



CALIFORNIA MEDICAID RESEARCH INSTITUTE

## **Recipients of Home and Community-Based Services in California**

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and  
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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.

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## Introduction

Home and community-based services (HCBS) refer to a broad range of health and social services needed by people with limited capacity for self-care. They are intended to help recipients with disabilities remain either at home or in other community-based settings while maintaining or restoring an individual's highest level of functioning and independence possible. HCBS are intended to delay, and sometimes even prevent, entry into high-cost nursing facilities and other institutional facilities.

The need for HCBS affects persons of all ages, including those with limitations in activities of daily living (ADLs), such as bathing and dressing; instrumental activities of daily living (IADLs), such as preparing meals and shopping; and cognitive impairments and/or breathing limitations. The need for HCBS is defined, in part, by a dependence on others for an extended period of time. Individuals with HCBS needs often rely on family members and other informal caregivers for assistance. Given the high cost of care, however, many turn to publicly funded programs for coverage of paid care.

Medicaid is the largest public payer of HCBS in the country. This is primarily because federal and state governments, the two sources of funding for Medicaid, have devoted significant efforts over the past several decades to expanding Medicaid's offering of HCBS for persons with disabilities and to reducing reliance on institutional care. For FY 2010, Medicaid spent \$63 billion on HCBS, or 16% of its total spending on Medicaid benefits.<sup>1</sup>

Many Medicaid recipients of HCBS are also enrolled in Medicare. These individuals have traditionally been referred to dual eligibles. The Medicare-Medicaid Coordination Office of the Centers for Medicare and Medicaid Services (CMS) has begun referring to dual eligibles as Medicare-Medicaid enrollees (MMEs).<sup>2</sup> Hereafter in this report, we will follow CMS' example.

MMEs tend to qualify for Medicare by being at least 65 years-old, or under age 65 and receiving Social Security Disability Insurance benefits. Medicare covers certain preventive, primary, acute, behavioral and post-acute services. For MMEs, Medicare covers services provided by physicians, acute care hospitals, skilled nursing facilities, home health agencies, inpatient rehabilitation facilities, and hospice, among others. It does not cover custodial care in nursing facilities or the HCBS services provided under Medicaid, such as personal care services, homemaker services, and adult day health. Medicaid's HCBS and other services wrap around Medicare's benefits. In other words, Medicare pays first for Medicare-covered benefits. For those Medicare-covered benefits that are also covered by Medicaid (e.g., hospital care, physician

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<sup>1</sup> Table 7. "Report to the Congress on Medicaid and CHIP: March 2011 MACStats," Medicaid and CHIP Payment and Access Commission (MACPAC), Washington, DC, March 2011.

<sup>2</sup> Such individuals may qualify for full Medicare benefits and all of the Medicaid benefits offered in their state of residence, including Medicaid coverage of Medicare premiums and cost-sharing obligations. Others may qualify for full Medicare benefits and only Medicaid coverage of their Medicare cost-sharing obligations, including Medicare premiums and/or Medicare deductibles and coinsurance. These MMEs are referred to as partial duals. For the purpose of the CAMRI study, full and partial duals are included in the analysis.

care, home health), Medicaid pays last.<sup>3</sup> Medicaid also covers relevant Medicare co-pays, deductibles, and/or coinsurance.

Medi-Cal, California's Medicaid program, is the largest Medicaid program in the nation. In fiscal year (FY) 2008, California covered 10.6 million individuals under Medi-Cal.<sup>4</sup> Of these, 478,381 received HCBS at some point during the calendar year (CY).<sup>5</sup> This report describes Medi-Cal's recipients of five major HCBS: home health, in-home supportive services, adult day health, targeted case management, and HCBS waivers, in CY 2008.

Data for this report were collected by the California Medicaid Research Institute (CAMRI) under contract with the California Department of Health Care Services (DHCS), and with co-funding from The SCAN Foundation. For this project, CAMRI developed an integrated and longitudinal database containing claims and assessment data from Medi-Cal, Medicare, and other state data files. For additional information about CAMRI's process for acquiring, linking and cleaning these data as well as the challenges faced, see "Studying Recipients of Long-Term Services and Supports: A Case Study in Assembling Medicaid and Medicare Claims and Assessment Data in California."<sup>6</sup>

## Major HCBS under Medi-Cal

Federal Medicaid statute and other provisions in the Social Security Act offer California, like other states, two broad statutory authorities under which HCBS can be offered to Medi-Cal beneficiaries. These authorities include the Medicaid state plan (section 1905 of the Social Security Act) and HCBS waivers (section 1915(c) of the Social Security Act).

The Medicaid state plan refers to the part of the Medicaid program that generally follows certain program benefit rules outlined in Medicaid statute. These rules require states to cover selected benefits (i.e., mandatory) under the traditional Medicaid state plan and gives states the option to cover others (i.e., optional). With respect to state plan benefits, federal law requires states to meet the following guidelines, with some exceptions:

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<sup>3</sup> Some MMEs also have long-term care and/or other private or public health insurance. In these instances, Medicare pays only for services not covered by these payers.

<sup>4</sup> Number includes individuals ever enrolled during the year, even if for a single month. Table 6. "Report to the Congress on Medicaid and CHIP: The Evolution of Managed Care in Medicaid," Medicaid and CHIP Payment and Access Commission (MACPAC), Washington, DC, June 2011.

<sup>5</sup> See Table 2 of this report.

<sup>6</sup> Julie Stone, M.P.A., Robert Newcomer, Ph.D., Arpita Chattopadhyay, Ph.D., et.al., "Studying Recipients of Long-Term 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 website, <http://www.thescanfoundation.org/commissioned-supported-work/camri-studying-recipients-long-term-care-services-and-supports-case-stud> or <http://camri.universityofcalifornia.edu/publications.html>

- Each service must be sufficient in amount, duration, and scope to reasonably achieve its purpose. States may place appropriate limits on a service based on such criteria as medical necessity or functional level-of-care;
- Within a state, services available to certain groups of enrollees must be equal in amount, duration, and scope. These requirements are called the “comparability rule”;
- With certain exceptions, the amount, duration, and scope of benefits must be the same statewide, also referred to as the “statewideness rule”; and
- With certain exceptions, beneficiaries must have “freedom of choice” among health care providers or managed care entities participating in Medicaid.

Below is a summary of the major HCBS state plan and waiver services that California covered under Medi-Cal in CY 2008.<sup>7</sup> Utilization of these services is described in the results section of this report. Among the broad range of services offered, the only HCBS state plan service that California is required by federal law to cover is home health. All other HCBS state plan services are optional.

### **State Plan Service: Home Health (HH)**

Medi-Cal generally covers HH services for homebound persons age 21 and older who are entitled to, but not necessarily eligible for, nursing facility coverage in California.<sup>8</sup> HH must be medically necessary and ordered by a physician as part of a written plan of care that a physician reviews every 60 days. Covered services include skilled nursing; physical, speech and occupational therapy; HH aide; medical supplies, equipment, and appliances for use in the home. Services are often provided in a participant’s residence. To participate in Medi-Cal, HH agencies must meet Medicare’s conditions of participation.<sup>9</sup> Intermittent or part-time nursing services are provided by a HH agency or independent nurses when no HH agency exists in the area.

### **State Plan Service: In-Home Supportive Services (IHSS)**

Medi-Cal covers personal care, domestic, and related services for beneficiaries who need assistance with ADLs and IADLs under the IHSS program. IHSS services include

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<sup>7</sup> This report focuses on the major HCBS programs in California. California provides other supportive services for individuals with disabilities that enable home and community-based living. Examples of services that are not addressed here are audiology, private duty nursing; independent rehabilitation facility; occupational, physical and speech therapy; renal dialysis.

<sup>8</sup> Beneficiaries are entitled to the home health benefit when they meet certain categorical eligibility criteria. Certain medically needy individuals and/or persons age 21 and older in California are also entitled to the state’s home health benefit. Receipts of these HH services are dependent upon a state-determined demonstration of need. Source: Janet O’Keeffe, Gary Smith, and Letty Carpenter, et al., *Understanding Medicaid Home and Community Services: A Primer*, Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, Washington, DC, October 2000.

<sup>9</sup> Medicaid and Medicare laws and regulations contain requirements that HHAs must meet to receive payment for Medicare and Medicaid beneficiaries. These requirements are referred to as Conditions of Participation (COP) and are found in title XVIII of the Social Security Act. With one exception, Medicaid-certified HHAs must comply with both Medicaid and Medicare laws and regulations. This exception applies in the case in which a Medicaid beneficiary receives only chore services or other clearly non-medical services. Under this circumstance, the HHA need not comply with Medicare’s COPs. Source: Source: According to CMS Transmittal 11. Pub. 100-07 State Operations Provider Certification, Date: August 12, 2005)



housecleaning, meal preparation, laundry, grocery shopping, personal care services (such as bowel and bladder care, bathing, grooming and paramedical services), accompaniment to medical appointments, and protective supervision for the mentally impaired. Recipients have the option of hiring independent providers, including family members, to be their personal care providers.<sup>10</sup> Personal care providers can also include spouses, parents of minor children as well as other relatives. About half the providers are non-relatives.<sup>11</sup>

On behalf of Medi-Cal, IHSS is administered by counties in cooperation with the California Department of Social Services. It is available to all ages and population groups who meet the needs criteria established by the state.

### **State Plan Service: Adult Day Health Care (ADHC)**

During this study period,<sup>12</sup> Medi-Cal's ADHC benefit served individuals age 18 years or older with (1) one or more chronic or post-acute medical, cognitive or mental health condition, (2) functional impairments in two or more ADLs or IADLs, and (3) inadequate family or caregiver support. Core services included nursing; personal care; social services; physical, occupational, and speech therapy; mental health services; registered dietician services; and transportation services within ADHC centers. ADHC centers were licensed by the California Department of Public Health and certified for Medi-Cal participation by the California Department of Aging.

### **State Plan Service: Targeted Case Management (TCM)**

Medi-Cal offers TCM to assist certain HCBS recipients, and some individuals who are transitioning from an institution to a community setting, in gaining access to needed medical, social, educational, and other services. Among the populations served are individuals with tuberculosis and developmental disabilities. Services are not necessarily comparable across populations served. These often include a comprehensive needs assessment; an individualized service plan; assistance to persons with obtaining other non-Medicaid benefits, such as food

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<sup>10</sup> This option has been available to IHSS recipients since 1993, when the benefit was first established.

<sup>11</sup> Medicaid's personal care benefit was established nationally in 1975. IHSS, Medi-Cal's version of the personal care benefit, was established in 1993. Previously, personal care had been financed through a combination of state and county funds. IHSS (like all state plan programs) is offered on a statewide basis, and is available to all age and population groups who meet the needs criteria established by the state. When IHSS was incorporated into Medi-Cal, about 10% of IHSS participants were receiving care from legally responsible relatives (i.e., spouses or parents of minor children). IHSS services provided to this subgroup of recipients were not eligible for federal matching funds. This changed in 2004, when payments to recipients with legally responsible relatives became eligible for federal matching funds under a §1115 Research and Demonstration waiver. This waiver was known as IHSS Plus. IHSS Plus remained in place until 2009, when under provisions of the Deficit Reduction Act of 2005 states were allowed to offer services provided by "legally responsible relatives" under the §1915(j) self-directed personal assistance services benefit. California exercised this option and IHSS Plus was integrated into the state plan program. The Patient Protection and Affordable Care Act (PPACA) of 2010 extended this authority to §1915(i) & 1915(k) programs. Source: website of the California Department of Health Care Services, <http://www.dhcs.ca.gov/services/ltc/Pages/IHSS.aspx>, accessed on February 16, 2012.

<sup>12</sup> On March 24, 2011, the Governor of California signed Assembly Bill 97 to eliminate ADHC as a Medi-Cal benefit. The settlement agreement of the subsequent class action law suit, *Darling v. Toby Douglas*, resulted in the establishment of the Community-Based Adult Services (CBAS) benefit in its place.

stamps, energy assistance, and emergency housing; assistance with accessing services; crisis assistance planning; and periodic review of service effectiveness.

## HCBS Waivers

Section 1915(c) of the Social Security Act gives California, like other states, the option to extend a broad range of HCBS to selected populations of individuals with the level-of-care need that would otherwise be offered in Medicaid-covered institutions, such as a nursing facility or hospital. Under a HCBS waiver, the Secretary of the Department of Health and Human Services (HHS) is permitted to waive Medicaid’s “statewide” requirement to allow states to cover HCBS services in a limited geographic area. The Secretary may also waive the requirement that services be comparable in amount, duration, or scope for individuals in particular eligibility categories. States may use this waiver to limit the number of individuals served and to target certain populations, such as persons under age 65 with physical disabilities, individuals with HIV/AIDS, persons who are medically fragile or technologically dependent, individuals with mental illness, and individuals with mental retardation and developmental disabilities. States may limit access to these waiver programs by capping enrollment. Section 1915(c) waivers may not cover room and board.

**Table 1** shows the HCBS waivers offered under California’s Medi-Cal program in 2008 for individuals age 65 and over and younger individuals with disabilities.

**Table 1. Medi-Cal’s Major Section 1915(c) Waivers for Individuals Age 65 and Older and Younger Individuals with Disabilities, 2005-2008<sup>a</sup>**

Title	Eligibility	Description
Acquired Immune Deficiency Syndrome (AIDS) Waiver	Individuals of all ages with mid- to late-stage HIV/AIDS.	Provides enhanced case management, homemaker, attendant care, psychotherapy, nonemergency medical transportation, nutritional counseling, nutritional, supplements, home delivered meals, extended skilled nursing/registered nurse, extended skilled nursing/licensed vocational nurse, extended specialized medical equipment and supplies, extended minor physical adaptations to the home to HIV/AIDS individuals, and Medi-Cal supplement for infants and children in foster care.
Assisted Living Waiver (AL) Waiver <sup>b</sup>	Individuals age 65 and older and younger individuals with physical disabilities ages 21 through 64. Must require the level of care offered in a nursing facility.	Through Residential Care Facilities for the Elderly, provides nursing, homemaker, HH aide, personal care, care coordination, environmental accessibility adaptations, and nursing facility transition services. Services can also be provided in Publicly Subsidized Housing with a HH Agency providing the nursing and assisted care services.

Title	Eligibility	Description
Multipurpose Senior Services Program (MSSP) Waiver	Individuals who are 65 and older and who require the level of care offered in a nursing facility.	Provides care management, respite care, supplemental personal care, adult day care, adult day support center, communication, housing assistance, nutritional services, protective services, purchased care management, supplemental chore, supplemental health care, supplemental professional care assistance, supplemental protective supervision, and transportation.
In-Home Operations (IHO) Waiver <sup>c</sup>	For medically fragile and technology dependent individuals of all ages who require the level of care offered in a nursing facility. Recipients require direct care services primarily provided by a licensed nurse.	Provides case management/coordination, habilitation services, home respite, personal care, community transition, environmental accessibility adaptations, facility respite, family training, medical equipment operating expense, private duty nursing-including shared services, transitional case management, among other services.
Nursing Facility / Acute Hospital Waiver <sup>d</sup>	Individuals age 65 and older, younger individuals with physical disabilities, individuals who are medically fragile, and individuals who are technology dependent. All individuals require the level of care offered in a nursing facility.	Provides case management, personal care, habilitation, home respite, facility respite, community transition, environmental accessibility adaptations, family training, personal emergency response system (PERS), PERS-installation and testing, private duty nursing including shared services, transitional case management, medical equipment operating expenses.

<sup>a</sup> California has a large Medi-Cal waiver program for the developmentally disabled that was not included in this report's analysis. Two new HCBS programs - the Developmentally Disabled Continuous Nursing Care waiver (10/09-9/12) and the Pediatric Palliative Care waiver (4/09-4/12) - were initiated during CY 2009, outside the study period. California operated 18 other HCBS waivers during some portion of the period of 2005-2008. These are not identified in the Medi-Cal claims data used for this analysis.

<sup>b</sup> This waiver began in 2006.

<sup>c</sup> The In-Home Operations waiver was established effective January 2007. This waiver retained a subset of Medi-Cal beneficiaries who were previously enrolled in the Nursing Facility A/B Level of Care waiver or the Nursing Facility SubAcute waiver.

<sup>d</sup> The NF/AH waiver was implemented in January 2007. It consolidated the Nursing Facility A/B, Nursing Facility SubAcute, and the In-Home Medical Care waivers.

**Sources:** Section 1915(c) waiver applications and their summaries available through the Centers for Medicare and Medicaid Services (CMS) website, [http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/Waivers.html?filterBy=1915\(c\)#waivers](http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/Waivers.html?filterBy=1915(c)#waivers); and Newcomer, Robert, Charlene Harrington, Julie Stone, Andy Bindman and Mark Helmar, "California's Medi-Cal Home & Community-Based Services Waivers, Benefits & Eligibility Policies, 2005-2008," California Medicaid Research Institute, University of California, August 2011.

When states offer the same service under section 1915(c) that that they offer under their Medicaid state plan, the state generally uses the approved waiver service to supplement those services offered under the state plan. For example, Medi-Cal offers personal care under its 1915(c) waivers and also under the IHSS state plan benefit. In this instance, the waiver is used to add service hours onto the limited number of hours allowed under the IHSS benefit.

## Study Population

For this report, the study population includes Medi-Cal recipients of HCBS at any time during CY 2008 (and 2005 for tables in the appendices). Only recipients ages 18 and above are included.

