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Service Use and Mental Impairment Among the Elderly: Arguments for Consultation and Education

Although the community mental health "revolution" expanded mental health coverage to larger portions of our society, the elderly remain relatively underserved. The study presented here had two purposes: (a) to compare the service use patterns of older adults with varying levels of mental impairment, and (b) to assess the effects of services received on the mental health status of older adults over a 1-year period. A secondary analysis of the General Accounting Office's Cleveland elderly data indicates that although the mentally impaired elderly were not likely to seek mental health services, they did use a variety of other service clusters, which significantly affected their mental health status. Implications for consultative interventions are discussed.

Recent epidemiological investigations have established two facts about mental impairment among the elderly: Prevalence rates for mental health problems increase with age, and older adults are underrepresented in the caseloads of traditional outpatient mental health settings, such as community mental health centers (e.g., Bryant, 1978; Zarit, 1980). Kay and Bergmann (1980), for example, provided a comprehensive review of the methods and results of epidemiological studies that focus on older adults. They concluded that the prevalence rates for mental disorders peak in later life. Similarly, Redick and Taube (1980) reviewed the elderly's pattern of mental health service utilization. They concluded,

> The trend data on utilization of mental health services . . . give further indication that the role of mental hospitals and psychiatric units of general hospitals for the care of the aged mentally ill is decreasing while that of nursing homes, community mental health centers and outpatient psychiatric services is on the increase. However, in the case of the latter two types of services, although the number of elderly being served has increased substantially, their percentage of the total caseload of these services has not changed appreciably over time and remains small, at 4%–5%. (p. 68)

Thus although the community mental health "revolution" has expanded mental health coverage to larger portions of society, the elderly remain relatively underserved (Bryant, 1978; Gatz, Smyer, & Lawton, 1980).

Despite recent congressional action mandating services for older adults as part of the core services for community mental health centers (PL 95-622, November 9, 1978), the most recent statistics suggest that little change has occurred in the elderly's use of outpatient mental health services (NIMH, 1980; U.S. GAO, 1982).

Although folk wisdom suggests that the mental health needs of older adults are being met through a variety of formal and informal support systems (e.g., nutrition sites, visiting nurses, etc.), there have been no large scale studies suggestive of the types of settings that are currently used by mentally impaired elderly. Therefore, this study has two purposes: (a) to compare the service-use patterns of older adults with varying levels of mental impairment, and (b) to assess the effects of services received on the

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mental health status of older adults over a 1-year period. The implications of current service usage for mental health intervention with older adults are discussed in the final section of the article.

Method

In order to provide information from a large data base, a secondary analysis was undertaken using a data set assembled by the General Accounting Office (U.S. GAO, 1977, 1979). The GAO study was developed as a 1-year longitudinal investigation into the effectiveness of a wide range of services offered to older adults. A detailed description of the sampling technique involved in the study is available from the GAO (U.S. GAO, undated). For the present, it is sufficient to note that an initial sample of 1,834 older people was interviewed from June through November 1975. This included 1,609 older adults selected through a scientific random sample of the community-dwelling elderly of Cleveland, Ohio. In addition, a sample of 225 Supplemental Security Income recipients was added to complete the sample.

In order to obtain information regarding the current service usage and functional well-being of elderly respondents, the GAO used a modified version of the Older Americans Resources and Services (OARS) questionnaire, developed at Duke University (Fillenbaum & Smyer, 1981; Pfeiffer, 1975). The OARS instrument allows for the classification of the individual's functioning in five areas: social resources, economic resources, physical health, mental health, and activities of daily living. In addition, the OARS interview contains items of inquiry about 26 different services.

The GAO study included two interviews spaced 1 year apart. Of the 1,834 respondents who were initially interviewed, 1,519 completed the second interview. In the majority of the analyses reported here, only those respondents with complete information at both times of interviewing were included. This yielded a potential sample of 531 respondents, although the specific sample size for each analysis varied.

The sample of 531 respondents with complete information had the following demographic characteristics. Men made up 38% of the group, and women accounted for 62%. Seventy-six percent of this group were white respondents, whereas 24% were black. The average age of the respondents with complete information was 76.1 years.

