A Ten-Year Perspective on Three Models of Sheltered Care

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Data from three surveys of California sheltered care residents and facilities were used to determine which of three models best describes the use of sheltered care by residents and the provision of services to residents between 1973 and 1983. The continuum-of-care model emphasizes a person’s movement along a treatment continuum to greater independence. In the residual model, the focus is on providing habitation for a chronic population from the era before deinstitutionalization. The developmental model emphasizes providing long-term care to persons who seek supported living arrangements at a particular point in their life cycle. Results indicated that the developmental model best describes the way residents used sheltered care, while service provision was based on the continuum-of-care model. In light of these findings, it should be determined whether service provision reflects the actual needs of this population.

Sheltered care facilities, including family care homes, board-and-care homes, halfway houses, and psychosocial rehabilitation programs, provide 24-hour supervised placements for more adults with serious mental illness than do state and county mental hospitals (1). Persons with serious mental illness in sheltered care facilities are poor and have minimal family supports.

This paper proposes three alternative models of sheltered care for adults with serious mental illness: residential care as part of the treatment continuum, residential care as a residual system of care, and residential care as a developmental need for those with mental illness. These models theoretically define the functions of the sheltered care system in the U.S. (2). In this paper, the results of a study that tested which of the three models best describes how the sheltered care system functioned over a ten-year period are reported.

The models

In the continuum-of-care model, the residential care system provides a range of alternatives to hospitalization (3–5). Facilities are part of the treatment system. The hospital is the most intensive treatment experience, and residential care provides less-intensive treatment settings, either after hospitalization or as an alternative. In this model, people in residential care are moving along a continuum to greater independence in facilities where treatment intensity varies by patient-staff ratio and program structure (5).

Given the emphasis on moving people through the system in the continuum-of-care model, the age and gender composition of a cross section of the population within residential care at a given point in time should reflect the contemporary inpatient population, since inpatient facilities are the major referral sources for residential care settings. The commitment of service resources from the health, mental health, and social service systems for an individual is indefinite in this model. Thus one individual may move through the continuum for ten weeks and another for ten years. Service commitment follows the individual.

In the residual model of residential care, facilities are simply a holding operation catering to formerly hospitalized long-term patients and having little relevance to today’s mentally ill population. This model equates residential care facilities with yesterday’s back wards of state mental hospitals; the development of the residential care system is viewed as a form of transinstitutionalization (6,7). A system operating under this model would be serving the long-term mentally ill population primarily from the era before deinstitutionalization.

Observed at a recent point in time, a cross section of the population served by a system based on the residual model would include older patients and more women than a cross section sampled at an earlier point because the major determinant of the population character would be the survival of long-term residents. Commitment of service resources to the individual is kept to a minimum in this model, given the target population’s poor prognosis and the competing service demands of more promising cases (8–10). The residual model is justified by mentally ill persons’ purported dependence before deinstitutionalization on supported living arrangements, a fact attributable to their long-term tenure in state mental hospitals.

Finally, the developmental model of the sheltered care system views residential placement as a phase ex-
experienced by individuals who are poor and who have serious mental illness. Patients are offered a long-term decent living environment varied enough to accommodate their different needs. Segal and Aviram (11) and Betts and associates (12) see this as a worthwhile and even admirable function.

In the developmental model, persons with serious mental illness follow distinct paths leading to residential placement. Following one path, they are pushed or thrown out of their families (13), have their first experience with major mental disorder, and join the street population as teenagers. They survive on the streets through their mid-thirties and early forties. At that point, some move into private residential care facilities; in the past, many would have been sent to state mental hospitals. Although some may live with their families intermittently, their primary residence from their early forties through their sixties is some supervised-housing arrangement. When they develop significant physical health problems, they move to a nursing home.

Following another path, young persons become mentally ill while still living at home. They receive family support, including income and room and board, through their middle years, at which time family tolerance wears thin or aging parents seek a long-term solution for their disabled offspring. This process usually occurs during one of the patients' intermittent hospitalizations, and discharge from the hospital is followed by residential placement. When such a placement is made, contacts with the family decrease, although there may be periodic returns to the family. The primary residence from the patients' early forties through their early sixties is a sheltered care facility. As in the first path, significant physical health problems may lead to nursing home placement.

