

**The University of Kansas
School of Social Welfare
Office of Aging and Long Term Care**

**The Community Tenure Study:
Community Tenure Status of CARE Assessment
Customers 60 Months after Diversion**

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Table of Contents

Introduction.....	1
Purpose.....	1
Background and Rationale.....	1
Data Sources.....	2
Additional Data.....	3
Data Verification.....	3
Findings.....	4
Community Tenure Outcomes of Diverted Customers.....	4
State Publicly Funded Service Utilization by Diverted Customers.....	9
Comparison of Community Residents and Nursing Facility Residents.....	12
Implications.....	19
Conclusion.....	20
References.....	21
Appendix.....	22

Introduction

Purpose

This study presents the results from the on-going tracking of diverted customers (N=599) originally identified for The Diversion Study (2002). The Diversion Study was unique because it tracked the community tenure of older adults who had applied for nursing facility (NF) placement, received a Client Assessment, Referral, and Evaluation (CARE) Assessment¹ and were diverted (Chapin et al., 2002)². The diverted customers have been previously tracked for 36 months following their CARE Assessment. The goals of the current study are to:

- track the community tenure status of diverted customers for a total of 60 months after receiving the CARE Assessment;
- track the state publicly funded service utilization of diverted customers for a total of 60 months after receiving the CARE Assessment; and
- summarize the demographic and other differences between diverted customers who remained in the community and those who became permanent nursing facility residents.

Background and Rationale

The Community Tenure Study: Community Tenure Status of CARE Assessment Customers 60 Months after Diversion builds on the policy related questions, methodology, and findings from The Diversion Study (2002). The original 599 diverted customers are tracked for a fourth and fifth year in order to update their community tenure status. The results from both years are combined in this report since the fifth year findings encapsulate and confirm the fourth year findings.

When The Diversion Study was initiated, policy makers were unsure how long diverted customers would remain in the community. At the time, The Diversion Study was conceptualized and planned, the CARE Program tracked diverted customers at the 30th day following the CARE Assessment and up to 90 days after their diversion. The prevailing assumption was that because diverted customers had already applied for nursing facility admission through the CARE Program, diverted customers would not maintain community tenure for a long period; rather, they would eventually enter a nursing facility. Unexpectedly, many diverted customers did remain in the community much longer than the original tracking of diverted customers for 18 months.

¹ The Client Assessment, Referral, and Evaluation (CARE) Assessment gathers information about the person's potential need for specialized services, functional ability, available support systems, and recent problems and risks at the point they are applying for NF admission. It also provides the older adult with information regarding their LTC options. The CARE Program tracks diversion status of customers at the 30th and the 90th day.

² For a full list of pertinent references please refer to the extensive literature review contained in The Diversion Study report "*Longitudinal study of customers diverted through the CARE Program: Summary of policy findings*" (2002).

The interest in diversion and community tenure has gone beyond state policy makers and researchers in Kansas. In fact, no other research studies have measured the community tenure of older adults who have actually applied for nursing facility placement. Other state-level and national researchers studying the impact of state policy on community-based services urged Kansas researchers and policy makers to continue tracking these diverted customers. Therefore, older adults were tracked at 24 and 36 months. The previous community tenure findings are summarized in Table 1. Detailed results are available on our website at www.oaltc.ku.edu. As data have been updated over time some of the figures may differ slightly from previous reports.

Table 1
Summary of Community Tenure Status of Diverted
Customers at 12, 24, and 36 Months (N = 599)

Time Interval After the CARE Assessment	In the Community	Died While Living in Community	Permanent NF Resident	Died While Permanent NF Resident
12 months	347 (57.9%)	107 (17.9%)	120 (20.0%)	25 (4.2%)
24 months	241 (40.2%)	160 (26.7%)	128 (21.4%)	70 (11.7%)
36 months	187 (31.2%)	187 (31.2%)	107 (17.9%)	118 (19.7%)

Table 1 illustrates that 57.9% (347) of diverted customers were residing in the community at 12 months. At 24 months, 40.2% (241) of the diverted customers were still in the community. Not only were older adults remaining in the community for long periods of time, only 33.1% (198) of diverted customers became permanent NF residents by the 24th month. This trend continued up to the 36th month when only 37.6% (225) had become permanent NF residents and 31.2% (187) of diverted customers remained in the community.

Data Sources

In order to track diverted customers, several data sources were used. HIPPA guidelines were implemented and followed to protect the identity of diverted customers and only aggregate data are summarized in this report. The agencies that provided the data and the specific data sources are listed below.

- Kansas Department on Aging provided CARE Assessment, Senior Care Act, Medicaid Home and Community Based Services for the Frail Elderly, and Older Americans Act service data which were extracted from their KAMIS and MMIS data systems.
- Kansas Department of Health and Environment provided verification of death.
- The Center for Medicare and Medicaid Services provided MDS data in order to identify permanent NF admission information.

Additional Data

This report focuses on the community tenure outcomes of the diverted customers from the original sample (N=599). An appendix is included with this report that summarizes the differences between diverted and non-diverted CARE Assessment customers on several socio-demographic factors and physical and cognitive factors. The data in the appendix were originally reported in the Diversion Study Report (SFY2002). This information is provided again as a reference for the reader of this report

Data Verification

Our current methodology for tracking the community tenure of diverted customers is through the use of various databases (KDHE death records, MDS nursing facility records, KAMIS service records and MMIS service records) to determine whether the customer has died, is residing in a nursing facility or is receiving state publicly funded services including Medicaid HCBS/FE, Senior Care Act, or Older Americans Act services. Data on Medicare services were also utilized to identify customers receiving these services during the first two years of tracking. A few diverted customers could not be identified in any of the databases after the 30-Day CARE Assessment Follow-Up was completed. Through a process of elimination these customers were counted as residing in the community without services since they were not in a NF, dead, or receiving any state publicly funded services. There was a concern that this occurrence could possibly skew the community tenure tracking outcomes. These consumers may have moved out of state and therefore would not have shown up in our databases. In order to address this concern and verify the community tenure status of older adults in our sample we further examined each of the project databases to determine how many of the 599 diverted customers did not show up in any of the databases and had the potential of being miscategorized.

We found that there were only six diverted customers out of the original 599 who did not show up in any of the databases utilized for this study. There were 34 customers who were identified in one of the databases during the first year of tracking from their CARE Assessment but have not appeared in any of the databases since that time. In addition, eight customers were found in one of the databases within two years of their CARE Assessment but have not been found in any of the databases since that time. Based on this inspection, there are very few of the diverted customers who appear to be “lost” and potentially miscategorized in the community tenure residential outcomes.

Findings

This section provides an update on the status for the entire cohort (all four waves of diverted customers, N=599³) tracked over a 60-month period. It reports on:

- 1) **The community tenure status of diverted customers in 3-month intervals;**
- 2) **The state publicly funded service utilization of diverted customers in 3-month intervals; and**
- 3) **The demographic and other differences between diverted customers who maintained community tenure and those who became permanent nursing facility residents.**

Each component of this section begins with the policy-related questions that guided our analysis and the key findings summarized in bullets. This is followed by the detailed data and full analyses. This approach is helpful for drawing policy implications from our research.

