Extended Nursing Facility Stays Among California's Dual Eligible and Medi-Cal-Only Beneficiaries, 2006-2008

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By CAMRI, University of California
Robert Newcomer, Ph.D.
Charlene Harrington, Ph.D.
Julie Stone, M.P.A.
Denis Hulett, M.S.
Taewoon Kang, Ph.D.
Phillip Chu, M.A.
Todd Gilmer, Ph.D.
Arpita Chattopadhyay, Ph.D.
Andrew B. Bindman, M.D.

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CAMRI

CAMRI is a multi-campus research program of the University of California that promotes the development and dissemination of evidence to improve policy decision-making in California's Medicaid program. For more information, please visit http://camri.universityofcalifornia.edu/.

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Introduction

Medicaid is the single largest payer of nursing facility (NF) care (also referred to as nursing home care) in the United States, accounting for 31% ($46.1 billion) of the total $149.3 billion spent nationally on this care in 2011.[1] Medi-Cal alone, California's Medicaid program, spent nearly $3 billion on NF care in 2008 for eligible beneficiaries in fee-for-service (FFS) who were age 18 and above.[2]

Medi-Cal's coverage of NF care serves as a safety net for persons age 21 and older who cannot afford the cost of institutional care and cannot remain safely in their home or community. NF residents tend to have multiple chronic conditions; significant limitations in activities of daily living (ADLs), such as bathing, feeding and transferring from a bed to a chair; and/or require supervision for behavioral or cognitive impairments. Although NFs can serve individuals for short-term rehabilitation and skilled nursing after a hospitalization, Medicaid-covered NF stays are often characterized as long-term and custodial, serving individuals who are unlikely to return home.

In the face of high Medi-Cal NF costs and a long history of poorly coordinated care for persons at risk of NF entry, California's Medi-Cal State Agency (the California Department of Health Care Services, DHCS), together with its county and health plan partners, are working to identify strategies for avoiding NF use in favor of more cost-effective and consumer-friendly alternatives.

Such alternative strategies include ensuring access to home and community-based services (HCBS) through Medi-Cal's state plan benefit for personal care (In-Home Supportive Services, IHSS) and its section 1915(c) waiver, the Multi-Purpose Senior Services Program (MSSP), as well as other HCBS programs. Other strategies include enrolling certain seniors, persons with disabilities and Medicare-Medi-Cal enrollees (MMEs)[3] in managed care (MC) plans instead of FFS, and holding these plans accountable for coordinating person-centered care. This shift into MC is intended to create financial incentives for health plans to coordinate the full range of medical services and long-term services and supports (LTSS) to achieve quality improvements and cost containment.

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[1] Table 4. National Health Expenditures by Source of Funds and Type of Expenditures: Calendar Years 2005-2011, Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group. See, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/tables.pdf.

[2] This does not include the amount Medi-Cal spent on nursing facility care for individuals with developmental disabilities and children. Adding these amounts would raise the $3 billion to an even greater number. See, Robert Newcomer, Charlene Harrington, Julie Stone, Arpita Chattopadhyay, et.al., "Medicaid and Medicare Spending on Acute, Post-Acute, and Long-Term Services and Supports in California," December 2012. See, http://www.thescanfoundation.org/california-medicaid-research-institute-medicaid-and-medicare-spending-acute-post-acute-and-long-term and http://camri.universityofcalifornia.edu/publications.html.

[3] MMEs are individuals who are dually enrolled in Medicare and Medicaid. They are also commonly referred to as dual eligibles.

Yet with health plans charged with coordinating care for Medi-Cal-only enrollees with LTSS needs, and poised to begin coordinated care for MMEs with LTSS needs in the Fall of 2013, little remains known about such basic things as the characteristics of individuals who enter NFs for Medi-Cal-covered extended stays and how they differ from enrollees who do not enter NFs for extended stays. In particular, little is known about the health status of NF entrants preceding entry and their use of Medi-Cal covered HCBS as a means of preventing or delaying entry. Further, although we know much about Medi-Cal's costs for NF care, we know little about Medi-Cal and Medicare's costs preceding extended stay NF entry.

In partnership with DHCS and its Research and Analytic Studies Branch, the California Medicaid Research Institute (CAMRI) developed an integrated and longitudinal database containing Medi-Cal and Medicare claims and assessment data of LTSS recipients in California in 2005 through 2008. CAMRI used this integrated database to look at the demographics, health status, HCBS use, and costs of care preceding NF entry.

This report describes the demographic, health, and functional status of adult Medi-Cal beneficiaries who are admitted to NFs for extended stays in California and examines whether these beneficiaries received any form of Medi-Cal covered HCBS prior to entry. These analyses are intended to: (1) examine whether the high costs of Medi-Cal's NF services are justified on the basis of need (i.e., levels of chronic illness and limitations in ADLs and cognitive function); (2) evaluate whether HCBS is being utilized to the degree it could to prevent or delay NF entry; and (3) determine what services and costs might be redeployed to delay or prevent NF entry. This analysis focuses just on NF entries between 2006 and 2008.

This information may help DHCS, health plans, and providers identify individuals at risk for NF entry and to develop targeted strategies to address their needs early so as to avoid or delay high cost NF stays. It might also justify targeted approaches to increase utilization of lower cost HCBS when appropriate.

This report is the third in a series that presents findings from CAMRI's integrated database.[4] The first report in this series, *Recipients of Home and Community-Based Services in California*, describes the demographic characteristic, HCBS use, functional level-of-care needs, and rates of NF admissions and mortality for recipients of HCBS in California.[5] The second, *Medicaid and Medicare Spending on Acute, Post-Acute, and Long-Term Services and Supports in California*,

[4] For additional information about CAMRI's process for acquiring, linking and cleaning these data as well as the challenges faced, see Julie Stone, Robert Newcomer, Arpita Chattopadhyay, et.al., *Studying Recipients of Long-Term Care Services and Supports: A Case Study in Assembling Medicaid and Medicare Claims and Assessment Data in California*, California Medicaid Research Institute, University of California, November 16, 2011. See, http://www.thescanfoundation.org/california-medicaid-research-institute-studying-recipients-long-term-care-services-and-supports-case and http://camri.universityofcalifornia.edu/publications.html.

[5] Robert Newcomer, Charlene Harrington, Julie Stone, Arpita Chattopadhyay, Sei J. Lee, Taewoon Kang, Phillip Chu, Chi Kao, Andrew B. Bindman. *Recipients of Home and Community-Based Services in California, June 2012.* See, http://www.thescanfoundation.org/california-medicaid-research-institute-recipients-home-and-community-based-services-california.

describes the full range of medical expenditures for Medi-Cal-only and MMEs with LTSS needs.[6]

Background

Medi-Cal's NF residents are low-income and many spend a significant share of their resources on the cost of their care. Even for middle and upper income families, the high cost of NF care in California (e.g., an average of $214 daily or $78,110 per year for a semi-private room in 2009[7]) can quickly deplete their income and savings. Such high spending on care can reduce a family's income and assets to the state's Medi-Cal eligibility thresholds. Findings from the analyses described in this report demonstrate that very high total health care expenditures are also incurred in the months prior to NF entry, some or all of which might be paid out-of-pocket depending on the individual's insurance status.

Eligibility for Medi-Cal's Nursing Facility (NF) Benefit

Medi-Cal, like all states' Medicaid programs, is means-tested. Thus, eligibility is limited to individuals with income and assets that meet certain thresholds established by the state within federal guidelines. These thresholds specify the maximum amount of countable income and resources a person may have to qualify; income and resources above these amounts generally make an individual ineligible or require a monthly share of cost for Medi-Cal.

In California, all participants in the Supplement Security Income (SSI) program are eligible for Medi-Cal. In addition, individuals aged 65 and over and certain persons with disabilities with income above SSI and up to 100% of the federal poverty level may qualify. Individuals with high medical expenses can qualify for Medi-Cal through the medically needy eligibility group when they spend down their income on NF and/or other medical expenses to a threshold of $600 monthly.[8] Other groups, such as children and certain adults, may also qualify for Medi-Cal and receive NF services if they meet the state's functional level-of-care criteria.

Functional level-of-care criteria measure individuals' difficulty performing activities necessary for self-care and independent living. Assessments of a person's ADLs are used in combination with other factors to determine whether a person meets California's level-of-care criteria for NF admission.

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[6] Robert Newcomer, Charlene Harrington, Julie Stone, Arpita Chattopadhyay, et.al., *Medicaid and Medicare Spending on Acute, Post-Acute, and Long-Term Services and Supports in California*, December 2012. See, http://www.thescanfoundation.org/california-medicaid-research-institute-medicaid-and-medicare-spending-acute-post-acute-and-long-term and http://camri.universityofcalifornia.edu/publications.html.

[7] LifePlans Inc. (2009). "The 2009 MetLife Market Survey of Nursing Home, Assisted Living, Adult Day Services, and Home Care Costs," MetLife Mature Market Institutes, October, Westport, Connecticut.

[8] Individuals may also qualify for Medi-Cal through other eligibility rules. For more information about how individuals age 65 and over and persons with disabilities qualify for Medi-Cal, see Stone, Julie (2009) "Medicaid Eligibility for Persons Age 65+ and Individuals with Disabilities: 2009 State Profiles," Congressional Research Service, Washington, D.C. See, http://pascenter.org/state_based_stats/medicaid_eligibility/index.php.

Medi-Cal's Extended Stay NF Services

Services provided in NFs include nurses, nursing aides and assistants; physical, occupational and speech therapists; social workers and recreational assistants; and room and board. Medi-Cal beneficiaries may reside in a NF for as long as a physician determines the stay to be medically necessary. There are no limits on the Medi-Cal paid length of stay.

Medi-Cal's Home- and Community-Based Services (HCBS)

HCBS refer to health and social services intended to help persons with limited ability for self-care remain at home or in other community-based residential settings while maintaining or restoring an individual's highest possible level of functioning and independence. HCBS are often intended to delay, and sometimes even prevent, entry into NFs and other institutional facilities. Medicaid is the largest single payer for HCBS in the United States. For FY 2011, Medicaid spent $63.6 billion nationally on HCBS, or 16% of its total spending on HCBS benefits.[9]

Medi-Cal HCBS included in this analysis are In-Home Supportive Services (IHSS), Adult Day Health Care (ADHC),[10] Targeted Case Management (TCM), Home Health (HH), and HCBS Waivers.[11]

Medicare Skilled Nursing Facility Stays

While Medi-Cal is the major public payer for NF care for Medi-Cal-only enrollees, Medicare also pays for NF care for Medicare enrollees, including MMEs. Unlike Medi-Cal, however, Medicare does not cover custodial, or what is often termed "extended stay" services in NFs. Rather, Medicare covers skilled nursing facility (SNF) stays for enrollees who need post-acute skilled or rehabilitative services of relatively short duration following a hospitalization of at least three consecutive days. For enrollees needing skilled care, Medicare will pay the full cost of this care for the first 20 days, and then a portion of the cost for up to 100 days of SNF care per "spell of illness." An individual, Medi-Cal, or a supplemental insurance plan pays for all or a portion of the co-payment. The median SNF length of coverage for California's MMEs was 22 days between 2005 and 2008.[12]

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[9] Table 7. Total Medicaid Benefit Spending by State and Category, FY 2011 (millions), MACPAC analysis of CMS-64 Financial Management Report (FMR) net expenditure data from CMS as of February 2012.

[10] Adult Day Health Care is currently known as Community-Based Adult Services (CBAS).

[11] For more information about California's HCBS see, R. Newcomer, C. Harrington, J. Stone, A. Bindman, M. Helmar *California's Medi-Cal Home & Community Based Services Waivers, Benefits & Eligibility Policies, 2005-2008*. See, http://thescanfoundation.org/california-medicaid-research-institute-californias-medi-cal-home-community-based-services-waivers or http://camri.universityofcalifornia.edu/publications.html.

[12] Unpublished tables derived from the project's Medicare Provider and Analysis Review (MedPAR) data files using nursing facility stays beginning in 2005 through 2008.

Study Population

This study begins with a population sample of Medi-Cal enrollees ages 18 and above[13] living in the community who received at least one LTSS (either NF or HCBS) at any time during CYs 2005 through 2008.[14] To conduct the analyses described in this report, we created two sub-populations – those with their initial extended stay NF admission beginning in 2006 through 2008 and those without a NF extended stay admission (i.e., the comparison group). Brief descriptions of how the study population and these two subpopulations were determined are described below. Additional details are provided in **Appendix A.**

The Medi-Cal LTSS study population was identified using: (1) Medi-Cal enrollment files, (2) Medi-Cal claims files, and (3) IHSS Case Management Information and Payrolling System (CMIPS) assessment files.[15] Social Security numbers were then used to link Medi-Cal LTSS recipients with Medicare's enrollment file to identify the program enrollment status of each person in our study population and in each month of the study period.[16] Approximately 1.2 million beneficiaries met these initial inclusion criteria.

We applied a number of exclusion criteria to further narrow the sample population to the target group. The final sample study population was 1,064,180 individuals. We excluded:

- Individuals who qualified for Medi-Cal based upon meeting the state's definition of developmental disability because we have incomplete claims data for this population (n=115,596);
- Beneficiaries enrolled in the Program of All-Inclusive Care for the Elderly (PACE)[17] and those in either Medicare or Medi-Cal managed care at any time during the period. This was done because FFS claims data were not available for the LTSS study sample enrolled managed care (n=54,566); and
- Individuals with inconsistent socio-demographic information in our data because we could not validate the linking of claims and assessment data for these persons (n=29,838).

