Comparison of Racial and Ethnic Groups in their Level of Care Screenings and Use of Home and Community-Based Services (HCBS) in the Minnesota Medicaid Population

Final Report

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Executive Summary with Major Findings

This is the Final Report from the Study of Racial and Ethnic Disparities in Level of Care Screenings and Use of Home and Community-Based Services (HCBS) in the Minnesota Medicaid Population. The purpose of this component of the study was to compare racial and ethnic groups according to demographics, program participation, health other characteristics, level of care screenings and use of HCBS and acute care services. The analysis relied on secondary data from Medicaid claims, level of care screenings, and related administrative records. The study focused on older people and people with disabilities who were receiving HCBS or at risk of needing these services.

In this study we describe similarities and differences between racial and ethnic groups. We do not attempt to draw conclusions about racial and ethnic disparities. We do not have sufficient information about the causes of the patterns we observe in the data. Because the study is limited to Medicaid claims and administrative data, little if any information is available about social determinants of health or disability, barriers to care access, biases in the NF-LOC or DD-LOC screening process, poor quality or insufficient HCBS services, or other factors that could contribute to racial and ethnic disparities.

In addition, we freely acknowledge that the "racial and ethnic" categories in the report are overly simplistic. The concept of race has little meaning biologically. Even as cultural categorization, races is an anachronism. The Community Advisory Board reminded us many times about the important social and cultural differences between people in each of the arbitrarily defined racial and ethnic categories.

Aims of the Study

Aim 1. Examine similarities and differences between racial and ethnic groups in age, geographical location, major diagnoses, and program participation, e.g., Medicaid waiver or Personal Care Assistance.

Aim 2. Systematically compare racial and ethnic groups in their screening results for Nursing Facility Level of Care (NF-LOC) and Developmental Disability Level of Care (DD-LOC).

Aim 3. Examine similarities and differences between racial and ethnic groups in use of HCBS services.

Aim 4. Examine similarities and differences between racial and ethnic groups in acute care utilization.

Methods

The target population for the study was older people and people with disabilities in the Minnesota Medicaid population who are using or at risk of needing HCBS services. The sample frame for this aging and disabilities population is defined by: (1) age 65 or older, or (2) under age 65 and had either a disability diagnosis or participated in an HCBS service or Personal Care Assistance (PCA). Not included in this sample frame is the very large number of Medicaid

eligible people who were under 65 years of age, non-disabled, or not participating in any HCBS waiver or PCA service during the 2016-2019 study period.

We conducted a cross-sectional analysis with a point-in-time snapshot of the target population on March 1, 2019. We conducted longitudinal analyses for different data periods January 2017 through November 2019. Analyses were carried out for the aging and disability population as a whole and for people with HCBS level of care screenings.

Race and ethnicity were determined from Medicaid eligibility files and other records in the Medicaid Management Information System (MMIS). The following primary categories were derived from the MMIS codes: Asian or Pacific Islander, African American or Black, American Indian, Hispanic (either alone or combined with another category), white or identifying with multiple races. The category "white" does not include people who identified as both white and Hispanic. People identifying as Hispanic and white and people identifying Hispanic alone were categorized as Hispanic.

Other major variables such as age, residential location, waiver program status, diagnoses, HCBS service use, and acute care utilization also were taken from MMIS and other administrative files.

Race and Ethnicity, Age Groups, and Residential Location

Figures on race and ethnicity, age, and residential location are for people in the aging and disability sample on March 1, 2019.

Race and ethnicity

- People who identified as white and non-Hispanic comprised the majority of the aging and disability population. Nearly two-thirds (64%) of people self-identified as white.
- The percentage of people identifying as African American or Black was 17%, Asian or Pacific Islander was 8%, Hispanic was 3%, and American Indian was 3%. The percentage of people who identified with multiple races was 1.4%.

Age

- Asian or Pacific Islander people were the oldest (58% age 65 and older, 6% age 0-20) and people identifying with multiple races were the youngest (10% age 65 and older, 46% age 0-20).
- Other racial and ethnic groups varied in their age composition: white people: 41% age 65 and older, 8% age 0-20: African American or Black people: 31% age 65 and older, 14% age 0-20; American Indian people: 28% age 65 and older, 12% age 0-20; and Hispanic people: 38% age 65 and older, 23% age 0-20.

Location

- The vast majority of Asian or Pacific Islander people (91%) and African American or Black people (91%) resided in the Twin Cities metropolitan area.
- American Indian people were most likely to reside in rural areas (53%) and least likely to reside in the Twin Cities (42%).

- The majority of other racial and ethnic groups also lived in the Twin Cities: 70% of people identifying with multiple races; 63% Hispanic people, and 53% of white people.
- Percentages residing in other metropolitan areas besides the Twin Cities were relatively small, ranging from 4% to 8%.

Program Participation

Data on program participation came from people in the aging and disability sample on March 1, 2018.

Age 65 and Older

- African American or Black people and Asian or Pacific Islander people were most likely to participate in community-based Elderly Waiver services (42% for each group). White older people were least likely to participate in community-based Elderly Waiver services (17%) and most likely to participate in Elderly Waiver services in a residential setting such as assisted living (16%).
- Use of Personal Care Assistance (PCA) services without a waiver was relatively low overall, ranging from 15% of Asian or Pacific Islander people to 1% of white people.
- The majority of older Hispanic people (60%) was not using an HCBS service, i.e., neither participating in a waiver program nor using PCA without a waiver. Smaller yet substantial percentages of older people in other racial and ethnic categories also were not participating in a waiver or using PCA: 48% of American Indian people, 37% of white people and Asian or Pacific Islander people, and 36% of African American or Black people.

Under Age 65

- Compared to other ethnic or racial categories, white people were most likely to participate in the Developmental Disabilities (DD) Waiver or other disability waiver (46%). Other racial and ethnic groups had substantially lower waiver participation: 32% of Hispanic people, 29% of African American or Black people, 28% of American Indian people and 23% of Asian or Pacific Islander people.
- The highest use of PCA without a waiver, was for Asian or Pacific Islander people (38%) and African American or Black people (31%). White people were least likely to participate in PCA without an accompanying HCBS waiver (6%).
- Despite having a recorded disability, over half (52%) of Hispanic and nearly half (47%) of American Indian people and white people (46%) were participating were using neither a disability waiver nor using a PCA service. African American or Black people and Asian or Pacific Islander people had similarly high percentages not using these services, 39% and 38% respectively.

