



U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

REPORT TO CONGRESS ON IDENTIFYING INDIVIDUALS AT RISK OF INSTITUTIONALIZATION

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Office of the Assistant Secretary for Planning and Evaluation

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INTRODUCTION

This report to Congress responds to a mandate under the Orphan Drug Act (P.L.97-414, Jan. 4, 1983) which directed the Secretary of Health and Human Services to develop and carry out demonstration projects to test methods for identifying patients at risk of institutionalization who could be treated more cost-effectively with home health services and other noninstitutional health services. It summarizes the experience of recent demonstration projects in terms of their capacity to identify persons who are likely to use nursing home services, and it provides the results of a study designed to identify persons for whom community-based services could be a cost-effective alternative to institutional care. The report focuses particularly on the evidence generated by the recently completed National Long Term Care Channeling demonstration (referred to as Channeling in this report), which employed the largest sample of all such interventions to date and offers the most complete information yet available, not only on the use of long-term care services but also on the public and private expenditures devoted to such services for an impaired elderly population.

Chapter I describes community-based long term care alternatives and discusses issues associated with targeting such services toward those at risk of nursing home placement. Chapter II reviews evidence from Channeling and other demonstrations on the determinants of nursing home use and the ability to identify persons who are at high risk of nursing home placement. Chapter III discusses the results of a series of long-term care demonstrations which attempted to target community services. It also describes the results of a study that simulated screening criteria for a community care program. Chapter IV concludes the report by discussing the potential for achieving cost-effective community-based long-term care programs through targeting.

I. BACKGROUND AND ISSUES

BACKGROUND

Methods for delivering and coordinating long-term care services in the community have long received attention by policymakers, advocates for the elderly, and researchers. In recent years, such interest has intensified, partly in response to the recognized need for long-term care by the nation's growing elderly population, partly in response to concerns about the rising public and private costs of nursing home care, and partly in response to the preferences of many of the elderly to remain at home rather than being placed in a nursing home.

Rapid growth in the use of and expenditures devoted to institutional long-term care which followed the advent of the Medicaid program in the mid-1960s raised concerns that too much long-term care was being provided in nursing homes. Several studies undertaken in the 1970s found that many persons in nursing homes appeared to differ little from many community residents in terms of their functional capacity and apparent need for assistance. These studies raised an important question: If a significant number of nursing home residents could live at home, might not costs be saved and the well-being of the elderly improved by used limited public support to maintain such persons in the community.

A number of projects designed to test the feasibility of community-based alternatives to nursing homes were conducted, and the results of many of them are now available. These demonstrations have included provision of expanded community-based services (such as personal care, homemaker services, and home-delivered meals), often through Medicare and Medicaid waivers. In addition, the demonstrations have attempted to provide both a central point of contact and case management services to help the elderly and their families deal with a system of community long-term care that is often viewed as fragmented and difficult to understand.

While these projects were generally successful at providing additional community-based services, they yielded little evidence that they reduced the cost of caring for the elderly. Most of the projects enrolled populations that included persons who did not turn out to be high risk of nursing home placement. In recognition of this fact, the National Long Term Care Channeling demonstration limited eligibility to a highly impaired group of elderly persons in need of assistance; yet, even for this group, the fraction of the control group who entered nursing homes in the first 6 months was below 11 percent. This report further explores whether indeed it is possible to target program eligibility so as to identify a group for whom the provision of community-based services can reduce nursing home use sufficiently to justify the costs of the program.

THE GROWING COST OF NURSING HOME CARE

A salient and frequently noted fact pertaining to future needs for long-term care is the high rate of growth of the elderly population. The percentage of the U.S. population over 85 years of age is expected to rise from 1.1 percent in 1985 to 1.8 percent in 2000, to 2.8 percent in the year 2030.¹ Because this group of “old old” uses long-term care services to a much greater extent than do the elderly as a whole, we can expect to observe rapidly growing demand for long-term care in the coming years. The growing demand for long-term care services is not in dispute; but the best approach for dealing with such need has been a topic of much controversy.

The bulk of public funding for long-term care has been devoted to institutional care. Since the start of the Medicaid and Medicare programs, total spending for nursing home care has grown from \$2.1 billion in 1965 to \$32.0 billion in 1984.² After adjustments for price changes, this amounts to a real compound rate of growth of 7.5 percent per year. Nursing homes currently account for about 9.4 percent of total U.S. personal health expenditures. The Medicaid program pays nearly half of these costs, though an increasing share of Medicaid nursing home expenditures (now about 29 percent) is devoted to intermediate care facilities for the mentally retarded, irrespective of age, rather than for the impaired elderly. Medicare expenditures for nursing homes, primarily for post-hospital short-term stays, constitute less than 5 percent of the amount spent by Medicaid. Factors accounting for the expenditure increases include inflation, population growth, increases in real costs, availability of public funds, expanded coverage of public programs (such as Medicaid coverage of intermediate care facilities for the mentally retarded), and increased use of nursing home care by the elderly.³

In recent years (1982-1984) the growth of government expenditures for nursing homes has slowed somewhat, and the share of nursing home expenditures financed by public programs has fallen from 56 percent in 1979 to 49 percent in 1984.⁴ Efforts at controlling costs have come largely from the States, many of which have limited the number of nursing home beds and have controlled the rates of Medicaid reimbursement. However, these regulatory approaches to controlling nursing home costs may fail to limit use in the most rational way, as nursing homes may choose to limit the admission of difficult patients (for whom costs are greater) and Medicaid patients (for whom reimbursement is lowest). Consequently, States are beginning to develop case-mix-based methods of nursing home reimbursement to compensate providers more fully for the costs of serving heavy-care patients. But the tighter nursing home market, coupled with the pressures of Medicare's prospective payment system to limit hospital stays, is placing greater demands on the community service system.

¹ Middle series estimates, U.S. Bureau of the Census (1984).

² See Levit et al. (1985).

³ See The Urban Institute (1983a); Freeland and Schendler (1983); General Accounting Office (1982); Grannemann and Pauly (1983); Rymer et al. (1984); Gibson, Waldo, and Levit (1983).

⁴ Levit et al. (1985).

COMMUNITY-BASED SERVICES IN THE EXISTING SYSTEM

Public initiatives in community-based long-term care include a diverse set of programs and services. The current system, which varies widely among localities, includes funding from Medicare and Medicaid for home health services (nursing, therapies, and home health aide); social service block grants used for a variety of services, including personal and homemaker care; federal funds provided under the Older Americans Act for social services and meals; and various State and local public and private charitable programs for all these and other services (which may include transportation, meals on wheels, companion and chore services, and respite care).

Formal providers of community-based long-term care include certified home health agencies (which may be visiting nurse associations, other private nonprofit agencies, governmental agencies, proprietary firms, or hospital-based home health agencies), nonprofit or proprietary home care providers, and voluntary meals-on-wheels programs. In many places, local Area Agencies on Aging (funded under Title III of the Older Americans Act) serve as a referral point, help arrange for services, and administer a limited amount of government funds for social services and meals.

Informal providers--the families and friends of the elderly--are very important providers of long-term care services in the community. A large share of personal care, homemaking, and meals services for the impaired elderly is provided by family members and friends who receive no monetary compensation. Close relatives are consistently reported to be important caregivers and a key factor in delaying institutionalization. The extent to which the long-term care needs of the elderly are met, and the cost of meeting them, depends on whether the elderly and their families choose to provide informal care, prefer to rely on formal community-based services, or select nursing home placement. Public long-term care policies and programs work largely by constraining or influencing these choices which, in turn, determine the cost-effectiveness of the existing long-term care system.

PROBLEMS WITH THE LONG-TERM CARE SYSTEM⁵

The large increase in the demand for long-term care services signaled by demographic trends would probably impose strains on even a smoothly functioning system, but observers have expressed serious reservations about the capacity of the current long-term care system to respond appropriately. Many believe that the system fails to provide an efficient match of services to individual needs. For every older person in a nursing home, for example, it has been estimated that between one and three who reside in the community require an equivalent level of care.⁶ And, although there has been some increase in the necessary level of care exhibited by nursing home

⁵ This section is based on Carcagno et al. (1986).

⁶ See HCFA (1981).

residents,⁷ it was estimated that, as recently as 1979, between 10 and 40 percent of those in nursing homes were placed at a higher than necessary level of care.⁸

The apparent difficulty of linking services to individual needs is thought to be the consequence of two basic problems. The first is that older persons with long-term care needs and their families and formal caregivers frequently lack information about what services are necessary, where they can be obtained, and what programs the in-need persons are eligible for. The programs that provide services to the elderly are administered by a diverse group of Federal, State, and local agencies; there is no single person or organization that an elderly person or his or her family can rely on to identify, arrange, provide, and monitor the entire package of services needed by an individual.⁹ The lack of coordination between medical and social services is particularly evident. Critics have argued that it can be so difficult for an impaired elderly person and his or her family to gain access to and coordinate the services necessary for living in the community that he or she may enter a nursing home because it is the simplest alternative available; still others remain in the community without adequate help.¹⁰

The second problem of the long-term care system concerns the financial incentives implicit in public programs. Medicaid, which accounts for the bulk of the government financing for long-term care services, contains strong incentives to use institutional rather than community care.¹¹ In many States, persons who are not eligible for funded services in the community are eligible for institutional care under Medicaid. The impaired elderly who have incomes or assets just above Medicaid eligibility levels for community care may not have enough income to meet their medical and nonmedical needs; for them, asset depletion and eventual use of Medicaid-funded institutional care may be the only alternative.¹²

As with any insurance program, Medicare, the major source of financing for medical services for the elderly, also creates incentives to substitute covered services for uncovered ones. Medicare covers only medically oriented care, encouraging a substitution of relatively expensive medical services for less expensive nonmedical services that in some cases would be equally if not more appropriate. In many States, nursing home reimbursement rates have been held down, and limits have been placed on the construction and expansion of nursing homes. Consequently, the shortage of nursing home beds has led to a situation in which some of the functionally impaired elderly remain in acute care facilities at higher public cost while awaiting nursing home

⁷ See Zimmerman (1985).