Additional inclusion/exclusions, described later, were applied in selecting beneficiaries for specific analyses.

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[13] Individuals must have been 18 and older for at least one month during the study period.

[14] Medi-Cal enrollees may have used other supportive services to live in the community, e.g., audiology; durable medical equipment; private duty nursing; occupational, physical and speech therapy; and renal dialysis. These services were recorded, but were not used as a basis for selecting beneficiaries into the study population.

[15] Claims, assessments, and Medi-Cal and Medicare eligibility data were compiled for each qualifying beneficiary within our study period. This assured that, if available, we would have claims and eligibility data preceding and following the selected critical events, like hospital stays, nursing facility entry, death, or changes in health status.

[16] During any given month some study enrollees were enrolled in Medi-Cal only, others were MMEs, and still others were enrolled only in Medicare.

[17] PACE is a managed care program where both Medicare and Medi-Cal services are reimbursed through a set risk adjusted monthly (i.e., capitation) payment, rather than via separately billed service claims. Consequently, claims. Data were not available for participants in these programs for the time period of this study.

Extended Stay NF Admissions

NF stays were identified through co-examination of Medi-Cal and Medicare claims as well as the NF Minimum Data Set (MDS) resident assessment file from 2005 through 2008. A composite view of the claims and MDS files was used to establish admission and discharge dates; payer sources, including whether the stay was paid by Medi-Cal, Medicare, out-of-pocket, and/or a third party; and to designate the purpose of the admission as either rehabilitation or extended stay. We identified 298,062 individuals in our study population who had a NF admission (rehabilitation or extended stay) during 2006 and 2008.

The administrative billing data do not explicitly distinguish between payments made to NF for rehabilitative services as opposed to extended stays. For the purpose of our analysis we considered NF entries to be for an extended stay if they met any of the following criteria:

- A NF stay with a length of stay equal to or greater than 21 consecutive days, the average number of days for exclusive Medicare payment;
- A NF stay for 20 days or less during which time the individual was enrolled in Medicare, but Medicare did not pay during the first 21 days of the stay; or
- A NF stay for 20 days or less that was paid by a source other than Medicare and during which time the individual died.

In this analysis, particular interest was paid to the potential for Medi-Cal to prevent an extended stay NF admission; i.e., those for which Medi-Cal is responsible for all or a share of the expenditures. Therefore, we excluded from analysis individuals who gained Medi-Cal coverage in the same month or after the extended stay NF admission (n=31,614). This criterion helped assure that the NF extended stay sample had the potential to access Medi-Cal funded HCBS prior to the NF admission even if they did not use them. Extended stay is not equivalent to a permanent stay: 56.6% of those meeting our extended stay criteria were discharged home within 60 days. Of those with stays between 61-100 days, another 42.6% were discharged home. Many fewer (14.7%) were discharged home among those having stays of greater than 100 days.[18]

The individuals included in our NF entry group may have had more than one NF stay between 2006 and 2008, but the information presented in this report describes just the characteristics, service use, and costs of care for the period prior to their initial NF extended stay.

Non-Extended Stay NF Comparison Sample

The comparison group for those without extended stay NF admissions was also drawn from the Medi-Cal LTSS study population described above. These individuals used HCBS services but did not have an extended stay NF admission at any time between 2005 and 2008. Each individual in the comparison or non-entrant group alive beyond 2005 was randomly assigned an 'index' date between 2006 and 2008. This date was used to create a 'look-back' period for the non-NF cases that could be compared with those beneficiaries with extended stay NF admissions. This allowed us to create measures of HCBS use, counts of chronic health conditions and functional

[18] See **Appendix A**, Table A-7 for more information on discharge destinations.

limitations, and to compile health expenditures for specific periods preceding the assigned index date (see **Appendix A** for additional information on these selection and exclusion criteria).

Measures Associated with Extended Stay NF Admissions

The measures associated with extended stay NF admissions used in these analyses include: (1) demographic characteristics; (2) household size; (3) chronic illness and disability payment system (CDPS) scores; (4) limitations in activities of daily living and cognitive functions; (5) HCBS use; and (6) Medi-Cal and Medicare service expenditures. Additional detail about these measures can be found in **Appendix B**.[19]

Demographic Characteristics and Household Size

Age, sex, race/ethnicity measures were obtained from Medi-Cal and Medicare eligibility files and were available for all study cases. Household size was used to determine whether the beneficiary was living alone or with others. This measure was intended to look at the potential availability of caregiver supports. Assessment data were used for these calculations.[20]

Chronic Illness and Disability Payment System (CDPS) Scores

Recognizing that there are over 14,000 International Classification of Diseases, Ninth Revision (ICD-9) codes,[21] we used a health condition classification schema known as the Chronic Illness and Disability Payment System (CDPS) to consolidate the conditions into a more manageable metric of disease burden (morbidity).[22] CDPS maps the ICD-9 diagnoses into 58 categories and assigns each a score that represents the incremental, prospective expenditure risk associated with that category.[23] CDPS categories are hierarchical within these major categories,[24] and higher

[19] See **Appendix A** for more information about Medi-Cal eligibility and the AID codes we used to develop categories of eligibility. **Appendix A** also includes details about the months of Medi-Cal eligibility prior to NF entry or index date and Medi-Cal eligibility by the FFS subgroup that is the focus of the expenditures analysis later in the report.

[20] The most frequently used assessment for community residents was from CMIPS. These assessments are completed at entry into the IHSS program, and generally at approximately 24-month intervals. For beneficiaries not in IHSS, (or when other assessments were available) attempts were made to identify the living arrangement status that was the most current relative to the enrollee's NF entry or index date. For this information, we relied upon Medicare's Outcomes Assessment and Information Set (OASIS) which is available for Medicare reimbursed home health services; Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI), available for those discharged from these facilities. Minimum Data Set (MDS) assessments were available for most skilled nursing facility admissions and were the source for household size and functional ability of NF entrants.

[21] Centers for Disease Control & Prevention. (2005). International Classification of Diseases, ninth revision, Clinical Modification (ICD-9-CM). Retrieved from http://www.cdc.gov/nchs/icd9.htm.

[22] CDPS was developed as a diagnostic classification system. It is used by some Medicaid programs to make health-based capitated payments for low-income families and disabled Medicaid beneficiaries. In 2012, CDPS (or its predecessor, DPS) was being used by 11 states. For more information about the development of CDPS, see Kronick R, Gilmer T, Dreyfus T, Lee L. (2000) Improving Health-Based Payment for Medicaid Beneficiaries: CDPS. *Health Care Financing Review*, 21(3):29-64.

[23] See **Appendix B**, **Table B-1**, for a listing of the consolidated disease categories and their weights.

scores reflect greater morbidity. The ICD-9 values were obtained in the current analysis from Medi-Cal and Medicare fee-for-service (FFS) claims files, and hospital discharge records[25] available for the individual during and up to 12 months preceding the extended stay NF admission or the assigned index date for the comparison group not admitted to a NF. Assuming that those individuals who provided 12 months of observations more accurately represent the disease morbidity in the population than those eligible for fewer months, we adjusted the CDPS scores giving greater weight to those individuals enrolled for a greater number of months. This adjustment had minimal impact on the CDPS scores as approximately 90% of the Medi-Cal LTSS population was enrolled for the entire 12 months of observations.

Limitations in Activities of Daily Living (ADLs) and Cognitive Functions

Two measures of functional limitations are included in these analyses. One of these is a count of activities of daily living (ADLs) that require some direct assistance from another person. It ranges from 0 to 5 limitations. A second measure is the presence or absence of cognitive impairments, which reflects the need for supervision or reminders. The ADL and cognitive function measures are potentially available from one or more of four assessment systems: (1) CMIPS, used for In-Home Supportive Services (IHSS); (2) OASIS, used for home health; (3) IRF/PAI, used for rehabilitation facilities; and (4) MDS, used for NF admissions.[26]

In compiling the measure we attempted to identify the individual's status at defined intervals (e.g., three months) prior to NF entry or the index date for those not admitted to a NF. Information from multiple data sources for the same period was averaged to obtain a mean score for the interval. MDS and OASIS assessments were used in the determination of average functional limitations prior to an extended stay NF admission if the associated hospital or NF discharge date preceded the subsequent extended NF admission or the index date for those in the comparison sample and the recipient returned to the community. We also determined ADL scores and the presence of cognitive impairments at the time of an extended stay NF admission from the MDS. These results are compared with the period prior to the extended stay NF admission.

Home and Community Based Services (HCBS)

HCBS as defined in these analyses include the Medi-Cal state plan and HCBS waiver services. State plan service use, including use of IHSS, Medi-Cal Home Health, Adult Day Health Care (ADHC), and Targeted Case Management (TCM) is obtained from Medi-Cal claims data. The HCBS waiver programs included eight separate programs operating for varying periods between 2005 and 2008. For some analyses we have grouped the waivers into two categories: (1) MSSP (the largest of the waivers serving the elderly) which is largely a case management program; and

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[24] This discourages up-coding, but it also allows for adding across categories to account for co-morbid chronic conditions.

[25] Hospital discharge records are collected and provided by the California Office of Statewide Health Planning and Development (OSHPD).

[26] See **Appendix B** for a listing of the specific measures in each assessment, and how they are used in creating a common measure across all these data sets.

(2) all other waivers. These provide case management and supplemental services beyond IHSS.[27] Medi-Cal claims files make it possible to identify FFS-reimbursed HCBS service use by month.

Medi-Cal and Medicare Service Expenditures

Expenditures are derived using Medi-Cal and Medicare claims data linked to our study population. Three broad categories of health care expenditures for the 12-month period prior to an extended stay NF admission or the index date, for those without a NF admission, have been compiled and reported in this analysis: acute and other medical care services, post-acute care, and LTSS.[28] Our prescription drug spending was incomplete and so expenditures on drugs were not included in the tabulation of expenditures. We also excluded expenditures for persons in either Medicare or Med-Cal managed care to avoid having incomplete claims data for these members.

Results

Our analyses are presented in four sections below. They include: (1) demographic characteristics and living arrangements; (2) disease burden and functional status; (3) HCBS use; and (4) Medi-Cal and Medicare expenditures. For each analysis we show differences between the extended stay NF entrants and the comparison group of non-NF entrants. The tables are stratified by MMEs and Medi-Cal-only enrollees.

Demographic Characteristics

Table 1 shows the age, gender and race/ethnicity distribution of the study samples between 2006 and 2008. It also shows how many lived alone or with others prior to an extended stay NF entry.

Age. Extended stay NF entrants tended to be older than their counterparts who did not enter NFs for extended stays (see **Figure 1**). The mean age of MMEs with extended stay NF admissions was 76.5 years compared to the mean age of 70.7 for their MME counterparts without extended stay NF entries. Some of this difference may be due to the fact that there were proportionately more MME entrants age 85 and older than non-entrants (i.e., 28% versus 13%). Similarly, the mean age of Medi-Cal-only extended stay NF entrants was 55.7 years compared to the mean age of 44.4 years for their Medi-Cal-only counterparts without extended stay NF entries. Again, much of the difference could be due to the fact that 57% of all Medi-Cal-only NF entrants were age 55 and above compared to only 31% of non-NF entrants.

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[27] A previous CAMRI report: *California's Medi-Cal Home & Community Based Services Waivers, Benefits & Eligibility Policies, 2005-2008* includes a table showing component service expenditures for each HCBS waiver from 2005-2008.

[28] For additional information on spending of this LTSS recipient population, see Robert Newcomer, Charlene Harrington, Julie Stone, Arpita Chattopadhyay, et.al., "Medicaid and Medicare Spending on Acute, Post-Acute, and Long-Term Services and Supports in California," December 2012. See, http://www.thescanfoundation.org/california-medicaid-research-institute-medicaid-and-medicare-spending-acute-post-acute-and-long-term, and http://camri.universityofcalifornia.edu/publications.html.

