came about that by 1967 many former partially recovered Worcester State Hospital patients were living in the Lowell catchment area. Some of these patients were admitted to Solomon Center and classified as patients who had one or more previous mental hospital admissions.

As is evident in table 4, Solomon Center patients who had one or more previous admissions had a poorer outcome on follow-up than patients who had no previous admissions. Indeed, the number of patients in a mental hospital who had one or more previous admissions at the fifth admission anniversary was 9 out of 66, compared with only 1 out of 34 patients who had no previous admissions. These data indicate that a great majority of even patients with the least recovery potential were able to live outside of mental hospitals a very large proportion of the time; i.e., 83 percent of Solomon Center patients who had one or more previous hospital admissions were in the community after having spent an average of only 14 weeks in mental hospitals in 5 years.

### *Outcome and Diagnosis*

Table 5 presents the average number of weeks spent in mental hospitals and the diagnostic groupings as well as the status of both groups of patients after 5 years.

## DISCUSSION

In our discussion of the Boston Psychopathic Hospital follow-up study of patients committed in 1947 (1), we stated,

> The most unexpected finding of this study is that more than three-quarters of the schizophrenic patients were in the community five years after admission, having spent less than an average of eight months in mental hospitals. Whether this result can be ascribed to the accuracy of the frequently voiced opinion that the Boston Psychopathic Hospital receives patients sooner after the inception of their psychosis than other hospitals is an open question. If so, these results indicate that there are many patients with schizophrenia (as we conceive the diagnosis) who have the capacity to live in the community for relatively long periods. In the past, undervaluation of recovery potential and absence of treatment combined to induce psychiatrists to hold schizophrenic patients under custodial care for long periods. Detention in the closed wards of mental hospitals may well have contributed to the deterioration that was expected in schizophrenia. Modern somatic treatments and attention to emotional needs alleviate many states of fear, depression and excitement, enable patients to resume relations with other people and make possible their discharge to the community. It cannot yet be predicted accurately in individual cases how long patients will continue to get along with others. The results of this study strongly suggest that, on the whole, they can get along for longer periods than is generally recognized.

It is of considerable interest that we can make but minor modifications of this statement on the basis of our Solomon Center follow-up study 20 years later. On the basis of this follow-up of 1967 admissions, our modification of the above paragraph would read as follows:

The most unexpected finding of this study is that the outcome of schizophrenic patients at Solomon Center

TABLE 5

*Status of Boston Psychopathic Hospital Patients (N=100) and Solomon Mental Health Center Patients (N=100) at Fifth Admission Anniversary by Diagnosis and by Average Time Spent in Mental Hospital (in Weeks) (AT)*

| | Schizophrenia | | | | Affective Psychosis* | | | | Toxic-Organic Psychosis** | | | | Miscellaneous*** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Boston Psychopathic | | Solomon Center | | Boston Psychopathic | | Solomon Center | | Boston Psychopathic | | Solomon Center | | Boston Psychopathic | | Solomon Center | |
| Status | N | AT | N | AT | N | AT | N | AT | N | AT | N | AT | N | AT | N | AT |
| In the community | 34 | 31 | 30 | 26 | 25 | 15 | 15 | 17 | 12 | 31 | 10 | 9 | 5 | 25 | 32 | 16 |
| In a mental hospital | 6 | 209 | 6 | 132 | 2 | 48 | 1 | 138 | 3 | 214 | 2 | 183 | 1 | 128 | 1 | 57 |
| Deceased | 1 | 50 | 1 | 8 | 2 | 27 | 1 | 5 | 5 | 47 | 1 | 32 | 0 | — | 0 | — |
| Unknown (moved out of state) | 3 | 5 | 0 | — | 1 | 48 | 0 | — | 0 | 0 | 0 | 0 | 0 | — | 0 | — |
| Total | 44 | 54 | 37 | 45 | 30 | 27 | 17 | 23 | 20 | 61 | 13 | 38 | 6 | 43 | 33 | 17 |

*This category includes involutional, manic-depressive, and undiagnosed psychoses and psychotic depression.

**This category includes general paresis (applicable only to Boston Psychopathic patients), psychosis due to alcohol or drugs, psychosis with epilepsy, and psychosis associated with senility and arteriosclerosis.

***Of the Boston Psychopathic patients in this category, 4 had a diagnosis of psychoneurosis, 1 of psychosis with psychopathic personality, and 1 of no psychosis. Of the Solomon Center patients, 20 had a diagnosis of personality disorder, 9 of psychoneurosis, and 4 of adult situational reaction.

today is not very different from that reported 20 years ago for schizophrenic patients at Boston Psychopathic Hospital. Such difference as there is, namely, that 80 percent of the former versus 75 percent of the latter were in the community 5 years after admission, having spent an average of 6 months versus 8 months in mental hospitals, can be accounted for in part by the differences in the two samples. The remainder of the differences can be explained by the circumstance that Solomon Center is a local community mental health center serving its own catchment area (population 231,000) and therefore tends to admit patients earlier in their illness and to discharge them sooner.

The finding of no substantial change in the outcome of schizophrenic patients was not expected in view of the absence of psychotropic drugs during the entire 5 years of the Boston Psychopathic Hospital follow-up period, compared with the extensive use of psychotropic drugs at Solomon Center for both initial treatment on admission and the entire period of aftercare. This finding suggests that the attitudes of personnel toward patients, the socioenvironmental setting, and community helpfulness guided by citizen organizations may be more important in tipping the balance in favor of social recovery than are psychotropic drugs. The distinctive value of the drugs may well be limited in most instances to their capacity to alleviate the distress of acute emotional decompensation.