Community Tenure Outcomes of Diverted Customers

The community tenure of diverted customers was examined based on this policy-related question: How many diverted customers have remained in the community 60 months after their CARE Assessment? The study examined how many customers:

- Resided in the community;
 - Became permanent NF residents;
 - Died subsequent to permanent NF admission; and
 - Died while residing in the community.
- **How many diverted customers have remained in the community 60 months after their CARE Assessment?**
- **108 (18%) diverted customers were still in the community 60 months after their CARE Assessment.**
 - **235 (39.2%) diverted customers died while residing in the community.**
 - **256 (42.8%) diverted customers became permanent NF residents or died subsequent to permanent NF admission.**
 - **The majority of the 599 diverted customers (343) did not become permanent NF residents within the 60 months following the CARE Assessment.**
 - **Of the 185 diverted customers still alive at the 60th month after the CARE Assessment, 58.4% were residing in the community and 41.6% were permanent NF**

³ There were 600 cases of diverted customers; however there were only 599 unduplicated diverted customers

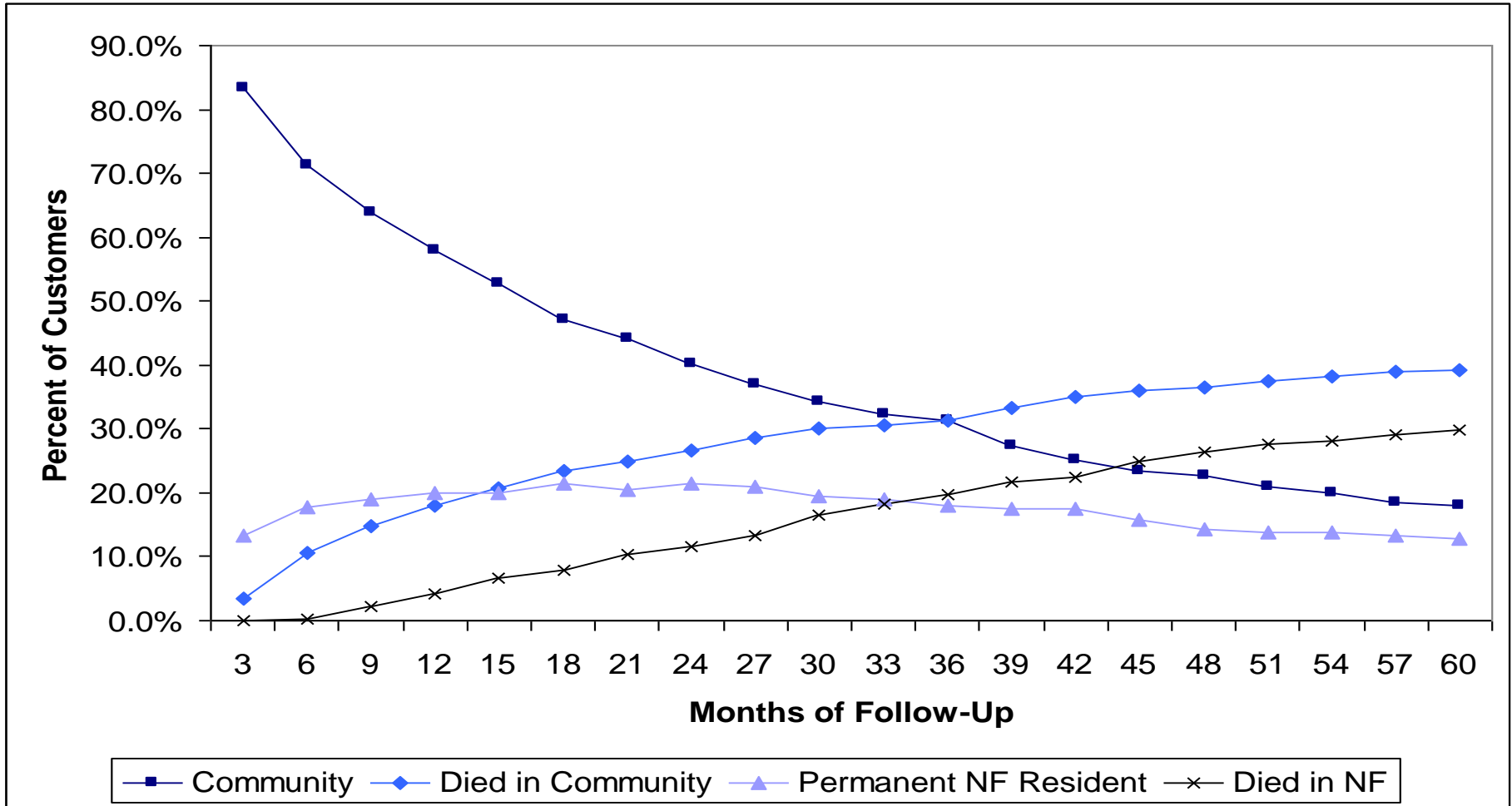
residents. Therefore, almost one and a half times (1.4 times) as many diverted NF applicants (108) were still living in the community 60 months after their CARE assessment than were permanently living in a nursing facility (77).

The community tenure status of diverted customers at three-month intervals after the CARE Assessment is presented in Table 2 below and in Chart 1.

**Table 2
Community Tenure Status of Diverted Customers Tracked
for 60 Months, Reported in Three-Month Intervals (N = 599)**

Time Interval After The CARE Assessment	In the Community	Permanent NF Resident	Died While Living in Community	Died While Permanent NF Resident
3 months	499 (83.3%)	80 (13.4%)	20 (3.3%)	0
6 months	427 (71.3%)	106 (17.7%)	64 (10.7%)	2 (0.3%)
9 months	382 (63.8%)	114 (19.0%)	89 (14.9%)	14 (2.3%)
12 months	347 (57.9%)	120 (20.0%)	107 (17.9%)	25 (4.2%)
15 months	316 (52.8%)	119 (19.9%)	124 (20.7%)	40 (6.7%)
18 months	283 (47.2%)	129 (21.5%)	140 (23.4%)	47 (7.8%)
21 months	264 (44.1%)	123 (20.5%)	150 (25%)	62 (10.4%)
24 months	241 (40.2%)	128 (21.4%)	160 (26.7%)	70 (11.7%)
27 months	221 (36.9%)	126 (21%)	172 (28.7%)	80 (13.4%)
30 months	205 (34.2%)	116 (19.4%)	180 (30.1%)	98 (16.4%)
33 months	194 (32.4%)	113 (18.9%)	183 (30.6%)	109 (18.2%)
36 months	187 (31.2%)	107 (17.9%)	187 (31.2%)	118 (19.7%)
39 months	165 (27.5%)	104 (17.4%)	200 (33.4%)	130 (21.7%)
42 months	151 (25.2%)	104 (17.4%)	209 (34.9%)	135 (22.5%)
45 months	140 (23.4%)	94 (15.7%)	216 (36.1%)	149 (24.9%)
48 months	136 (22.7%)	85 (14.2%)	219 (36.6%)	159 (26.5%)
51 months	126 (21%)	83 (13.9%)	225 (37.6%)	165 (27.5%)
54 months	119 (19.9%)	83 (13.9%)	228 (38.1%)	169 (28.2%)
57 months	111 (18.5%)	80 (13.4%)	233 (38.9%)	175 (29.2%)
60 months	108 (18%)	77 (12.9%)	235 (39.2%)	179 (29.9%)

Chart 1
Community Tenure Status of Diverted Customers Tracked for 60 Months,
Reported in 3-Month Intervals After the CARE Assessment (N = 599)



As Table 2 displays, 18% (108) of the diverted customers were still in the community 60 months after their CARE Assessment. In addition, only 12.9% (77) of diverted customers were residing in a NF at the 60th month, and 69.1% (414) of the original diverted customers had died (179+235). By the end of the 60 months of tracking a greater proportion of the original 599 diverted older adults maintained community residence (343) compared to permanently entering a nursing facility (256). This is particularly noteworthy considering that 366 (61%) of the diverted customers had a short NF stay after the CARE Assessment, and had returned to the community by the 30-day CARE Assessment Follow-Up. This confirms findings from The Diversion Study that older adults are using nursing facilities for short stays and do in fact return to successful community living without becoming a permanent nursing facility resident. We found in interviews of customers reported in our 2003 study “*Examination of the use of Medicare home health services and informal caregiving and their relationship to successful community tenure*” that they were able to resume community tenure when they knew about services.

