
Comparing Long Term Care Settings

*The Potential for and Cost of Discharging Nursing
Facility Residents to Home and Community-Based Care*

**Prepared By
Fiscal Analytics, Ltd.**

**For the
Virginia Health Care Association**

September 2006

COMPARING LONG TERM CARE SETTINGS

**A Study to Evaluate the Potential For and Cost
of Discharging Virginia Nursing Facility Residents to
Home and Community-Based Care Services**

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Overview

Background and Purpose of Study

The purpose of this study is to examine whether significant numbers of Virginia nursing facility residents could be diverted to community-based care at a lower cost to the Virginia Medicaid program. The study used detailed nursing facility Minimum Data Set (MDS) data provided by the federal Centers for Medicare and Medicaid Services (CMS) to profile all 2005 Virginia Medicaid nursing facility residents and discharges. A detailed statistical profile of discharged Medicaid residents was used to determine the likelihood of remaining Medicaid residents being discharged to home or community-based care. Hypothetical case studies based on common nursing facility (NF) resident profiles were then prepared to illustrate the cost differences to provide community-based care for those likely to be discharged versus those who were likely to remain in a nursing facility.

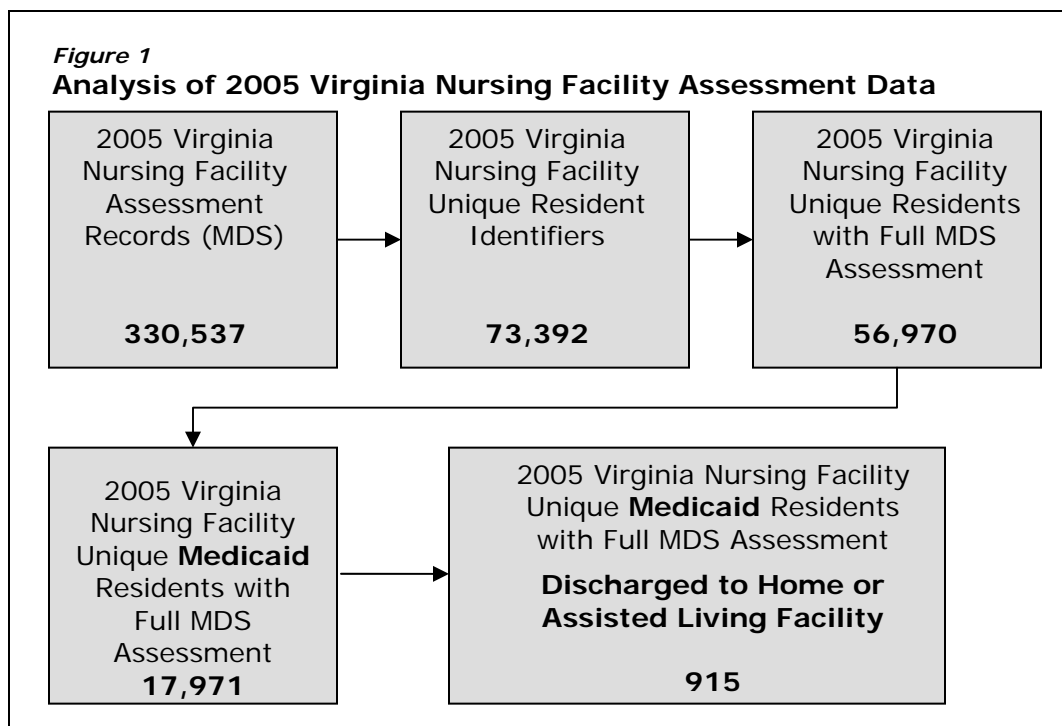
Previous studies in Virginia have not adequately addressed how the key differences in the characteristics of individuals cared for in the community versus those cared for in a nursing facility impact the full costs of care. Additional analysis was needed to determine the key differences in acuity levels and service intensity needs between community-based and nursing facility residents. The study combined these differences with the additional factor of whether unpaid informal community-based care was available, to determine whether existing nursing facility residents could be discharged at an equivalent or lower cost to a community-based care setting.

The study found that Virginia nursing facilities are already discharging Medicaid recipient residents back to the home or community when appropriate and that NF's are being properly used as the care setting of last resort. The study also found that less than two percent of remaining NF Medicaid residents had a likelihood of being returned to home or community-based care under reasonable cost assumptions. The study found it would cost two to three times the cost of facility-based care to return most Medicaid NF residents back to the home or community if there was no informal care (family or friends providing free care) available.

This study should help policymakers visualize the type of people who need nursing facility care in Virginia. It will also provide a solid analytical base upon which to make state Medicaid policy and funding decisions regarding both community-based and facility-based care. The study will help determine the continuum of care choices needed, the policies needed for improving both community and facility-based care, and the likely costs of diverting significant numbers of additional individuals to community-based care now or in the future as the “baby-boom” generation ages in Virginia.

Study Design

The federal Centers for Medicare and Medicaid Services (CMS) provided the primary information upon which the study was conducted - a database of all 330,000 Virginia Minimum Data Set (MDS) assessments conducted in 2005 for the approximately 73,000 people who received care in Virginia nursing facilities in 2005. The MDS is a core set of standardized screening and assessment variables, including demographic and background information, and resident customary routines and health information, that form the foundation of the comprehensive assessment for all residents of nursing facilities certified to participate in Medicare or Medicaid. Fiscal Analytics, Ltd. (FA) concentrated its analysis on the nearly 18,000 unique Virginia residents who had a full MDS assessment in 2005 and who were Medicaid beneficiaries. Of this total, 915 Medicaid NF residents with full MDS assessments were discharged back to a home or assisted living facility in 2005.



Most importantly, the MDS data allowed for a study of the statistical differences between the remaining NF Medicaid residents and the 915 individuals who were discharged to community-based care in 2005. Through this analysis, the study determined how many of the remaining Virginia Medicaid NF residents who could *reasonably* be transferred to community care. In other words, the study determined what health and personal characteristics are related to a reasonable likelihood for discharge and then determined how many remaining residents fit this profile.

Table 1	
Likelihood of Discharge for Remaining Residents	
<i>Probability of Discharge</i>	<i>Percentage of 2005 Medicaid Residents</i>
Less than 1%	38.0%
Less than 5%	90.0%
Less than 10%	95.0%
More than 50%	1.3%
More than 80%	0.1%

The analysis also grouped the 2005 NF residents and discharges by age group. The study was able to examine in detail the health, personal characteristics, and services needed by remaining residents and individuals discharged in each age group. The detailed NF resident profiles by age group then allowed for the development of eight hypothetical case profiles that were used to illustrate the cost of community care for residents likely to be discharged and residents unlikely to be discharged to a community-based setting.

Major Findings of the Study

- There were over 330,000 MDS assessments for over 73,000 unique Virginia nursing facility residents during 2005. There were approximately 18,000 unique Medicaid residents that had a full MDS assessment conducted. Other residents were primarily private pay or short-term Medicare funded residents.
- Of these 18,000 unique Medicaid residents, 915 were discharged back to a home setting or assisted living facility in 2005. The study found that the 915 discharged residents were generally younger, had shorter stays, had significantly fewer physical and mental problems, and generally had someone in the community to assist in caring for them.
- Based on a statistical analysis of these 915 Medicaid NF residents, only about 214 or 1.3 percent of the remaining 17,000 Medicaid NF residents, could expect to be discharged to a community-based setting at an equivalent or lower cost.
- The study found that while a number of factors are important to discharge status -- including activities of daily living (ADL) status, cognitive acuity, and the use of therapy, the availability of an informal unpaid caregiver is the single most important factor in determining the probability for discharge back to the community. In other words, discharge is highly correlated with informal caregiver availability and less acute diagnosis.
- Using the MDS database, the study constructed eight hypothetical individual profiles for purposes of comparing the specific costs of community-based care with the costs of providing facility-based care. The eight profiles were composed

of four with a high probability (greater than 50%) for discharge (1.3% of all residents) and four with a low probability for discharge (or those 98.7% of all residents with a less than 50% probability for discharge).

- The study found that the cost of home and community-based services for almost 99% of the 2005 Virginia Medicaid nursing facility residents would be two to three times more expensive than nursing home care. These findings support the argument that Virginia nursing facilities are the care centers of last resort, and are being appropriately utilized to provide high-quality, cost effective long term care nursing services to Medicaid recipients with serious medical or cognitive health conditions.
- The study indicates that home and community-based services are less costly to Virginia than facility-based care only when bed and board are self-provided and when informal/family caregiver support exists for individuals with generally less severe physical and cognitive conditions.

Policy Implications

The vast majority of Virginia's Medicaid NF residents have a very low likelihood of discharge and would result in significantly higher costs if cared for in the community. These NF residents have serious medical or cognitive health conditions that would require extensive aid and supervision that is currently not cost effective in the community – and complicated by the lack of informal caregivers. The hypothetical profiles illustrate this vast majority of remaining NF residents, and demonstrate that significantly higher costs (at least two to three times) would result from caring for these individuals in the community – if care can be found at all.

It is difficult to envision this situation markedly changing in the future. The over age 85 population is expected to grow from 87,000 to 223,000 between 2000 and 2030. Sheer numbers dictate that the overall costs to society for elderly and disabled care will rise significantly. It is a virtual certainty that the total Medicaid costs of caring for aged residents in nursing facilities will exceed \$1 billion per year by 2020 and continue to increase rapidly thereafter. The Virginia Joint Legislative Audit and Review Commission (JLARC) recently estimated a wide range of potential future Medicaid NF expenditures for aged recipients.¹ JLARC's low growth estimate was based on the projected consumer price index and Department of Medical Assistance Services (DMAS) projections of the growth in Medicaid aged recipients. The high growth estimate is based on forecasts of the medical price index and Census Bureau forecasts of the growth in the aged population. The ability to slow the growth of Medicaid nursing facility needs will depend on the success of health improvements, future disability rates, strategies and policies to help informal caregivers extend their elder care services in the home, the ability of "Baby Boomers" to pay for long-term care, and Medicaid service and eligibility policy choices.

¹ "Impact of an Aging Population on State Agencies," JLARC, House Document 10, 2006, pages 51-52.

Table 2
JLARC Estimate of Medicaid Aged Recipient Care Costs

<i>Fiscal Year</i>	<i>Estimated Care Costs \$ Millions</i>
2004	\$486
2020	\$1,091-2,208
2030	\$1,795-5,447

The conclusion is that all strategies of care – home-based, assisted living, and nursing facility – will be under pressure to keep up with the demand. Pressures on the supply and quality of the community care and nursing facility workforce will also increase significantly as demand increases. Innovative policies will be needed just to slow the rate of demand for additional nursing facility beds.

Analysis

Introduction

Medicaid refers to the joint federal/state funded health insurance program that provides medical coverage for low-income individuals. In Virginia, Medicaid and other public-funded health insurance programs are administered by the Department of Medical Assistance Services (DMAS). There are approximately 900,000 people age 65 or older in Virginia. A monthly average of 74,338 of these older individuals were eligible for Medicaid services in 2005. Another 143,563 individuals (almost all under the age of 65) qualified for blind and disabled Medicaid benefits.²

In recent years the number of nursing facility (NF) residents has remained relatively constant. In 2005, there were 27,729 recipients of nursing facility services who qualified for Medicaid.³ According to JLARC, as of June 2005, there were 270 nursing facilities and 31,279 beds in Virginia certified for Medicare and Medicaid reimbursement and licensed by the Virginia Department of Health.⁴ Nursing facilities are generally long-term care facilities designed to provide less care than what a hospital provides, but for whom adequate services are not reasonably available in the community for those needing long-term nursing, or convalescent care due to aging, injury, or illness. In 1990, nursing facility care became a federally mandated Medicaid service for persons who meet eligibility requirements based on medical need.

In addition, Virginia has Home and Community Based Service (HCBS) Medicaid waivers for persons who meet eligibility requirements based on medical need: AIDS Waiver, Elderly or Disabled with Consumer-Direction Waiver (EDCD), Individual and Family Developmental Disabilities Support Waiver (DD), Mental Retardation Waiver (MR), and the Technology Assisted Waiver (Tech). A sixth Day Support Waiver was added in 2006, while an Alzheimer's waiver is currently being implemented. This study will concentrate on aged, blind or disabled nursing facility residents who could

Table 3
Virginia Home and Community-Based Medicaid Waivers

	<i>FY 2005 Served</i>	<i>Waiting List</i>
Elderly and Disabled with Consumer Direction (EDCD)	11,901	0
Mental Retardation Waiver (MR)	6,421	2,905
Technology Assisted Waiver (Tech) Age 21 and under	363	0
Individual & Family Developmental Disabilities (DD)	338	284
AIDS	213	0

² FY 2005 Statistical Record, VA Dept. of Medical Assistance Services, page 1-65.

³ IBID, page 3-12

⁴ "Impact of an Aging Population on State Agencies, JLARC, House Document 10, 2006, page 51.

potentially utilize a Medicaid waiver or similar program. According to DMAS, in 2005 there were 11,901 individuals enrolled in the EDCD Waiver, representing the majority of waiver services.

A major reason policymakers are interested in shifting more individuals to community-based care is that the services charged to Medicaid for those currently using community-based waivers are generally lower than the Medicaid costs for those in nursing facilities. While acute care (hospital) costs are lower for NF residents than for waiver recipients, the institutional Medicaid costs of NF are significantly higher on average than the waiver services costs such as agency and consumer-directed personal care, adult day health care, agency and consumer-directed respite care and emergency response services. This is not surprising given that the federal Centers for Medicaid and Medicare Services (CMS) requires that the Medicaid cost to provide home and community-based services are no more than the comparable cost in an institution. Community care is able to achieve this lower cost primarily due to the unreimbursed services and expenses of informal caregivers, as well as serving individuals who do not have as severe medical conditions as those residents of Virginia nursing facilities.

However, this direct Medicaid cost comparison does not answer several questions. First, are community-based waiver recipients easier to care for than existing NF residents and could significant numbers of existing NF residents be transferred to community-based care if additional funding policies were put in place? Second, are current home and community care policies adequate for a significant increase in service demands?

Studies in other states have suggested it is unlikely that there are appreciable numbers of nursing facilities residents that could be safely moved to a community-based care setting.⁵ This study will explore that question in detail for Virginia. This study will also use hypothetical case studies for individuals representing common groups of people receiving care in nursing facilities to illustrate the projected cost to care for these individuals in the community.

Table 4
Selected Statistics from the 1999 National Nursing Home Survey

	<i>Community Discharges</i>	<i>Long-stay Residents</i>
Mental/Cognitive Disorders	17%	58%
85 and Older	31%	53%
Bed or Chairfast	22%	47%
No Bowel or Bladder Control	29%	72%
IADL Task Help	42%	85%
No ADL Assistance	17%	4%

⁵ “Who Stays and Who Goes Home: Using National Data on Nursing facility Discharges and Long-Stay Residents to Draw Implications for Nursing Facility Transition Programs”, Judy Kasper, Kaiser Commission, August 2005

MDS Database Analysis

The primary analysis undertaken to address the question of whether Virginia nursing facility residents could be discharged to a home or community-based setting was conducted by Fiscal Analytics using the Minimum Data Set (MDS) assessments of 2005 NF residents. The federal Centers for Medicare and Medicaid Services (CMS) provided a database of all 2005 Virginia MDS assessments for Virginia nursing facility residents. The MDS is a core set of standardized screening and assessment variables, including demographic and background information, and resident customary routines and health information, that form the foundation of the comprehensive assessment for all residents of nursing facilities certified to participate in Medicare or Medicaid.

Description of Database Provided to Fiscal Analytics

The total Virginia NF resident MDS file provided by CMS for 2005 consisted of 330,537 assessment records. Of these total assessments, there were 73,392 unique resident identifiers. In other words, individual residents were often associated with multiple assessments. The database included the following MDS assessment types:

1. Admission
2. Annual
3. Significant change in status
4. Significant correction of prior assessment
5. Quarterly review
6. Discharge – return not anticipated
7. Discharge – return anticipated
8. Discharge prior to completing initial assessment
9. Reentry
10. Significant correction of prior quarterly assessment
0. None of the above (primarily short term Medicare stay assessments)

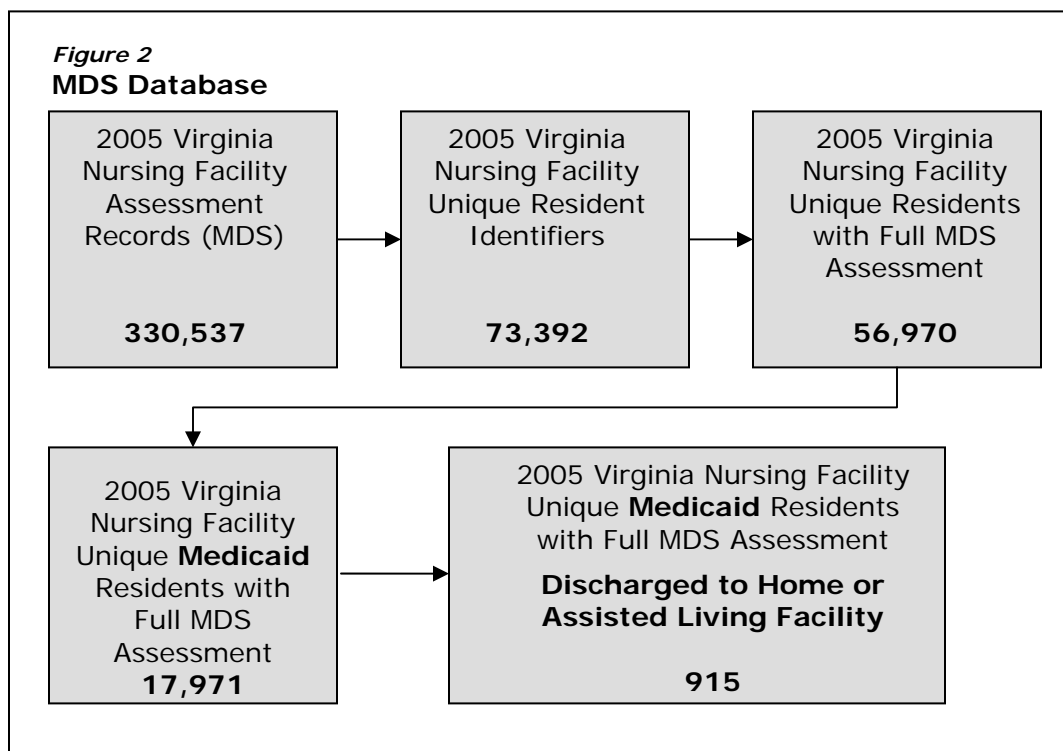
There were 56,970 unique living residents with a full MDS assessment in 2005. The latest full MDS assessment included an a) admission assessment, b) annual assessment c) significant change in status assessment, or d) significant correction of prior assessment. Quarterly reviews, discharge assessments, reentry or other assessments (mainly Medicare short-term stays) were removed from this analysis. Of these full assessments, 17,971 unique residents utilized a Medicaid per diem to pay for their nursing facility stay. Other payment options for other NF residents were primarily Medicare (primarily short-stay hospital recoveries), private insurance, and self pay.

