Adult Day Care: Substitute or Supplement?

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AS THE SEARCH FOR WAYS TO CARE FOR OUR chronically impaired citizens outside of institutions has gained momentum, a number of alternatives to custodial care in a residential setting have emerged. One of these alternatives—adult day care—has expanded rapidly over the past ten years. From its beginnings as "day treatment" for psychiatric patients in Britain during the 1950s, it has gradually come to play an important role in the emerging system of community-based long-term care. At its heart, adult day care is a coordinated program of services provided to adults with significant physical or mental impairments in a nonresidential setting. The specific services provided may include social, health-related, rehabilitative, and mental health services. Recreation and nutrition, in addition, are typically part of adult day care activities.

In 1972 there were fewer than 10 nonpsychiatric adult day care centers in the United States; by late 1982 there were 1,000 or more such programs (Urban Institute telephone survey). This article traces the growth and current status of this innovative form of care.

Methods

This article is based on data from numerous sources. Newly collected data include: (1) a telephone survey of the state adult day care associations

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in the 19 states having such associations in late 1982; (2) a telephone survey of state licensing agencies with authority for adult day care services in the same 19 states; (3) field visits to nine adult day care programs in Minnesota; (4) interviews with providers/administrators of several additional Minnesota centers; (5) review of state licensing requirements and/or provider association standards from the 19 states in the telephone surveys. In addition, all available evaluation studies of adult day care programs were reviewed, including several recent ones that we learned of through our telephone surveys.

Definitions

The development of adult day care programs as an alternative to nursing homes and hospitals has been haphazard. These programs have typically sprung up without benefit of formal design, specifications, or regulations. Where such standards have been established, they have been applicable only to those programs within a particular jurisdiction or supported by a categorical funding source. Until recently, no national association of providers actively promoted a standard set of practices in the field. The National Institute on Adult Daycare (affiliated with the National Council on Aging) is attempting to fill that gap, but its concern is primarily with programs for the elderly, rather than for all disabled adults. This lack of a standard definition has made it extremely difficult even to count the number of programs in operation. The relatively unfettered growth of adult day care has produced almost as many models as programs. Current attempts to define adult day care are likely to be attempts to create definitions that include the greatest number of existing programs.

The federal government, in describing the kind of care to be provided in a 1972 experiment using Medicare funds (Public Law 92-603, Section 222), defined a health-oriented adult day care program as:

> *Day Care* is a program of service provided under health leadership in an ambulatory care setting for adults who do not require 24-hour institutional care and yet, by virtue of physical, and/or mental disability, are not capable of full-time independent living. The essential elements of a day care program are directed to meeting the health care needs of participants, but the socialization elements of the program are considered vital for overcoming the isolation so

> often associated with illness in the aged and disabled and in fostering and maintaining a maximum state of health and well-being.

While this health-oriented definition is common, some definitions of day care emphasize the personal care or supervisory aspects. The state of Maryland (Padula 1972) defined day care as:

> *Day care* includes any program which provides personal care, supervision, and an organized program of activities, experiences, and therapies during the day in a protective group setting. Day care offers an individualized plan of care designed to maintain impaired persons at, or restore them to, optimal capability of self-care.

This approach is also reflected in North Carolina's definition (North Carolina Department of Human Resources 1981):

> *Day Care Services for Adults* is the provision of an organized program of services during the day in a community group setting for the purpose of supporting adults' personal independence, and promoting their social, physical, and emotional well-being. Services must include a variety of program activities designed to meet the individual needs and interests of the participants, and referral to and assistance in using appropriate community resources.

Another approach, followed by Louisiana, is to identify program structure without describing services or objectives. In that state (Louisiana Health and Human Resources Administration 1976), an adult day care center is:

> any place operated by a person, society, agency, corporation, institution, or any other group wherein are received five or more persons aged seventeen years of age or older who are not related to such person and who are physically, mentally, or socially impaired, for daytime personal care and supervision.

The definitions promulgated by state agencies through their regulations reflect differences in orientation to adult day care services. Some jurisdictions view day care as a social service with medical or rehabilitative aspects while others see it serving a medical role first with social supports having secondary significance. To a large extent, this difference is due to the influence of funding sources. In those states where

Medicaid is used to pay for adult day care, the medical orientation is clear. Where Older Americans Act or Social Service Block Grant (previously Title XX) funds are used, the program orientation is typically closer to social services. As a consequence of the restrictions on the use of Medicaid funds, those programs using that funding source generally serve a more impaired adult population.

A Decade of Growth

In August 1971, when President Nixon charged the Department of Health, Education, and Welfare with initiating efforts to expand and study alternatives to institutionalization, only three adult day care centers provided health and/or social services. In 1972, Section 222 of the amendments to the Social Security Act (P.L. 92-603) authorized the Secretary of Health, Education, and Welfare to "establish an experimental program to provide day care services, which consist of such personal care, supervision, and services as the Secretary shall by regulation prescribe." Demonstration monies were awarded in 1972.