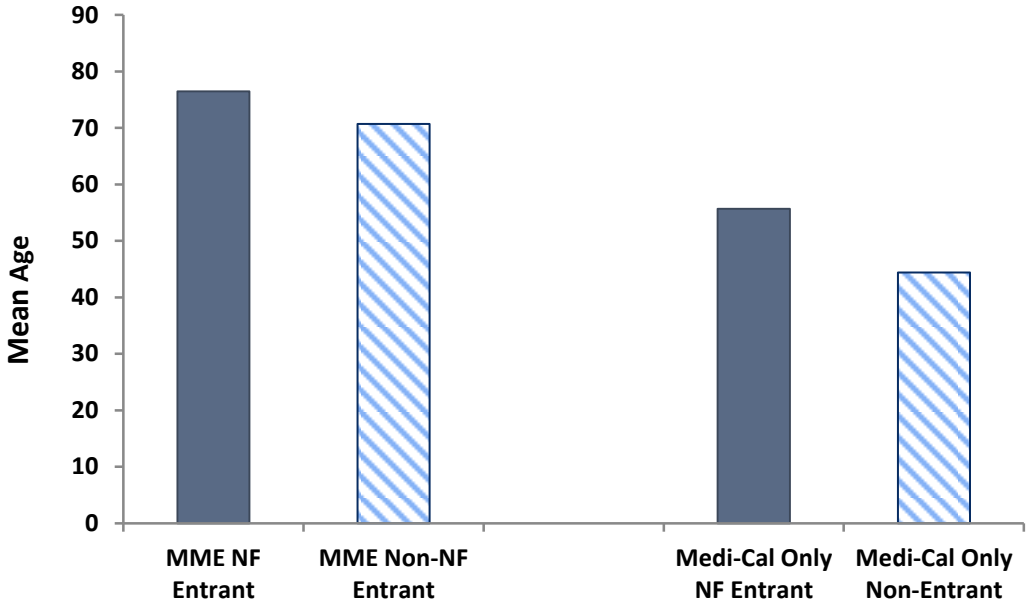
Table 1. Demographics and Living Arrangements of Medi-Cal Enrollees[1] With and Without Extended Stay Nursing Facility (NF) Entry

	MME Enrollees[2]				Medi-Cal -Only Enrollees[2]			
	NF Entrants		Non-NF Entrants[3]		NF Entrants		Non-NF Entrants[3]	
	Number	Col %	Number	Col %	Number	Col %	Number	Col %
Total[4]	76,902	100%	398,809	100%	14,299	100%	229,686	100%
Age (years)								
18-34	391	1%	7,978	2%	913	6%	75,518	33%
35-44	1,216	2%	16,302	4%	1,342	9%	35,367	15%
45-54	3,433	4%	31,890	8%	3,898	27%	48,234	21%
55-64	5,753	7%	37,529	9%	5,791	40%	50,886	22%
65-74	17,658	23%	124,802	31%	1,160	8%	11,899	5%
75-84	27,183	35%	129,236	32%	809	6%	6,354	3%
>=85	21,268	28%	51,072	13%	386	3%	1,428	1%
Mean Age	*76.5*		*70.7*		*55.7*		*44.4*	
Sex								
Female	49,573	64%	253,877	64%	6,756	47%	161,808	70%
Race/Ethnicity								
White	34,003	44%	136,111	34%	5,416	38%	73,891	32%
Hispanic	18,269	24%	108,390	27%	3,712	26%	80,930	35%
African American	8,394	11%	41,762	10%	2,564	18%	39,368	17%
Asian/Pacific Islander	10,876	14%	93,358	23%	1,389	10%	22,737	10%
Alaskan/Native American	213	0%	1,481	0%	74	1%	1,648	1%
Other Combos	5,096	7%	17,547	4%	648	5%	7,616	3%
Unknown	51	0%	160	0%	496	3%	3,496	2%
Living Arrangement[5]								
Lived Alone	20,053	26%	79,411	20%	2,633	18%	19,345	8%
Not Lived Alone	52,223	68%	164,191	41%	9,049	63%	53,729	23%
Unknown	4,626	6%	155,207	39%	2,617	18%	156,612	68%

1. See **Appendix A, Table A-7**, for more information on discharge destinations.
2. Individuals are designated MME if they are enrolled in Medi-Cal and Medicare in the month prior to the NF admission or the index date assigned to non-entrants. Individuals are counted as Medi-Cal-only if they are enrolled in Medi-Cal but not Medicare in the month prior to the NF admission or the index date assigned to non-entrants.
3. Non-entrants have a randomly assigned index date. To be included in this analysis they must be enrolled in Medi-Cal in the month prior to their index date.
4. Individuals included in this table had at least one Medi-Cal reimbursed LTSS service between 2005 and 2008, were not enrolled in PACE, SCAN Health Plan, or other managed care plans during the study period. Those with any developmental disability claims during this period were also excluded.
5. This status was compiled from available assessment data based on the number of persons indicated as living in the household. All other demographics were obtained from eligibility files. See **Appendix B** for more information on the measures used.

Sources: CMIPS, OASIS, IRF-PAI, MDS.

Figure 1. Mean Age of MME and Medi-Cal-Only Extended Stay Nursing Facility (NF) Entrants Compared to Non-Entrants



Sex. Females were admitted to NFs in similar proportion to their representation in the Medi-Cal population.[29] Among MMEs, 64% with and without an extended stay NF admission were women.[30] However, among the Medi-Cal-only enrollees, while women comprised 70% of the Medi-Cal-only non-entrants, they were only 47% of the extended stay NF admissions.

Race/Ethnicity. White beneficiaries are disproportionately more likely to be admitted to NF for an extended stay. For example, among MMEs, 44% of extended stay NF entrants are White compared with 34% of non-entrants. A similar pattern is seen for Whites who are Medi-Cal-only enrollees. However, Hispanics are disproportionately less likely to have an extended stay NF admission (whether they are a MME or Medi-Cal-only). Asians/Pacific Islanders who are MME are disproportionately less likely to have an extended stay NF admission but this same pattern is not seen among Asians/Pacific Islanders who are Medi-Cal-only enrollees.[31]

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[29] CMS' MSIS beneficiary data for California shows that in 2009, 63% of enrollees were female. See, Table 06 Fiscal Year 2009 Medicaid Eligibles by Gender, MSIS State Summary FY 2009. See, http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/MedicaidDataSourcesGenInfo/MSIS-Tables-Items/CMS1254768.html.

[30] Roughly 59% of Medi-Cal's dual eligible population was female in 2007. Source: "Medi-Cal's Dual Eligible Population Demographics, Health Care Characteristics and Costs of Health Care services," compiled by the Research and Analytics Studies Section of DHCS, September 17, 2009. See, http://www.dhcs.ca.gov/provgovpart/Documents/Medi-Cal's%20Dual%20Eligible%20Population.pdf.

[31] **Appendix A** shows the subgroups combined in creating the consolidated categories of race/ethnic groups. These generally conform to the categories reported in Federal statistics. The race/ethnicity distribution of the extended

Living Alone. Living alone appears to be disproportionately greater among those admitted for extended stays to NFs. However we caution against drawing a definitive conclusion about this as there is much missing living arrangement information for non-entrants. For example, our data include no information on living arrangements for 39% of MMEs who were non-entrants and for 68% of Medi-Cal-only non-entrants. For NF entrants, our study found that 68% of the MME enrollees with extended stay NF entries reported living with at least one other person in the three months prior to the NF entry. Of the Medi-Cal-only enrollees, 63% with extended stay NF entries reported living with at least one other person in the three months prior to NF entry.[32] Many of the extended stay NF entrants were living with a spouse, relative, or in an assisted living or other group living arrangement.

Disease Burden and Functional Status

Table 2 shows disease burden measured as CDPS scores and the reported limitations in ADLs and cognitive functioning for the beneficiary subgroups. This is intended to show whether level of disease and functional needs is appropriately greater among those Medi-Cal enrollees with an extended stay NF admission.

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stay NF entrants contrasts somewhat with characteristics of California NF residents where distinctions are not made by length of stay or payer source (Office of Statewide Health Planning and Development, 2006, 2008). In 2006 for example, when 58.4% of residents had stays of less than one month, 66.6% of the admissions were White, 14.2% were Hispanic, 10.2% were African American, 8.9% were Asian, and the balance were other or unknown. These rates remained relatively constant in 2008: 58.9% having stays of less than one month, and race/ethnicity groups being similarly distributed (Whites 63.9%, Hispanics 15.1%, African Americans 10.4%, Asians 9.7%, and other 16.1%). The difference between the population of residents and the study sample is likely attributable to proportionately more Whites having short stays, and that more of the admissions were paid by sources other than Medi-Cal.

[32] The prior period measures were obtained from one or more assessment instruments (e.g., CMIPS, OASIS, IRF-PAI). This measure indicates the last observed status prior to facility entry or the index date. The nursing facility entry status was obtained from the admission MDS assessment, and is available for only those having an admission.

Table 2. Health Status of Medi-Cal Enrollees[1] With and Without Extended Stay Nursing Facility (NF) Entry

Measure	MME Enrollees[2]		Medi-Cal-Only Enrollees[3]	
	NF Entrants	Non- Entrants[4]	NF Entrants	Non- Entrants[4]
Disease Burden (CDPS Score)[5]	**N=76,902**	**N=398,809**	**N=14,299**	**N=229,686**
12 Month Mean Score	3.7	1.9	3.7	1.2
Limitations in Activities of Daily Living[6]	**N=44,973**	**N=233,500**	**N=3,607**	**N=68,208**
Mean ADL Limitation, 3 months prior	2.8	2.6	2.8	2.5
N	73,159	243,784	11,788	73,079
Mean ADL Limitation at NF Entry	3.7	2.6	3.0	2.5
Cognitive Limitations[7] (Yes/No)	**N=44,539**	**N=233,454**	**N=3,607**	**N=68,207**
Cognitive Limitations 3 months prior	53%	37%	44%	38%
N	73,159	243,750	11,788	73,077
Cognitive Limitation at NF Entry (%)	55%	36%	46%	38%

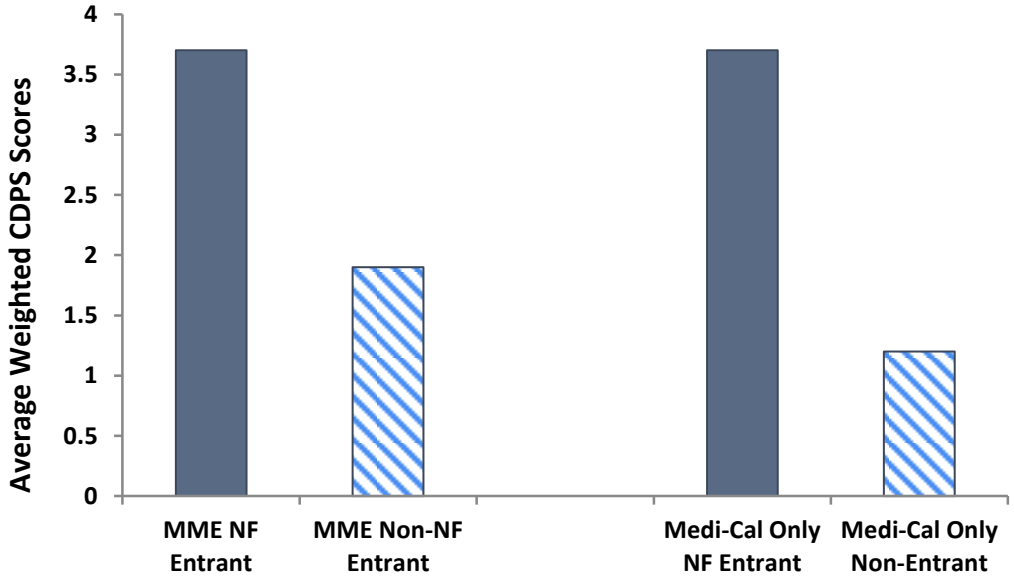
1. Individuals included in this table received at least one Medi-Cal reimbursed LTSS benefit between 2005 and 2008, were not enrolled in PACE, SCAN Health Plan, or other managed care plans and did not have any developmental disability claims during the study period.
2. MMEs are those who were enrolled in Medi-Cal and Medicare in the month prior to an extended stay NF admission, or an index date for the non-NF entrants.
3. Medi-Cal-only individuals are those who were enrolled in Medi-Cal (and not Medicare) in the month prior to an extended stay NF admission or an index date for the non-NF entrants.
4. Non-NF entrants have a randomly assigned index date. To be included in this analysis they must be enrolled in Medi-Cal the month prior to their index date.
5. The CDPS is a method of categorizing morbidity with higher scores associated with greater burdens of disease. The score is weighted by the number of months an enrollee was in Medi-Cal or Medicare fee-for-service in the 12 months prior to NF entry.
6. Count of limitations in ADLs requiring human assistance: self-bathing, dressing, toileting, eating, and transferring. Scored 0 (no limitation) to a maximum of 5 limitations. The number varies from the total due to individuals without assessments. Assessment data on ADL measures were missing for a substantial share of our sample because these individuals were not receiving HCBS or post-acute care services that would generate these assessments. These results reflect the most recent IHSS assessment, averaged with any other assessments applicable in this interval such as OASIS or IRF-PAI, or a MDS conducted for an admission which had subsequent discharge before the extended stay NF admission date or index date. The number of limitations may be undercounted among individuals not having a health care event that resulted in a service encounter that would have generated an assessment at time of discharge from that service.
7. Percent of individuals needing at least supervision because of memory, judgment, or orientation. Number varies from total due to individuals without assessments. Assessment data on cognitive function measures were missing for a substantial share of our sample because these individuals were not receiving HCBS or post-acute care services that would generate these assessments

Sources: CMIPS, OASIS, IRF-PAI, MDS

CDPS. Extended stay NF entrants had a significantly higher disease burden during the 12 months leading up to their NF admissions than did their counterparts without NF entries. Specifically, those entering nursing facilities, on average, had about twice the average CDPS scores of individuals residing in the community (See **Figure 2).**

For both MMEs and Medi-Cal-only enrollees, the average weighted CDPS score for the 12 months prior to entry was 3.7. The average weighted CDPS score for non-entrants during this period was 1.9 for MMEs and 1.2 for Medi-Cal-only enrollees.