⁸ See General Accounting Office (1979); Morris (1971); Williams et al. (1973); Congressional Budget Office (1977).

⁹ See General Accounting Office (1979).

¹⁰ See Select Committee on Aging (1980).

¹¹ See Morris (1971); Mechanic (1979); Congressional Budget Office (1977); Kane and Kane (1980); Rossman (1973).

¹² Section 2176 of the 1981 Omnibus Budget Reconciliation Act (OBRA) attempted to remedy this situation. Under this act many states have obtained waivers of Medicaid regulations so that Medicaid funds could be used to purchase community services to help Medicaid recipients remain in the community rather than be placed in a nursing home.

admission, even though they no longer exhibit an acute medical problem.¹³ The introduction of Medicare's prospective payment system involving Diagnosis Related Groups (DRGs) as a basis for hospital reimbursement provides powerful incentives for earlier hospital discharges; this situation is likely to increase the necessary level of care of patients who are discharged from hospitals and should add to the demand for nursing home care.

OVERVIEW OF LONG-TERM CARE INTERVENTIONS

Numerous approaches for alleviating the problems of the long-term care system have been advanced. Public financing options include block grants, insurance, closed-ended or capped funding, and a variety of income transfer strategies; private financing options, such as long-term care insurance and IRA-type saving plans for long-term care, have also been proposed. Proposals for changing benefits and services generally involve incremental modifications to the existing public programs. Organizational options are designed to rationalize service delivery at the client or system level by creating an organization that serves as a single point of contact for those who seek community-based long-term care services. Various types of organizations have been proposed, and some have been or are currently being tested in demonstration projects. They include case management agencies, community long-term care centers, and social/health maintenance organizations.

The greatest attention has been focused on programs that provide case management and additional community services. This approach has been tested in a series of demonstrations undertaken throughout the 1970s and into the 1980s. A series of projects conducted during the early and mid-1970s examined the hypothetical services that the elderly needed to remain in the community. These early studies examined the types of elderly who appeared to be at risk of nursing home placement, judged the services that they would need to remain in the community, and estimated the costs of this hypothetical package of services. The service packages were then compared with the costs of nursing home care, and the results generally suggested that impaired individuals could be served in the community at a cost equal to or lower than the cost in institutions. Proponents of in-home care used these results to argue that in-home care was cost-effective. However, doubt was cast on their validity because the comparisons relied on the unreasonable assumption that all community-care clients would be in nursing homes if they did not receive the in-home care.

¹³ Rossman (1977); Pinker (1980); Shapiro, Roos, and Kavanaugh (1980).

A series of research demonstrations have been designed to address this concern.¹⁴ Since 1973, some 16 research projects, culminating in the National Long Term Care Channeling Demonstration, have been implemented to test community-based long-term care alternatives. These projects typically made efforts to select participants at risk of nursing home placement, considerably expanded the amount of community-based care available to those in need of long-term care, and provided case management to coordinate services. Although these studies varied along several key dimensions (such as the type of intervention implemented, their approach to identifying and recruiting clients, and their research designs), each had as its major objective a reduction in unnecessary institutionalization. Many of the studies also emphasized reductions in hospital use, and several (New York City, Project Open, and San Diego) included specific targeting criteria in this area.

A review of the results across these studies indicates that although several projects reported modest reductions in nursing home use for program clients (Georgia, Wisconsin, ACCESS, Washington, On Lok, and Channeling) in only two studies were these reductions statistically significant (Nursing Home Without Walls and South Carolina). Of these two projects, the South Carolina Community Long Term Care Project implemented a more rigorous research design and an intervention that differed from most of the other demonstrations, and is thus particularly pertinent to the targeting question.

Participation in the South Carolina Community Long Term Care Project (CLTC) was limited to individuals who were eligible for Medicaid-sponsored nursing home benefits and were certified as eligible for nursing home level of care in an SNF or ICF. The South Carolina demonstration was estimated to have reduced nursing home use by 31 percent (101 days per client) over 3 years. However, even for this sample, the control group spent only half of its participation time in a nursing home. The South Carolina project was fairly restrictive in terms of authorizing expanded community services. Expanded services were made available only after all nonproject services were exhausted. CLTC also employed a utilization review team to examine the services that were authorized and to ensure that costs were below a cap set at 75 percent of the nursing home cost. The program showed no significant impact on total public costs (Medicare, Medicaid, and CLTC program), suggesting that the program could be

¹⁴ These demonstrations include the following: Massachusetts Worcester Home Care Project, Connecticut's Triage Project, New York's Monroe County Access Program, Washington State's Community-Based Care Project, Wisconsin's Community Care Organization, National Center for Health Services Research's (NCHSR) 22 Six-Site Study, Georgia's Alternative Health Services Project, the New York Home Care Project, Project Open in San Francisco, the Long Term Care Project of North San Diego, California's Multipurpose Senior Services Project (MSSP), Florida's Pentastar Project, New York's Nursing Home Without Walls Project, and South Carolina's Community Care Project.

provided at little or no additional public cost.¹⁵ Thus, the South Carolina Study provides some evidence that coordinated community-oriented long-term care programs can reduce nursing home use if projects are targeted toward individuals who require a nursing home level of care and who would be Medicaid-eligible if they were in a nursing home.

The National Long Term Care Channeling demonstration also targeted a very impaired group of elderly persons, but had a much more diverse set of referral sources than South Carolina's preadmission screen. Channeling was typical of community-care demonstrations in that it provided outreach, screening, assessment, care planning, service monitoring, and reassessment. Two models were tested. The basic model offered case management and limited services within the existing system; the financial control model enabled case managers to authorize community-based services within a structured care plan and pay for such services with program funds.¹⁶ The following findings summarize the effects of channeling:

- The costs of expanding case management and community services beyond what was available in the existing system were not offset by reductions in nursing home or other costs.
- Despite success in targeting an extremely frail population, Channeling did not identify a population who was at high risk of nursing home placement, and did not substantially reduce nursing home use.
- Channeling increased the use of formal community services.
- The Channeling population was frequently hospitalized and used physicians and other medical services to a great extent. Channeling did not affect the use of these types of services.
- Neither model had a major effect on informal caregiving, although the financial control model led to small reductions in some areas.
- Channeling increased the satisfaction of informal caregivers with service arrangements and their lives.

¹⁵ There are two noteworthy qualifications to the study. First, the South Carolina study did not examine the cost of other public programs, which would presumably be greater for the treatment group because they spent more time in the community. Second, the control group was shown to be somewhat more impaired at baseline. These differences at baseline were controlled in regression analyses, but noncomparability of the control group in spite of randomization and the differential effects of attrition could have led to unobserved differences between treatment and control groups that may have influenced the cost estimates.

¹⁶ The financial control model of channeling offered skilled nursing (physical, speech occupational therapy), home health aide, homemaker/personal care, housekeeping, transportation, home delivered meals, chore, companion, respite care, housing assistance, and other services.

- For the most part, Channeling did not affect measures of client functioning, although there was some evidence of reduced physical functioning among clients under the financial control model.
- Channeling reduced unmet needs, increased clients' confidence in their receipt of care, and increased their satisfaction with life.

TARGETING COMMUNITY CARE

The results of the major community-care demonstrations suggest that such programs are not likely to be cost-saving if they do not target services effectively to a population that is actually at high risk of admission to a nursing home. Consequently, it is important to determine whether groups exist for whom community-care programs produce substantial beneficial impacts or cost savings and, if so, how such persons can best be identified. Before proceeding to a more detailed analysis of the determinants of nursing home use and the likely outcomes of various targeting criteria, it is useful to set forth the objectives of targeting and develop a definition of cost-effectiveness against which outcomes can be evaluated.

Program Objectives and Cost-Effectiveness

Cost-effectiveness is best measured against clearly specified program objectives. The broad objectives of community-care programs for the elderly have been variously described:

- To reduce nursing home use
- To improve the match between needs and services
- To improve the health and well-being of the long-term care population
- To maximize the independence of the long-term care population
- To relieve the burden imposed on informal caregivers
- To reduce total (public and private) expenditures on long-term care
- To reduce public expenditures on long-term care
- To relieve excessive financial burdens on long-term care patients and their families

These statements of overlapping program objectives fall short of capturing any precise definition of program cost-effectiveness. There are three possible alternatives.

The first definition, which is commonly used by government budget analysts, is what we shall call fiscal cost-effectiveness. By this we mean that the program saves public dollars compared with what would occur in its absence. One measure of fiscal cost-effectiveness is the ratio of the public dollars that are saved to the dollars that are spent on the program. Under this definition, a community-care program would be cost-effective for an individual only if it reduced public nursing home expenditures by at least as much as the increase in public expenditures for community services.

The second definition pertains to program outcomes--programmatic cost-effectiveness. One program is considered more cost-effective than another if it achieves the same objectives at lower cost. For example, a program that reduced nursing home use by 10 percent would be less cost-effective than one which achieved the same reduction in some other, less expensive way. Measures of programmatic cost-effectiveness for community care would include a reduction in nursing home days per dollar spent and a reduction in the number of unmet needs per dollar spent. Within a targeting context, one would wish to identify those for whom the intended program impacts are the greatest per dollar spent.

The third possible definition is what we term social cost-effectiveness. This broader definition of cost-effectiveness answers the following question: Are the program benefits worth the additional costs of generating them? For community-based long-term care programs, this approach would consider both private and public costs and would also account for the value and costs of informal care. By this definition, a community-based long-term care program could be cost-effective even if it did not affect nursing home use at all, provided that the benefits to those in the community were worth the cost. This is, perhaps, the most appropriate definition for policy making purposes, but it is also the most difficult to measure. Evaluating social cost-effectiveness requires placing a subjective value on such outcomes as the quality of care and the satisfaction of the elderly with their lives and environment. Empirical research in this area can at best identify costs and benefits so as to provide a basis for policymakers' value judgments.

