Community Residential Treatment for Schizophrenia: Two-Year Follow-up

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o-year outcome data from a study comparing two ds of treatment given similar groups of young, newly gnosed, unmarried schizophrenic patients deemed eed of hospitalization are reported. The experimen- program, Soteria, is a nonmedical, psychosocial pro- m with minimal use of antipsychotic drugs; it is ffed by nonprofessionals and located in a home in the mmunity. The control program is a short-stay, crisis- ented inpatient service in a community mental alth center where neuroleptic drugs are the principal atment. The experimental group had significantly ger initial stays, and only 8 per cent received neuro- tics during their initial admission. Over the two-year llow-up period, there were no significant differences tween the groups in readmissions or levels of symp- matology. However, experimental subjects signifi- ntly less often received medications, used less out- tient care, showed significantly better occupational els, and were more able to live independently.

"Community psychiatry" has been a slogan for the ental health professions for more than a decade. Al- ough the term is widely used, it is applied to very sparate programs. For example, the movement of der patients from mental hospital wards to nursing mes is labeled community psychiatry. The use of a ditional medical-model inpatient ward by a commu- ty mental health center is called community psychia- y. Yet neither example represents a departure from actices that existed before the advent of community ychiatry; rather, both are examples of business as ual in geographically different settings.

For us, true community psychiatry means attempting develop new types of treatment programs that are community-based—that is, the participants have ongoing interaction with the local neighborhood. By this definition, much of what currently parades behind the community psychiatry banner would not be included.

Although the clinical program we describe here represents a departure from many traditional practices, we nevertheless view it as a logical next step in the mental health system's shift away from large distant treatment institutions to smaller ones located nearer the patient's home—which today usually means wards in general hospitals. That is, although Soteria (the name of our facility, from the Greek meaning "deliverance") is an alternative to inpatient care, it is even smaller than such wards and interacts much more with its own neighborhood than a hospital can. We hope it will serve as an imitable example of how far the concept of community psychiatry can be extended to provide care for severely disorganized persons.

In addition to its roots in community psychiatry, Soteria can trace its heritage to the moral treatment era,[1] the tradition of intensive interpersonal intervention in schizophrenia,[2] therapists who have described growth from psychosis,[3] the current group of psychiatric heretics,[4] descriptions of the development of psychiatric disorders in response to life crises,[5] research on community-based treatment of schizophrenia,[6-8]

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e research reported here is supported by NIMH grant no. 20123.

[1] J. S. Bockoven, *Moral Treatment in American Psychiatry*, Springer, New York City, 1963.

[2] F. Fromm-Reichmann, "Notes on the Development of Treatment of Schizophrenics by Psychoanalytic Psychotherapy," *Psychiatry*, Vol. 11, August 1948, pp. 263-273.

[3] J. W. Perry, "Reconstitutive Process in the Psychopathology of the Self," *Annals of the New York Academy of Sciences*, Vol. 96, January 1962, pp. 853-876.

[4] L. R. Mosher, "Psychiatric Heretics and the Extra-medical Treatment of Schizophrenia," in *Strategic Interventions in Schizophrenia: Current Developments in Treatment*, R. Cancro, N. Fox, and L. Shapiro, editors, Behavioral Publications, New York City, 1974.

[5] E. Lindemann, "Symptomatology and Management of Acute Grief," *American Journal of Psychiatry*, Vol. 101, September 1944, pp. 141-148.

[6] G. W. Fairweather *et al.*, *Community Life for the Mentally Ill: An Alternative to Institutional Care*, Aldine, Chicago, 1969.

[7] D. G. Langsley, F. S. Pittman, III, and G. E. Swank, "Family Crisis in Schizophrenics and Other Mental Patients," *Journal of Nervous and Mental Disease*, Vol. 149, September 1969, pp. 270-276.

[8] B. Pasamanick, F. Scarpitti, and S. Dinitz, *Schizophrenics in the Community: An Experimental Study in the Prevention of Hospitalization*, Appleton-Century-Crofts, New York City, 1967.

and on our own clinical training and experience.

Evaluation has recently become a byword for community psychiatry. It is sometimes difficult for researchers to understand why we know relatively little about the adjustment of "community-treated" patients. In particular, data on the quality of life or psychosocial adjustment of formerly hospitalized patients are sparse. The Soteria clinical program is hypothesized to have especially good results in those areas and will therefore be the principal focus of this paper.