In the developmental model, the age and gender composition of the residential care population should remain constant in any cross-sectional sample since people enter and leave at a more or less fixed point in their lives. Service resources in a developmental model are invested in the population primarily to facilitate stabilization in the long-term-care environment.

The developmental model of residential care differs from the continuum-of-care model in that the focus is not on transition from one treatment facility to another but on the development of a social career path for persons with serious mental illness who are poor and downwardly mobile. The developmental model differs from the residual model in that facilities are not "beds of last resort." They are marginal housing environments serving a marginal population.

Given the extensive use of sheltered care facilities and their poorly understood and much criticized role in the mental health system (1), this paper describes a study that tested which of the three models best describes how the sheltered care system functioned over a ten-year period. The answer to this question is a first step toward designing policies necessary to encourage program and system development and improvement.

Methods
Samples. The applicability of three models of sheltered care was evaluated using data from three studies—one conducted in 1973 (11,14) and two in 1983 (15,16). The 1973 study by Segal and Aviram (referred to below as the 1973 study) included 71 residents and 44 facilities. One 1983 study (referred to below as the first 1983 study) was a ten-year follow-up of the 1973 sample and included 27 residents from the earlier sample and 35 facilities (17). The study by Ditmar and associates (16) (referred to below as the second 1983 study) included 203 residents and 79 facilities.

Similar criteria were used for enrollment in all three studies, and the samples were representative of sheltered care facilities in the nine-county San Francisco Bay area and of the adults with serious mental illness who lived in the facilities. Each study covered a full range of residual alternatives (18). The studies used face-to-face interviews, and many questions were identical.
Service availability to mentally ill persons in California decreased between 1973 and 1983 (21). Hypotheses about the use of services should therefore reflect selective reductions in services. Based on the continuum-of-care model, one would expect a modest decrease in service use by the longitudinal sample between 1973 and 1983 compared with the decrease in use observed for the cross-sectional samples (that is, the 1973 sample and the second 1983 sample). In the continuum-of-care model, services initially invested in a resident's continuous care would have remained with the resident, assuming the services were still available. Fewer services would therefore have been available for people entering the system. This pattern of service use is justified by the observation that individuals who fail to move on to increased independence are the most needy and their movement through the system therefore takes additional time and continued investment.

According to the developmental model, members of the two cross-sectional samples would have used services at approximately the same level, since services would have been focused on facilitating long-term adjustment to the system. Service cuts would have been made among the long-term residents who when settled could rely on their personal networks for social support. Using the residual model, one would expect equivalent decreases in services among residents in both 1983 studies—that is, the system undervalued all residents equally.

Statistical methods. Comparisons of data for most variables involved independent one-way analysis of variance (ANOVA) to detect differences in means, with Scheffe post hoc tests to pinpoint the differences.

Results

Use of sheltered care. Table 1 presents the demographic and residential stability data for each study. Differences in the mean ages of the three samples as measured by ANOVA were significant ($F=20.75$, $df=2.297$, $p<.01$). The Scheffe post hoc results showed no significant difference between the mean age of the 1973 sample (47.1 years) and the second 1983 sample (43.9 years), but both samples were significantly different in age from the sample in the first 1983 study (60.6 years).

Another age comparison between the 1973 sample and the first 1983 sample was provided by facility operators, who reported the ages of both their youngest and oldest residents. In the ten years between studies, the mean age of the youngest resident did not change significantly—31.2 years in 1973 compared with 28.8 years in the first 1983 study (see Table 1). However, the mean age of the oldest resident in the 1973 sample (63.1 years) differed significantly from that of the oldest resident in the first 1983 sample (68.9 years) (paired $t=2.50$, $df=32$, $p<.02$).

The mean ages of the youngest and oldest residents were not reported in the second 1983 study, although facility operators did report the minimum and maximum age limits for residents. The mean age limits, 24.9 and 65.5 years, provide a rough comparison with data from the 1973 study and the first 1983 study. As Table 1 shows, the proportion of males in each of the three studies was similar.