We identified the study population by using Medi-Cal's enrollment and claims files. We also used the state's Case Management Information Payrolling System (CMIPS). CMIPS includes recipients of IHSS, some of whom were not reflected in the individual claims files. (See **Appendix I, Figure A-1** for a flow chart describing the selection of our study population.)

These files were also used to determine age for selection or exclusion into our sample. If a beneficiary had missing demographic or eligibility information in the Medi-Cal enrollment file, we extracted that information from linked claims or CMIPS records. We could not determine the date of birth for 29,838 beneficiaries. These individuals were excluded from our sample.

For the purposes of this report, individuals who received one of five Medi-Cal HCBS services described above (HH, IHSS, ADHC, TCM, and Medi-Cal's section 1915(c) home and community-based waivers) during CY 2008 were included. These recipients may have also used other supportive services that enabled them to live in the community. Examples of such services are audiology; durable medical equipment; private duty nursing; occupational, physical and speech therapy; and renal dialysis. These services are not examined in this report.

Some recipients are enrolled in Medi-Cal only while others are dually enrolled in Medicare and Medi-Cal. We used social security numbers to link the Medi-Cal HCBS population with Medicare's enrollment file to identify those Medi-Cal recipients who were also enrolled in Medicare during any month of the study year.

We excluded from our analysis two groups of HCBS users for whom we do not have individual claims records. These are participants in the Program for All-Inclusive Care for the Elderly (PACE, for whom there are no individual claims data) and individuals who qualify for Medi-Cal based on a diagnosis of developmental disability.<sup>13</sup>

## Analysis

We present information on the characteristics of the HCBS population in CY 2008 stratified into mutually exclusive categories of HCBS based on our sorting of the Medi-Cal claims. Individuals who received only one type of HCBS are included in categories labeled HH, IHSS, ADHC, TCM, or any use of a section 1915(c) waiver (hereafter referred to as "Waivers"). Individuals who received more than one type of HCBS were categorized as either HH with IHSS, ADHC with IHSS, TCM with IHSS, Waivers with IHSS, ADHC with Waivers with IHSS, and all others.

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<sup>13</sup> Individuals with developmental disabilities receive their care through the California Department of Developmental Services' Regional Centers.

In addition, we present information that further stratifies those individuals who made any use of waivers into categories of the specific waiver types. In 2008, there were five HCBS waivers. However, Medi-Cal's claim system collapsed these into four: AIDS, Assisting Living, MSSP, and Other. The Other category included the In-Home Operations (IHO) and the Nursing Facility/Acute Hospital (NF/AH) waivers. **Appendix I** contains details on those vendor codes used to identify HCBS services in the Medi-Cal claims and to create variables on beneficiary characteristics (i.e., eligibility, demographics, functional status, social support, and outcomes).

The body of the report contains four pairs of analytic tables (eight tables in total). The first table of each pair includes information on the entire HCBS population and the second table of the pair includes detailed information on the same characteristics for each waiver subgroup.

The first pair (**Tables 2 and 3**) describes the duration of Medicaid eligibility of the HCBS population and of the waiver subgroups. These tables provide insights into the degree of stability or "churning" in the HCBS and waiver populations. It also shows the number of recipients who qualify for Medicaid through the categorical eligibility groups (e.g., aged, blind, or disabled) and the number who qualify as medically needy (a pathway that allows individuals to qualify when their medical expenses reduce their income to the state medically needy standard). Using an algorithm developed by the California Department of Health Care Services, numerous eligibility categories were collapsed into six groups. These are public assistance – aged; public assistance – blind; public assistance – disabled; Family; medically needy; and other. Also shown, is the number of months in the year enrolled in Medi-Cal and the eligibility categories. These findings are derived from the Medi-Cal enrollment file.

The second pair (**Tables 4 and 5**) describes the demographic characteristics of the HCBS population and of the waiver subgroups. These tables provide insights into potential disparities in the receipt of HCBS by beneficiaries' racial/ethnic and other personal characteristics. The racial and ethnic categories in the Medi-Cal enrollment file were collapsed to be consistent with the categories used in federal data, thus allowing for comparability with the MME population. Medi-Cal beneficiaries were characterized as African-American, Alaskan/Native American, Asians/Pacific Islanders, Hispanic, White, Other/Combinations, or Unknown.

The third pair (**Tables 6 and 7**) describes the functional status and social support needs of the HCBS population and waiver subgroups. These tables provide insights into whether the functional and social support needs of the HCBS population are aligned with the type and number of services they receive. Data on the cognitive and physical function of the HCBS population and their living arrangements were obtained from CMIPS assessments. CMIPS assessments are collected at entry into the IHSS program or during reassessment. The information used in the present analysis was from the recipient's assessment on record at the start of the calendar year (or the first assessment in the year for participants joining the program). The CMIPS database is the only electronic HCBS assessment data system available statewide for the HCBS programs. The recipients for whom assessment data were missing were those individuals who were not in the IHSS program during the study year.

The functional measures are: number of limitations of ADLs (0-5, with 5 representing the highest level of dependence), number of limitations of IADLs, whether the beneficiary had cognitive impairment, whether the beneficiary had breathing impairment, and the mean functional index score (1-5) found in CMIPS.

Given that CMIPS assessments are used only for IHSS beneficiaries, this information was available for only 411,393 recipients out of the total 478,381 recipients within the study population. Functional limitation information was obtained, when possible for those without CMIPS assessments, by using information from a federal all-payer database of users of HH services. This is known as the Outcomes Assessment and Information Set (OASIS). These data are required for Medicare recipients, and are optional for Medi-Cal funded HH. Consequently, OASIS data were not available for all Medi-Cal HH recipients.

Information on household size and marital status from CMIPS was used to characterize aspects of beneficiaries' availability of caregiver support. We combined items to create five levels of caregiver support corresponding 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.

Finally, the fourth pair of tables (**Tables 8 and 9**) describes nursing facility use and mortality rates of the HCBS population and waiver subgroups. These tables provide insights into the outcomes associated with different levels of HCBS use. These outcomes were derived by linking the HCBS population to state vital statistics records as well as Medicare enrollment, claims, and assessment files. Nursing facility stays were identified either from a Medi-Cal claim, a Medicare claim, or an assessment in the all-payer Minimum Data Set (MDS). Those who had a nursing facility stay during a year could have had it before or after receiving HCBS, but in most cases it would be the latter.<sup>14</sup> Deaths in a calendar year were identified either through the linkage with state vital statistics records or from information available in the Medicare enrollment file.

The Appendices include these identical analyses stratified for the Medi-Cal only and MME populations<sup>15</sup> for CY 2008 (**Appendices Tables AA-1 through AD-2**). In addition, these analyses are provided for CY 2005 so as to show how the HCBS population and waiver subgroups have changed over time (**Appendices Tables AF-1 through AH-4**).

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<sup>14</sup> The AARP LTSS State Scorecard reports that 70.9 percent of new Medicaid LTSS users first received services in the community before entering a nursing home in 2007. See <http://www.longtermcorecard.org/DataByState/State.aspx?state=CA>.

<sup>15</sup> Such individuals qualify for full Medicare benefits and all of the Medicaid benefits offered under Medi-Cal for which they are eligible, including Medicaid coverage of Medicare premiums and cost-sharing obligations. These enrollees are often referred to as full duals.

## Results

The findings presented in this section are for CY 2008. To provide a picture of the stability and changes occurring in the recipient population over the period 2005-2008, the appendices show recipient characteristics for CY 2005. While the total number of recipients changed over time, the distributions of recipient characteristics tended to be relatively similar in each of these years.

### Medi-Cal & Medicare Eligibility and Utilization of HCBS Programs and Waivers

The first row of **Table 2** and the subsequent tables show the number of HCBS recipients in 2008. The table columns are organized to first show the total number of HCBS recipients (summed across all the other columns). The remaining columns show recipient totals for specific HCBS services and counts of recipients using the most prevalent combinations of services during the period. Federal Medicaid regulations permit a recipient to concurrently use state plan and waiver services. However, a recipient can use only one HCBS waiver program at a time.

There were 478,381 individuals receiving HCBS services in 2008, 73.6% of whom were MMEs (**Appendix Table A-1**). The remaining recipients were enrolled only in Medi-Cal only (**Appendix Table A-2**).

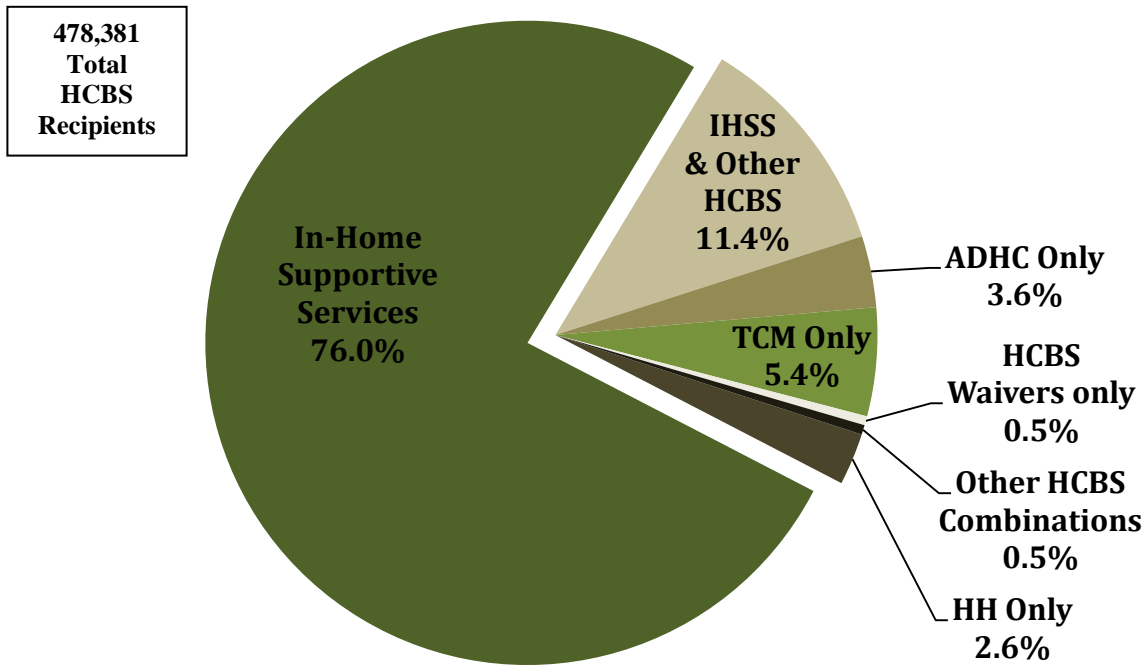
**Figure 1** shows that IHSS was the most widely used of the HCBS programs in 2008. About 76% (362,940 recipients) of all HCBS users received IHSS only and an additional 11.4% (54,183 recipients) received IHSS in combination with another HCBS at some time during the year. Regarding other single service use, 5.4% used TCM only, 3.6% used ADHC only, 2.6% used HH only, and 0.5% used HCBS waivers not in combination with other HCBS.

**Table 2** breaks down service use further by showing counts and percentages of IHSS users in combination with specific services. Recipients with any use of ADHC (i.e., ADHC only and ADHC plus IHSS) totaled 10.5%. Recipients with any TCM use (i.e., TCM only and TCM plus IHSS) totaled 6.1%, with almost 90% of these using only this HCBS service.

The HH benefit was the next most frequently used HCBS benefit, involving about 3.5% of HCBS recipients. Of these, the vast majority (74.2%) used HH only (i.e., not in combination with IHSS). This suggests that many of these HCBS users are included in our sample because they needed HH's rehabilitation or skilled nursing care services.

HCBS waiver users (including those using waivers only or in combination with IHSS) totaled 16,177 recipients. The vast majority of waiver recipients (86.6%, or about 14,000 of the 16,177 recipients) used waivers in combination with IHSS or IHSS and ADHC in 2008. Waiver recipients using combinations of state plan and waiver services may represent the frailer segment of the waiver recipient population or may have had access to these state plan services when others did not.

**Figure 1. Recipients by Type of Service, Age 18+, 2008**



The remaining data in **Table 2** describe service use with Medi-Cal’s eligibility data. HCBS recipients in CY 2008 had an average enrollment of 11.4 months, with at least 78% of the recipients being categorically eligible for Medi-Cal (i.e., Aged, Blind, Disabled and Family). Twenty percent of recipients obtained eligibility under Medi-Cal’s medically needy pathway, in which applicants may qualify by spending down their income on their care to a state-defined income standard. Finally, 2% qualified through other pathways.



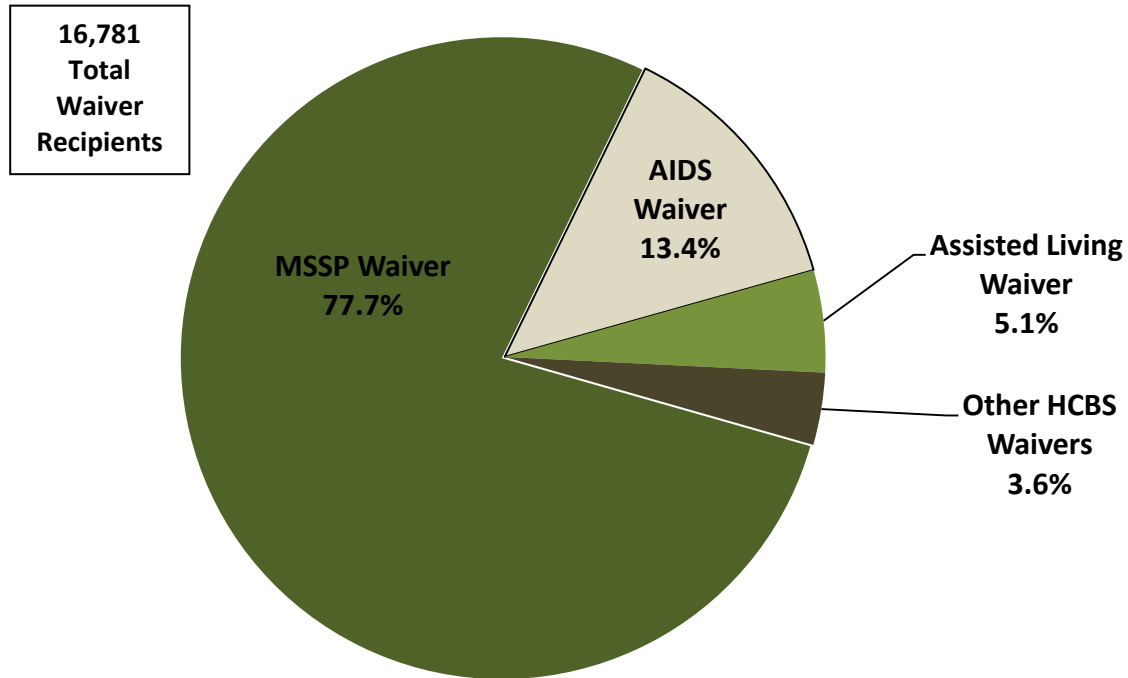
**Table 2. Eligibility Characteristics of Medi-Cal HCBS Recipients Age 18+, 2008**

			In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
<b>Total Medi-Cal HCBS Recipients</b>	478,381	12,443	364,218	4,319	32,889	2,971	12,168	1,839	17,085	25,982	2,170	2,297
<b>Mean Months Medicaid Eligible in year</b>	11.4	9.9	11.5	11.2	11.8	11.5	11.3	11.7	11.7	10.3	11.1	11.2
<b>Program Eligibility</b>												
<b>Medi-Cal Recipients with Eligibility Data</b>	477,095	12,442	362,940	4,318	32,889	2,971	12,166	1,839	17,085	25,979	2,169	2,297
<b>Eligibility</b>												
1. Public Assistance – Aged	32.7%	0.3%	33.3%	2.0%	61.8%	12.2%	40.6%	56.1%	0.9%	1.8%	24.6%	8.4%
2. Public Assistance – Blind	2.1%	0.3%	2.4%	2.1%	2.0%	2.6%	2.4%	3.3%	0.5%	0.1%	0.9%	1.0%
3. Public Assistance – Disabled	42.0%	19.5%	46.3%	80.5%	24.5%	59.0%	31.7%	21.2%	35.1%	17.2%	39.3%	44.1%
4. Family	1.2%	7.2%	0.1%	*	*	*	*	0%	0.3%	17.8%	0.6%	4.2%
5. Medically Needy	20.0%	50.2%	17.4%	14.9%	11.3%	25.0%	24.0%	18.3%	22.1%	48.6%	31.2%	33.4%
6. Other	2 %	22.5%	0.6%	*	0.4%	1%	1.2%	1.0%	1%	14.6%	3.1%	8.9%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, ADHC and waivers. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.

**Figure 2** and **Table 3** show the eligibility characteristics of individuals within specific Medi-Cal HCBS waivers. Of the total HCBS recipient population, 3.5% (16,788<sup>16</sup> of 477,095) were in the HCBS waiver program in 2008. Of waiver recipients, 77.7% (13,036 of 16,788) were in the MSSP waiver, 13.4% were in the AIDS waiver, 5.1% were in the Assisted Living waiver and 3.6% were in other HCBS waivers.

**Figure 2. Utilization of Home and Community-Based Waivers in California, Age 18+, 2008**



Program eligibility for HCBS waiver recipients was stable (11.3 months), similar to the total HCBS population (11.4 months). There were more categorically eligible aged and fewer disabled adults receiving waivers, a reversal of the pattern among users of Medi-Cal’s HCBS state plan benefits. The medically needy were somewhat more likely to be receiving waivers (24%) than the total HCBS population (20%) in 2008.

