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# The Evaluation of the National Long Term Care Demonstration

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## 5. Formal Community Services under Channeling

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*Channeling was intended to improve access to formal community services, both through the facilitating activities of case managers and through direct purchase of services. It was expected that formal community service use would increase both because more individuals would stay in the community and because use would increase for those in the community. Only the latter effect was observed. Even though a majority of individuals in the control group also received formal services, for those in the community, channeling achieved increases in in-home care. The largest effects were for personal care and homemaker services. These effects were substantially stronger under the financial control model of channeling, which included expanded funding for such services. There were also increases in home-delivered meals, transportation, and day-care services under the financial model but not under the basic model. Both models increased the use of special equipment.*

Channeling was expected to increase the use of formal community services, both through the arranging efforts of case managers and directly through purchases of service. It was expected that formal community service use would increase both because more individuals would stay in the community and because use would increase for those in the community. Because the financial control model extended coverage for community services beyond the limits of existing programs,

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service use was expected to increase more under that model than under the basic model.

Channeling was similar to previous community care demonstrations in the types of formal community services that were available. Many demonstrations (Applebaum, Harrigan, and Kemper, 1986), like channeling, expanded community services available to clients, although the type and amount of services varied. The majority, like the financial control model of channeling, covered a range of expanded community services generally including homemaker/personal care, home health aides, skilled nursing, transportation, and home-delivered meals. Although the previous demonstrations received waivers to expand service coverage, most were expected also to use services within the existing system. In contrast, under the channeling financial control model—in order to establish power to authorize the full range of community services and a single point of accountability for them—all covered community services were funded through the demonstration, including services that would otherwise be funded by Medicaid and Medicare services.

## IMPLEMENTATION OF DIRECT SERVICE PROVISION BY CHANNELING

Direct service provision was implemented largely according to plan (for more detail, see Carcagno et al., 1986). Waivers permitting the pooling of Medicare, Medicaid, and other funds were approved for all of the financial control projects, and case managers were able to authorize service expenditures from the funds pool from the beginning of project operations. Because of delays in obtaining authorization, the basic case management projects were somewhat slower in implementing the gap-filling funds component, operating without it for periods of 2–11 months, depending on the site. Irrespective of model, case managers, administrative staff, and providers reported that the availability of additional service dollars was a key component of the channeling approach.

### AMOUNTS AND TYPES OF SERVICES PURCHASED

As intended, there was a major difference in the amount of direct services (that is, exclusive of case management) the two models purchased with channeling funds. The basic case management model spent an average of \$38 per client-month after service initiation (vary-

ing from \$17 to \$60 across the five projects). The financial control model spent \$471 (varying from \$398 to \$612 across projects), reflecting the service authorization and funds pool feature of the financial model. This comparison is limited to service expenditures directly authorized by channeling case managers; under the financial model they included expenditures from the funds pool, which intentionally included services covered in the existing system by Medicare, Medicaid, and other government programs. Total costs for all funding sources are compared in Thornton, Dunstan, and Kemper (this issue).

Although the financial control model spent more channeling funds on most types of direct services than did the basic model, the relative expenditures were generally similar (as shown in Table 1). Both models spent almost three-quarters of their direct-service dollars on home health aide and homemaker/personal care services. This is consistent with the view of practitioners that help with personal care and house-keeping are the biggest service needs not covered by the existing community care system. The next largest category for the financial model was skilled nursing, therapies, and mental health counseling, at least some of which would be covered by Medicare and Medicaid under the existing system but were paid for, by design, from channeling's pooled funds; the basic model spent virtually nothing on this category, relying on existing funding sources (primarily Medicare and Medicaid). Home-delivered meals, transportation, adult day care, and consumable medical equipment were the categories that accounted for the next largest expenditures by the financial model, with other services quite small in comparison.

There were a few categories where basic model expenditures exceeded those of the financial model not only in relative but also in absolute terms. These are noteworthy because they reflect the greater emphasis of the basic model on respite care, adult foster care, adaptive and assistive equipment, housing and emergency assistance, and other expenditures. These differences reflect the fact that gap-filling funds generally were not sufficient to purchase routine services needed in large volume and that, because case managers under the basic model were not restricted to an authorized list of services, they had greater flexibility to purchase nontraditional services. Examples of specific purchases that illustrate this point were roofing materials for home repairs, the building of wheelchair ramps, and the purchase of a talking clock for a visually impaired client. Under the financial control model, case managers had to purchase services within well-defined service categories, and purchases of equipment and materials such as those listed in our examples were not authorized.