Prevalence of Chronic Disease, Disability, and Mental Illness, and Communication Disorders

The findings on major diagnoses are drawn from Medicaid claims and other administrative files for people in the aging and disability sample on March 1, 2019.

Age 65 and Older

People age 65 and older across all racial and ethnic groups had a substantial number of chronic diseases and prevalence of disability.

- Over 90% of people age 65 and older had a record of one or more of the major chronic disease diagnoses. They averaged 3.57 diagnoses per person. The most prevalent diagnoses were: hypertension (78%), diabetes (41%), chronic obstructive pulmonary disease (COPD) (41%), peripheral vascular disease (PVD) (36%), obesity (32%), kidney disease (29%), cerebrovascular disease/stroke (25%), heart failure (21%), cancer (15%), liver disease (16%), and myocardial infarction (MI) (13%). They also had relatively high rates of dementia (30%).
- American Indian people had the highest mean number of major chronic diseases (4.30); Asian or Pacific Islander people had the lowest mean number (3.09). All of the racial / ethnic groups had a high percentage of people with one or more major diagnoses, ranging from 90% to 94%.
- White people had the highest percentage of dementia or other neurological conditions (42%), while Asian or Pacific Islander people had the lowest percentage (19%).
- White people also had the highest percentage of developmental disability diagnoses (11%), while Asian or Pacific Islander people had the lowest percentage (2%).
- With regard to mental illness and substance use diagnoses, American Indian people had the highest percentage with any of these diagnoses in the last year (53%); and Asian or Pacific Islander people had the lowest percentage (27%).
- The racial and ethnic groups were in a relatively narrow range in the percentage with a communication disorder diagnosis (34%-38%).

Under Age 65

Similarly, people under age 65 across all racial and ethnic groups had a substantial number of chronic diseases and prevalence of disability.

- Among all people under age 65, 73% had a history of mental illness or substance use, and 56% had a diagnosis in the last year. The diagnoses included: depression (60%), substance use (any history 44%, last year 28%) severe mental illness or severe and persistent mental illness (SMI or SPMI) (any history 39%, last year 26%).
- Half had one or more recorded developmental disability diagnoses: 32% with developmental disabilities, 22% with ADHD, 18% with autism, 7% with cerebral palsy, and 5% with Down syndrome.
- A very high percentage (75%) had one or more major chronic disease diagnoses, and they averaged 2.11 diagnoses per person. The most prevalent major chronic disease diagnoses were: hypertension (40%), COPD (40%), obesity (38%), diabetes (24%), liver disease (14%), kidney disease (10%), peripheral vascular disease (11%), and CVA / stroke (11%).
- American Indian people had the highest mean number of major chronic diseases (2.78) and highest percentage of people having one or more major chronic diseases (82%).

People identifying with multiple races had the lowest mean number of diagnoses (1.61) and lowest percentage with one or more diagnoses (70%).

- American Indian and white people had the highest percentages with dementia or other neurological conditions (33%). Asian or Pacific Islander people had the lowest percentage (21%).
- People identifying with multiple races had the highest percentage of developmental disability diagnoses (67%); Asian or Pacific Islander people had the lowest percentage (31%).
- With regard to mental illness and substance use diagnoses, American Indian people had the highest percentage with any of these diagnoses in the last year (66%); Asian or Pacific Islander people had the lowest percentage (48%).
- The racial/ethnic groups were in a relatively narrow range in the percentage with a communication disorder diagnosis (29%-35%).

Nursing Facility Level of Care (NF-LOC) Screenings

The following figures are from NF-LOC screening data from January-November 2019.

Both Age Groups

- Nearly 100% of people, young and old, who were participating in an HCBS waiver before NF-LOC screening, met one or more of the NF-LOC criteria. Nearly all (98%) of people under age 65 who were not participating in a waiver prior to screening met one or more NF-LOC criteria, while a slightly lower percentage (89%) of people age 65 or older who were not on a waiver prior to screening met one or more NF-LOC criteria.
- Nearly 100% of people, young and old, who were participating in a waiver program prior to NF-LOC screening continued on the waiver program after the screening.

Age 65 and Older – Meeting NF-LOC Criteria

- Living arrangement and risk was highest for white people (53%) followed by African American or Black people (50%), American Indian people (42%), Hispanic people (35%) and Asian or Pacific Islander people (33%).
- Cognitive or Behavioral Needs were very high for all racial and ethnic groups, ranging from 97% for people identifying with multiple races to 93% of African American or Black people.
- Dependency in activities of daily living was highest for Asian or Pacific Islander people (67%), followed by American Indian people (56%), African American or Black people (55%), Hispanic people (50%), white people (47%), and people identifying with multiple races (38%).
- Clinical monitoring was relatively infrequent among all the racial and ethnic groups, ranging from 13% for American Indian people to 7% for people identifying with multiple races.

Under Age 65 – Meeting NF LOC Criteria

- Living arrangement and risk was highest for African American or Black people (66%) followed by American Indian people (55%), white people (53%), people identifying with multiple races (52%), Hispanic people (50%) and Asian or Pacific Islander people (41%).
- Cognitive or Behavioral Needs were highest for people identifying with multiple races (85%), followed by white people (84%), Asian or Pacific Islander people (78%), Hispanic people (77%), African American or Black people (73%), and American Indian people (68%).
- Dependency in activities of daily living was highest for Asian or Pacific Islander people (66%), followed by African American or Black people (59%), American Indian people (54%), Hispanic people (46%), white people (43%), and people identifying with multiple races (42%).
- Clinical monitoring ordered by a medical provider was relatively infrequent among all the racial and ethnic groups, ranging from 15% for American Indian people to 3% for people identifying with multiple races.