<sup>16</sup> Total HCBS users in Table 3 differ from Table 2 because about 580 HCBS waiver users are counted in the Other Combos category.

**Table 3. Eligibility Characteristics of Medi-Cal HCBS Waiver Recipients Age 18+, 2008**

	Total Medi-Cal HCBS	Total HCBS Waivers	AIDS Waiver	Assisted Living Waiver	Other HCBS Waivers <sup>a</sup>	MSSP Waiver
<b>Total Medi-Cal HCBS Recipients</b>	478,381	16,781	2,248	862	610	13,037
<b>Length of Program Eligibility</b>						
Mean Months Medicaid Eligible in year	11.4	11.3	11.4	11.3	11.6	11.3
<b>Medi-Cal recipients with Eligibility data</b>	477,095	16,778	2,248	861	609	13,036
<b>Program Eligibility</b>						
1. Public Assistance – Aged	32.7%	39.5%	3.3%	43.3%	4.4%	47.0%
2. Public Assistance – Blind	2.1%	2.2%	1.6%	*	*	2.5%
3. Public Assistance – Disabled	42.0%	32.3%	68.2%	24.5%	58.8%	25.5%
4. Family	1.2%	0.1%	0.5%	0	*	*
5. Medically Needy	20.0%	24.3%	25.8%	27.2%	33.2%	23.5%
6. Other	2%	1.5%	0.5%	3.9%	2.1%	1.5%

a = Other waivers included: (1) in-home operations (IHO) waiver (formerly called Nursing Facility A/B and Nursing Facility SubAcute); and (2) Nursing Facility/Acute Hospital (formerly Nursing Facility A/B and Nursing Facility SubAcute and In-Home Medical Care). \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Notes:** The count of recipients for each waiver group does not sum to the count in the total HCBS waiver column because 24 individuals in combination waivers are not shown on the table. Percentages may not total to 100% due to rounding.

## Demographic Characteristics of HCBS State Plan & Waiver Recipients

**Figure 3** and **Table 4** show HCBS recipients by race and ethnicity. Whites were generally the most prevalent users of HCBS, comprising 34% of all users. This is not surprising as they also comprised the largest racial group in California in 2008, representing about 43% of California's population.<sup>17</sup> Persons of Hispanic origin were the second most prevalent users of HCBS in 2008 and simultaneously comprised the second largest racial group, representing 36% of California's population.<sup>18</sup>

Asians/Pacific Islanders comprised about 20% of all HCBS users. As a share of the California population in 2008, however, they comprised less than 1%.<sup>19</sup> The majority of Asians/Pacific Islanders were in IHSS and ADHC. Asians/Pacific Islanders were the second most frequent users of ADHC when used in combination with IHSS overall, and had the highest proportion using only ADHC. The proportion of Asians/Pacific Islanders among the other services was 10% or less.

African Americans constituted 15% of HCBS users as a whole and 28% of users of both IHSS and TCM. As a share of the California population in 2008, they comprised just under 6%.<sup>20</sup>

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<sup>17</sup> State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2050, Sacramento, CA July, 2007. See,

<http://www.cdph.ca.gov/data/statistics/Pages/VitalStatisticsandPopulationSummaryTables.aspx>

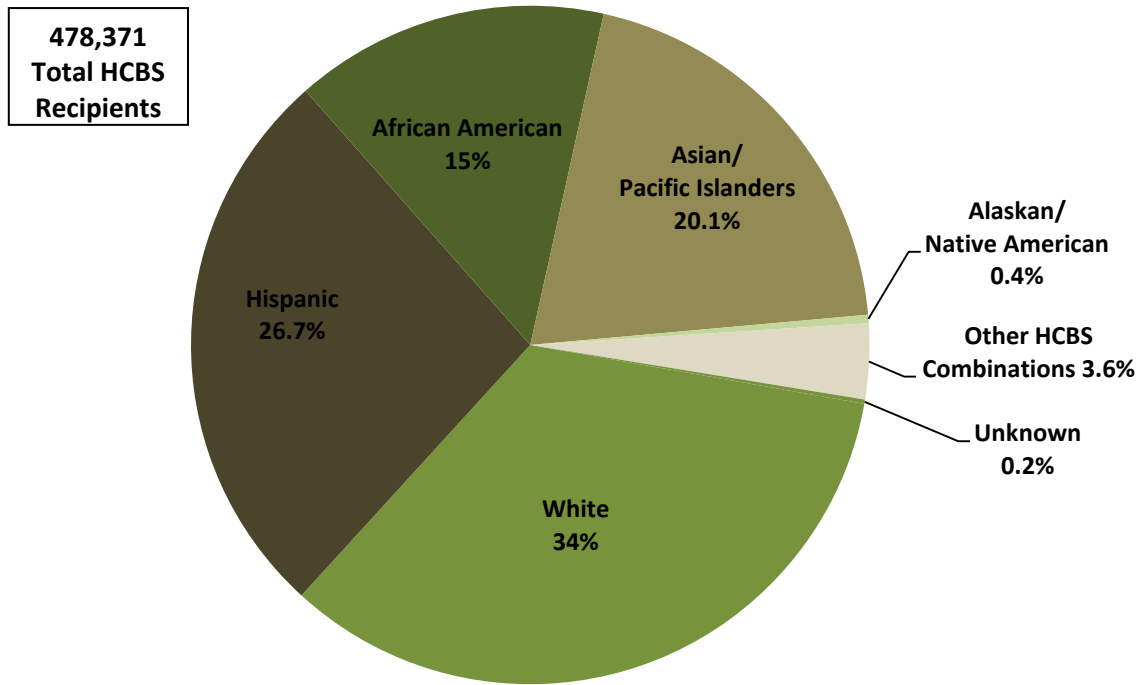
<sup>18</sup> State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2050, Sacramento, CA July, 2007. See,

<http://www.cdph.ca.gov/data/statistics/Pages/VitalStatisticsandPopulationSummaryTables.aspx>

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

**Figure 3. HCBS Recipients by Race and Ethnicity, Age 18+, 2008**



**Table 4** also shows the age, sex, and race/ethnicity distribution of HCBS recipients in 2008. About 60% of all recipients were aged 65 or older. Persons aged 65 or more were the predominant users of IHSS, ADHC, and HCBS waivers. In contrast, the vast majority of HH and TCM recipients were under age 65.

Women accounted for about 60% and 83% of recipients among these program eligibility groups. However, men accounted for more than half of the HCBS waiver-only recipients.

**Table 4. Demographic Characteristics of Medi-Cal HCBS Recipients Age 18+, 2008**

	IHSS and Other Services <sup>b</sup>											
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
<b>Total Medi-Cal HCBS Recipients</b>	478,381	12,443	364,218	4,319	32,889	2,971	12,168	1,839	17,085	25,982	2,170	2,297
<b>Age (yrs)</b>												
Mean Age	66	35	68	54	76	59	76	80	68	33	65	47
18-64	39.3%	94.8%	36.7%	88.2%	9.1%	66.1%	11.4%	1.0%	31.2%	93.1%	44.0%	77.6%
65+	60.7%	5.2%	63.3%	11.8%	90.9%	33.9%	88.6%	99.0%	68.9%	6.9%	56.0%	22.4%
Female	66.9%	83.8%	65.6%	59.5%	67.6%	63.3%	72.4%	75.2%	58.3%	80.0%	51.7%	68.2%
<b>Race/Ethnicity</b>												
White	34.0%	24.1%	34.1%	40.6%	43.8%	41.4%	43.8%	33.0%	23.2%	23.0%	57.7%	35.8%
Hispanic	26.7%	58.9%	25.3%	24.2%	14.6%	18.2%	28.0%	30.1%	18.6%	50.9%	20.3%	33.6%
African American	15.0%	4.8%	16.5%	20.3%	4.6%	28.0%	15.8%	14.8%	6.8%	14.4%	10.4%	17.4%
Asian/Pacific Islander	20.1%	6.3%	20.1%	10.3%	33.2%	7.7%	9.7%	18.9%	40.4%	6.1%	4.4%	7.7%
Alaskan/Native American	0.4%	0.6%	0.4%	0.7%	0.1%	0.8%	*	*	0.2%	0.5%	0.4%	*
Other/Combos	3.6%	2.5%	3.4%	3.6%	3.6%	3.8%	2.3%	3.0%	9.3%	3.8%	5.8%	3.7%
Unknown	0.2%	2.7%	0.0%	0.3%	*	*	*	0	1.5%	1.3%	1.1%	1.4%

a = All Medi-Cal recipients living at home or in the community b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.

**Table 5** shows the demographic characteristics of HCBS waiver recipients in 2008. Of the HCBS waiver recipients, 84% were 65 and over, a marked contrast with the total HCBS population of whom 60.7% were aged 65 and over. Most AIDS waiver recipients (90.5%) were under age 65, while almost all of the MSSP waiver recipients (99.7%) were 65 and over. The MSSP waiver represented about 78% of all HCBS waiver participants (13,037 of 16,781). The percent of women in HCBS waivers tended to be similar to the total HCBS population, with the exceptions of fewer women in the AIDS waiver and the “other HCBS waiver” group. In 2008 this included the IHO waiver and the NF/AH waiver. There were proportionately more whites in the HCBS waivers than in the total HCBS population and proportionately fewer Asians/Pacific Islanders.

**Table 5. Demographic Characteristics of Medi-Cal HCBS Waiver Recipients Age 18+, 2008**

	Total Medi-Cal HCBS	Total HCBS Waivers <sup>a</sup>	AIDS Waiver	Assisted Living Waiver	Other HCBS Waivers <sup>b</sup>	MSSP Waiver
<b>Total Medi-Cal HCBS Recipients</b>	478,381	16,781	2,248	862	610	13,037
<b>Age (yrs)</b>						
18-64	39.3%	16.0%	90.5%	11.6%	82.3%	0.3%
65+	60.7%	84.0%	9.5%	88.4%	17.7%	99.7%
Mean Age	66	75	50	79	46	80
<b>Female</b>	66.9%	69.4%	29.8%	72.5%	37.7%	77.4%
<b>Race/Ethnicity</b>						
White	34.0%	44.4%	46.5%	68.9%	50.0%	42.1%
Hispanic	26.7%	26.9%	22.4%	11.3%	25.2%	28.9%
African American	15.0%	15.4%	24.2%	7.2%	15.4%	14.4%
Asian/Pacific Islander	20.1%	9.9%	2.5%	4.1%	7.0%	11.7%
Alaskan/Native American	0.4%	0.4%	0.6%	*	*	0.3%
Other/Combinations	3.6%	2.9%	3.2%	7.8%	*	2.5%
Unknown	0.2%	0.2%	0.7%	*	*	*

a = Total 1915(c) waiver users; b = Other waivers included (1) in-home operations (IHO) waiver (formerly called Nursing Facility A/B and Nursing Facility SubAcute) and (2) Nursing Facility/Acute Hospital (formerly Nursing Facility A/B and Nursing Facility SubAcute and In-Home Medical Care); \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.



## Functional Limitations & Living Arrangements of HCBS State Plan & Waiver Recipients

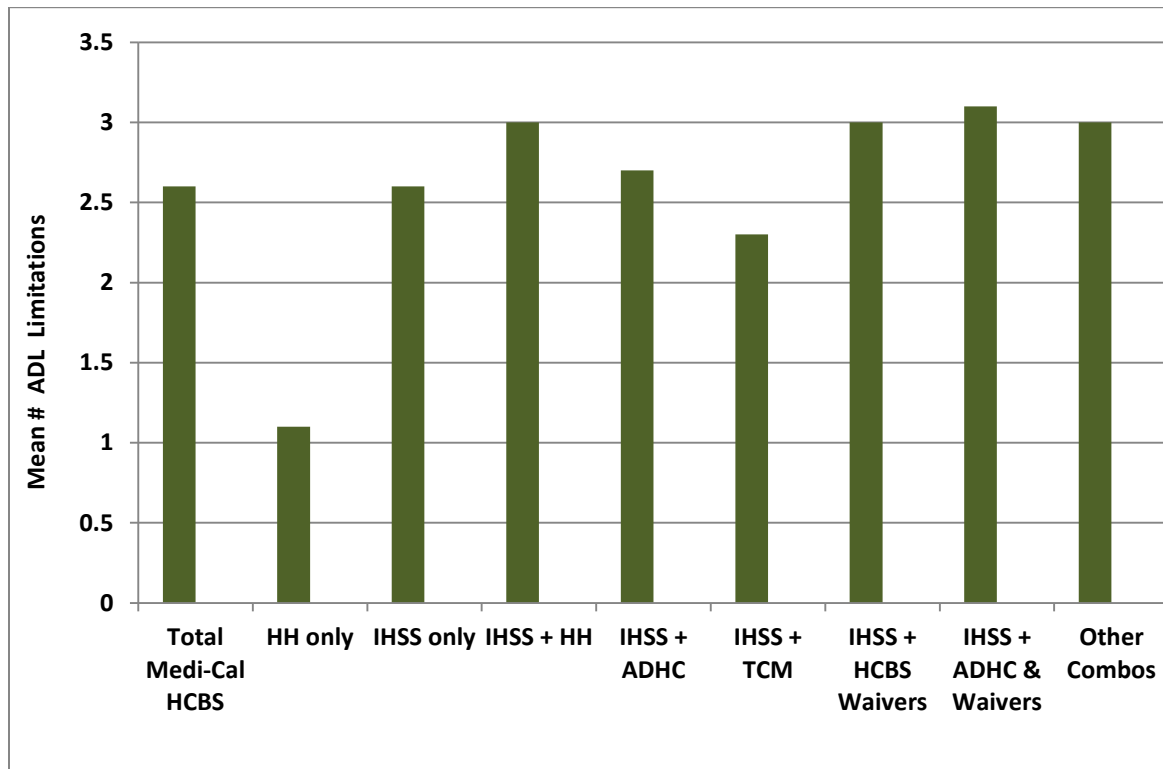
In 2008, IHSS assessments were available for 86% of all HCBS recipients. The recipients for whom we do not have assessment data are those that received Medi-Cal HH, ADHC, TCM, and HCBS waiver services without also receiving IHSS. Medi-Cal beneficiaries who received these services in combination with IHSS generally had assessments available for our use in this study. In 2008, there were assessment data for 67% of those in ADHC, 10% in TCM, 43% in HH, and 86% in HCBS waivers.

Waiver recipients, by the terms of program eligibility, must have impairment needs that meet the criteria for institutional care. Such individuals are expected to be more frail (i.e., have more limitations in measured functional status and other criteria) than the typical IHSS recipient. Similarly, ADHC and TCM recipients without IHSS assessments would likely have lower levels of frailty than the typical IHSS recipient. Those individuals receiving these services alone (i.e., not in combination with IHSS) have fewer impairments than those jointly receiving ADHC and IHSS. When available, we used OASIS assessments collected at the time of discharge from HH to describe the impairments of recipients of HH only.

As seen in **Figure 4**, HCBS recipients for whom assessment data were available tend to have relatively high levels of physical limitations. The mean number of limitations in ADLs, where the individual required at least some direct physical assistance, was 2.6 of 5 ADLs (bathing & grooming; dressing; bowel, bladder, menstrual; transferring; and eating). **Table 6** shows that they also have relatively high levels of functional and cognitive limitations.

Among all of the service users for which we have assessment data, the following groups had a mean ADL score of 3 or more: ADHC plus HCBS waiver recipients, IHSS plus HCBS waiver recipients, IHSS plus HH recipients, and recipients using other HCBS combinations. HH only recipients had a mean ADL score of 1.1, representing the lowest mean ADL score among all HCBS users.

**Figure 4. Limitations in Activities of Daily Living among HCBS Recipients by Service Use, Age 18+, 2008**

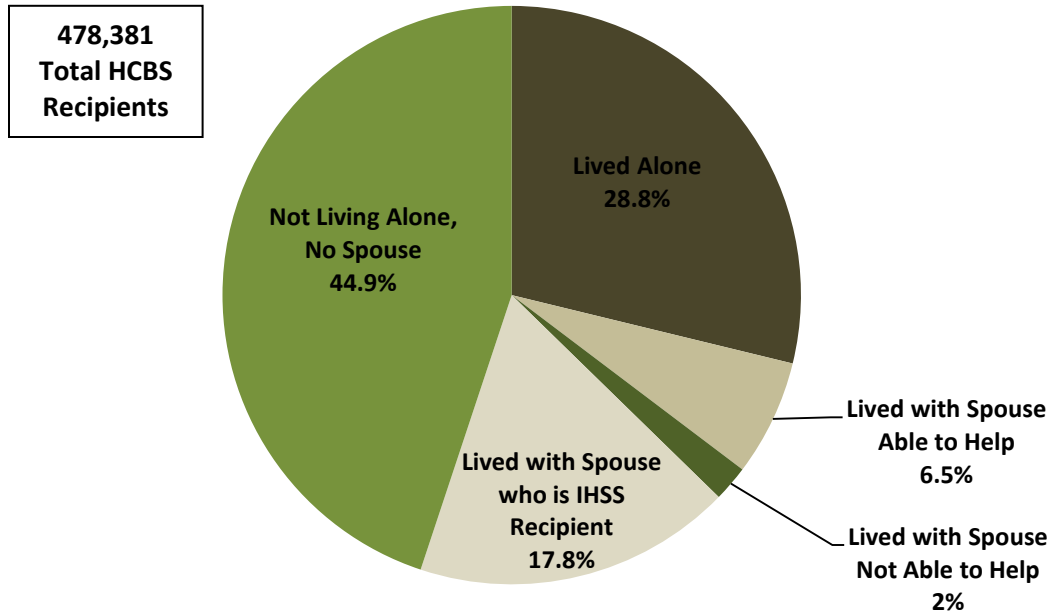


**Table 6** shows the mean number of IADLs for which an individual required at least some direct physical assistance was 4.5 of the 5 IADLs (housework, laundry, shopping & errands, meal preparation & clean-up, and mobility inside). Another way of quantifying the limitation is through the Functional Index Score (FIS), which is a weighted average of the ADL/IADL scores. The mean IHSS FIS was 2.9 in 2008. The prevalence of functional limitation levels is generally consistent among recipients in the HCBS services for whom assessment data were available, trending slightly higher for those in the waivers.