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The sample of 531 respondents with complete information differed significantly from the rest of the sample on three demographic variables: race, education, and age. In terms of race, blacks were relatively underrepresented in the final sample; they constituted 24% of the complete data group compared to 33% of the incomplete data group. In terms of education and age, those with complete data were less educated and older than were their peers who had incomplete data.

Results

PSYCHIATRIC IMPAIRMENT

In order to focus on the link between service use and psychiatric impairment, a composite variable reflecting psychiatric impairment was used. The variable combined the older adult's responses to the OARS questionnaire psychiatric evaluation, the person's self-rating of his or her mental health, and the interviewer's evaluation of the older adult's behavior. Based on this information, the variable was coded into three categories: (a) no psychiatric impairment, (b) mild psychiatric impairment, or (c) severe psychiatric impairment. Using this rating system, 190 were rated as having no psychiatric impairment; 174 respondents were classified as having mild psychiatric impairment; and 118 respondents were categorized as having severe psychiatric impairment.

Chi-squares were calculated to assess the differences in demographic characteristics of people in the psychiatric evaluation groups. There were no significant differences in psychiatric evaluation level related to age, $\chi^2(6, N = 1{,}436) = 9.4, \phi = .08, p < .15$, or sex, $\chi^2(2, N = 1{,}435) = 5.8, \phi = .06, p < .06$. Significant differences in psychiatric evaluations were found to be related to race, $\chi^2(2, N = 1{,}430) = 54.14, \phi = .20, p < .0001$, education, $\chi^2(8, N = 1{,}427) = 77.87, \phi = .23, p < .001$, and marital status, $\chi^2(6, N = 1{,}436) = 31.43, \phi = .15, p < .001$. Whites were more frequently free of psychiatric problems, whereas blacks were characterized by higher frequencies in either mild or severe impairment. People with higher levels of education had higher frequencies of no psychiatric impairment than did people with less education. Single and married people had less psychiatric impairment than did widowed, divorced/separated people, with widows having the highest frequency of severe impairment.

USE OF SERVICES

Respondents were asked which of 26 services they used. Looking across the frequencies of service use indicates great variability (see Table 1). Services ranged the gamut—from transportation services to homemaker services to medical and nursing services.

FACTOR ANALYSES

Services that were infrequently used were deleted from further analyses. These included escort services, employment services, sheltered employment, education for employment, education, remedial training, mental health services, and relocation services. In order to reduce the data as well as to explore whether various packages or clusters of services existed, the remaining 18 services were subjected to factor analyses using the principal axis method for iterating factors. A promax rotation was used

Table 1: Relative Frequencies (Percentage) of People Who Used Services at Time 1

Service	Frequency	Service	Frequency
Transportation	58.2%	Supportive devices	21.3%
Escort	2.8%	Physical therapy	3.1%
Social/recreational	25.7%	Continuous supervision	6.7%
Employment	.7%	Relocation	2.1%
Sheltered employment	.3%	Homemaker	23.1%
Education for employment	.4%	Meals	18.6%
Education	1.8%	Grocery	19.7%
Remedial training	.3%	Administrative/legal	19.4%
Mental health	3.1%	Evaluation	7.0%
Psychotropic drugs	17.9%	Financial	17.5%
Personal care	9.7%	Housing	22.6%
Nurse	6.1%	Information/referrals	11.9%
Medical	61.1%	Outreach	4.6%

Note. $N = 1,834$.

because it was felt that use of the various services was related to one another and, therefore, that factors should be correlated. Two separate factor analyses were calculated regarding the relationship of service usage patterns at Time 1 and Time 2.

Remarkably similar results were found regarding the clusters of service use at Time 1 and Time 2. Examination of Tables 2 and 3 allows comparison of the factor patterns for the two times of measurement. Factor 3 was exactly the same for both times of measurement, with social/recreational, information/referrals, and outreach services clustering together. This seems to represent a "social service" factor.