Figure 2. Average Weighted CDPS Scores for MME and Medi-Cal-Only Extended Stay Nursing Facility (NF) Entrants and Non-Entrants



Limitations in ADLs and Cognitive Functions

Table 2 shows limitations in ADLs and cognitive functions for MME and Medi-Cal-only extended stay NF entrants and non-entrants for two time periods: 3 months prior to NF admission and at the time of admission. These data indicate if and how changes in functional status can contribute to the likelihood of requiring the level of care available in a NF, but as noted previously the functional status information is missing on anyone who had not received an assessment prior to the NF admission or their index date so the prevalence of functional limitations is likely under reported in these data.[33]

While there was a slightly higher level of ADL limitations in the 3 months prior to an extended stay NF admission for those who were admitted compared to those who were not, there is a substantially greater difference in the ADL limitations at the time of the extended stay NF entry. For example, among MMEs, the average number of ADL limitations were 2.8 in the 3 months

[33] Count of limitations in ADLs requiring human assistance: self-bathing, dressing, toileting, eating, and transferring. Scored 0 (no limitation) to a maximum of 5 limitations. Number varies from total due to individuals without assessments. Assessment data on ADL measures were missing for a substantial share of our sample because these individuals were not receiving HCBS or post-acute care services that would generate these assessments. These results reflect the most recent IHSS assessment, averaged with any other assessment applicable in this interval, e.g., OASIS, IRF-PAI, MDS conducted before the NF admission date or index date.

prior to an extended stay NF admission and this increased to an average of 3.7 limitations as assessed at the time of the NF admission. By comparison, those not admitted to a NF had an average of 2.6 ADL limitations, which remained stable over time. The change in ADL limitations were not as great at the time of an extended stay NF admission for Medi-Cal-only enrollees (average 2.8 in 3 months prior versus 3.0 at time of entry), but it was a change in the same direction as the MME enrollees. As was the case for the MME enrollees the comparison groups ADLs remained stable over time (2.5).

Large differences also exist between extended stay NF entrants and non-entrants vis-a-vis cognitive limitations. While the percentage with cognitive limitations increased slightly when assessed at the time of NF entry, this difference over time is not as great as was observed for ADL limitations.

HCBS Use Prior to Extended Stay NF Entry

Table 3 shows the pattern of HCBS use among first time extended stay NF entrants and the comparison group of non-entrants. Among both MMEs and Medi-Cal-only enrollees, those remaining in the community were marginally more likely to be receiving IHSS (either alone or with another HCBS service) than those having extended stay NF admissions. Medi-Cal funded home health service use was very low in all groups. The use of HCBS waivers inclusive of MSSP and the other 1915(c) waivers was low in all groups, including those entering NFs. While waivers may play an important role for a select population of Medi-Cal beneficiaries, the limited use of them constrains the potential effectiveness of these waiver programs to reduce extended NF admissions in the Medi-Cal population.

Of related and perhaps greater concern is that despite a high level of morbidity and functional limitation, 45% of MMEs and 71% of Medi-Cal-only enrollees who eventually had an extended NF stay were *not* using HCBS in the three months prior to their NF entry (see **Figure 3**). Of those MMEs and Medi-Cal-only enrollees who did use HCBS, the preponderance used IHSS alone, rather than in combination with the HCBS waivers that are targeted to persons at risk of NF entry.

In contrast to these findings is that proportionately more of the non-entrant beneficiaries used HCBS in the three months prior to their index date, 61% vs. 55% of the MMEs and 37% vs. 29% of those Medi-Cal only. Whether HCBS participation in these circumstances prevented or delayed NF entry has not been determined by these analyses.

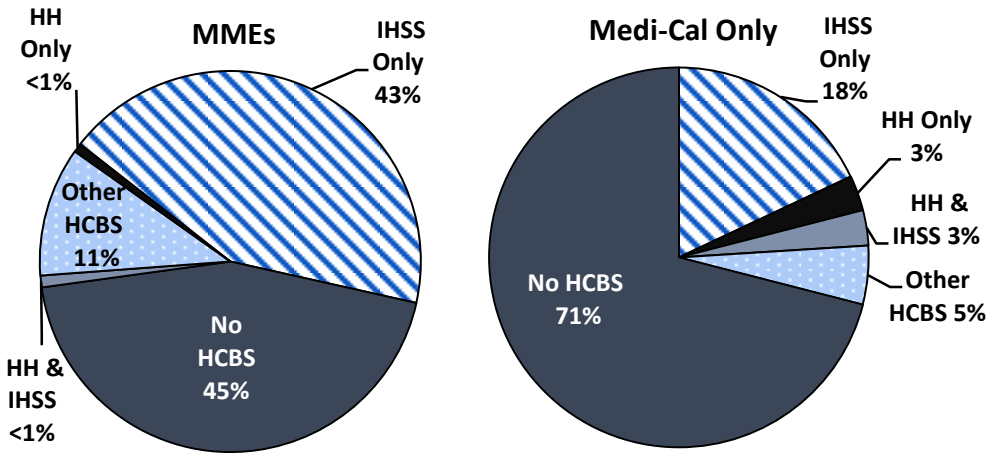
Table 3. HCBS Use[1] in the Three Months Preceding an Extended Stay Nursing Facility (NF) Entry, and Comparisons

	MME Enrollees[2]				Medi-Cal-Only Enrollees[3]			
	NF Entrants		Non- Entrants[4]		NF Entrants		Non- Entrants[4]	
	Number	%	Number	%	Number	%	Number	%
Total	76,902	100%	398,809	100%	14,299	100%	229,686	100%
HCBS Users[5] during 3 Months Preceding NF Entry or Index Date								
IHSS Only	33,122	43%	202,187	51%	2,527	18%	64,775	28%
HH Only	22	0%	49	0%	398	3%	3,984	2%
HH with IHSS	22	0%	46	0%	389	3%	1,253	1%
ADHC Only	1,559	2%	9,844	2%	286	2%	3,345	1%
ADHC with IHSS	2,917	4%	20,391	5%	102	1%	2,222	1%
TCM Only	397	1%	845	0%	301	2%	6,811	3%
TCM with IHSS	175	0%	526	0%	38	0%	308	0%
MSSP	167	0%	336	0%	7	0%	21	0%
MSSP with IHSS	2,959	4%	6,238	2%	22	0%	67	0%
Other Waivers	141	0%	576	0%	25	0%	311	0%
Other Waivers with IHSS	67	0%	748	0%	37	0%	412	0%
All Other Combos	483	1%	1,159	0%	59	0%	332	0%
No HCBS	34,871	45%	155,864	39%	10,108	71%	145,845	63%

1. Individuals included in this table had at least one Medi-Cal reimbursed LTSS service between 2005 and 2008, were not enrolled in PACE, SCAN, or other managed care plans, and did not have any developmental disability claims during the study period.
2. Individuals are designated MME if they are enrolled in Medi-Cal and Medicare in the month prior to the NF admission or the index date assigned to non-entrants.
3. Individuals are counted as Medi-Cal-only if they are enrolled in Medi-Cal but not Medicare in the month prior to the NF admission or the index date assigned to non-entrants.
4. Non- entrants have a randomly assigned index date. To be included in this analysis they must be enrolled in Medi-Cal the month prior to their index date.
5. IHSS: In-Home Supportive Services; HH: Home Health; ADHC: Adult Day Health Care; TCM: Targeted Case Management; MSSP: Multipurpose Senior Services Program.

Sources: CMIPS, Medi-Cal claims

Figure 3. Use of HCBS by MMEs and Medi-Cal-Only Enrollees In the 3 Months Prior to Extended Stay Nursing Facility (NF) Entry



Medi-Cal and Medicare Expenditures Prior to an Extended Stay Nursing Facility (NF) Entry

Medical and LTSS expenditures in the period prior to the extended stay NF entry or the index date are shown in **Figures 4** and **5.**[34] They are presented as average monthly expenditures within two service subgroupings: Acute and Other Medical Services, and Post-Acute Care and LTSS (which are shown as combined because of the limited funds expended on post-acute care).[35] The expenditures were compiled for the 12 months prior to an extended stay NF entry or the index date for the comparison group not admitted to a NF. Individuals are designated MME if they are enrolled in Medi-Cal and Medicare in the month prior to the extended stay NF admission or the index date assigned to non-entrants. Individuals are counted as Medi-Cal-only if they are enrolled in Medi-Cal but not Medicare in the month prior to the extended stay NF admission or the index date assigned to non-entrants. Additional detail on health and LTSS expenditures for these groups is available in **Appendix C**. An individual contributes these monthly averages for the months of their program eligibility. All recipients are receiving services via fee-for-service.

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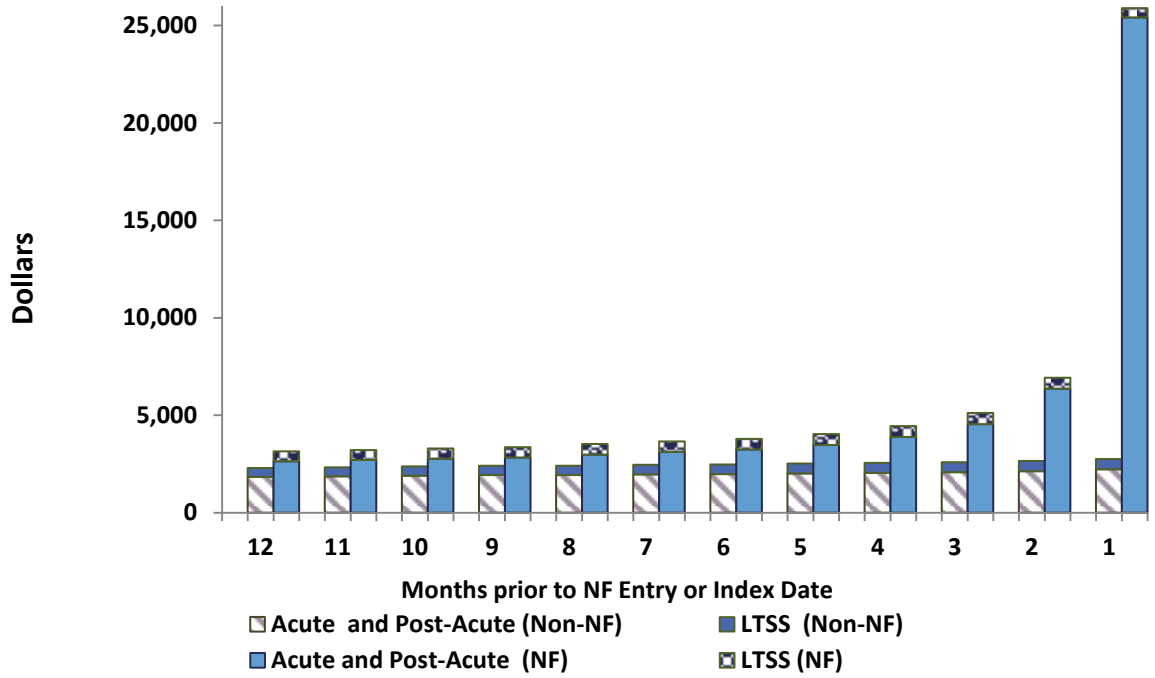
[34] As with the earlier analysis, distinctions are made between extended stay NF entrants and the comparison group of non-entrants, and between MME and Medi-Cal only enrollees. Unlike the prior tables, the analyses summarized in Figures 4 through 6 are limited to beneficiaries with 12 months of continuous fee-for-service enrollment in the months preceding their extended stay NF entry or index date. This restriction assures a reliable capture of all service expenditures from our target funding sources for the reference period. An unavoidable limitation of these restrictive inclusion criteria is a reduction in the number of study cases included. For MME NF entrants, the inclusion rate is 63.7% at 12 months. Inclusion is higher for the comparison MME cases, 75.3%. Among the Medi-Cal only cases, inclusion rates are lower at 12 months (52.0% and 61.0% respectively).

[35] For a description of the services included in the expenditure categories, see Robert Newcomer, Charlene Harrington, Julie Stone, Arpita Chattopadhyay, et.al., *Medicaid and Medicare Spending on Acute, Post-Acute, and Long-Term Services and Supports in California*, December 2012. See, http://www.thescanfoundation.org/california-medicaid-research-institute-medicaid-and-medicare-spending-acute-post-acute-and-long-term and http://camri.universityofcalifornia.edu/publications.html.

Total Medicare and Medi-Cal spending was significantly higher for enrollees who entered NFs for an extended stay compared to those who did not. These differences were apparent as early as 12 months, with the difference widening across the year. Specifically, expenditures per MME enrollees who had an extended stay NF entry averaged $70,800 or about $5,900 monthly over the 12 months prior to entry. As seen in **Figure 4**, average monthly per person expenditures increased modestly for the first nine months of the year and then began to climb exponentially, exceeding an average of $25,900 in the month prior to the extended stay NF entry. Total Medicare and Medi-Cal expenditures for MME enrollees without extended stay NF entries averaged about $2,500 monthly during the observation year. Medicare accounted for about 84% of total expenditures for the extended stay NF entrant group and 75% of total expenditures among non-entrants.

The largest proportion of spending for the 12 months prior to extended stay NF entry was on acute care, ranging from 79%, 12 months prior to the extended stay NF entry, to 91% in the month prior to the extended stay NF entry. LTSS represented about 16% of all Medicare and Medi-Cal spending on enrollees 12 months before the extended stay NF entry. In the month prior to the extended stay NF entry, LTSS represented just 1.9% of average per person spending. Post-acute care spending represented a relatively small share of total spending, ranging from between 4.4% at month 12 and 7.1% at one month before entry. The average LTSS expenditures were only slightly higher for those with an extended stay NF admission than those in the comparison group.