The cognitive function measure is scored on a five-point scale. Slightly more than one-third of the recipients were considered to need at least verbal assistance (such as reminding, guidance, or encouragement) with one or more of the three memory, judgment, and orientation task assessment items. About 7% of recipients needed assistance with breathing or assistance in maintaining their breathing aid equipment in 2008. The prevalence of cognitive limitations is much more varied by service use, with the highest levels of cognitive limitations among those jointly receiving IHSS and TCM or waivers.

The living arrangements of HCBS recipients are thought to influence the ability of an individual with physical or cognitive limitations to remain in the community. **Figure 5** shows the living arrangements of the HCBS users in 2008.

**Figure 5. Living Arrangements of HCBS Recipients Age 18+, 2008**



About 29% of the recipients lived alone. Persons living alone tended to have a higher rate of participation in TCM in combination with IHSS and higher use of the waivers (see **Table 6**).

About a quarter (26.3%) of HCBS recipients with assessment data lived with any spouse, either able or not able to help. However, among those living with a spouse, more than two-thirds (17.8% of 26.3%) lived with a spouse who was also receiving IHSS. Those living with a spouse also on IHSS tended to have higher participation in ADHC in combination with IHSS and lower participation in HH, TCM, and the waivers (see **Table 6**).

**Table 6. Assessment Data and Living Arrangements for Medi-Cal HCBS Recipients Age 18+, 2008**

	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS and Other Services <sup>b</sup>						ADHC only	TCM only	HCBS Waivers only	Other Combos
			IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers				
<b>Total Medi-Cal HCBS Recipients</b>	478,381	12,443	364,218	4,319	32,889	2,971	12,168	1,839	17,085	25,982	2,170	2,297
<b>Total Medi-Cal HCBS Recipients with Assessment Data</b>	411,393	3,126 <sup>c</sup>	356,981	4,161	32,643	2,908	12,073	1,830	na	na	na	797
<b>Cognitive &amp; Physical Limitations</b>												
Mean # ADL Limitations, 0-5	2.6	1.1 <sup>c</sup>	2.6	3.0	2.7	2.3	3.0	3.1	na	na	na	3.0
Mean # IADL Limitations, 0-5	4.5	2.7 <sup>c</sup>	4.5	4.6	4.5	4.4	4.6	4.6	na	na	na	4.6
Cognitive Limitation	37.2%	19.7% <sup>c</sup>	37.2%	35.8%	33.7%	44.1%	46.0%	47.6%	na	na	na	50.1%
Breathing Limitation	6.9%	* <sup>c</sup>	6.9%	13.6%	3.3%	10.0%	13.6%	6.7%	na	na	na	13.7%
Mean Functional Index Score, 1-5	2.9	na	2.9	3.1	2.9	2.8	3.1	3.2	na	na	na	0.8
<b>Living Arrangements</b>												
Lives alone	28.8%	na	28.0%	23.0%	29.4%	43.1%	47.8%	40.4%	na	na	na	37.3%
Lives with Spouse Able to Help	6.5%	na	6.8%	12.0%	3.8%	6.1%	3.8%	3.8%	na	na	na	6.5%
Lives with Spouse Not Able to Help	2.0%	na	2.0%	2.2%	1.7%	1.4%	1.6%	1.3%	na	na	na	1.5%
Lives with Spouse who is IHSS Recipient	17.8%	na	17.3%	5.6%	29.0%	5.2%	10.2%	16.8%	na	na	na	4.9%
Not Living Alone but No Spouse	44.9%	na	45.9%	57.3%	36.2%	44.2%	36.6%	37.8%	na	na	na	49.8%

a = All Medi-Cal recipients living at home or in the community b = Used a combination of IHSS with either home health, adult day health care, targeted case management, waivers, or adult day health and waivers c = Had an OASIS home health assessment. All other assessment data are from the IHSS CMIPS data. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.

**Table 7** shows the assessment data and living arrangements for individuals using the specific HCBS waiver services in 2008. HCBS waiver recipients, in addition to meeting the financial eligibility requirements for Medi-Cal, must meet the requirements for a nursing facility level-of-care. Waiver participants, on average, are therefore expected to have higher levels of disability than others receiving HCBS. This difference was observed, with waiver recipients having mean ADL scores of 3.1 vs. 2.6 for the total HCBS population. Waiver recipients did not differ from the total HCBS population on IADL scores (4.6 vs. 4.5). IADL impairment levels in both groups approached the point where almost all recipients needed human assistance with these tasks. Waiver recipients, on average, did have higher proportions of cognitive limitations requiring at least verbal cueing or supervision (46.3% vs. 37.2%) compared to the total HCBS population. Waiver recipients also had almost twice the percentage of participants with breathing problems that require assistance (12.8% vs. 6.9%).

The proportion of the population with functional and breathing limitations tended to be highest among those in the “other HCBS waivers” than in the AIDS, Assisted Living, and the MSSP waivers. These other waivers included the IHO waiver and the NF/AH waiver for medically fragile and technology dependent individuals.

The living arrangements for those in HCBS waivers are also shown in Table 7. Waiver recipients were more likely to live alone (46.6%) than the total HCBS population (28.8%) in 2008. Those who were in the Assisted Living and the MSSP waivers were more likely to be living alone (56.3% and 48.0% respectively) than those in the “other HCBS waivers.” These latter waiver recipients were more likely to be living with a spouse or with another person. Of the total HCBS waiver group, 10.9% lived with a spouse who was also an IHSS recipient in 2008. This rate is less than the 18% in the total HCBS population, but it still represents two-thirds of all the waiver recipient households where there is a spouse present (**Table 7**).

**Table 7. Assessment Data and Living Arrangements for Medi-Cal HCBS Waiver Recipients Age 18+, 2008**

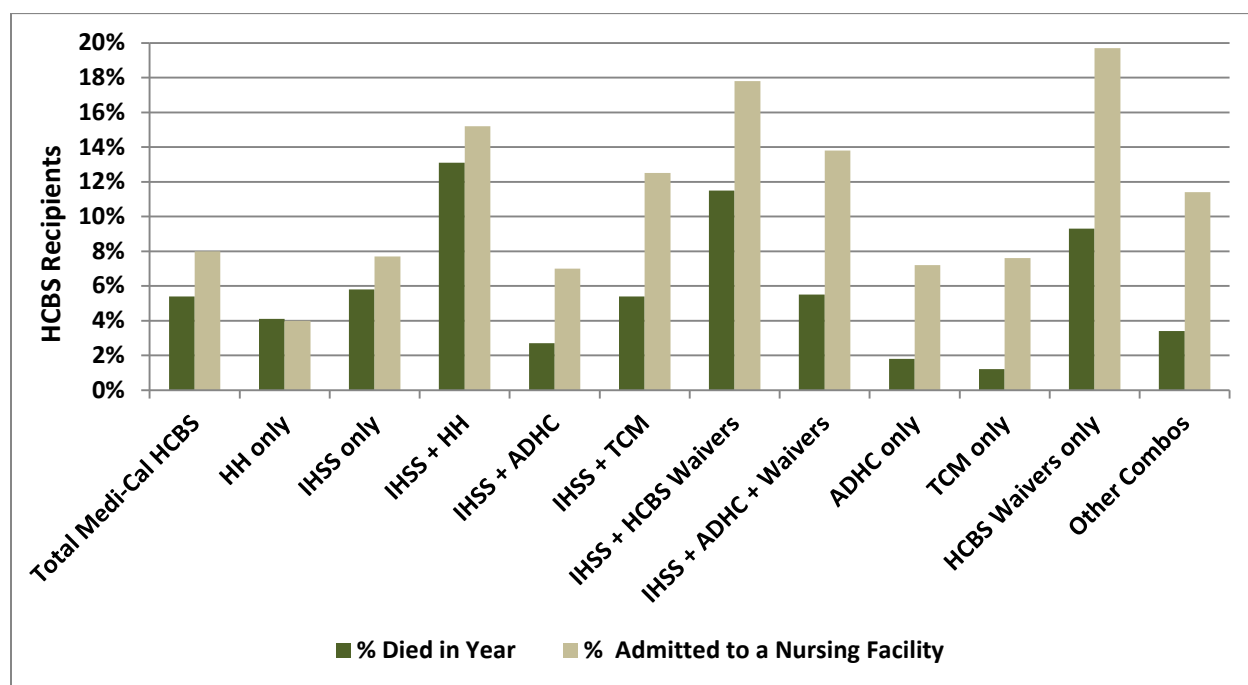
	Total Medi-Cal HCBS	Total HCBS Waivers <sup>a</sup>	AIDS Waiver	Assisted Living Waiver	Other HCBS Waivers <sup>b</sup>	MSSP Waiver
<b>Total Medi-Cal HCBS Recipients</b>	478,381	16,781	2,248	862	610	13,037
<b>Total Medi-Cal HCBS Recipients with Assessment data</b>	411,393	14,253	1,246	112	481	12,391
<b>Cognitive &amp; Physical Limitations</b>						
Mean # ADL Limitations, 0-5	2.6	3.1	2.5	2.6	4.6	3.0
Mean # IADL Limitations, 0-5	4.5	4.6	4.4	4.5	4.7	4.6
Cognitive Limitation	37.2%	46.3%	48.6%	38.4%	30.1%	46.8%
Breathing Limitation	6.9%	12.8%	7.9%	*	55.7%	11.7%
Mean Functional Index Score, 1-5	2.9	3.1	2.8	2.9	4.1	3.1
<b>Living Arrangements</b>						
Lives alone	28.8	46.6	44.9	56.3	13.7	48.0
Lives with Spouse Able to Help	6.5	3.9	2.7	*	11.4	3.7
Lives with Spouse Not Able to Help	2.0	1.6	1.1	*	*	1.6
Lives with Spouse who is IHSS Recipient	17.8	10.9	1.0	*	2.3	12.3
Not Living Alone but No Spouse	44.9	37.1	50.3	33.0	71.7	34.4

a = Total 1915(c) waiver users; b = Other waivers included (1) in-home operations (IHO) waiver (formerly called Nursing Facility A/B and Nursing Facility SubAcute) and (2) Nursing Facility/Acute Hospital (formerly Nursing Facility A/B and Nursing Facility SubAcute and In-Home Medical Care). \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Notes:** The count of recipients for each waiver group does not sum to the count in the total HCBS waiver column because 24 individuals in combination waivers are not shown on the table. Percentages may not total to 100% due to rounding.

## Mortality & Nursing Facility Admissions among HCBS State Plan & Waiver Recipients

Figure 6 and Table 8 show the mortality<sup>21</sup> and nursing facility admissions<sup>22</sup> of HCBS recipients as outcome measures explored in this report.

Figure 6. Mortality and Nursing Facility Admissions among HCBS Recipients Age 18+, 2008



The mortality rate for all HCBS recipients in 2008 was 5.4%. (See Table 9 for an explanation of the waiver mortality rates.) In the general population, the mortality rate of individuals ages 75-84

<sup>21</sup> We used the state's vital statistics file to determine whether and when a recipient died during a study year. In some instances, recipients were shown to have died in the Medi-Cal claims data but not in the vital statistics file. In such cases, we relied on the claims records for date of death.

<sup>22</sup> Computation of the unduplicated total admissions to a nursing facility involved the use of data from three sources. The results from each data source are reported separately in Table 8. Minimum Data Set (MDS) assessments are required for all nursing facility admissions that have an inpatient stay of at least two weeks. This data source showed an admission rate of 7.5% among adult HCBS users in 2008. This source under reports the very short stay admissions, but they capture admissions paid by all funding sources, including private pay and the Department of Veterans Affairs. Two additional data sources show the nursing facility bills paid by Medi-Cal and/or Medicare. We did not have access to data from other payers. Medi-Cal claims records showed an admission rate of about 5%. The rate dropped to 4.6% using Medicare claims. Data combined across these three sources produced an unduplicated count and an admissions rate of 8%.

was 4.82% in 2009.<sup>23</sup> The higher mortality rate of HCBS recipients is likely a result of their frailty and high level-of-care needs.

The mortality rates of recipients using combinations of services are among the highest for HCBS recipients. For example, persons in IHSS in combination with HH had a mortality rate of 13.1%. This is consistent with the assumption that higher mortality is associated with higher frailty and individuals receiving a combination of services are among the frailest of the HCBS population.

Mortality rates among those in IHSS only (5.8%) were somewhat lower, possibly reflecting the lower frailty level required to be eligible for IHSS services.

Recipients who received TCM only or ADHC only had the lowest mortality rates (1.2% and 1.8%, respectively). These lower rates are consistent with the notion that frailty levels would be lower in programs in which recipients do not require the service levels offered by IHSS, waivers, or a combination of programs.

The percentage of Medi-Cal HCBS users admitted to a nursing facility at least once during 2008 is shown in **Table 8**. The unduplicated rate, derived from multiple sources, was 8% in 2008 among the population of HCBS recipients age 18 and above. Nursing facility admissions were lowest for those who used HH only, IHSS only, ADHC only, and TCM only. Admission rates were highest for those who received combinations of services including IHSS and HCBS waivers (17.8%) and HCBS waivers only (19.7%). The rates shown do not distinguish short stays from extended stays.

Finally, across all service users, the highest mortality and nursing facility admission rates were for recipients of IHSS and HH, IHSS and HCBS waivers, and waivers only. The relatively high rates for these combinations of services compared to other HCBS likely reflect the higher frailty levels of recipients using these services. They also call attention to the challenges this population faces in avoiding costly institutional care.

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<sup>23</sup> Table 1. Deaths and death rates by age, sex, race, and Hispanic origin, and age-adjusted death rates, by sex, race, and Hispanic Origin: United States, final 2009 and preliminary 2010. National Vital Statistics Reports, Vol. 60, No. 4.



**Table 8. Mortality and Nursing Facility Admissions of Medi-Cal HCBS Recipients Age 18+, 2008**

	Total Medi-Cal HCBS <sup>a</sup>	IHSS and Other Services <sup>b</sup>										
		HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
<b>Total Medi-Cal HCBS Recipients</b>	478,381	12,443	364,218	4,319	32,889	2,971	12,168	1,839	17,085	25,982	2,170	2,297
<b>Recipient Outcomes During Year</b>												
% Died in year	5.4%	4.1%	5.8%	13.1%	2.7%	5.4%	11.5%	5.5%	1.8%	1.2%	9.3%	3.4%
Percent Admitted to a Nursing Facility <sup>c</sup>	8.0%	4.0%	7.7%	15.2%	7.0%	12.5%	17.8%	13.8%	7.2%	7.6%	19.7%	11.4%
Percent with MDS Assessment in a Nursing Facility	7.5%	3.5%	7.3%	13.8%	6.6%	12.2%	16.7%	13.2%	6.8%	7.4%	18.2%	10.5%
Percent with Medicaid claim for a Nursing Facility	5.1%	3.5%	4.7%	13.7%	4.6%	7.8%	11.0%	9.0%	4.8%	6.0%	14.5%	9.4%
Percent with a Medicare claim for a Nursing Facility	4.6%	0.1%	4.6%	0.5%	4.6%	7.3%	11.8%	9.5%	3.6%	2.8%	10.6%	3.7%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either home health, adult day health care, targeted case management, waivers, or adult day health and waivers; c = Unduplicated total admitted to a nursing facility during the year. **Note:** Percentages may not total to 100% due to rounding.

**Table 9** shows the mortality and nursing facility admission rates for recipients in each of the Medi-Cal HCBS waivers in 2008. While the overall mortality rate for the total HCBS population was about 5.4%, the rate for the HCBS waiver population was 10.3%. This finding is consistent with expectations that those who participated in programs such as HCBS waivers (whether in combination with IHSS or not) would have higher than average frailty levels, and thus higher mortality rates. This is because waiver program eligibility requires that participants have an institutional level-of-care need, such as requiring the level-of-care offered in a nursing facility or hospital. IHSS and the other state plan services have lower criteria for service needs, and, not surprisingly, tend to have lower mortality rates, with the exception of IHSS plus HH (see discussion above).

Among the specific waivers, the AIDS waiver and “other HCBS waiver” had the lowest mortality rates (about 6.2%). Of the waivers, the highest mortality rates were for MSSP (11.3%) and assisted living (9.9%) recipients.

The nursing facility admission rate paralleled the distribution of mortality rates. With HCBS waiver recipients considered as a group, they had about twice the nursing facility admission rate (17.7%) as the total HCBS population (8%) in 2008. The admission rate was lowest for those in the AIDS waiver (6%) and highest for those in the MSSP (18.6%) and assisted living (35%). Those in the other HCBS waivers (10.7%) had about half the placement rate as MSSP.