The rise of "evaluation" in the community psychiatry hierarchy has been paralleled by a similar interest in cost-benefit ratios. It is worth emphasizing that our view of cost-benefit is a long-range one. We believe the maintenance and enhancement of patients' psychosocial competence over a fairly prolonged time is more critical in terms of cost-benefit than is short-term resource utilization—that is, the direct cost of treatment—which is the most commonly used cost parameter. We have taken this view because, as Gunderson and Mosher point out, about two-thirds of the cost of schizophrenia to the country comes from loss of productivity.[9] The direct cost of treatment accounts for less than one-fourth of the total cost of this disorder.

SOTERIA HOUSE

Although the wards that treat the Soteria project's control subjects are part of a community mental health center, and therefore an example of community psychiatry, the two programs are quite different. Soteria House is a 1915-vintage, 12-room residence located on a busy street in a "transitional" neighborhood of a San Francisco Bay Area city. On one side of it is a nursing home, and on the other a two-family home. The neighborhood has a mixture of small businesses, medical facilities (a general hospital is one block away), single-family homes, and small apartments (usually homes that have been remodeled into apartments). It is a designated poverty area inhabited by a mixture of college students, lower-class families, and former state hospital patients. Some 15 to 20 per cent of the residents are Mexican-American, and there are a few blacks.

Due primarily to licensing laws, Soteria House can accommodate only six residents at one time, although as many as ten persons can sleep there comfortably. One or two new residents are admitted each month. There are six paid nonprofessional staff plus the project director and a one-fourth-time project psychiatrist.

In general, two of our specially trained regular nonprofessional staff members, a man and a woman, are on duty at any one time. In addition, there are usually one or more volunteers present, especially in the evening. Most staff work 48- to 60-hour shifts to provide themselves the opportunity to relate to spaced-out (their term) residents continuously over a long period of time.

Staff and residents share responsibility for household maintenance, meal preparation, and cleanup. Residents who are not "together" are not expected to do an equal share of the work. Over the long term, staff do more than their share and will step in to assume responsibility if a resident cannot do a task to which he has agreed. The project director acts as friend, counselor, supervisor, and object for displaced angry feelings by staff. The part-time project psychiatrist, in addition to his formal medical-legal responsibilities, supervises the staff and is seen as a stable, reassuring presence.

Although the staff vary somewhat in how they see their roles, they generally view what psychiatry labels a schizophrenic reaction as an altered state of consciousness in an individual who is experiencing a crisis in living. Simply put, the altered state involves personality fragmentation, with the loss of a sense of self.

Few clinicians would disagree with a description of the evolution of psychosis as a process of fragmentation and disintegration. But at Soteria House the disruptive psychotic experience is also believed to have potential for reintegration and reconstitution, resulting in a more stable sense of self, if it is not prematurely aborted or forced into some psychologically strait-jacketing compromise.

Such a view of schizophrenia implies a number of therapeutic attitudes. Basically, psychotic persons are to be related to in ways that do not result in the invalidation of the experience of madness. All facets of the psychotic experience are taken by Soteria House staff members as "real." They view the experiential and behavioral attitudes associated with the psychosis—the clinical symptoms, including irrationality, terror, and mystical experiences—as extremes of basic human qualities. Because "irrational" behavior and mystical beliefs are regarded as valid and as capable of being understood, Soteria staff try to provide an atmosphere that will facilitate integration of the psychosis into the continuity of the individual's life.

When the fragmentation process is seen as valid and as having potential for psychological growth, the individual experiencing the schizophrenic reaction can be tolerated, lived with, related to, and validated—but not

We believe that the maintenance and enhancement of patients' psychosocial competence over a fairly prolonged time is more critical in terms of cost-benefit than is the direct cost of treatment.

[9] J. G. Gunderson and L. R. Mosher, "The Cost of Schizophrenia," *American Journal of Psychiatry*, Vol. 132, September 1975, pp. 901-906.

rated" or used to fulfill staff needs. Limits are set if person is clearly a danger to himself, others, or the gram as a whole, not merely because others are able to tolerate his madness. Neuroleptics are ordily not used for six weeks. If the patient shows no nge at that time and either is paranoid or has an dious onset, Thorazine (300 mg. a day or more) is en.

Although we have previously described and comed Soteria staff with those in more traditional proams,[10,11] a word about the background for our use of e specially trained nonprofessionals as primary staff in order. We believe that relatively untrained, psyologically unsophisticated persons can assume a phenomenological stance in relation to psychosis more eas- than highly trained persons (for example, M.D.s or D.s) because they have learned no theory of schizoenia, whether psychodynamic, organic, or a combilon of both. Because they lack the preconceived as of professionals, our nonprofessional staff mem- have the freedom to be themselves, to follow their ceral responses, and to be a "person" with the psyotic individual.