Between 1972 and 1974, several research and demonstration programs began, supported by expanded Medicare, Medicaid, and other public financing. By 1974, the Department of Health, Education, and Welfare identified 15 day care programs. In 1975, Congress enacted Title XX (the Social Service Amendments to the Social Security Act, P.L. 93-647) and the Older Americans Act Amendments (P.L. 94-135). These mandated as national priorities the development of ambulatory care and the prevention of premature or inappropriate institutionalization for the dependent and elderly. The next year, federal policy memoranda (SRS-IM-73-6 and AOA-TA-76-27) were released which encouraged the states to develop adult day care.

By 1978, federally supported adult day care programs had swelled to include nearly 300 programs nationwide. Many states were beginning to finance adult day care through Medicaid, Social Services, and other state-administered programs. Day care center staff in several states began to organize into state associations of day care providers. In 1979, the National Institute of Adult Daycare (NIAD) was formed. It now represents an affiliate membership of over 500 individuals and nearly 20 state associations. Between 1978 and 1980, the number of

day care centers listed in the federal directory doubled, to exceed 600. In 1980, the 96th Congress held the first hearing on Adult Day Care Programs before the House Subcommittee on Health and Long-Term Care of the Select Committee on Aging. Adult day care was starting to emerge as a national policy concern, and researchers began efforts to determine its utility as an alternative service in the long-term care continuum.

In early 1982, NIAD conducted a survey of the 50 states, Puerto Rico, and the District of Columbia to determine funding sources and the existence of standards on adult day care (National Institute on Adult Daycare 1982). The returns also revealed that states were aware of 745 adult day care centers distributed across every state, with the exception of Wyoming. Thirty-four states had established standards of some kind—12 for funding only, 8 for licensure, 13 for funding and licensure, and 1 "for approval." Seven other states then had guidelines and/or drafted standards. The states reported a wide range of funding sources and combinations of sources, including primarily Title XVIII (Medicare), Title XIX (Medicaid), Title XX (Social Services), Title III (Older Americans Act), state and county money, private donations, and private revenues. The chief users of the programs identified by NIAD were the impaired elderly. In October 1985, NIAD sent a survey to over 1,300 adult day care centers around the country, the results of which will not be available until mid-1986.

In late 1982, the authors conducted a telephone survey of the directors of all state associations of day care providers in the NIAD membership. According to our responses, the current volume of day care is even greater than either the latest Health and Human Services (HHS) directory (U. S. Department of Health and Human Services 1980) or the NIAD survey reveals. The Urban Institute telephone survey discovered that in many states the number of centers reported to NIAD in 1982 were the number of centers which belonged to the state association, or alternatively, the number of adult day *health* care centers (those certified for Medicaid reimbursement). In many states, especially those without mandatory state licensure, the directors indicated that their association's membership includes a minority of the total number of centers operating in their state. Some said that they did not know how many unlicensed or unfunded centers existed, or who the service providers and clients were. Furthermore, virtually all of

them remarked that purely psychiatric or mental health day care—and many other nongeriatric programs—are not part of the state associations.

California provides a good example of this bias in previous reporting. Both the 1980 HHS directory and the 1982 NIAD survey list only 46 day care centers. However, our telephone interviews revealed that in addition to the 24 adult day care health centers licensed by the state health department (which Medi-Cal requires to be nonprofit or public facilities), there are three other types of centers licensed by the Department of Social Services:

1. 140 "day care centers for adults." These are businesses operated outside of the home.
2. 16 "family day care centers for adults." These are licensed by the Department of Social Services and serve up to 12 clients in providers' homes.
3. 30 "social rehabilitation centers for adults." These provide transitional care for ex-drug and alcohol abusers, ex-convicts, and psychiatric patients.

Hence, there are well over 200 adult day care centers of various types in California, yet only a fraction of them have been identified as such by NIAD. The heavy emphasis on geriatric, health-oriented day care that is apparent in empirical studies of existing day care centers is reflected throughout the entire literature on adult day care, especially in the research and evaluation literature where references to other types of adult day care are virtually nonexistent.

The growth of adult day care as an alternative to nursing home placements was significantly strengthened by the enactment of the Omnibus Budget Reconciliation Act of 1981 (P.L. 97-35). Among its other features, the act amends Medicaid regulations to permit states to be reimbursed for coordinated community-based alternatives to institutional long-term care. Under this Medicaid Home and Community Care waiver program, interested states are required to apply for a waiver of Medicaid regulations. The waiver application must describe the noninstitutional services to be provided. The states must also describe the screening procedures that will be used to assess that the clients given community care through the Medicaid waiver would otherwise be in a nursing home.

Krieger, Weissert, and Cohen (1982), in their assessment of the impacts of the Medicaid Home and Community Care waiver program, reviewed the number of waiver applications requesting various types of service. Of the 37 applications reviewed, 23 (62 percent) indicated that adult day care would be part of the service package available. After case management, it is the service thought by state agencies to be most useful in maintaining disabled adults in their homes and communities. By opening up Medicaid reimbursement to include adult day care, the Omnibus Budget Reconciliation Act has provided a strong incentive for states to develop and promote this service. While it is impossible to estimate the exact long-term consequences of the waiver program on adult day care, it is certain to encourage future growth.