**Table 9. Mortality and Nursing Facility Admissions of Medi-Cal HCBS Waiver Recipients Age 18+, 2008**

	Total Medi-Cal HCBS	Total HCBS Waivers <sup>a</sup>	AIDS Waiver	Assisted Living Waiver	Other HCBS Waivers <sup>b</sup>	MSSP Waiver
<b>Total Medi-Cal HCBS Recipients</b>	478,381	16,781	2,248	862	610	13,037
<b>Recipient Outcomes During Year</b>						
% Died in year	5.4%	10.3%	6.2%	9.9%	6.2%	11.3%
Percent Admitted to a Nursing Facility <sup>c</sup>	8.0%	17.5%	5.9%	35.4%	10.7%	18.6%
Percent with MDS Assessment in a Nursing Facility <sup>d</sup>	7.5%	16.4%	5.5%	32.5%	10.0%	17.5%
Percent with Medicaid claim for a Nursing Facility	5.1%	11.4%	3.6%	27.1%	8.9%	11.7%
Percent with a Medicare claim for a Nursing Facility	4.6%	11.3%	3.5%	20.2%	3.0%	12.4%

a = Total 1915(c) waiver users; b = Other waivers included (1) in-home operations (IHO) waiver (formerly called Nursing Facility A/B and Nursing Facility SubAcute) and (2) Nursing Facility/Acute Hospital (formerly Nursing Facility A/B and Nursing Facility SubAcute and In-Home Medical Care); c = Unduplicated total admitted to a nursing facility during the year; d = number with Minimum Data Set Assessment in a Nursing Facility **Notes:** The count of recipients for each waiver group does not sum to the count in the total HCBS waiver column because 24 individuals in combination waivers are not shown on the table. Percentages may not total to 100% due to rounding.

## **Medicare-Medicaid Enrollee (MME) and Medi-Cal Only HCBS Sub-Groups**

The Appendices include tables corresponding to each of those described here for CY 2008 stratified into MME (**Appendices Tables AA-1, AB-1, AC-1 and AD-1**) and Medi-Cal only sub-groups (**Appendices Tables AA-2, AB-2, AC-2 and AD-2**). As a general rule, the MME population was older and had a higher proportion of white beneficiaries. MMEs were the predominant users of IHSS, ADHC, and HCBS waivers. In contrast, Medi-Cal only HCBS recipients were more likely to use HH and TCM. MMEs had higher frailty scores, nursing facility admission rates, and mortality rates than did the Medi-Cal only beneficiaries.

## **HCBS Population Characteristics and Service Use Over Time**

The Appendices also include corresponding data for CY 2005 for the overall HCBS population (**Appendices Tables AE-1, AF-1, AG-1 and AH-1**) as well as stratified tables for MMEs (**Appendices Tables AE-2, AF-2, AG-2 and AH-2**) and Medi-Cal only beneficiaries (**Appendices Tables AE-3, AF-3, AG-3 and AH-3**). Waiver service use is also provided (**Appendices Tables AE-4, AF-4, AG-4 and AH-4**). This information can be used to gain an understanding of how the HCBS population and its service use changed over time. Consistent with aging trends in the population as a whole, the size of the HCBS population and the percentage who are MMEs increased somewhat from 2005 to 2008. The duration of eligibility and the distribution of HCBS service use patterns were relatively similar over time with some increase in the use of IHSS and some decrease in the use of ADHC over time. The mortality and nursing facility admission rates for 2005 were generally similar to those of 2008.

## **Discussion**

This report provides a comprehensive description of the HCBS population in California's Medi-Cal program in CY 2008. HCBS is a significant and growing area of service delivery in Medicaid programs, and California is interested in pursuing policies that can support high quality care and contain costs. A major barrier to planning, monitoring and evaluating HCBS programs is the complexity of the available information that is often spread across multiple data systems. With the assistance of California's Department of Health Care Services and the Centers for Medicare and Medicaid Services, CAMRI has taken significant steps to link these datasets to increase the understanding of who makes up the HCBS population and what services they receive.

Readers of this report will have their own specific areas of interest, but we want to draw attention to the following issues that emerge from the data. First, while the majority of the HCBS population receives IHSS as their only type of HCBS, more than 10% receive some combination of services, often with IHSS as a component. Waivers are another mechanism by which some beneficiaries receive supportive services in the community. However, the use of waivers is limited to less than 4% of the HCBS population with the overwhelming majority of participants in a single waiver (MSSP). Enrollment in waivers in 2008 did not reach federally-approved caps. Although information is limited, The Kaiser Family Foundation reported 2,030

Californians on wait lists for waiver services in 2009.<sup>24</sup> Limited use of some waivers relative to demand may vary by geographic area and could be indicative of limitations in the capacity to administer services, or due to other factors. Our analysis did not evaluate enrollment by geographic areas or other factors.

Second, unlike other Medicaid beneficiaries who are known to have a high degree of churning on and off the program, recipients of HCBS in California tend to be consistently enrolled in Medi-Cal throughout a year. This raises the opportunity for the state to consider the implementation of presumptive eligibility policies for those with fixed incomes to ease the administrative burden of the Medi-Cal redetermination process. It also raises the opportunity to think of this group of beneficiaries as a stable population for whom it might be possible to configure payment arrangements and/or target programs that promote high quality and cost-effective care. Since almost 75% of Medi-Cal's HCBS recipients are MMEs, creating such an approach will require coordinating between these two payers. Initiatives to integrate the service and financing of both programs, such as CMS' State Demonstrations to Integrate Care for Dual Eligible Individuals, provides opportunities to improve care coordination across both programs.

Third, the types of HCBS services that Medi-Cal beneficiaries receive vary somewhat by their race and ethnicity. While this may be an appropriate reflection of differences in need and/or preferences across different racial and ethnic subgroups, it may also reflect disparities in the availability or allocation of services. Attention should be given to ensuring that high-quality delivery of HCBS is distributed equitably based on the needs and preferences of beneficiaries and evenly across geographic areas.

Fourth, judging by the functional assessment and social support measures, the HCBS population has a high level of need. This is reflected across all the service types including IHSS where over one-third of the recipients have cognitive limitations. Furthermore, less than 1 in 10 HCBS recipients who receive IHSS have a spouse available to help in the home. This is a reminder of the important role that HCBS programs play in supporting high-need individuals to remain in the community. Beneficiaries participating in multiple HCBS programs rather than a single HCBS program and those individuals in waivers tend to have greater functional limitations. Further exploration is needed to ensure that public resources are appropriately targeted toward beneficiaries on the basis of need.

Finally, 5.4% of recipients of HCBS died in 2008 compared to 4.8% for the general population ages 75-84 in 2009. Despite the use of HCBS, recipients had a 1 in 10 chance of using a nursing facility that year. This confirms that these HCBS recipients have complex health care conditions, high frailty levels, and significant care needs. Future analyses will try to better assess who is at highest risk of death and distinguish between those who enter nursing homes for short-term rehabilitative stays after hospitalizations and those who enter nursing homes for long-term custodial care. These analyses might help identify which nursing home stays might benefit from

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<sup>24</sup> State Health Facts.org. "California: Waiting Lists for Medicaid 1915(c) Home and Community-Based (HCBS) Waivers, 2009," Kaiser Family Foundation. See, <http://statehealthfacts.kff.org/profileind.jsp?ind=247&cat=4&rgn=6>

targeted interventions to avoid institutionalization. Future analyses will investigate the extent to which nursing home admissions stem from differences in case mix.

While we hope that these data can help policymakers and stakeholders deepen their understanding of the HCBS population, we want to also caution readers about the data's limitations. First, the data are from 2008, the most recent available information when we started our analysis. There have been changes in HCBS policies and there may have been changes in beneficiary characteristics over time that might make it difficult to generalize the findings to the population using HCBS today. When comparing our results for 2008 with 2005, we found little difference over time. We recommend that the sort of data linkage we undertook to do these analyses be updated over time so that interested parties can have a continuous method for assessing the population and the impact of policy changes.

A second limitation is that our descriptive analysis does not take the order of events into account. In epidemiological terms, it is a description of prevalence rather than incidence. Thus, for this report, we were unable to say with certainty whether events such as the use of a nursing facility by a recipient of HCBS preceded or followed the receipt of that service. CAMRI does have service dates associated with events and a future report will focus on transitions between different types of services over time and what the association is with changes in beneficiaries' functional needs and health.

A third limitation is that we do not have assessments of functional status and social supports for approximately 15% of all recipients of HCBS. This reflects a limitation in how these data are collected and made available in different HCBS programs. CAMRI has attempted to fill in this void with assessments from all payer datasets such as OASIS used for those receiving HH services. However, our analysis of these data suggests that they are incomplete and that they may use measures that may not be directly comparable across datasets. Readers should also recognize that while the linked administrative datasets used in this study do provide a number of important insights into the HCBS population, none of them was designed for the specific purpose of developing an integrated care plan for beneficiaries who need long-term services and supports. Additional work needs to be done to better understand whether it will be possible to create a comprehensive and uniform method of assessing the needs of Medi-Cal beneficiaries using the available data sources or if additional assessments will be required to optimally manage, coordinate, and monitor the distribution of HCBS benefits.

Despite these limitations, we believe this report provides California with an important opportunity to better understand its HCBS population for the purposes of planning and evaluation. This has become increasingly important as California has faced mounting financial challenges in delivering services and policymakers are looking for alternative approaches for delivering higher quality at lower costs. Future reports will incorporate information on the health care needs and service use of this population. We hope this will contribute to the development of coordinated financing and care models that can ensure high quality and cost-effective care for some of the state's most vulnerable populations.

# **Appendix**

## **Tables**

**Table AA-1. Eligibility Characteristics of Medicare-Medicaid Enrollee (MME) Recipients of HCBS, Age 18+ in 2008**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total MME HCBS Recipients</b>	352,282	371	287,278	377	29,987	2,050	11,544	1,812	12,698	3,676	1,765	724	
<b>MME Recipients with Eligibility data</b>	352,282	371	287,278	377	29,987	2,050	11,544	1,812	12,698	3,676	1,765	724	
<b>Program Eligibility</b>													
Mean Months Medicaid Eligible in year	11.5	10.9	11.4	11.6	11.8	11.5	11.3	11.7	11.7	10.9	11.1	11.7	
<b>Eligibility</b>													
1. Public Assistance - Aged	43.5%	4.6%	41.5%	10.3%	66.0%	17.3%	42.7%	56.8%	54.5%	12.2%	30.1%	22.9%	
2. Public Assistance - Blind	2.2%	0.8%	2.3%	*	2.0%	3.0%	2.4%	3.3%	0.5%	0.4%	1.0%	*	
3. Public Assistance - Disabled	34.0%	45.0%	35.6%	56.2%	22.1%	44.3%	29.0%	21.2%	26.3%	42.8%	31.2%	47.4%	
4. Family	0.0%	*	0.0%	*	*	*	*	0	*	0.3%	0	*	
5. Medically Needy	19.3%	43.7%	19.9%	30.0%	9.5%	33.7%	24.6%	17.6%	17.6%	19.7%	33.7%	25.6%	
6. Other	1%	*	0.7%	*	0.4%	1.5%	1.2%	1.1%	1.2%	24.6%	4%	2.6%	

a = All MME recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.

**Table AA-2. Eligibility Characteristics of Medi-Cal Only HCBS Recipients Age 18+ in 2008**

	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	In-Home Supportive Services and Other Services <sup>b</sup>					ADHC only	TCM only	HCBS Waivers only	Other Combos
				HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers				
<b>Total Medi-Cal Only HCBS Recipients</b>	126,099	12,072	76,940	3,942	2,902	921	624	27	4,387	22,306	405	1,573
<b>MME Recipients with Eligibility data</b>	124,813	12,071	75,662	3,941	2,902	921	622	27	4,387	22,303	404	1,573
<b>Program Eligibility</b>												
Mean Months Medicaid Eligible in year	11.1	9.8	11.6	11.1	11.7	11.6	11.5	12.0	11.5	10.2	11.0	10.9
<b>Eligibility</b>												
1. Public Assistance - Aged	2.0%	0.1%	2.3%	1.2%	18.0%	0.7%	1.4%	3.7%	1.6%	0.0%	0.5%	1.7%
2. Public Assistance - Blind	1.9%	0.2%	2.9%	2.1%	1.7%	1.7%	2.3%	3.7%	0.4%	0.1%	0.5%	0.8%
3. Public Assistance - Disabled	64.6%	18.7%	86.9%	82.9%	50.2%	91.7%	82.6%	22.2%	60.9%	13.0%	74.8%	42.7%
4. Family	4.7%	7.4%	0.2%	0.2%	0.1%	0.2%	0	0	1.1%	20.7%	3.2%	6.0%
5. Medically Needy	22.0%	50.5%	7.6%	13.4%	29.7%	5.6%	13.2%	70.4%	35.4%	53.3%	20.3%	37.0%
6. Other	4.8%	23.1%	0.2%	0.3%	0.3%	0	0.5%	0	0.6%	12.8%	0.7%	11.8%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. **Note:** Percentages may not total to 100% due to rounding.



**Table AB-1. Demographic Characteristics of Medicare-Medicaid Enrollee (MME) Recipients of HCBS, Age 18+ in 2008**

	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	In-Home Supportive Services and Other Services <sup>b</sup>					ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
				HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers					
<b>Total MME HCBS Recipients</b>	352,282	371	287,278	377	29,987	2,050	11,544	1,812	12,698	3,676	1,765	724	
<b>Age (yrs)</b>													
Mean Age	73	57	72	60	78	64	78	80	71	59	70	65	
18-64	20.9%	79.2%	22.3%	75.1%	4.9%	52.4%	7.6%	0.8%	19.3%	55.5%	32.8%	45.6%	
65+	79.1%	20.8%	77.7%	24.9%	95.1%	47.6%	92.4%	99.2%	80.7%	44.5%	67.2%	54.4%	
<b>Female</b>	66.2%	54.4%	66.3%	57.3%	68.1%	64.4%	73.9%	75.3%	60.0%	49.9%	54.8%	52.1%	
<b>Race/Ethnicity</b>													
White	34.6%	41.2%	33.3%	37.1%	43.3%	45.6%	44.4%	33.1%	21.9%	51.0%	60.7%	46.8%	
Hispanic	25.6%	35.8%	27.0%	29.4%	14.5%	18.2%	28.3%	29.9%	19.2%	18.4%	20.0%	20.3%	
African American	12.3%	6.7%	13.3%	15.4%	4.1%	22.5%	15.0%	14.8%	4.8%	18.2%	7.8%	18.9%	
Asian/Pacific Islander	23.4%	10.2%	22.5%	14.6%	34.4%	8.5%	9.8%	18.9%	43.7%	6.3%	4.6%	9.4%	
Alaskan/Native American	0.3%	1.3%	0.3%	*	0.1%	0.7%	0.3%	*	0.1%	0.5%	*	*	
Other/Combos	3.8%	3.8%	3.5%	3.2%	3.6%	4.3%	2.3%	3.0%	10.1%	5.4%	6.5%	4.3%	
Unknown	0.0%	0.8%	0.0%	0	0	0	*	0	0.2%	*	*	*	

a = All MME recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.

**Table AB-2. Demographic Characteristics of Medi-Cal Only HCBS Recipients Age 18+ in 2008**

	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	In-Home Supportive Services and Other Services <sup>b</sup>					ADHC only	TCM only	HCBS Waivers only	Other Combos
				HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers				
<b>Total Medi-Cal Only HCBS Recipients</b>	126,099	12,072	76,940	3,942	2,902	921	624	27	4,387	22,306	405	1,573
<b>Age (yrs)</b>												
18-64	90.7%	95.3%	90.4%	89.4%	52.3%	96.7%	81.1%	14.8%	65.5%	99.3%	92.6%	92.3%
65+	9.3%	4.7%	9.6%	10.6%	47.7%	3.3%	18.9%	85.2%	34.5%	0.7%	7.4%	7.7%
Mean Age	46	35	52	53	64	49	51	73	57	29	47	39
<b>Female</b>	68.6%	84.7%	63.1%	59.7%	62.7%	60.8%	44.6%	66.7%	53.5%	85.0%	38.0%	75.6%
<b>Race/Ethnicity</b>												
White	32.4%	23.6%	37.1%	40.9%	48.8%	31.9%	34.1%	22.2%	26.8%	18.4%	44.4%	30.7%
Hispanic	29.8%	59.6%	19.0%	23.7%	15.6%	18.2%	24.0%	40.7%	17.1%	56.2%	21.5%	39.7%
African American	22.5%	4.8%	28.7%	20.8%	10.4%	40.2%	32.1%	18.5%	12.7%	13.8%	21.5%	16.7%
Asian/Pacific Islander	10.6%	6.2%	11.4%	9.9%	20.8%	5.9%	7.2%	18.5%	30.8%	6.1%	3.5%	7.0%
Alaskan/Native American	0.6%	0.6%	0.6%	0.7%	0.2%	1.0%	0.8%	0	0.3%	0.5%	1.0%	0.5%
Other/Combos	3.3%	2.4%	3.1%	3.7%	3.9%	2.6%	1.8%	0	7.0%	3.6%	2.5%	3.4%
Unknown	0.9%	2.8%	0.2%	0.4%	0.2%	0.2%	0	0	5.4%	1.4%	5.7%	1.9%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.