Fiscal Analytics narrowed its analysis to two primary study data sets: 1) a study set of the latest full assessment for each unique Medicaid resident who remained in a nursing facility in 2005 and a 2) study set of the latest full assessment for each unique Medicaid resident who was discharged from a nursing facility in 2005 to a residential placement.

In 2005, 24,201 NF residents were discharged to a community setting. However, about 5,000 were discharged before a full assessment was available in the 2005 records (only quarterly or discharge assessment done in 2005). Therefore, full data on 19,060 individuals discharged from a NF to a community setting was available. Community placements included:

- Private home/apartment
- Private home/apartment with home health services
- Assisted living facility

Of these 19,060 resident discharges in 2005, 915 were Medicaid residents. The remaining residential discharges were mainly Medicare short-stay residents. Discharges were only analyzed if a full 2005 assessment was available.



Analysis of Nursing Facility Resident Demographics

The study found that residents remaining in nursing facilities, in contrast to those discharged, were generally older, had longer stays, had significantly more acute physical and mental problems, and generally did not have someone in the community to assist in caring for them.

On average, discharged residents were nine years younger than residents who remained in the nursing facilities. The ages of the studied 18,000 Medicaid residents and discharges in 2005 were as follows:

Table 5
2005 Medicaid Resident Ages

<i>Residents (17,056)</i>		<i>Discharges (915)</i>	
<i>Age</i>	<i>Percentage</i>	<i>Age</i>	<i>Percentage</i>
0-21	0.4%	0-21	0.5%
21-55	7.7%	21-55	17.7%
56-65	8.7%	56-65	20.7%
66-84	41.1%	66-84	39.2%
85 and over	42.2%	85 and over	21.8%

There was a slightly higher percent of minorities in the discharges. The gender and race/ethnicity of the Medicaid residents in 2005 were as follows:

Table 6
2005 Medicaid Resident Demographics

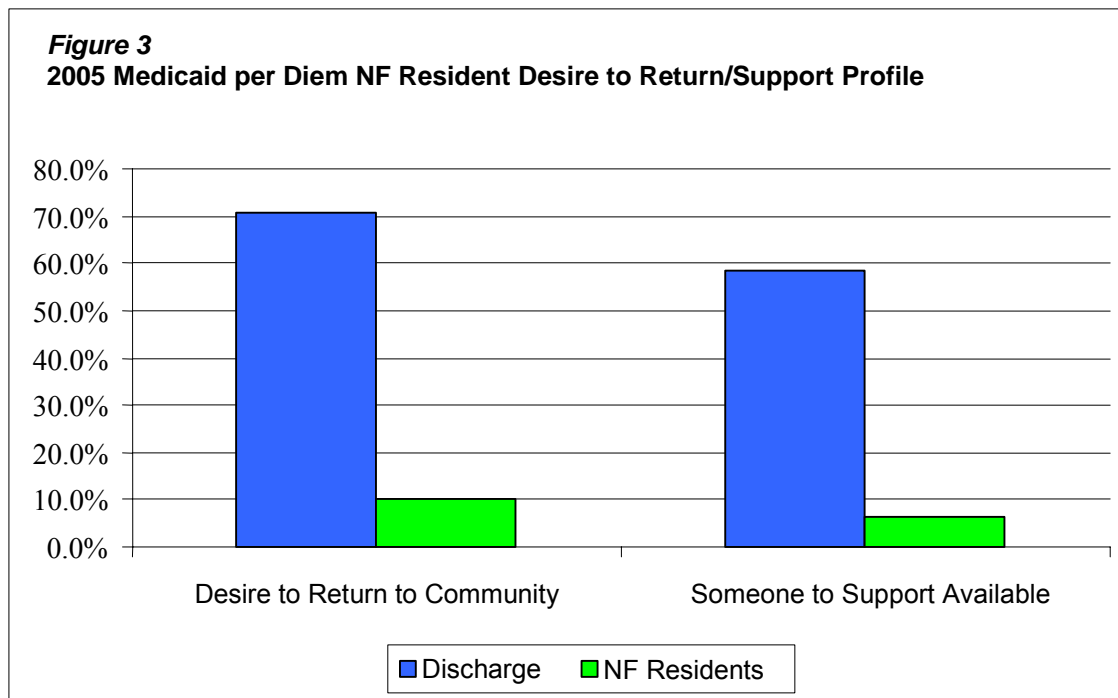
	<i>Female</i>	<i>Male</i>	<i>Unknown</i>	<i>Total</i>	
White	8,937	2,984	2	11,923	66%
Black	3,623	1,929	1	5,553	31%
Hispanic	115	50	0	165	1.0%
Asian	171	86	0	257	1.4%
Am. Indian	17	8	0	21	0.0%
Unknown	27	21	0	48	0.0%
Total	12,890	5,078	3	17,971	100%

The gender/races of the discharged NF Medicaid residents in 2005 were as follows:

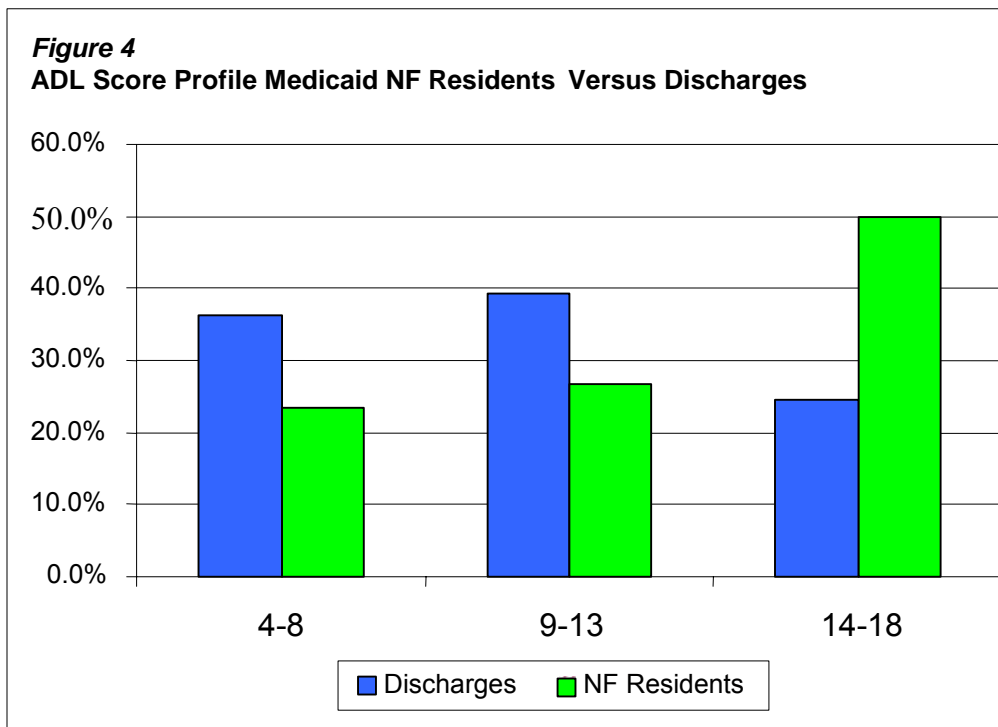
Table 7
2005 Medicaid Discharged Resident Demographics

	<i>Female</i>	<i>Male</i>	<i>Unknown</i>	<i>Total</i>	
White	371	174	0	545	60%
Black	204	112	0	316	35%
Hispanic	11	5	0	16	1.7%
Asian	20	11	0	31	3.4%
Am. Indian	0	0	0	0	0.0%
Unknown	6	1	0	7	0.8%
Total	612	303	0	915	100%

Discharged residents had a much higher expressed desire to return to the community. There is also a much higher level of caregiver support in the community for discharged residents. Only 10.2% of all of the remaining Medicaid NF residents expressed a desire to return to the community in their latest full assessment. An even smaller number of these remaining Medicaid NF residents - 6.2% - indicated some level of support from someone in the community for discharge. However, for the Medicaid residents who were discharged to the community in 2005, fully 70 percent had expressed a desire to return and almost 60 percent had indicated the existence of a caregiver associated with their returning to the community.



There was also a significant difference in the condition characteristics of Medicaid per residents discharged versus those who stayed in the NF. Fiscal Analytics analyzed the activities of daily living (ADL) status for each Medicaid resident and discharged resident using a scoring system similar to the Resource Utilization Groups (RUGS) system used by the Virginia Department of Medical Assistance Services and CMS to determine the Medicaid reimbursements. ADLs are activities performed during a normal day, such as getting in and out of bed, dressing, bathing, eating, and using the bathroom. The score evaluates the ADL dependency of each resident. The higher the composite ADL score, the less ability to take care of oneself independently. On average, those discharged from nursing facilities had a significantly lower average composite ADL score (requires less assistance) than those remaining in the NF. To illustrate, only 25 percent of discharged residents had the highest category of ADL score (14-18), versus 50 percent for those remaining in NF having the highest score.



It is also important to note where the 915 residents were discharged to. These statistics could have implications for future policies and funding of home and community-based care. Of the 915 Medicaid residents discharged:

- 500 (55%) were discharged to their home with health services.
 - Of these, 332 had someone who indicated they would help provide support.
- 321 (35%) were discharged to their home without health services.
 - Of these, 166 had someone who indicated they would help provide support.
- 94 (10%) were discharged to an assisted living facility.
 - Of these, 37 had someone who indicated they would help provide support.

Analysis of Resident Discharge Potential

In addition to the individual (univariate) analysis of ADL scores from the RUGS scoring system, the MDS data allowed for a more thorough (multivariate) examination that specifically identifies statistical differences between long-term stay residents and individuals who opted for community-based care. With this multi-characteristic analysis, the study can predict what percentage of long-term residents *could reasonably* be transferred to community care. The study used the MDS information and characteristics from the 915 residents who had already been discharged in order to predict the discharge likelihood for other residents. A five step process was used to do this:

1. Correlation analysis: The relationship between discharge status and other personal information in the MDS data was examined to identify which characteristics were statistically related to community discharge status.
2. Factor Analysis: 22 characteristics were identified as being related to discharge status and were examined in order to identify clusters or constellations of related characteristics.
3. Logistical Regression Analysis: Study identified four clusters of characteristics: mobility (ADL's), cognitive acuity, therapy usage, and intention to discharge/support; and examined how they each related to discharge status.
4. Discharge Candidate Score: The four characteristic clusters were then weighted appropriately according to their empirical relation to discharge status and aggregated in order to create a "Discharge Candidate Score" (DCS). The DCS score accounts for 96% of the variation in discharge likelihoods.
5. Probability Estimation: Discharge Candidate Scores were then used to predict the likelihood of discharge for each individual resident still receiving facility-based services.

Alternatively stated, the study identified which health and personal characteristics are related to the ability to discharge and then grouped those characteristics appropriately. It then investigated how closely those groups are related to discharge, and based on that information it created an index called the "Discharge Candidate Score", which informed the likelihood of discharge. (Factor analysis, or in this case, truncated principal components analyses, is a scientifically valid form of data reduction and inquiry and logistical regression analyses is the most appropriate method to investigate binary outcomes data. The methods applied to investigate the current research questions are both well suited for the task and are scientifically accepted means).

Summary of results: The analyses empirically derived four clusters of related resident characteristics - Mobility or ADL's, cognitive acuity, therapy usage, and intention to discharge. These characteristics were weighted according to their relationship to discharge status and then aggregated appropriately to create a Discharge Candidate Score (DCS). The DCS score is an accurate predictor of discharge likelihood. Thus, the study provides a rational way to organize and understand discharge correlates and a tool to estimate the likelihood of resident discharge based on the characteristics of current discharges. See Appendix 1 for more detail on the statistical analysis techniques.

These tools can be used to identify residents who may be good candidates for discharge. Moreover, identifying those residents in the data and further investigating the potential reasons why they have not been discharged could provide additional insights into the current NF system and needs of the people who utilize it.

Predicted likelihood of discharge: The analysis indicates that the vast majority of NF residents are not appropriate candidates for discharge. Based on the characteristics of over 900 recent discharges, 38% of the current long-term stay residents have a 0 to 1% likelihood of discharge, while 90% have a less than 5% likelihood of discharge. Only 1.3 percent, or 214 residents have over a 50% chance of discharge, and only 1/10 of 1% of Medicaid residents have over an 80% likelihood of discharge (18 out of 17,058).

The following table breaks down the number of remaining long-term stay residents by discharge likelihood groups (Totals do not equal 17,058 because some individuals did not have fully coded data from which to calculate a probability score).

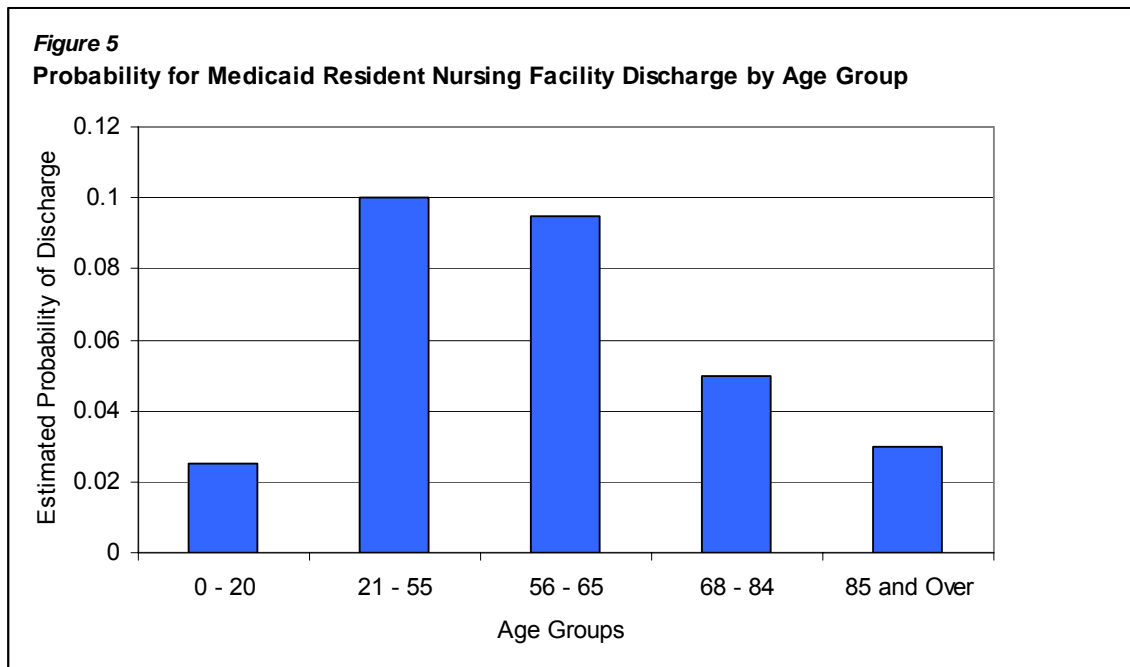
<i>Likelihood of Discharge</i>	<i>Number of Residents</i>	<i>Percentage of Residents</i>
0-5%	15,177	90.30%
5-10%	729	4.30%
10-15%	225	1.30%
15-20%	101	0.60%
20-25%	90	0.50%
25-30%	62	0.40%
30-35%	56	0.30%
35-40%	58	0.40%
40-45%	48	0.30%
45-50%	47	0.30%
50-55%	54	0.30%
55-60%	36	0.20%
60-65%	39	0.20%
65-70%	28	0.20%
70-75%	24	0.10%
75-80%	19	0.10%
80-85%	13	0.1%
85-90%	4	< 0.0%
>90%	1	< 0.0%
Total	16,811	100%

Health characteristics of high and low probability discharge candidates: The two groups show statistical differences in almost every health diagnostic characteristic measured. Results indicated that high-likelihood discharge residents were less likely to have a mental health history, were less likely to be mentally retarded or developmentally delayed, were less likely to be autistic, were less likely to have Alzheimer’s disease, were less likely to have cerebral palsy, were less likely to have dementia, were less likely to have hemiplegia or hemiparesis, were less likely to have multiple sclerosis, were less likely to have quadriplegia, were less likely to be on chemotherapy, or need dialysis, or IV medication, or oxygen therapy, or radiation, or a ventilator/respirator.