Service Models

As the field of adult day care has grown, so has the academic research literature on service models. This literature has been the source of most attempts to develop a standard framework for adult day care. Researchers such as O'Brien (1977), Rathbone-McCuan and Elliott (1976), Kalish et al. (1975), and Weissert (1976) have proposed different frameworks for understanding adult day care.

Weissert (1976) bases his two-model typology on a review of ten programs. Model I, the "physical rehabilitation" program, often annexed to an inpatient facility, is staffed by health professionals including rehabilitation therapists. It serves a functionally impaired population with acute and chronic medical disabilities, often paralysis, who have some rehabilitation potential. A substantial proportion are nonaged. Clients are usually referred by physicians, and are released to the community. Care is relatively expensive, and often is reimbursed by third party payment, e.g., private insurance, Medicaid, or, for rehabilitation services, Medicare Part B.

Model II, the "pot pourri" program, is more often a free-standing program, staffed by a variety of licensed and unlicensed personnel. It serves an older diverse population, including some with primarily social and cognitive disabilities (isolation, disruptive behavior, disorientation, confusion) and others who are dependent in activities of

daily living and need some assistance in order to remain in their homes. Admission criteria and intake tend to be informal; clients are referred from a variety of agencies and tend to be released to institutions. Care is less costly and funding is diverse, including some federal and local grants.

This Model I/Model II typology remains useful today; many service providers, researchers, and policy makers use it, though often in slightly altered form. However, it is not quite complex enough for the reality of today's programs.

As an alternative to the simple Model I/Model II typology, Kalish et al. (1975) describe seven parameters of day care centers in a helpful discussion of models of care.

1. health care orientation (health services to leisure activity)
2. service capability (comprehensive package to referral system)
3. affiliation (totally integrated to free-standing)
4. costs (inexpensive to expensive)
5. financial base (grants only to private and third party pay only)
6. participant status (isolated to assimilated in the community)
7. resource availability (few to many existing resources in the community)

The authors make explicit the critical components of program costs and funding. The relevance of Kalish et al.'s emphasis on financial parameters in their discussion of models of adult day care is strongly supported by the popular literature and testimony at congressional hearings. Most recently, in our interviews with day care providers around the country, providers reiterated the dramatic impact that the structure of public funding has on every facet of day care programming. Virtually every provider described obtaining or expanding public funding as the single most pressing issue. Conversely, the greatest barrier to day care development was repeatedly identified as the lack of public financial support.

Modifying the Existing Models

The framework presented by Kalish et al. provides a useful starting place for building a classification scheme for adult day care most

relevant to current programs. Kalish's work recognizes the multi-dimensional nature of these programs. However, our assessment of the field ten years later suggests that some revisions of Kalish et al.'s framework might increase its ability to classify adult day care programs as they currently exist. As a first step, it is important to recognize that some of Kalish et al.'s dimensions are interdependent. Cost will often be a function of health care orientation, and service capability (the range of services available either directly or by referral) will depend in part on the resources available in the community. To some extent, certain dimensions of Kalish et al.'s scheme and our modifications help to explain other dimensions. For example, cost is almost certainly contingent on the intensity of services provided—especially health rehabilitation services.

Several modifications and additions would strengthen the analytic power of the model. The first modification is to divide the dimension of "health care orientation" into two new dimensions—"intensity of health services" and "intensity of social services." A program can be oriented to one or more levels of health care. It is important to know the extent to which a program regularly uses nursing, physical or occupational therapy, and other medical services. A high-intensity program is more likely to be rehabilitative or restorative, whereas a program which provides less-intense health care, such as medical screening or health education, is more likely to focus on maintaining current functioning. A parallel dimension reflecting the intensity of social services would also be useful. The high-intensity program will stress counseling, respite care, and training in the activities of daily living. An adult day care program with less-intensive social services will not be as active in encouraging independence or change in a client's condition. Any given program could be high on both of these dimensions, high on one but low on the other, or low on both services. Intensity is likely to affect the cost dimension, and may also be correlated with participant status (with more intense services going to more isolated clients).

Finally, a dimension of "expected client tenure or length of stay" might be a useful addition. In our analysis of day care programs based on our survey and fieldwork, we identified some programs which see adult day care as a transitional program—short-term with a pre-determined release date. However, others see themselves as providing a maintenance service, expect no significant improvement in the client's

ability to live independently, and also expect prolonged attendance. Although it was sometimes the case that both perspectives existed in the same program, one tended to predominate. Variation along the dimension of expected client tenure will probably correlate to some degree with the intensity of the health and social services provided, and with program affiliation. Short-term programs in our data tended to be quite intense purveyors of health care services, and often also of social services. Also, intense medical/physical rehabilitation programs tended to be affiliated with medical institutions.

Articulating these parameters for describing adult day care programs is only the first step in creating a useful research tool. Operationalization is the next step—developing agreement on ways to classify programs by specifying what shall be considered a high, medium, or low cost, intensity of service delivery, service capability or resource availability, and what categories to use for affiliation, financial base, participant status, and expected tenure. This work is beyond the scope of this article, and would be greatly facilitated by empirical observations of a large number of adult day care programs.