Highly trained mental health professionals tend to e that freedom in favor of a more cognitive, theoryed, learned response that may invalidate a patient's perience of himself if the professional's theory-based havior is not congruent with the patient's felt needs. ofessionals may also use their theoretical knowledge fensively when confronted, in an unstruetured set- with anxiety-provoking behaviors of psychotic sons. This pattern of response is not so readily avail- e to our unsophisticated nonprofessional therapists, is it reinforced by a professional degree with its mpanying status and power.

Experimental subjects are free to obtain whatever discharge care they need. In general, however, it is de clear that Soteria will be available to them as a tal center, a place where they can drop by if they d to, or as a residential treatment facility if there is ement about their needs and space is available.

E CONTROL FACILITY

e control facility, the community mental health ter's inpatient service, consists of one open and one ked ward of 30 beds each. About 250 patients are itted per month, including readmissions. One ward iented toward slightly longer-term care and usually eives transfers from the other, shorter-term ward.

The service is an active-treatment facility with a f-patient ratio of 1.5 to 1 and is oriented toward

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crisis intervention; it uses high doses of neuroleptics. All of the control patients reported on here received therapeutic courses of antipsychotic drugs during their inpatient stays. Only one was discharged off drugs. The immediate goal of the service is rapid evaluation and placement in other parts of the county's treatment network; when possible, the service refers patients quickly to one of the four open private inpatient facilities in the county.

Over-all, the staff are well trained, experienced, and enthusiastic; they see themselves as doing a good job. Patients are assigned to one of five treatment teams on each ward; the teams meet daily to decide treatment plans. Patients are also assigned a paraprofessional therapist who provides a half hour of psychotherapy daily and takes a major role in treatment planning. The wards have one and a half hours a day of occupational therapy and a daily one-hour community meeting. All patients participate in a crisis group, which meets for an hour and a half five times a week. A couples group, for married patients and spouses, meets two hours a week; a psychodrama group, for all patients who are able, meets two hours a week; a women's group meets two hours a week; and a survival group, for readmitted patients, meets for one and a half hours three times a week.

Because the center's inpatient service takes patients from all over the county (it is the only facility with 24-hour-a-day psychiatric emergency service and locked wards), most patients are referred back to one of four regional centers nearest their homes for outpatient care. This care may include partial hospitalization (day or night care), individual, family, or group therapy, and medication follow-up. The county also has an extensive board-and-care system and eight halfway houses for adolescents and adults. A subacute facility with 30 beds and various locked (so-called "L") facilities intended to shorten hospital stay are also being used. As is the case with many programs these days, this one is frequently in flux, usually because of changing economic circumstances.

Table 1 summarizes the comparisons and contrasts between the programs in a somewhat exaggerated and oversimplified form. It compares institutional variables, social structure, staff attitudes, and family involvement.

[10] R. M. A. Hirschfeld *et al.*, "Being With Madness: Personality acteristics of Three Treatment Staffs," *Hospital & Community hiatry*, Vol. 28, April 1977, pp. 267-273.

[11] L. R. Mosher, A. Reifman, and A. Menn, "Characteristics of ofessionals Serving as Primary Therapists for Acute Schizo- nics," *Hospital & Community Psychiatry*, Vol. 24, June 1973, pp. 6.