Importance of home support: There are many differences in physical health and required treatments between candidates appropriate for discharge and those who are not. However one of the most important correlates of discharge is support from someone in the community toward discharge. Individuals with support for discharge have an average discharge likelihood of 36 percent, while those without support have an average discharge likelihood of 2 percent. Moreover, out of the long-term residents who have not already been discharged, only 7 percent have someone at home willing to support a community care option.

Intent to discharge an important factor: Out of the four factors discovered that relate to discharge status (Mobility, Intent to Discharge, Cognitive Acuity and Therapy Usage), Intent to Discharge is over twice as important in predicting discharge outcome probabilities than the other three factors when using logistical regression. Simple correlations also point to a stronger relationship between the Intent to Discharge factor and actual discharge status. This is because the Intent factor includes items that probe for both the resident’s desire for discharge, and the feasibility of that desire as embodied by a person in the community willing to support the discharge. The case studies included in this report show that almost all of the residents with high probabilities for discharge have the combination of a desire for discharge and support from someone in the community toward that goal. In contrast, those with low probabilities for discharge almost always show no desire for discharge and no support in the community for it.

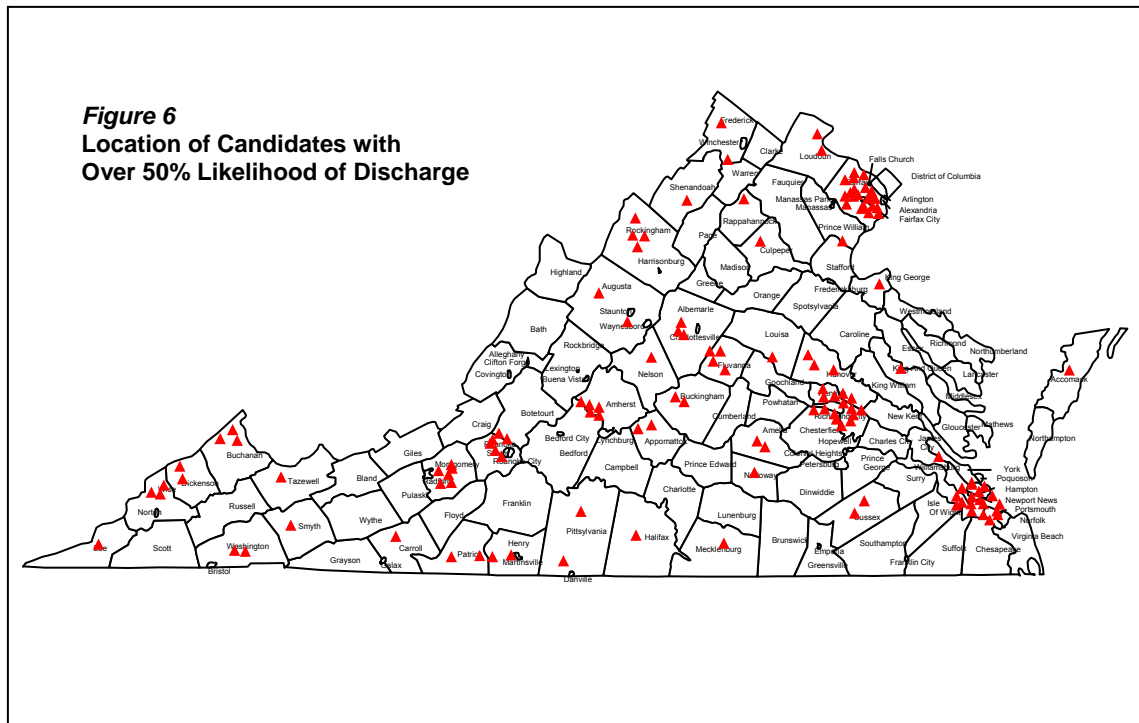
Older residents less likely for discharge. Actual discharge status also varied significantly by age group. As the chart below indicates, on average, the youngest and the oldest Medicaid residents have the lowest likelihood for discharge to community-based care.



Note: A more complete description resident conditions and characteristics by age is presented in Appendix 2.

Location of Potential Discharges

Out of the 17,000 remaining Medicaid residents represented in the data, only 214 of them have Discharge Candidate Scores associated with over a 50% likelihood of discharge. The locations, according to home zip codes, of those individuals are indicated on the map in Figure 6. As the map indicates, many of the potential discharges live in or around Northern Virginia. Sizable proportions of individuals also live in or around Richmond, and the VA Beach/Norfolk area. However, potential discharges would also occur in rural areas of the state where community-care services are more difficult to provide.



Discharge Cost Analysis

Low-income elderly and disabled Virginians have a continuum of care options available to them – state auxiliary grants for assisted living facilities (ALF), Medicaid reimbursed waivers and short-term home health services for community care, and Medicaid coverage for nursing facility care.

Low-income individuals that qualify can use \$1,010 in state-provided auxiliary grant payments to reside in ALF's. ALF residents cannot live independently, but do not require full-time nursing care. As previously noted in this study, 94 (about 10 percent) of

the 915 Medicaid per diem discharges in 2005 were placed in assisted living facilities. The state auxiliary grant program covers approximately 6,500 low-income assisted living residents. JLARC has noted that DMAS supplements with state general funds (up to \$180 per month) 27 percent of ALF residents using an auxiliary grant payment. However, the payment is still “well below the current market price and is below what three neighboring states pay for similar services.”⁶ JLARC has documented serious shortages of ALF beds around the Commonwealth. Approximately 26 localities have no ALF beds and seven other localities have less than one bed per 1000 persons. Auxiliary grant beds as a percentage of total licensed ALF capacity has been falling over time and is now only 19 percent of total ALF capacity. JLARC has also detailed in its ALF study how data shows a significant trend toward more dependency and more mental disabilities in ALF’s.

The remaining 821 Medicaid per diem discharges studied for 2005 used Medicaid waivers and short-term home health services for community based-care. 500 of the discharges (or 55%) needed home health services. Generally, to receive services through a Home and Community-based Medicaid waiver program, eligibility criteria for the specific waiver must be met, the need for long-term care must be established, and an assessment made of financial need. A waiver recipient’s total income for Medicaid eligibility is limited to 300 percent of Supplemental Security (SSI) payments, or \$1809 per month in 2006. Virginia has increased its personal maintenance allowance, or PMA, from 100% of SSI or \$603, to 165% of SSI or \$995, beginning 9/1/06. EDCCD, Tech and Aids waivers have a “spend down” requirement related to income and cost of medical expenditures, and all waivers have a \$2,000 resource limit. Co-payments are not required, but waiver recipients may have to pay a “patient pay” contribution for specific services using a formula established by the Department of Social Services.

On the other hand, Medicaid NF residents must use all of their income from all sources including Social Security, pensions, etc., to help offset the cost of their care (except for a \$30 personal needs allowance per month). This patient pay liability “funds” approximately 23 percent of the cost of their nursing home care and represents a significant co-pay that reduces the overall cost of care to the Medicaid program. To illustrate, of the average Virginia Medicaid per diem payment rate of \$130, about \$30 per day is derived from this patient pay liability leaving the Medicaid program to fund the balance of \$100 per day – with 50% of this amount provided through federal funding and 50% through state General Fund dollars.

Medicaid-eligible individuals living in nursing facilities, ICF-MR, and hospitals are only allowed to keep \$30 per month of their income for personal use and those residing in assisted living facilities are able to keep \$70 per month.

A relatively new elderly care idea – Program for All Inclusive Care for the Elderly (PACE) – is being developed around the country. Generally, PACE is a capitated benefit authorized by the federal government that features a comprehensive service delivery

⁶ JLARC, “Status Report: Impact of Assisted Living Facility Regulations”, House Document 41, 2006, page 1.

system and integrated Medicare and Medicaid financing. PACE is intended to permit individuals to continue living at home while receiving services rather than be institutionalized. Capitated financing allows providers to deliver all services participants need rather than be limited to those reimbursable under the Medicare and Medicaid fee-for-service systems.

The federal government established the PACE model of care as a permanent entity within the Medicare program and enables states to provide PACE services to Medicaid beneficiaries as a State option. A State plan must include PACE as an optional Medicaid benefit before the State and the Secretary of the Department of Health and Human Services (DHHS) can enter into program agreements with PACE providers.

Participants must be at least 55 years old, live in the PACE service area, and be certified as eligible for nursing home care by the appropriate State agency. The PACE program becomes the sole source of services for Medicare and Medicaid eligible enrollees.

An interdisciplinary team, consisting of professional and paraprofessional staff, assesses participants' needs, develops care plans, and delivers all services (including acute care services and when necessary, nursing facility services) which are integrated for a seamless provision of total care. PACE programs provide social and medical services primarily in an adult day health center, supplemented by in-home and referral services in accordance with the participant's needs. The PACE service package must include all Medicare and Medicaid covered services, and other services determined necessary by the interdisciplinary team for the care of the PACE participant.

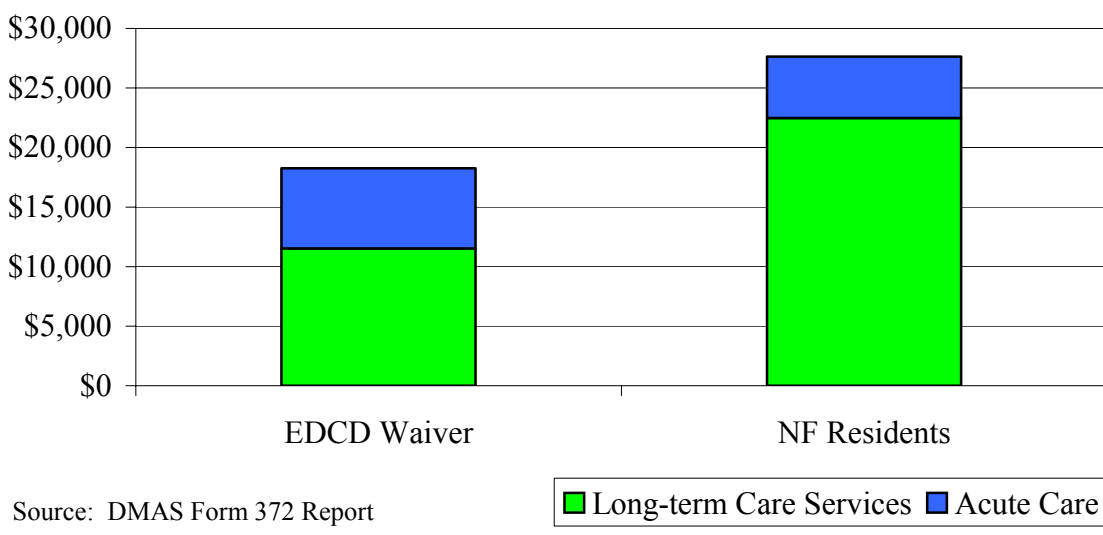
At present, Virginia has only one PACE program in Hampton Roads. The Sentara PACE program in Hampton Roads is currently not a dual capitated program, but has applied to DMAS for Medicare capitated benefits. Currently, the program has about 120 individuals enrolled with Medicaid benefits capitated at about \$80 per day. It is expected that any future PACE program providers will receive monthly Medicare and Medicaid capitation payments for each eligible enrollee. Medicare eligible participants who are not eligible for Medicaid pay monthly premiums equal to the Medicaid capitation amount, but no deductibles, coinsurance, or other type of Medicare or Medicaid cost-sharing applies. PACE providers assume full financial risk for participants' care without limits on amount, duration, or scope of services.

The average Medicaid per diem payment rate for nursing facilities in Virginia is about \$130. DMAS tracks the direct costs of placing nursing facility eligible Medicaid recipients into the Medicaid-financed community-based waiver programs in Virginia. The following table and graph compares the direct Medicaid costs for EDCD waiver services and acute care costs with NF resident costs. While acute care services are generally cheaper for institutional NF residents than EDCD waiver recipients, the average institutional costs per person were much higher in 2005 for the NF resident than for EDCD waiver services. It is important to note however that these EDCD waiver costs do not reflect the cost of housing and food. These waiver services also depend on unpaid informal caregivers for a significant amount of care and oversight.

Table 9
FY 2005 Medicaid Costs (All Funds)

	<i>Institutional/Waiver Services</i>		<i>Acute Care</i>	
	Number	Cost	Number	Cost
Nursing Facilities	25,473	\$572,897,910	24,931	\$128,130,745
EDCD Waiver	11,901	\$137,148,487	11,603	\$78,127,269

Figure 7
Nursing Facility Residents and EDCD Waivers:
Average 2005 Medicaid Costs per Person



Individuals may be admitted to nursing facilities by their own request or the request of a family member, or because they cannot find adequate care to remain in their home. As stated in the Virginia Board for People with Disabilities Biennial Assessment nursing facility admissions occur when an individual meets one or more of the following criteria:

- Cannot care for oneself and requires more care than a family can provide.
- Has extensive medical needs.
- Has been recommended by a physician for NF placement.
- The pre-admission screening indicated a need for NF placement.
- Requires temporary skilled care before returning home after a hospital stay.

DMAS lists specific recipient criteria for receiving an EDCD waiver. These criteria, especially (3) and (8) support the MDS analysis of NF resident characteristics as generally unable to be discharged to the community. The recipient criteria are as follows:

- (1) Must meet nursing facility criteria as outlined in the Pre-Admission Screening Manual, Appendix B. The recipient is both functionally dependent and has medical and nursing needs;
- (2) Determined to be at risk of nursing facility placement and for whom community-based care service under the waiver is the critical service that enables the individual to remain at home rather than being placed in a nursing facility;
- (3) The health, safety, and welfare of the recipient must be safely maintained in the home when the attendant is not present;
- (4) Cannot be provided to individuals who reside in a nursing facility, an ICF/MR, a hospital, an assisted living facility licensed by DSS or an Adult Foster Care provider certified by DSS, or a group home licensed by the Department of Mental Health & Mental Retardation & Substance Abuse Services (DMHMRSAS)
- (6) Cannot be provided to any individual who resides outside the physical boundaries of the Commonwealth, with the exception of brief periods of time as approved by DMAS;
- (7) There is no age limit; and
- (8) To receive consumer-directed services, individuals cannot have a severe cognitive impairment, or they must have someone managing their care for them.

JLARC in its recent report “Impact of an Aging Population on State Agencies”, and the Virginia Board for People with Disabilities in their 2006 Biennial Assessment cited a shortage of service providers available for community-based care.

The tables which follow list Medicaid waiver reimbursement and short-term home health care payment rates and government responsibilities for low income elderly and disabled care. Government payment responsibilities for community care are limited in scope (areas covered) and services provided (hours, visits, etc.).

Table 10
Medicaid Waiver Reimbursement Rates

	EDCD Eligible	Reimbursement Rate	
		R-O-S	NoVA
Personal Care - Agency	✓	\$11.93/hr	\$14.05/hr
Personal Care - Consumer Dir.	✓	\$8.19/hr	\$10.61/hr
Respite Care - Agency	✓	\$21.45/hr	\$26.00/hr
Respite Care - Consumer Dir.	✓	\$8.19/hr	\$10.61/hr
Day Transportation	✓	\$2.00/trip	\$2.00/trip
Adult Day Health Care	✓	\$43.05/day	\$47.25/day
PERS Medication Monitoring	✓	\$50/mo.	\$59/mo.
PERS Emergency Monitoring	✓	\$30/mo.	\$35/mo.
Skilled Nursing RN		\$25.94/hr	\$31.50/hr
Skilled Nursing LPN		\$22.52/hr	\$27.30/hr

Table 11
Home Health Rates Effective 1/1/2006 (per visit)

	NOVA	Rest-of-State	VDOH
<i>Skilled Nursing:</i>			
Assessment	\$138.70	\$105.69	\$137.29
Follow-up	\$123.70	\$90.69	\$122.29
<i>Physical Therapy:</i>			
Assessment	\$121.13	\$127.07	\$133.05
Follow-up	\$106.13	\$112.07	\$118.05
<i>Occupational Therapy:</i>			
Assessment	\$118.82	\$121.27	\$136.64
Follow-up	\$103.82	\$106.27	\$121.64
<i>Speech Therapy</i>			
Assessment	\$128.67	\$114.98	\$143.03
Follow-up	\$113.67	\$99.98	\$128.03
Home Health Aid	\$82.69	\$53.80	\$71.70

Table 12
Government Low-Income Payment Responsibilities

	<i>NF</i>	<i>ALF (1)</i>	<i>Pace (2)</i>	<i>Community (3)</i>
Bed and Board	✓	✓		limited
Medical Transportation			✓	limited
Personal Care (non-licensed)	✓	limited	✓	limited
Skilled Nursing	✓		✓	limited
Therapies	✓		✓	limited
Durable Medical Equipment (4)	✓		✓	limited
Medications (5)			✓	limited
Medical Supplies (6)	✓		✓	limited
Daily per Diem (NoVa higher)	\$130	\$33	\$80	varies
Cost to Virginia (NoVa higher)	\$50	\$33	\$40	

(1) Represents 2006 Assisted Living Grant. Only 19% of ALF beds accept aux. grant.