Variables loading on Factor 1 at both times of measurement were personal care, continuous supervision, homemaker services, and administrative/legal services. At

Table 2: Factor Patterns of Service Usage Patterns at Time 1

Service	Factor 1: Survival Services	Factor 2: Subsistence Services	Factor 3: Social Services	Factor 4: Medical Services	Factor 5: Adjunct Services
Transportation	.26	.15	.29	.05	−.57*
Social/recreational	−.39	−.09	.71*	.14	−.07
Psychotropic drugs	−.06	−.07	.08	.59*	.00
Personal care	.73*	−.07	−.04	.01	.17
Nursing care	.55*	.07	.05	−.07	.43
Medical	−.08	−.06	.05	.75*	.18
Supportive devices	.16	.17	−.17	.58*	−.05
Physical therapy	.13	−.19	.06	.04	.52*
Continuous supervision	.73*	−.05	−.07	−.14	.11
Homemaker services	.62*	−.18	−.21	.25	−.13
Meals	.46	−.55*	.24	.01	−.08
Grocery	−.25	.75*	−.07	−.02	.03
Administrative/legal	.64*	.12	−.02	.02	−.10
Evaluation	.13	.17	.20	.21	.49*
Financial	.04	.73*	−.04	.09	−.07
Housing	.22	.57*	.21	−.10	−.14
Information/referrals	.28	.20	.55*	.05	.20
Outreach	−.11	−.08	.76*	−.14	.04

Note. $N = 531$.
* Highest loading for each variable.

Table 3: Factor Patterns of Service Usage Patterns at Time 2

Service	Factor 1: Survival Services	Factor 2: Subsistence Services	Factor 3: Social Services	Factor 4: Medical Services	Factor 5: Adjunct Services
Transportation	.18	.25	.00	.53*	−.17
Social/recreational	−.37	−.05	.69*	.14	.05
Psychotropic drugs	.06	−.04	.07	.63*	.03
Personal care	.66*	−.08	−.09	.05	.18
Nursing care	.33	−.02	−.09	.17	.41*
Medical	−.07	−.11	.04	.70*	.13
Supportive devices	.59*	.22	−.03	.06	−.05
Physical therapy	.04	−.04	−.02	.03	.65*
Continuous supervision	.62*	.02	−.21	−.02	.18
Homemaker services	.81*	−.02	−.08	.01	−.06
Meals	.57*	−.43	.23	−.04	−.06
Grocery	−.30	.72*	−.05	.00	−.14
Administrative/legal	.61*	.08	.19	.00	−.03
Evaluation	−.02	.08	.08	−.03	.74*
Financial	.17	.74*	.06	.00	−.12
Housing	.13	.64*	.13	.00	.06
Information/referrals	.28	.10	.48*	−.19	.31
Outreach	.06	.08	.75*	−.04	−.08

Note. $N = 531$.
* Highest loading for each variable.

Time 1, nursing services loaded on Factor 1, whereas at Time 2 supportive devices and meals loaded here. Thus the factor represents a set of "survival services." For further analyses, nursing services were included on this factor, but supportive devices and meals were not. The magnitude of the nursing service loading at both Time 1 and Time 2 on Factor 1 was similar to its loading on Factor 5, but because the loading was substantially higher on Factor 1 at Time 1, the decision was made to include it on this factor.

Grocery services, financial services, and housing services all loaded on Factor 2 at both times of measurement. The only difference between loadings on Factor 2 was the inclusion of meal services at Time 1. Although the magnitude of the loading of this variable was similar to its loading on Factor 1, the decision was made to include meal services as part of Factor 2. This factor represents "subsistence services."

Factor 4 included psychotropic drugs and medical services at both times of measurement. At Time 1, supportive services also loaded on this factor, whereas at Time

Table 4: Service Clusters

Survival	Social	Adjunct
Personal care	Social/reactional	Transportation
Nursing	Information/referral	Physical therapy
Continuous supervision	Outreach	Evaluation
Administrative/legal		
Subsistence	Medical	
Meals	Psychotropic drugs	
Grocery	Medical	
Financial	Supportive devices	
Housing		

Table 5: Correlations of Services Used at T1 and T2

Service	Survival T1	Subsistence T1	Social T1	Medical T1	Adjunct T1
Survival T2	.60*	.16	.11	.29*	.24*
Subsistence T2	.10	.77*	.23	.06	.09
Social T2	.10	.18	.43*	.15	.15
Medical T2	.31*	.09	.10	.61*	.23
Adjunct T2	.27*	.14	.18	.21	.38*

Note. $N = 531$, T1 = Time 1, T2 = Time 2.
* Correlations significant at $p < .01$.