Review of Evaluation Research

As the role of adult day care as an alternative to institutionalization for impaired adults has become more prominent over the past ten years, researchers have turned their attention to assessing its impact. The programs reviewed in the literature vary enormously by program model, institutional affiliation, service capability, staffing, client group, and funding source. There are also significant methodological differences among the studies cited here. The common element, however, is that the evaluators attempted to discover the consequences and costs of providing day care to disabled adults.

Early Studies

The first group of programs discussed here were federally funded demonstrations from the early and mid-1970s. Three were independent evaluations of individual facilities—the Mosholu-Montefiore Day Care

Center in the Bronx, the On Lok Senior Health Services in San Francisco, and the Levindale Adult Treatment Program in Baltimore. The fourth, "The Section 222 Experiments," was a federally administered evaluation of the effects and costs of day care which included a pool of Medicare-covered clients enrolled in day care at four sites. These early demonstration evaluations were widely publicized and have been cited often in subsequent research.

Mosholu-Montefiore Day Care Center

The Mosholu-Montefiore Day Care Center in the Northwest Bronx, opened in 1972 as a federally funded geriatric day program. The program's staff of medical, rehabilitation, and social work professionals provided a mix of health care and diagnostic services, counseling and other social services, transportation to and from the program, and referrals to other support programs. The clients were aged 50 and over, and were 78 percent female. The "typical client" was a Jewish woman, aged 74 to 84, widowed and living alone. Clients were Medicaid and Medicare eligible, with cardiac problems, arthritis, or emotional/mood problems.

Program participants were compared to matched individuals from the community. The published report does not document the comparability of the control and "treatment" groups. Critical results of the evaluation were the following (Community Research Applications, Inc. 1975):

1. The day care clients were *institutionalized at a significantly lower rate* than the comparison group individuals. The comparison group produced a 33 percent institutionalization rate, compared to 13 percent for the day care clients.
2. The day care clients showed *no demonstrable "improvement" in health status.* (With some deterioration expected, and none found, the researchers commented that this may have been a positive outcome.) Nonsignificant improvement in morale scores was found; however, anecdotal data strongly supported high client satisfaction and improved morale.

3. Living with a caretaker was *not* found to be a prerequisite for successful participation.
4. In terms of total public expenditures (private costs were excluded), the *program was shown not to be cost effective,* when contrasted with skilled nursing facility (SNF) or intermediate care facility (ICF) care. The evaluators attribute this to the population of clients involved in the demonstration; the percentage of accepted clients who were truly at risk of institutionalization was too low to make the day care program as a whole cost-effective. They note that if the institutionalization rate among the comparison group had been 63 percent (instead of 33 percent), the program would have been marginally cost-effective.

In light of these findings, it is interesting that the evaluators conclude with strong recommendations for the future development of day care, and for the immediate development of public support for day care. The creation of these services, they argued, "should not be based upon a comparison of costs, but upon the realization that a continuum of services is needed by different individuals, at different times" (Community Research Applications Inc. 1975, vii).

On Lok Senior Health Services

The On Lok Senior Health Services, a free-standing, independent program in San Francisco's North Beach/Chinatown area, opened in 1973 as an Administration on Aging research and demonstration project. It has been evaluated several times, and its "success" contributed to the California Department of Health Services' decision to develop state-wide adult day care.

The uniqueness of On Lok lay in its unusual client population: typically, elderly, male Chinese (and some Filipinos and Italian-Americans) who spoke little or no English and who lived alone on limited incomes.

The full-time staff of 18 (plus part-time and volunteer workers) included a variety of health and social service professionals. The services included medical care and assessment, rehabilitation therapies, social services and counseling, nutrition, laundry, personal hygiene, and

transportation. On Lok was atypical in that it was open on the weekends.

An evaluation of the first two years of services (Kalish et al.) was published in 1975, and two subsequent program evaluations were also conducted (RTZ Associates 1977; Von Behren 1979). The first two studies used matched comparison groups; the third one was purely a descriptive study of On Lok. These evaluations, using cross-sectional and longitudinal techniques, produced a variety of findings concerning patient outcomes, client satisfaction, and costs:

1. A sample of On Lok clients were assessed at intake and at six months and showed *significant improvement in health status*. although no change occurred in required level of care.
2. *Client satisfaction was extremely high.* When compared with matched community residents and matched nursing home residents, day care clients reported the greatest satisfaction with their health care.
3. Although the per diem costs of day care participation (including supplemental security income (SSI) payments and other Medicaid costs) were clearly lower than the per diem costs of nursing home care, the very low institutionalization risk of the On Lok population resulted in the conclusion that public support of this day care program *constituted added public costs.*

Kalish et al. concluded, much like the Mosholu-Montefiore evaluators, that day care should be "considered both an added service to the total range of services now offered to the elderly and an equivalent to certain services on that range."

The Levindale Adult Treatment Center

The Levindale Center, in Baltimore, Maryland, which opened in 1970, was the only one of the federally funded programs that existed prior to receiving federal research and development monies in 1972. The program was staffed by a nurse coordinator, social worker, aides, and drivers. Services included health-related care (including physical examinations and a variety of therapies), social activities, nutrition,

bathing, and transportation. While Levindale was clearly a health-oriented program, the program was structured to provide socialization experience to physically and emotionally disabled older people. Health services were considered a secondary part of the daily routine.