(2) Sentara in Norfolk currently has the only PACE program in VA.

(3) Requires caregiver and support system. Limited responsibility in terms of scope (areas covered) and service (limitations as to hours, visits, etc provided)
 Bed and board cost assumes Sept. 2006 PMA rate.

May include provision for home health services or waived services depending on the case.

(4) Wheelchairs, walkers, oxygen, etc.

(5) IV antibiotics, drugs, ointments, etc.

(6) Incontinence supplies, wound care products, etc.

Case Studies

Case studies of hypothetical individuals who fit the profile of Medicaid NF residents are presented in this section. Two case studies in each age group are used to illustrate the costs to return a NF resident to the community based on the probabilities of the most common services utilized by residents who have 1) a greater than 50 percent likelihood of being discharged according to the characteristics of the over 900 actual 2005 discharges in our study results; and 2) are not likely to be discharged according to the study. For each hypothetical case, a computer program generated 10,000 hypothetical residents and then randomly selected a case study from the 10,000. The initial computer-generated description was then further enhanced for clarity. The intent of these case studies will be to outline the costs involved for returning NF residents to a community-based setting. For simplicity, costs were assumed outside Northern Virginia which will be higher than listed.

The hypothetical case study cost calculations for nursing facilities and community-based options were made on a daily per diem basis for ease of comparison. The calculation of the cost to Virginia for each community case was based on the personal maintenance allowance rate used for bed and board; three percent of other expenses picked up by the waiver recipient (average amount as calculated by DMAS); and the remaining Medicaid costs picked up equally between Virginia and federal government. The nursing facility cost was based on the \$130 average Medicaid per diem daily rate; 23 percent of which is paid by the patient on average (average amount as calculated by DMAS); with the remainder split equally between Virginia and federal government.

Age Range 21-55

There are only 41 remaining Medicaid NF residents in the data set age 21-55 who have Discharge Candidate Scores associated with over a 50% likelihood of discharge. In contrast, there are 1,197 current residents in the data set 21-55 who have Discharge Candidate Scores associated with less than a 50% likelihood of discharge.

Those residents with a high likelihood of discharge were somewhat younger, with a higher percentage of females; more were married, and most had been recently admitted into a nursing facility. A high proportion of likely discharges were receiving physical or occupational therapy. Most had been treated for an acute condition in a hospital or emergency room in the last 90 days. All 41 had indicated a desire to return to the community in their last assessment and all had indicated someone was available to help care for them in the community.

By contrast, most of the 1,197 residents with a low probability of discharge in this age category had not indicated a desire to return and had no informal caregiver available for support. There was a much higher proportion with serious medical conditions and a much higher proportion had been in the NF prior to 2005. Unlike the high likelihood discharge candidates, few were receiving therapy treatments.

Table 13
Characteristics of NF Residents Age 21-55

	<i>High Likelihood of Discharge</i>	<i>Low Likelihood of Discharge</i>
Number of Residents	41	1,197
Average Age	44	46
% Female	56%	47%
Race (% white)	59%	61%
% Never Married	54%	66%
% Admitted Before 2005	7%	58%
% Wishes to Return	100%	14%
% Someone to Support:	100%	7%
% with Conditions:		
Alzheimer's/Dementia		12%
Hemiplegia/Hemiparesis	15%	18%
Quadriplegia:	5%	15%
Cerebral Palsy		13%
Multiple Sclerosis		8%
Brain Injury		8%
MR/DD		6%
Schizophrenia:	7%	5%
Stage 3 or 4 Ulcer		9%
Bipolar Disorder:	7%	4%
Downs		1%
Epilepsy		1%
Most Common Services:		
Eating supervision or support	70%	95%
Toilet Use Support Provided	68%	93%
Walking supervision or support	66%	90%
Occupational Therapy	61%	9%
Physical Therapy	63%	11%
Oxygen Therapy	2%	12%
Speech Therapy	12%	7%
IV medication	27%	11%
Tracheostomy Care	2%	6%
Suctioning		5%
Dialysis	15%	4%
Ventilator		2%
Emergency Room (last 90 days)	17%	9%
Hospital Stays (last 90 days)	61%	25%

Hypothetical Case 1a (Higher Likelihood of Discharge)

This hypothetical resident with a high likelihood of discharge is a 52 year-old black female who has never been married and who began NF care in 2005. She wishes to return to the community and has the support of someone in the community toward that goal. The informal caregiver is also providing room and board. She has hemiplegia/hemiparesis and is expected to need daily IV medication for 6 weeks for an infection. She has no history of cognitive or mental health problems but requires supervision and limited assistance for eating, toilet use, and walking. She uses a walker and periodically uses a bedside commode. She has the need for one hour of physical therapy per day. She is not expected to need overnight hospital stays or emergency room visits in the near future.

It is expected that this hypothetical resident could return to the community in either a PACE program or in a home setting provided by an informal caregiver. An assisted living facility is unlikely due to the IV medication needs. Skilled nursing and physical therapy services will be needed for 6 weeks. Still, it would probably be cheaper to provide long-term care for this individual in the home rather than a NF, assuming family/caregiver support is provided.

Hypothetical Case 1a				
	<i>NF</i>	<i>ALF (1)</i>	<i>Pace (2)</i>	<i>Community (3)</i>
Bed and Board	✓	✓		provided by caregiver
Medical Transportation			✓	not anticipated
Personal Care (non-licensed)	✓	limited	✓	\$48
Skilled Nursing (annualized cost/day)	✓		✓	\$10
Therapies (annualized cost/day)	✓		✓	\$11
Durable Medical Equipment (4)	✓		✓	\$1
Medications (5)	varies	varies	✓	varies
Medical Supplies (6)	✓		✓	\$0
Daily Cost	\$130	\$34	\$80	\$70
Cost to Virginia (Northern Virginia higher)	\$50	\$34	\$40	\$35

- (1) Not a high likelihood due to IV medication needs
- (2) Sentara in Norfolk currently has the only PACE program in Virginia
- (3) Requires caregiver and support system
- (4) Walker, etc. annualized daily cost
- (5) IV antibiotics, drugs, ointments, etc.
- (6) Incontinence supplies, wound care products, etc.

Hypothetical Case 1b: Low Likelihood of Discharge

This hypothetical resident is a 41 year-old white female who has never been married. She began NF care in 1991. She expressed a desire to return to the community, but does not have the support of anyone in the community toward that goal. She had a stroke with resulting hemiplegia, dementia, and urinary incontinence. She requires extensive assistance with mobility, toilet use and eating. She is anticipated to need physical therapy for three days per week and needs IV medication daily for six weeks to treat a chronic infection. She is an unstable diabetic, requiring daily insulin, and is not appropriate for assisted living as assessed by a physician, and will require close medical oversight.

This resident does not have caregiver/family support in the community and would require 24 hour personal care and extensive skilled nursing and physical therapy. The cost in the community would be nearly 3 times the cost of a Medicaid per diem rate in a NF.

Hypothetical Case 1b		
	<i>NF</i>	<i>Community</i>
Bed and Board (1)	✓	\$33
Medical Transportation (2)		\$2
Personal Care (non-licensed)	✓	\$286
Skilled Nursing (annualized cost/day)	✓	\$15
Therapies (annualized cost/day)	✓	\$11
Durable Medical Equipment (3)	✓	\$4
Medications (4)	varies	varies
Medical Supplies (5)	✓	\$3
Daily Cost	\$130	\$354
Cost to Virginia (Northern Virginia higher)	\$50	\$156

(1) PMA or auxiliary grant rate for community

(2) Medicaid waiver rate

(3) Wheelchairs, walker, oxygen, etc. annualized daily cost

(4) IV antibiotics, drugs, ointments, etc.

(5) Incontinence supplies, diabetic supplies, etc.

Age Range 56-65

There are 47 remaining NF Medicaid residents in the MDS data set age 56-65 who have Discharge Candidate Scores associated with over a 50% likelihood of discharge. There are 1,399 remaining residents in the data set 56-65 who have Discharge Candidate Scores associated with less than a 50% likelihood of discharge.

Most of the residents with a high likelihood of discharge had been treated for an acute condition in a hospital or emergency room in the last 90 days and were receiving a much higher proportion of physical or occupational therapy in the NF, indicating a short-term stay to treat an acute condition. Most had entered the NF in 2005. All 47 had indicated a desire to return to the community in their last assessment and all had indicated someone was available to help care for them in the community.

By contrast, most of the 1,399 residents with a low likelihood of discharge in this age category had not indicated a desire to return and had no informal caregiver available for support. There was a much higher proportion with serious medical conditions and a much higher proportion had been in the NF prior to 2005. Unlike the high likelihood discharge candidates, few were receiving therapy treatments.

Table 14
Characteristics of NF Residents Age 56

	<i>High Likelihood of Discharge</i>	<i>Low Likelihood of Discharge</i>
Number of Residents	47	1,399
Average Age	61	61
% Female	55%	52%
Race (% white)	55%	63%
% Never Married	31%	46%
% Admitted Before 2005	14%	51%
% Wishes to Return	100%	13%
% Someone to Support:	100%	5%
% with Conditions:		
Alzheimer's/Dementia		23%
Hemiplegia/Hemiparesis	23%	24%
Quadriplegia:		4%
Cerebral Palsy		6%
Multiple Sclerosis		8%
Brain Injury		1%
MR/DD		6%
Schizophrenia:	4%	11%
Stage 3 or 4 Ulcer		7%
Bipolar Disorder:	3%	6%
Downs		1%
Epilepsy		1%
Autistic		
Most Common Services:		
Eating supervision or support	91%	96%
Toilet Use Support Provided	85%	89%
Walking supervision or support	81%	85%
Occupational Therapy	72%	10%
Physical Therapy	79%	11%
Oxygen Therapy	17%	12%
Speech Therapy	22%	5%
IV medication	19%	11%
Tracheostomy Care	2%	3%
Suctioning		3%
Dialysis	9%	5%
Ventilator		1%
Emergency Room (last 90 days)	21%	12%
Hospital Stays (last 90 days)	68%	28%

Hypothetical Case 2a (Higher Likelihood of Discharge)

The hypothetical resident is a divorced 63 year-old white male who began NF care in 2005. He had a stroke with resulting hemiplegia, and aphasia. He wishes to return to the community, possibly to work, and has the support of someone in the community toward that goal. He has no history of cognitive or mental health problems, but requires limited supervision or support for walking, eating, and toilet use. He needs physical, speech, and occupational therapy for three months. He needs monthly oversight by a physician. He also needs a walker.

It is expected that this hypothetical resident could return to the community in either a PACE program or in a home setting provided by an informal caregiver. An assisted living facility is unlikely due to personal care needs. Consumer-directed personal care would be needed for 6 hours per day. Physical therapy services will be needed for 6 weeks. Still, it would probably be cheaper to provide long-term care for this individual in the home rather than a NF, assuming family/caregiver support is provided.

Hypothetical Case 2a				
	<i>NF</i>	<i>ALF (1)</i>	<i>Pace (2)</i> informal caregiver	<i>Community (3)</i> informal caregiver
Bed and Board	✓	✓		
Medical Transportation				
Personal Care (non-licensed)		limited	✓	\$48
Skilled Nursing (annualized cost/day)	✓		✓	
Therapies (annualized cost/day)	✓		✓	\$44
Durable Medical Equipment (4)	✓		✓	\$1
Medications			✓	
Medical Supplies	✓		✓	
Daily Cost	\$130	\$34	\$80	\$93
Cost to Virginia (Northern Virginia higher)	\$50	\$34	\$40	\$45

- (1) Not a high likelihood due to personal care needs
- (2) Sentara in Norfolk currently has the only PACE program in Virginia
- (3) Requires caregiver and support system
- (4) Walker annualized daily cost

Hypothetical Case 2b: Low Likelihood of Discharge

The hypothetical resident is a 64 year-old black male widower who began NF care in 1996. He has not indicated a desire to return to the community and does not have the support of anyone in the community toward that goal. He has multiple sclerosis and requires extensive assistance for, eating and is dependent for transfers and toilet use. He uses an electric wheelchair. He has a non-healing pressure ulcer requiring treatment twice a day; uses an indwelling catheter for urinary incontinence and is incontinent for bowel. He has had multiple emergency room visits for urinary tract infections requiring treatments with antibiotics.

This resident does not have caregiver/family support in the community and would require 24 hour personal care and extensive skilled nursing services. The cost in the community would be nearly 4 times the cost of a Medicaid per diem rate in a NF.

Hypothetical Case 2b		
	<i>NF</i>	<i>Community</i>
Bed and Board (1)	✓	\$33
Medical Transportation (2)		\$2
Personal Care (non-licensed)	✓	\$286
Skilled Nursing (annualized cost/day)	✓	\$150
Therapies (annualized cost/day)	✓	\$0
Durable Medical Equipment (3)	✓	\$35
Medications (4)	varies	varies
Medical Supplies (5)	✓	\$15
Daily Cost	\$130	\$522
Cost to Virginia (Northern Virginia higher)	\$50	\$237

- (1) PMA or auxiliary grant rate for community
- (2) Medicaid waiver rate
- (3) Wheelchair and mechanical lift -- annualized daily cost
- (4) IV antibiotics, drugs, ointments, etc.
- (5) Incontinence, catheter and wound care supplies

Age Range 66-84

There are 80 remaining Medicaid NF residents in the data set age 66-84 who have Discharge Candidate Scores associated with over a 50% likelihood of discharge. There are 6,859 current residents in the data set 66-84 who have Discharge Candidate Scores associated with less than a 50% likelihood of discharge.

Most of the residents with a high likelihood of discharge had been treated for an acute condition in a hospital or emergency room in the last 90 days and were receiving a much higher proportion of physical or occupational therapy in the NF, indicating a short-term stay to treat an acute condition. Most had entered the NF in 2005. Almost all of the 80 had indicated a desire to return to the community in their last assessment and had indicated someone was available to help care for them in the community.

By contrast, most of the 6,859 residents with a low likelihood of discharge in this age category had not indicated a desire to return and had no informal caregiver available for support. There was a much higher proportion with serious medical conditions (69 percent had mental disorders) and 65 percent had been admitted to the NF prior to 2005. Unlike the high likelihood discharge candidates, few were receiving therapy treatments.

Table 15
Characteristics of NF Residents Age 66-84

	<i>High Likelihood of Discharge</i>	<i>Low Likelihood of Discharge</i>
Number of Residents	80	6,859
Average Age	75	77
% Female	61%	67%
Race (% white)	61%	65%
% Never Married	27%	21%
% Admitted Before 2005	6%	65%
% Wishes to Return	98%	7%
% Someone to Support:	95%	3%
% with Conditions:		
Alzheimer's/Dementia	19%	57%
Hemiplegia/Hemiparesis	11%	19%
Quadripegia:		1%
Cerebral Palsy		1%
Multiple Sclerosis		1%
Brain Injury		
MR/DD	2%	2%
Schizophrenia:	11%	8%
Stage 3 or 4 Ulcer	3%	5%
Bipolar Disorder:		4%
Downs	1%	
Epilepsy	1%	
Autistic	1%	
Most Common Services:		
Eating supervision or support	84%	96%
Toilet Use Support Provided	78%	90%
Walking supervision or support	72%	87%
Occupational Therapy	66%	9%
Physical Therapy	78%	11%
Oxygen Therapy	24%	14%
Speech Therapy	14%	5%
IV medication	28%	8%
Tracheostomy Care	1%	1%
Suctioning		1%
Dialysis	3%	2%
Ventilator		1%
Emergency Room (last 90 days)	8%	8%
Hospital Stays (last 90 days)	59%	19%

Hypothetical Case 3a (Higher Likelihood of Discharge)

The hypothetical resident is a widowed, 74 year old white female who began NF care in 2005 after a hospitalization. This resulted in the need for assistance in daily care and medication administration. She wishes to return to the community, and has the support of someone in the community toward that goal. She has some short-term memory loss but no mental health problems. She has improved since admission to the nursing home but still requires limited supervision or support for eating, walking, and toilet use. She is occasionally incontinent of bladder. She intermittently needs oxygen administration for shortness of breath, but requires no other durable medical equipment or supplies.

It is expected that this hypothetical resident could return to the community in either a PACE program or in a home setting provided by an informal caregiver. An assisted living facility is unlikely due to personal care needs. Consumer-directed personal care would be needed for at least 6 hours per day. It would probably be cheaper to provide long-term care for this individual in the home rather than a NF, assuming family/caregiver support is provided.

Hypothetical Case 3a				
	<i>NF</i>	<i>ALF (1)</i>	<i>Pace (2)</i>	<i>Community</i>
Bed and Board	✓	✓	informal caregiver	informal caregiver
Medical Transportation			✓	
Personal Care (non-licensed)	✓	limited	✓	\$48
Skilled Nursing (annualized cost/day)	✓		✓	\$11
Therapies (annualized cost/day)	✓		✓	
Durable Medical Equipment (3)	✓		✓	\$2
Medications (4)	varies	varies	✓	varies
Medical Supplies (5)	✓		✓	\$1
Daily Cost	\$130	\$34	\$80	\$62
Cost to Virginia (NoVa higher)	\$50	\$34	\$40	\$30

- (1) Not a high probability due to IV medication needs
- (2) Sentara in Norfolk currently has the only PACE program in Virginia
- (3) Oxygen annualized cost per day
- (4) IV antibiotics, drugs, ointments, etc.
- (5) Incontinence supplies

Hypothetical Case 3b: Low Likelihood of Discharge

The hypothetical resident is a 77 year-old white male widower who began NF care in 1997. He has not expressed a desire to return to the community and does not have the support of anyone in the community toward that goal. He has Hemiplegia/Hemiparesis and Alzheimer's with daily wandering and attempts to leave the facility. He requires supervision and limited support for walking, and extensive assistance for eating and toilet use. He is often combative with staff. His physician has indicated that he would be best cared for in a secured dementia unit. He requires daily administration of psychoactive medications to control his agitation. He is incontinent of both bladder and bowel. He has had frequent falls over the past few months and has required three emergency room visits for sustained injuries.