Differences measured by ANOVA in the mean number of months a resident had spent at the current facility were significant ($F=18.06$, $df=2.291$, $p=.0000$). No significant difference between the 1973 sample (32.7 months) and the second 1983 sample (41.1 months) in months spent were revealed by the Scheffé post hoc test; however, both of these means were significantly different from the mean of the cohort in the first 1983 study (100.2 months). (The ANOVA indicated possible violation of the assumption of homogeneity of variance, but a non-parametric Kruskal-Wallis ANOVA also suggested a difference in the three means [$X^2=19.52$, $p=.0001$]). In the 1973 study, the residents' lengths of stay in their current residences ranged from one to 156 months. In the first 1983 study, the range was three to 215 months, and in the second 1983 study, it was one to 300 months.

Public-supported service use. As shown in Table 2, the mean scores on the service use scale were 3.1 for the 1973 sample, 1.8 for first 1983 sample, and .73 for the second 1983 sample. Significant differences were found as measured by ANOVA ($F=120.34$, $df=2.152$, $p<.01$), and the Scheffé post hoc test indicated that all three mean scores were different from each other.

The low service use score for the second 1983 study might reflect the
Table 2
Use of services by members of three samples of sheltered care residents with serious mental illness

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Sample</th>
<th>First 1983</th>
<th>Second 1983</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean service use score</td>
<td>3.1</td>
<td>1.8</td>
<td>.73</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Mean percentage of residents using service</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician for general medical care</td>
<td>100.0</td>
<td>84.4</td>
<td>59.5</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Nursing</td>
<td>31.8</td>
<td>9.7</td>
<td>3.8</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Social work</td>
<td>100.0</td>
<td>74.2</td>
<td>20.3</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>83.3</td>
<td>18.8</td>
<td>8.9</td>
<td>&lt;.05</td>
</tr>
</tbody>
</table>

1 Segal and Aviram (11,14)
2 Segal and Kotler (17)
3 Ditmar and others (16)
4 Ranges from 0, no use, to 4, use of all services
5 All three values significantly different from each other
6 For difference between the 1973 study and both 1983 studies

Different manner in which the scale questions were posed to facility operators. In the 1973 and first 1983 studies, operators were asked which services were actually used by their residents. However, for three of the four scale items, operators in the second 1983 study were asked whether there was “a professional service provider with whom the facility contracts.”

Nonetheless, the evidence presented thus far would seem to support the hypothesis that the number of services used by sheltered care residents has declined over the past ten years, although residents in the first 1983 sample—that is, those with a longer history in sheltered care—appeared to use services at a higher level than residents in the second 1983 study, who had a shorter history.

Of particular interest is the rather precipitous decline in the use of rehabilitation services. As Table 2 indicates, an average of 83.3 percent of sheltered care residents in the 1973 sample were using such services. In the first 1983 study, the figure dropped to 18.8 percent; it dropped even further, to 8.9 percent, in the second 1983 study.

Also of note is the pattern of social work service use. The use of social work services by residents declined from 100 percent in the 1973 study to 74.2 percent in the first 1983 study to 20.3 percent in the second 1983 study. The questions used to construct the social work scale items were fairly comparable in all three studies. The items in the 1973 and first 1983 studies asked about “social work visits” to the facility, while the question in the second 1983 study addressed “service agency personnel” coming to the facility to provide social work services. The decline in social work service use was similar to that in physician service use from 1973 (100 percent) to the first and second 1983 studies (84.4 and 59.5 percent, respectively). The large discrepancies in social work and physician service use between the first and second 1983 studies are of particular note.

Discussion
Results of the demographic comparisons lend support to the developmental model over both the continuum-of-care and residual models in describing how residents used the sheltered care system. A comparison of the 1973 study with the second 1983 study (Table 1) reveals a resident population whose age has remained fairly stable, lending support to the idea that persons with serious mental illness follow distinct paths leading to sheltered care placement. Indeed, the two paths described in the introduction suggest that the sheltered care facility becomes a primary residence for the mentally ill individual in his or her early to late forties, an assumption supported by the mean age reported by residents in the two cross-sectional studies—47.1 years in the 1973 study and 43.9 years in the second 1983 study.