2, transportation services loaded here. The decision was made to include supportive devices but not transportation services. Thus this factor is composed of "medical services."

Physical therapy and evaluative services loaded on Factor 5 at both times of measurement. Transportation services also loaded here at Time 1, whereas nursing services loaded here at Time 2. Transportation services were included in the factor for further analyses, but nursing services were not. Thus this factor is composed of "adjunct services."

The service clusters used in subsequent analyses are presented in Table 4. Total scores for each service cluster were calculated by summing the number of services within each factor, which each respondent reported using.

The correlations among the factors at both Time 1 and Time 2 were small, ranging from .00 to .30. In Table 5, the interfactor correlations across the two times of measurement are reported. As indicated by the substantial size of the correlations on the diagonal, use of a specific cluster of services at one point in time was highly correlated with the use of the same cluster at the second time of measurement.

MULTIVARIATE ANALYSES OF VARIANCE

The relation between service usage and mental impairment was assessed by treating psychiatric evaluation at Time 1 as the independent variable and clusters of services used at Time 1 as dependent variables. A multivariate analysis of variance (MANOVA) indicated a significant overall effect existed ($T^2 = .145, p < .001$). Univariate analyses of variance (ANOVAs) were then calculated, which indicated that significant effects existed due to the following factors: survival services, $F(2,479) = 17.54, p < .001$, subsistence services, $F(2,479) = 3.86, p < .02$, and medical services, $F(2,479) = 20.80, p < .001$.[1]

The same procedures were repeated using data from Time 2. The Hotelling–Lawley trace was .246. This was significant at the .001 level, indicating a significant effect due to psychiatric evaluation status. Univariate ANOVAs indicated significant effects due to the following service factors: survival services, $F(2,456) = 30.53, p < .0001$; subsistence services, $F(2,456) = 7.01, p < .001$; and medical services, $F(2,456) = 31.56, p < .0001$, thus replicating the Time 1 findings. This analysis, however,

[1] Bonferroni follow-up tests were calculated for these analyses. Because of space limitations, they are not reported here; but they are available on request from the first author.

Table 6: Multiple Regression Analysis With Psychiatric Evaluations at Time 2 as Dependent Variable

Analysis	*df*	*SS*	*MS*	*F*	*p*
Regression	5	145.84	29.17	32.19	.001
Error	302	273.63	.91		
Total	307	419.46			
Variable	B value	*SE*	Type II *SS*		
Intercept	−.06				
Social services (T1)	−.14	.06	4.98	5.50	.0197
Survival services (T2)	.13	.04	9.15	10.10	.0016
Subsistence services (T2)	.09	.06	2.17	2.39	.1229
Medical services (T2)	.25	.07	10.58	11.67	.0007
Psychiatric evaluation (T1)	.41	.05	68.55	75.66	.0001

Note. $N = 307$, T1 = Time 1, T2 = Time 2.

also indicated significant effects due to adjunct services, $F(2,456) = 9.21, p < .0001$ (see Footnote 1).

The relation between services used at Time 1 and psychiatric evaluation at Time 2 was also examined. Psychiatric evaluation at Time 2 was treated as the dependent variable and services used at Time 1 as the independent variables. A significant MANOVA was found, $T^2 = 1.65, p < .0001$. Univariate ANOVAs indicated significant effects due to the following Time 1 service variables: survival services, $F(2,436) = 12.97, p < .0001$; subsistence services, $F(2,436) = 3.15, p < .04$; and medical services, $F(2,436) = 23.84, p < .0001$ (see Footnote 1).