Table 1: Channeling's Direct Service Expenditures, by Type of Service (percent)

	<i>Basic Case Management Model*</i> (%)	<i>Financial Control Model*</i> (%)
<i>Home health aide, homemaker/ personal care</i>		
Home health aide	35.2	10.0
Homemaker/Personal care	33.6	59.6
Housekeeper	1.0	1.1
Companion	7.6	2.2
Chore	0.8	0.8
Total	78.2	73.7
<i>Nursing, therapies, mental health</i>		
Skilled nursing	0.2	10.9
Therapy	0.0	3.6
Mental health counseling	0.0	0.5
Total	0.2	15.0
<i>Home-delivered meals</i>		
	4.5	5.3
<i>Transportation</i>		
	4.5	2.0
<i>Adult day care</i>		
	0.5	2.0
<i>Adult foster care</i>		
	1.0	0.0
<i>Respite care †</i>		
	3.7	0.2
<i>Noncare items</i>		
Consumable medical equipment	1.6	1.6
Adaptive and assistive equipment	2.9	0.2
Housing and emergency assistance	0.5	0.0
Other	2.4	0.0
Total	7.4	1.8
<i>Total</i>	100.0	100.0

Source: Thornton, Will, and Davies, 1986. Calculated from Table III.6.

\*These estimates exclude months prior to completion of care plan. They include sample members who signed a care plan but did not receive services.

†The percent spent on respite care as shown here is an underestimate because some of the care that was in fact provided to enable a caregiver to take some time off was recorded by the type of service (e.g., homemaker).

#### COST-CONTROL ELEMENTS

The financial control model included three formal cost-control elements in its design: (1) an annual average care plan limit of 60 percent of the Medicaid nursing home reimbursement rate (using the average of the intermediate care facility and skilled nursing facility rates in each

area), (2) an individual care plan limit of 85 percent of that rate, and (3) client cost sharing. These limits were binding except that exceptions to the 85 percent limit could be made with state-level approval on a case-by-case basis.

### *Care Plan Cost Limits*

To help them stay within the two care plan limits, case managers completed a set of cost calculation worksheets that estimated the average cost of services in the care plan over the next year. These estimates were reviewed by the case manager's supervisor, and any that exceeded the average limit were also reviewed by the director of the channeling project. These limits turned out to be set very high in relation to typical care plan needs. Care plans in all financial control projects averaged substantially below the limit on average expenditures. (The highest average was 47 percent, the lowest 30 percent of the nursing home rate—well below the 60 percent limit.) The requirement to calculate costs and compare them to the model's limits, and the ability to trade off expenditures among clients, reportedly did increase cost-consciousness among case managers. Case managers under the basic model did not have a formal care plan-expenditure limit or compulsory cost calculation worksheets. However, they did use the worksheets for unusually high-cost care plans.

### *Cost Sharing*

The cost-sharing feature of the financial control model was implemented with a set of guidelines establishing a protected level of income below which no client payment was required. The required payment toward the cost of the care plan was either the difference between the client's monthly income and the protected income, or the actual costs of services, whichever was less. The level of protected income was intentionally set relatively high in order to encourage the participation of those with incomes above Medicaid eligibility levels but who would, if institutionalized, soon become Medicaid eligible by spending down their assets. Services in the care plan that would otherwise be available in the local area at no cost to the client were exempt from the cost-sharing provision. The extensive list of exempt services in all five sites, combined with the low income of the typical channeling client, meant that only 5 percent of clients under the financial model shared in the costs of care.

Although the basic case management model had no formal cost-sharing requirement, all basic case management projects in fact insti-

tuted a cost-sharing component for clients receiving services funded through gap-filling dollars. The actual criteria for contributions varied both within and across projects. Case managers liked the flexibility of this approach, feeling that they could balance client expenses and needs better under it than under a rigid system.

Case managers under both models felt that cost-sharing contributions increased client and family interest in the care as well as their willingness to notify the case managers in instances of inadequate care. Indeed, a majority of case managers and supervisory staff under the financial control model reported that a cost-sharing system should be designed to cover more clients.