From the ninth month through the twenty-seventh month after the CARE Assessment, the proportion of permanent NF residents in the study remained at approximately 20%. New admissions were being balanced by deaths of previously diverted customers who had been permanently admitted to a NF and subsequently died. From the 30th month to the 36th month after the CARE Assessment, the proportion of permanent NF residents decreased to 17.9% (107). At the 36th month, the percent of permanent NF residents who died (19.7%) was greater than the percent of permanent NF residents who were still living (17.9%). This trend continued to the 60th month after the CARE Assessment. Overall, by the 60th month after the CARE Assessment, nearly 43% (256) of the diverted customers had become permanent nursing facility residents.

The rate of death of diverted customers residing in the community increased steadily through the 24th month. Beginning with the 27th month and through the 60th month, the rate of deaths slowed down. By the 60th month after the CARE Assessment, 39.2% (235) of diverted customers had died while residing in the community. In addition, the majority (343) of the 599 diverted customers maintained community tenure without permanently entering a NF.

In order to supplement the information on overall community tenure status presented in Table 2, the next table illustrates the community tenure status of diverted customers who are still living. Table 3 displays the community tenure status of all living diverted customers at 3-month intervals after the CARE Assessment.

Table 3
Community Tenure Status of Living Diverted Customers
Tracked for 60 Months, Reported in 3-Month Intervals (N=599)

Time interval after the CARE Assessment	In the Community	Permanent NF resident	Living Diverted Customers
3 months	499 (86.2%)	80 (13.8%)	579
6 months	427 (80.1%)	106 (19.9%)	533
9 months	382 (77.0%)	114 (23.0%)	496
12 months	347 (74.3%)	120 (25.7%)	467
15 months	316 (72.6%)	119 (27.4%)	435
18 months	283 (68.7%)	129 (31.3%)	412
21 months	264 (68.2%)	123 (31.8%)	387
24 months	241 (65.3%)	128 (34.7%)	369
27 months	221 (63.7%)	126 (36.3%)	347
30 months	205 (63.9%)	116 (36.1%)	321
33 months	194 (63.2%)	113 (36.8%)	307
36 months	187 (63.6%)	107 (36.4%)	294
39 months	165 (61.3%)	104 (38.7%)	269
42 months	151 (59.2%)	104 (40.8%)	255
45 months	140 (59.8%)	94 (40.2%)	234
48 months	136 (61.5%)	85 (38.5%)	221
51 months	126 (60.3%)	83 (39.7%)	209
54 months	119 (58.9%)	83 (41.1%)	202
57 months	111 (58.1%)	80 (41.9%)	191
60 months	108 (58.4%)	77 (41.6%)	185

Table 3 shows that by the time tracking ended after 60 months, 30.9% (185) of the diverted sample (599) were still alive. Approximately 1.4 times as many diverted NF applicants (108) were still living in the community 60 months after their assessment than were permanently living in a NF (77). During the sixty months of tracking there was always a higher proportion of the diverted customers residing in the community than permanently residing in a nursing facility.

Throughout the 60 months of tracking, at least 58% of living diverted customers were residing in the community and no more than 42% were permanently residing in the nursing facility at any time. Considering that all of the diverted customers had in fact applied for nursing facility placement and more than 60% had a short NF stay following their CARE Assessment this finding is notable. As part of the community tenure analysis, we also tracked service utilization by diverted customers at 3-month intervals.

State Publicly Funded Service (SPFS) Utilization by Diverted Customers

This analysis was based on the policy-related question: How many diverted customers utilized state publicly funded services (SPFS) during the 60 months after their CARE Assessment? SPFS are defined services provided using the following service funding sources:

- Medicaid Home and Community-Based Service for the Frail Elderly (HCBS/FE) and Targeted Case Management (TCM);⁴
- State General Fund (SGF) services (including Senior Care Act services); and/or
- Older Americans Act (OAA) services.

➤ **How many diverted customers utilized state publicly funded services during the 60 months after their CARE Assessment?**

- At the end of the 60 months of tracking 28 (25.9%) of the diverted customers residing in the community were utilizing SPFS.
- The highest proportion of diverted customers utilizing SPFS occurred 3 months after the CARE Assessment when 31.4% of the diverted customers residing in the community were utilizing SPFS. The majority of diverted customers living in the community at each 3-month interval did not utilize SPFS.
- Overall, 262 diverted customers received some type of SPFS during the 60 months of tracking. None of the diverted customers received SPFS continuously during the 60 months of tracking.

Diverted customers utilization of SPFS in 3-month increments is displayed in Table 4. Please note that “Non Medicaid or SGF services” includes Medicare Home Health services, medical insurance, veterans’ benefits, private pay services, as well as people not receiving services. Diverted customers could begin and discontinue services at any time after the CARE Assessment. Based on the definition of diversion, all diverted customers were residing in community settings with services or were living in board-and-care facilities when the 30-day follow-up contact was made. However, many of the diverted older adults utilized state publicly funded services for only a short time period but continued to reside in the community. Chart 2 presents the service utilization patterns of diverted older adults.

⁴ In this report, Case Management funded as a Medicaid Administrative cost (MedAdmin) is included in TCM. All HCBS/FE customers receive TCM.

Table 4
Community Tenure Status of Living Diverted Customers
at Three Month Intervals and by Funding Source ^a (N=599)

Time Interval after the CARE Assessment	Medicaid HCBS/FE & TCM ^b	SGF and/or OAA	Non Medicaid or SGF services ^c	Number of Diverted Customers in the Community
3 months	84 (16.8%)	73 (14.6%)	342 (68.5%)	499
6 months	70 (16.4%)	46 (10.8%)	311 (72.8%)	427
9 months	67 (17.5%)	42 (11%)	273 (71.5%)	382
12 months	41 (11.8%)	42 (12.1%)	264 (76.1%)	347
15 months	36 (11.4%)	38 (12%)	242 (76.6%)	316
18 months	31 (11%)	38 (13.4%)	214 (75.6%)	283
21 months	31 (11.7%)	21 (8%)	212 (80.3%)	264
24 months	28 (11.6%)	23 (9.5%)	190 (78.8%)	241
27 months	28 (12.7%)	15 (6.8%)	178 (80.5%)	221
30 months	25 (12.2%)	16 (7.8%)	164 (80.0%)	205
33 months	24 (12.4%)	13 (6.7%)	157 (80.9%)	194
36 months	22 (11.8%)	11 (5.9%)	154 (82.4%)	187
39 months	13 (7.9%)	6 (3.6%)	146 (88.5%)	165
42 months	14 (9.3%)	13 (8.6%)	124 (82.1%)	151
45 months	16 (11.4%)	13 (9.3%)	111 (79.3%)	140
48 months	15 (11%)	14 (10.3%)	107 (78.7%)	136
51 months	16 (12.7%)	12 (9.5%)	98 (77.8%)	126
54 months	13 (10.9%)	15 (12.6%)	91 (76.5%)	119
57 months	16 (14.4%)	12 (10.8%)	83 (74.8%)	111
60 months	15 (13.9%)	13 (12%)	80 (74.1%)	108

^a All categories are mutually exclusive.