Operator-reported age data from the cohort samples also support the developmental model. Residents in the second 1983 sample were no younger than those in the 1973 sample, as one would expect in the continuum-of-care model. Rather, sample members appeared likely to remain in residential care on a long-term basis, as reflected in the significant difference in mean ages for the oldest residents—63.1 years in the 1973 study and 68.9 years in the first 1983 study.

Similarly, the lack of significant differences in the proportion of males in each study bolsters the developmental model of residential care. Again, under the continuum-of-care model, one would expect the more recent samples—that is, both 1983 samples—to reflect the characteristics of the current inpatient population, which includes more males.

Continuous-occupancy data also support a developmental model of use of residential care. According to the continuum-of-care model, residents in more recent studies would spend shorter periods of time in sheltered care while on the road to greater independence. Residents in the 1973 sample lived an average of three years at their current facility, whereas residents in the first 1983 study had stayed more than eight years. Indeed, nearly half (N=11) of the 23 residents in the first 1983 sample for whom the occupancy analysis was valid were living at the same facility in which they were first interviewed in 1973.

Under the continuum-of-care model, one would not expect such a prolonged period of residency at the same facility. Rather, a resident would be expected to leave a particular facility after a one- or two-year stay, to return to that facility in the event of decompensation, but then to leave again once improvement was sufficient to justify independent living arrangements in the commu-
nity. In the continuum-of-care model, residents “cycle through” the same facility for relatively brief periods.

Although the cycling-through phenomenon is also characteristic of the developmental model, the cycle is decidedly more extended than in the continuum-of-care model. As discussed above, the developmental approach suggests that a resident’s stay in sheltered care represents a phase in his or her life cycle, beginning in the person’s forties and continuing through his or her sixties, a period of as much as 25 years. In both the first and second 1983 studies, the longest reported continuous occupancy—215 and 300 months, respectively—indicated that some individuals do indeed remain up to 25 years in the same facility.

Finally, if the residual model were in effect, the average number of months a resident spent at the current facility should have differed in the cross-sectional samples, with those in the second 1983 sample having spent more time at their present address. However, no significant difference was found.

The service use data, however, present a very different perspective. They are more consistent with service provision and use based on the continuum-of-care model, in which service reductions have the greatest impact on persons entering the system. According to this model, those in the system are more likely to receive continuous care. The longitudinal sample in the first 1983 study thus received fewer services than the 1973 sample but more services than the cross-sectional sample in the second 1983 study.

Conclusions
There appears to be a discrepancy between the way residents use sheltered care services and providers’ expectations about the use of such services. The developmental model best describes residents’ use of the system, whereas the continuum-of-care model describes the approach taken by service providers to support people in sheltered care. The services approach must be reevaluated in view of the way residents use sheltered care.

The clear danger of adopting a developmental model of service provision is that it risks encouraging inappropriate long-term dependence on the system. It also fits well with policies that place middle-aged and older mentally ill persons at the bottom of the service priority list. These are the quiet mentally ill persons who do not raise a fuss about the services they need. They also remain tucked away in sheltered care, largely out of the public’s view. Thus their plight pales in comparison to that of homeless mentally ill persons.

Adoption of the developmental model for allocating services to sheltered care residents would enable providers to tailor services to the particular needs of a population that seems to be settling in, perhaps for a period that will constitute as much as the second half of their lives. The developmental model applied to service provision is most helpful in guiding the future allocation of scarce services and in emphasizing the importance of maintaining residential care facilities as a resource. Services guided by this model would be more focused on developing long-term supports at the outset of placement. This focus places use of the sheltered care system and service provision within the system in the same framework.

Acknowledgments
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References
4. Lamb HB: Alternatives to hospitals, in The Chronic Mental Patient: Five Years Later, ibid
8. Long-Term Care for the Elderly and Disabled. Washington DC, Congressional Budget Office, 1977
10. California Community Mental Health Services Act, Sacramento, California State Department of Mental Health, California Commission on Health and Economy, 1985

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