This resident does not have caregiver/family support in the community and would require 24-hour personal care and some skilled nursing. The cost in the community would be nearly 3 times the cost of a Medicaid per diem rate in a NF.

Hypothetical Case 3b			
	<i>NF</i>	<i>ALF</i>	<i>Community</i>
Bed and Board (1)	✓	\$40	\$33
Medical Transportation (2)			\$2
Personal Care (non-licensed)		if secured unit available	\$286
	✓		
Skilled Nursing (annualized cost/day)	✓		\$2
Therapies (annualized cost/day)	✓		\$0
Durable Medical Equipment	✓		\$0
Medications (3)	varies	varies	varies
Medical Supplies (4)	✓	\$3	\$3
Daily Cost	\$130	\$43	\$327
Cost to Virginia (NoVa higher)	\$50	\$41	\$143

(1) Generally not available - Auxiliary grant rate, plus \$180 subsidy for ALF PMA or auxiliary grant rate for community

(2) Medicaid waiver rate

(3) IV antibiotics, drugs, ointments, etc.

(4) Incontinence supplies

Age Range 85 and Over

There are 46 remaining Medicaid NF residents in the data set age 85 and over who have Discharge Candidate Scores associated with over a 50% likelihood of discharge. There are 7,090 current residents in the data set 85 and over who have Discharge Candidate Scores associated with less than a 50% likelihood of discharge.

Many of the residents with a high likelihood of discharge had been treated for an acute condition in a hospital or emergency room in the last 90 days and were receiving a much higher proportion of physical or occupational therapy in the NF, indicating a short-term stay to treat an acute condition. Almost all had entered the NF in 2005. Almost all of the 46 had indicated a desire to return to the community in their last assessment and had indicated someone was available to help care for them in the community.

By contrast, almost all of the 7,090 residents with a low likelihood of discharge in this age category had not indicated a desire to return and had no informal caregiver available for support. There was a much higher proportion with serious medical conditions and 76 percent had been admitted to the NF prior to 2005. Unlike the high likelihood discharge candidates, few were receiving therapy treatments.

Table 16
Characteristics of NF Residents Age 85 and Over

	<i>High Likelihood of Discharge</i>	<i>Low Likelihood of Discharge</i>
Number of Residents	46	7,090
Average Age	89	91
% Female	83%	86%
Race (% white)	65%	71%
% Never Married	7%	9%
% Admitted Before 2005	3%	76%
% Wishes to Return	100%	5%
% Someone to Support:	98%	2%
% with Conditions:		
Alzheimer's/Dementia	31%	73%
Hemiplegia/Hemiparesis	4%	10%
Quadripegia:		1%
Cerebral Palsy		
Multiple Sclerosis		
Brain Injury		
MR/DD		
Schizophrenia:		
Stage 3 or 4 Ulcer	9%	5%
Bipolar Disorder:		2%
Downs		
Epilepsy		
Most Common Services:		
Eating supervision or support	93%	98%
Toilet Use Support Provided	89%	93%
Walking supervision or support	80%	91%
Occupational Therapy	78%	9%
Physical Therapy	82%	10%
Oxygen Therapy	35%	13%
Speech Therapy	24%	5%
IV medication	28%	7%
Tracheostomy Care	2%	
Suctioning	2%	
Dialysis		
Ventilator		
Emergency Room (last 90 days)	22%	9%
Hospital Stays (last 90 days)	59%	15%

Hypothetical Case 4a (Higher Likelihood of Discharge)

The hypothetical resident is a widowed, 89 year old white female who began NF care in 2005. She wishes to return to the community and has the support of someone in the community toward that goal. She recently experienced a stroke and now has hemiplegia/hemiparesis. Prior to her stroke she lived at home with her daughter who provided care and support for her. Her daughter works during the day and her mother receives eight hours of personal care assistance. She has some dementia but no history of mental health problems. She requires limited supervision or support for walking in the corridor, but not for short distances such as in her room. It is anticipated that she will need physical therapy three times a week for the next six weeks. She requires limited help for eating or toilet use. She is on anti-coagulant therapy and must have weekly lab work done at an outpatient facility.

It is expected that this hypothetical resident could return to the community in either a PACE program or in a home setting provided by an informal caregiver. Consumer-directed personal care would be needed for at least 8 hours per day. It would probably be cheaper to provide long-term care for this individual in the home rather than a NF, assuming family/caregiver support is provided.

Hypothetical Case 4a			
	<i>NF</i>	<i>Pace (1)</i>	<i>Community</i>
Bed and Board	✓		provided by caregiver
Medical Transportation		✓	\$2
Day Care	✓	✓	\$64
Skilled Nursing (annualized cost/day)	✓	✓	
Therapies (annualized cost/day)	✓	✓	\$5
Durable Medical Equipment	✓	✓	
Medications	varies	✓	varies
Medical Supplies (2)	✓	✓	\$3
Daily Cost	\$130	\$80	\$74
Cost to Virginia (NoVa higher)	\$50	\$40	\$36

(1) Sentara in Norfolk currently has the only PACE program in VA.

(2) Incontinence supplies

Hypothetical Case 4b: Low Likelihood of Discharge

The hypothetical resident is a 93 year-old white female widow who began NF care in 2000. She has not expressed a desire to return to the community and does not have an informal caregiver available in the community toward that goal. She has Alzheimer's with severe cognitive impairment, does not communicate, and is bedridden, except for being put in a recliner chair for an hour a day, and is totally dependent for mobility, eating and toilet use. She has pressure ulcer history. She has frequent hospitalizations for pneumonia because of swallowing difficulties. She requires oxygen administration and skilled nursing monitoring for congestive heart failure.

This resident does not have caregiver/family support in the community and would require 24-hour personal care and some skilled nursing. The cost in the community would be nearly 3 times the cost of a Medicaid per diem rate in a NF.

Hypothetical Case 4b		
	<i>NF</i>	<i>Community</i>
Bed and Board (1)	✓	\$33
Medical Transportation (2)		\$2
Personal Care (non-licensed)	✓	\$286
Skilled Nursing (annualized cost/day)	✓	\$13
Therapies (annualized cost/day)	✓	\$0
Durable Medical Equipment (3)	✓	\$5
Medications (4)	varies	varies
Medical Supplies (5)	✓	\$3
Daily Cost	\$130	\$342
Cost to Virginia (NoVa higher)	\$50	\$150

(1) PMA or auxiliary grant rate for community

(2) Medicaid waiver rate

(3) Mechanical lift, recliner, and special bed annualized cost per day

(4) IV antibiotics, drugs, ointments, etc.

(5) Incontinence supplies

Demographic and Future State Cost Projections

As Virginia’s population grows, it will also age. As the large number of “baby boomers” born after 1946 age, the percentage of the population over age 65 will swell. In fact, the fastest increase in population will be for those over age 85, doubling as a percent of Virginia’s population while growing from 87,000 to 223,000 between 2000 and 2030. These facts have direct implications for policies concerning care for the elderly in Virginia.

Table 17
Virginia Population Estimates

Year	Total	Over 65	% of	Over 85	% of
	Population		Total		Total
1990	6,187,358	664,970	10.7%	59,709	1.0%
2000	7,078,501	792,358	11.2%	87,268	1.2%
2010 est.	7,892,884	1,014,220	12.8%	145,455	1.8%
2020 est.	8,601,896	1,359,250	15.8%	172,608	2.0%
2030 est.	9,257,103	1,751,649	18.9%	222,699	2.4%

Source: Virginia Employment Commission

All indications are that additional large funding increases will be needed for the entire continuum of elderly and disabled care. For example, JLARC recently reported that there has been an increase of 217 percent in the number of assisted living beds since 1979 from 10,420 to 32,958.⁷

JLARC also reported that it is already difficult to find Medicaid-funded nursing facility beds even though data provided by the Department of Medical Assistance Services and the Department of Aging indicate that the number of nursing home residents is expected to increase. JLARC also noted that persons eligible for the Medicaid Elderly with Consumer-Direction Waiver have unmet service demands due to patient-pay requirements.⁸ All of this is occurring before the truly dramatic increases in the elderly population that will occur over the next 30 years as the baby-boom generation ages.

⁷ IBID

⁸ See the Executive Summary - “Impact of an Aging Population on State Agencies, JLARC, House Document 10, 2006.

In the 2006 study, “Impact of an Aging Population on State Agencies”, JLARC discussed the impact of an aging population on Virginia. They reported that these impacts will depend on a number of factors, such as:

- Future trends in disability rates (what impact will obesity and Alzheimer’s have on disability rates?)
- Availability of federal funds (Social Security, Medicare, Medicaid)
- Ability of “Baby Boomers” to pay for health care
- Availability of informal caregivers and health care workers
- Medicaid service and eligibility policy choices

Despite assuming a continued decline in nursing home occupancy rates for those 80 and older until 2010 and a flattening thereafter, the Virginia Department of Aging forecasts a 73 percent increase in demand for nursing facility beds by 2030 to over 54,000.⁹

It is a virtual certainty that the total Medicaid costs of caring for aged residents in nursing facilities will exceed \$1 billion per year by 2020 and continue to increase rapidly thereafter. JLARC recently estimated a wide range of potential future Medicaid NF expenditures for aged recipients.¹⁰ Their low growth estimate was based on the projected consumer price index and Department of Medical Assistance Services (DMAS) projections of the growth in Medicaid aged recipients. The high growth estimate is based on forecasts of the medical price index and Census Bureau forecasts of the growth in the aged population. The ability to slow the growth of Medicaid nursing facility needs will depend on the success of health improvements, future disability rates, strategies and policies to help informal caregivers extend their elderly care services in the home, the ability of “Baby Boomers” to pay for health care, and Medicaid service and eligibility policy choices.

Table 18	
JLARC Estimate of Medicaid Aged Recipient Care Costs	
<i>Fiscal Year</i>	<i>Estimated Care Costs \$Millions</i>
2004	\$486
2020	\$1,091-2,208
2030	\$1,795-5,447

⁹ - “Impact of an Aging Population on State Agencies, JLARC, House Document 10, 2006, page 52.

¹⁰ “IBID, pages 51-52.

Appendices and Statistical Detail

Appendix 1: Statistical Detail of Medicaid NF Residents

The study multivariate correlation analysis identified 22 characteristics that were significantly related to discharge status. Subsequent exploratory factor analysis of the 22 variables identified four general factors or clusters of related characteristics.

The first factor is closely related to the traditional ADL index and involves resident mobility. It includes 12 items concerning general mobility, walking, eating, and toilet use. A second factor involves cognitive capabilities and includes three items relating to ability to make decisions and communicate effectively. A third factor involves service usage and includes four items concerning frequency of physical therapy and occupational therapy, and a fourth factor includes three items relating to intentions and ability to discharge. The table below indicates individual factor items and their principal component loadings.

Component Matrix

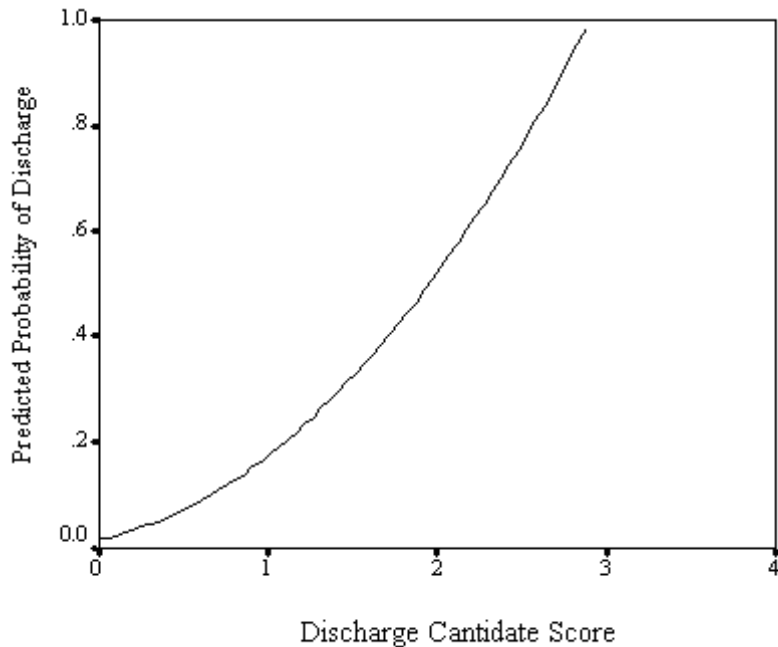
	Factors			
	Mobility	Therapy Usage	Cognitive Acuity	Intent for Discharge
Resident Wishes to return to Community	*	*	*	.611
Resident Supported by Someone Positive Toward Discharge	*	*	*	.612
Discharge Within 90 Days	*	*	*	.641
Occupational Therapy Days	*	.792	*	*
Occupational Therapy Minutes	*	.789	*	*
Physical Therapy Days	*	.792	*	*
Physical Therapy Minutes	*	.769	*	*
Daily Decision Making Skills	*	*	.558	*
Making Self Understood	*	*	.602	*
Ability to Understand Others	*	*	.636	*
Bed Mobility Self Performance	.881	*	*	*
Bed Mobility Support Provided	.790	*	*	*
Transfer Self Performance	.881	*	*	*
Transfer Support Provided	.760	*	*	*
Walk In Room Self Performance	.844	*	*	*
Walk In Room Support Provided	.835	*	*	*
Walk In Corridor Self Performance	.803	*	*	*
Walk In Corridor Support Provided	.797	*	*	*
Eating Self Performance	.714	*	*	*
Eating Support Provided	.674	*	*	*
Toilet Use Self Performance	.859	*	*	*
Toilet Use Support Provided	.684	*	*	*

Because the factor analysis provided an empirical basis for grouping individual items into related clusters and because the resulting clusters contain rationally related items, it is appropriate and useful for subsequent analyses to utilize the aggregated clusters as integral semantic constructs. Accordingly, the four aggregated factors, Mobility, Cognitive Acuity, Therapy Usage, and Intent to Discharge were used in subsequent logistic regression analyses to explore their combined and individual relationship to discharge status.

Logistic regression indicated that all four factors were significantly related to discharge status. Mobility or ADL's, cognitive acuity, therapy usage, and intention to discharge were all positively associated with actual discharge status. The four factors accounted for 43% of the total variance in discharge status; this percentage of variance explanation is considered quite large and indicates that the factors do a relatively good job of predicting discharge outcomes.

Accordingly, all four factors can be weighted appropriately by their relative relationships to discharge outcomes and aggregated in order to create a total Discharge Candidate Score (DCS). The DCS works like the ADL score in that it describes the daily functioning of residents in nursing facilities. However, because it was empirically derived by factor analysis and weighted appropriately, it is a more stable and reliable indicator of discharge readiness and an accurate indicator of appropriateness of discharge.

Logistic regression allows one to estimate probabilities of specific outcomes. The probabilities generated from such analyses can then be graphed onto the Discharge Candidate Score to produce a simple tool for estimating the probability of resident discharge on a case-by-case basis. The plotted quadratic function below provides such a tool. Regression analyses indicates that the DCS score accounts for 96% of the variance in discharge probability, therefore, the DCS score is a very good predictor of estimated probabilities.



According to the function graphed above, residents who have a DCS score of around 2 have about a 50% chance of being discharged. Checking this assertion with the actual data reveals that out of the 41 residents with DRI scores from 1.98 to 2.02, 20 of them (49%) were discharged. Therefore, this tool provides a fairly accurate measure of discharge ability.

Relationship of Factors to Discharge Status		
Factors	Correlation with Discharge Status	Logistical Regression weight (β) in predicting Discharge status
Intent to Discharge	$r = .55$	$\beta = 1.00$
Mobility	$r = .14$	$\beta = .46$
Cognitive Acuity	$r = .18$	$\beta = .51$
Therapy Usage	$r = .31$	$\beta = .44$

Appendix 2: Description of NF Resident Characteristics by Age

Ages 0-20

There were 77 residents coded as being under age 21 that used a Medicaid per diem for a nursing facility stay in 2005. Two birthdates appeared to be miscoded based on other information. The data confirms that it would be very difficult to care for these children in the community based on their severe health conditions. Only five children were discharged to the community in 2005.

Of the 75 children, only eight indicated someone available to support a community discharge for these children. All but four children had an ADL rating score of at least 12, with most over 15. In addition, only seven children had any decision-making ability at all. Interestingly, all five discharges were categorized as severe in both ADL score, with no decision skills. However, four of these five had indicated the “resident has a support person positive towards discharge.”