Targeting Efficiency

Whether a program is cost-effective according to any of these measures depends to a large degree on the extent to which the program includes those persons for whom it is best able to achieve its intended impacts. Targeting (screening) criteria must be based on the observable characteristics of individuals in the population considered for program eligibility. A good targeting variable is one that distinguishes persons for whom the program is effective from those for whom it is not.

Thus, the cost savings achieved by a program are determined by:

- The cost of providing the benefits to each person enrolled (program cost)
- The savings achieved for each person enrolled (program effectiveness and expected cost savings)
- The number of persons who meet the eligibility criteria and are enrolled

In practice, a targeting approach may rely on multiple characteristics and involve complicated combinations of several targeting variables. But any efficient targeting plan must take into account these three determining factors. We briefly discuss each as they apply to targeting community-based long-term care.

Program Cost. In terms of community-based long-term care programs, both case management and service costs are important. Case-management costs for outreach, screening, assessment, and care planning may not vary much from client to client, although some clients will require a greater degree of monitoring resources over time. But service costs may vary significantly among clients, depending on the client's needs and the availability of informal help. Thus, for the program to be considered cost-effective, much smaller impacts on institutionalization may be required to justify serving persons with low service needs than are required to justify serving those with high service needs--though larger percentage reductions in nursing home use might be required, since those with low service needs will tend to use nursing homes less.

Program Effectiveness and Expected Cost Savings. Just as program costs may depend on the client's characteristics, so may the expected costs saved. For community-care programs, cost savings are expected primarily from a reduction in the use of nursing home and, perhaps, hospital services. Nursing home costs can be extremely large, and the potential for substituting community services for nursing home care is greater than for acute hospital services. For these reasons, the ability of a targeting variable to discriminate between those who are likely to use and those who are unlikely to use nursing home services is very important. In Chapter II of this report, we examine evidence of what causes impaired elderly persons to enter and to continue to stay in nursing homes.

It is not enough, however, simply to identify groups that exhibit high nursing home use rates. It is even more important that the targeting criteria identify groups whose use rates could be reduced by the program. For example, although the extremely severely impaired groups may exhibit the highest nursing home use rate, many persons in this group may have been appropriately placed in nursing homes; thus, in concept at least, case-managed community-care programs might be less likely to reduce nursing home use in this group than for less severely impaired individuals. The potential for cost savings is greatest for groups that have both high nursing home use rates and large proportionate responses to community-care services.

Number of Persons Eligible. Total cost savings depend, of course, on the number of clients for whom cost savings are possible or for whom other desired program impacts (such as a reduction in unmet needs) are achievable. An important part of this issue is whether a sufficiently large number of persons are available for whom the program goals are achievable to warrant establishing a community-care program. There may be a minimal optimal scale for such programs, below which the number of clients served is so low as to make administrative costs per client prohibitively high.

Targeting Criteria

The ultimate objective is to develop criteria that can be used to determine who should be screened in and who should be screened out of community-care programs. The desirable characteristics of targeting criteria include the following:

- **Efficiency.** Criteria should be established to screen in persons whom the program is intended to serve and screen out those for whom services would not contribute to achieving the program goals.
- **Objectivity.** Criteria should be well defined in a way that permits trained assessment staff to determine, without undue personal judgment, whether a potential client is eligible.
- **Integrity.** The criteria should not be subject to manipulation by either potential clients or local program staff. They should be based on facts that can be audited by impartial outsiders.

The screening criteria for including or excluding a person from the program may be simple or complex and can take any of several possible forms. Possible criteria can range from a single characteristic to scores based on multiple characteristics that are associated with, for example, expected cost savings and other desired outcomes. Emphasizing targeting methods that meet the above criteria, we review evidence for a wide range of possible screening criteria in the chapters that follow.

CHAPTER SUMMARY

In recent years, a number of community-based long-term care projects have attempted to show that such programs can reduce nursing home use and its associated public expenditures while improving the well-being of the elderly participants. Programs to date have increased the use of community services and have produced beneficial impacts on the well-being of clients, but have not shown reductions in public expenditures. Nonetheless, it has been suggested that programs might be cost neutral, or possibly even cost-saving, if they were targeted more effectively toward persons who are at risk of nursing home placement.

Cost-effectiveness has been defined variously to mean cost-savings, a specified outcome generated at the least possible cost, or benefits that are worth the costs of generating them. By any definition, a community-care program is likely to be cost-effective only if it can identify and serve those persons for whom the program best achieves its intended impacts. Because the intended cost saving of community-care programs is expected to come primarily through reduced nursing home use, it is important to understand the factors that affect institutionalization and how nursing home use by various types of elderly persons is affected by community-care programs.

II. WHAT DETERMINES NURSING HOME USE?

Community-based long-term care programs are designed to save costs primarily by reducing nursing home use. Understanding the factors that prompt the elderly and their families to select nursing home placement over other alternatives is important if such programs are to be successful at providing services to a high-risk population, and if we are to design policy interventions that will cost-effectively divert such persons from nursing home placement.

The purpose of this chapter is to review evidence on the determinants of nursing home use. The best evidence on the predictors of nursing home use comes from longitudinal studies which examine a population before institutionalization occurs and estimate the determinants of subsequent nursing home use by that population. A key question for targeting community care is the following: What characteristics can be used to identify a population at high risk of nursing home placement prior to nursing home admission? For purposes of targeting community-care programs, it is also important to determine how well we can predict nursing home use with the information available at the time of program entry. Several studies have used longitudinal data to investigate the determinants of nursing home use (see Table 1). Each of these studies has examined a sample drawn from a population thought to be at risk of nursing home placement and has followed that sample for a period of time in an attempt to identify differences between those who subsequently enter nursing homes and those who do not.

IMPAIRMENT

Nearly all the studies that have addressed the issue have found differences in physical or mental impairment between those who are in nursing homes and those who are in the community. The measures commonly examined are an individual's level of disability and impairment according to his or her ability to perform Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). ADL impairment scores include eating, transferring from bed, toileting, dressing, and bathing. IADL impairment scores include preparing meals, performing housework, shopping, traveling, taking medicine, managing money, and using the telephone. Those in nursing homes are, on average, more impaired along ADL and IADL measures. For example, when the characteristics of Channeling sample members in nursing homes are compared with those of the other members of the Channeling demonstration sample, the frequency of ADL and IADL impairment is much greater among the nursing home residents. Nonetheless, many very impaired persons live in the community. For example, nearly half the Channeling sample who lived in the community were unable to dress themselves (see Table 2).¹⁷

¹⁷ The channeling sample included only impaired elderly persons who needed long-term care services; thus, the average sample member is more impaired than the typical elderly person who lives in the community.

TABLE 1. A Summary of Techniques, Target Population, and Samples Used in Studies of Determinants of Institutionalization				
Study	Type of Analysis	Sample Characteristics		
		Population	Period of Observation	Sample Size
TABULAR STUDIES				
Palmore (1976)	Comparisons over time plus a forward-stepping regression	Individuals who were 60 years old or older who were living in the community in 1955 who volunteered to participate in the Duke Longitudinal Study of Aging	20 years	207
McCoy and Edwards (1981)	Comparison of individuals with low and moderate scores of their self-care ability over time	Individuals 65 years old or older who received Old-Age Assistance in the U.S. in 1971	2 years	5,192
Markson et al. (1983)	Comparison over time	Home-bound elderly receiving comprehensive health services through Home Medical Service at Boston University in 1979	18 months (1/79-5/80)	150
Evashwick et al. (1984)	Tabular analysis, step-wise regression with input variables from factor analysis	Noninstitutionalized elderly 65 years or older living in Massachusetts in 1974	15 months	1,625
Steinberg (1985)	Before/after comparison	Alzheimer's disease patients of the New York University Medical Center in 1979	6 months	109
MULTIPLE REGRESSION STUDIES				
Wan and Weissert (1981)	Ordinary least squares (OLS) regression	Patients who participated in a demonstration of community-based long term care services in 1975	4 years	1,119
Branch and Jette (1982)	Logit	Noninstitutionalized individuals who were 65 years or older living in Massachusetts in 1974	5 years	1,625
Capitman (1985)	Logit	Participants in the ACCESS I Medicaid 1115 demonstration during 1977-1980 who were deemed eligible to enter a skilled nursing facility	3 years	3,209
Grannemann and Grossmand (1986b)	OLS regression and Probit	Impaired elderly participants in the National Long Term Care Channeling Demonstration	18 months	4,059

TABLE 2. Comparison of Impaired Elderly Persons in Nursing Homes with Those Residing in the Community, Channeling Sample (Percent with Characteristics)		
Characteristic	Those in a Nursing Home	Those in the Community
ADL Impairment		
Eating	29	17**
Transfer	59	36**
Toileting	67	44**
Dressing	71	48**
Bathing	92	73**
IADL Impairment		
Meal preparation	91	75**
Housework	98	96
Shopping	97	92*
Travel	91	83**
Taking medicine	74	48**
Money management	81	67**
Telephone	65	47**
Age		
Less than 75 years	27	31
75-79 years	10	17*
80-84 years	20	18
85 and older	34	25*
Ethnic Background		
Black	16	24*
Hispanic	4	5
White or other	80	72*
Medicaid Eligible	52	28**
Total Monthly Income		
Less than \$500	68	58**
\$500-\$1,000	23	33**
Over \$1,000	7	8
Financial Assets		
No assets	67	56**
\$1-\$5,000	16	29**
\$5,001-\$10,000	5	5
Over \$10,000	12	9
Based on the channeling demonstration sample six months after randomization. Data are regression adjusted to control for differences among the ten sites and between treatment and control status.		
* Indicates that the difference between those in a nursing home and those in the community is significant at the 5 percent significance level, using a two-tailed test.		
** Indicates that the difference between those in a nursing home and those in the community is significant at the 1 percent significance level, using a two-tailed test.		