Age 65 and Older– Program After Screening for People not on a Waiver Prior to Screening

- Among people age 65 or older who met NF-LOC and were not participating in a waiver program prior to screening, a relatively high percentage obtained access to HCBS services. Over half (52%) ended up on an Elderly Waiver (32% with community and 20% residential services), 8% entered Alternative Care, and 17% used PCA without a waiver. That left 12% of this group Medicaid eligible but with no apparent access to HCBS services, while 8% was not Medicaid eligible.
- Most likely to enter an Elderly Waiver with use of community services were African American or Black people (51%) and Hispanic (45%) people. White people were most likely to enter an Elderly Waiver and use residential services (27%)
- Asian or Pacific Islander people were most likely to use PCA without a waiver (56%), while white people were least likely (5%)

Under Age 65 – Program After Screening for People not on a Waiver Prior to Screening

- Among people under age 65 who met NF-LOC and were not participating in a waiver program prior to screening, 23% entered a CADI, CAC, or BI waiver and 35% used PCA without a waiver. That left 43% of this group with no apparent access to HCBS services; they neither entered a waiver program nor used PCA.
- White people were most likely to enter a waiver program (27%), while Asian or Pacific Islander people were least likely (11%)
- In contrast, Asian or Pacific Islander people were most likely to use PCA without a waiver (64%) and white people were least likely (25%)
- The three racial or ethnic groups most likely to end up with neither a waiver nor PCA were people identifying with multiple races (51%), Hispanic people (50%), and white people (48%)

DD LOC Screenings

The following figures come from data on people with DD-LOC screenings from January-November 2019.

Care Needs Assessed at DD-LOC Screening

- African American or Black and white people were most likely to need specialized medical attention or attention ranging from frequent to 24 hours per day (69%)
- American Indian people were most likely to have a vision need (48%)
- White people were most likely to have a hearing need (18%), seizure need (35%), and mobility need (24%)
- Asian or Pacific Islander people were most likely to have a fine motor skill need (66%), an expressive communication need (88%), and receptive communication need (82%). Also, they were most likely to be assessed as being incapable of self-preservation (90%) and to need moderate or intensive support to meet vocational needs (74%).

Instrumental Activities of Daily Living

- For most instrumental activities of daily living (IADLs), the racial/ethnic groups were similar in the percentages needing assistance.
- Few people were determined to be independent in any of the IADLs. For self-care, the percentage independent ranged from 4% for people identifying with multiple races to 17% for American Indian people. The percentage of people independent in the other IADLs was less than 5%.
- Relatively high percentages of all the racial and ethnic groups were unable to participate in IADLs. Those unable to participate ranged from 46%-54% for self-care, 55%-63% for household management; 66%-69% for money management, 64%-68% for community living, and 2%-4% for leisure recreation.

Behavioral Problem Status

- Overall, among the people screened, the most prevalent recorded behavioral problems were temper outbursts (48%) and verbal aggression (45%). Lower percentages were recorded as displaying physical aggression (33%) or being injurious to self (33%). Less prevalent were property destruction (26%) and running away (26%), eating non-nutritive foods (22%), and inappropriate sexual behavior. Least prevalent was breaking the law (3%).
- Of the nine behavior problem areas, Asian or Pacific Islander people had the highest prevalence in 4 areas, people identifying with multiple races had the highest prevalence in 4 areas, and American Indian people in one area. White people had the lowest prevalence in 7 areas and American Indian people had the lowest prevalence in 2 areas.

Level of Supportive Services

- The screening process determined that the vast majority of people in all racial and ethnic groups required 24-hour support. The percentage needing a 24-hour plan of care ranged from 81% for people identifying with multiple races to 71% for African American or Black people. The percentage requiring 24-hour awake supervision ranged from 27%

for African American or Black people and American Indian people to 17% for people identifying with multiple races.

People Already Participating in a DD Waiver Prior to Screening

People in this category, who were participating in a DD waiver when they were screened, were presumably being screened for continuation on a DD waiver.

- Overall, 69% of screenings were for people who were participating in a DD waiver prior to the screening and the remainder had other program statuses, including other waivers, PCA, or neither a waiver program nor PCA.
- American Indian and white people were most likely to have been participating in a DD waiver (72% and 71%, respectively); whereas people identifying with multiple races (56%) and Hispanic people (58%) were least likely to have been participating in a DD waiver.
- Nearly everyone across all racial/ethnic groups who was participating in a DD waiver prior to screening met the DD-LOC and continued to participate in a DD waiver after screening.

People Not Participating in a DD Waiver Prior to Screening

People in this category, who were not participating in a DD waiver when they were screened, were presumably being screened for possible entry into a DD waiver. Prior to screening people could be participating in another waiver besides DD, using PCA without a waiver, or neither participating in PCA nor using PCA. After the screening, some people would be determined to meet DD LOC, while others would meet NF-LOC, and still others would meet neither level of care. If people met DD level of care, they could enter the DD waiver. If people did not meet DD level of care they could enter another waiver, use PCA without a waiver, or neither participate in a waiver program nor use PCA.

- Among those not in a DD waiver prior to screening, Asian or Pacific Islander and African American or Black people were most likely to be participating in PCA without a waiver (34% and 32%, respectively); and white people and American Indian people and white people were those most likely to be participating in a non-DD waiver program (37% and 29%, respectively). In contrast , over half of Hispanic people (61%) and people identifying with multiple races (57%) were participating in neither a waiver program nor using PCA.
- As a result of the DD-LOC screening, 79% of people met DD-LOC, 10% met NF-LOC, and 11% met neither level of care. The percentage meeting DD-LOC ranged from 86% for Asian or Pacific Islander people to 75% for American Indian people.
- After the screening, only a small percentage (8%) of people entered a DD waiver. The percentages entering the DD waiver ranged from 6% for white people to 15% for African American or Black people. American Indian and white people were most likely to enter a waiver besides DD (37% and 31% respectively). Asian or Pacific Islander and African American or Black people were most likely to have PCA without a waiver (34% and 32%, respectively), and people identifying with multiple races and Hispanic people were most likely to end up with neither a waiver nor PCA (52% and 50% respectively).