^b Diverted customers who received both Medicaid HCBS/FE and SGF and/or OAA were categorized as Medicaid HCBS/FE customers.

^c Non Medicaid or SGF services includes people receiving Medicare Home Health services, medical insurance, veterans' benefits, private pay services or no services.

Chart 2
Community Tenure Status of Diverted Customers at
Three Month Intervals by Funding Source (N = 599)

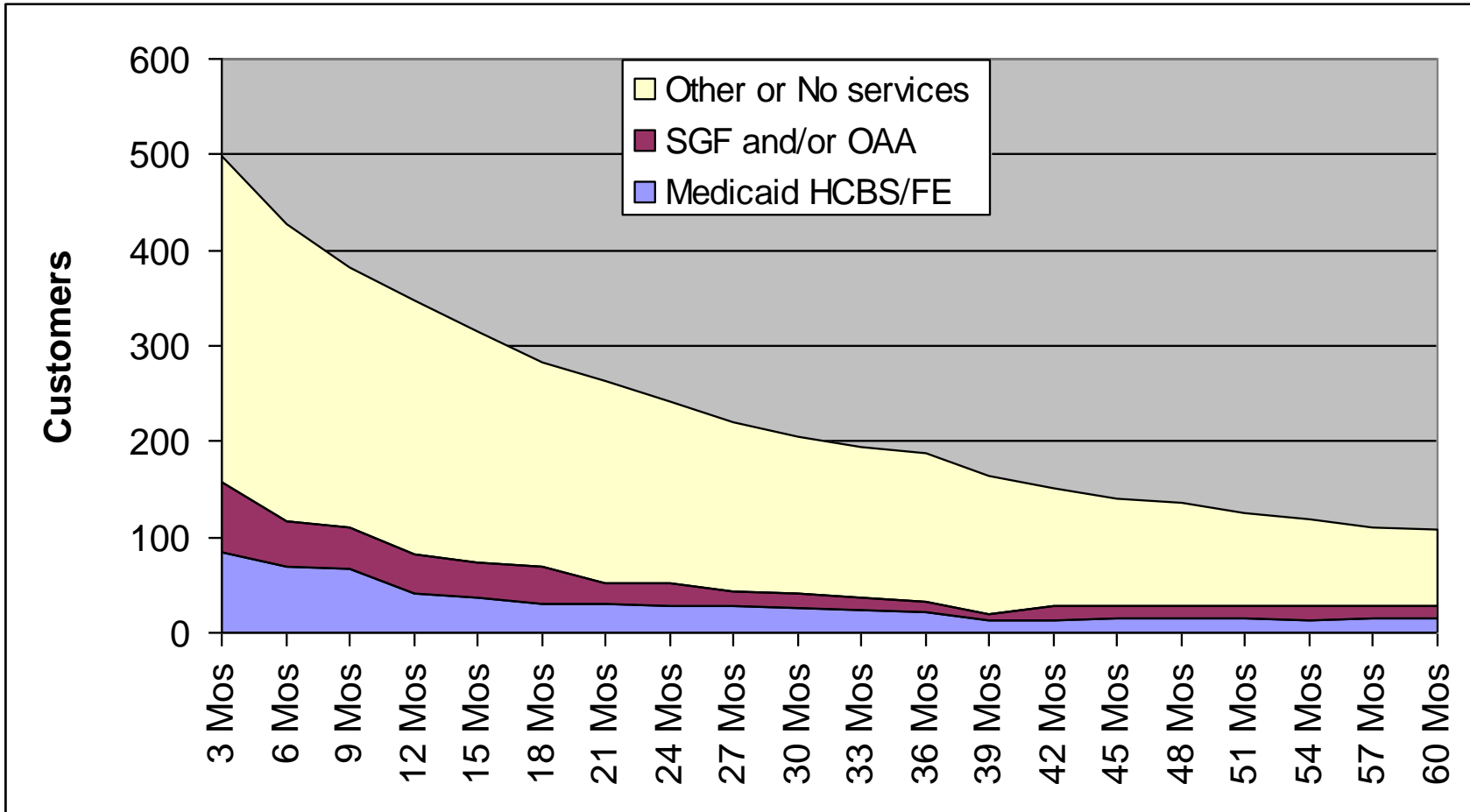


Table 4 and Chart 2 illustrate that 157 (31.4%) diverted customers received some type of SPFS three months after their CARE Assessment. Of the diverted customers still in the community 24 months after the CARE Assessment, 51 (21.1%) were receiving some type of SPFS. By the 36th month after the CARE Assessment, 33 (17.7%) of the diverted customers received HCBS/FE or SGF and/or OAA services. At the end of 60 months 28 (25.9%) of diverted customers still residing in the community were receiving SPFS services. These figures also show that, in general, diverted customers receive services from the major public long-term care funding sources shortly after their diversion but large numbers of diverted customers do not continue to receive these services throughout the 60 months. In other words, these findings suggest that the customer's need for these services, based on the event that precipitated the CARE Assessment, is limited and once they receive them and their condition stabilizes, they are able to remain in the community without continuously utilizing state funded services. In fact, we determined that none of the diverted customers received Medicaid HCBS/FE, SGF or OAA services continuously from the point of the 30-day CARE Assessment Follow-Up to the 60th month after the CARE assessment.

This study presents the final time period for which the original diverted cohort was tracked. In addition to tracking the cohort for five years, other analyses were also conducted to determine demographic (and other) differences between customers who maintained community tenure compared to those who became permanent nursing facility residents. The following section presents the findings from these additional analyses.

Comparison of Diverted Customers Who Maintained Community Tenure and Those Who Became Permanent Nursing Facility Residents

These analyses address the question: What characteristics may explain the difference between the diverted customers who were able to maintain community tenure and those who became permanent NF residents? Two groups are compared:

- Diverted customers who were residing in the community or died in the community by the 60th month of tracking (referred to as community residents); and
- Diverted customers who were residing in an NF or died following a permanent NF admission by the 60th month of tracking (referred to as NF residents).

This section is organized around the Andersen Social-Behavioral Model of Health Care Use, the conceptual framework that helped guide this segment of our research. The Andersen Model separates risk factors of permanent nursing home utilization into predisposing, enabling, and need factors. Please refer to *The Diversion Study (2002)* for further explanation of the Andersen Model. Comparisons between community residents and permanent NF residents are explored based on these factors. Chi-square tests were used to determine if the differences between the two groups were statistically significant. Please note that the demographic and other descriptive data were gathered in most instances at the time of the CARE Assessment.

What characteristics help explain the difference between diverted customers who were able to maintain community tenure and those who became permanent NF residents at the end of the 60 months of tracking?