## THE DECISION TO LIVE IN THE COMMUNITY

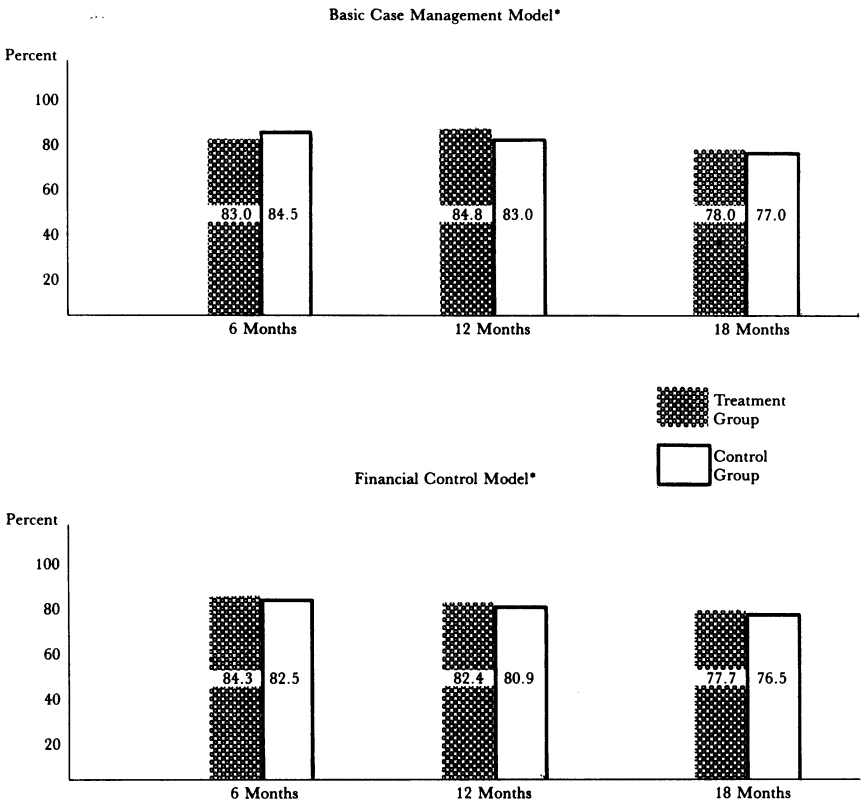
Channeling was expected to affect receipt of formal community care through two mechanisms: (1) by affecting the decision to live in the community rather than in a nursing home and (2) by altering the demand for formal services by clients who would in any case have been in the community. In this section, we discuss the first of these two possible effects.

Figure 1 shows the proportions of surviving sample members who were living in the community after 6, 12, and 18 months (for further analysis, see Wooldridge and Schore, 1986). The proportion of surviving control group members who were in the community gradually decreased over time from about 82-84 percent to about 77 percent. This was due primarily to the cumulative effect of nursing home placements (see Wooldridge and Schore, this issue), and is not surprising for a sample that was initially quite frail.

Most sample members living in the community (over three-quarters) lived in a private residence (their own or that of a family member or friend) throughout the demonstration. Another 10-17 percent lived in public housing. Only a small percentage of control group members lived in supportive housing or personal care homes.

Channeling did not have a significant effect on the proportion of persons living in the community 6, 12, and 18 months after randomization. Nor did it affect the number of weeks spent in the community, a measure that encompasses the three full six-month periods (Corson et al., 1986). No major effects were observed on the type of community residence. Increasing the proportion of the sample in the community,

Figure 1: Percent of Survivors in the Community over Time



Source: Wooldridge and Schore, 1986, Table C.1.  
 \*None of the treatment/control differences is statistically significant.

therefore, was not the mechanism by which channeling altered use of community services.

### FORMAL IN-HOME SERVICES

The second mechanism by which channeling was expected to affect the use of formal community care was by altering the amount of services used by those in the community. In this section, we examine the use of formal in-home services.

These services are defined as services provided by a profit or

nonprofit agency (using employees or volunteers) or a paid helper; they exclude care provided by family and friends (discussed in Christianson, this issue). Effects on formal in-home service use can come about through changes along two dimensions: the proportions receiving the services and the amount of services received. Each dimension is discussed below. In our analysis we focus on estimates for the sample members living in the community at each observation point, because channeling had no effect on the proportion of the treatment group living in the community.