Figure 4. Average Monthly Medi-Cal and Medicare Expenditures for MME Enrollees During the 12 Months Prior to Nursing Facility (NF) Entry or Index Date



For Medi-Cal-only enrollees with extended NF stays, expenditures over the 12 months preceding entry had a monthly average of about $4,200 per beneficiary. The monthly averages reflected in a pattern similar to that observed in the MME group, with rates accelerating three or four months before entry. Expenditures averaged about $16,000 in the month before the extended stay NF entry. LTSS average monthly expenditures remained constant across the year in spite of the increasing total expenditures. As a share of total spending, LTSS significantly decreased relative to acute care spending. For example, LTSS spending represented about 15% of total spending 12 months prior to the extended stay NF entry but just 2% of total spending in the month prior to the extended stay NF entry. Acute care spending, however, increased from 85% at 12 months prior to NF entry to 98% in the month prior to the extended stay NF entry. Further, the average LTSS expenditures were only slightly higher for those with an extended stay NF admission than for those in the comparison group.

For Medi-Cal-only enrollees who were non-entrants to NFs, average monthly expenditures were $942 per person combining acute, post-acute, and LTSS services.

Figure 5. Average Monthly Medi-Cal Expenditures for Medi-Cal-Only Enrollees During the 12 Months Prior to Extended Stay Nursing Facility (NF) Entry or Index Date

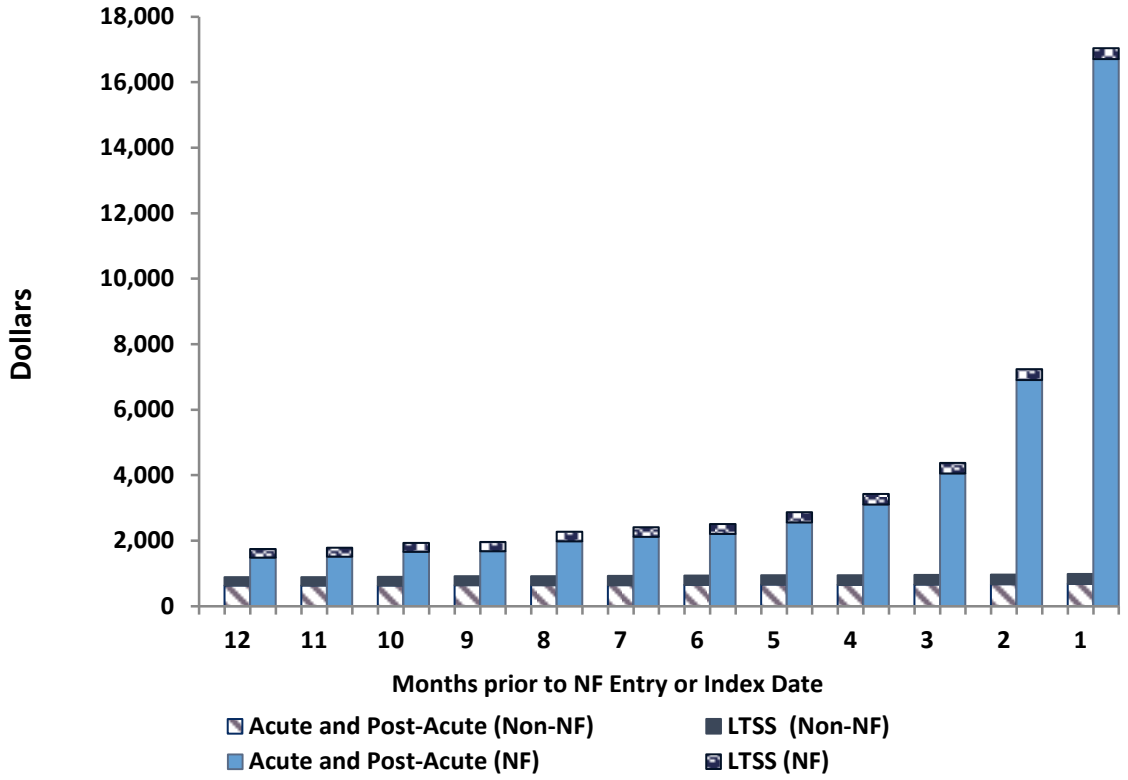
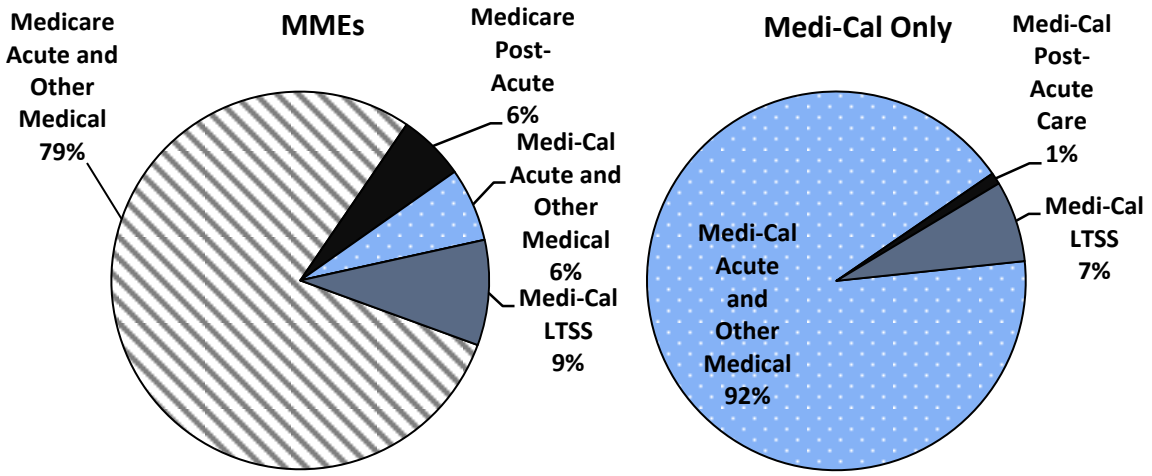


Figure 6 shows total spending on MME and Medi-Cal-only extended stay NF entrants by category of expenditures. For MMEs, 79% of the $3.8 billion in spending paid for acute and other medical services (primarily by Medicare), just under 6% was for Medicare-funded post-acute care, and just over 9% paid for Medi-Cal LTSS. Much, but not all of this latter spending was for HCBS. Medi-Cal reimbursement also covered about 6% of acute medical expenses. For Medi-Cal-only enrollees, total spending was just over $370 million with 93% of this directed toward acute and other medical care services. LTSS comprised just over 7% of the total. Post-acute care accounted for less than 1% of the Medi-Cal expenditures.[36]

[36] See **Appendix C, Table C-1** for the specific expenditures on all these items.

Figure 6. Medicare and Medi-Cal Expenditures During 12 Months Prior to Extended Stay Nursing Facility (NF) Entry



Discussion

Among MME and Medi-Cal-only enrollees meeting our fee-for-service participation inclusion criteria there were approximately 90,000 first entrees to a NF for an extended stay over the 3-year period between 2006 and 2008; an average of 30,000 extended stay NF admissions per year. The majority of these were among MMEs, reflecting that age is a risk factor for an extended stay NF admission. This study also found that MME and Medi-Cal-only enrollees have a high level of disease burden with associated ADL and cognitive limitations. While those with the greatest needs are on average more likely to be admitted to a NF for an extended stay admission, there are several reasons to believe that Medi-Cal's resources could be better aligned to meet the population's LTSS needs.

- Many MME and Medi-Cal-only enrollees do not undergo an assessment of their living arrangements or functional needs to determine whether they could benefit from HCBS prior to an extended stay NF admission. It is possible that these individuals did not need these services prior to NF admission. However, some MME and Medi-Cal-only enrollees at high risk for extended stay admissions to a NF might benefit from more systematic assessments. For example, we found that those who live alone are at an increased risk for an extended stay NF admission yet many of those who have extended stay NF admissions do not have prior assessments of their living arrangements.

- **To the extent that HCBS is a set of services that can delay or prevent extended stay NF admissions, these services appear to be underutilized.** About 45% of the MME and 70% of the Medi-Cal-only enrollees who had extended stay NF entry were not receiving any HCBS in the three-months that preceded the admission. This contrasts with the finding that proportionately more of the NF non-entrant beneficiaries used

HCBS in the three months prior to their index date, 61% vs. 55% of the MMEs and 37% vs. 29% of those Medi-Cal only. Whether HCBS participation in these circumstances prevented or delayed NF entry has not been determined by these analyses, but the finding suggests that access to HCBS may be playing a role as a deterrent of NF entry.

- **Another factor perhaps contributing to the likelihood of entering a NF for an extended stay was a change in health status.** While those who were admitted to a NF for an extended stay had a relatively similar level of functional and cognitive limitations in the three months prior to the admission compared with those who were not admitted, there was a decline in ADLs associated with the time of entry to the NF. This is consistent with the observed substantial increase in medical expenditures in the months prior to an extended stay NF admission. This demonstrates that acute medical events can trigger a sudden change in the need for LTSS. Developing assessment tools or systems to identify and target HCBS toward individuals in risk of sudden increases in medical expenditures may help to prevent or delay extended stay NF admissions.

- **The average monthly and annual LTSS expenditures were only slightly higher for those with an extended stay NF admission than those who did not.** In fact annual LTSS expenditures were 9.2% of total spending for MMEs and 7.3% for Medi-Cal-only NF entrants. This suggests that LTSS spending may not be adequate in some circumstances to prevent or reduce hospitalization and extended stay nursing facility use.[37] Individuals in the MME and Medi-Cal-only groups generally received relatively constant average monthly HCBS expenditures in the months preceding extended stay nursing facility entry, while they had substantially higher average acute care and other medical expenditures. This pattern may suggest that the amount of HCBS may not be sufficiently adjusted to the changing needs of individuals at risk for NF use and that the HCBS providers and other clinicians are not monitoring and adapting to changing health conditions and needs for HCBS. Assessments of individuals using HCBS may not be frequent enough to identify high-risk individuals. Moreover, case management and care coordination among those using HCBS may not be sufficient or attentive to changing health conditions and needs.

- **IHSS is the most widely used HCBS among California's MME and Medi-Cal-only enrollees.** Unlike most HCBS, IHSS use is not limited to only those qualifying for a NF level of care. Evaluation of the relative effectiveness of various HCBS in delaying or preventing extended stay NF admissions is limited in part because so many individuals

[37] Edith G. Walsh, Marc Freiman, Susan Haber, et al. (2010). Cost Drivers for Dually Eligible Beneficiaries: Potentially Avoidable Hospitalizations from Nursing Facility, Skilled Nursing Facility, and Home and Community-Based Services Waiver Programs. Final Task 2 Report prepared for the Centers for Medicare and Medicaid Services. Waltham, MA: RTI International. Judy Yip, Christy M. Nishita, Eileen Crimmins, and Kathleen H. Wilber (2007). High-Cost Users Among Dual Eligibles in Three Care Settings. *J Health Care for the Poor and Underserved*. 18:950-965.

enter nursing facilities without ever having been assessed for or received HCBS services.

- **Those individuals who had extended stay NF admissions had total average monthly expenditures over the prior 12-months that were 3 to 4 times the average expenditures of those in the non-entry group.** Much of this difference is experienced in the three months prior to admission. Medicare was the primary payment source for these services among MME enrollees and paid for almost all the acute and other medical services and post-acute care. Total monthly expenditures among the MMEs and the Medi-Cal-only group were much higher in the three months before NF admission than in the 12 months before. This is primarily because of the high spending on acute and other medical services. Previous studies have shown that hospital use is a consistent positive predictor of nursing facility placement.[38] Many studies have identified the high costs for MMEs and the problem of potentially avoidable hospitalizations for both individuals living in the community and those in NFs.[39]

- **There are differences by race and ethnicity in the likelihood of an extended stay NF admission.** NF entrants were more likely to be White than the non-entrants. This is consistent with some previous reports.[40] There will need to be further analysis of the Medi-Cal population to determine whether this racial and ethnic difference in the use of extended stay NF admissions is related to differences in the need for this service (e.g., social support, disease burden, functional limitations, etc. by race and ethnicity) or whether it reflects potential disparities in the availability and distribution of public resources.

The very high Medicare expenditures for the MMEs who enter nursing facilities suggest the need for better coordination of services between Medi-Cal HCBS and Medicare acute and other

[38] Edward A. Miller and William G. Weissert (2000). Predicting Elderly People's Risk for Nursing Home Placement, Hospitalization, Functional Impairment, and Mortality: A Synthesis. *Medical Care Research and Review*. 57:259-297.

[39] Robert Newcomer, Charlene Harrington, Julie Stone, Arpita Chattopadhyay, et.al., "Medicaid and Medicare Spending on Acute, Post-Acute, and Long-Term Services and Supports in California," December 2012. See, http://www.thescanfoundation.org/california-medicaid-research-institute-medicaid-and-medicare-spending-acute-post-acute-and-long-term and http://camri.universityofcalifornia.edu/publications.html. Ya-Mei Chen and Elaine Adams Thompson (2010). Understanding Factors that Influence Success offo Home-and Community-Based Services in Keeping Older Adults in Community Settings. *J. Aging and Health*. 22(3):267-291.