TABLE 1 Comparisons of Soteria House and the control wards

Soteria House	Control wards
Institutional variables	
Nonmedical	Medical
Nonhospital	Hospital
Open	Closed or restrictive
Varied work schedules	Eight-hour work shifts
Minimal use of medication	Usual use of medication
Labeling, stigmatization minimized	Labeling, stigmatization inevitable
Behavior of residents and staff open to scrutiny and discussion	Staff behavior usually reviewed in closed sessions
Social structure	
Nonauthoritarian	Authoritarian
Nonhierarchical	Hierarchical
Peer-fraternal relations	Parent-child relations
Program flexibility	Inflexibility
Role differentiation minimized	Institutionalized role definition (such as social worker, nurse)
Client as resident	Client as patient
Equality	Patient submissive to authority
Dyadic, triadic units emphasized	Group emphasized
Individuals usually responsible for and in control of their own lives	Hospital, doctor, and ward assume responsibility and control
Power residing equally in each resident and staff member	Power residing in hierarchy: head nurse, doctor, hospital administration
Minimal structured activities	Emphasis on structured activities
Continuity of relationship after discharge	Postdischarge contact with ward staff discouraged
Familylike atmosphere	Hotel or boarding-house atmosphere
Staff attitudes	
Psychosis is a valid experience	Psychosis is an illness, thus not an intimate part of the person
Staff concerned with "being with" the resident	Staff maintain objectivity and distance
Psychosis is an important event, should be taken seriously	Most important aspect of psychosis is getting over it
Understanding the experience of psychosis is important	Putting the experience behind is important
Staff allow the individual to experience his psychosis	Staff shore up defenses to suppress, repress, and abort psychosis
Regression is allowed	Regression is prevented or interrupted when possible
Containing, holding environment	"Moving-on" environment
Growth and learning from psychosis is valued	Getting over psychosis quickly is valued
Minimal pressure to "get going"	Length of stay seen as critical
Family involvement	
Family has vacation from psychotic offspring	Continued involvement of family is necessary
Aftercare decided on by individual, perhaps not involving family	Aftercare determined by M.D. usually involving family
Degree of involvement determined by family	Family involvement dictated by institutional policy

THE RESEARCH DESIGN

All subjects come from a screening facility that is part of the community mental health center complex containing our control wards. Approximately 600 new patients a month are seen there, of whom about 250 are hospitalized. A potential study candidate is anyone who meets five basic criteria: the subject must be clearly schizophrenic; is deemed in need of hospitalization; has had no more than one previous hospitalization, for two weeks or less, with a diagnosis of schizophrenia; is between 16 and 30 years of age (either sex); and is unmarried, separated, widowed, or divorced. About three to six subjects each month meet these criteria. Most schizophrenic patients coming to the screening facility are excluded from the study by the previous hospitalization criterion.

The selection criteria are designed to provide us with a relatively homogeneous sample of individuals diagnosed as schizophrenic, but a group at risk for prolonged hospitalization, chronic disability, or both; early onset and being unmarried are characteristics that p

pose to chronic care.[12] Besides its value in homogeing our sample, our elimination of individuals with ensive previous hospitalization reflects our wish not deal with a learned patient role before actually inving the person in the Soteria program as himself. recognize that these criteria limit our study's generability, but we feel that the advantages of relative mogeneity outweigh the disadvantage of more limd generalizability when it is possible to study only a all number of subjects.

All patients referred to the study are screened by a search psychologist to make sure they meet admission teria. If they do, he completes a pretreatment assessent battery that covers six areas:

Independent diagnosis. To be included in the study, patient must have received three independent diagses of schizophrenia (*DSM-II*[13]), one by the clinician the admitting facility and two by the research team ng the criteria set out below. If the second research-am diagnosis, made at day three, is other than schizorenia, the subject is excluded from the research (but l treated).

Diagnostic symptoms. At least four of the following ven symptoms must be present for acceptance into study: thought disorder, catatonic motor behavior, anoic ideation, hallucinations, delusions (other than stematized paranoid delusions), blunted or inppropriate emotion, and disturbance of social behavior d interpersonal relations.[14]

Diagnostic certainty. The assessor rates his certainty at the patient is schizophrenic on a scale of 1 to 7, ith 1 as definitely not schizophrenic and 7 as definitely hizophrenic.[15]

Mode of onset. A 4-point scale allowing us to dichotomize patients into those with acute and those with sidious onset is used; a score of 3 or more indicates cute onset. It consists of four elements: time elapsed nce the beginning of the episode (more or less than six onths), confusion (present or absent), identifiable precipitants (yes or no), and schizoid adjustment (yes or o).[16,17]

Paranoid-nonparanoid status. Five items, each having a 5-point range, are used to rate paranoia: delusions external control, ideas of reference, feelings of perecution, grandiosity, and overtly expressed hostility. A score of 13 or more indicates paranoia.[18]

Symptom-rating scale. An interviewer uses the Inpatient Multidimensional Scale for Rating Psychotic Patients (IMPS), an 88-item symptom-rating instrument yielding ten symptom variables (for example, excitement, hostility).[19]

Our study established and has maintained high interrater reliability (intraclass and Pearson's rs of .75 to .95) for the entire battery.

Subjects meeting study-selection criteria are identified without knowledge of the group to which they will ultimately be assigned. Study requirements are explained, and informed consent is obtained from the patient and his family, or significant other, if available. As only six residents can be accommodated in the experimental setting, intake is limited by bed availability. Therefore, consenting subjects are admitted to the experimental program if a bed is available. If no experimental bed is available, eligible consenting subjects are admitted to the comparison treatment group. Basically this procedure results in treatment-group assignment on a consecutively admitted, space-available basis.