Medicaid NF Residents Under Age 21 Generally Are Not Candidates for Discharge

<u>Main Problem</u> Residents	12-18 No Decision Wishes to Home				
	<u>Number</u>	<u>ADL</u>	<u>Abilities</u>	<u>Return</u>	<u>Support</u>
Cerebral Palsy	32	32	32	1	2
Oxygen or Tracheostomy/Ventilator	31	31	27	0	6
Traumatic Brain Injury	4	3	3	0	0
Other Quadriplegia	3	3	3	0	0
Other	<u>5</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>0</u>
Total	75	71	68	2	8
Discharges					
Tracheostomy Care	4	4	4	0	3
Cerebral Palsy	1	1	1	1	1

Ages 21-55

There were 1,586 nursing facility residents between the ages of 21 and 55 with Medicaid per diems in 2005. Of these, 175 were discharged to the community during the year. Fully 81 percent of discharged residents had expressed a desire to return to the community in their latest full assessment, with 66 percent indicating the “resident has a support person positive towards discharge.” By contrast, of those residents who remained in the nursing facility in 2005 only 17 percent indicated a desire to return to the community and only 10 percent indicated the “resident has a support person positive towards discharge.” In addition, discharged residents were much more likely to be able to still make daily living decisions for themselves versus those remaining in the nursing facility.

Out of the 1,586 age 21-55 nursing facility residents, 278 residents (18 percent) who were not discharged to the community in 2005 had a low composite ADL score of 4-8. Of these 278 NF residents, 114 had “moderate-to-severely impaired” daily decision making ability, 84 had indicated a desire to return to the community, and 41 indicated the “resident has a support person positive towards discharge.”

Nursing Facility Residents Age 21-55 **(Average Age = 46)**

All Residents	Number	Decision Impaired	Wishes to Return	Home Support
ADL Score 4-8	351	127	140	83
ADL Score 9-13	347	226	115	78
ADL Score 14-18	<u>888</u>	<u>507</u>	<u>120</u>	<u>94</u>
Total	1586	860	375	255

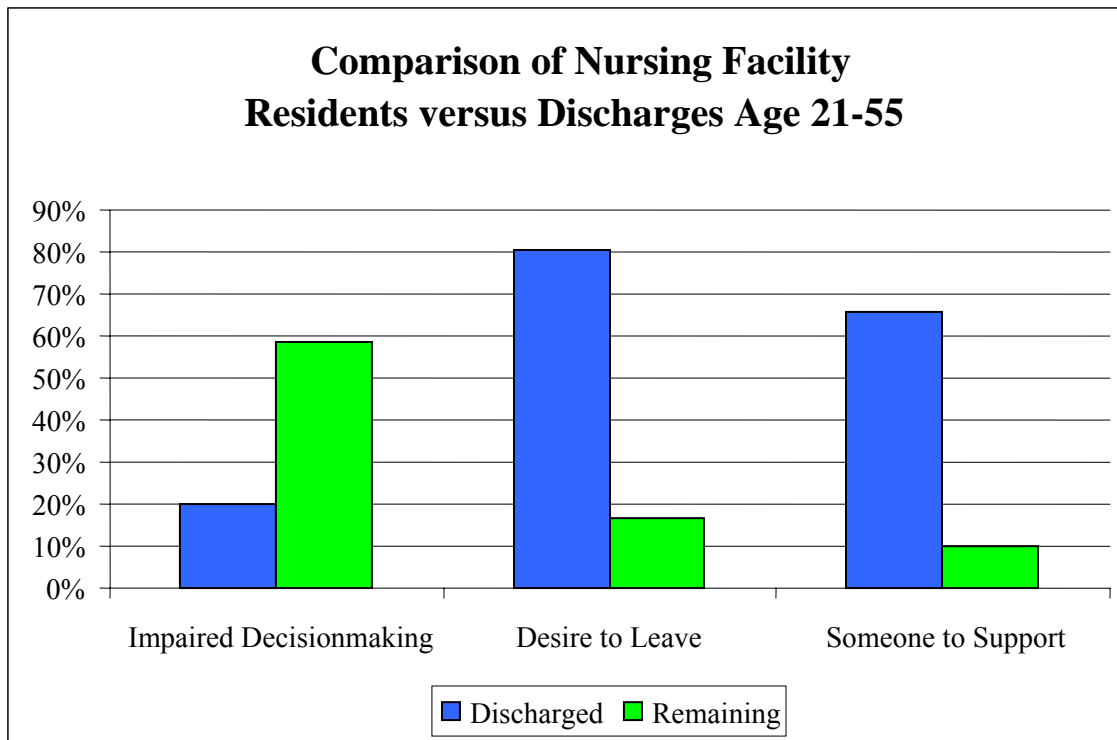
Discharges

ADL Score 4-8	73	13	56	42
ADL Score 9-13	62	7	57	48
ADL Score 14-18	<u>40</u>	<u>15</u>	<u>28</u>	<u>25</u>
Total	175	35	141	115

Remaining Residents

ADL Score 4-8	278	114	84	41
ADL Score 9-13	285	219	58	30
ADL Score 14-18	<u>848</u>	<u>492</u>	<u>92</u>	<u>69</u>
Total	1411	825	234	140

Comparison of Nursing Facility Residents versus Discharges Age 21-55



An analysis was also made of the health characteristics, treatments, and level of care required for those discharged to the community compared to those remaining in nursing facilities. First, composite ADL scores were generally much lower for those discharged compared to those remaining in the nursing facility. Fully 60 percent of 21-55 year 2005 NF remaining residents had composite ADL scores at the highest level of impairment versus only 22 percent of those discharged to the community. Only 20 percent of the remaining 21-55 year old NF remaining 2005 residents had the lowest ADL category scores.

Next, remaining residents exhibited a higher number of at least one of the condition characteristics that we captured in our database in all age categories. These condition characteristics are listed in Appendix 2. In contrast, discharged residents in 2005 exhibited lower average levels of condition characteristics across all ADL score categories and ages.

However, discharged NF residents in all age categories 1) used more treatments and therapies, and 2) had higher numbers of physician or emergency room visits, or hospital stays than the remaining 2005 NF residents. Fiscal Analytics hypothesized that this was due to many of the discharged Medicaid per diem residents never intending to have a long-term NF stay, but rather were being treated for short-term acute conditions in a

NF. We had sufficient data to test this hypothesis. The average date of entry for 21-55 year old NF residents was in late 2004 for 2005 Medicaid per diem discharged nursing facility residents, compared to an average 2001 date of entry for those who remained in the NF. In addition, 81 percent of discharged Medicaid per diem residents had expected to be discharged within 90 days upon entry, while only 24 percent of remaining NF residents had expected to be discharged within 90 days. Furthermore, 71 percent of the discharged residents had been admitted from an acute care or rehabilitation hospital.

Nursing Facility Residents Age 21-55
(Average Age = 46)

All Residents	Number	Major Condition	Major Treatment Needed	Doctor or Hospital Needed	Therapy Needed
ADL Score 4-8	351	189	98	243	80
ADL Score 9-13	347	223	93	238	125
ADL Score 14-18	<u>888</u>	<u>671</u>	<u>270</u>	<u>578</u>	<u>191</u>
Total	1586	1083	461	1059	396

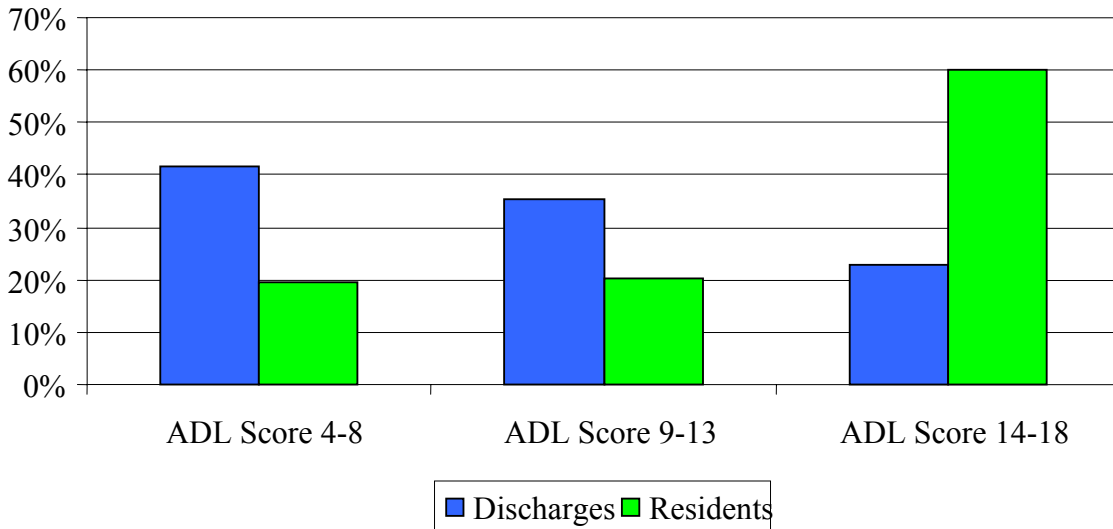
Discharges

ADL Score 4-8	73	32	32	67	37
ADL Score 9-13	62	32	25	57	50
ADL Score 14-18	<u>40</u>	<u>24</u>	<u>18</u>	<u>36</u>	<u>24</u>
Total	175	88	75	160	111

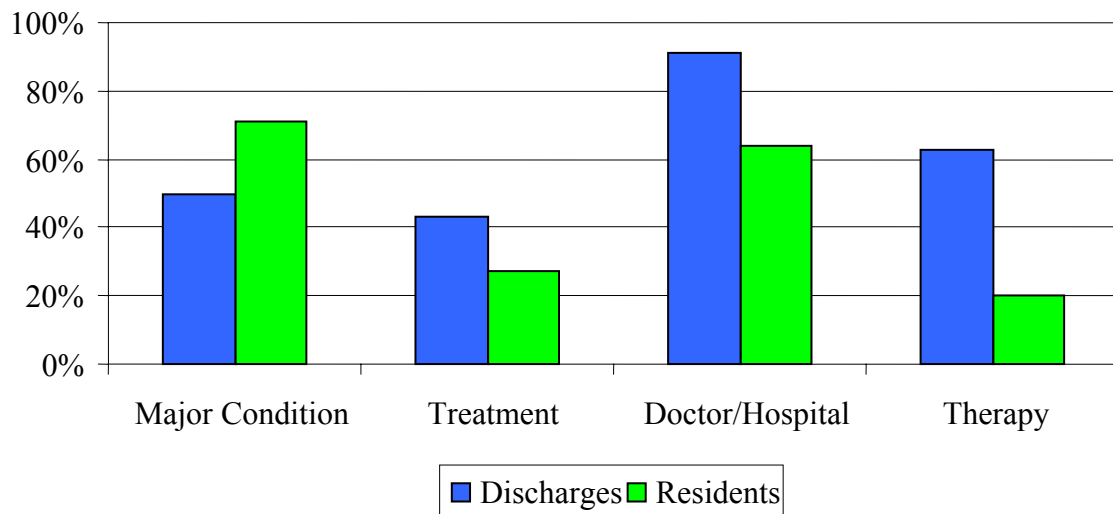
Remaining Residents

ADL Score 4-8	278	157	66	176	43
ADL Score 9-13	285	191	68	181	75
ADL Score 14-18	<u>848</u>	<u>647</u>	<u>252</u>	<u>542</u>	<u>167</u>
Total	1411	995	386	899	285

**Comparison of Age 21-55 ADL Scores for 2005
Discharges versus Remaining NF Residents**



**Comparison of Conditions and Services Provided
During Last Assessment for Residents and Discharges
(Medicaid per Diems Age 21-55)**



Ages 56-65

There were 1,739 nursing facility residents using Medicaid per diems for payment in 2005. Of these individuals, 195 were discharged to a community-based setting during the year.

Nursing Facility Residents Age 56-65 (Average Age = 61)

<u>Residents</u>	<u>Number</u>	<u>Decision Impaired</u>	<u>Wishes to Return</u>	<u>Home Support</u>
ADL Score 4-8	463	205	125	69
ADL Score 9-13	470	162	127	92
ADL Score 14-18	<u>806</u>	<u>513</u>	<u>111</u>	<u>72</u>
Total	1739	880	363	233

Discharges

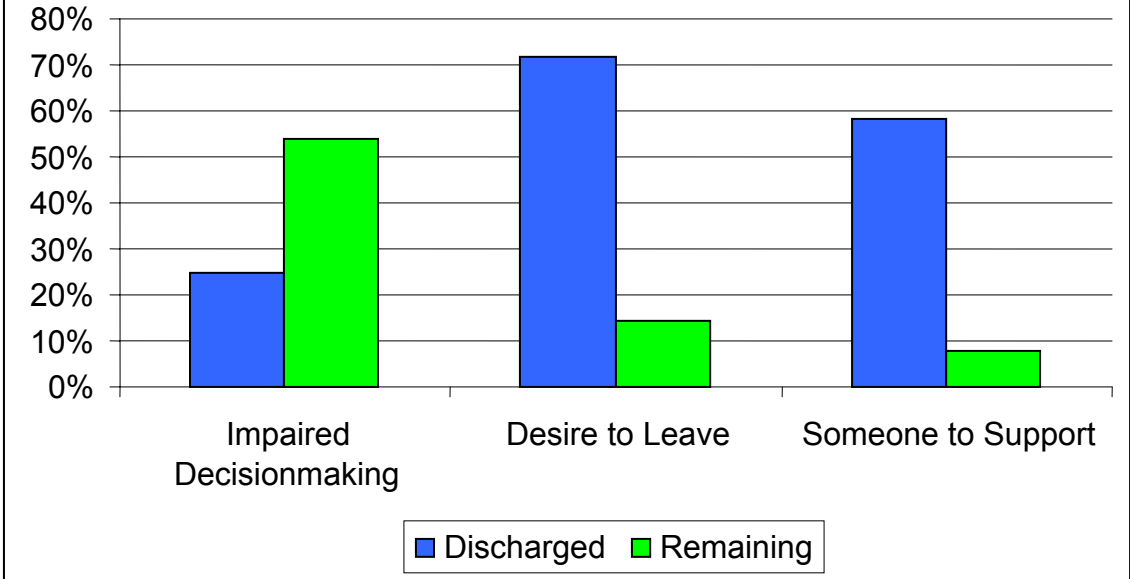
ADL Score 4-8	82	16	55	40
ADL Score 9-13	68	14	53	45
ADL Score 14-18	<u>45</u>	<u>18</u>	<u>32</u>	<u>29</u>
Total	195	48	140	114

Remaining

Residents

ADL Score 4-8	381	189	70	29
ADL Score 9-13	402	148	74	47
ADL Score 14-18	<u>761</u>	<u>495</u>	<u>79</u>	<u>43</u>
Total	1544	832	223	119

Comparison of 2005 Nursing Facility Residents versus Discharges Ages 56-65



Nursing Facility Residents Age 56-65
(Average Age = 61)

<u>Residents</u>	<u>Number</u>	<u>Major Condition</u>	<u>Major Treatment</u>	<u>Doctor or Hospital Needed</u>	<u>Therapy Needed</u>
ADL Score 4-8	463	249	127	288	96
ADL Score 9-13	470	315	135	382	158
ADL Score 14-18	<u>806</u>	<u>612</u>	<u>246</u>	<u>703</u>	<u>195</u>
Total	1739	1176	508	1373	449

Discharges

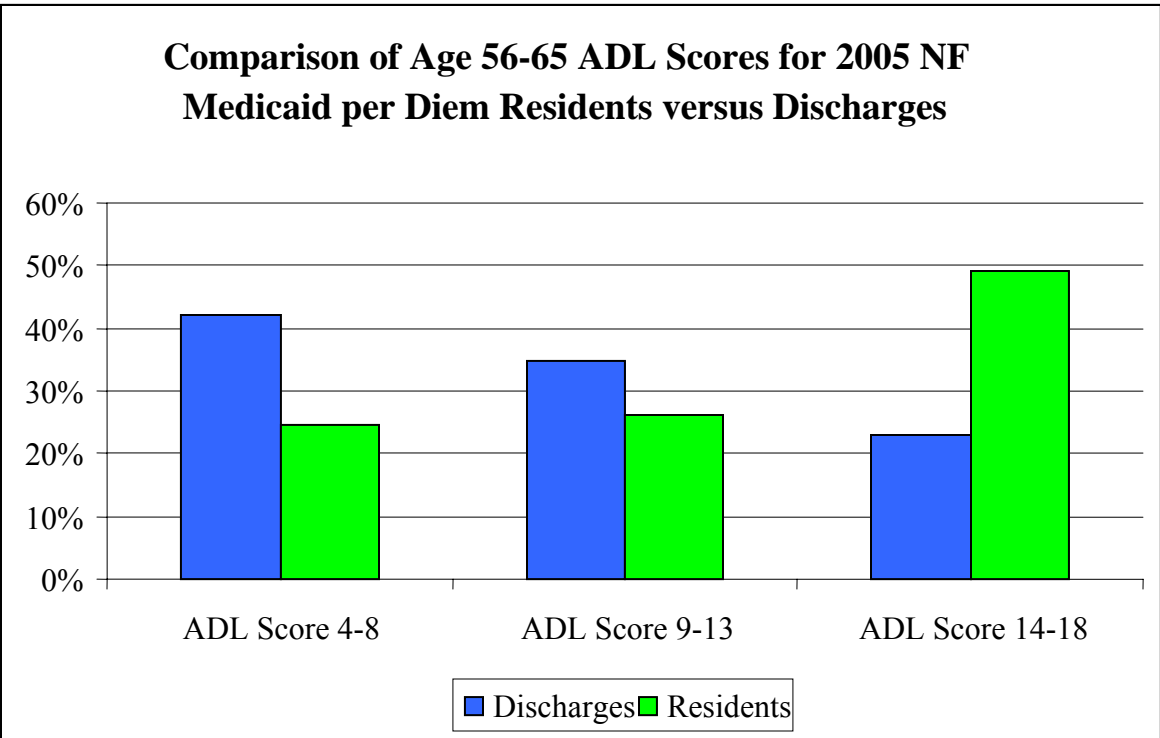
ADL Score 4-8	82	27	30	67	39
ADL Score 9-13	68	28	37	62	51
ADL Score 14-18	<u>45</u>	<u>20</u>	<u>25</u>	<u>42</u>	<u>29</u>
Total	195	75	92	171	119