[40] Edward A. Miller and William G. Weissert (2000). Predicting Elderly People's Risk for Nursing Home Placement, Hospitalization, Functional Impairment, and Mortality: A Synthesis. *Medical Care Research and Review*. 57:259-297. Ashok J. Bharucha, Rajesh Pandav, Changyu Shen, Hiroko H. Dodge, and Mar Ganguli. (2004). Predictors of Nursing Facility Admission: A 12-Year Epidemiological Study in the United States. *J. of American Geriatric Society*. 52:434-439. Joseph E. Gaugler, Sue Duval, Keith A. Anderson, and Robert L. Kane. (2007). Predicting Nursing Home Admission in the U.S.: A Meta-Analysis. *BMC Geriatrics*. 7(13). Joseph E. Gaugler, Fang Yu, Kahleen Krichbaum, and Jean F. Wyman. (2009). Predictors of Nursing Home Admission for Persons with Dementia. *Medical Care*. 47(2):191-198.

medical services and targeted interventions for high risk individuals. Greater coordination between Medicare and Medi-Cal and shifting Medicare resources to HCBS and primary care could reduce some of the hospitalization costs.[41] These findings support the importance of the Financial Alignment Initiative established by the Medicare Medicaid Coordination Office (MMC) in CMS, which were authorized by the Affordable Care Act.[42] California is one of several states participating in demonstration projects that may be able to address the problems identified in this report.[43]

[41] Teresa A. Coughlin, Timothy A. Waldmann, and Lokendra Phadera (2012). Among Dual Eligibles, Identifying the Highest-Cost Individuals Could Help in Crafting More targeted and Effective Responses. *Health Affairs*. 31 (5):1083-1091. Medicare Payment Advisory Commission. "Report to the Congress: Coordinating Care for Dual Eligible Beneficiaries." Chapter 5. (June, 2011):119-142.

[42] MaryBeth Musumeci, John Connolly, Jhamirah Howard, and Gretchen Jacobson (2011). Proposed Models to Integrate Medicare and Medicaid Benefits for Dual Eligibles: A Look at the 15 State Design Contracts Funded by CMS. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.

[43] The Department of Health Care Services Long-Term Care Division has identified flaws in adjudicating NF TARs. Field office nurses will approve 2 year NF TARs for persons who show 6 month active discharge planning. This leads to disincentives for the NF to follow up on discharges. Further work may consider the inclusion of TAR data for NFs in LTSS/HCBS/Extended Stay NF studies.

Appendix A. Additional Detail about the Study Population

Medi-Cal Program Eligibility

Medi-Cal eligibility information for our study population was extracted from the Medi-Cal Monthly Eligibility Files (MMEF) compiled by the California Department of Health Care Services (DHCS). Aid codes and monthly program participation were assessed for each individual in our study population over all study years. Aid codes were grouped into 7 categories (described below). These categories were derived from 13 Expansion Aid Categories used by the Research and Analytical Studies Branch within DHCS. Definitions of Medi-Cal aid codes may be found in the Aid Codes Master Chart in the Medi-Cal Provider's Manual at: http://files.medi-cal.ca.gov/pubsdoco/publications/masters-mtp/part1/aidcodes_z01c00.doc.

Enrollees in the 12-month study window preceding either a NF entry or the assigned index date had an average Medi-Cal enrollment of 11.4 months. For non-entrants, about 80% of the MMEs and 61% of those Medi-Cal-only were categorically eligible for Medi-Cal (i.e., Aged, Blind, Disabled and Family). Fewer of those in the NF entry group (61% of those Medi-Cal-only and 70% of the MMEs) were categorically eligible. The balance of enrollees in all these subgroups was largely those in an eligibility category commonly known as Medically Needy. These individuals have a share of cost for their care and have usually incurred high health care spending before becoming Medi-Cal eligible.

Table A-1 shows the aid codes consolidated into the primary categories used in our analysis. Subgroupings within each are also identified to clarify the component groups. (For Aid code Descriptions see http://files.medi-cal.ca.gov/pubsdoco/publications/masters-mtp/part1/aidcodes_z01c00.doc).

Table A-1. Medi-Cal Eligibility Aid Codes

Categorically Eligible	Aid Codes
1. Public Assistance –Aged[a]	10, 16, 18, 1E
2. Public Assistance –Blind[a]	20, 26, 28, 2E, 6A
3. Public Assistance –Disabled[a]	36, 60, 66, 68, 6C, 6E, 6N, 6P
4. Family[b]	30, 32, 33, 35, 38, 40, 42, 3A, 3C, 3E, 3G, 3H, 3L, 3M, 3P, 3R, 3U, 3W, 4F, 4G, 4T; 03, 04, 06, 45, 46, 82, 83, 2A, 4A, 4K, 4M, 5E, 5K, 7M, 7N, 7P, 7R, 7T, 8E, 8W; 53, 81, 86, 87
5. LTC (State)[c]	13, 23, 63
Spend Down Eligibility[d]	
6. Medically Needy	14, 17, 1H, 1U, 1X, 1Y; 24, 27, 2H; 64, 65, 67, 6G, 6H, 6S, 6U, 6V, 6W, 6X, 6Y, 8G; 34, 37, 39, 3D, 3N, 3T, 3V, 54, 59, 5J, 5R, 5T, 5W, 6J, 6R, 7J, 7K
7. Other[e]	01, 02, 08, 0A, 55, 58, 5F, C1, C2, C3, C4, C5, C6, C7, C8, C9, D1, D2, D3, D4, D5, D6, D7, D8, D9, 44

[a] Meets SSI definitions of Aged, Blind, Disabled and financial requirements of either SSI-related, 100% of FPL, Buy-in, or smaller pathways

[b] This category includes Public Assistant -Family, Medically Indigent-Child, and Medically Indigent-Adult

[c] Meets the state definition of nursing home level-of-care and financial eligibility requirements for Medi-Cal.

[d] Since at least 2001, California's medically needy income standard (net after paying health care expenses) has been $600 for individuals and $934 for couples.

[e] The "Other" category primarily includes aliens who do not have satisfactory immigration status, unverified citizens, or refugees.

Table A-2 shows the count of individuals in our study population who were enrolled in Medi-Cal during the months prior to NF entry date or the index date for those in the comparison group. All differences are statistically significant.

Table A-2. Months of Medi-Cal Eligibility Prior to NF Entry or Index Date

Months of Previous Medi-Cal Eligibility[a]	Comparison Group		NF Entry	
	N	%	N	%
1	3,842	0.6	3,753	4.1
2	4,094	0.6	2,331	2.6
3	4,401	0.7	1,819	2.0
4	4,707	0.8	1,273	1.4
5	4,841	0.8	1,025	1.1
6	5,191	0.8	926	1.0
7	5,722	0.9	910	1.0
8	6,313	1.0	949	1.0
9	6,848	1.1	918	1.0
10	7,923	1.3	988	1.1
11	10,044	1.6	1,219	1.3
12	564,569	89.8	75,090	82.3
All Cases	628,495	100.0	91,201	100.0

[a] Months of Medi-Cal eligibility refers to the number of months in the year prior to the date of the enrollee's first extended stay NF admission, or the randomly assigned 'index' date for enrollees in the comparison group

Determining Common Demographic Information among Multiple Records

The primary source of the information used to obtain age, gender, race/ethnicity, and other socio-demographic variables was the Medi-Cal eligibility file. A subject could have only one inconsistent socio-demographic variable from the three core variables across the four study years: date of birth, date of death, and sex. When these data were missing or inconsistent across the study years, CMIPS assessment items were used to adjudicate the difference. Reliance on the assessments to adjudicate inconsistencies was based on the fact that these data were obtained in a face-to-face encounter.

Table A-3 shows the measures used from these data sources, including the various race/ethnic categories consolidated into Asian/Pacific Islander.

Table A-3: Demographic Variables

Variable	Description
Age	Age was calculated in completed years as of the NF admission or index date.
Gender	Only two values for gender were accepted – male and female
Race/Ethnicity[a]	In all state-derived data, we collapsed the 21 race/ethnicity categories to match the 7 categories used in federal data (shown here)
• White	Records indicated White
• Hispanic	If a person appeared as "Hispanic" in any available record we assigned them to the "Hispanic" category for the observation period
• African American	Records indicated African American
• Asian/Pacific Islander	The following were consolidated into a single Asian/Pacific Islander category: • Other Asian or Pacific Islander • Filipino • Amerasian • Chinese • Cambodian • Japanese • Korean • Samoan • Asian Indian • Hawaiian • Guamanian • Laotian • Vietnamese
• Alaskan/American Indian	Records indicated Alaskan/American Indian
• Mixed Race/Ethnicity	A person listed under more than one race/ethnicity, we assigned them to this category
• Other	Records indicated “other”
• Missing/Unknown	The following groups were combined • Not a valid value • No valid data reported • No response

[a] In administrative data, a person's race/ethnicity may ‘change’ over time or between data sources. This can occur because the enrollee, or his or her proxy, is reporting a self-reclassification or because race/ethnicity is recorded as observed by the interviewer, or because typographic or administrative errors occur. We assign everyone a single, fixed race/ethnicity category for the entire study period using the rules shown in this table.

Definition of an Extended Stay Nursing Facility (NF) Entry

Stays were deemed skilled care and/or rehabilitative rather than extended stay if the length of stay was less than 21 days. These short stay recipients (n=41,099) were excluded and thus not counted toward the total number of enrollees with extended stay NF entries. Persons in rehabilitation hospitals were also not considered as extended stay nursing facilities admissions. The decision rule about stays of 21 days or more are based on the logic that Medicare pays for the first 20 days of skilled nursing care. The beneficiary or Medi-Cal pays:[44]

- $0 for the first 20 days each benefit period;
- A co-payment ($148 per day in 2013) for days 21-100 each benefit period; and
- All costs for each day after day 100 in a benefit period.

The CMS current coverage instruction states that people with Medicare are covered if they meet all of these conditions:

- Have Part A and have days left in the benefit period;
- Have a qualifying hospital stay (3 days);
- Beneficiary's physician has decided that the recipient needs daily skilled care given by, or under the direct supervision of, skilled nursing or rehabilitation staff. If the recipient is in the SNF for skilled rehabilitation services only, the care is considered daily care even if the therapy services are offered just 5 or 6 days a week, as long as the recipients needs and receives the therapy services each day offered;
- The SNF is certified by Medicare; and
- The skilled services are needed for a medical condition that was either:
  -- A hospital-related medical condition; or
  -- A condition that started while receiving care in the skilled NF for a hospital-related medical condition.

An extended stay by the criteria used here are not necessary permanent admissions. Later in this appendix we show the pattern of discharges among the sample extended stay users. When enrollees had more than one extended NF stay during the three year observation period, only the first extended stay was retained for this analysis.[45] This was especially helpful in removing the potential confounding of NF stays when recipients were transferred to a hospital and then returned to a NF or the more infrequent events in which recipients moved more than once between community settings and NF settings. These decision rules are consistent with the study aim, which is to examine measures associated with the initial extended stay admissions. The restriction of events to the first admission also limits the unit of analysis to counts of individuals entering NFs and not counts of all extended stay NF admissions during the study period. A subsequent report looks at health care use subsequent to NF extended stay admissions.

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[44] See *Your Medicare Coverage*, http://www.medicare.gov/coverage/skilled-nursing-facility-care.html.

[45] This excluded n=111,175 stays, but did not affect number of recipients.

Stays beginning in 2005 were excluded from the analysis (n=129,240). This was done to omit individuals who were in nursing facilities at the time of initial selection into the study sample, and from the remaining cases to limit analyses to enrollees for whom we had prior year information on beneficiary health conditions, functional limitations, and health care expenditures. Stays that did not have a clear admission date were removed (n=4,892) for the same reason. Enrollees under age 18 at the observed 'first' extended stay admission (n=16) were excluded as the study was limited to adults aged 18 or over. The final exclusion criterion was whether the beneficiary was enrolled in Medi-Cal the month prior to the extended stay NF admission. Those not in Medi-Cal (n=31,614) were excluded. This criterion helped assure that enrollees in the study sample had the potential to access Medi-Cal funded HCBS services prior to the NF admission if they needed them, even if they did not use them. Even with this exclusion rule, substantial numbers of the study sample were not receiving HCBS services prior to either the nursing facility entry or index date. Assessment data on functional and cognitive limitations are unavailable for those who have not been HCBS recipients.[46] After all these exclusions there were 91,201 qualifying first extended stay NF admissions remaining for these analyses, **Table A-4**.

Table A-4. Exclusion Criteria for Extended Stay NF Admissions

Exclusion Criteria	Users Excluded	Users Retained
All NFs 2005-2008	0	*298,062*
Non Extended stays	41,099	256,963
Stays beginning in 2005	129,240	127,723
Missing Admit Date	4,892	122,831
Under Age 18	16	122,815
Not in Medi-Cal in Prior Month	31,614	91,201

[46] The exclusion of non-Medi-Cal eligible recipients included 22,845 MME beneficiaries, and 8,769 persons identified as being eligible only for Medi-Cal. Of those excluded because of this criterion, two thirds became Medi-Cal eligible within the first or second month after nursing facility admission, and 95% were eligible within less than six months.