Another unexpected finding is the emergence of personality disorders within the miscellaneous category in the Solomon Center study as a major group, not only in numbers, i.e., 20, but also in terms of average time spent in mental hospitals during the 5 years (22 weeks, compared with 26 weeks for schizophrenic patients in the community at the end of 5 years; see table 5). The emergence of personality disorders as a major problem at Solomon Center would appear to be a reflection of the general observation that "borderline personalities" not only are on the increase but pose especially vexing problems to mental health facilities.

## CONCLUSIONS

The data presented for the Boston Psychopathic Hospital patients indicate that 25 years ago, 9 out of 10 psychiatric patients committed to mental hospitals could be discharged to the community and that approximately 8 out of 10 would be in the community 5 years after admission, having spent on the average half a year in mental hospitals. The data further disclose that there were essentially three categories of patients: those who did not respond to treatment (about 1 out of 10 patients); those who responded quickly, i.e., within an average of 10 weeks, and never returned to a mental hospital within a 5-year period (about 4 out of 10 patients); and those who responded more slowly to treatment, who had an average of two relapses in 5 years, and who spent an average of about 1 year in mental hospitals during the 5-year follow-up period (about 4 out of 10 patients).

The data presented for the Solomon Mental Health Center patients indicate that today all patients admitted to mental health facilities can be discharged to the community and that approximately 9 out of 10 will be in the community 5 years after admission, having spent on the average 4 months (18 weeks) in mental hospitals. These data would eliminate the first category of Boston Psychopathic patients, those who did not respond to treatment. The Solomon Center data retain the other two Boston Psychopathic categories but assign different numbers of patients and time periods to them: those who responded quickly, that is, within an average of 5 weeks (versus 10 weeks for Boston Psychopathic patients), and never returned to a mental hospital within a 5-year period (about 3 out of 10 patients, versus 4 out of 10 at Boston Psychopathic); and those who responded more slowly to treatment, who had an average of three and a half relapses in 5 years (versus two in 5 years at Boston Psychopathic), and who spent an average of 10 months (versus 12 months at Boston Psychopathic) of the 5-year follow-up period in mental hospitals (7 out of 10 versus 4 out of 10 at Boston Psychopathic).

## COMMENT

The Boston Psychopathic Hospital follow-up study reported in 1954 (1) presented a drastically different picture of the outcome of major mental illness from that usually presented by the psychiatric profession at that time. The study turned out to be a preview of future developments in that social recovery from major mental illness is now generally expected.

The Solomon Mental Health Center data, reported here for the first time, indicate that with the use of psychotropic drugs, today's community-based treatment facility can reduce the time spent by patients in mental hospitals in a 5-year period in comparison with the amount of time spent in mental hospitals by Boston Psychopathic Hospital patients, i.e., from an average of 47 weeks to 32 weeks for 100 patients in each group. The Solomon Center data also show that with today's community-based treatment more patients tend to relapse and the average number of relapses per patient during a 5-year period tends to be greater. The latter finding suggests that patients maintained in the community on psychotropic drugs may be less well established in their social recovery than were Boston Psychopathic patients, who did not receive psychotropic drugs.

In summary, it may be said that the Boston Psychopathic Hospital study demonstrated nearly 25 years ago that an intensive treatment program without psychotropic drugs would discharge a vast majority of patients with major mental illness to the community and that these patients could remain in the community for more than 80 percent of a 5-year follow-up period.

The Solomon Mental Health Center data demonstrate that all patients can be discharged to the community for an even greater proportion (90 percent) of a 5-year follow-up period. They also show that a larger proportion of the patients (7 in 10) tend to relapse. These patients tend to consume a large portion of our outpatient and day-program services and to be socially dependent in other ways. For example, 86 of the 100 Solomon Center patients were enrolled in either the outpatient service, the day program, or both at some time during the follow-up period. A spot check of the patients with addresses in the city of Lowell, 57 in all, revealed that only 20 were not known to the Lowell welfare office.

These considerations lead us to question the part played by psychotropic drugs in prolonging dependency. It is becoming more and more evident that there is a growing accumulation of socially dependent patients in the community. It is also becoming evident that there is a need for rehabilitation and social maintenance programs in the community in addition to the mental health center itself. The latter is fully occupied providing intensive care to a growing number of acutely ill patients. The presence of adequate rehabilitation and social maintenance programs would decrease the tendency to rely on psychotropic drugs as the mainstay of aftercare.

It would seem to be axiomatic that the mental health facility should provide mental health services to those with mental health problems and that other community agencies should provide social maintenance services to the socially dependent population that tends to remain immobilized in a marginal subsistence status and to receive monetary assistance alone. Patients and ex-patients of mental hospitals and mental health centers make up an as yet unknown fraction of the total number of socially dependent persons in need of adequate community programs to forestall deterioration or to progress to a nondependent status.

It would seem to be a serious error in public policy for the mental health center to expand its program to become the provider of a comprehensive complex of community services for the portion of the socially dependent population that has a history of mental illness when such services are needed by the entire socially dependent population. To do so would amount to transplanting the state hospital system and all the drawbacks attending segregated care of the mentally ill to the community.

The data reported here show that mental health centers can keep mentally ill patients out of state hospitals. They also strongly suggest that comprehensive social maintenance programs are needed for socially dependent ex-patients to help them reach a status of nondependency. It may be that the need for such programs is especially prominent in urban areas with a long history of economic depression like Lowell.

Rather unexpectedly, these data also suggest that psychotropic drugs may not be indispensable to the success of community-based mental health services and that their extended use in aftercare may prolong the social dependency of many discharged patients.

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