Remaining

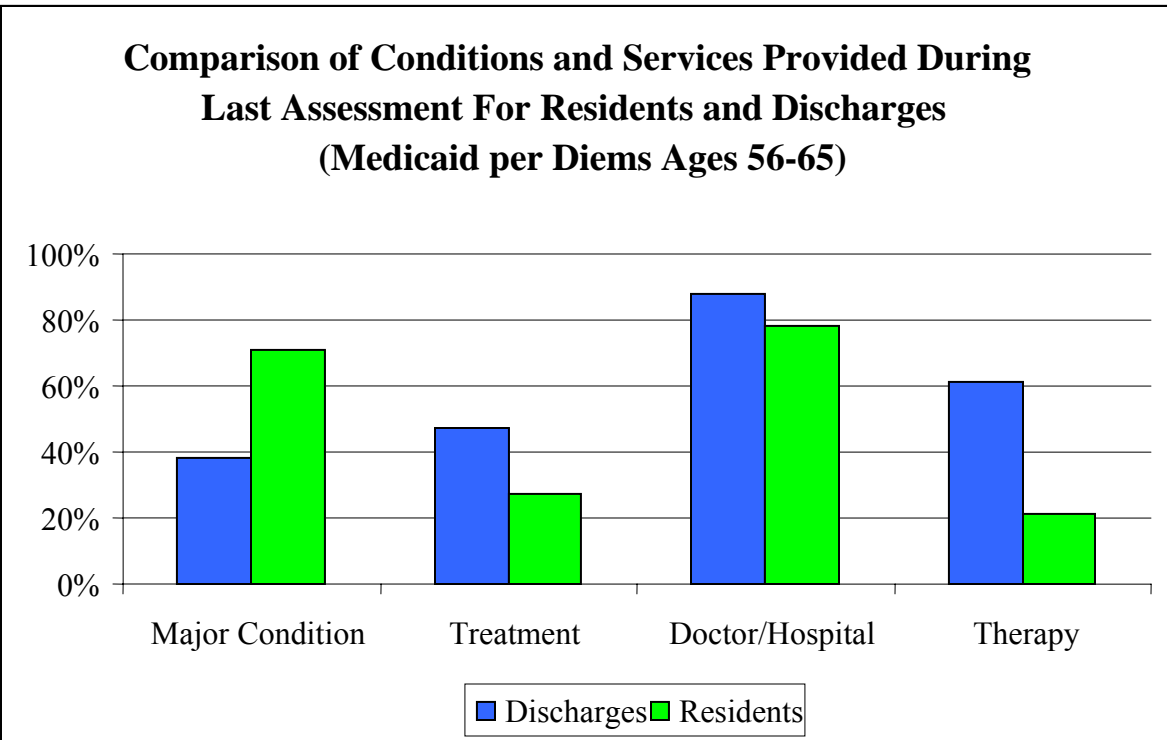
Residents

ADL Score 4-8	381	222	97	221	57
ADL Score 9-13	402	287	98	320	107
ADL Score 14-18	<u>761</u>	<u>592</u>	<u>221</u>	<u>661</u>	<u>166</u>
Total	1544	1101	416	1202	330

Comparison of Age 56-65 ADL Scores for 2005 NF Medicaid per Diem Residents versus Discharges



Comparison of Conditions and Services Provided During Last Assessment For Residents and Discharges (Medicaid per Diems Ages 56-65)



Ages 66-85

There were 7,873 nursing facility residents between the ages of 66 and 85 with Medicaid per diems in 2005. Of these, 372 were discharged to the community during the year. Seventy-three percent of the discharged residents had expressed a desire to return to the community in their latest full assessment, with 61 percent indicating someone in the community to support their care after discharge. By contrast, only 8 percent of those residents who remained in the nursing facility in 2005 indicated a desire to leave and only 4 percent had someone in the community to support them. As in the younger age categories, discharged residents were much more likely to be able to still make daily living decisions for themselves versus those remaining in the nursing facility.

Nursing Facility Residents Age 66-85 **(Average Age = 78)**

<u>Residents</u>	<u>Number</u>	<u>Decision Impaired</u>	<u>Wishes to Return</u>	<u>Home Support</u>
ADL Score 4-8	2057	943	350	156
ADL Score 9-13	2104	1220	291	188
ADL Score 14-18	<u>3712</u>	<u>2908</u>	<u>239</u>	<u>165</u>
Total	7873	5071	880	509

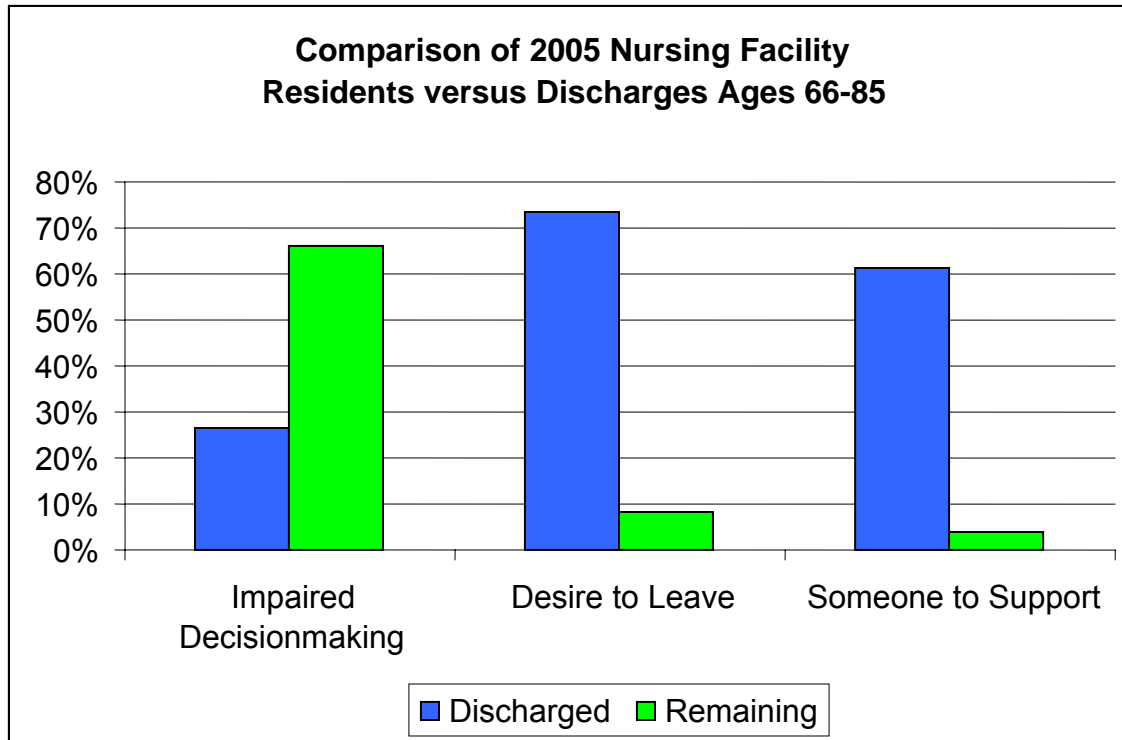
Discharges

ADL Score 4-8	127	23	93	71
ADL Score 9-13	154	35	128	110
ADL Score 14-18	<u>91</u>	<u>40</u>	<u>52</u>	<u>47</u>
Total	372	98	273	228

Remaining

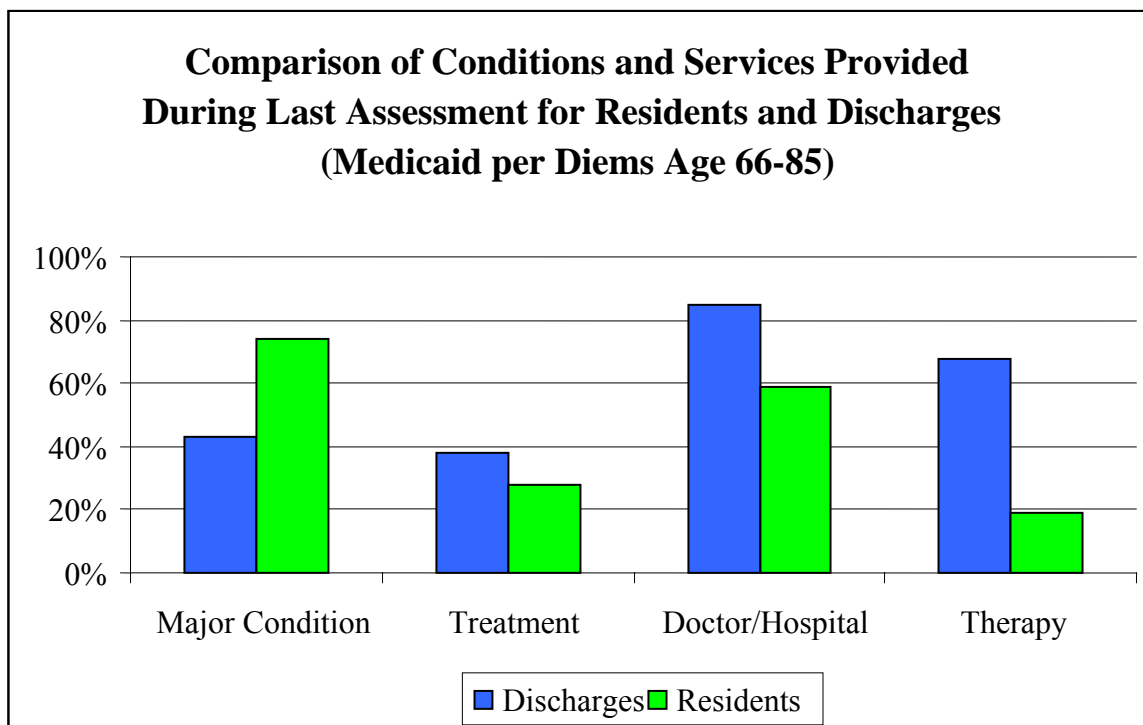
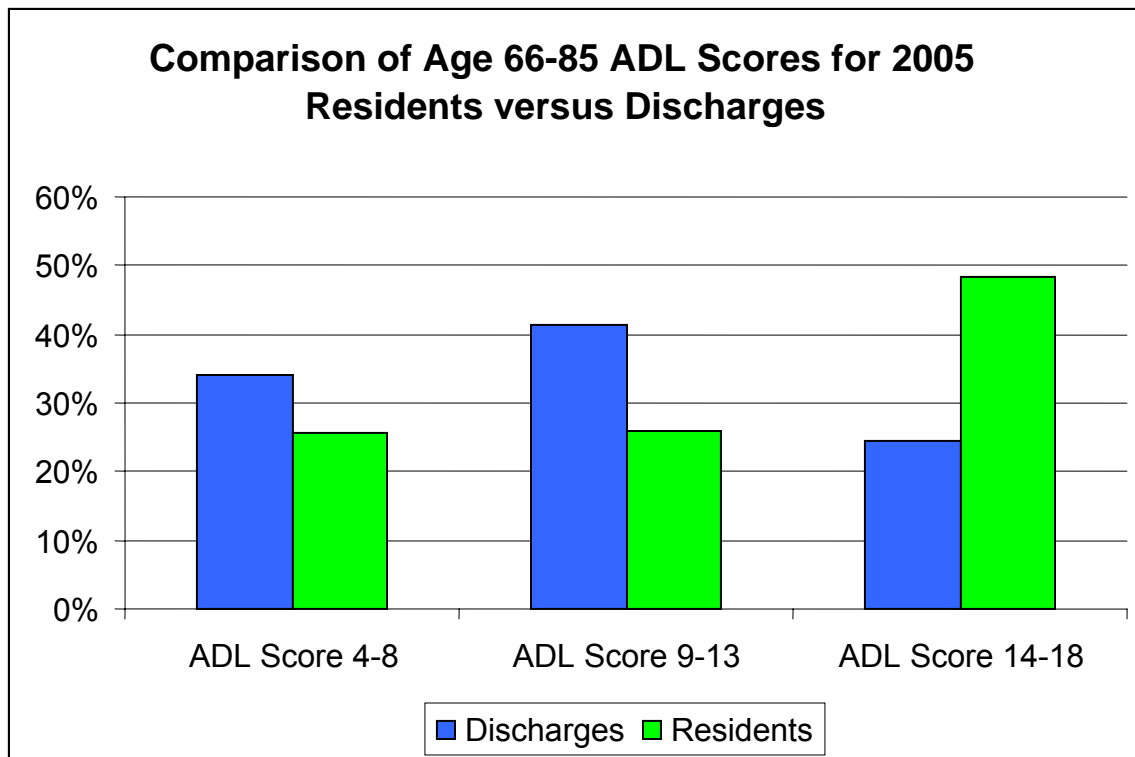
Residents

ADL Score 4-8	1930	920	257	85
ADL Score 9-13	1950	1185	163	78
ADL Score 14-18	<u>3621</u>	<u>2868</u>	<u>187</u>	<u>118</u>
Total	7501	4973	607	281



**Nursing Facility Residents Age 66-85
(Average Age = 78)**

<u>Residents</u>	<u>Number</u>	<u>Major Condition</u>	<u>Major Treatment</u>	<u>Doctor or Hospital Needed</u>	<u>Therapy Needed</u>
ADL Score 4-8	2057	1343	481	1116	290
ADL Score 9-13	2104	1409	557	1289	561
ADL Score 14-18	<u>3712</u>	<u>2964</u>	<u>1191</u>	2330	819
Total	7873	5716	2229	4735	1670
<u>Discharges</u>					
ADL Score 4-8	127	55	42	98	70
ADL Score 9-13	154	48	62	140	122
ADL Score 14-18	<u>91</u>	<u>57</u>	<u>39</u>	79	61
Total	372	160	143	317	253
<u>Remaining Residents</u>					
ADL Score 4-8	1930	1288	439	1018	220
ADL Score 9-13	1950	1361	495	1149	439
ADL Score 14-18	<u>3621</u>	<u>2907</u>	<u>1152</u>	<u>2251</u>	<u>758</u>
Total	7501	5556	2086	4418	1417



Ages Over 85

There were 6,696 nursing facility residents over age 85 with Medicaid per diems in 2005. Of these, 167 were discharged to the community during the year. Forty-four percent of the discharged residents had expressed a desire to return to the community in their latest full assessment, with 54 percent indicating someone in the community available to support their care after discharge. By contrast, only 5 percent of those residents who remained in the nursing facility in 2005 indicated a desire to leave and only 2 percent had someone in the community to support them. Although the difference was smaller than with other categories, discharged residents were somewhat more likely to be able to make daily living decisions for themselves versus those remaining in the nursing facility. However, more than 50 percent of both discharges and remaining residents had moderate to severe loss of daily decision-making ability.