The admission assessment battery is repeated at three days, six weeks, and six, 12, and 24 months after admission. In addition, a composite measure of community adjustment[20] is obtained at discharge and at the same intervals. Data on work, social life, school, rehospitalization, and other aspects of community adjustment are included in our patient progress report.

Although we focus here primarily on independently derived research assessments, we also obtain milieu, self-report, family, staff, and therapeutic-process data in the study. We have previously compared and contrasted the characteristics of the two programs, in greater detail than is possible to report here, in terms of social processes,[21] treatment orientations, and social structure.[22] We found the two programs to be different from each perspective.

THE STUDY SAMPLE

A total of 37 experimental and 42 control subjects had met study admission criteria and had been treated in the respective facilities at the time of this preliminary analysis, in September 1978. All experimental and control subjects were eligible for two-year follow-up, but four experimental and 12 control subjects were

[11] B. Rosen, D. F. Klein, and R. Gittelman-Klein, "The Prediction of Rehospitalization: The Relationship Between Age of First Psychiatric Treatment Contact, Marital Status, and Premorbid Asocial Adjustment," *Journal of Nervous and Mental Disease*, Vol. 152, January 1971, pp. 17-22.

[13] American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, 2nd edition, Washington, D.C., 1968.

[14] Collaborative Study Group, "Phenothiazine Treatment in Acute Schizophrenia," *Archives of General Psychiatry*, Vol. 10, March 1964, pp. 246-261.

[15] L. R. Mosher, W. Pollin, and J. R. Stabenau, "Identical Twins Discordant for Schizophrenia: Neurologic Findings," *Archives of General Psychiatry*, Vol. 24, May 1971, pp. 422-430.

[16] *Ibid.*

[17] G. E. Vaillant, "Prospective Prediction of Schizophrenic Remission," *Archives of General Psychiatry*, Vol. 11, November 1964, pp. 509-518.

[18] P. H. Venables and N. O'Connor, "A Short Scale for Rating Paranoid Schizophrenia," *Journal of Mental Science*, Vol. 105, July 1959, pp. 815-818.

[19] L. Lorr, C. Klett, and D. McNair, *Syndromes of Psychoses*, Macmillan, New York City, 1963.

[20] D. A. Soskis, "A Brief Follow-up Rating," *Comprehensive Psychiatry*, Vol. 11, September 1970, pp. 445-449.

[21] H. Wilson, *Infra-controlling: The Social Order of Freedom in an Antipsychiatric Community*, dissertation, University of California, Berkeley, 1974.

[22] R. J. Wendt *et al.*, "A Comparison of Two Treatment Environments for Schizophrenia," in *Recent Developments in Milieu Treatment*, J. G. Gunderson, L. R. Mosher, and O. A. Will, editors, in press.

Over the two-year period, there were striking differences in the two groups in the use of neuroleptic drugs. More than 50 per cent of the experimental subjects never received any drugs.

either lost to follow-up or refused further participation in the study. Thus two-year psychopathological and psychosocial data are reported for 33 experimental and 30 control subjects. In the tables data are reported as percentages (with sample sizes listed at the top) because we were not able to obtain two-year data from every subject not lost to follow-up.

Because of our concern that a systematic bias had been introduced into our data by subjects lost to follow-up or by missing data, we assessed this possibility in two ways. The first method was to check hospital records at our control facility and at the state hospital for readmissions. Two of four experimental patients and five of ten lost-to-follow-up controls had inpatient readmissions. One experimental patient and three lost controls appear to have become chronically ill, with multiple hospitalizations and low levels of psychosocial functioning. Their psychosocial data are not included in this report as they were not derived from a face-to-face research interview.

This check of records does allow us to report readmission data for all eligible subjects, even those we were unable to interview. Thus the two-year readmission data are reported for 30 experimental and 33 control subjects.

The second method was to compare admission demographic and symptom data (from the IMPS) for the subjects from whom we were able to obtain two-year follow-up data and for the no-data and lost subjects. There were no significant differences on admission demographic characteristics between the data and no-data subjects. The only significant difference between the data and the lost and no-data subjects was a significantly higher ($p \leq .04$) IMPS intropunitiveness factor among control subjects.

Although the differential sample attrition remains a concern, we can find no evidence indicating important systematic bias favoring the experimental group because of the lost-to-follow-up or no-data subjects. In fact, the data indicate that the lost subjects may have biased the control group's psychosocial outcomes in its favor.