REGRESSION ANALYSES

In order to assess the relation between service use and mental impairment, a regression analysis was calculated using the psychiatric evaluation measure at Time 2 as the dependent variable and the following independent variables: service usage patterns at both times of measurement and psychiatric evaluation at Time 1. A stepwise regression was performed using the Statistical Analysis System program. The significance level needed for entry into the model was set at .15. The five variables that entered the analysis were (a) psychiatric evaluation at Time 1, (b) survival services at Time 2, (c) medical services at Time 2, (d) social services at Time 1, and (e) subsistence services at Time 2. The R^2 for the full model was .35. A summary of this analysis is presented in Table 6.

Discussion and Conclusions

The dual purposes of this study were to compare the service usage patterns of older adults with varying levels of mental impairment and to assess the effects of services received on the mental health status of older adults over a 1-year period.

In terms of service use patterns, several findings are noteworthy. Perhaps most important was the low reported usage of mental health services, regardless of mental health impairment. This underscores the importance of providing mental health consultation to those service settings in which mentally impaired elderly are found (Stenmark & Dunn, 1982). In addition, this finding is consistent with previous reports

of the underutilization of mental health services by the elderly (e.g., Butler & Lewis, 1982; Kay & Bergmann, 1980). Finally, it should be noted that the results reported here are based on data originally collected in 1975. However, the results are congruent with other reports using a similar methodology with different, more recent samples (e.g., Romaniuk, McAuley, & Arling, 1983; U.S. GAO, 1982).

Although the mentally impaired elderly in this sample were not likely to seek mental health services, they did use a variety of other services. In addition, the services were not used in isolation but were found to group in packages of services. It was also clear that the mentally impaired elderly differed from their less impaired age-mates in the intensive use of several service packages (e.g., survival services, social services, and medical services at time 1 and survival services, subsistence services, medical services, and adjunct services at Time 2). It is somewhat encouraging that the most impaired group reported the highest rate of usage in each of these service packages.

Equally noteworthy were the high intercorrelations between services received at Times 1 and 2. This may reflect the continued need for services that accompanies chronic impairment in later life. On the other hand, it may also reflect a rigidity within the service provision system, such that once a client is fed into the system he or she is virtually "locked into" a set of services, with little change despite changing level of impairment. Further research on the individual careers of clients would be helpful in clarifying this issue.

Finally, and perhaps most important, a significant portion of the variance in psychiatric impairment at Time 2 was accounted for by service provision of a variety of kinds. This finding is important for two reasons. First, it suggests that service providers from a variety of backgrounds and in a variety of settings can and do have an important effect on the mental health of older adults, whether or not this is the explicit focus of their service provision (Smyer & Gatz, 1983). Second, it suggests that mental health professionals who are concerned with enhancing the mental status of older adults should pursue consultative arrangements with a variety of service settings that serve older adults (Kahn, 1982; Santos & VandenBos, 1982).

Recent work by several practitioners suggests the effectiveness of mental health outreach efforts. Griffin and Gottesman (1983), for example, focused on mental health training for both administrators and staff members from agencies serving the elderly. Santos and his colleagues (Santos, Hubbard, Burdick, & Santos, 1983) used a different approach. They provided extensive training in aging and mental health to paraprofessionals and indigenous caregivers. Similarly, Thompson, Gallagher, Nies, and Epstein (1983) found nonprofessionals as effective as professionals in implementing an educational approach to depression in the elderly.

All of these efforts indicate that effective consultation and education programs can be established linking traditional mental health settings to the sites that are most used by the elderly. Knight's (1983) work in a community mental health center indicates that geriatric outreach services can be both effective and cost-effective. Thus the use of outreach services provides an important means for preventive and educational approaches to the mental health needs of the elderly.

In summary, the data reviewed in this study reaffirm a consistent pattern of service for mentally impaired elderly: They are unlikely to use traditional mental health services. They are, on the other hand, fairly likely to use several different combinations of services. In addition, several combinations of service packages influence the variation in mental status among a group of community-dwelling elderly. The lesson for mental

health professionals is clear: We must take our services and skills out of the clinic into a variety of other settings; we must bring our expertise to the community rather than waiting for the community to come to the community mental health center.

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