**Table AC-1. Assessment Data and Living Arrangements for Medicare-Medicaid Enrollee (MME) Recipients of HCBS, Age 18+, 2008**

			In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
<b>Total MME HCBS Recipients</b>	352,282	371	287,278	377	29,987	2,050	11,544	1,812	12,698	3,676	1,765	724
<b>Total MME Recipients with Assessment Data</b>	327,901	270 <sup>c</sup>	282,140	367	29,780	2,009	11,458	1,803	na	na	na	344
<b>Cognitive &amp; Physical Limitations</b>												
Mean # ADL Limitations, 0-5	2.6	0.9 <sup>c</sup>	2.6	3.1	2.7	2.4	3.0	3.1	na	na	na	2.7
Mean # IADL Limitations, 0-5	4.5	2.5 <sup>c</sup>	4.5	4.7	4.5	4.4	4.6	4.6	na	na	na	4.5
Cognitive Limitation	36.7%	16.7% <sup>c</sup>	36.6%	37.3%	33.2%	44.1%	46.1%	47.6%	na	na	na	51.5%
Breathing Limitation	6.9%	0 <sup>c</sup>	6.9%	12.5%	3.4%	10.6%	13.3%	6.8%	na	na	na	12.8%
Mean Functional Index Score, 1-5	2.9	na	2.9	3.2	2.9	2.8	3.1	3.2	na	na	na	3.0
<b>Living Arrangements</b>												
Lives alone	30.3%	na	29.3%	22.9%	30.7%	46.9%	48.6%	40.8%	na	na	na	50.0%
Lives with Spouse Able to Help	5.8%	na	6.1%	16.9%	3.4%	5.9%	3.7%	3.7%	na	na	na	6.1%
Lives with Spouse Not Able to Help	2.0%	na	2.0%	2.7%	1.6%	1.4%	1.6%	1.3%	na	na	na	1.7%
Lives with Spouse who is IHSS Recipient	19.7%	na	19.2%	8.4%	29.4%	6.1%	10.6%	16.8%	na	na	na	5.8%
Not Living Alone but No Spouse	42.3%	na	43.4%	49.0%	34.9%	39.6%	35.4%	37.5%	na	na	na	36.3%

a = All MME recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC; and c = Had an OASIS home health assessment. All other assessment data from the IHSS CMIPS data. **Note:** Percentages may not total to 100% due to rounding. na = not applicable

**Table AC-2. Assessment Data and Living Arrangements for Medi-Cal Only HCBS Recipients Age 18+, 2008**

				In-Home Supportive Services and Other Services <sup>b</sup>								
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
<b>Total Medi-Cal Only HCBS Recipients</b>	126,099	12,072	76,940	3,942	2,902	921	624	27	4,387	22,306	405	1,573
<b>Medi-Cal Only HCBS with Assessment Data</b>	83,492	2,856 <sup>c</sup>	74,841	3,794	2,863	899	615	27	na	na	na	453
<b>Cognitive &amp; Physical Limitations</b>												
Mean # ADL Limitations , 0-5	2.4	1.1 <sup>c</sup>	2.4	3.0	2.5	2.2	3.1	2.6	na	na	na	3.3
Mean # IADL Limitations , 0-5	4.4	2.7 <sup>c</sup>	4.4	4.6	4.4	4.4	4.5	4.5	na	na	na	4.6
Cognitive Limitation	39.2%	20.0% <sup>c</sup>	39.3%	35.6%	39.2%	44.3%	43.6%	44.4%	na	na	na	49.0%
Breathing Limitation	7.0%	* <sup>c</sup>	6.7%	13.7%	2.0%	8.8%	19.7%	3.7%	na	na	na	14.3%
Mean Functional Index Score , 1-5	2.8	na	2.8	3.1	2.9	2.7	3.2	2.9	na	na	na	3.2
<b>Living Arrangements</b>												
Lives alone	23.0%	na	23.1%	23.0%	15.7%	34.6%	31.4%	14.8%	na	na	na	27.6%
Lives with Spouse Able to Help	9.2%	na	9.2%	11.5%	7.9%	6.6%	6.3%	11.1%	na	na	na	6.8%
Lives with Spouse Not Able to Help	2.1%	na	2.1%	2.1%	2.8%	1.4%	1.1%	0	na	na	na	1.3%
Lives with Spouse who is IHSS Recipient	10.3%	na	10.2%	5.3%	24.0%	3.1%	2.6%	18.5%	na	na	na	4.2%
Not Living Alone but No Spouse	55.4%	na	55.4%	58.1%	49.6%	54.3%	58.5%	55.6%	na	na	na	60.0%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers; c = Had an OASIS home health assessment. All other assessment data is from the IHSS CMIPS data. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Notes:** Percentages may not total to 100% due to rounding. na = not applicable

**Table AD-1. Mortality and Nursing Facility Admissions of Medicare-Medicaid Enrollee (MME) Recipients of HCBS, Age 18+, 2008**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total MME HCBS Recipients</b>	352,282	371	287,278	377	29,987	2,050	11,544	1,812	12,698	3,676	1,765	724	
<b>Recipient Outcomes During Year</b>													
% Died in year	6.0%	5.4%	6.3%	8.5%	2.8%	5.7%	11.6%	5.6%	1.9%	5.8%	10.1%	3.5%	
Percent Admitted to a Nursing Facility <sup>c</sup>	9.7%	15.9%	9.1%	18.3%	7.4%	15.9%	18.4%	14.0%	7.9%	38.9%	22.2%	19.3%	
Percent with MDS Assessment in a Nursing Facility <sup>d</sup>	9.1%	14.8%	8.5%	17.8%	7.0%	15.5%	17.3%	13.3%	7.4%	37.9%	20.4%	18.0%	
Percent with Medicaid claim for a Nursing Facility	6.1%	13.5%	5.5%	14.9%	4.8%	9.9%	11.4%	9.1%	5.2%	32.7%	16.0%	14.9%	
Percent with a Medicare claim for a Nursing Facility	6.2%	4.6%	5.8%	5.3%	5.1%	10.6%	12.5%	9.6%	4.9%	19.6%	13.1%	11.9%	

a = All MME recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers; c = Unduplicated total admitted to a nursing facility during the year; d = number with Minimum Data Set Assessment in a Nursing Facility. **Note:** Percentages may not total to 100% due to rounding.

**Table AD-2. Mortality and Nursing Facility Admissions of Medi-Cal Only HCBS Recipients Age 18+, 2008**

				In-Home Supportive Services and Other Services <sup>b</sup>								
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
<b>Total Medi-Cal Only HCBS Recipients</b>	126,099	12,072	76,940	3,942	2,902	921	624	27	4,387	22,306	405	1,573
<b>Recipient Outcomes During Year</b>												
% Died in year	3.7%	4.1%	4.2%	13.5%	1.6%	4.8%	8.2%	-	1.5%	0.5%	5.9%	3.3%
Percent Admitted to a Nursing Facility <sup>c</sup>	3.3%	3.6%	2.7%	14.9%	3.1%	5.0%	6.1%	3.7%	5.3%	2.5%	8.9%	7.7%
Percent with MDS Assessment in a Nursing Facility <sup>d</sup>	3.1%	3.2%	2.5%	13.4%	2.8%	4.7%	5.3%	3.7%	5.0%	2.4%	8.4%	7.1%
Percent with Medicaid claim for a Nursing Facility	2.4%	3.2%	1.7%	13.6%	2.5%	3.4%	4.3%	3.7%	3.4%	1.6%	7.9%	6.8%
Percent with a Medicare claim for a Nursing Facility	0.1%	0%	0.1%	0%	0%	0%	0%	0%	0%	0%	0%	0%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers; c = Unduplicated total admitted to a nursing facility during the year; d = number with Minimum Data Set Assessment in a nursing facility. **Note:** Percentages may not total to 100% due to rounding.

**Table AE-1. Eligibility Characteristics of Medi-Cal HCBS Recipients Age 18+ in 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total Medi-Cal HCBS Recipients</b>	420,149	18,628	301,237	4,868	29,366	2,107	12,541	1,848	22,707	22,571	2,072	2,204	
<b>Medi-Cal Recipients with Eligibility data</b>	419,343	18,608	300,494	4,866	29,366	2,107	12,541	1,848	22,705	22,537	2,067	2,204	
<b>Program Eligibility</b>													
Mean Months Medicaid Eligible in year	11.4	9.8	11.5	11.2	11.8	11.5	11.3	11.7	11.7	10.3	10.9	11.3	
<b>Eligibility</b>													
1. Public Assistance – Aged	33.4%	0.4%	34.9%	3.0%	62.0%	11.5%	41.4%	56.0%	41.2%	1.7%	13.5%	9.1%	
2. Public Assistance – Blind	2.4%	0.3%	2.9%	2.9%	2.4%	3.2%	2.9%	3.2%	0.6%	0.2%	0.7%	1.1%	
3. Public Assistance – Disabled	42.5%	17.4%	47.6%	83.5%	27.2%	65.5%	32.5%	21.6%	31.0%	22.6%	41.0%	53.4%	
4. Family	1.5%	8.0%	0.1%	0.2%	0.0%	0.1%	0%	0%	0.2%	19.2%	0.7%	3.3%	
5. Medically Needy	17.9%	50.5%	14.0%	10.2%	8.0%	18.4%	21.8%	18.1%	26.1%	43.8%	42.3%	27.0%	
6. Other	2.3%	23.5%	0.6%	0.3%	0.5%	1.2%	1.4%	1.1%	0.8%	12.4%	1.82%	6.1%	

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. **Note:** Percentages may not total to 100% due to rounding.

**Table AE-2. Eligibility Characteristics of Medicare-Medicaid Enrollee (MME) Recipients of HCBS, Age 18+ in 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total MME HCBS Recipients</b>	300,315	527	235,905	479	26,177	1,352	11,835	1,810	16,384	3,588	1,481	777	
<b>MME Recipients with Eligibility data</b>	300,315	527	235,905	479	26,177	1,352	11,835	1,810	16,384	3,588	1,481	777	
<b>Program Eligibility</b>													
Mean Months Medicaid Eligible in year	11.5	11.2	11.5	11.6	11.8	11.5	11.3	11.7	11.7	11.1	10.9	11.6	
<b>Eligibility</b>													
1. Public Assistance - Aged	45.6%	8.3%	43.7%	12.3%	65.7%	17.8%	43.7%	56.5%	56.4%	10.6%	18.7%	21.0%	
2. Public Assistance - Blind	2.6%	1.9%	2.8%	3.8%	2.3%	3.3%	3.0%	3.3%	0.7%	0.7%	0.9%	1.5%	
3. Public Assistance - Disabled	34.5%	42.5%	36.5%	61.2%	23.9%	50.2%	29.5%	21.6%	23.2%	50.7%	29.6%	45.4%	
4. Family	0.0%	0.4%	0.0%	0.6%	0.0%	0%	0%	0%	0.0%	0.2%	0%	0%	
5. Medically Needy	16.3%	43.5%	16.3%	21.7%	7.5%	26.6%	22.4%	17.5%	18.8%	21.4%	48.4%	30.1%	
6. Other	1%	3.4%	0.8%	0.4%	0.5%	2%	1.5%	1.1%	1%	16.3%	2.4%	1.9%	

a = All MME recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. **Note:** Percentages may not total to 100% due to rounding.



**Table AE-3. Eligibility Characteristics of Medi-Cal Only HCBS Recipients Age 18+ in 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total Medi-Cal Only HCBS Recipients</b>	119,834	18,101	65,332	4,389	3,189	755	706	38	6,323	18,983	591	1,427	
<b>MME Recipients with Eligibility data</b>	119,028	18,081	64,589	4,387	3,189	755	706	38	6,321	18,949	586	1,427	
<b>Program Eligibility</b>													
Mean Months Medicaid Eligible in year	11.0	9.7	11.5	11.2%	11.8	11.6	11.5	11.9	11.5	10.1	11.0	11.1	
<b>Eligibility</b>													
1. Public Assistance - Aged	2.7%	0.1%	3.0%	2.0%	31.8%	0.1%	3.3%	28.9%	1.9%	0.0%	0.3%	2.7%	
2. Public Assistance - Blind	2.1%	0.2%	3.3%	2.8%	2.9%	3.0%	1.7%	0%	0.4%	0.1%	0.2%	0.8%	
3. Public Assistance – Disabled	62.6%	16.7%	88.2%	86.0%	53.8%	92.8%	82.7%	21.1%	51.4%	17.3%	69.6%	57.7%	
4. Family	5.1%	8.3%	0.2%	0.2%	0%	0.3%	0%	0%	0.6%	22.8%	2.4%	5.0%	
5. LTC (State)	0.1%	0.2%	0.1%	0.1%	0.0%	0%	0.4%	0%	0.2%	0.3%	0.2%	0.1%	
6. Medically Needy	21.8%	50.7%	5.2%	8.9%	11.4%	3.7%	11.9%	50.0%	45.1%	48.1%	27.0%	25.4%	
7. Other	5.6%	23.9%	0.0%	0.1%	0.1%	0%	0%	0%	0.4%	11.4%	0.3%	8.3%	

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.

**Table AE-4. Eligibility Characteristics of Medi-Cal HCBS Waiver Recipients Age 18+, 2005**

	Total Medi-Cal HCBS	Total HCBS Waivers <sup>a</sup>	AIDS Waiver	Assisted Living Waiver <sup>b</sup>	Other HCBS Waivers <sup>c</sup>	MSSP Waiver
<b>Total Medi-Cal HCBS Recipients</b>	420,149	17,181	2,752	na	634	13,790
<b>Medi-Cal Recipients with Eligibility data</b>	419,343	17,176	2,751	na	634	13,786
<b>Program Eligibility</b>						
Mean Months Medicaid Eligible in year	11.4	11.3	11.3	na	11.5	11.3
<b>Eligibility</b>						
1. Public Assistance – Aged	33.4%	38.4%	1.0%	na	4.1%	47.4%
2. Public Assistance – Blind	2.4%	2.6%	0.9%	na	1.6%	3.0%
3. Public Assistance – Disabled	42.5%	33.2%	67.9%	na	58.7%	25.2%
4. Family	1.5%	0.1%	0.5%	na	0%	0%
6. Medically Needy	17.9%	24.2%	29.4%	na	34.7%	22.7%
7. Other	2.3%	1.4%	0.2%	na	0.9%	1.7%

a = Total 1915(c) waiver users; b = Assisted Living waiver did not exist in 2005; c = Other waivers included (1) in-home operations (IHO) waiver (formerly called Nursing Facility A/B and Nursing Facility SubAcute) and (2) Nursing Facility/Acute Hospital (formerly Nursing Facility A/B and Nursing Facility SubAcute and In-Home Medical Care). **Notes:** The count of recipients for each waiver group does not sum to the count in the total HCBS waiver column because 5 individuals in combination waivers are not shown on the table. Percentages may not total to 100% due to rounding. na = not applicable

**Table AF-1. Demographic Characteristics of Medi-Cal HCBS Recipients Age 18+ in 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total Medi-Cal HCBS Recipients</b>	420,149	18,628	301,237	4,868	29,366	2,107	12,541	1,848	22,707	22,571	2,072	2,204	
<b>Age (yrs)</b>													
18-64	40.3%	95.5%	36.7%	89.9%	11.0%	68.7%	12.1%	1.2%	27.7%	93.7%	62.7%	73.0%	
65+	59.7%	4.5%	63.3%	10.1%	89.0%	31.3%	87.9%	98.8%	72.3%	6.3%	37.3%	27.0%	
Mean Age	65	34	67	53	75	57	76	80	68	34	57	51	
<b>Female</b>	67.8%	84.9%	67.2%	63.0%	67.3%	62.3%	71.9%	75.9%	59.7%	72.0%	37.7%	61.2%	
<b>Race/ Ethnicity</b>													
White	37.0%	25.3%	37.2%	42.4%	50.4%	46.3%	47.7%	35.4%	24.6%	29.3%	52.2%	40.4%	
Hispanic	25.1%	59.9%	23.2%	21.2%	14.2%	15.3%	24.6%	26.0%	19.7%	43.6%	24.4%	25.9%	
African American	15.4%	4.8%	17.4%	22.2%	5.1%	28.4%	16.1%	19.0%	6.3%	15.8%	15.2%	20.1%	
Asian/ Pacific Islanders	18.4%	5.6%	18.6%	8.9%	27.0%	5.9%	8.2%	15.4%	39.3%	6.1%	3.9%	8.0%	
Alaskan/ Native American	0.4%	0.6%	0.4%	0.6%	0.1%	1.2%	0.4%	0.1%	0.2%	0.9%	0.6%	0.7%	
Other/ Combos	3.3%	1.9%	3.0%	2.7%	3.2%	2.5%	3.0%	4.1%	8.8%	3.1%	3.1%	3.3%	
Unknown	0.4%	2.0%	0.2%	2.0%	0.1%	0.4%	0.1%	0%	1.1%	1.3%	0.7%	1.6%	

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. **Note:** Percentages may not total to 100% due to rounding.