#### RECEIPT OF FORMAL IN-HOME SERVICES

The extent to which treatment and control group members received formal in-home services from visiting caregivers during a week at 6, 12, and 18 months after randomization is shown in Table 2. The control group means provide a measure of the proportions of channeling clients who would have received formal in-home services in the absence of channeling. Control group members received no services through the demonstration but were able to seek help through existing programs such as Medicare, Medicaid, and Title XX if they were so entitled. As can be seen, formal in-home services were received by a majority of control group members in the community in both groups of sites: six out of ten control group members received the services in basic sites, and seven out of ten in the financial sites—a reflection of the richer service environments in the financial sites. These proportions indicate that a relatively high proportion of channeling clients would have received in-home services from the existing service environments without channeling.

Visiting providers were by far the dominant type of formal service deliverers. Over 95 percent of those who received formal care services received services from visiting providers. In contrast, services provided by staff in personal care homes and live-in employees were received by very small proportions of control group members in both groups of sites.

Clearly, channeling had its expected effects on formal in-home services. The estimates indicate statistically significant channeling-induced increases in the percent receiving services under the basic model—of 11.4 and 11.1 percentage points at 6 and 12 months, respectively—and a smaller positive treatment/control difference, though not a statistically significant one, at 18 months. This reduced effect at 18 months occurred because members of the control group, in the early cohort used for the 18-month estimates, were more likely to



Table 2: Receipt of Formal In-Home Services from Visiting Caregivers (Percent of Those in Community)

	<i>Treatment Group Mean</i>	<i>Control Group Mean</i>	<i>Treatment/ Control Difference</i>
<i>Basic case management model</i>			
6 months	71.1	59.7	11.4**
12 months	69.4	58.3	11.1**
18 months	71.7	65.1	6.6
<i>Financial control model</i>			
6 months	90.9	69.1	21.8**
12 months	89.6	71.5	18.1**
18 months	90.2	75.8	14.4**

Source: Corson et al., 1986, Table III.4.

Sample Sizes: basic model 1,630, 1,362, and 518 at 6, 12, and 18 months, respectively; financial model 1,785, 1,466, and 545.

Note: Estimates are for receipt of formal services during a week at 6, 12, and 18 months after randomization.

\*\*Statistically significant at the 1 percent level.

receive formal community services than members of the control group in the later cohort (see further discussion of this “cohort effect” in Brown, this issue). Under the financial control model, the effect on formal in-home services was, as expected, substantially larger—even though the base level of in-home care to which channeling was added was higher than in the basic case management sites. Estimates indicate statistically significant channeling-induced increases about twice as large as the increases under the basic case management model. Under both models the increase was among visiting service providers, not paid live-in caregivers or personal-care home staff (not shown).

#### TYPES OF IN-HOME SERVICES RECEIVED

Channeling’s effect on types of in-home care received at six months is shown in Table 3. The patterns are similar for 12 and 18 months after assignment (not shown). The two most prevalent types of in-home care received in the absence of channeling were personal care and housework/laundry/shopping—each received by just over 40 percent of control group members in the basic sites and over 50 percent in the financial control sites. Meal preparation was next most common, received by about one-quarter of the control group members in both groups of sites. General supervision (staying nearby in case the sample

**Table 3: Type of Formal Help Received at Six Months  
(Percent of Those in Community)**

	<i>Treatment Group Mean</i>	<i>Control Group Mean</i>	<i>Treatment/ Control Difference</i>
<i>Basic case management model</i>			
Therapy	7.2	5.8	1.4
Other medical treatments	17.6	15.2	2.4
Help taking medicine	13.2	13.2	0.0
Personal care	49.5	41.6	7.9**
Meal preparation	34.1	24.1	10.0**
Housework, laundry, or shopping	52.7	41.2	11.5**
General supervision	27.0	22.2	4.8*
Chores	13.3	11.8	1.5
Managing money	2.2	1.8	0.4
Other	1.0	0.4	0.6
<i>Financial control model</i>			
Therapy	11.0	6.0	5.0**
Other medical treatments	27.0	20.5	6.5**
Help taking medicine	17.9	10.6	7.3**
Personal care	76.3	51.0	25.3**
Meal preparation	47.4	25.9	21.5**
Housework, laundry, or shopping	77.6	53.3	24.3**
General supervision	30.3	17.3	13.0**
Chores	13.3	9.3	4.0*
Managing money	2.0	1.3	0.7
Other	0.7	0.5	0.2

Source: Corson et al., 1986, Table III.5 and Table III.6.

Sample Sizes: basic model, 1,630; financial model, 1,785.

Note: Estimates are for receipt of formal services during the week at six months after randomization.

\*Statistically significant at the 5 percent level.