- A higher percentage of women (45.5%) than men (36.8%) became permanent nursing facility residents.
- Diverted customers who were identified as potentially low-income at the time of the CARE Assessment were more likely to become permanent NF residents than those who were not.
- Higher rates of diverted older adults who utilized SPFS, including Medicaid HCBS/FE services, maintained community residency suggesting these services play a key role in successful community tenure.
- Diverted customers who maintained community tenure had, on average, higher LTC threshold scores at the time of the CARE Assessment suggesting that older adults with high levels of need are able to avoid permanent nursing facility placement.
- Age, rural or urban residence, living alone, residing in assisted living, and support availability did not explain the difference in who remained in the community and who became a permanent nursing facility resident. Diverted customers representing a wide range of each of these characteristics were able to avoid permanent nursing facility placement. This suggests that a high number of diverted older adults have the potential to maintain community tenure and avoid permanent nursing facility placement.

Predisposing Factors

The differences in predisposing factors between community residents and permanent nursing facility residents are displayed in Table 5.

Table 5
Comparison of Diverted Customers at Time of the CARE Assessment by Community Tenure Status at 60 Months on Four Predisposing Factors: Age, Gender, Urban/Rural, and Lives Alone (N=599)

Predisposing Factors	Community Resident (n = 343)	Permanent NF Resident (n = 256)
	Number (%)	Number (%)
Age (Mean)	83.16	83.49
Gender*		
Female (n=409)	223 (54.5%)	186 (45.5%)
Male (n=190)	120 (63.2%)	70 (36.8%)
Urban/Rural Classification**		
Urban Counties (n=236)	141 (59.7%)	95 (40.3%)
Rural Counties: Adjacent to an urban area (n=168)	95 (56.5%)	73 (43.5%)
Rural Counties: NOT adjacent to an urban area (n=191)	105 (55%)	86 (45%)
Lives alone		
Yes (n=299)	164 (54.8%)	135 (45.2%)
No (n=299)	178 (59.5%)	121 (40.5%)

*Statistically significant at $p < 0.05$

**The urban/rural classification is based on the 1993 Urban Influence Codes. This previous version of the Urban Influence Codes was used for consistency with The Diversion Study.

Age The mean age reported in Table 5 for diverted customers based on their community tenure status was 83 for both groups. This suggests that age is not a primary factor in determining who can remain in the community following the CARE Assessment.

Gender A higher percent of women (45.5%) than men (36.8%) became permanent nursing facility residents. Chi-square analysis was conducted to determine if there was a relationship between gender and community tenure status for diverted customers 60 months after the CARE Assessment. The two variables are significantly related, $p = .047$, in that women are more likely to become permanent NF residents. Additional research is needed to further explore the finding that a higher percentage of women in this sample became permanent residents in nursing facilities. For example, this finding could be due to interactions between gender and the older age of women in this sample, to marital status, or to other factors.

Urban Rural Status The data show that a greater proportion of diverted customers living in urban areas (59.7%) remained a community resident than either of the rural groups. However,

these differences were not significant. The trends suggest that geographic location was not predictive of community tenure status.

Living Alone A slightly higher proportion of those who lived alone at the time of the initial assessment became permanent nursing facility residents (45.2%) at the end of the 60 months of tracking than those who lived with someone (40.5%). Chi-square analysis was used to determine if there was a relationship between living alone or with someone else and community tenure status at 60 months. The association was not statistically significant, $p > .05$.

Findings from The Diversion Study help to explain this finding. The OALTC staff conducted interviews with diverted customers and/or their caregivers and found that most of diverted customers we interviewed who lived alone had daily informal contact and support from family. This suggests that living alone does not mean the diverted customer is socially isolated as well as suggesting that family plays an important role in assisting diverted customers to remain in the community.

Because it was found that a higher percent of women than men were permanent NF residents but that living alone or with someone overall does not predict community tenure status, a separate analysis based on gender and whether the diverted customers lived alone was completed. A regression analysis was conducted to determine if there was a relationship between gender, living alone or with someone, and community tenure status after 60 months. The results were not significant. The interaction between gender and living status does not explain why a higher percentage of women than men become permanent NF residents. Additional research is need to understand these dynamics.

Enabling Factors

The differences in enabling factors between community residents and permanent nursing facility residents are displayed in Table 6.

Table 6
Comparison of Diverted Customers at Time of the CARE Assessment by Community Tenure Status at 60 Months on Enabling Factors: Support Availability and Financial Status and Receipt of Medicaid during 60 Month Follow-Up (N=599)

Enabling Factors	Community Resident (n = 343)	Permanent NF Resident (n = 256)
	Number (%)	Number (%)
Support Availability		
Full time (n=200)	126 (63.0%)	74 (37.0%)
Part time- routine (n=140)	74 (52.9%)	66 (47.1%)
Part time- intermittent (n=149)	81 (54.4%)	68 (45.6%)
Not available (n=107)	60 (56.1%)	47 (43.9%)
Medicaid as Potential Payer Source*		
Yes (n=125)	59 (47.2%)	66 (52.8%)
No (n=474)	284 (59.9%)	190 (40.1%)
Received Medicaid HCBS/FE During 60 Months		
Yes (n=122)	75 (61.5%)	47 (38.5%)
No (n=477)	268 (56.2%)	209 (43.8%)

*Statistically significant at $p < 0.05$

Support Availability The data suggest that a higher percent of diverted with full-time caregivers at the time of the CARE assessment resided in the community or have died in the community at 60 months (63.0%) than the other groups, but these results were not statistically significant. These data suggest that diverted customers are able to remain living in the community even without a supportive caregiver. However because of the low numbers in the subgroups, further research is needed before drawing this conclusion.

Medicaid as Potential Payer Source A higher percent of diverted customers who were identified as potentially low income (those who said Medicaid was a potential payment source for LTC services at the CARE Assessment) became permanent NF residents by the 60th month (52.8%) than those who were not identified as potentially low income (40.1%). Doing a chi-square analysis indicated that being identified as potentially low income at the time of the CARE Assessment was associated with becoming a permanent NF resident.

Received Medicaid HCBS/FE In addition to examining the differences in community tenure outcomes by diverted customers who were identified as potentially low-income, we also analyzed the differences based on diverted customers receiving Medicaid HCBS/FE services since being low-income is a requirement for eligibility. Although a higher percentage of older adults who used Medicaid HCBS/FE services remained in the community compared to those who did not use these services, the results were not statistically significant perhaps due to the low number of people who received services (n=122).

Based on these findings in comparison to the previous findings, the data suggest that there is a difference between being identified as a potential Medicaid recipient and actually being a Medicaid recipient. Potentially low income older adults (as identified using the proxy) had an increased chance of becoming a permanent NF resident whereas those who received Medicaid HCBS/FE services were more likely to remain living the community

Need Factors

The differences in need factors between community residents and permanent nursing facility residents are displayed in Table 7.

Table 7
Comparison of Diverted Customers’ Mean LTC Threshold Score at the Time of the CARE Assessment by Community Tenure Status at 60 Months (N=595)

Need Factors	Community Resident or Died in Community (n = 343)	Permanent NF Resident or Died Subsequent to Permanent NF Placement (n = 252)
Mean LTC Threshold Score	67.44	63.62

*Statistically significant at $p < 0.05$

LTC Threshold Scores The mean LTC Threshold score reported in The Diversion Study (2002) for all diverted customers at the time of the CARE Assessment was 66. After 60 months of tracking, diverted customers who were either residing in the community or died while residing in the community had a mean LTC Threshold score of 67.44. Diverted customers who were permanent nursing facility residents or died after a permanent NF admission had a mean LTC score of 63.62. Using linear regression to predict community or NF residence from LTC Thresholds scores, these differences are statistically significant, $F = 4.97, p = .026$. Older adults who maintained community residency had higher LTC Threshold scores at the time of the CARE Assessment than permanent NF residents. This suggests that diverted customers with high LTC scores can remain in the community until their death. Because we only have a measure of the LTC threshold score at the time of the CARE Assessment we are unable to examine this unexpected finding in more detail. More research into this finding is warranted.