- Several Final Action Plan categories had substantial discrepancies between what was planned and what appears to have actually happened in the month after screening for persons who did not have DD waivered services before screening.
    - Among persons with a plan of living at home with waiver services, 38% had no waiver service or PCA, 17% had PCA without a waiver, and 4% were not Medicaid eligible in the month after screening.
    - Nearly half (47%) of persons who were to be placed in an ICF/DD-Community did not appear to enter the ICF/DD.
    - Among people in the combined categories of living at home or in the community with waivered services, only 14% entered a DD waiver program. However, 47% entered another waiver program and 10% participated in PCA without a waiver.
    - These discrepancies between plans and actual service arrangements may arise because the action plan is devised with the DD-LOC assessor, however the case manager is one who arranges services; the plan may represent services that people want well into future; and some services may take longer than a month to set up.

Average Monthly Use for Selected HCBS Services.

These figures represent the percentage of people using an HCBS service per month from October 2018 to September 2019.

HCBS Service Use by People Age 65 and Older

- Use of residential services through waivers (customized living and foster care) was substantially higher for white people (17%) compared to other racial/ethnic groups (range 2%-5%).
- In contrast, the highest use of waiver services provided in a community (non-residential) setting was for Asian or Pacific Islander (43%) and African American or Black (43%) people. White people had the lowest percentage (17%) using waiver services in the community.
- Across all racial/ethnic groups, the use of PCA was much higher among waiver than among non-waiver participants. Among waiver participants, well over half of Asian or Pacific Islander people (64%) and African American or Black people (60%) were using PCA. The lowest percentage was for white people (16%). Among people not participating in a waiver, Asian or Pacific Islander people had the highest percentage using PCA (29%), in contrast only 2% of white people were using PCA without a waiver.
- Homemaker services were the most frequently used by all racial and ethnic groups. Use of adult day services varied widely from a high of 45% of Asian or Pacific Islander people to only 2% of American Indian people. In contrast, Asian or Pacific Islander people were least likely to use home delivered meals (4%), while American Indian people were most likely (42%).
- Use of other HCBS waiver services was very low across all racial and ethnic groups.

HCBS Service Use by People Under Age 65

- Use of residential services through waivers (customized living, foster care, and supportive living services) was highest for white people (20%) and American Indian people (13%) compared to other racial/ethnic groups (range 5%-8%).
- The highest PCA use without a waiver was for Asian or Pacific Islander people (50%) and African American or Black people (44%), while white people had lowest percentage (11%). Similarly, the highest PCA use among waiver participants was for African American or Black people (43%) and Asian or Pacific Islander people (34%), while white people had the lowest percentage (12%).
- The highest use of Consumer Directed Community Supports was for people identifying with multiple races (31%) and Hispanic people (28%), while the lowest use of CDCS was for American Indian people (8%).
- Use of day training ranged widely, from 22% for white people to 3% of people identifying with multiple races.
- The percentages with independent living skill training had a narrower range from 18% of African American or Black people to 11% for American Indian and Hispanic people.
- Finally, the highest use of adult day services was for Asian or Pacific Islander people (17%) and for African American or Black people (8%), while other racial/ethnic groups ranged from 1% to 3%.
- Use of supported employment services ranged from a high of 13% for white people to 5% among African American or Black people. Use of the other three services ranged narrowly from 3% to 8% across the racial and ethnic groups.

Physician Visits, Emergency Department Visits, and Inpatient Hospitalizations

Data on acute care utilization, i.e., physician visits, emergency department visits, and inpatient hospital admissions come from the aging and disability sample from October 2018 through September 2019. Figures represent the average monthly acute care service use per 1,000 persons in the sample. These means are based on total counts of visits or admissions during the period. A single person can have multiple visits or admissions during a month. Therefore, rates may overestimate the number of people who used acute care in a given month.

Both Age Groups

- The racial and ethnic groups did not vary a great deal in their physician visits. However, they differed dramatically in ED visits and inpatient hospitalizations. American Indian people had the highest numbers and Asian or Pacific Islander people the lowest numbers.

Age 65 or older

- Monthly physician visits per 1000 persons ranged from 592 for African American or Black to 443 for white people.
- Monthly ED visits ranged from 116 for American Indian to 41 for Asian or Pacific Islander people.

- Monthly inpatient hospital admissions ranged from 70 for American Indian to 33 for Asian or Pacific Islander people.

Under age 65

- Monthly physician visits per 1000 persons ranged from 532 for African American or Black to 429 for Asian or Pacific Islander people.
- Monthly ED visits ranged from 131 for American Indian to 30 for Asian or Pacific Islander people.
- Monthly inpatient hospital admissions ranged from 49 for American Indian to 18 for Asian or Pacific Islander people.

Chapter 1: Introduction

This is the Final Report from the Study of Racial and Ethnic Disparities in Level of Care Screenings and Use of Home and Community-Based Services (HCBS) in the Minnesota Medicaid Population. The Minnesota Department of Human Services (DHS) contracted with the University of Minnesota School of Public Health and Purdue University School of Nursing to conduct the study. It began in December 2019 and extended through December 2020. A parallel study, also conducted by the University of Minnesota, involved a qualitative examination of racial/ethnic disparities in collaboration with a Community Advisory Board. A separate report was prepared from that component.

In this study we describe similarities and differences between racial and ethnic groups. We do not attempt to draw conclusions about racial and cultural disparities. We do not have sufficient information about the causes of the patterns we observe in the data. Because the study is limited to Medicaid claims and administrative data, little if any information is available about social determinants of health or disability, barriers to care access, biases in the NF-LOC or DD-LOC screening process, poor quality or insufficient HCBS services, or other factors that could contribute to racial and ethnic disparities.

In addition, we freely acknowledge that the "racial and ethnic" categories in the report are overly simplistic. The concept of race has little meaning biologically. Even as cultural categorization, races is an anachronism. The Community Advisory Board reminded us many times about the important social and cultural differences between people in each of the racial and ethnic categories.