**Table AF-2. Demographic Characteristics of Medicare-Medicaid Enrollee (MME) Recipients of HCBS, Age 18+ in 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total MME HCBS Recipients</b>	300,315	527	235,905	479	26,177	1,352	11,835	1,810	16,384	3,588	1,481	777	
<b>Age (yrs)</b>													
18-64	19.9%	64.9%	21.1%	62.4%	5.5%	52.1%	7.5%	0.8%	16.5%	63.7%	50.8%	45.4%	
65+	80.1%	35.1%	78.9%	37.6%	94.5%	47.9%	92.5%	99.2%	83.5%	36.3%	49.2%	54.6%	
Mean Age	72	59	72	62	77	63	77	80	71	56	62	64	
<b>Female</b>	67.4%	55.4%	68.0%	65.8%	67.6%	64.1%	73.7%	76.4%	61.1%	46.0%	38.5%	55.5%	
<b>Race/Ethnicity</b>													
White	38.0%	40.0%	36.8%	38.2%	48.8%	53.3%	48.3%	35.2%	23.1%	56.7%	56.6%	49.4%	
Hispanic	23.4%	37.2%	24.7%	28.4%	14.2%	14.9%	24.7%	26.5%	20.4%	17.0%	23.5%	18.7%	
African American	12.8%	7.2%	14.0%	17.1%	4.6%	21.1%	15.2%	19.0%	4.7%	15.3%	11.9%	21.2%	
Asian/Pacific Islander	21.7%	8.5%	20.8%	10.9%	29.0%	6.7%	8.3%	15.2%	41.6%	5.8%	4.3%	7.2%	
Alaskan/Native American	0.3%	0.8%	0.4%	0.2%	0.1%	1.4%	0.4%	0.1%	0.1%	0.7%	0.6%	0.4%	
Other/Combos	3.7%	6.3%	3.3%	5.0%	3.3%	2.7%	3.1%	4.0%	10.0%	4.4%	3.1%	3.0%	
Unknown	0.0%	0%	0.0%	0.2%	0.0%	0%	0%	0%	0%	0.1%	0.1%	0.1%	

a = All MME recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. **Note:** Percentages may not total to 100% due to rounding.

**Table AF-3. Demographic Characteristics of Medi-Cal Only HCBS Recipients Age 18+ in 2005**

	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	In-Home Supportive Services and Other Services <sup>b</sup>					ADHC only	TCM only	HCBS Waivers only	Other Combos
				HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers				
<b>Total Medi-Cal Only HCBS Recipients</b>	119,834	18,101	65,332	4,389	3,189	755	706	38	6,323	18,983	591	1,427
<b>Age (yrs)</b>												
18-64	91.4%	96.4%	92.8%	92.9%	55.9%	98.4%	88.0%	18.4%	56.8%	99.3%	92.4%	87.9%
65+	8.6%	3.6%	7.2%	7.1%	44.1%	1.6%	12.0%	81.6%	43.2%	0.7%	7.6%	12.1%
Mean Age	45	33	50	52	63	46	48	69	59	30	45	44
<b>Female</b>	68.7%	85.7%	64.3%	62.7%	64.4%	59.1%	41.4%	55.3%	55.9%	77.0%	35.9%	64.3%
<b>Race/Ethnicity</b>												
White	34.5%	24.9%	38.7%	42.9%	63.9%	33.8%	36.5%	42.1%	28.4%	24.1%	41.1%	35.5%
Hispanic	29.2%	60.5%	17.6%	20.4%	14.0%	16.2%	23.4%	5.3%	17.8%	48.6%	26.7%	29.8%
African American	21.8%	4.7%	29.6%	22.7%	9.3%	41.6%	31.2%	23.7%	10.3%	15.8%	23.4%	19.5%
Asian/Pacific Islander	10.1%	5.5%	10.5%	8.7%	10.2%	4.5%	5.4%	23.7%	33.5%	6.1%	2.9%	8.4%
Alaskan/ Native American	0.7%	0.6%	0.7%	0.6%	0.2%	0.8%	0.4%	0%	0.3%	0.9%	0.5%	0.9%
Other/Combos	2.4%	1.8%	2.1%	2.5%	1.7%	2.1%	1.7%	5.3%	5.8%	2.9%	3.2%	3.5%
Unknown	1.4%	2.1%	0.9%	2.2%	0.6%	1.1%	1.4%	0%	3.8%	1.5%	2.2%	2.5%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers. **Note:** Percentages may not total to 100% due to rounding.

**Table AF-4. Demographic Characteristics of Medi-Cal HCBS Waiver Recipients Age 18+, 2005**

	Total Medi-Cal HCBS	Total HCBS Waivers <sup>a</sup>	AIDS Waiver	Assisted Living Waiver <sup>b</sup>	Other HCBS Waivers <sup>c</sup>	MSSP Waiver
<b>Total Medi-Cal HCBS Recipients</b>	420,149	17,181	2,752	na	634	13,790
<b>Age (yrs)</b>						
18-64	40.3%	18.8%	96.3%	na	81.7%	0.5%
65+	59.7%	81.2%	3.7%	na	18.3%	99.5%
Mean Age	65	73	47	na	46	80
<b>Female</b>	67.8%	67.3%	25.1%	na	40.7%	77.0%
<b>Race/Ethnicity</b>						
White	37.0%	46.5%	47.6%	na	56.3%	45.8%
Hispanic	25.1%	24.5%	19.7%	na	24.0%	25.4%
African American	15.4%	16.9%	27.0%	na	12.0%	15.1%
Asian/Pacific Islander	18.4%	8.4%	1.8%	na	5.4%	9.8%
Alaskan/ Native American	0.4%	0.4%	0.6%	na	0%	0.4%
Other/Combos	3.3%	3.2%	2.5%	na	1.7%	3.4%
Unknown	0.4%	0.2%	0.8%	na	0.6%	0.1%

a = Total 1915(c) waiver users; b = The Assisted Living waiver did not exist in 2005. c = Other waivers included (1) in-home operations (IHO) waiver (formerly called Nursing Facility A/B and Nursing Facility SubAcute) and (2) Nursing Facility/Acute Hospital (formerly Nursing Facility A/B and Nursing Facility SubAcute and In-Home Medical Care). **Notes:** The count of recipients for each waiver group does not sum to the count in the total HCBS waiver column because 5 individuals in combination waivers are not shown on the table. Percentages may not total to 100% due to rounding. na = not applicable

**Table AG-1. Assessment Data and Living Arrangements for Medi-Cal HCBS Recipients Age 18+, 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>								
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
<b>Total Medi-Cal HCBS Recipients</b>	420,149	18,628	301,237	4,868	29,366	2,107	12,541	1,848	22,707	22,571	2,072	2,204
<b>Total Medi-Cal HCBS Recipients with Assessment Data</b>	345,257	4,849 <sup>c</sup>	294,391	4,699	29,025	2,035	12,430	1,833	na	na	na	844
<b>Cognitive &amp; Physical Limitations</b>												
Mean # ADL Limitations, 0-5	2.6%	1.0% <sup>c</sup>	2.6%	3.1%	2.7%	2.3%	3.0%	3.1%	na	na	na	3.0%
Mean # IADL Limitations, 0-5	4.4%	2.7% <sup>c</sup>	4.4%	4.5%	4.4%	4.3%	4.5%	4.6%	na	na	na	4.5%
Cognitive Limitation	33.2%	21.2% <sup>c</sup>	33.2%	28.7%	28.8%	41.2%	41.2%	45.7%	na	na	na	46.6%
Breathing Limitation	6.0%	* <sup>c</sup>	5.9%	12.2%	2.9%	7.9%	11.3%	5.9%	na	na	na	15.6%
Mean Functional Index Score, 1-5	2.8%	na	2.8%	3.0%	2.9%	2.7%	3.0%	3.1%	na	na	na	3.1%
<b>Living Arrangements</b>												
Lives alone	30.4%	na	29.8%	25.7%	29.4%	40.0%	46.7%	39.9%	na	na	na	34.1%
Lives with Spouse Able to Help	4.9%	na	4.9%	11.7%	3.7%	6.3%	3.9%	3.8%	na	na	na	7.6%
Lives with Spouse Not Able to Help	2.2%	na	2.3%	2.1%	1.9%	1.8%	1.8%	1.5%	na	na	na	1.3%
Lives with Spouse who is IHSS Recipient	17.6%	na	17.0%	5.4%	29.5%	4.7%	10.2%	15.4%	na	na	na	6.5%
Not Living Alone but No Spouse	44.9%	na	46.0%	55.0%	35.4%	47.3%	37.3%	39.4%	na	na	na	50.5%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers; c = Had an OASIS home health assessment. All other assessment data from the IHSS CMIPS data. \*The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Notes:** Percentages may not total to 100% due to rounding. na = not applicable

**Table AG-2. Assessment Data and Living Arrangements for Medicare-Medicaid Enrollee (MME) Recipients of HCBS, Age 18+, 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>										
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos		
<b>Total MME HCBS Recipients</b>	300,315	527	235,905	479	26,177	1,352	11,835	1,810	16,384	3,588	1,481	777		
<b>Total MME Recipients with Assessment Data</b>	272,803	388 <sup>c</sup>	231,216	465	25,923	1,322	11,736	1,796	na	na	na	345		
<b>Cognitive &amp; Physical Limitations</b>														
Mean # ADL Limitations, 0-5	2.6%	1.0% <sup>c</sup>	2.6%	3.0%	2.7%	2.3%	3.0%	3.1%	na	na	na	2.8%		
Mean # IADL Limitations, 0-5	4.4%	2.8% <sup>c</sup>	4.4%	4.5%	4.4%	4.3%	4.5%	4.6%	na	na	na	4.4%		
Cognitive Limitation	32.8%	22.4% <sup>c</sup>	32.7%	28.6%	28.4%	42.4%	41.3%	45.5%	na	na	na	48.1%		
Breathing Limitation	5.9%	0 <sup>c</sup>	6.0%	11.0%	3.0%	9.2%	11.1%	6.0%	na	na	na	15.7%		
Mean Functional Index Score, 1-5	2.8%	na	2.8%	3.0%	2.9%	2.7%	3.0%	3.1%	na	na	na	3.0%		
<b>Living Arrangements</b>														
Lives alone	32.0%	na	31.2%	22.8%	30.6%	45.5%	47.4%	40.2%	na	na	na	44.1%		
Lives with Spouse Able to Help	4.3%	na	4.4%	12.9%	3.5%	5.7%	3.8%	3.6%	na	na	na	6.4%		
Lives with Spouse Not Able to Help	2.2%	na	2.3%	1.7%	1.9%	2.0%	1.9%	1.5%	na	na	na	0.9%		
Lives with Spouse who is IHSS Recipient	19.4%	na	18.8%	8.4%	29.8%	6.2%	10.7%	15.1%	na	na	na	6.7%		
Not Living Alone but No Spouse	42.1%	na	43.3%	54.2%	34.3%	40.5%	36.2%	39.6%	na	na	na	42.0%		

a = All MME recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC; c = Had an OASIS home health assessment. All other assessment data from the IHSS CMIPS data. **Notes:** Percentages may not total to 100% due to rounding. na = not applicable



**Table AG-3. Assessment Data and Living Arrangements for Medi-Cal Only HCBS Recipients Age 18+, 2005**

	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	In-Home Supportive Services and Other Services <sup>b</sup>					ADHC only	TCM only	HCBS Waivers only	Other Combos
				HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers				
<b>Total Medi-Cal Only HCBS Recipients</b>	119,834	18,101	65,332	4,389	3,189	755	706	38	6,323	18,983	591	1,427
<b>Medi-Cal Only HCBS with Assessment Data</b>	72,454	4,461 <sup>c</sup>	63,175	4,234	3,102	713	694	37	na	na	na	499
<b>Cognitive &amp; Physical Limitations</b>												
Mean # ADL Limitations, 0-5	2.4%	1.0% <sup>c</sup>	2.4%	3.1%	2.7%	2.1%	3.0%	3.3%	na	na	na	3.2%
Mean # IADL Limitations, 0-5	4.3%	2.7% <sup>c</sup>	4.3%	4.5%	4.4%	4.2%	4.5%	4.6%	na	na	na	4.5%
Cognitive Limitation	34.7%	21.1% <sup>c</sup>	35.0%	28.7%	31.6%	39.0%	40.5%	51.4%	na	na	na	45.5%
Breathing Limitation	6.1%	* <sup>c</sup>	5.7%	12.4%	1.9%	5.5%	14.7%	0%	na	na	na	15.6%
Mean Functional Index Score, 1~5	2.8%	na	2.7%	3.0%	2.8%	2.6%	3.0%	3.1%	na	na	na	3.1%
<b>Living Arrangements</b>												
Lives alone	24.6%	na	24.6%	26.1%	19.9%	29.6%	34.2%	27.0%	na	na	na	27.3%
Lives with Spouse Able to Help	7.1%	na	6.9%	11.6%	5.8%	7.4%	6.2%	16.2%	na	na	na	8.4%
Lives with Spouse Not Able to Help	2.2%	na	2.2%	2.2%	2.5%	1.4%	1.2%	0%	na	na	na	1.6%

**Table AG-3. Assessment Data and Living Arrangements for Medi-Cal Only HCBS Recipients Age 18+, 2005. Cont'd.**

			In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos
Lives with Spouse who is IHSS Recipient	10.6%	na	10.4%	5.1%	26.8%	1.8%	2.0%	29.7%	na	na	na	6.4%
Not Living Alone but No Spouse	55.4%	na	55.9%	55.1%	45.0%	59.7%	56.5%	27.0%	na	na	na	56.3%

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers; c = Had an OASIS home health assessment. All other assessment data from the IHSS CMIPS data. \*The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Notes:** Percentages may not total to 100% due to rounding. na = not applicable

**Table AG-4. Assessment Data and Living Arrangements for Medi-Cal HCBS Waiver Recipients Age 18+, 2005**

	Total Medi-Cal HCBS	Total HCBS Waivers <sup>a</sup>	AIDS Waiver	Assisted Living Waiver <sup>b</sup>	Other HCBS Waivers <sup>c</sup>	MSSP Waiver
<b>Total Medi-Cal HCBS Recipients</b>	420,149	17,181	2,752	na	634	13,790
<b>Total Medi-Cal HCBS Recipients with Assessment data</b>	345,257	14,667	1,316	na	511	12,835
<b>Cognitive &amp; Physical Limitations</b>						
Mean # ADL Limitations , 0-5	2.6%	3.0%	2.4%	na	4.7%	3.0%
Mean # IADL Limitations , 0-5	4.4%	4.5%	4.4%	na	4.7%	4.5%
Cognitive Limitation	33.2%	42.0%	43.1%	na	29.4%	42.4%
Breathing Limitation	6.0%	10.9%	6.2%	na	48.5%	9.8%
Mean Functional Index Score, 1-5	2.8%	3.0%	2.7%	na	4.1%	3.0%
<b>Living Arrangements</b>						
Lives alone	30.4%	45.7%	45.6%	na	13.9%	46.9%
Lives with Spouse Able to Help	4.9%	3.9%	3.0%	na	11.4%	3.7%
Lives with Spouse Not Able to Help	2.2%	1.8%	*	na	1.6%	1.9%
Lives with Spouse who is IHSS Recipient	17.6%	10.7%	*	na	2.0%	12.0%
Not Living Alone but No Spouse	44.9%	38.0%	50.5%	na	71.2%	35.4%

a = Total 1915(c) waiver users; b= No assisted living waiver in 2005; c = Other waivers included (1) in-home operations (IHO) waiver (formerly called nursing Facility A/B and Nursing Facility SubAcute) and (2) Nursing Facility/Acute Hospital (formerly Nursing Facility A/B and Nursing Facility SubAcute and In-Home Medical Care). **Notes:** Percentages may not total to 100% due to rounding. na = not applicable

**Table AH-1. Mortality and Nursing Facility Admissions of Medi-Cal HCBS Recipients Age 18+, 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total Medi-Cal HCBS Recipients</b>	420,149	18,628	301,237	4,868	29,366	2,107	12,541	1,848	22,707	22,571	2,072	2,204	
<b>Recipient Outcomes during year</b>													
Died in year	5.8%	3.8%	6.5%	13.0%	2.9%	5.2%	11.9%	6.3%	1.8%	1.3%	11.3%	5.5%	
Total Admitted to a Nursing Facility <sup>c</sup>	8.3%	3.8%	8.2%	14.7%	6.9%	13.3%	19.0%	15.7%	6.6%	7.2%	12.7%	14.8%	
Number with MDS Assessment in a Nursing Facility <sup>d</sup>	7.7%	3.3%	7.6%	13.3%	6.5%	12.2%	17.7%	15.0%	6.2%	6.9%	11.9%	13.9%	
Number with Medicaid claim for a Nursing Facility	5.2%	3.4%	4.9%	13.3%	4.5%	8.7%	11.4%	10.0%	4.5%	5.3%	8.3%	10.5%	
Number with a Medicare claim for a Nursing Facility	4.6%	0.1%	4.9%	0.6%	4.2%	7.5%	13.4%	10.5%	3.0%	2.0%	6.8%	4.7%	

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers; c = Unduplicated total admitted to a nursing facility during the year; d = number with Minimum Data Set Assessment in a Nursing Facility.

**Table AH-2. Mortality and Nursing Facility Admissions of Medicare-Medicaid Enrollee (MME) Recipients of HCBS, Age 18+, 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total MME HCBS Recipients</b>	300,315	527	235,905	479	26,177	1,352	11,835	1,810	16,384	3,588	1,481	777	
<b>Total MME HCBS Recipients</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
<b>Recipient Outcomes During Year</b>													
% Died in year	6.7%	6.6%	7.1%	7.9%	3.0%	6.7%	12.1%	6.4%	1.9%	5.4%	11.7%	5.0%	
Percent Admitted to a Nursing Facility <sup>c</sup>	10.1%	14.8%	9.7%	17.5%	7.3%	17.2%	19.7%	15.7%	7.0%	29.6%	15.9%	22.8%	
Percent with MDS Assessment in a Nursing Facility <sup>d</sup>	9.5%	13.7%	9.1%	16.5%	6.9%	15.6%	18.5%	15.1%	6.6%	28.4%	15.0%	21.8%	
Percent with Medicaid claim for a Nursing Facility	6.2%	13.9%	5.7%	14.8%	4.7%	11.2%	11.7%	9.9%	4.7%	23.3%	10.1%	14.2%	
Percent with a Medicare claim for a Nursing Facility	6.5%	4.4%	6.2%	6.1%	4.7%	11.5%	14.1%	10.6%	4.1%	12.3%	9.5%	13.4%	

a = All MME recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC and waivers; c = Unduplicated total admitted to a nursing facility during the year; d = number with Minimum Data Set Assessment in a Nursing Facility. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Notes:** The count of recipients for each waiver group does not sum to the count in the total HCBS waiver column because 5 individuals in combination waivers are not shown on the table. Percentages may not total to 100% due to rounding.