Service Use

The differences service utilization between community residents and permanent nursing facility residents are displayed in Table 8.

Table 8
Comparison of Diverted Customers by Community Tenure Status at 60 Months on Service Use: Residing in Assisted Living at Time of CARE 30-Day Follow-Up, Receipt of SPFS during 60 Month Follow-Up (N=599)

Service Use	Community Resident (n = 343)	Permanent NF Resident (n = 256)
	Number (%)	Number (%)
Assisted Living at CARE 30-Day		
Yes (n=106)	60 (56.6%)	46 (43.4%)
No (n=493)	283 (57.4%)	210 (42.6%)
Received SPFS During 60 Months		
Yes (n=262)	158 (60.3%)	104 (39.7%)
No (n=337)	185 (54.9%)	152 (45.1%)

Assisted Living Utilization Findings regarding community tenure status at 60 months for diverted customers were similar based on whether the customer was in assisted living at the 30-day CARE Assessment Follow-Up or not, and statistical tests were not significant. Residing in AL did not appear to make a difference in who avoided permanent nursing facility placement.

State Publicly Funded Service Utilization A higher percentage of diverted customers who received SPFS resided or died in the community at 60 months (60.3%) compared to those who did not receive SPFS (54.9%). However, this finding was not statistically significant.

Implications

This section provides a summary of key policy findings and implications for policy makers based on the 60 months of tracking diverted customers following their CARE Assessment. We have identified key elements that impact community tenure that could be addressed by policymakers. These findings and implications are based on the quantitative data collection and analyses conducted for this report.

➤ **Diverted customers are able to maintain community tenure for long periods of time.**

After 60 months of follow-up, 18% (n=108) of the diverted customers remained in the community. The assumption that the majority of customers would eventually permanently enter NF continues to be unproven at 60 months. Because so many of the customers are unexpectedly alive and residing in the community, we do not know if they will ultimately become permanent NF residents. However, we do know that at 60 months most initially diverted CARE customers had still not become permanent nursing facility residents.

➤ **A high proportion of diverted customers are able to avoid permanent nursing facility placement.**

The majority of diverted customers lost community tenure due to death (while residing in the community) as opposed to permanent nursing facility placement. In fact, 39.2% of the diverted customers died without becoming a permanent nursing facility resident. Of the 599 diverted customers, 343 have avoided becoming a permanent nursing facility resident. This is particularly impressive since all of the diverted older adults had applied for NF placement and many did have short-term NF stays.

➤ **State publicly funded services are utilized in an intermittent manner most likely during times of increased need and play an important role in helping diverted customers avoid permanent nursing facility placement.**

The data from this study illustrate the fact that diverted customers do not remain on SPFS indefinitely, rather they likely use SPFS during times of increased long term care needs, such as when they applied for NF admission following a hospitalization. Higher rates of diverted older adults who utilized SPFS, including Medicaid HCBS/FE services, avoided permanent nursing facility placement, suggesting that these services play a key role in successful community tenure and also help reduce long term care costs for the state. If these older adults would have entered a nursing facility permanently it is likely they would become Medicaid eligible and, therefore, cost more to the State to support.

➤ **Additional efforts are needed to help women and low-income older adults avoid permanent nursing facility placement.**

Women in our sample were more likely than men to become a permanent nursing facility resident, regardless of whether they lived alone or with others. In addition, diverted customers who were identified as potentially low-income at the time of the CARE Assessment were more

likely to become permanent NF residents than those who were not. Further research is needed into specific reasons these two groups are at an increased risk of losing community tenure. These findings underscore the need for additional efforts to target women and low-income elders with support/services to help them maintain community tenure.

- **Advanced age, living alone, rural location, and caregiver support availability do not distinguish customers who can remain a community resident from those who become permanent nursing facility residents.**

Diverted customers who maintained community tenure and those who permanently entered a nursing facility were quite similar on a number of characteristics which suggests the potential for even greater numbers of diverted older adults to reside in the community. Interestingly, diverted customers who maintained community tenure had, on average, higher LTC threshold scores at the time of the CARE Assessment suggesting that older adults with high levels of need are able to avoid permanent nursing facility placement. These findings highlight the importance of continuing diversion efforts with all older adults applying for nursing facility placement.

Conclusion

Because there are no other studies that have identified and tracked a cohort of nursing facility applicants for five years to identify residential outcomes, the methods and results from this study have been recognized nationally. The methods employed in this study offer a replicable way to measure and analyze diversion and community tenure. This work can inform similar research in other states and make possible meaningful state-to-state comparisons. The findings from this study continue to show that the majority of older adults in our sample were able to maintain community tenure following an application for nursing facility placement. In addition, the unexpectedly high rates of successful community tenure have been realized without intensive use of state publicly funded services. This finding suggests that preferences of older adults to remain in the community can be honored in a manner that is also cost effective for states. The similarities between older adults who maintained community residency and those who became permanent nursing facility residents suggest that many additional older adults may successfully maintain community tenure given timely access to services. Additional efforts to divert and support older adults in their desire to live in the community, particularly women and low-income older adults, could be fruitful and offer substantial cost savings to the state.

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Appendix

The information provided in this appendix is a summary of findings from the *Longitudinal Study of Customers Diverted through the CARE Program: Summary of Key Policy Findings (2002)*. Also referred to as *The Diversion Study*, this study compared older adults who were admitted to nursing facilities to older adults who were diverted as of the 30th day after the CARE Assessment. The purpose of that study was to identify similarities and significant differences between the diverted and non-diverted groups of customers. Diverted and non-diverted customers were compared on demographics, levels of functioning, problems and risks, potential payor status and legal representation. This information is provided as a reference for the reader of this report.

Among the diverted and non-diverted groups, Table 1A displays the distribution of age, gender, urban/rural, and whether the person lived alone. Those findings are presented in the table below.

Table 1A
Distribution of Diverted and Non-Diverted Customers on Four Predisposing Factors:
Age, Gender, Urban/Rural and Lives Alone (N=2,882)

Predisposing Factors	Diverted (N=600)		Non-diverted (N=2,282)	
	Number	(%)	Number	(%)
Age (years) ^a				
Under 65	9	1.5%	41	1.8%
65 to 74	85	14.2%	271	11.9%
75 to 84	216	36.0%	879	38.6%
85 & older	290	48.3%	1,089	47.8%
Gender ^a				
Male	190	31.7%	766	33.6%
Female	410	68.3%	1,512	66.4%
Urban/Rural Classification ^a				
Urban Counties:				
Central county with 1,000,000 in population or more	76	12.8%	314	14.1%
Fringe county with 1,000,000 in population or more	5	0.8%	51	2.3%
County with 250,000 to 1,000,000 in population	103	17.3%	480	21.6%
County with fewer than 250,000 in population	55	9.2%	156	7.0%
Rural Counties:				
<i>Adjacent to a urban area</i>				
With urban population of 20,000 or more	55	9.2%	181	8.1%
With urban population of 2,500-19,999	44	7.4%	161	7.2%
Completely rural or less than 2,500 urban population	10	1.7%	13	0.6%
<i>NOT adjacent to an urban area</i>				
With urban population of 20,000 or more	64	10.7%	199	9.0%
With urban population of 2,500-19,999	115	19.3%	426	19.2%
Completely rural or less than 2,500 urban population	69	11.6%	241	10.8%
Lives alone ^a				
Yes	299	49.8%	975	42.7%
No	300	50.0%	1,303	57.1%

^aThese do not total the “N” because of missing values.