Aims of the Study

The purpose of this component of the study was to compare racial and ethnic groups according to demographics, program participation, health other characteristics, level of care screenings and use of HCBS and acute care services. The analysis relied on secondary data from Medicaid claims, level of care screenings, and related administrative records. The study focused on older people and people with disabilities who were receiving HCBS or at risk of needing these services. The study had the following aims.

Aim 1. Examine racial/ethnic differences in age, geographical location, major diagnoses, and program participation, e.g., Medicaid waiver or Personal Care Assistance.

Aim 2. Systematically compare racial/ethnic groups in their screening results for Nursing Facility Level of Care (NF-LOC) and Developmental Disability Level of Care (DD-LOC).

Aim 3. Examine differences between racial/ethnic groups in use of HCBS services.

Aim 4. Examine differences between racial/ethnic groups in acute care utilization and nursing home admissions.

Limitations

The study is limited by the absence of first-hand information about people's knowledge about services, social and economic barriers to seeking services, biases in level of care screenings or

care planning, barriers in receiving services, and the quality of services. Furthermore, the data for the study, such as diagnoses in recorded claims or conditions identified in level of care assessments, may be biased due to under or over reporting among some racial/ethnic groups. Finally, data are from existing Medicaid participants only and cannot speak to potential disparities in communities not participating in Medicaid but who need HCBS services.

Chapter 2: Methods

Study Population – Aging and Disability Subgroup

The study focuses on Medicaid participants who were aging and/or disabled and who were using home and community-based services (HCBS) or who were at risk of needing these services.

The aging and disability subgroup is made up of people who are Medicaid eligible or participating in Alternative Care AND who meet one or more of these criteria:

- All people age 65 or older;
- Disabled people under the age of 65 who were participants in:
  - HCBS waiver service, OR
  - Personal Care Assistance (PCA)

Not included in this subgroup is the very large number of Medicaid participants who were under 65, not disabled, and not participating in any HCBS services or PCA.

Samples

The **cross-sectional sample** consists of a point-in-time snapshot of 180,800 people in the aging and disability subgroup on March 1, 2019. A total of 69,430 were age 65 and older, while 111,370 were under the age of 65. Excluded from the analysis were people with a missing race and ethnicity code or who were participating in Alternative Care. Most Alternative Care participants did not have a Medicaid claims history for identifying their diagnoses.

The **longitudinal sample** consist of people in the aging and disability subgroup at any time from January 2018 to November 2020.

The **level of care screening sample** consists of all people screened for NF-LOC from July 2018 - June 2019. This includes people in a HCBS waiver program who were reassessed during the year, as well as people not in a waiver program but who had a new assessment. There were 42,668 people under age 65 (18,871 new assessments and 23,797 reassessments); and 42,405 people age 65 and older (13,634 new assessments and 28,771 reassessments).

Variables and Data Sources

Data are drawn from the MMIS system and Nursing Home Minimum Data Set (MDS) assessments. The major variables and data sources are as follows:

Table 2.1. Major Variables and Data Sources

Variable	*Data Source*
Care needs, health, and functioning	LTCC, PCA and DD Screens
NF-LOC and DD-LOC criteria	LTCC, PCA and DD Screens
Demographics – Wage group and gender	MMIS Recipient file
Racial/ethnic minority status	MMIS Recipient file
Major diagnoses and disabilities	MMIS Claims
Geographic location	MMIS Recipient file

Variable	*Data Source*
HCBS service use	MMIS Claims
Acute care – ED, hospital, physician visits	MMIS Claims
Nursing facility use	MMIS Claims, MDS

Race and Ethnicity

Race and ethnicity of a participant was determined from Medicaid eligibility files and other documents. According to the MMIS coding scheme, participants could self-identify as belonging in one or more categories: Asian, Pacific Islander, African American or Black, American Indian, Hispanic or white. The following primary categories were derived from the codes:

- Asian or Pacific Islander
- African American or Black
- American Indian
- Hispanic (alone or in combination with other categories)
- White (non-Hispanic)
- People identifying with multiple races

Recorded History of Chronic Disease, Disability, and Mental Health Diagnoses

The recorded chronic disease, disability, and mental health diagnoses are displayed in Table 2.2. Although most diagnoses refer to chronic conditions that are permanent in nature, the list also includes some diagnoses, such as depression, severe mental illness or substance use, which can change over time. Therefore, we also report on a record of these diagnoses in the 12 months prior to March 1 2019 for the cross-sectional sample and longitudinal samples, or the date of the NF-LOC or DD-LOC assessment.

Major diagnoses were determined for each participant based on recorded ICD9 and ICD10 diagnostic codes from Medicaid claims beginning in 2010 (beginning of our MMIS data stream) and extending through November 2019. Because Alternative Care participants had only limited Medicaid claims, we excluded these participants from the analysis. Diagnoses were defined according to one of the following: Elixhauser comorbidity index (Quan et al., 2005; Thompson et al., 2015; van Walraven, Austin, Jennings, Quan, & Forster, 2009), Charlson comorbidity index (Quan et al., 2011; Quan et al., 2005), DHS diagnostic categories, or project clinical staff categories. Detailed diagnostic codes are presented in Appendix 1. Italicized diagnoses in Table 2.2 are on the CDC list of heightened risk for COVID-19. We highlight these diagnoses because they are indictors of vulnerability to a pandemic such as COVID-19. There have been well documented differences between racial and ethnic groups in COVID-19 incidence and mortality. The asterisks indicate the source for the diagnosis ICD definitions.

Table 2.2. Chronic Disease, Disability, and Mental Illness Categories

Major Chronic Diseases	**Dementia and Neurological Conditions Cont.)**
Hypertension	Brain Injury
Heart Failure	Multiple Sclerosis
*Myocardial Infarction***	Parkinsonism

*Peripheral Vascular Disease**	**Developmental Disabilities**
CVA/Stroke	Developmental Disability (DD)
*Diabetes****	ADHD
Kidney Disease	Autism
Cancer	Down Syndrome
*Liver Disease**	Cerebral Palsy
*COPD**	**Mental Illness and Substance Use**
Obesity	Depression*
Immune Disorder	SMI or SPMI
HIV	Substance Use
Dementia and Neurological Conditions	**Communication Disorder**
Dementia	Hard of Hearing
Epilepsy	Blind
	Deaf

*Elixhauser Index definition; **Charlson Index definition; ***DHS definition

Assignment to Program Categories

Program status is assigned according to the participant's status on a reference date (e.g., March 1, 2019) or a reference period (e.g., October 2018 – September 2019} as determined from Medicaid eligibility spans, which record different waiver statuses and eligibility types. Here is the logic for the assignment of participants to program categories. Appendix 2 presents more detail about the categorization.