Nursing Facility Residents Over Age 85 **(Average Age = 91)**

<u>Residents</u>	<u>Number</u>	<u>Decision Impaired</u>	<u>Wishes to Return</u>	<u>Home Support</u>
ADL Score 4-8	1339	620	120	36
ADL Score 9-13	1883	1252	149	89
ADL Score 14-18	<u>3474</u>	<u>3047</u>	<u>155</u>	<u>100</u>
Total	6696	4919	424	225

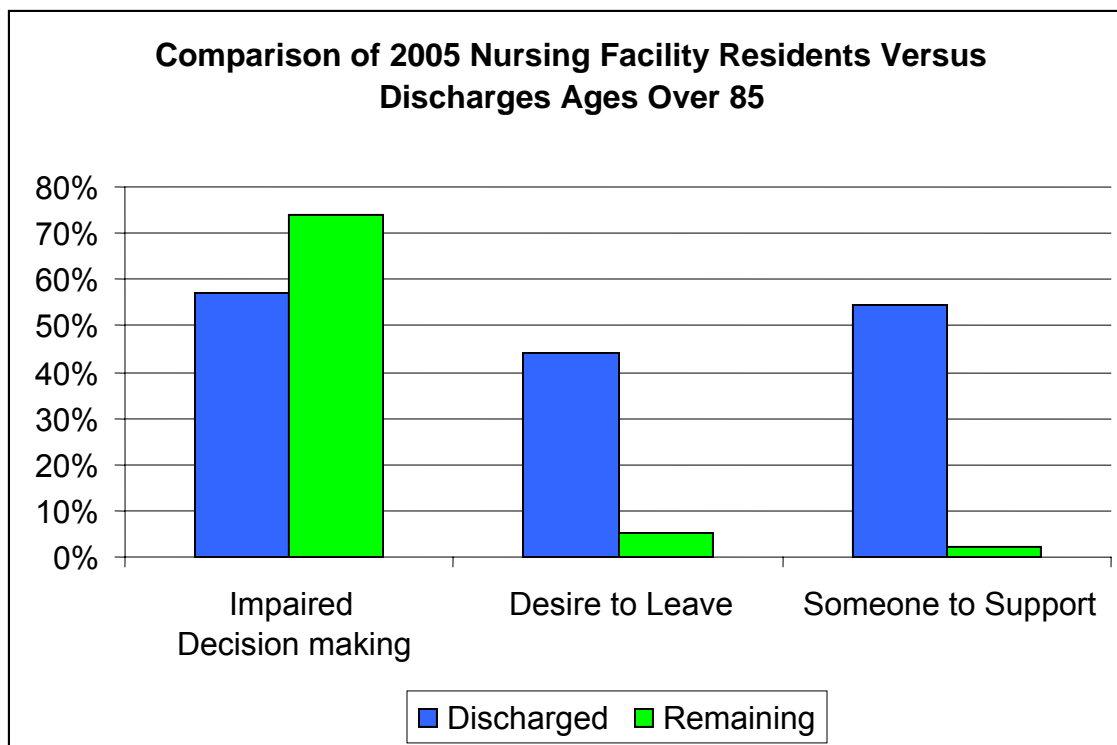
Discharges

ADL Score 4-8	49	13	12	18
ADL Score 9-13	74	54	39	51
ADL Score 14-18	<u>44</u>	<u>28</u>	<u>23</u>	<u>22</u>
Total	167	95	74	91

Remaining

Residents

ADL Score 4-8	1290	607	108	18
ADL Score 9-13	1809	1198	110	38
ADL Score 14-18	<u>3430</u>	<u>3019</u>	<u>132</u>	<u>78</u>
Total	6529	4824	350	134



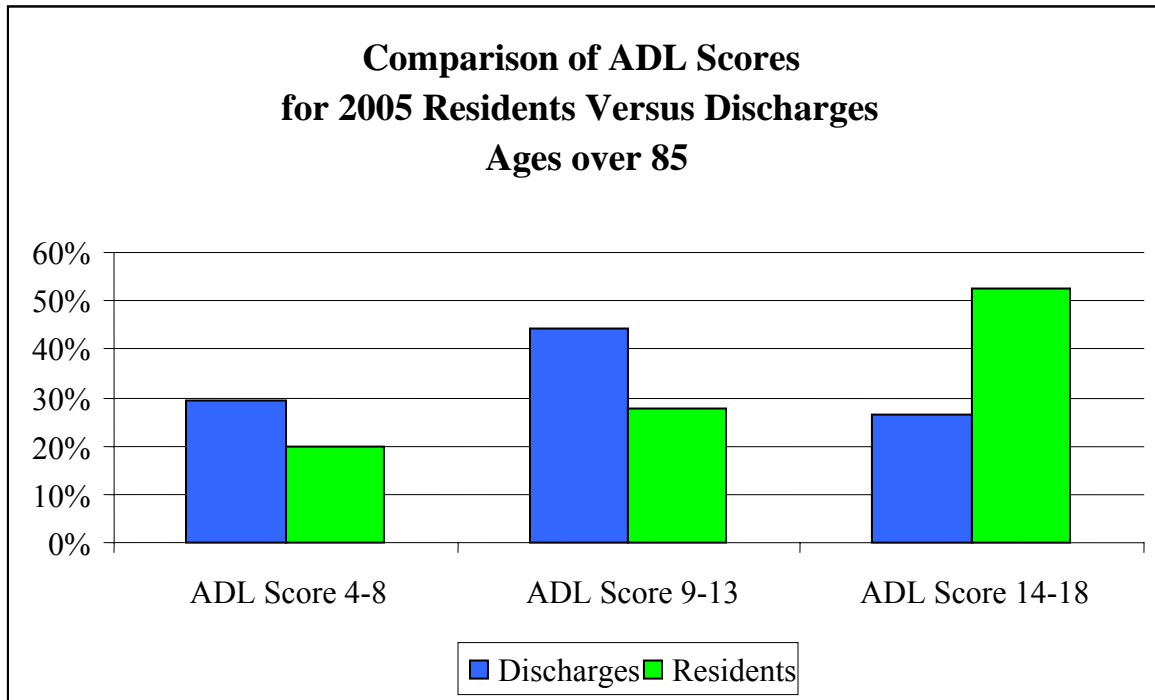
**Nursing Facility Residents Over Age 85
(Average Age = 91)**

<u>Residents</u>	<u>Number</u>	<u>Major Condition</u>	<u>Major Treatment</u>	<u>Doctor or Hospital Needed</u>	<u>Therapy Needed</u>
ADL Score 4-8	1339	808	204	683	171
ADL Score 9-13	1883	1261	432	1017	396
ADL Score 14-18	<u>3474</u>	<u>2831</u>	<u>1035</u>	2009	632
Total	6696	4900	1671	3709	1199
Discharges					
ADL Score 4-8	49	18	4	35	23
ADL Score 9-13	74	30	29	64	47
ADL Score 14-18	<u>44</u>	<u>29</u>	<u>18</u>	<u>37</u>	<u>28</u>
Total	167	77	51	136	98

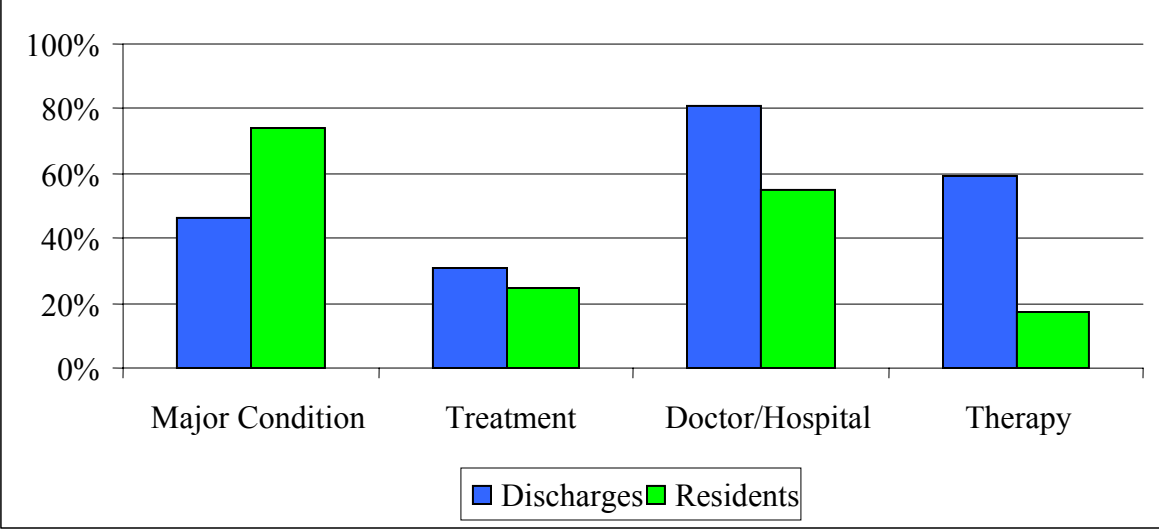
Remaining

Residents

ADL Score 4-8	1290	790	200	648	148
ADL Score 9-13	1809	1231	403	953	349
ADL Score 14-18	<u>3430</u>	<u>2802</u>	<u>1017</u>	<u>1972</u>	<u>604</u>
Total	6529	4823	1620	3573	1101



**Comparison of Conditions and Services Provided
During Last Assessment for Residents and Discharges
Ages Over 85**



Appendix 3: Analysis of 2005 DMAS Uniform Assessment Information

Before any Medicaid payments can be authorized for institutional NF or community-based care, a Uniform Assessment Instrument (UAI) is used by a local committee of health and social services staff or hospital staff to assess the needs of individuals seeking any public, long-term care services in Virginia. The purpose is to evaluate the needs of the individual and whether a nursing facility or community care is warranted.

Medicaid HCBS waivers give states flexibility to implement alternatives to institutionalization. The Department of Medical Assistance Services (DMAS) provided aggregate data to this study on all UAI made by pre-admission screening teams for calendar year 2005. The data consisted of UAI information grouped by 1) Northern Virginia residents and 2) rest-of-state residents. The variables from each area of the state were then broken down by those assigned to a) nursing facilities, b) those receiving an Elderly or Disabled with Consumer Direction (EDCD) waiver, or c) those receiving a Technology Assisted waiver. (See below for detailed UAI data.)

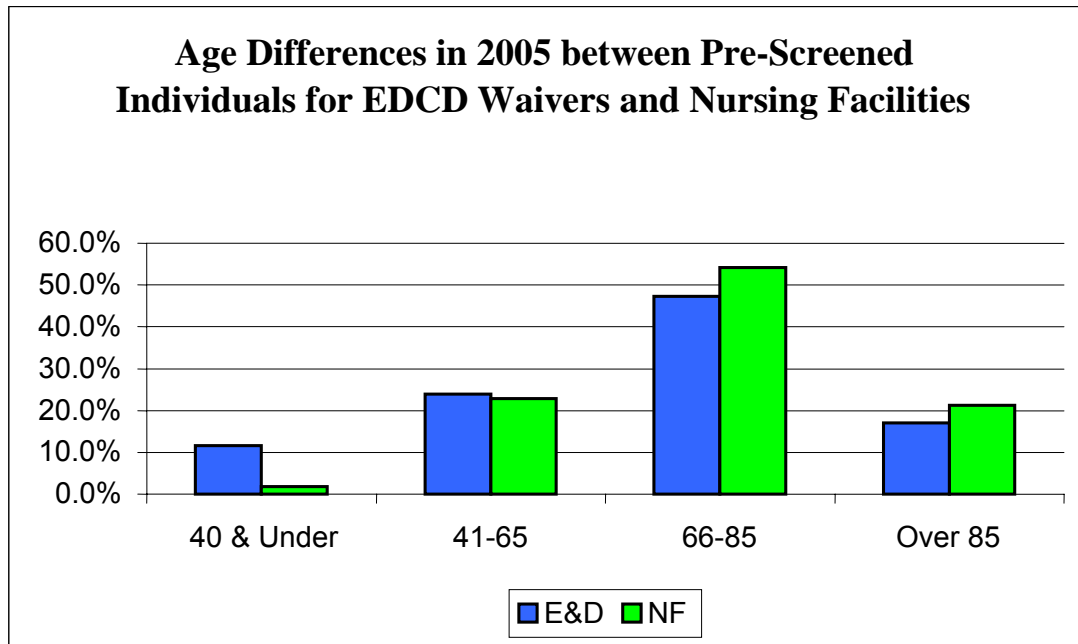
The 2005 UAI data generally supports the hypothesis that individuals placed in nursing facilities have more difficult environmental, health, or financial issues than individuals placed with a community-based waiver. Individuals are often placed in nursing facilities when caregivers are no longer willing or able to provide the around the clock intensive care required to keep them in their home or community. Another major reason for nursing facilities placement supported by data is the lack of financial resources to remain in the community. However, UAI information provided by DMAS was not detailed enough to conduct a thorough examination of differences between community-based recipients and NF residents.

UAI pre-screenings placed in nursing facilities compared to accepting EDCCD waivers were:

- 1) More likely to be living alone or already in a facility if placed in nursing facility.

	No. Virginia		Rest-of-State	
	<u>NF</u>	<u>EDCD</u>	<u>NF</u>	<u>EDCD</u>
Living Alone	25.6%	14.5%	34.1%	28.9%
Living in Facility/Other	27.4%	0.8%	19.2%	1.3%
Living with Someone	47.0%	84.8%	46.7%	69.8%

2) Somewhat older if placed in a nursing facility.



3) Minorities are more likely to accept a waiver.

	<u>Nursing Facility</u>		<u>EDCD Waiver</u>	
White	3346	65.4%	1887	51.3%
Black	1673	32.7%	1641	44.6%
Other	98	1.9%	151	4.1%

4) NF placements were more likely to have a dementia diagnosis. 7.3% of people choosing nursing facilities had a diagnosis of dementia while only 3.4% of those choosing a community-based ECDC waiver had a dementia diagnosis.

5) Nursing facility placements were more likely to take more medications.

Detailed UAI Information

Number of Medications

	<u>NVA:NF</u>	<u>NVA:ECDC</u>	<u>R-O-S:NF</u>	<u>R-O-S:ECDC</u>
0-6	24.4%	41.5%	31.3%	37.6%
Over 6	75.6%	58.5%	68.7%	62.4%

Northern Virginia

Age	<u>Nursing Facility</u>		<u>E&D Waiver</u>	
Under 18	1	0.4%	55	21.3%
18-40	6	2.1%	6	2.3%
41-65	61	21.6%	29	11.2%
66-85	153	54.1%	120	46.5%
Over 85	<u>62</u>	<u>21.9%</u>	<u>48</u>	<u>18.6%</u>
Total	283	100.0%	258	100.0%

Rest of State

Age	<u>Nursing Facility</u>		<u>E&D Waiver</u>	
Under 18	3	0.1%	147	4.3%
18-40	81	1.7%	218	6.4%
41-65	1104	22.8%	851	24.9%
66-85	2621	54.2%	1623	47.4%
Over 85	<u>1025</u>	<u>21.2%</u>	<u>582</u>	<u>17.0%</u>
Total	4834	100.0%	3421	100.0%

Northern Virginia

	<u>Nursing Facility</u>		<u>E&D Waiver</u>	
UAI ENVIRONMENT				
Living Alone	72	25.6%	37	14.5%
House, Own, Living With Spouse	21	7.5%	35	13.7%
House, Own, Living With Other	111	39.5%	182	71.1%
Adult Care Residence	48	17.1%	0	0.0%
Nursing Facility	16	5.7%	0	0.0%
Mental Health/Retardation Facility	5	1.8%	1	0.4%
Other	<u>8</u>	<u>2.8%</u>	<u>1</u>	<u>0.4%</u>
	281	100.0%	256	100.0%

Rest-of-State

	<u>Nursing Facility</u>		<u>E&D Waiver</u>	
UAI ENVIRONMENT				
Living Alone	1646	34.1%	987	28.9%
House, Own, Living With Spouse	556	11.5%	562	16.5%
House, Own, Living With Other	1693	35.1%	1823	53.4%
Adult Care Residence	572	11.9%	17	0.5%
Nursing Facility	251	5.2%	20	0.6%
Mental Health/Retardation Facility	26	0.5%	0	0.0%
Other	<u>76</u>	<u>1.6%</u>	<u>7</u>	<u>0.2%</u>
	4820	100.0%	3416	100.0%

Northern Virginia

	<u>Nursing Facility</u>		<u>E&D Waiver</u>	
UAI DIAGNOSIS - Total of All Three				
None	100	11.6%	98	15.2%
Alcoholism/Substance Abuse	3	0.3%	0	0.0%
Blood-Related Problems	12	1.4%	4	0.6%
Cancer	14	1.6%	19	3.0%
Cardiovascular Problems	211	24.5%	161	25.0%
Dementia	80	9.3%	49	7.6%
Developmental Disabilities	22	2.6%	57	8.9%
Digestive/Liver/Gland Problems	19	2.2%	23	3.6%
Endocrine Problems	82	9.5%	49	7.6%
Eye Disorders	15	1.7%	18	2.8%
Immune System Disorders	3	0.3%	0	0.0%
Muscular/Skeletal	81	9.4%	83	12.9%
Neurological Problems	87	10.1%	102	15.9%
Psychiatric Problems	30	3.5%	17	2.6%
Respiratory Problems	44	5.1%	51	7.9%
Urinary/Reprod Problems	22	2.6%	23	3.6%
All Other Problems	36	4.2%	37	5.8%
Total	861	100.0%	643	100.0%

	Rest-of-State			
	<u>Nursing Facility</u>		<u>E&D Waiver</u>	
UAI DIAGNOSIS - Total of All Three				
None	1662	11.2%	1263	12.0%
Alcoholism/Substance Abuse	66	0.4%	19	0.2%
Blood-Related Problems	228	1.5%	119	1.1%
Cancer	322	2.2%	175	1.7%
Cardiovascular Problems	3276	22.2%	2785	26.5%
Dementia	1073	7.3%	359	3.4%
Developmental Disabilities	237	1.6%	372	3.5%
Digestive/Liver/Gland Problems	286	1.9%	271	2.6%
Endocrine Problems	1270	8.6%	1083	10.3%
Eye Disorders	87	0.6%	149	1.4%
Immune System Disorders	43	0.3%	29	0.3%
Muscular/Skeletal	1340	9.1%	1006	9.6%
Neurological Problems	1194	8.1%	720	6.9%
Psychiatric Problems	325	2.2%	210	2.0%
Respiratory Problems	1213	8.2%	825	7.9%
Urinary/Reprod Problems	686	4.6%	417	4.0%
All Other Problems	1472	10.0%	703	6.7%
Total	14780	100.0%	10505	100.0%

Appendix 4: Conditions, Treatments, and Therapies Captured in the Database

Condition Characteristics in MDS Database

Down Syndrome
Autism
Epilepsy
Other organic condition related to MR/DD
MR/DD with no organic condition
Comatose
Alzheimer's
Cerebral Palsy
Dementia other than Alzheimer's
Hemiplegia/Hemiparesis
Multiple Sclerosis
Quadriplegia
Traumatic Brain injury
Manic Depression Bipolar Disease
Parenteral IV
Stage 3 Ulcers
Stage 4 Ulcers

Treatments Captured in the Database

Chemotherapy
Dialysis
IV Medications
Oxygen
Radiation
Suctioning
Tracheostomy
Ventilator/Respirator
Dementia/Dementia Special Care Unit
Hospice care
Pediatric care
Respite Care

Therapy Types Captured in Database:

Speech
Occupational
Physical
Psychological

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