A three-year evaluation of Levindale was completed in 1975 (Rathbone-McCuan and Elliott 1976). Its design was unique in comparing four client populations: (1) in intermediate care (Levindale's own inpatient facility), (2) day care, (3) a high-rise congregate living facility, and (4) the community. All participants were assessed at 4-month intervals for 20 months on functional health status, service satisfaction, and service utilization patterns. The most significant and best substantiated findings were:

1. *The day care population was found to be more functionally impaired* than the inpatient population. The day care population, however, had more social supports and financial resources.
2. *A higher percentage of clients in day care showed improvement in functional status* over time than among any of the other populations. (This is a limited statement since the four populations differed considerably.)
3. Program costs were calculated both as per diem costs, and as "24-hour life maintenance" costs. An analysis was performed which related for each setting positive client outcomes (the percentage of clients who improved or maintained their functional status) to 24-hour costs. An "effectiveness/cost ratio" was calculated for each setting. From highest to lowest ratios, the settings were: the community, the congregate living facility, the day care program, inpatient care. *The day care program is less cost-effective than two other types of arrangements.*

The Section 222 Day Care Experiments

Section 222 of the 1972 Amendments to the Social Security Act provided funds to several adult day care programs for demonstration purposes. Four of these programs were evaluated by the National Center for Health Services Research. The reports that summarize the results of this demonstration were published in stages between 1975 and 1981 (Wan, Weissert, and Livieratos 1980; Weissert 1975, 1976,

1977, 1981; Weissert, Wan, and Livieratos 1980; Weissert, Wan, Livieratos, and Katz 1980). This research is probably the most often cited—and the most controversial—research on adult day care conducted in this country.

The four programs were all Weissert's Model I, health-oriented centers. They were required to provide a core of 13 health care, rehabilitation, nutritional, transportation, and social services.

Program clients at the time of the study were Medicare eligible, the median age was 75, they were 58 percent female, 80 percent white, and 25 percent living alone. More than half were severely deficient in the activities of daily living.

The evaluators used an experimental study design with a randomized assignment method. Half of the participants admitted were assigned to the experimental group and used adult day care, and half were assigned to the control group for whom no day care was available. (Both groups continued to be eligible for all other Medicare services.) All analyses were performed using data aggregated across the four programs. The major findings were:

1. There was some evidence that *day care participation may have slightly lowered nursing home utilization.* Nursing home usage, however, was very low among both experimentals and controls.
2. *The difference between the control and experimental groups in hospitalization rates was nonsignificant.*
3. The costs (to Medicare) of all services to the two groups were compared. *The Medicare costs of the day care group were found to be 71 percent higher than those of the control group.* The researchers attribute this to the lack of "substitution effects," and conclude that, for most, the day care was an "add-on" service.
4. The day care experimental group showed a slightly *lower death rate* (not significant), and *better physical functioning levels* (significant) when compared to the controls.

This study and especially its cost finding have been criticized on several grounds by researchers and adult day care advocates. First, the study did not take into account total public and private costs, but instead limited itself to Medicare costs (Stassen and Holahan 1981). Second, the programs were unusually expensive, at an average of $52 per day, and costs were more than for typical day care programs

(Raber 1980). Third, the population was not limited to those at high risk of institutionalization (Ansak 1980).

We add a fourth limitation: the inclusion of only *elderly* clients. It is difficult to generalize these cost findings to the many day care centers across the country which serve nonaged clients in addition to aged clients. Many of these limitations are also true of the other studies reviewed here. Weissert and his associates' work, however, was the most methodologically rigorous evaluation, and has been widely used in the policy debate over adult day care (U.S. Congress. House. Select Committee on Aging 1980). This prominence has resulted in a particularly close examination of their findings, especially by those who disagree with their conclusions. Whatever its methodological limitations, their work tends to support several of the findings from the other studies.

Recent Work

Research on the four programs considered in this section was completed in 1982 and was conducted at the state level, rather than at the individual program level. These studies provide "state-of-the-art" information on adult day care in four states: California, Georgia, Virginia, and Washington. The California and Georgia studies are both state-commissioned evaluations of Medicaid financing of noninstitutional care. The Virginia and Washington studies are independently conducted research into adult day care. The magnitude and nature of day care varies considerably in these four states, especially with regard to the level of state funding (e.g., very high in California, none in Virginia) and the scope and conclusions of these evaluations differ as a result.

Adult Day Health Care in California

With the 1978 passage of the California Adult Day Health Care (ADHC) Act and MediCal Law, California became the first state to offer this outpatient alternative to institutional long-term care as a mandated Medicaid benefit. The legislation called for a comprehensive evaluation of the program, including findings on the number of persons diverted from institutional care and the relative costs of ADHC when

compared to institutionalization. This evaluation (Capitman 1982) studied only Medicaid clients ($N = 297$) from the state's 24 licensed ADHCs, and did not include the many social rehabilitative and other nonhealth day programs unconnected to the state's Department of Health Services.