Not surprisingly, studies show that nursing home residents tend to be older than elderly persons in the community. However, this difference is not always statistically significant in studies that use multiple regression analysis to control for the effects of other factors (see Table 3). Thus, the results for age may reflect in part the relationship between age and other factors associated with nursing home placement, such as disability and the absence of a spouse.

TABLE 3. Findings from Various Studies of the Determinants of Institutionalization

Factors	Multiple Regression Studies				Tabular Studies					
	Branch and Jette	Capitman	Wan and Weissert	Grannemann and Grossman	Evashwick et al.	Markson et al.	McCoy and Edwards	Palmore	Steinberg ^a	Townsend
Functional Impairment										
ADL-impaired	+	+	+	+	+		+		+	
IADL-impaired	+	+								
Mental disorder	+	-*	+	+						
Poor self-perceived health	.*									
Use of extensive health care	-		+	+				+		
Availability of Social Support										
Lack of informal support			+	+		+	+			+
Not currently married	+	+	+	+	+			+		+
Lives alone	.*				-		+	+		+
No living children										
Distance from relatives										
Percentage of elderly in the area										
Attitudinal and Emotional Factors										
Favorable attitude toward institutionalization	.*		+	+						
Unable to make decisions			+	+						
Lonely			+	+						
Depressed	.*									
Economic Conditions										
Low-income			.*	+	-		+	-		
Medicaid-eligible	.*	+		+	-					
Demographic Characteristics										
Advanced age	+	+	+	+	+	+	+	+		
Female	.*	.*	+	+	+	+	+			
White			+	+			+	+		

NOTE: A "+" indicates that a positive relationship was found between the factor and institutionalization. A "-" indicates that a negative relationship was found. A superscript of "*" indicates that the estimates were not statistically significant at a 95 percent level of confidence.

a. Statistical significance not reported. [Not all studies considered the statistical significance of the results. Therefore, the absence of a "*" does not necessarily imply that the result was statistically significant.]

Disability in ADL shows up in several longitudinal studies as a predictor of nursing home use (see Table 3). But the Channeling data (Grannemann and Grossman, 1986b) failed to show a direct relationship between ADL impairment and subsequent nursing home use once other factors were controlled for by multiple regression methods. The severely ADL disabled had more hospital days and fewer survival days but had no more nursing home days than did other sample members. Impairment in IADL shows up in only one study (Branch and Jette, 1982) as a predictor of subsequent nursing home use, a result that was not found in the Channeling data. Cognitive impairment has been identified by several studies as a predictor of nursing home use. The Channeling data confirmed this finding, but the relationship between cognitive impairment and subsequent nursing home use was limited to those who were already in a nursing home at randomization; it did not hold for the Channeling sample of elderly who were living in the community at the time of randomization. In short, cognitive, ADL, and IADL measures may be useful in identifying a highly impaired population, but they are not sufficiently strong predictors to identify a group at high risk of nursing home placement among those in the community.

In none of the studies was health status a predictor of subsequent nursing home use, although measures of health status were found to be good predictors of survival. None of eight specific health conditions reported in the Channeling study was significantly associated with nursing home days in a multiple regression analysis.¹⁸ Nor were self-reported health status, reported bed-bound days, or reported recent change in health conditions useful predictors of subsequent nursing home use.

CONTACT WITH THE HEALTH CARE SYSTEM

Contact with the health care system is an important explanatory factor in nursing home use. In the Channeling sample, those who were already on a nursing home waitlist were much more likely to have a nursing home admission and averaged an estimated 42 more nursing home days in the year following randomization than did the rest of the sample.¹⁹ The number of days in a hospital in the two months prior to randomization was also directly associated with subsequent nursing home use. The Wan and Weissert findings agree with the Channeling findings--that those with recent hospital stays used nursing homes to a greater extent--though there was no evidence in their study, as there was with Channeling, that persons with previous nursing home use had greater subsequent nursing home use.²⁰

¹⁸ The conditions examined were anemia, high blood pressure, heart disorder, stroke, diabetes, arthritis, cancer, and nerve disorder.

¹⁹ See Grannemann and Grossman (1986b).

²⁰ See Wan and Weissert (1981).

ATTITUDES TOWARD INSTITUTIONALIZATION

The little evidence that is available indicates that attitudes toward living in a nursing home can affect the likelihood of institutionalization.²¹ The self-reported preference for staying in the community rather than entering a nursing home was a factor in determining the likelihood of nursing home admission and the days of care. Channeling sample members who reported at baseline that they would not consider entering a nursing home used 48 percent fewer days of nursing home care than those who said they would consider moving to a nursing home depending upon their health condition and the availability of care at home. However, a willingness to consider nursing home placement may have been an indicator of increased disability and an unsatisfactory situation in the community. Thus, an expressed willingness to consider placement may reflect other determinants in addition to underlying attitudes.

FINANCIAL RESOURCES

Those with sufficient financial resources to pay for nursing home care are more likely to choose nursing home placement. In the Channeling demonstration, reported financial assets were directly associated with nursing home use; sample members with over \$10,000 in financial assets at baseline spent an average of 27 more days in a nursing home in the following 12 months than those with fewer assets. This may reflect better access to nursing homes among those who are able to enter as private-pay patients and, perhaps, a willingness of those who can afford to do so to pay for others to take care of their elderly family members. However, no significant differences were observed for income or home ownership.

Paradoxically, cross-section studies typically find that nursing home residents tend to have fewer financial assets and lower incomes than do elderly in the community. This finding may reflect the spend-down or transfer of assets that often occurs prior to nursing home placement, and low asset levels that have been depleted by nursing home expenses. For the Channeling sample, Medicaid eligibility was associated with greater nursing home use when income and asset levels were controlled statistically. Thus, nursing home use does appear to be responsive to the public and private financial resources available for nursing home care.

ETHNIC BACKGROUND

Most studies show that nursing home residents are disproportionately white when compared with the elderly population in the community. In the Channeling sample, for example, 80 percent of those in nursing homes six months following entry into the demonstration were white; 72 percent of those remaining in the community were white. This difference by ethnicity is consistent across studies but; it is not clear how much of

²¹ See Wan and Weissert (1981) and Branch and Jette (1984).

the difference is due to cultural and sociological factors and how much is due to economic differences among ethnic groups.

THE ROLE OF INFORMAL CAREGIVERS

Studies have demonstrated that most older persons who need care receive some, if not most, of it from family and friends; in the Channeling sample, 90 percent of the elderly were able to identify a primary informal caregiver.²² Because informal caregivers provide or arrange for a large share of long-term care in the community, it is important to understand what factors determine the amount of care provided by informal caregivers and how informal caregivers affect the institutional placement decision.

Predictors of Caregiving Efforts

The most consistent predictors of the level of caregiving effort in Channeling were the elderly care recipients' degree of impairment, their living arrangements, their familial relationship with the primary caregiver, and the caregiver's employment status. The elderly person's frailty or need for care was also associated with greater caregiving effort. The closeness of the kinship relationship is positively associated with caregiving effort; spouses and, to a lesser extent, daughters and daughters-in-law provided more hours of care than did other informal caregivers. Finally, the number of hours worked per week by caregivers was found to be inversely related to the hours of informal care they provided.²³

Burdens on Informal Caregivers

Caregiving activities do impose burdens on the caregivers. The Channeling results show that the number of hours of care provided per week affects self-reported measures of caregiving burden and perceived strain; it is especially constraining on the caregiver's personal life. Close kin, particularly spouses and daughters, also generally experience more personal limitations and strain than do less closely associated informal caregivers. Limitations in the caregiver's life and his or her reported strain are also associated with the quality of the interaction with the care recipient (how well the caregiver and care recipient get along and the problems of caregivers in dealing with the behavior of the care recipient). The primary informal caregivers' personal lives and sense of well-being are also directly affected by both the level of and declines in the elderly person's functional capacity.

The level of caregiving effort is only modestly associated with the caregivers' employment experience. Currently or recently employed caregivers reported some restrictions in their employment opportunities, although those who worked fewer hours were those who reported more employment restrictions. Caregivers who were

²² See Christianson and Stephens (1984).

²³ See Stephens, Christianson, and Grossman (1986).

daughters of the elderly sample member experienced significantly more employment limitations than did those who were more distantly related caregivers, reinforcing the belief that daughters sometimes sacrifice opportunities for employment in order to provide long-term care to their elderly parents.

Elderly persons with caregivers who experienced more than average emotional strain exhibited a greater likelihood of nursing home admission and a greater total number of nursing-home days--suggesting that nursing home placement may be chosen as one way to alleviate such strain. The level of caregiving effort in terms of the hours of care that were provided was directly associated with the decision to place an elderly person in an institution, though hours of care was found to be less important in explaining institutionalization than were measures of emotional strain.

When asked the reasons that their elderly family member or friend had been placed in a nursing home, informal caregivers pointed to the generally high level of care required and the increased demands for care associated with the deteriorating health of the elderly person.²⁴ Also frequently mentioned was the inability of the caregiver to continue to provide care--because of exhaustion, poor health, or stress.