\*\*Statistically significant at the 1 percent level.

member needed help) was next most prevalent, received by about one-fifth of the control group members.

The basic case management model significantly increased the proportions of members receiving the four most frequent types of care. The largest effect was on housework/laundry/shopping (11.5 percentage points); increases in the proportions receiving personal care and meal preparation were almost as large (8-10 percentage points). The financial control model had significant effects on more types of service and, invariably, these effects were larger. The largest increases were for the same types of services as under the basic case management

model—housework/laundry/shopping, personal care, meal preparation, and general supervision—but the magnitudes of the increases were two to three times as large. There also were significant increases under the financial control model in the proportion receiving therapy, other medical (nontherapy) treatments, help taking medicine, and help with chores.

#### AMOUNT OF SERVICES

Channeling's effects on the number of visits provided by visiting service providers is shown in Table 4. In the absence of channeling, visiting providers averaged between two and two-and-a-half visits a week at the basic case management sites, and between two-and-three-quarters and somewhat over three visits at the financial control sites. Channeling significantly increased the frequency of such visits under both models—by about half a visit under the basic model at 6 and 12 months (a 25 percent increase), and by more than two visits under the financial control model at 6 and 12 months (an 80 percent increase). The large increase in the average number of visits under the financial model arose not only because the proportion receiving any visits was increased but also because the average number of visits among those receiving them (not shown) was increased from about 4.0 to about 5.5 per week. In the basic sites the average number of visits per recipient was very similar for the treatment and control groups (3.9); channeling's effect on visits under the basic model was thus due solely to the increased proportion receiving services reported in Table 2.

Analysis of hours of in-home care provided by visiting formal providers (not shown) tells a similar story of substantial increases in the amount of care received. As discussed in Brown's article in this issue, some doubt exists about the extent of the increase in hours for the basic model at six months, because there were more heavy users of in-home care (three eight-hour shifts, seven days a week) among the control group than among the treatment group, leading to an estimated treatment/control difference in hours that is not statistically significant. If this difference signified that the basic model was able to reduce the amount of care among the heavy users for that period, it would be an important finding. However, the small number of heavy users on which the result is based (seven control group members and two treatment group members), together with the absence of a similar phenomenon in other time periods or under the financial model, suggests a chance occurrence rather than a real effect. Including these heavy users reduces the estimated treatment/control difference almost to zero. For

Table 4: Number of Visits per Week by Visiting Caregivers (to Those in Community)

	<i>Treatment Group Mean</i>	<i>Control Group Mean</i>	<i>Treatment/ Control Difference</i>
<i>Basic case management model</i>			
6 months	2.73	2.24	0.49**
12 months	2.73	2.17	0.56**
18 months	2.77	2.53	0.24
<i>Financial control model</i>			
6 months	4.85	2.70	2.15**
12 months	4.93	2.75	2.18**
18 months	5.26	3.15	2.11**

Source: Corson et al., 1986, Table III.7 and Table III.8.

Sample Sizes: basic model 1,630, 1,362, and 518 at 6, 12, and 18 months, respectively; financial model 1,785, 1,466, and 545.

Note: Estimates are for receipt of formal services during a week at 6, 12, and 18 months after randomization.

\*\*Statistically significant at the 1 percent level.

the other two time periods under the basic model and for all three periods under the financial model, the hours and visits estimates tell a similar story of increases in hours of formal care received.

The visit estimates provide a good indication of both the differences in the service environment in which the two models were tested—and the greater strength of the financial control model. Despite the greater proportion of controls receiving services in the financial sites, the effects on both the percent receiving services and the number of visits received was much greater for the financial control model than for the basic model in all time periods. Channeling's effect in the basic case management sites brought the number of visits received by the *treatment* group just about up to the *control*-group level in the financial sites at 6 and 12 months, although somewhat below that level at 18 months.

#### IMPLICATIONS FOR OTHER EFFECTS

It is clear from the control group means that channeling was tested in environments in which substantial services were already available. The estimates suggest that six out of ten control group members in the basic sites and seven out of ten in the financial sites were receiving some form of formal in-home care *without* channeling. That channeling was added to an environment already characterized by substantial formal

community service use may have reduced channeling's potential to have a major effect. As with the case management discussed in Phillips, Kemper, and Applebaum (this issue), this was true to a greater extent under the financial model than under the basic model.