1. Eligibility Type
   - "Disabled" = all D* eligibility type values for recipients under age 65
   - "Elderly" = all eligibility type values for recipients 65+
   - "Other" = all eligibility type values other than D* for recipients under age 65
2. Waiver spans override the underlying Medicaid category. Waivers are: EW, CAC, CADI, MR/RC, TBI/NB, BI/NF. AC is included with other Medicaid waivers.
3. Participants are further divided based on use of certain services.
   - Residential categories indicate users of services which provide a variety of services under a single umbrella, such as nursing facilities, Customized Living, and Foster Care. There are three types:
     - Elderly Waiver Residential is defined by the presence of claims for Customized Living (Svc Category Code 103), Adult Foster Care (Service Category Code 108), and/or certain other residential services (procedure codes T2032 and T2033) for a person enrolled in Elderly Waiver.
     - Nursing Home Resident is defined as two or more consecutive months with 15+ nursing home days reported in claims for an aging participant (age 65+), regardless of eligibility or waiver status.
     - Under-65 Residential categories are based on claims for any of the above services, or the following additional services, again under the two consecutive months with 15+ days threshold to avoid misclassifying short term stays: inpatient acute hospitalizations, long term hospitalizations, inpatient psychiatric

hospitalizations, inpatient rehabilitation facility stays, ICF/MR stays, and nursing facility stays.

4. A further service of interest is non-waiver Personal Care Assistance (PCA), so we divide under-65 participants who are not in a waiver or a residential care group by their utilization of PCA during the eligibility month.

Analysis

The overall analytical approach for the study was to describe differences between race/ethnic groups in their age, residential location, waiver program categories, major diagnoses, screening results, use of HCBS services, and acute care utilization. We report the findings through tabulations, cross-tabulations, differences in means or proportions, and graphical visualization. Statistical tests for differences in means or proportions were performed with a generalized linear model.

We calculated disease prevalence rates according to the proportion of persons who had a recorded diagnosis. In addition, we conducted a principal component factor analysis to identify diagnostic dimensions and to score each person according to each dimension (Appendix 4). The factor analysis generally confirmed our categorization of diagnoses (Table 2.2).

Level of care screening results were measured as binary or categorical variables. The measure of HCBS services was the proportion of person-months that a person participated in each service while Medicaid eligible and alive during the period January-November 2019. Acute care service utilization was measured as the number of events per month, i.e., physician visits, ED visits, or inpatient hospital admissions, from January-November 2019. We modeled screening results and monthly use of services with logistic and multinomial regression. We employed negative-binomial regression in modeling the count of acute care events.

Chapter 3: Race and Ethnicity, Demographics and Program Participation

This chapter presents descriptive statistics for 190,217 people in the aging and disability subgroup on March 1, 2019. The tables report on the sample distribution by race/ethnic category, age, residential location, and program status.

Race and ethnicity

White people made up the vast majority of aging and disability subgroup in the "snapshot" view on March 1, 2019 (Figure 3.1). White people accounted for 64%; whereas people in other racial or ethnic categories had lower percentages: African American or Black 17%, Asian or Pacific Islander 8%, Hispanic 3%, and American Indian 3% (Figure 3.2). The multiple race category accounted for only 1.4%. The numbers and percentages for any of the multiple race combinations were very small (Figure 3.3 and 3.4).