Effects of Caregiving on Nursing Home Use

Several studies have found that availability of informal support in the community reduces the probability of institutionalization.²⁵ The Channeling experience showed, for example, that elderly persons who live alone in the community without informal support or without outside contacts are more likely to be admitted to a nursing home.²⁶ Moreover, elderly who receive care from their spouse or children have lower nursing home admission rates, and they use fewer days of nursing home care subsequently, than do those who are cared for by more distantly related or unrelated caregivers. Conversely, elderly persons are more likely to be admitted and/or to spend more days in nursing homes if their caregivers provide more hours of care, report that their ability to accept paid employment is more restricted, or experience greater emotional strain from their caregiving responsibilities.²⁷

Multiple regression studies provide evidence that informal caregivers help reduce nursing home use.²⁸ This is particularly true when spouses are the primary source of informal care. While spouses provide more care and experience greater personal limitations and strain, particularly emotional strain, than do many other types of caregivers, they seem better able to avoid nursing home placement for their husbands or wives. And children who are the primary source of informal care more often reduce nursing home use by their elderly parent than is true of more distant kin or friends.

²⁴ Stephens and Cerf (1985).

²⁵ See Markson et al. (1983); McCoy and Edwards (1981); Townsend (1965); Branch and Jette (1982); Capitman (1985); and Wan and Weissert (1981).

²⁶ See Grannemann and Grossman (1986b).

²⁷ See Stephens, Christianson, and Grossman (1986).

²⁸ See Stephens, Christianson, and Grossman (1986).

NURSING HOME RESIDENTS CERTIFIED FOR RELEASE

The Channeling experience indicates that nursing home residents who applied for Channeling and who were certified for release were similar to sample members who lived in the community in terms of impairment, though they were more likely to have an acute medical condition and unmet needs for medical treatment upon their release. This group also reported more financial assets than did Channeling participants who were living in the community at baseline. This group was also more likely than those in the community to have a community living arrangement characterized as alone without informal support.

ABILITY TO PREDICT INSTITUTIONALIZATION

While statistical differences exist between the characteristics of elderly persons who live in nursing homes and those who live in the community, and while it is possible to identify some of the factors that contribute to nursing home placement, research has not shown us how to predict with any precision who will enter a nursing home and who will not. The multiple regression studies of predictors of nursing home use all report relatively low R^2 statistics--indicating that only a small fraction of the variation in institutionalization can be explained. We have available only imperfect measures of predictors such as impairment and level of family support, but a more important obstacle to successful prediction may be unforeseeable changes in the need for care and families ability to cope that can occur just prior to institutionalization.

CHAPTER SUMMARY

Several factors have been shown to be directly associated with nursing home use. Among them are lack of informal support at home, availability of financial resources, or Medicaid coverage to pay for nursing home care; recent use of hospital or nursing home services; and favorable attitudes toward institutionalization. Persons in nursing homes are more impaired on ADL and IADL than are those in the community, but these factors are of limited value in predicting subsequent nursing home use by persons in the community. Even multiple regression methods with a large number of explanatory variables do not successfully predict with precision who will enter a nursing home.

III. TARGETING EXPERIENCE OF COMMUNITY CARE PROGRAMS

TARGETING APPROACHES AND THE CRITERIA USED IN LONG-TERM CARE STUDIES

Demonstrations conducted to date provide a great deal of evidence about the effects of community-care programs for various groups of the elderly. Sixteen waiver projects (which include the Channeling demonstration) have been conducted over the past 15 years, and represent a range of initiatives that vary in terms of both their intervention and their research design. All were motivated, in part, by the expectation that the expansion and coordination of community-based services would substitute for institutional care. Each of these long-term care projects attempted to serve a target population of elderly persons who would be in an institution in the absence of project services.²⁹

The Channeling demonstration is the largest and most comprehensively analyzed of the series of projects undertaken to test the benefits of case-managed community-based care. However the targeting experiences of the 15 other Federal-State long-term care demonstrations provide useful information as well.³⁰ These demonstrations varied in terms of project funding sources (Medicaid or Medicare), the type of direct services covered, the authority of case managers to purchase services and their control over service allocation, the use of cost controls, and even the eligibility criteria used; however, as noted, all were designed to serve clients at risk of nursing home placement.³¹

We have classified the targeting approaches used in these projects into four major categories. The first category (as exemplified by the initial phase of Triage) attempted to use a preventive model that enrolled applicants prior to the point at which they were experiencing severe chronic disabilities. Although the Triage program was established as an alternative to institutional care, it did not require that individuals exhibit a specific level of disability. The second group includes projects that required applicants to be functionally disabled and to show a need for community-based services (Worcester Home Care, NCHSR day-care homemaker, MSSP Project Open, New York City Home Care, San Diego, and Florida Pentastar). Although these projects emphasized functional impairment, a specified level of disability was not required as an entry criterion. The third group of projects required that individuals exhibit both a documented need for service and a specific level of functional disability. In these projects, the entry criteria actually required either a disability score above a specific

²⁹ The lone exception was the Triage Project, which used a more prevention-oriented approach.

³⁰ See Kemper et al. (1986) for more details on the evaluations of the demonstration.

³¹ Because several of the demonstrations (such as Project Open and San Diego) also attempted to serve clients who were being unnecessarily hospitalized, the entry criteria in those projects had to serve dual purposes.

cutoff value in a functionally based entrance instrument or specified levels of disabilities comparable to nursing home admission criteria. These include Wisconsin CCO, Georgia AHS, On Lok, and Nursing Home without Walls. The fourth group of projects includes those demonstrations that emphasized functional disability and the need for services, but also linked program entry to a nursing home preadmission screening process (ACCESS and South Carolina CLTC).

RESULTS OF THE TARGETING EFFORTS OF LONG-TERM CARE DEMONSTRATIONS

Of the demonstrations conducted to date, as already noted, only one served a group with high rates of subsequent nursing home use (Table 4). In the South Carolina Community Long Term Care Project, which required that applicants meet eligibility criteria for placement 59 percent of the control group had been admitted to a nursing home by the end of the 12-month period. The comparison group for the Triage project (the project with no disability requirement) had the lowest use of nursing homes, 4 percent. It is noteworthy, however, that the nursing home rates of the projects which used a functional disability criterion, such as Wisconsin and Georgia, did not differ dramatically from the Triage result. Even in the Channeling demonstration, which used a rather stringent functional disability criterion coupled with a documented need for services, less than 25 percent of the control group were admitted to a nursing home during the first year.

As expected, nursing home days show a similar pattern. The South Carolina control group members spent an average of 130 days in a nursing home over the 12-month time period. Once again, this figure is by far the highest rate of any of the studies. One additional study, the Nursing Home without Walls project evaluation, also showed a high use rate for the comparison group in the upstate sites in the demonstration. However, since this project did not use comparable procedures for recruiting treatment and comparison group members, the reported impact estimates are inconclusive.

The results of the South Carolina study are worth further discussion. As noted, 12 months after application, well over half of the control group had had a nursing home admission--more than twice as high as the next highest, which was channeling. This difference is particularly noteworthy in light of the fact that many of the other studies selected individuals whose levels of functional disability were high enough to be in the same range as the average level of disability of the South Carolina control group.

The frailty of many of the sample members in the various demonstrations was also considerable, as evident by the high rates of mortality. In seven of the long-term care demonstrations under review, over 20 percent of the control group died during the first 12 months of the research. The similarity of control group mortality rates and levels of functional disability when combined with the very different rates of nursing home use,

confirm the evidence in Chapter II that disability alone is not a sufficiently good predictor to be considered a successful targeting criterion.

TABLE 4. Nursing Home Use Among Control Group Members During the 12 Months Following Enrollment for Channeling-Type Demonstrations				
Project	Study	Year	Percentage Admitted	Average Number of Days
Worcester Home Care	Commonwealth of Massachusetts	1976		50
Project NCHSR 222 Day Care Homemaker Combined	Weissert, Wan, Livieratos	1980	21 18 -	7 4 5
Triage (Phase 1) ^a	Shealy, Hicks, Quinn	1979	4	4
Monroe County Long Term Care Project (Access) ^b	Price, Ripps	1980		
Georgia Alternative Health Services (12 month sample)	Skellie, Favor, Tudor, Strauss	1982	16	29
Wisconsin Community Care Organization (Milwaukee) ^c	Seidi, Applebaum, Austin, Mahoney	1983	14	33
Multipurpose Senior Services Project	Miller, Clark, Clark	1984		22
On Lok	Zawadski, Shin, Yorki, Hansen	1984		61
Project Open ^d	Mount Zion Hospital and Medical Center	1983	5	0.3
South Carolina Community Long-Term Care Project ^e	Blackman, Brown, Learner and Witherspoon	1986	59	130
Nursing Home Without Walls Upstate New York City	Birnbaum, Gaumer, Pratter, Burke	1984		99 40
New York City Home Care Project	Sainer	1984	7	
North San Diego County Long-Term Care Demonstration Project ^f	Allied Home Health Association	1984		0.9
Channeling Basic Model Financial Model	Kemper, et al.	1986	24 23	32 30
SOURCE: Table A.9, Applebaum et al. (1986).				
<p>a. Nursing-home data for Triage are based primarily on the use of skilled facility days.</p> <p>b. Standard comparisons were not made for the Access Project; rather, the study compared Medicaid costs in Monroe County with the costs in six comparison counties. Medicaid costs for nursing homes rose by 5.7 percent in Monroe County, compared with 26.8 percent for the six comparison counties between 1976 and 1980, suggesting a reduction in nursing-home placement. Hospital expenditures increased 36.3 percent from 1976 to 1980 in Monroe County, compared with 37 percent in the six comparison counties.</p> <p>c. Wisconsin measured outcomes over a 14-month period using only Medicaid data. The 14-month figures have been prorated to 12 months.</p> <p>d. For Project Open, the percentages admitted to a hospital or a nursing home are for the six- through twelve-month period only. Nursing-home days include only skilled facility days.</p> <p>e. Hospital and nursing-home data for South Carolina are based only on Medicaid-covered stays.</p> <p>f. North San Diego results are based on Medicare data.</p>				

THE EFFECTS OF THE PROGRAMS ON SUBGROUPS OF ELDERLY INDIVIDUALS

Were the community-care programs more successful for particular subgroups of individuals? To answer this question, several of the studies identified subgroups of individuals who exhibited particular baseline characteristics that were thought to be key factors associated with an increased risk of placement. Their placement experience was then compared with the experience of other subgroups. For example, the impacts of the program on nursing home use by a subgroup of individuals with particularly high levels of disability could be compared with those for subgroups with lower disability levels. The major subgroups examined in the studies were defined by residence at baseline, level of disability, certification for nursing home care, recent hospitalization, living arrangements, Medicaid eligibility, ethnicity, age, and sex.