**Table AH-3. Mortality and Nursing Facility Admissions of Medi-Cal Only HCBS Recipients Age 18+, 2005**

				In-Home Supportive Services and Other Services <sup>b</sup>									
	Total Medi-Cal HCBS <sup>a</sup>	HH only	IHSS only	HH	ADHC	TCM	HCBS Waivers	ADHC & Waivers	ADHC only	TCM only	HCBS Waivers only	Other Combos	
<b>Total Medi-Cal Only HCBS Recipients</b>	119,834	18,101	65,332	4,389	3,189	755	706	38	6,323	18,983	591	1,427	
<b>Recipient Outcomes during year</b>													
% Died in year	3.6%	3.8%	4.0%	13.5%	2.3%	2.5%	8.9%	5.3%	1.4%	0.5%	10.3%	5.7%	
Percent Admitted to a Nursing Facility <sup>c</sup>	3.6%	3.5%	2.7%	14.4%	3.9%	6.4%	6.5%	15.8%	5.6%	3.0%	4.7%	10.5%	
Percent with MDS Assessment in a Nursing Facility <sup>d</sup>	3.3%	3.0%	2.5%	12.9%	3.3%	6.2%	5.0%	10.5%	5.1%	2.9%	4.1%	9.6%	
Percent with Medicaid claim for a Nursing Facility	2.8%	3.1%	1.9%	13.1%	3.1%	4.2%	5.2%	13.2%	3.9%	1.9%	3.6%	8.5%	
Percent with a Medicare claim for a Nursing Facility	0.1%	*	0.1%	*	*	*	*	*	*	*	0%	0%	

a = All Medi-Cal recipients living at home or in the community; b = Used a combination of IHSS with either HH, ADHC, TCM, waivers, or ADHC; c = Unduplicated total admitted to a nursing facility during the year; d = number with Minimum Data Set Assessment in a Nursing Facility. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Note:** Percentages may not total to 100% due to rounding.

**Table AH-4. Mortality and Nursing Facility Admissions of Medi-Cal HCBS Waiver Recipients Age 18+, 2005**

	Total Medi-Cal HCBS	Total HCBS Waivers <sup>a</sup>	AIDS Waiver	Assisted Living Waiver <sup>b</sup>	Other HCBS Waivers <sup>c</sup>	MSSP Waiver
<b>Total Medi-Cal HCBS Recipients</b>	420,149	17,181	2,752	na	634	13,790
<b>Recipient Outcomes during year</b>						
% Died in year	5.8%	11.1%	8.6%	na	8.4%	11.8%
Percent Admitted to a Nursing Facility <sup>d</sup>	8.3%	17.7%	5.8%	na	10.7%	20.5%
Percent with MDS Assessment in a Nursing Facility <sup>e</sup>	7.7%	16.6%	5.2%	na	9.6%	19.2%
Percent with Medicaid claim for a Nursing Facility	5.2%	10.8%	3.7%	na	8.5%	12.4%
Percent with a Medicare claim for a Nursing Facility	4.6%	12.1%	2.7%	na	3.8%	14.3%

a = Total 1915(c) waiver users; b= No assisted living waiver in 2005; c = Other waivers included (1) in-home operations (IHO) waiver (formerly called Nursing Facility A/B and Nursing Facility SubAcute) and (2) Nursing Facility/Acute Hospital (formerly Nursing Facility A/B and Nursing Facility SubAcute and In-Home Medical Care); d = total admitted to a nursing facility during the year; e = number with Minimum Data Set assessment in a Nursing Facility. \* The privacy laws of the Health Insurance Portability and Accountability Act (HIPAA) prohibit the publishing of aggregate data cell sizes of 10 or less. **Notes:** The count of recipients for each waiver group does not sum to the count in the total HCBS waiver column because 5 individuals in combination waivers are not shown on the table. Percentages may not total to 100% due to rounding. na = not applicable

## Appendix I: Technical Methods

The following provides additional information regarding the methods used to select our study population, determine service use, and categorize recipients by eligibility, demographics, and functional and cognitive limitations.

### Study Population Sample Selection

We first selected all state Medicaid claims that met our definition of a HCBS recipient (N=1,428,739). We then removed any claim where the subject looked unambiguously less than 18 years-old (leaving N=1,199,501). We removed any subject who ever had any developmental disability (DD) claim (leaving N=1,086,062). We then removed any subject who ever had any CDER claim (leaving N=1,083,905).

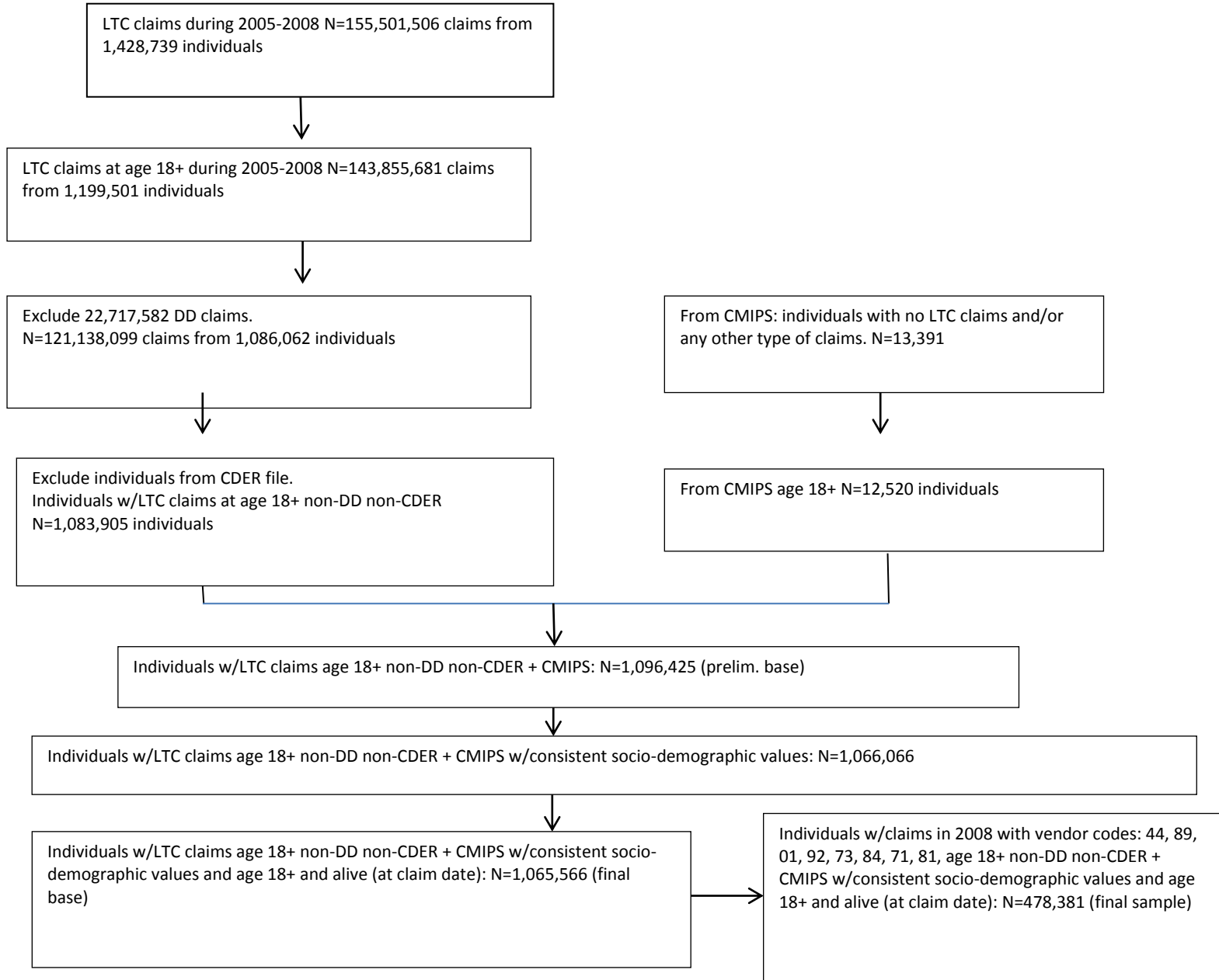
We added subjects with CMIPS claims (N=12,520) who were not already captured through the processes above, and were age 18+ years and still alive (new N=1,096,425). This group comprised our preliminary base sample.

We then removed any subject who had inconsistent values on more than one socio-demographic variable (leaving N=1,066,066).

Finally, we removed any subject who had no claims while they were still alive and age 18+ in completed years. This left us with our final base sample of N=1,065,566 subjects. See **Figure A-1** for a flow chart describing these steps.



**Figure A-1. Sample Population Selection Steps**



## Medi-Cal Service Categories

Vendor Codes in the Medi-Cal claims records were used to identify recipients of the HCBS services. Use of a service was defined when an individual had at least one indicated claim record with the appropriate vendor code. Table I-1 shows the vendor codes used.

**Table I-1. Medi-Cal Service Categories**

Service	Vendor Code
State Plan Services	
Adult Day Health Care (ADHC)	01, 77 <sup>a</sup>
Home Health (HH)	44
In-Home Supportive Services (IHSS) <sup>b</sup>	89
Targeted Case Management (TCM)	92
HCBS Waivers	
Acquired Immune Deficiency Syndrome (AIDS)	73
Assisted Living (ALW)	84
Multi-Purpose Senior Services (MSSP)	81
Other Waivers 2005 <sup>c</sup>	
• In-Home Medical Care (IHMC)	71
• Nursing Facility A/B (NF A/B)	71
• Nursing Facility Sub Acute (NF S/A)	71
Other Waivers 2008	
• In-Home Operations (IHO) Waiver	71
• Nursing Facility/Acute Hospital (NF/AH) Waiver	71

<sup>a</sup> And procedure codes '00006' ADHC regular service day, '00007' ADHC initial assessment with subsequent attendance, '00008' ADHC initial assessment without subsequent attendance, '0009' ADHC transition day.

<sup>b</sup> Also included were recipients without a claims record, but who appeared in the IHSS Case Management and Payrolling System (CMIPS). These individuals had previously been participants in the IHSS Plus program, and their IHSS claims records may have been incomplete.

## Medi-Cal Program Eligibility

This information was extracted from the Medi-Cal eligibility file (Medical Monthly Eligibility Files (MMEF)) compiled by the Department of Health Care Services for the study population. 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 Analytical Study Sections located within the California Department of Health Care Services (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](http://files.medi-cal.ca.gov/pubsdoco/publications/masters-mtp/part1/aidcodes_z01c00.doc).

Through these codes, it is possible to distinguish individuals who qualify for this program, in part, based on their categorical eligibility (e.g., aged, blind or disabled), and those who qualify

when their medical expenses deplete, or “spend down” their income and assets to specified Medicaid thresholds (i.e., medically needy).

We extracted all primary, secondary, or additional Aid codes (if any) and collapsed them into the categorical and medically needy groupings. These distinctions are important, as eligibility is determined monthly, and individuals who qualify based on their expenses have a share of costs each month that must be met before Medi-Cal initiates service reimbursement. This may affect the month to month continuity of eligibility or the service levels observed in the claims file. The following table shows the aid codes consolidated into the primary categories used in our analysis. Subgroupings within each are also identified to clarify the component groups.

**Table I-2. Medi-Cal Eligibility Aid Codes**

<b>Categorically Eligible<sup>a</sup></b>	<b>Aid Codes</b>
1. Public Assistance -Aged	10, 16, 18, 1E
2. Public Assistance -Blind	20, 26, 28, 2E, 6A
3. Public Assistance -Disabled	36, 60, 66, 68, 6C, 6E, 6N, 6P
4. Family <sup>b</sup>	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)	13, 23, 63
<b>Spend Down Eligibility<sup>c</sup></b>	
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	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

<sup>a</sup> Meets SSI definitions of Aged, Blind, Disabled and financial requirements of either SSI-related, 100% of FPL, Buy-in, or smaller pathways

<sup>b</sup> This category includes Public Assistant -Family, Medically Indigent-Child and Medically Indigent-Adult.

<sup>c</sup> Since at least 2001, California has set the medically needy income standard (net after paying health care expenses) at \$600 for individuals (\$934 for aged, blind or disabled).

### **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. When these data were incomplete or inconsistent across the study years, Medicare eligibility and CMIPS assessment items were used. For final selection into our sample, a subject could have only one inconsistent socio-demographic variable from the three core variables: date of birth, date of death, and sex. For all socio-demographic variables, whenever state and federal values disagreed, we assigned the state value when there was at least one non-missing state value.

**Table I-3: Demographic Variables**

<b>Variable</b>	<b>Description</b>
Age	Age was calculated in completed years as of the first day of the reporting period. Age in completed year was categorized into two categories: 18 to 64 years and 65 and over.
Gender	Only two values for gender were accepted – male and female
Race/Ethnicity <sup>a</sup>	In all state-derived data, we collapsed the 21 race/ethnicity categories to match the 7 categories used in federal data (shown here)
<ul style="list-style-type: none"> <li>• White</li> </ul>	Records indicated White
<ul style="list-style-type: none"> <li>• Hispanic</li> </ul>	If a person appeared as "Hispanic" in any available record we assigned them to the "Hispanic" category for the observation period
<ul style="list-style-type: none"> <li>• African American</li> </ul>	Records indicated African American
<ul style="list-style-type: none"> <li>• Asian/Pacific Islander</li> </ul>	<p>The following were consolidated into a single Asian/Pacific Islander category:</p> <ul style="list-style-type: none"> <li>• Other Asian or Pacific Islander</li> <li>• Filipino</li> <li>• Amerasian</li> <li>• Chinese</li> <li>• Cambodian</li> <li>• Japanese</li> <li>• Korean</li> <li>• Samoan</li> <li>• Asian Indian</li> <li>• Hawaiian</li> <li>• Guamanian</li> <li>• Laotian</li> <li>• Vietnamese</li> </ul>
<ul style="list-style-type: none"> <li>• Alaskan/American Indian</li> </ul>	Records indicated Alaskan/American Indian
<ul style="list-style-type: none"> <li>• Mixed Race/Ethnicity</li> </ul>	A person listed under more than one race/ethnicity, we assigned them to this category
<ul style="list-style-type: none"> <li>• Other</li> </ul>	Records indicated “other”
<ul style="list-style-type: none"> <li>• Missing/Unknown</li> </ul>	<p>The following groups were combined</p> <ul style="list-style-type: none"> <li>• Not a valid value</li> <li>• No valid data reported</li> <li>• No response</li> </ul>

<sup>a</sup> Even in administrative data, a person's race/ethnicity may ‘change’ over time or between data sources (in the same time period). This can occur because the recipient or a proxy is reporting a self-reclassification, or because race/ethnicity is recorded as observed by the interviewer, or because of typographic or administrative errors. We assign everyone a single, fixed race/ethnicity category for the entire study period using the rules shown in this table.

## **Cognitive and Functional Limitations**

Cognitive and Functional Level-of-Care Measures were derived from CMIPS assessment records available for participants in the IHSS program (about 85% of the study sample) and from OASIS

for those who did not have a CMIPS record, but received Medi-Cal reimbursed Home Health services.

CMIPS includes the following scale for measurement of ADLs, IADLs, and cognitive function impairment.

- Rank 1 - Independent – Able to perform functions without human assistance though client may have difficulty. However, completion of the task with or without a device poses no risk to his/her safety.
- Rank 2 - Able to perform but needs verbal assistance such as reminding, guidance or encouragement.
- Rank 3 - Can perform with some human help; i.e., direct physical assistance from the provider.
- Rank 4 - Can perform with a lot of human assistance.
- Rank 5 - Totally dependent on human assistance.
- Rank 6 - Paramedical services needed.

The number of ADL and IADL limitations having a rank of three or more was compiled for each study participant, with each such item given a score of one. Ranks of less than 3 were assigned a score of zero. Separate counts were then made for ADL and IADL items. The cumulative limitation scores among those items could range from 0 to 5. These counts reflect the number of ADL/IADL items for which the individual had been evaluated by the IHSS social worker as needing at least the direct physical assistance of another person to perform the measured task. Table I-4 shows the items included as the ADL and IADL measures, and how they were dichotomized for summed scoring (shown in the column as ranks for dichotomized variables).

The CMIPS system records three types of cognitive limitation (memory, orientation, or judgment). (See Appendix I-4) The cognitive limitation is based on a rank of 2 or higher, meaning that there is a cognitive limitation in at least one of these three areas. The value shown in the analysis is the percentage of respondents having any cognitive limitation based on the above rules.

Breathing difficulty is the remaining frailty item available from CMIPS assessments. This measure is recorded in the CMIPS system as either independent or needing assistance and is used as a binary measure in the analysis. Assistance can include either the use or maintenance of breathing equipment.

Functional Index Score is established by the California Department of Social Services (DSS). It is based on the cumulative score of each ADL & IADL item, averaged over the number of items. It can range from 1 to 5.

To have comparable functional assessment information for persons who received home health but were not also IHSS recipients, we selected assessment items from the OASIS data that matched to CMIPS assessment items. There was substantial commonality in the measures in these instruments and the ranked score items.