At admission the experimental and control groups showed no significant differences on a number of variables. Table 2 summarizes certain demographic characteristics; there were no significant differences between the two groups in terms of age, sex, social class, and education.

In terms of admission psychiatric assessments (Table 3), there were no significant intergroup differences in number or type of diagnostic symptoms, diagnosis, certainty of diagnosis, over-all level of symptomatology (IMPS profile data are not included in the table), mode of onset, or paranoid-nonparanoid status. Further, the mode of onset was not significantly different between the paranoid and nonparanoid subgroups in the experimental or control group (Table 4). There also were no significant differences in preadmission working or living arrangements between the two groups (Table 5).

RESOURCE USE AND TWO-YEAR OUTCOME

Experimental subjects stayed significantly longer than controls on their initial admission, a mean of 166 days (SD = ± 142) compared with 28 days (SD = ± 4). Only 8 per cent of the Soteria patients received antipsychotic medications: no experimental patient received courses of neuroleptics during the initial six weeks, but three subjects received them later in their stays; their average dose in Thorazine equivalents was 660 mg. per day. All control subjects received neuroleptic drugs (defined as two weeks or more of antipsychotic medication at a level of 300 mg. Thorazine equivalents or more per day) while hospitalized; doses averaged 730 mg. per day of Thorazine equivalents.

As Table 6 shows, at two-year follow-up the control subjects had more total readmissions, 37 compared with 28. In addition, a greater percentage of control patients were readmitted, 67 per cent as compared with 53 per cent. However, neither difference is significant. Ten of the 30 experimental subjects were admitted to inpatient

TABLE 2 Demographic data at admission

Variable	Experimental group	Control group
Age		
N	37	42
Mean ± SD	21.1 ± 3.3	22.5 ± 4.1
Range	15 to 28 years	16 to 31 years
Sex		
N	37	42
Male	19 (51%)	26 (62%)
Female	18 (49%)	16 (38%)
Social class[1]		
N	33	27
Mean ± SD	3.1 ± 1.1	3 ± 1.1
Range	1 to 5	1 to 5
Education		
N	37	36
College graduate	2 (5%)	4 (11%)
Some college	19 (51%)	20 (56%)
High school graduate or some high school	16 (43%)	12 (33%)

[1] Based on the Hollingshead-Redlich Index of Social Class, father.

TABLE 3 Psychiatric assessments at admission

Variable	Experimental group	Control group
Diagnostic symptoms (maximum, 7)		
N	37	32
Mean ± SD	5.2 ± 1.3	5.3 ± .7
Thought disorder	95%	74%
Hallucinations	87%	57%
Delusions	68%	62%
All three	60%	41%
Certainty of diagnosis[1]		
N	37	33
Mean ± SD	6.2 ± .8	6.3 ± .8
Range	4 to 7	5 to 7
Mode of onset[2]		
N	35	34
Mean ± SD	2.4 ± 1.2	2.7 ± .9
Acute	49%	59%
Insidious	51%	41%
Paranoid-nonparanoid status[3]		
N	37	33
Mean ± SD	11.9 ± 5.2	11.6 ± 5.4
Paranoid	41%	34%
Nonparanoid	59%	66%

[1] Maximum rating 7, indicating definitely schizophrenic.
[2] Maximum score 4; 1 or 2 indicates insidious, 3 or 4 acute.
[3] Maximum score 25; 13 or more indicates paranoid.

are in the regular mental health system over the two-year span. Two of them were transferred directly from Soteria because the program was not able to deal with them effectively. The others were admitted after some time in the community.

Over the two-year period there were striking differences in neuroleptic drug use in the two groups (Table 3). More than 50 per cent of the experimental subjects never received any psychotropic drugs, and only 4 per cent, contrasted with 43 per cent of the control subjects, were maintained on them over the entire follow-up period. Table 6 also indicates that control subjects used many more days of day or night care and outpatient therapy. Interestingly, about 40 per cent of the experimental subjects had no subsequent contact with the regular mental health system.

Although psychopathology is not a major focus of this paper, we can report that at two years the over-all levels and profiles of IMPS-rated psychopathology were not significantly different between the groups. Both groups showed significant and comparable reduction in psychopathology over the two-year period.