The demonstration evaluations did not generally find major impact differences across subgroups. In select cases, treatment group members in certain subgroups did exhibit larger program impacts, but no major patterns for particular subgroups were identified consistently across studies.

The relatively large size of the Channeling sample (over 6,000 participants at randomization) enabled the evaluators to examine numerous subgroup classifications. Subgroups were defined for a set of key participant characteristics and also for combinations of characteristics expected to have stronger effects than the added effects of each taken separately. Impact estimates were calculated based on multiple regression methods which controlled for the effects of other determinants of outcomes, including the effects of other subgroup variables.

Because subgroups are smaller than the full sample of participants, the power of statistical tests to detect impacts for a subgroup is less than for program impacts on the full sample. For this reason, failing to observe a statistically significant difference among subgroups for an outcome measure should not be interpreted as conclusive evidence that no difference exists. Conversely, because the number of statistical tests involving subgroups is very large, some effects that meet conventional criteria of statistical significance will in fact be chance occurrences. Given these limitations, the results for a single subgroup and outcome measure should be viewed with caution, unless the pattern of impacts for other subgroups or outcome measures provides supporting evidence.³²

Perhaps the most notable finding is the apparent uniformity of Channeling impacts across different subgroups within the sample. No subgroup experienced impacts that were statistically different from those of other groups for more than a few

³² The multiple-characteristic subgroups were defined with the help of the Automatic Interaction Detector (AID) computer program, which was used to identify groups with differing rates of nursing home use. Additional subgroups were defined by constructing a score that represents the regression-predicted risk of nursing home placement.

outcomes; differential impacts among subgroups were the exception rather than the rule.

The subgroups that were examined varied quite widely in terms of their characteristics, circumstances, and outcomes, as evidenced by the control group means. The "extreme risk" group, for example, used well over twelve times as many nursing home days as did the lowest-risk group. But, despite this diversity, very limited evidence is available to suggest that Channeling impacts differed markedly among the groups except in a few cases. To the extent that reductions in nursing home days were achieved, they are more apparent for the small fraction of the sample who were already in a nursing home. Some evidence also exists that Channeling was effective for a few persons whose balance of impairment and lack of informal support might have pushed them to the margin at which Channeling made the difference between becoming institutionalized and being able to live in the community.

Both Channeling models--the basic model (which emphasized case management within the existing system) and the financial control model (which provided additional funding for services)--showed reductions in nursing home use and/or costs for persons who were residing in a nursing home at the time participants were screened into the program. However, this effect was statistically significant in the basic model only in months 1-6 and in the financial control model only in months 7-12. Control group members who were in a nursing home at screen experienced greater than average admissions and days of nursing home care. For these subgroups, Channeling reduced private expenditures for services (primarily nursing home services), and this effect was consistent across models and time periods. In the year following randomization, the basic model of Channeling reduced these private expenditures for services by an average of \$3,057 (or 58 percent) for each client in a nursing home at screen. The corresponding figure for the financial control model was \$2,776 (or 48 percent) for this subgroup. A pattern of reductions was also observed for nursing home admissions and days for the in-nursing-home and wait-listed subgroups, though reductions in nursing home use for those who were wait-listed appeared to be confined to the group that would not be eligible for Medicaid.

The basic model of Channeling--which operated with limited funds for services and in environments where community services were used somewhat less extensively--appears to have reduced nursing home use for clients who were able to meet some of their needs on their own. For example, reductions in nursing home use were achieved (in the first six months) for those whose financial resources were sufficient to preclude them from (current or imminent) Medicaid eligibility. Within this higher financial resources group, two subgroups were more affected than others: the more severely ADL disabled who lived with others and the less disabled who lived alone. Thus, the basic model of Channeling, with its limited resources, appears to have been somewhat more effective at reducing nursing home use among groups whose balance of needs, resources, and informal support placed them at less than extreme risk of nursing home admission. Evidence suggesting that, among the risk categories, it was the "high risk" not the "extreme risk" group for whom the basic model of Channeling significantly

reduced nursing home use supports this conclusion. Thus, the basic model may have been more effective at reducing nursing home use among the elderly who had some capability (due to financial resources or informal support) to help themselves.

The stronger (and more expensive) intervention of the financial control model may have been able to achieve impacts for some groups that were relatively unaffected by the basic model. Compared with the basic model, the financial control model appears to have been more effective at reducing nursing home use among clients who were more impaired and who had fewer supporting resources. In the first six months, nursing home use was reduced for those who were living alone at baseline (particularly those living alone who were very severely ADL impaired) and those who had the highest risk scores. Neither of these groups was affected under the basic model. Impacts were also observed for those who were wait-listed, especially the wait-listed non-Medicaid-eligible clients. In the financial control sites, where more services were available in the existing system and Channeling had more resources to meet client needs, it is possible that Channeling was able to achieve impacts for persons who had somewhat greater needs than was the case in basic model sites.

There is only very limited evidence that the effect of Channeling was achieved because more services were directed toward those who exhibited the greatest need. The financial control model increased the percentage of individuals who received formal community services, and the amount of the increase was fairly equal across subgroups of clients. One group whose formal service receipt increased more than average was the group of individuals who were in a nursing home at the screen; this result may reflect greater need for acute care services by those seeking to return to the community following a period of illness. Each of the models provides evidence that Channeling was able to reduce nursing home use or costs for some groups. But associated cost savings appeared to accrue primarily to private payers, rather than to the Medicare or Medicaid programs. Therefore, although the results do suggest that it is possible to divert some persons from nursing homes, we cannot be optimistic about achieving substantial savings of Medicaid or Medicare nursing home expenditures for any subgroup through a Channeling-type program similar to the models tested.

The strongest evidence of a reduction in nursing home use pertains to persons in a nursing home at screen but certified for discharge. But there is also some evidence, albeit more limited and less clear cut, that there are other persons for whom Channeling tipped the balance of needs and services and reduced nursing home use. Identifying such impaired elderly individuals necessitates using multiple characteristics.³³ It should also be noted that the groups for whom Channeling-type programs can make a difference may vary, depending on both the existing service environment and the resources available to the community service program. However, reductions in nursing home use do not imply cost-effectiveness. In the next section, we examine the impacts of Channeling use and costs for selected groups.

³³ This finding from Channeling is consistent with the results of Secord (1986).

THE EFFECTS OF CHANNELING ON SELECTED TARGET GROUPS

To pursue the potential effect on selected groups further, the channeling data were used to simulate hypothetical eligibility criteria by estimating impacts for selected subgroups.³⁴ The groups examined were those for whom previous evidence and multiple-regression analysis indicated that the desired effects would be the greatest. These simulations included the subgroup of persons in a nursing home (and the combined group of persons in a nursing home and those wait-listed), as well as subgroups predicted by multiple regression methods as likely to show reduced nursing home use or cost savings. Table 5 summarizes the results of these simulations for key outcome measures.³⁵

Although the targeting criteria examined did not identify groups of individuals for whom channeling significantly reduced public costs, it was found that for some groups the program might be cost-neutral, as evidenced by the fact that public costs did not significantly differ between treatment group members and control group members. This conclusion must be qualified, however, because the lack of statistically significant differences may in part reflect the small sample sizes for these subgroups.

TABLE 5. Channeling Impacts on Selected Groups in 12 Months						
	Basic Model			Financial Control Model		
	Number of Nursing Home Days	Total Public Cost	Total Private Cost	Number of Nursing Home Days	Total Public Cost	Total Private Cost
Overall Channeling Sample	-243	1,644**	-537**	-2.03	3,496**	-278*
SIMULATED SUBGROUPS						
In nursing home at randomization	-10.22	3,262	-3,057**	-59.21**	7,116**	-2,776**
Medicaid-eligible	100.26**	6,080	-1,309**	-40.63	13,954**	-2,239**
Spend-down group	-114.63**	-1,415	-3,093**	-99.40*	7,861	-2,226
In a nursing home or wait-listed/applied	8.95	400	-1,238	-10.72	3,596**	-888**
Waitlisted/applied						
Medicaid-eligible	17.05	757	-675*	-0.51	2,968	-461
Spend-down group	42.24*	-3,199	-533	27.65	-213	575
Individuals with expected reduction in nursing home admission	-0.01	1,406**	-615**	-0.00	3,084**	-264
Individuals with expected reduction in unmet needs	1.35	2,190**	-356	1.26	2,845**	-105
Individuals with expected reduction in public cost	-5.50	848	-795**	-6.65	2,362*	-334
<p>NOTE: Channeling impacts are based on treatment-control differences estimated with multiple regression analysis. Public cost includes costs of hospital, nursing home, and community-based services reimbursed by Medicare and Medicaid, as well as the costs of channeling operations and services and an estimate of service expenditures by other public programs. Private cost includes payment by elderly, family, and private insurance for hospital, nursing home, and community-based services.</p> <p>* Estimate of impact is statistically significant at .05 level. ** Estimate of impact is statistically significant at .01 level.</p>						

³⁴ Grannemann and Grossman (1986c)

³⁵ In order to define the target groups and stimulate impacts, the channeling sample was split. Half the sample was used to develop a risk score formula representing the regression-predicted likelihood of a reduction in nursing home use, a reduction in unmet needs, or cost savings. For the other half, the preapplication characteristics of the elderly individual were used to estimate program impacts for those who passed a hypothetical program eligibility screen based on the risk score. This procedure provides a test of whether multiple characteristics can in fact be used to identify those for whom program impacts will be greatest.