Table 1A shows that age was similarly distributed for both groups. Approximately 85% of all customers, diverted and non-diverted, were age 75 and older. Diverted and non-diverted customers were similarly distributed in terms of age with those age 85 and older making up the largest segment. Diverted and non-diverted customers were similarly distributed in terms of gender; two-thirds of both groups were female.

The diverted and non-diverted customers were also similarly distributed over the ten urban/rural levels of the county classification system. The two county designations with the largest percent

of the sample were customers from urban counties of 250,000 to 1,000,000 (17.3% of the diverted and 21.6% of the non-diverted) and rural counties of 2,500 to 19,999 (19%) followed by urban areas of 1,000,000 or larger (12.8% to 14.1%). Among diverted customers, approximately half lived alone and half with others. A larger proportion of diverted customers lived alone compared to non-diverted customers (49.8% and 42.7% respectively).

Table 2A displays the distribution of diverted and non-diverted customers on support availability, location of CARE Assessment, three potential payment sources for support services, and three financial and legal characteristics.

Table 2A
Distribution of Diverted and Non-Diverted Customers on Enabling Factors:
Support Availability, Location of CARE Assessment, and Financial & Legal Status
(N=2,882)

Enabling Factors	Diverted (N=600)		Non-diverted (N=2,282)	
	Number	Percent	Number	Percent
Support Availability ^a				
Full time	201	33.7%	803	35.2%
Part time- routine	139	23.3%	480	21.1%
Part time- intermittent	150	25.1%	516	22.6%
Not available	107	17.9%	481	21.1%
Location of CARE Assessment ^a				
Home	155	28.5%	503	23.7%
Nursing Facility	66	12.1%	300	14.1%
Hospital	323	59.4%	1,320	62.2%
Financial & legal variables				
<i>Potential pay status</i>				
Self-pay				
Yes	394	65.7%	1,381	60.5%
No	206	34.3%	901	39.5%
Medicaid				
Yes	106	17.7%	530	23.2%
No	494	82.3%	1,752	76.8%
Medicare				
Yes	532	88.7%	1,986	87.0%
No	68	11.3%	296	13.0%
<i>Legal & financial representative</i>				
Self				
Yes	309	51.5%	895	39.2%
No	291	48.5%	1,387	60.8%
Son/daughter/other relative				
Yes	317	52.8%	1,395	61.1%
No	283	47.2%	887	38.9%
Durable Power of Attorney				
Yes	169	28.2%	737	32.3%
No	431	71.8%	1,545	67.7%

^a These do not total the "N" due to missing values.

Table 2A reports that one-third of diverted and non-diverted customers had full-time support available. Support availability was similarly distributed for both diverted and non-diverted customers. Location of the CARE Assessment was also similarly distributed between the

diverted and non-diverted customers. A larger proportion of CARE Assessments, approximately 60% for both groups, was conducted while the customer was in the hospital.

Three potential sources of payment for support services were examined, showing approximately two-thirds (65.7% for diverted and 60.5% for non-diverted) of both groups with self-pay as the potential source of payment. Also, less than 25% indicated Medicaid as a potential payor source, and over 85% indicated Medicare. It is noteworthy that a slightly higher proportion of non-diverted customers indicated Medicaid as a potential payment source (23.2% compared to 17.7%).

Diverted customers were more likely to have been responsible for their own legal and financial affairs than non-diverted customers. Non-diverted customers were more likely to have a son or daughter responsible for legal and financial affairs. This suggests that managing one’s own legal and financial affairs is indicative of individuals who function more independently and are able to remain in their own home.

Tables 3A through 6A compare the frequency distribution of the diverted and non-diverted groups on characteristics of activities of daily living (ADL), instrumental activities of daily living (IADL), bladder incontinence, memory/recall capacity, and problems and risks. Table 3A reports the comparison of six specific ADLs for diverted and non-diverted customers.

Table 3A
Distribution of Diverted and Non-Diverted
Customers on Need Factors: ADLs (N=2,882)

Diverted (N=600)				
ADL	Independent	Supervision Needed	Physical Assistance Needed	Unable to Perform
Bathing	7.2%	11.7%	72.0%	9.2%
Dressing	17.3%	17.0%	58.8%	6.8%
Toileting	24.8%	18.0%	50.5%	6.7%
Transfer	23.2%	21.7%	47.8%	7.3%
Walking, mobility	17.3%	25.3%	51.0%	6.3%
Eating	58.7%	24.7%	14.8%	1.8%
Non-Diverted (N=2,282)				
ADL	Independent	Supervision Needed	Physical Assistance Needed	Unable to Perform
Bathing	3.1%	11.3%	69.8%	15.8%
Dressing	9.6%	15.7%	61.5%	13.2%
Toileting	17.8%	14.8%	56.7%	10.7%
Transfer	16.6%	18.1%	55.1%	10.2%
Walking, mobility	13.5%	21.0%	51.6%	13.8%
Eating	44.1%	31.4%	20.5%	4.0%

Table 3A shows that overall, diverted customers were more independent in ADL function compared to non-diverted customers. This is illustrated also by the fact that more non-diverted customers were unable to perform ADLs.

Table 4A reports the comparison of seven specific IADLs for diverted and non-diverted customers.

Table 4A
Distribution of Diverted and Non-Diverted
Customers on Need Factors: IADLs (N=2,882)

Diverted (N=600)				
IADL	Independent	Supervision Needed	Physical Assistance Needed	Unable to Perform
Meal preparation	3.7%	3.2%	31.2%	62.0%
Shopping	1.8%	2.8%	30.7%	64.7%
Money management	18.5%	11.5%	27.9%	42.1%
Transportation	4.0%	9.7%	54.3%	32.0%
Telephone	50.4%	20.5%	16.9%	12.2%
Laundry/housekeeping	2.7%	2.3%	26.3%	68.7%
Medication management	13.2%	16.0%	37.8%	33.0%
Non-Diverted (N=2,282)				
IADL	Independent	Supervision Needed	Physical Assistance Needed	Unable to Perform
Meal preparation	1.6%	3.0%	24.2%	71.2%
Shopping	1.0%	2.5%	23.5%	73.1%
Money management	9.0%	10.6%	28.9%	51.5%
Transportation	1.6%	8.1%	55.2%	35.0%
Telephone	32.9%	21.8%	27.1%	18.1%
Laundry/housekeeping	1.3%	1.7%	22.2%	74.9%
Medication management	4.6%	13.6%	38.0%	43.9%

Table 4A shows that overall, diverted customers were more independent in IADL function compared to non-diverted customers. This is illustrated also by the fact that more non-diverted customers were unable to perform IADLs. It is noteworthy to point out that both diverted and non-diverted customers were more impaired in their ability to do shopping and laundry/housekeeping, and meal preparation than other IADLs.