## OTHER FORMAL COMMUNITY SERVICES

In addition to the impacts on formal in-home services, channeling was expected to affect the amounts of other formal community services used. Channeling effects on meals, transportation, and day care are shown in Table 5. The service environments of the two groups of sites were relatively similar with respect to these services, and the proportion receiving such services was much lower than for in-home care. About 20 percent of control group members received home-delivered meals in the week prior to each interview, while 7-10 percent received transportation services, and 2-4 percent adult day care. The pattern of treatment/control differences suggests that the basic model may have increased use of such services; but since only one of nine differences is statistically significant, the pattern cannot be confidently interpreted as indicating an effect; nor was the effect very large if it did exist. The financial model significantly increased the proportions receiving all three types of care, with some increases well over 60 percent for home-delivered meals.

Respite care and special-equipment assistance are of interest because they are not widely available under existing programs but could be purchased using channeling funds. The proportion of the control group under both models who received any type of respite care was quite low, under 5 percent at all time periods (see Table 6). This low use is consistent with the view that funding for respite care as defined here is generally unavailable under the existing system. Channeling's effect on receipt of respite care was significant under the basic case management model at six months, concentrated in the personal care and housekeeping services. There were no other significant effects on respite care under either model.

The proportion of sample members receiving special equipment (generally for use in bathing or toileting) more than doubled under the basic model in all time periods and significantly increased under the financial model during months 1-6 and 7-12. The larger effects on respite care and special equipment under the basic model are consistent with the difference in emphasis in allocation of direct services expenditures discussed earlier (see Table 1).

Table 5: Receipt of Home-delivered Meals, Transportation, and Day Care (Percent of Those in Community)

	<i>Treatment Group Mean</i>	<i>Control Group Mean</i>	<i>Treatment/ Control Difference</i>
<i>Home-delivered meals</i>			
<i>Basic case management model</i>			
6 months	22.3	18.4	3.9
12 months	25.2	21.8	3.4
18 months	25.4	24.2	1.2
<i>Financial control model</i>			
6 months	30.7	18.8	11.9**
12 months	31.3	21.0	10.3**
18 months	33.1	19.2	13.9**
<i>Transportation</i>			
<i>Basic case management model</i>			
6 months	6.1	6.7	-0.6
12 months	9.5	7.9	1.6
18 months	11.5	8.8	2.7
<i>Financial control model</i>			
6 months	15.5	8.9	6.6**
12 months	15.9	10.7	5.2**
18 months	13.9	10.4	3.5
<i>Adult Day Care</i>			
<i>Basic case management model</i>			
6 months	2.5	1.9	0.6
12 months	4.0	1.8	2.2*
18 months	6.2	3.3	2.9
<i>Financial control model</i>			
6 months	5.0	2.6	2.4**
12 months	4.8	2.7	2.1*
18 months	3.2	4.1	-0.9

Source: Corson et al., 1986, Table III.12 and Table III.13.

Sample Sizes: basic model 1,647, 1,377, and 520 at 6, 12, and 18 months, respectively; financial model 1,803, 1,475, and 546.

Note: Estimates are for receipt of formal services during a week at 6, 12, and 18 months after randomization.

\*Statistically significant at the 5 percent level.

\*\*Statistically significant at the 1 percent level.

Table 6: Receipt of Respite Care and Special Equipment  
(Percent of Those in Community)

	<i>Treatment Group Mean</i>	<i>Control Group Mean</i>	<i>Treatment/ Control Difference</i>
<i>Respite care</i>			
<i>Basic case management model</i>			
Months 1-6	4.9	2.8	2.1*
Months 7-12	3.1	2.4	0.7
Months 13-18	3.0	3.7	-0.7
<i>Financial control model</i>			
Months 1-6	4.1	3.2	0.9
Months 7-12	3.3	4.2	-0.9
Months 13-18	3.8	2.1	1.7
<i>Special Equipment</i>			
<i>Basic case management model</i>			
Months 1-6	16.8	6.6	10.2**
Months 7-12	10.3	3.3	7.0**
Months 13-18	6.4	1.4	5.0*
<i>Financial Control Model</i>			
Months 1-6	18.6	10.6	8.0**
Months 7-12	8.5	5.2	3.3*
Months 13-18	8.3	5.2	3.1

Source: Corson et al., 1986, Table III.14 and Table III.15.

Sample Sizes: basic model 1,647, 1,377, and 520 at 6, 12, and 18 months, respectively; financial model 1,803, 1,475, and 546.

\*Statistically significant at the 5 percent level.

\*\*Statistically significant at the 1 percent level.

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