The most promising results pertain to those persons in a nursing home at screen who had an intermediate level of financial resources, so that they were not currently Medicaid eligible but would be eligible within three months if they chose to remain in the nursing home. For this in-nursing-home spend-down group, the simulation indicated that the basic model of channeling significantly reduced the number of nursing home days, significantly reduced nursing home expenditures, significantly reduced Medicaid expenditures, and significantly reduced private expenditures for services. But even for this group the cost of program operations and services was sufficient to preclude significant public cost savings. A similar reduction in nursing home use was observed for this group under the financial control model, though the greater channeling expenditures and greater Medicare expenditures make this group more expensive to serve under financial control channeling, with no significant reduction in public or private costs.

Private costs decreased by modest amounts for most of the other simulated subgroups. But only a few of them showed reductions in nursing home use. None exhibited statistically significant increases in their satisfaction with life. Thus, with the one exception noted, there is no evidence that the programmatic cost-effectiveness of such programs could be substantially increased by targeting.

CHAPTER SUMMARY

Of the numerous long-term care random assignment demonstrations conducted to date, the only one that has both enrolled a population who proved to be at high risk of nursing home admission and also shown reductions in nursing home use is the South Carolina Community Long Term Care Project. This project used a preadmission screening process to identify clients who were at the nursing home level of care and seeking nursing home admission. Even for this group, however, there were no significant savings in public costs, though the program may have been essentially cost-neutral.

An extensive analysis of subgroups based on the Channeling demonstration data showed significant reductions in nursing home use over 12 months for those who were not currently eligible for Medicaid and were residing in a nursing home at the time of their entry into the demonstration. No group showed significant reductions in public costs. For the spend-down group in a nursing home evidence suggests that at baseline the basic model of Channeling--which emphasized case management rather than substantial additional funding for services--reduced private costs without increasing public costs. However, this finding is based on an extremely small sample, and this group constitutes a very small fraction of the elderly in need of long-term care.

IV. CONCLUSIONS

RESULTS

Recent demonstrations of community-based long-term care alternatives have provided a wealth of information about the impacts of these programs. Demonstrations to date have shown that it is possible to identify impaired elderly persons in the community, assess their service needs, and deliver community-based services in accordance with a coordinated care plan. These initiatives have also revealed the difficulty and complexity of effectively identifying impaired elderly persons who are actually at risk of entering nursing homes.

In this report we have examined the issue of targeting to determine whether it is feasible to design eligibility criteria for community-based long-term care programs so as to include only those for whom the programs can be cost-effective. We have examined the results of several demonstrations. The most extensive evidence comes from the recently completed National Long Term Care Channeling Demonstration from which we have detailed data for a large sample of elderly persons served in demonstration projects in ten sites. Data from the Channeling demonstration have enabled us to examine the effects of the program on a large number of subgroups of various types of impaired elderly persons in need of services. Together with the results of previous demonstrations, a fairly consistent pattern of findings is observed. As we discuss in the following paragraphs, when demonstration projects are compared with the existing system, evidence that they were cost-effective according to any of the usual definitions of cost-effectiveness is limited to a small proportion of the elderly in need of long term care.

Fiscal Cost-Effectiveness

No group was found for whom Channeling was shown to reduce public costs. Even for the groups that exhibited reductions in nursing home use, Channeling saved private but not public dollars. These results are consistent with those of the South Carolina study, which showed no significant impact on public costs. Thus, the targeting methods that have been tested to date have been, at best, cost-neutral from the public perspective.

Programmatic Cost-Effectiveness

If community-care programs have not saved public funds, do they achieve other positive impacts in a less expensive way than would be the case with the current policies or programs? Impacts that show up strongly are a reduction in nursing home use for some groups, an increase in the use of formal community-based services, and a reduction in private expenditures.

In the Channeling demonstration, significant reductions in nursing home use were observed for those who were in a nursing home at the start of the demonstration. Even for those clients, the financial control model is a rather expensive method for reducing nursing use. The basic model results were mixed; there was no significant reduction in nursing home use even for those in a nursing home, but there is some evidence that the program might reduce nursing home use and be cost-neutral for the spend-down group in a nursing home. The small sample sizes of these groups, however, leads us to view this finding with caution.

An increase in the use of formal community services was found under Channeling for most of the groups examined. Here, again, the question arises: Could these impacts have been achieved at a lower cost? One alternative method for increasing use would be to expand coverage and/or the accessibility of Medicare or Medicaid community-based services. But these entitlement programs differ from the case management programs, which have demonstrated an ability to assess need and limit eligibility to a very impaired group. The disadvantage of case management programs is that adding the cost of project operations (i.e., screening, assessment, and ongoing case management costs) to the cost of providing services makes such programs a relatively expensive vehicle for increasing the use of formal services. Moreover, as evidenced by the uniformity of community-based service use across Channeling subgroups, programs have not yet effectively concentrated resources on those most in need within a highly impaired group of clients. Thus, if the primary goal is to provide benefits to this highly impaired group, increasing the coverage of community services for those who meet strict Channeling-type eligibility criteria might be less expensive than adding the Channeling case management component through a free-standing case management agency--but only if the coverage could be limited to such a group without the expensive screening and assessment process used by Channeling. In other words, there may be less expensive ways to achieve the same impacts on the use of services that we observed for Channeling, though this has yet to be demonstrated.

A major impact under Channeling was a reduction in private expenditures. The reduction in private costs is statistically significant for many simulated groups under the basic model, but only for the in-nursing home and in-or-wait-listed groups under the financial control model. This reduction can be considered desirable in itself, since it implies less financial burden on the elderly and their families. However, in most cases, the increase in public expenditures greatly exceeded the private cost savings. This finding raises the possibility that providing direct assistance to family caregivers might be a more cost-effective means of relieving the burden imposed on families with an impaired elderly individual than could a comparably funded community service program.

Social Cost-Effectiveness

Assessment of social cost-effectiveness requires placing a subjective value on the outcomes achieved. The high costs and the very limited number of statistically significant beneficial impacts suggest that, unless our targeting ability improves, Channeling-type approaches to expanding community care services may not be

considered socially cost-effective for most patient groups--except to the extent that a high value is placed on marginal improvements in the quality of life and satisfaction with care, on increases in the availability of formal services, and on modest reductions in unmet needs.

WHY TARGETING IS SO DIFFICULT

An analysis of the Channeling data and a review of other demonstration projects have not identified any group for whom community-care programs are clearly cost-effective. An important issue is whether any such group exists and, if so, whether other approaches and screening criteria may help identify groups for whom such programs can be shown to be cost-effective. At this time, no conclusive answer exists. There are several reasons that Channeling and similar projects did not prove to be cost-effective for the groups examined--and the "lessons learned" from these experiences should be considered in pursuing alternative approaches. A number of these factors have been identified in other studies.³⁶

Uniform Costs of Program Operations

The cost of operating the projects constituted a substantial share of expenses. In Channeling, for example, the operating costs of the basic model projects was \$1,226 per client (excluding expenditures for services) for the first 12 months following randomization.³⁷ A large share of these costs were devoted to screening, assessment, and care planning functions, which were required for all clients. Thus, no group exists for whom operational costs are clearly lower than for the sample as a whole. Hence, targeting a group with a low administrative cost does not appear to be a possibility.

However, community-care demonstrations, such as the South Carolina project, suggest that it may be possible to use other approaches to perform these program functions at a lower operational cost per client served. In 1982, it cost South Carolina \$32 per client per month to perform screening, assessment, and case management functions. This lower cost was primarily a result of the nature of the project (preadmission screening), of the fact that the number of services available in the catchment area was limited, and of the fact that nearly half the treatment group clients were institutionalized (and thus did not receive ongoing intensive case management services).³⁸

Uniform Service Impacts

The impacts of services also varied little across client groups. Channeling projects did not direct a disproportionate share of community-based services to any one

³⁶ See, for example, Weissert (1985).

³⁷ See Grannemann and Grossman (1986c).

³⁸ If these institutional clients are excluded, the costs per client per month would have been \$47.

group, and impacts on the amount and cost of services received did not differ substantially by type of client. This lack of differentiation makes it difficult to identify a group that exhibits either low costs or large impacts in terms of nursing home use (or well-being) because of community services.

Nursing Home Placement Decisions Were Not Greatly Affected by Additional Community Services

For nearly all the groups examined, as well as for the sample as a whole, the impacts of Channeling on nursing home admissions and days of care were not statistically significant. The basic and financial control models showed significant reductions in nursing home days only for those who were in the spend-down group and in a nursing home at randomization. But this group comprises a very small fraction of the Channeling sample. In general, decisions to enter or remain in a nursing home were not greatly affected by case management or the provision of community-based services beyond what was currently available.

Substantial Reductions in Nursing Home Use Would Have Been Required to Offset Program Costs

While no program would be expected to divert 100 percent of its clients from nursing homes, cost saving requires that savings from those diverted offset case management and community-based service costs incurred for the entire group of participants. As can be inferred from Table 6, the basic model of Channeling would be expected to save about \$6,131 (14,969 - \$8,838) in public cost by converting a nursing home user in the current system into a nonuser with Channeling benefits. The comparable number is \$5,111 (\$16,203 - \$11,092) for the financial control model. But for every enrolled person who would not have entered a nursing home, Channeling spent \$2,165 (\$8,838 - \$6,673) extra in the basic model and \$3,257 (\$11,092 - \$7,835) in the financial control model. Thus, to save public costs within the first year, the channeling program would have had to identify and successfully divert one person from nursing home placement for every three persons (\$6,131/\$2,165) enrolled who remained in the community under the basic model, and one for every 1.6 persons (\$5,111/\$3,257) under the financial control model.