Table 5A displays the comparison of diverted and non-diverted customers on memory/recall and bladder incontinence. The memory/recall variable measures the number of problems that exist in this area. The categories are short-term memory, long term memory, memory/recall and decision-making. A score of “0” means no problems exist in a category; a score of 1 means a problem exists. Then the scores are totaled to determine the level of the memory/recall problem.

Table 5A
Distribution of Diverted and Non-Diverted Customers on Need Factors:
Memory/Recall and Continence (N=2,882)

Functional Problem	Diverted (N=600)		Non-diverted (N=2,282)	
	Number	Percent	Number	Percent
Memory/Recall				
Problems Frequency ^a				
0	209	34.8%	463	20.3%
1	79	13.2%	312	13.7%
2	79	13.2%	315	13.8%
3	90	15.0%	409	18.0%
4	143	23.8%	779	34.2%
Continence (bladder) ^a				
Continent	245	40.9%	713	31.3%
Usually Continent	123	20.5%	417	18.3%
Occasionally Incontinent	109	18.2%	454	19.9%
Frequently Incontinent	62	10.4%	335	14.7%
Incontinent	60	10.0%	362	15.9%

^aThese do not total the “N” due to missing values.

Table 5A shows that diverted customers are more likely to have no problems in memory/recall and non-diverted customers are more likely to have problems in all memory/recall areas. Diverted customers were less likely to have problems with incontinence compared to non-diverted customers.

Table 6A displays the distribution of problems and risk variable impairments among the diverted and non-diverted customers.

Table 6A
Distribution of Diverted and Non-Diverted Groups on Need Factors:
Problems and Risk Variables (N=2,882)

Problem/Risk Present	Diverted (N=600)		Non-diverted (N=2,282)	
	Number	Percent	Number	Percent
Problems/risks				
Falls, unsteadiness ^a	532	88.7%	2,026	88.8%
Impaired vision ^a	282	47.0%	1,087	47.7%
Impaired hearing ^a	230	38.3%	822	36.0%
Wandering ^a	80	13.3%	368	16.1%
Socially inappropriate ^a	74	12.3%	299	13.1%
Self-neglect ^a	96	16.0%	431	18.9%
Abuse, Neglect, Exploitation ^a	51	8.5%	148	6.5%

^aThese do not total the “N” due to missing values.

Table 6A shows that the presence of problems and risks are similarly distributed among the diverted and non-diverted customers. The proportion of problems experienced by both groups varies by problem. For example, abuse, neglect, or exploitation is a relatively low frequency problem compared to wandering. The highest frequency problem is falls and unsteadiness, followed by impaired vision and hearing. These three types of problems are more physical in nature, whereas wandering, social inappropriateness and self-neglect may stem from cognitive or mental deficits.

The bivariate results in Tables 1A-6A provide a description of the diverted and non-diverted customers in relation to predisposing, enabling, and need factor data gathered by the CARE Assessment. Next, the mean Long-Term Care Threshold Score (LTC score) for diverted customers is compared to the mean LTC score of non-diverted customers and analyzed for significant differences.

Comparisons in Table 7A of the diverted and non-diverted groups in terms of the LTC score and subscale scores showed small, but statistically significant differences. The mean LTC score of the non-diverted group was found to be higher by an average of 8.20 points. The *p* value of .01 for interpretation was used in the report. For example, a *p* value less than .01 indicates that there is less than 1 chance in 100 that these findings are due to random variation. The consistent pattern of group differences across subscale LTC scores indicates that the difference between the diverted and non-diverted groups on the LTC score was not due to a single subscale component.

Table 7A
Mean Differences in Long-Term Care Threshold Scores (N=2,882)

	Mean Score Diverted (N=600)	Mean Score Non-diverted (N=2,282)	Significance Level
LTC Threshold Score	65.80	74.00	.000
ADL	19.46	22.35	.000
IADL	34.40	38.06	.000
Risk factors	11.98	13.65	.000

The LTC score is a composite score based on ADLs, IADLs, memory/recall, continence, falls, support availability, and abuse, neglect, and exploitation. The composite LTC score permits a global assessment of the functional status of the older adult seeking NF care and can be used to evaluate their appropriateness for this level of care. The LTC scores ranged from a low of 3 to a high of 125 for both groups and a low LTC score indicates the older adult is less impaired. *The difference in the mean LTC Threshold Score between diverted (68.5) and non-diverted (74.0) customers was statistically significant.* However, the expectation was that there would be a larger difference between diverted and non-diverted customers in the LTC scores. This prompted some additional analysis.

Chart 1A displays the LTC score for diverted customers compared to non-diverted customers in 10 point increments. This provides a visual representation that permits examination of the LTC scores comparing both groups simultaneously.

**Chart 1A:
Comparison of LTC Threshold Scores
of Diverted (N=596) and Non-diverted (N=2,258) Customers**

These do not total the “N of 2282” because of missing values.

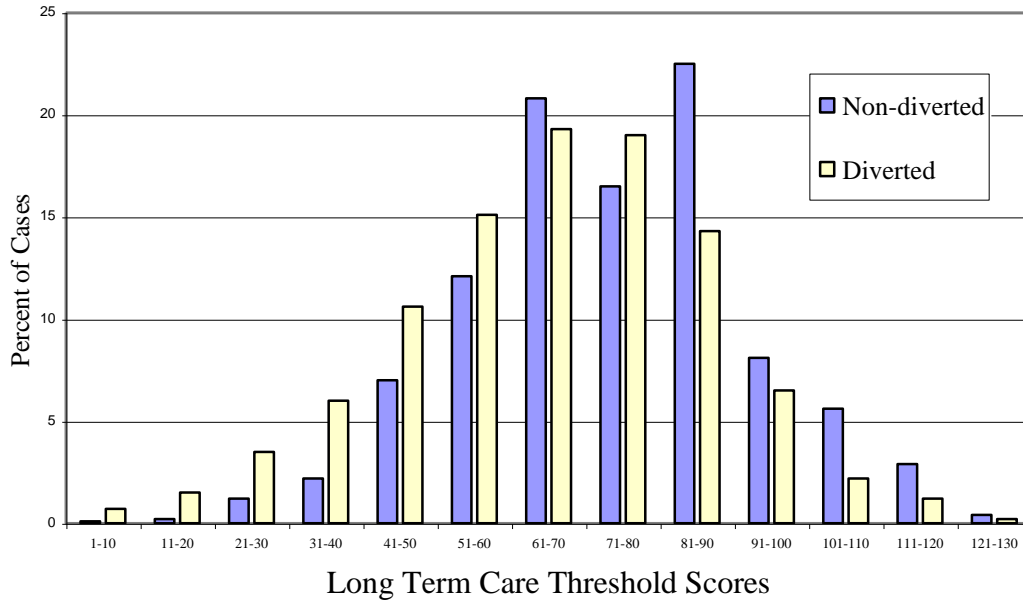


Chart 1A illustrates how the LTC scores were distributed for both diverted and non-diverted customers. *The most important finding from this analysis is that some non-diverted customers with low LTC scores entered NFs and some diverted customers with high LTC scores were able to remain in the community.* As Chart 1 illustrates, diverted and non-diverted customers were surprisingly similar in their distribution of the LTC score. The analysis of LTC scores indicates that the difference between the diverted and non-diverted customers’ LTC scores was statistically significant; however, the difference was fairly small. As previously mentioned, the expectation would be a larger difference in LTC scores between diverted and non-diverted customers.