TABLE 4 Relation between mode of onset and paranoid-nonparanoid status

	Experimental (N = 35)		Control (N = 32)	
	Paranoid	Non-paranoid	Paranoid	Non-paranoid
Insidious	20%	31%	6%	38%
Acute	17%	31%	28%	28%

Two aspects of work status at two-year follow-up are shown in Table 5: amount of time working, such as full time or part time, and over-all occupational level. The full-time category includes patients attending school full time. Occupational level was rated on a 3-point scale that compares the subject's current type of work with the pre-illness job status. A rating of 2 indicates a fallen level, 3 the same, and 4 risen. There were no significant differences between the groups in percentage of subjects working full or part time at two-year follow-up. However, experimental subjects had a significantly higher occupational level, 2.71 compared with 2.33.

TABLE 5 Psychosocial adjustment before admission and at two-year follow-up

Variable	Experimental group	Control group	Exact probability
Work status			
Before admission			
N	36	28	
Full-time work[1]	64%	64%	1.0
Part-time work	19%	21%	
Not working	17%	14%	
Two-year follow-up			
N	25	29	
Full-time work	32%	28%	.83
Part-time work	44%	52%	
Not working	24%	21%	
Occupational level[2]	2.71 ± .56	2.33 ± .49	
Living arrangements			
Before admission			
N	37	39	
With parents or relatives	68%	62%	.81
Independently	30%	36%	
Board and care or similar	3%	3%	
Two-year follow-up			
N	33	30	
With parents or relatives	33%	37%	.02
Independently	58%	33%	
Board and care or similar	0%	23%	
Soteria or hospital (readmission)	9%	7%	
Friendships[3]	1.95 ± .59	1.56 ± .92	

[1] Includes patients attending school full time.
[2] A rating of 2 indicates fallen, 3 the same, and 4 risen. There was a significant intergroup difference, $p \leq .05$.
[3] A rating of 0 indicates none and 3 many.

TABLE 6 Postdischarge resource use, cumulative to two-year follow-up

Variable	Experimental group	Control group	Exact probability
Readmissions[1]			
N	30	33	
Total readmissions	28	37	.31
N readmitted	16	22	
% readmitted	53%	67%	
Neuroleptic drug treatment			
N	23	23	
Continuous	4%	43%	.00001
Intermittent[2]	30%	52%	
Occasional	9%	4%	
None	57%	0	
Other mental health contacts			
N	22	22	
Any contact	59%	100%	.0007
Outpatient therapy	45%	100%	.0001
Day or night hospital	19%	41%	.04
Total days of day or night hospitalization	110	1215	

[1] Includes readmissions to other psychiatric hospitals as well as original treatment facilities.

[2] At least two weeks of continuous medication.

Table 5 also shows that significantly more experimental than control subjects, 58 per cent compared with 33 per cent, were living independently—that is, alone or with peers rather than at home with their parents—at two-year follow-up. Over the two-year period the percentage of experimental subjects living independently increased from 30 per cent to 58 per cent, while the percentage of controls living independently dropped from 36 per cent to 33 per cent.

A 4-point scale was used to rate how many friends patients had and how often they saw them, with 0 indicating no friends and social memberships and 3 indicating many friends and social memberships. There was a consistent nonsignificant trend favoring the experimental group on this variable, with a mean of 1.95 for the experimental group and 1.56 for the controls (Table 6).

Because of space limitations, we are reporting only two-year data here. However, the data analyses for six-month and one-year follow-ups yielded basically similar results.

INTERPRETING THE DATA

Interpretation of our data, which compares two very different approaches to similar groups of newly admitted patients, is problematic for several reasons. First, although the characteristics of the two residential settings are very different, some posthospital care received by control subjects as part of the "usual" care in the mental health system may be more nearly like the Soteria program than was their hospital care. In addition, 60 per cent of Soteria-treated subjects also received some, albeit limited, care in the regular mental health system after their stays at Soteria. Thus, although no control subjects were treated at Soteria, the two treatments are not completely without overlap.

Second, follow-up of young, highly mobile subjects living in a community with a 20 per cent annual rate of emigration and immigration is difficult, resulting in sample attrition and data loss at some assessment intervals for some subjects. Further, practical considerations at the screening facility made random assignment impossible in the current study. Because there are no significant differences between the groups on any of the variables assessed at admission, we believe there is no systematic bias favoring one or the other group. However, to meet this criticism, we have begun a random assignment study for treatment in the two settings.

And finally, it is not possible for our independent psychiatric assessors to remain blind to treatment status. Our new study obtains, at follow-up, interview material from which treatment group clues can be removed and submitted to independent judges for rating.