Figure 3.1. Number of People by Race/Ethnicity

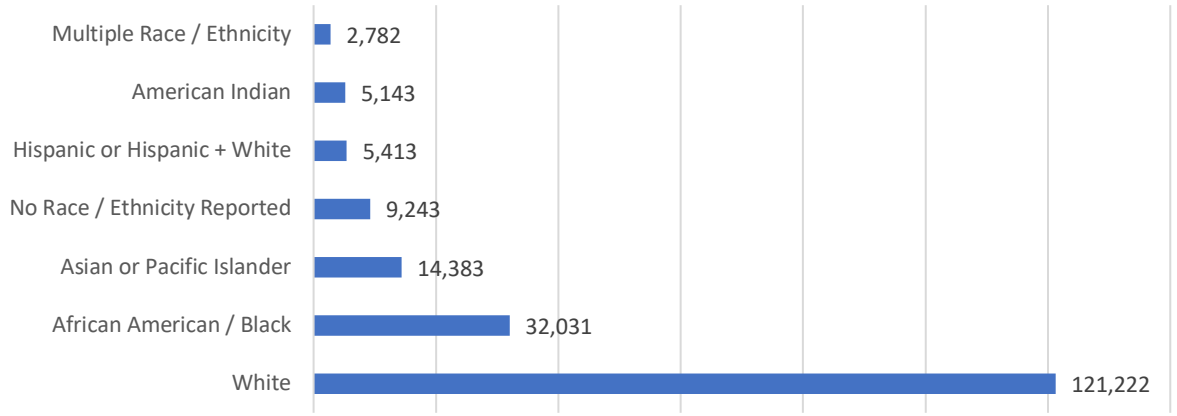
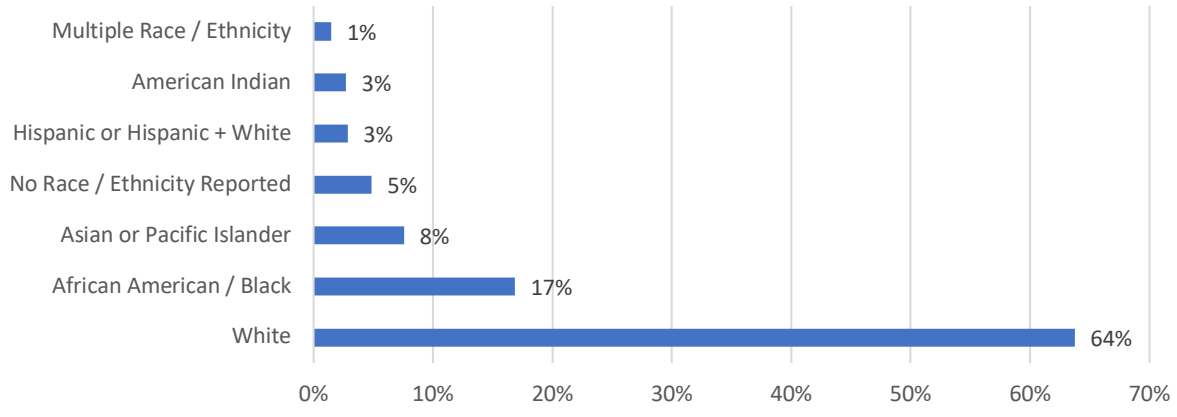
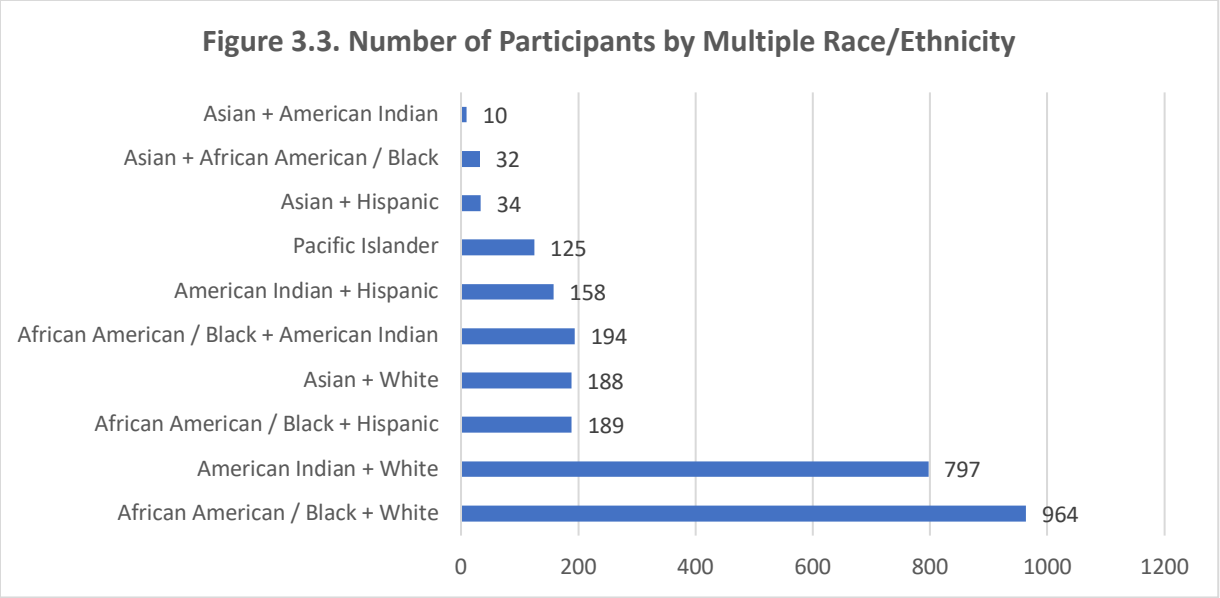
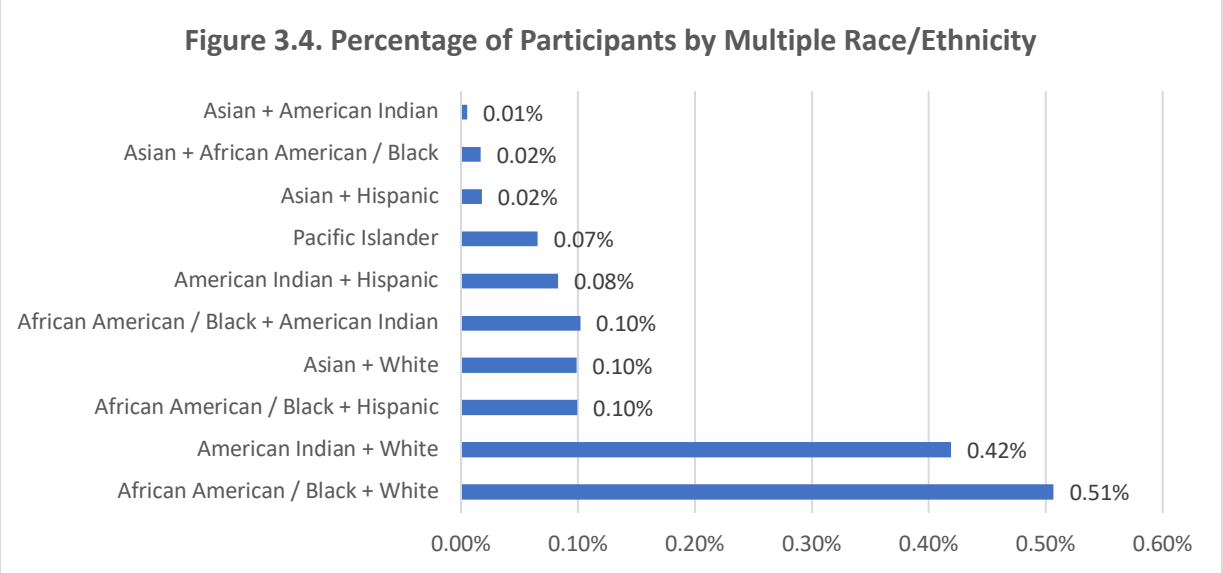