Table A-5 shows that 84% of the 91,201 first extended stays met the criteria of being greater than 21 days in duration. An additional 15% were enrolled in both Medi-Cal and Medicare at admission, however Medicare did not contribute to the payment for the stay. Finally, 2% were cases where the resident was not enrolled in Medicare, but died during the stay.

Table A-5. Count of Enrollees Whose Nursing Facility Entry was Considered an Extended Stay by Criteria Applied (2006 through 2008)

Reason	N	Percent
Stay >21 days	76,443	84%
MME with No Medicare Payment	13,369	15%
Deceased	1,389	2%
All	91,201	100%

Note: Percentages have been rounded.

Table A-6 shows the number of the study population (n=807,217) of enrollees available to define the comparison group of non- entrants during the period 2006 through 2008.[47] This number was reduced by the application of the following exclusion criteria. As with the extended stay NF individuals, comparison group cases were excluded if they were (1) under 18 at time of their randomly assigned index date (n=4,637), (2) had died prior to the index date (n=62,720), or (3) were not enrolled in Medi-Cal in the month prior to their assigned index date (n=111,365). This left a balance of 628,495 individuals for the comparison group, all of whom had not experienced an extended NF admission in the study period.

Table A-6. Exclusion Criteria for the Comparison Sample of Persons Without an Extended Stay Nursing Facility (NF) Entry

Exclusion Criteria	Cases Excluded	Cases Retained
All Non-Entrants	0	807,217
Under 18 at Index Date	4,637	802,580
Died Prior to Index Date	62,720	739,860
Non-Medi-Cal Month Prior to Index Date	111,365	628,495

[47] This figure reflects the residual of the 1,065,566 individuals in the study population minus 1,386 individuals who were members of the PACE program, and the 256,963 individuals who had a custodial NF stay between 2005 and 2008.

Table A-7 considers only the nursing facility admission cases defined as being extended stays. In general this proves to be a relatively impaired group, with 46% continuing as NF patients, transferring to other LTC locations, or hospitals. Another 14% died while in the facility. Almost 40% of the recipients, however, were discharged to home. This outcome was most likely within the first 100 days after admission.

Table A-7. Length of Stay by Reason for Discharge
Among 2006-2008 Extended Stay Nursing Facility (NF) Admissions

	Discharge Reason						
Length of Stay	**Missing**	**Discharge to Hospital**	**Still Patient**	**Transfer to Other LTC**	**Deceased**	**Discharged to Home**	**Total**
	n=28	n=11,992	n=26,400	n=4,745	n=13,125	n=34,910	n=91,201
1-20 days	.	13.7%	15.5%	2.5%	24.6%	43.7%	100%
21-60 days	.	14.6%	13.2%	5.4%	10.2%	56.6%	100%
61-100 days	.	14.3%	22.4%	7.7%	13.0%	42.6%	100%
>100 days	0.1%	10.9%	54.4%	5.3%	14.6%	14.7%	100%
All	.	13.1%	28.9%	5.2%	14.4%	38.3%	100%

Appendix B. Additional Detail about the Measures

Chronic Illness and Disability Payment System

CDPS is a risk-based model developed for capitated payments to health plans that enroll Medicaid beneficiaries (Kronick, Gilmer, Dreyfus, Lee, 2000). Weights for each of the CDPS categories were developed from a national claims database of disabled adult Medicaid beneficiaries, and represent the incremental, prospective expenditure risk associated with that category. Beneficiary CDPS scores are calculated by multiplying the 58 CDPS category indicators (and indicators for age and gender) by the set of CDPS weights. These are then summed and calculated for each beneficiary. The resultant scores are counts of chronic conditions weighted by severity. Conditions not included in the CDPS categories are given a weight of zero. **Table B-1** shows the CDPS categories and their respective weights.

Table B-1
Listing of Chronic Disease Categories and their Weight Values

CDPS Category Labels	Weights	CDPS Category Labels	Weights
Intercept	0.267	Skin, high	1.126
age<18	-0.130	Skin, low	0.473
15<=age<25	-0.039	Skin, very low	0.114
25<=age<45 male	0.000	Renal, extra high	3.610
25<=age<45 female	0.045	Renal, very high	1.186
45<=age<65 male	0.043	Renal, medium	0.573
45<=age<65 female	0.097	Renal, low	0.421
65<=age	0.070	Substance abuse, low	0.303
Cardiovascular, very high	1.827	Substance abuse, very low	0.036
Cardiovascular, medium	0.665	Cancer, very high	2.394
Cardiovascular, low	0.257	Cancer, high	1.040
Cardiovascular, extra low	0.086	Cancer, medium	0.443
Psychiatric, high	0.807	Cancer, low	0.207
Psychiatric, medium	0.478	DD, medium	1.001
Psychiatric, medium low	0.276	DD, low	0.394
Psychiatric, low	0.153	Genital, extra low	0.016
Skeletal, medium	0.421	Metabolic, high	0.526
Skeletal, low	0.167	Metabolic, medium	0.526
Skeletal, very low	0.125	Metabolic, very low	0.231
CNS, high	1.610	Pregnancy, complete	0.005
CNS, medium	0.639	Pregnancy, incomplete	0.253
CNS, low	0.302	Eye, low	0.198
Pulmonary, very high	2.280	Eye, very low	0.057
Pulmonary, high	0.942	Cerebrovascular, low	0.286
Pulmonary, medium	0.712	AIDS, high	1.412
Pulmonary, low	0.226	Infectious, high	1.412
Gastro, high	0.884	HIV, medium	0.466
Gastro, medium	0.494	Infectious, medium	0.466
Gastro, low	0.195	Infectious, low	0.156
Diabetes, type 1 high	0.540	Hematological, extra high	13.320
Diabetes, type 1 medium	0.540	Hematological, very high	1.457
Diabetes, type 2 medium	0.273	Hematological, medium	0.756
Diabetes, type 2 low	0.273	Hematological, low	0.374

Table B-2 compares weighted and unweighted average CDPS scores for NF entrants and the non-entrants by program eligibility groups. The months of fee-for-service enrollment (whether Medicare or Medi-Cal) are used to create weighted disease scores means. FFS enrollment is used here so that we could extract the diagnoses from a balance of outpatient and inpatient claims. Other data sources such as hospital discharge abstracts are available for all-payers including managed care members, but they are limited to only hospital users. Condition listings are also available from OASIS and MDS assessments, other subsets of specific service users. The exclusion of these data sources under reports conditions in managed care cases, who generally have fewer months of FFS claims than the non-managed care population.

The formula used to create the weighed CDPS means is:

$$\textit{Weighted Mean} = \frac{w_1x_1 + w_2x_2 + \ldots w_nx_n}{w_1 + w_2 + \ldots w_n}$$

Where x is each individual's disease score and w is the number of months of previous enrollment. The differences between the weighted means and actual means are negligible in the study's data. Within the study population, CDPS scores range from .1 to a maximum of 25.5. The standard deviation varies by the sample subgroup (i.e., NF entrants vs. non-entrants, and FFS or MC), but is in the range between 1.0-7.7 across these subgroups. It is higher among those entering NFs. This may reflect that the health care use often preceding NF admissions would have generated more complete listings of health conditions, including new conditions.

Table B-2
Study Population By Disease Burden Unweighted and Weighted
By Months of Prior Medi-Cal or Medicare FFS Enrollment

Enrollment	Group	Plan Type at Month Prior to Admission	N	Mean		Standard Deviation	Min	Max
				Un-Weighted	Weighted Months FFS Enrollment			
Medi-Cal-only	Non-Entrants	FFS	181,602	1.2	1.2	4.1	0.1	22.5
		Medi-Cal MC	48,084	0.7	0.8	1.0	0.1	16.8
	NF Entrants	FFS	12,529	3.6	3.7	6.4	0.2	19.6
		Medi-Cal MC	1,770	2.8	3.2	1.9	0.2	14.1
MME	Non-Entrants	FFS	332,537	2.0	2.0	5.4	0.2	25.5
		Medi-Cal MC	34,184	1.9	1.9	5.6	0.2	21.9
		MCare & MCal Mngd Care	8,278	1.0	1.4	1.8	0.2	15.0
		Medicare MC	23,810	1.1	1.0	4.1	0.2	19.1
	NF Entrants	FFS	58,323	3.9	3.9	7.4	0.3	25.5
		Medi-Cal MC	5,779	3.8	3.9	7.7	0.3	19.5
		MCare & MCal Mngd Care	2,788	2.3	2.7	2.5	0.3	15.0
		Medicare MC	10,012	2.2	2.3	5.4	0.3	24.0

Activities of Daily Living (ADL) Limitations

ADL scores used in the analysis are based on a set of items commonly available in one or more assessment instruments: CMIPS, MDS, OASIS, and IRF-PAI. For example, the metric of ADL limitations in the MDS involves five performance items. Each item is recorded as 0=independent, 1=supervision, 2=limited assistance from another person, 3=extensive assistance, 4=total dependence, and 8=activity did not occur. The specific items from each instrument are shown in **Table B-3**.

Table B-3. ADL Limitations

CMIPS Item	Question #	Description	Possible responses	Responses Determining Limitation
A1	H1-BATH	Bathing & Grooming	1 2 3 4 5	3 4 5
A2	H1-DRESS	Dressing	1 2 3 4 5	3 4 5
A3	H1-BB/M	Bowel, Bladder & Menstrual	1 2 3 4 5	3 4 5
A4	H1-TRANSFER	Transfer	1 2 3 4 5	3 4 5
A5	H1-EAT	Eating	1 2 3 4 5 6	3 4 5 6

1=Independent
2=Able to perform but needs verbal assistance such as reminding, guidance or encouragement
3=Can perform with some human help
4=Can perform with a lot of human assistance
5=Cannot perform function at all without human assistance
6=Paramedical services needed

ADL score is defined by the number of items with a score of 3 or higher.

MDS Item	Question #	Description	Possible responses	Responses Determining Limitation
A1	G2a_self	Bathing	0 1 2 3 4 8	2 3 4
A2	G1ga_self	Dressing	0 1 2 3 4 8	2 3 4
A3	G1ia_self	Toilet Use	0 1 2 3 4 8	2 3 4
A4	G1ba_self	Transfer	0 1 2 3 4 8	2 3 4
A5	G1ha_self	Eating	0 1 2 3 4 8	2 3 4

0=Independent
1=Supervision
2=Physical help limited to transfer only/Limited assistance
3=Physical help in part of bathing activity/Extensive assistance
4=Total dependence
8=Activity do not occur

ADL score is defined by the number of items with a score of 2, 3 or 4

OASIS Item	Question #	Description	Possible responses	Responses Determining Limitation
A1	M0670	Bathing	0 1 2 3 4 5	3 4 5
	M0640	Grooming	0 1 2 3	2 3
A2	M0650	Ability to Dress Upper Body	0 1 2 3	2 3
	M0660	Ability to Dress Lower Body	0 1 2 3	2 3
A3	M0680	Toileting	0 1 2 3 4	2 3 4
A4	M0690	Transferring	0 1 2 3 4 5	2 3 4 5
A5	M0710	Feeding or Eating	0 1 2 3 4 5	2 3 4 5

Bathing
0=Able to bathe self in shower or tub independently.
1=With the use of devices, is able to bathe self in shower or tub independently
2=Able to bathe in shower or tub with the assistance of another person:
(a) for intermittent supervision or encouragement or reminders, OR
(b) to get in and out of the shower or tub, OR
(c) for washing difficult to reach areas.
3=Participates in bathing self in shower or tub, but requires presence of another person throughout the bath for assistance or supervision.
4=Unable to use the shower or tub and is bathed in bed or bedside chair.
5=Unable to effectively participate in bathing and is totally bathed by another person.

Grooming
0=Able to groom self unaided, with or without the use of assistive devices or adapted methods.
1=Grooming utensils must be placed within reach before able to complete grooming activities.
2=Someone must assist the patient to groom self.
3=Patient depends entirely upon someone else for grooming needs.

Dress Upper
0=Able to obtain, put on & remove clothing from the upper body without assistance.
1=Able to dress upper body without assistance if clothing is laid out or handed to the patient.
2=Someone must help the patient put on upper body clothing.
3=Patient depends entirely upon another person to dress the upper body.

Dress Lower
0=Able to obtain, put on, and remove clothing and shoes without assistance.
1=Able to dress lower body without assistance if clothing/shoes are laid out or handed to the patient.
2=Someone must help the patient put on undergarments, slacks, socks or nylons, and shoes.
3=Patient depends entirely upon another person to dress lower body.

Toileting
0=Able to get to and from the toilet independently with or without a device.
1=When reminded, assisted, or supervised by another person, able to get to and from the toilet.
2=Unable to get to and from the toilet but is able to use a bedside commode (with/without assistance).
3=Unable to get to and from the toilet or bedside commode but is able to use a bedpan/urinal independently.
4=Is totally dependent in toileting.

Transferring
0=Able to independently transfer.
1=Transfers with minimal human assistance or with use of an assistive device.
2=Unable to transfer self but is able to bear weight and pivot during the transfer process.
3=Unable to transfer self and is unable to bear weight or pivot when transferred by another person.
4=Bedfast, unable to transfer but is able to turn and position self in bed.
5=Bedfast, unable to transfer and is unable to turn and position self.