Inability to Predict Institutionalization

The relatively low rates of nursing home use among the Channeling subgroups examined reflects our limited ability to predict nursing home use in advance. The multiple regression model used to identify persons at high risk had small explanatory power (as reflected in low R² statistics). Even using all the available information on informal supports, living arrangements, and other factors in a multiple regression context to develop screening criteria did not generate groups that exhibited a very high rate of nursing home services. The highest use subgroup--those in nursing homes at randomization--spent half of their survival days over the next 12 months in a nursing home. But nursing home use by the other groups, including those selected by multiple

regression methods, averaged no more than 41 days in the following 12 months. Thus, except for those who were already in a nursing home or were wait-listed (a small part of the Channeling sample), no identifiable subgroup used nursing home services to great extent.

TABLE 6. Public Costs (Dollars in 12 months)				
	Basic Model		Financial Control Model	
	Treatment	Control	Treatment	Control
Nursing Home Users	15,752	14,969	20,228	16,203
Nonusers	8,838	6,673	11,092	7,835
NOTE: These are regression-adjusted means which control for differences in baseline characteristics between the groups.				

Private Rather than Public Savings

A final reason that Channeling did not produce significant savings in public costs, even for the groups most at risk, is that cost savings (where they existed) accrued to private rather than to public payers. The basic model showed statistically significant private cost savings for most simulated groups. The financial control model also showed significant private cost savings, but only for those in a nursing home or on a waitlist at randomization. None of the simulations produced estimates of statistically significant savings in public costs.

DISCUSSION

Approaches explored to date have not been able to predict effectively who will enter nursing homes, nor have we yet identified ways to expand community services to bring about direct not savings in public costs. Nonetheless, we have gathered valuable insights to help shape further research, and the results do have implications for current policies concerning community services. Data do indicate that impaired elderly persons who choose to remain in the community require fewer public dollars than those who remain in nursing homes, and under the current system most impaired elderly persons are able to reside in the community with limited publicly funded support services. In addition, despite the difficulties that have faced these projects, in terms of targeting a group of clients at high risk of institutionalization, they have also provided considerable information about the factors that affect admissions to nursing homes.

Roles of Families

Data from the projects have shown that most chronically ill and impaired elderly individuals in the community are supported primarily through caregiving efforts by family and friends. Projects such as Channeling and South Carolina CLTC have demonstrated that additional community-based services can be furnished to an impaired population without weakening this informal care network. In addition, recent evidence indicates that the attitudes of family members toward nursing homes, and indicators of stress and/or

burden perceived by family caregivers, are associated with future admissions to nursing homes. More research in this area might improve the present capacity to target and to prevent nursing home admissions.

Effects of Supply Factors

In the past, studies have focused primarily on characteristics associated with the "demand" for services, such as patient status and the availability of family caregivers. The findings of such projects as Nursing Home without Walls suggest that in areas where the supply of nursing home beds is limited the typical nursing home user may be more severely impaired; hence, it may be that a greater fraction of patients entering nursing homes are too impaired to be served appropriately by community-care programs than was the case when there were fewer constraints on nursing home construction. Another factor is the extent to which Medicaid and Medicare reimbursement rates are higher or lower than payments for private patients. This relationship affects the number and types of patients who enter nursing homes, and thus the capacity of community services to prevent these admissions. Finally, the availability of community care services from many funding sources has grown in the long term care system; since many Channeling control group members were able to receive services from these existing community programs, this growth may have weakened the impact of the Channeling intervention on nursing home use. More in-depth analysis of the relationship between supply factors and variations in nursing home use may help us predict effects of policies that affect the number of nursing home beds.

To the extent that the targeting approaches developed to date can be used to generate further reductions in nursing use and costs, they are likely to be applied to persons who are already in a nursing home or are on the verge of entering, especially those with financial resources that place them just above the level for Medicaid eligibility. This suggests that linking the expansion of community care to preadmission screening programs and identifying those in a nursing home who wish to return to the community are promising directions. In fact, many of the States that have implemented Section 2176 home and community based services projects in their Medicaid programs are already focusing efforts on the spend-down populations and are exploring preadmission screening options.

FUTURE DIRECTIONS

Even though demonstrations to date have not shown significant cost savings from community-care programs, the results suggest a number of promising directions for the nation's evolving long-term care policy. We briefly consider several of the issues here, although it should be emphasized that more information on the use of long-term care services in general is required from research, demonstrations, or experimental programs before the best course can be charted for major national policy initiatives.

Family Involvement in Long-Term Care

As we discussed earlier, an important finding from the community care demonstrations and other research is the important role that informal caregivers--families and friends--play in both providing long-term care services and influencing the institutional placement decisions. Strengthening the viability of informal caregivers, particularly those who live with the elderly or who are close relatives, merits further attention in approaches to postpone or prevent nursing home placement. If the levels of burden imposed on and the crisis points experienced by caregivers are indeed important factors in nursing home placement decisions, it is possible that providing respite or other caregiver support services could be cost-effective. More information on how such decisions are made might help us design better ways to target services toward cases for whom such services can make a difference. The Omnibus Budget Reconciliation Act of 1986, P.L. 99-5099 Section 9414, directs the Secretary of Health and Human Services to enter into an agreement with the state of New Jersey to conduct a pilot project for respite care services for the elderly and disabled. This project may contribute to our knowledge about the capacity of respite care services to help families avoid institutionalization for their frail elderly members.

Supply Factors

Further analysis of the relationship between supply factors and variations in the use of long-term care services may improve our understanding of the overall long-term care service network. Since many States are controlling the growth of the number of nursing home beds, it is important to ensure that adequate community or institutional services be made available to the growing elderly population. More research into the appropriate mix of institutional and community services is needed.

Prepaid Capitation Models

Now forms of long term care organizations have been proposed in which a single provider entity assumes responsibility for a full range of acute and long-term care services under a fixed, prospectively determined budget. Both health and social services are consolidated under central case management in one organized system. Examples are the On Lok program in San Francisco and the four Social Health Maintenance Organization demonstration sites. In such models, the provider entity has strong financial incentives to furnish the most cost-effective array of institutional and noninstitutional services. However, more research is necessary to prove the general viability of these approaches. With the passage of P.L. 99-5099, Section 94-12(b), the Secretary of Health and Human Services is authorized to grant waivers under Titles XVIII and XIX of the Social Security Act to a maximum of 10 community agencies who are recipients of Robert Wood Johnson Foundation grants in order to help these organizations to provide comprehensive health care services on a capitated basis to frail elderly participants at risk of institutionalization. These demonstration projects could provide valuable information about the cost-effectiveness of prepaid capitated approaches.

Preadmission Screening

The findings of the South Carolina project and some of the channeling results suggest that preadmission screening systems are promising approaches for identifying patients who are at high risk of institutionalization. An increasing number of states are incorporating preadmission screening in their Medicaid programs. However, the cost-neutral effects in South Carolina were due to a combination of factors: the targeting of at-risk individuals, low case-management and service costs, and the maximization of existing informal supports. Further study is necessary to determine whether the South Carolina demonstration results are consistent with the State's subsequent experience since the program was implemented statewide, and if they are generalizable to other States and populations.

Heavier Concentrations of Services

We do not know whether concentrating large amounts of services on the types of clients we have identified as at high risk of incurring high cost episodes of care, whether in nursing homes or other institutions, could be more effective in altering placement decisions. Obviously, for programs that offer greater concentrations of community services to be cost-effective, they must target at-risk groups with much greater precision, and/or focus on persons who are likely to incur very high cost episodes. Although there has been growing interest in "catastrophic case management" approaches recently, no such approaches have been tested.

CHAPTER SUMMARY

While existing community care programs do provide many necessary services to elderly persons who live in the community, little evidence is available to indicate that expanding community-care programs beyond what is currently provided would by itself reduce public expenditures for long-term care. Targeting case management and limited community services to the small group of elderly who have already taken action to seek nursing home care (especially those not currently eligible for Medicaid) may reduce the likelihood of nursing admissions while having a minimal impact on public expenditures. But the extremely small size (as a proportion of the total elderly population) of the group for whom such effects can be achieved suggests that expanding community case management and service programs beyond those available in the existing system must be targeted carefully and/or justified primarily by their impacts (in terms of the quality of life, satisfaction with services, and a reduction of unmet needs) on those in the community. There is no convincing evidence to suggest that replicating the programs demonstrated to date would reduce the public cost of providing long-term care to the impaired elderly population.

Nonetheless, the results of demonstrations conducted to date leave a number of unanswered questions and leave open several potentially promising approaches to

improving the long-term care system. While we have not yet been successful developing a set of objective criteria based on individual characteristics that can successfully identify persons who will enter a nursing home, it may be possible to identify such persons through the processes of the long-term care system, such as linking provision of community services to the preadmission screening process.

The similarity of the demonstrations in terms of their general approach--that is, providing modest amounts of extra community service to those in need, coordinated through a central case management system--leaves open the question of whether different organizational approaches to providing long-term services might produce better results. This report has suggested several promising approaches that should be studied further.

Aside from the objective of avoiding nursing home placement, it is also important that future long-term care policies be designed to help families with the problems of caring for their impaired elderly relatives. Resolving these issues requires value judgments: Who should pay for long term care, and who should bear the burden of caring for the long-term care population? Case management and community services have been shown to enhance satisfaction with services, but the cost of these programs suggests that alternative types of family support might be more cost-effective. If the primary concern is whether people have access to necessary care, then targeting low-income groups, as is done in many State Section 2176 waiver projects, may be a reasonable way to proceed with expanding the availability of funding for community services. As demonstration results to date indicate, however, the current state of the art does not permit precise targeting of any group for whom expanded community services can generate savings sufficient to cover program costs.

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