The ADHCs in California are all nonprofit health entities. Some are based in community service agencies and some in medical institutions. They are staffed with medical, nursing, and social service personnel and several types of rehabilitation therapists. The ADHC participants are individuals assessed as eligible for SNF or ICF care or are assessed as at risk of institutionalization. The services provided include a variety of professional (medical and therapeutic) and personal care (ADL assistance) services.

Highlights of the results are the following:

1. The "typical client" was an elderly widowed white female. The clients were 65 percent female, with an average age of 71. More than one-fifth of the program's clients, however, were under age 60, and one quarter were 80 or older.
2. Sixty-three percent were eligible for institutional placement (26 percent—SNF, 37 percent—ICF) and 37 percent were assessed as "at risk." Primary diagnoses were cardiovascular disease and strokes; about one-quarter had psychiatric diagnoses. Thirty-five percent required 24-hour supervision.
3. While enrolled, *87 to 96 percent maintained or improved functioning.* Average monthly attendance was 112.8 days. Most clients (56 percent) were discharged to their homes; 17 percent were placed in nursing homes.
4. *An observed mortality rate of 9 percent in that year appears to be lower than both institutional and community rates.*
5. *Clients assessed as nursing home eligible were found to be diverted from institutional placement for an average of 15 to 22 months.*
6. Total Medicaid costs were calculated for the three levels of clients (SNF-level, ICF-level, and at risk) and were compared to the various nursing home costs in the state. The evaluator concludes that the *ADHC program constitutes a considerable cost saving to Medicaid.* He concludes: "It is anticipated that further analysis would show that other [Medicaid] expenditures will be lower for ADHC enrollees than for institutionalized patients and perhaps

for those elderly residing in the community who are not ADHC clients."

Capitman's analysis of changes in functional ability and mortality rates supports the usefulness of adult day care as a way to improve the well-being of frail elderly clients. However, his conclusions about cost saving appear to be based on the assumption that all ADHC clients would be institutionalized if it were not for the program. Although approximately two-thirds of the sample were "eligible" for either SNF or ICF placement, it is not clear how many would actually have been admitted to a nursing home during the course of the evaluation. Attempting to demonstrate cost savings by comparing ADHC costs to nursing home costs is not a useful exercise if the nursing home utilization rate without day care cannot be estimated. To make this estimate, a design needs a control or comparison group.

Georgia's Alternative Health Services Project

The Georgia Alternative Health Services (AHS) Project was a demonstration project funded by the U.S. Health Care Financing Administration and administered through Georgia's Department of Medical Assistance. It was designed to implement and evaluate a comprehensive system of community-based care services for Medicaid eligible elderly (aged 50 and above) who were eligible for nursing home care. The project's services actually became part of the state's regular Medicaid benefits in 1980.

The adult day care centers provided ambulatory health care and health-related supportive services, in addition to nursing services, medical social services, therapeutic activities (physical, speech, and occupational therapies), lunch, and transportation. Project participants were randomly assigned to the experimental group (eligible to receive an alternative service package) or to the control group (eligible for the regular Medicaid or other long-term care services). Participants were 50 or older, 75 percent female, and 50 percent minority.

The final results of the AHS evaluation reported data on 747 participants in the program between December 1976 and July 1980 (Skellie, Mobley, and Coan 1982). Each participant was assessed at

six-month intervals from entry until one year, or death, whichever came first. Major findings included:

1. Service utilization among the experimental group individuals was high; *nearly 80 percent received the AHS project services to which they were referred.*
2. *The experimental group used marginally fewer nursing home days, and lived longer. At one year, however. survivors of the two groups were matched on functional status.*
3. *Total Medicaid plus Medicare costs of the experimental group averaged significantly more per month than those of the control group.*

Skellie, Mobley, and Coan (1982, 356–57) conclude that the findings are basically consistent with Weissert's: "It appears probable that the voluntary provision of these services to individuals who were eligible for nursing home care has resulted in many clients not at risk of entering a nursing home receiving add-on services, instead of substituting services for nursing home care."

They add to this, however, a critical finding: among those individuals considered "more at risk" of institutionalization—those assessed as having significant mental and functional impairment—the Medicaid plus Medicare costs were *lower* for the experimental group than for the controls, and the experimental group's survival rate was higher. (This subsample was too small for these findings to be statistically significant.) The principal lesson from this study is that alternatives to institutional care are cost-effective only if provided to those most at risk of hospital or nursing home placement.

Nursing Home Preadmission Screening and Adult Day Care in Virginia

The Virginia Center on Aging, a university-based research institute, published in 1983 an extensive empirical analysis of adult day care clients served in adult day care centers across the state during the previous year. The centers were partially funded through the Older Americans Act.

The day care centers in Virginia fall somewhere in between the social/recreation model and the medical/rehabilitation model. The services are described in the day care study (Arling and Romaniuk 1982; see also Arling, Harkins, and Romaniuk 1984):

> Some nursing care, physical therapy, and occupational therapy is offered, but most programs concentrate on social skills development, recreation, reality orientation, and personal care. Rehabilitation services, such as physical or occupational therapy, are not generally provided through adult day care because of problems with third party reimbursement.