Despite these difficulties, our data indicate that young, clearly schizophrenic subjects deemed in need of hospitalization recover and attain somewhat better psychosocial adjustment at two years, generally without neuroleptic drug treatment, when treated in a nonmedical residential setting staffed by nonprofessionals than do similar subjects treated in the "regular" mental health care system. Despite strikingly lower use of neuroleptics and aftercare, the experimental subjects are not readmitted more often. This result is quite contrary to what might have been predicted from the overwhelming evidence that maintenance treatment with neuroleptics and use of aftercare can reduce readmission rates.[23,24] Thus we conclude that withholding neuroleptics from this group is, at a minimum, not harmful.

Going a step further, our data, like those of Carpenter, McGlashan, and Strauss,[25] seem to indicate that antipsychotic drugs need not be used routinely with newly admitted schizophrenics if a nurturant, supportive psychosocial environment can be supplied instead. Although our data are insufficient to warrant a firm conclusion about the usefulness of maintenance drug treatment, they are provocative enough to justify

[23] J. L. Claghorn and J. Kinross-Wright, "Reduction in Hospitalization of Schizophrenics," *American Journal of Psychiatry*, Vol. 128, September 1971, pp. 344-347.

[24] J. M. Davis, "Overview: Maintenance Therapy in Psychiatry: I. Schizophrenia," *American Journal of Psychiatry*, Vol. 132, December 1975, pp. 1237-1245.

[25] W. T. Carpenter, T. H. McGlashan, and J. S. Strauss, "The Treatment of Acute Schizophrenia Without Drugs: An Investigation of Some Current Assumptions," *American Journal of Psychiatry*, Vol. 134, January 1977, pp. 14-20.

ious reconsideration of the almost routine public spital practice of maintaining schizophrenic patients neuroleptics over the long term, especially in view of eir known long-term toxicities.[26]

Turning to psychosocial adjustment, where we hyothesized that the experimental subjects would show dvantages as compared with controls, we find that at o years Soteria-treated subjects had significantly gher occupational levels and were more able to leave homes of their families of origin to live alone or with ers. We could find no exactly comparable data on ility to leave home, but Wing and associates have early shown that discharged patients who do not reurn to their families of origin do better.[27]

If these psychosocial adjustment results are replicated in our new random-assignment study, they could ddress one frequently heard criticism of community sychiatry: that its emphasis on rapid discharge from patient care places undue burdens on patients' families. Our experimental subjects' ability to leave home to live independent of their families of origin clearly reduces this burden. Thus a Soteria-type psychosocial environment may have the potential both for reducing family burden and for enhancing long-term psychosocial adjustment for many young, unmarried schizophrenic patients, a group known to be at high risk for chronic institutionalization or low levels of community functioning.

We believe that, over the long term, because of the high percentage of experimental subjects who are living independent of their families and are working (and therefore productive), the Soteria program is likely to prove itself more and more cost-effective as compared with "usual" treatment. We have previously reported that Soteria's direct-treatment costs are no greater than those of treatment received by our control subjects.[28] These long-term cost-benefit considerations would seem to warrant seriously considering the inclusion of Soteria-like facilities as one element of comprehensive community mental health programs.■

[26] G. E. Crane, "Clinical Psychopharmacology in Its 20th Year: ne, Unanticipated Effects of Neuroleptics May Limit Their Use in ychiatry," *Science*, Vol. 181, July 13, 1973, pp. 124-128.

[27] J. K. Wing and G. W. Brown, *Institutionalism and Schizophre-*, Cambridge University Press, New York City, 1970.

[28] L. R. Mosher, A. Z. Menn, and S. M. Matthews, "Soteria: Evaluation of a Home-Based Treatment for Schizophrenia," *American Journal of Orthopsychiatry*, Vol. 45, April 1975, pp. 455-467.

Psychiatric Education in the Emergency Room: Must Teaching Stop at 5 p.m.?

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The authors surveyed psychiatric residency programs to see what educational resources were available to residents assigned to provide emergency services during evening and nighttime hours. Almost half the sample of 89 programs assigned first-year residents to provide emergency care. The primary immediate means of support for the residents was telephone assistance, in 49 per cent of the programs, or the presence of a nonpsychiatrist professional, in 35 per cent. The general lack of educational resources reflects the traditional dispositional model of emergency psychiatry, the authors say, with its emphasis on briefly evaluating the patient and referring him elsewhere for services; current training practices cannot meet the goals of the crisis system model in which a comprehensive treatment program is begun in the emergency room.

■The clinical skills and judgment of the psychiatrist are tested fully in the emergency room, where he or she must make critical decisions about diagnoses and treatment plans. Such decisions must be made rapidly, often with only a minimum of information, and the psychia-

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