Feeding/Eating
0=Able to independently feed self.
1=Able to feed self independently but requires:
(a) meal set-up; OR
(b) intermittent assistance or supervision from another person; OR
(c) a liquid, pureed or ground meat diet.
2=Unable to feed self and must be assisted or supervised throughout the meal/snack.
3=Able to take in nutrients orally & receives supplemental nutrients via nasogastric tube/gastrostomy
4=Unable to take in nutrients orally and is fed nutrients through a nasogastric tube or gastrostomy.
5=Unable to take in nutrients orally or by tube feeding.

ADL score is defined by the number of items with at least one response determining limitation.

IRF-PAI Item	Question #	Description	Possible responses	Responses Determining Limitation
A1	39.FIM-B	Grooming	0 1 2 3 4 5 6 7	1 2 3 4
	39.FIM-C	Bathing	0 1 2 3 4 5 6 7	1 2 3 4
A2	39.FIM-D	Dressing- Upper	0 1 2 3 4 5 6 7	1 2 3 4
	39.FIM-E	Dressing- Lower	0 1 2 3 4 5 6 7	1 2 3 4
A3	39.FIM-F	Toileting	0 1 2 3 4 5 6 7	1 2 3 4
A4	39.FIM-I	Transfer-Bed, Chair, Wheelchair	0 1 2 3 4 5 6 7	1 2 3 4
	39.FIM-J	Transfer-Toilet	0 1 2 3 4 5 6 7	1 2 3 4
	39.FIM-K	Transfer-Tub, Shower	0 1 2 3 4 5 6 7	1 2 3 4
A5	39.FIM-A	Eating	0 1 2 3 4 5 6 7	1 2 3 4

0=Activity does not occur
1=Total Assistance
2=Maximal Assistance
3=Moderate Assistance
4=Minimal Assistance
5=Supervision
6=Modified Independence (Device)
7=Complete Independence

ADL score is defined by the number of items with at least one response determining limitation.

The values from these assessment tools were recoded so that they could be summed to the number of tasks where at least some direct assistance from another person was needed (i.e., MDS values 2, 3, and 4 were recoded as 1, and values 0, 1, and 8 were coded as 0, indicative of not needing such assistance). These recoded values for each ADL are then summed to render a score between 0 and 5 counting all ADLs assessed. This summed score reflects the number of tasks requiring at least some direct assistance from another person.

OASIS and IRF-PAI items are collected at time of discharge, MDS at admission. This contrasts with the CMIPS assessment which is collected at admission into IHSS, and continued until there is a subsequent reassessment (usually after 24 months). ADL and cognitive impairment values derived from OASIS assessments were applied to the entire period of HH stay.

If there were multiple assessments in a month from two or more of these sources, a value from the non-CMIPS assessment was chosen as it was more current. If there were multiple non-CMIPS assessments, the most recent assessment was used. Moreover, if the assessment dates were the same, the derived functional assessment reflecting the more limitations was chosen.

For most of the reported analysis, ADL scores were determined for a defined interval (e.g., quarterly) before a NF entry or the Index date of non-entrants. Multiple assessments among the months in this period were averaged to produce a single measure for the period.

A separate ADL score was also calculated for each NF admission. This used the first MDS assessment available in the file within the first four months of NF entry. Stays of less than 14 days often did not receive assessments. Although assessments are repeated quarterly, annually, and if there is a change in status among continuing cases, these post-entry records were not used in the current analyses. Entry level status was not averaged with assessment values representing the pre-admission period.

Cognitive Limitations

The level of cognitive impairment was determined using the same four datasets used for measuring ADL limitations. Their common elements are problems with memory or requiring assistance with tasks/routine situations due to memory, orientation, or distractibility. The need for assistance in any of these domains defined the enrollee as having a cognitive limitation, expressed as the percent of persons with any cognitive limitation. The items defining such limitations in each instrument are shown in **Table B-4**.

Table B-4. Cognitive Limitations

CMIPS Item	Question #	Description	Possible responses	Responses Determining Limitation
A1	H1-MEMORY	Memory	1 2 5	2 5
	H1-ORIENT	Orientation	1 2 5	2 5
	H1-JUDGE	Judgment	1 2 5	2 5
1=Independent 2=Able to perform but needs verbal assistance such as reminding, guidance or encouragement 5=Cannot perform function at all without human assistance Cognitive limitation exists if the item has at least one response determining limitation.				

MDS Item	Question #	Description	Possible responses	Responses Determining Limitation
A1	B2a	Short-term memory	0 1	1
	B2b	Long-term memory	0 1	1
	B4	Making self understood	0 1 2 3	2 3
Short-term, Long-term	0=Memory OK 1=Memory problem			
Making self understood	0=Understood 1=Usually Understood 2=Sometimes Understood 3=Rarely/Never Understood			
Cognitive limitation exists if at least one item has at least one limitation.				

OASIS Item	Question #	Description	Possible responses	Responses Determining Limitation
A1	M0560	Cognitive Functioning	0 1 2 3 4	2 3 4

0=Alert/oriented, able to focus and shift attention, comprehends and recalls task directions independently.
1=Requires prompting (cuing, repetition, reminders) only under stressful or unfamiliar conditions.
2=Requires assistance and some direction in specific situations (e.g., on all tasks involving shifting of attention), or consistently requires low stimulus environment due to distractibility.
3=Requires considerable assistance in routine situations. Is not alert and oriented or is unable to shift attention and recall directions more than half the time.
4=Totally dependent due to disturbances such as constant disorientation, coma, persistent vegetative state, or delirium.

Cognitive limitation exists if the item has a least one limitation.

IRF-PAI Item	Question #	Description	Possible responses	Responses Determining Limitation
A1	39.FIM-P	Social Interaction	0 1 2 3 4 5 6 7	1 2 3 4 5
	39.FIM-Q	Problem Solving	0 1 2 3 4 5 6 7	1 2 3 4 5
	39.FIM-R	Memory	0 1 2 3 4 5 6 7	1 2 3 4 5

0=Activity does not occur
1=Total Assistance
2=Maximal Assistance
3=Moderate Assistance
4=Minimal Assistance
5=Supervision
6=Modified Independence (Device)
7=Complete Independence

Cognitive limitation exists if the item has at least one limitation.

Living Alone

Assessment data from the same four data sources used for determining ADL and cognitive limitations were also used to determine which individuals lived alone prior to NF admission. **Table B-5** shows items from these sources used to determine individuals' pre-admission living situation. A substantial number of beneficiaries had not received IHSS, home health, or inpatient rehabilitation services in the observation period. This was true for both those who subsequently had an extended NF admission and those remaining in the community preceding their index date. As a consequence, the living arrangement status was unknown for those who did not enter NFs: 39% among MMEs and 68% among Medi-Cal-only enrollees. Missing value rates among NF entrants were much lower, between 6% and 18% of the NF entrants. This was possible because NF entry assessments include items about the prior entry living arrangements.[48]

Table B-5. Lived Alone Prior to an Extended Stay NF Entry

CMIPS Item	Question #	Description	Possible responses	Responses Determining Living-Alone
A1	G2	Number in Household	1 2 3 4 5 ~	1
	The total number of people living in the recipient's household, including other IHSS recipients. Exclude recipient's non-IHSS children under 14 years of age.			
Living-alone is defined if individual is the only member of household				

MDS Item	Question #	Description	Possible responses	Responses Determining Living-Alone
A1	AB3	Lived Alone (Prior to Entry)	0 1 2	1
	0=No 1=Yes 2=In other facility			
Living-alone is defined if individual has lived alone.				

OASIS Item	Question #	Description	Possible responses	Responses Determining Living-Alone
A1	M0340	Patient Lives With:	1 2 3 4 5 6	1
	1= Alone		4=With a friend	
	2=With spouse or significant other		5=With paid help	
	3=With other family member		6=With other than above	
IRF-PAI Item	Question #	Description	Possible responses	Responses Determining Living-Alone
A1	17	Pre-Hospital Living With	1 2 3 4 5	1
1=Alone 2=Family/Relatives 3=Friends 4=Attendant 5=Other				

[48] A measure specific to levels of caregiver support is available for IHSS recipients. It corresponds to whether: (1) the recipient lives alone, (2) the recipient lives with a spouse who is able to help, (3) lives with a spouse not able to help, (4) lives with a spouse who is an IHSS recipient, or (5) lives with someone other than a spouse. Other caregiver support available to beneficiaries is not captured in these data. This measure is in the data file, but is applicable only in analysis specific to IHSS recipients.

Appendix C. Expenditures

Table C-1. Medi-Cal and Medicare Expenditures Preceding Extended Stay Nursing Facility Entry and Comparisons

	Acute and Other Medical Spending[7]		Post-Acute Care Spending[8]		LTSS Spending[9]		All spending	
	NF Entrants	Non-Entrants[10]	NF Entrants	Non-Entrants[10]	NF Entrants	Non-Entrants[10]	NF Entrants	Non-Entrants[10]
MME[1]								
In 12 Months Preceding Entry								
Number w/12 Months Continuous FFS Eligibility[3]	48,988	300,448	48,988	300,448	48,988	300,448	48,988	300,448
Total Spending	**2,949,980,889**	**7,004,330,787**	**199,678,056**	**269,771,338**	**320,654,125**	**1,807,363,655**	**3,470,313,070**	**9,081,465,780**
Medicare	2,730,693,628	6,555,333,254	199,677,384	269,761,687	0	0	2,930,371,012	6,825,094,941
Medicaid	219,287,261	448,997,533	672	9,651	320,654,125	1,807,363,655	539,942,058	2,256,370,839
Average Per Month Spending	**5,018**	**1,943**	**340**	**75**	**545**	**501**	**5,903**	**2,519**
Medicare	4,645	1,818	340	75	0	0	4,985	1,893
Medi-Cal	373	125	0	0	545	501	918	626
In 3 Months Preceding Entry								
Number w/3 Months Continuous FFS Eligibility[4]	54,734	325,976	54,734	325,976	54,734	325,976	54,734	325,976
Total Spending	**1,868,725,153**	**2,120,295,485**	**137,778,633**	**82,541,010**	**85,484,106**	**505,296,107**	**2,091,987,892**	**2,708,132,602**
Medicare	1,721,286,015	1,988,427,900	137,777,890	82,536,069	0	0	1,859,063,905	2,070,963,969
Medicaid	147,439,138	131,867,585	743	4,941	85,484,106	505,296,107	232,923,987	637,168,633
Average Per Month Spending	**11,381**	**2,168**	**839**	**84**	**521**	**517**	**12,740**	**2,769**
Medicare	10,483	2,033	839	84	0	0	11,322	2,118
Medi-Cal	898	135	0	0	521	517	1,419	652

(Table C-1 continued)

	Acute and Other Medical Spending[7]		Post-Acute Care Spending[8]		LTSS Spending[9]		All spending	
	NF Entrants	Non-Entrants[10]	NF Entrants	Non-Entrants[10]	NF Entrants	Non-Entrants[10]	NF Entrants	Non-Entrants[10]
Medi-Cal-only[2]								
In 12 Months Preceding Entry								
Number w/12 Months Continuous FFS Eligibility[5]	7,437	140,024	7,437	140,024	7,437	140,024	7,437	140,024
Total Spending	343,909,326	1,107,720,551	67,856	1,198,984	27,055,302	474,937,900	371,032,483	1,583,857,435
Average Per Month Spending	**3,854**	**659**	**1**	**1**	**303**	**283**	**4,158**	**943**
In 3 Months Preceding Entry								
Number w/3 Months Continuous FFS Eligibility[6]	10,216	172,121	10,216	172,121	10,216	172,121	10,216	172,121
Total Spending	309,965,023	388,162,300	24,930	352,944	8,868,069	135,019,986	318,858,022	523,535,230
Average Per Month Spending	**10,114**	**752**	**1**	**1**	**289**	**261**	**10,404**	**1,014**

1. Individuals are designated MME if they are enrolled in Medi-Cal and Medicare in the month prior to the NF admission or the index date assigned to non-entrants.
2. Individuals are designated Medi-Cal-only if they are enrolled in Medi-Cal (and not Medicare) in the month prior to the NF admission or the index date assigned to non-entrants.
3. Only individuals who have 12 months continuous FFS enrollment in Medi-Cal and Medicare are included in this 12-month summation.
4. Only individuals who have 3 months continuous FFS enrollment in Medi-Cal and Medicare are included in this 3-month summation.
5. Only individuals who have 12 months continuous FFS enrollment in Medi-Cal (and not Medicare) are included in this 12-month summation.
6. Only individuals who have 3 months continuous FFS enrollment in Medi-Cal (and not Medicare) are included in this 3-month summation.
7. Acute and other medical spending includes: Hospital use, Ambulatory Services, Durable Medical Equipment (DME), Diagnostic testing, Emergency Department (ED) visits, Hospice, Therapies, and Other miscellaneous.
8. Post-acute care spending includes: Home Health (HH), Skilled Nursing Facilities (SNF), Long-term Care Hospitals (LTCHs), and Inpatient Rehabilitation Facilities (IRFs).
9. LTSS spending includes: IHSS, ADHC, TCM, Medicaid HH, and HCBS Waiver Services.
10. Spending for non- entrants are obtained from the period prior to a randomly assigned index date.

Sources: Medicare and Medi-Cal claims 2006-2008. Individuals included were not enrolled in PACE, SCAN, or other managed care plans; and did not have any development disability claims during the study period.