The Virginia day care study describes the self-reported impact of adult day care participation on its clients and on their significant others/caretakers, as reported in a series of structured interviews with both groups. The findings were overwhelmingly positive, both in terms of perceived positive impact on the clients (e.g., improvements in morale, peer socialization, health, social skill development) and on their caretakers (e.g., improved mental and physical health, increased time for family and leisure activity, renewed opportunities to seek employment and to alleviate financial strain, and fewer family disagreements). Its value in providing respite for regular caretakers is one of its major benefits, according to the authors. The study makes no claim that adult day care in Virginia prevents or delays nursing home admissions.

Adult Day Care in Washington State

The Washington State Association of Adult Day Centers conducted a recent survey of day care utilization in the state. The survey results are described as the compilation of preliminary information leading to future evaluation research into the effectiveness of day health intervention on clients (Washington State Association of Adult Day Centers 1981). Extensive demographic and utilization data were collected for 384 clients. The mean age of the clients was 75, but the range was 25 to 101; the centers clearly serve a population broader than the frail elderly. Of those terminating the program, 50 percent experienced a decrease in functional ability and either died or entered

an institution. However, 23 percent achieved functional independence and no longer needed adult day care.

One outcome variable, the number of days clients were institutionalized, was included. The number of days six months prior to admission to day care was compared to the number of days six months following admission. A unique feature of this survey is the breakdown of institutionalization into several types: psychiatric, orthopedic, acute medical, surgical, and nursing home. This allows for some analysis of the differential impact of day care on various client groups, as well as for making cost comparisons with institutions other than SNF- and ICF-level care.

The survey results showed that day care clients were institutionalized for significantly fewer days after day care admission than prior to admission. The data indicate that both the number of clients and the number of admissions per client were significantly reduced. Of the 384 clients included, 34 clients used a total of 2,098 psychiatric hospital days in the six months prior to day care enrollment, whereas only 8 clients used a total of 343 days during the subsequent six months. This is an 84 percent reduction in psychiatric bed days. The drop in nursing home days was also dramatic—from 3,850 to 554 days, an 86 percent reduction. *In fact, every type of institutionalization showed a decrease, except for surgical days, which increased.* This increase was attributed to improved health evaluations revealing the necessity for surgery.

Summary and Conclusions

As a way of helping adults with physical or mental impairments live more independent and active lives, adult day care has been in a period of sustained growth for more than ten years. Given the incentives provided by the Medicaid Home and Community-Care Waiver program, it is likely to grow even more rapidly over the next few years. No evaluation data are yet available, although the feasibility of conducting an evaluation has been assessed (Weissert 1985). Adult day care has been the subject of congressional hearings, evaluation research, and controversy among providers, public decision makers, and client advocates. This activity has continued, and will continue, even without a shared understanding among the participants of what adult day care

is, how it works, and what it can do for disabled adults. This article has examined some of the available evidence which can refine the understanding of those involved with long-term care for adults with disabilities.

The evidence currently available on the performance of adult day care programs for the elderly is mixed. Of the seven studies reporting the program's impact on client health or functional ability, six found improvement which they attributed to program participation, although these effects are usually quite small. The remaining study could not document any change in functional status. Every study that examined client morale or satisfaction found the attitudes of day care clients to be more positive than those of control groups or clients in other forms of care. Evidence of lower utilization of hospitals and nursing homes was reported by five of the six studies which looked at that question. These results occurred during the period that clients were actively receiving adult day care. A follow-up study of participants in Section 222 day care demonstrations (Wan and Weissert 1981) showed little difference in institutionalization between experimental and control groups three years after the demonstration ended. Day care is thus probably a service whose effects are not likely to long outlast its active receipt.

In considering these findings, it must be remembered that the researchers used very different designs and criteria. Only five studies used any form of control or comparison group. Two used matched comparisons, two used random assignment, and one compared (unmatched) participants in four types of settings. Most studies used only Medicaid, Medicare, or combined Medicaid/Medicare costs in estimating cost-effectiveness, but one used "24 hour costs" regardless of payer. In addition, specific operationalizations of outcome variables differed across studies. Finally, the study populations differed in their level of disability, family resources, and risk of institutionalization. The studies' results are thus neither truly comparable nor completely reliable. However, the very diversity of the programs and research methods reaching similar conclusions does support a general statement that adult day care benefits those who participate in the program.

In public programs, benefits cannot be considered without also considering costs. The results of our review of published evaluations indicate that in the aggregate, adult day care does not cost less than nursing home care. It has not resulted in cost savings to those public agencies which had expected to realize them. Only four of the eight

studies reviewed used a cost-analysis plan rigorous enough to warrant conclusions. The conclusion of each study was that providing adult day care was more expensive than admitting to nursing homes those in the target population who became dependent enough to require such care. Since day care services are used by a larger number of individuals than would have been placed in nursing homes, a net cost rather than a net savings results.

The evidence is clear that, with regard to nursing homes, adult day care is a supplement rather than a substitute. By and large, adult day care programs serve a different group of impaired adults than those who enter nursing homes. This fact does not alter the finding that adult day care has significant positive benefits for its participants. The evidence in that regard is also clear. Our analysis shows that the benefits are demonstrable. Adult day care has not saved money; it may prolong lives. The critical policy issue is, how much is this service worth?

The research has shown that when adult day care services can be directed to those most at risk of institutionalization, public agencies can realize savings. One of the requirements for Medicaid reimbursement for community-based care under the waiver program is that states use a screening technique to assure that service recipients would otherwise be institutionalized. By making preadmission screening a necessary step in service provision, the waiver program has the potential to improve the cost-effectiveness of adult day care. If in the course of the waiver program, agencies develop reliable screening techniques, administrators will be able to target services to those most in need.

There can be no doubt that the users of adult day care programs in the past were also needy; some form of impairment was a universal eligibility requirement. However, many of them were not needy enough to require nursing home placement, or else they came from families more able to tolerate the level of care they needed. For this reason it has been difficult to justify adult day care as a way of reducing costs. Agency experience with the Home and Community Care Waiver Program may produce methods to change this situation, although no evidence about program effectiveness is yet available. Adult day care advocates should pay particular attention to the results of this program.

On the question of "What is adult day care?" certain program features distinguish adult day care from other forms of service. A basic condition is that the service be nonresidential. Another necessity

is that multiple services be provided. An adult day care program must integrate social, recreational, rehabilitative, and medical services into a regular program of care. In the programs we have examined, nutrition is always a part of the routine. A final minimum condition is that the program participants must have a mental or physical condition that impedes their ability to live independently. This criterion distinguishes adult day care from similar programs, such as senior centers, available to those who do not suffer from disabling conditions.

Within this framework, adult day care programs can vary simultaneously along the dimensions described earlier:

1. intensity of social services
2. intensity of health care
3. service capability
4. affiliation
5. costs
6. financial base
7. participant status
8. expected client tenure.

By aligning themselves at various positions along these dimensions, programs can be classified according to Weissert's Model I and Model II typology, or according to any other typology. Weissert's classification scheme is particularly useful to policy makers in that it separates those programs that provide potentially Medicaid-reimbursable services from those that do not. In actual practice, there is more variation in programs than is described by the Model I and Model II system. An analysis of programs on these eight dimensions might generate additional models of care, once the dimensions have been operationalized.

Most of the programs and literature reviewed here have been concerned with day care for the frail elderly. Day care is suitable and is used widely for other disabled populations such as the chronically mentally ill and the developmentally disabled. However, day treatment programs for these other populations have not been examined in as much detail as day care programs for the frail elderly. Sheltered workshops providing sheltered employment and vocational services for disabled people represent another type of adult day care. While such programs bear some similarity to adult day care, their vocational orientation places them outside the social-medical continuum which is of primary concern here.

As more states become active promoters of adult day care, the number of definitions of that form of care grows. While this may produce some confusion and inconsistency across states, it is probably an advantage in that it allows for natural variation. As our review has demonstrated, adult day care can take many forms. There is as yet no reason to believe that one form is more appropriate or more effective than another. As long as the health and welfare of clients are not endangered, there is no reason to support the dissemination of a particular model or set of procedures without further investigation. We are not suggesting that further research efforts stop. On the contrary, public managers need to know which program options will produce the most cost-effective outcomes. The naturally occurring variation will make this kind of assessment easier since there will be a variety of program designs to evaluate. It is important that the evaluation be systematic and provide a reliable basis for comparing program performance. Some of the elements necessary for such an evaluation are described by Doherty and Hicks (1975) in their discussion of the use of cost-effectiveness analysis in geriatric day care.

Many important questions about adult day care remain to be answered. Most important for research comparability is the development of reasonable, standardized techniques for measuring costs and operationalizations of program dimensions. Work is needed to assess the interrelationships among program dimensions, to determine which dimensions are primary, and to discover which dimensions, if any, affect client outcomes. In particular, the effects of differing levels of service intensity should be investigated more extensively (see Wan, Weissert, and Livieratos 1980 for an analysis in which medium levels of day care were more optimal than high levels), and the differential effects of health vs. social services explored, holding client characteristics constant.

Research is needed to identify and develop screening procedures for selecting those individuals for whom day care will be most cost-effective. A great deal more research attention should be paid to the appropriateness and effectiveness of adult day care for nonelderly disabled adults. Finally, research has only begun to explore the impact of adult day care on families with a disabled member and ways to integrate family and program efforts to provide maximum benefits to the program client and to other family members.

As the "alternatives" movement has attempted to divert the flow of disabled adults away from nursing homes, it seems to have created another service system without significantly affecting the original one.

Prior to the widespread public provision of community-based long-term care services such as in-home care, adult day care, and community living arrangements, people either lived reasonably independently, frequently with help from their families, or if they became unable to protect their own interests and had no one to do it for them, they were institutionalized. In many cases, these new services have created a third system, community-based long-term care, which does not reduce institutionalization much, but does improve the condition of some of those who remain in the community and does offer some relief to family care-givers.

As the costs of institutional care, particularly nursing home payments under Medicaid, mounted during the late 1960s, a search for alternatives was undertaken by the federal and state agencies paying the long-term care bills. However, as the full cost of the alternatives becomes clear (including shelter, board, acute health care, and transportation), public officials have to decide how much they want to spend to keep people in the community. If policy makers believe that to promote the independence and well-being of disabled adults is an important public service, adult day care can help.

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