Figure 3.2. Percentage of Participants by Race/Ethnicity



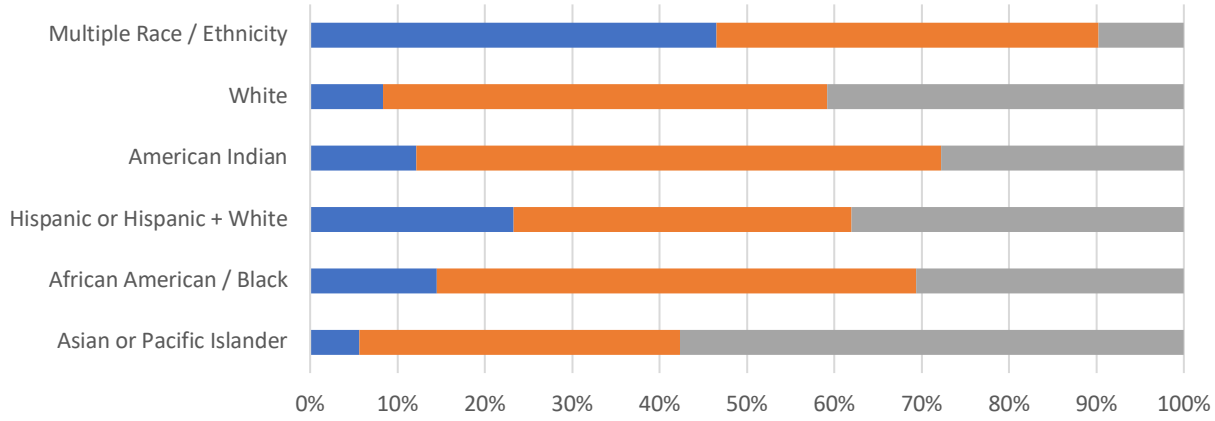




Age Groups

People in the Asian or Pacific Islander category were the oldest members of the aging and disability subgroup (Figure 3.5). They had the lowest percentage age 20 or younger (6%) and the highest percentage age 65 or older (58%). White people had next lowest percentage age 20 or younger (8%) and the next highest percentage age 65 or older (41%). Hispanic persons were the youngest members of subgroup with 23% age 20 or younger.

Figure 3.5. Age Groups by Race/Ethnicity

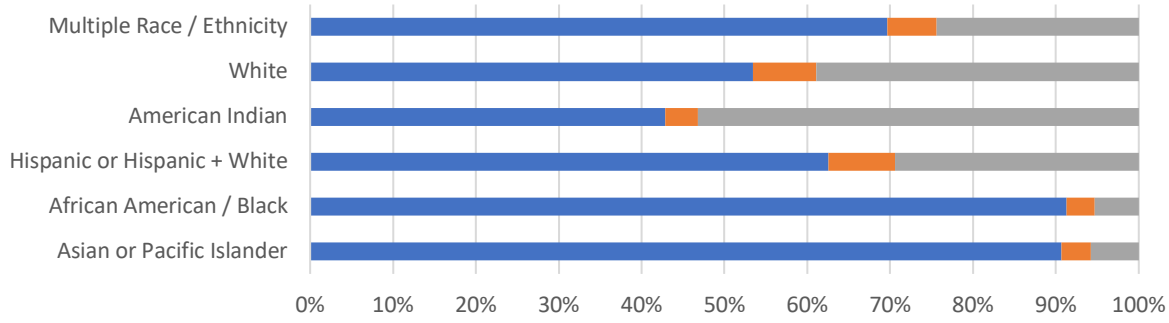


	Asian or Pacific Islander	African American / Black	Hispanic or Hispanic + White	American Indian	White	Multiple Race / Ethnicity
0 to 20	6%	14%	23%	12%	8%	46%
21 to 64	37%	55%	39%	60%	51%	44%
65+	58%	31%	38%	28%	41%	10%

Residential Location

Asian or Pacific Islander and African American or Black persons were heavily concentrated in the Twin Cities (91% of each group) (Figure 3.6). American Indian people were most likely to reside in rural areas (53%) and least likely to reside in the Twin Cities (43%). A little over half (53%) of white people lived in the Twin Cities (44%) and 39% resided in rural areas.

Figure 3.6. Residential Location by Race/Ethnicity



	Asian or Pacific Islander	African American / Black	Hispanic or Hispanic + White	American Indian	White	Multiple Race / Ethnicity
Twin Cities	91%	91%	63%	43%	53%	70%
Other MSA	4%	3%	8%	4%	8%	6%
Rural	6%	5%	29%	53%	39%	24%

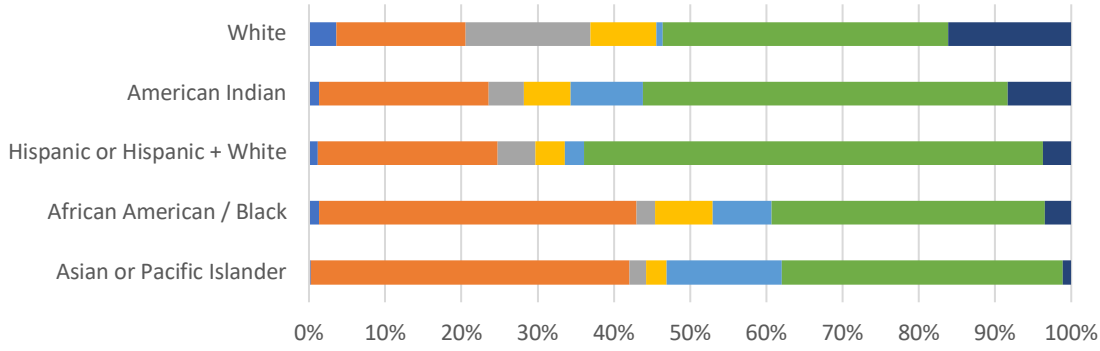
Program Categories

We report program participation separately for people age 65 and older and younger than age 65. Access to programs differs substantially by these age groupings. People age 65 and older have access to Alternative Care and Elderly Waivers, whereas persons under 65 do not.

Age 65 and Older

Figure 3.7 shows people in each racial/ethnic category by their percentage distribution across program categories. Compared to people in other ethnic/racial categories, African American or Black people and Asian or Pacific Islander people were most likely to be participating in an Elderly Waiver in a community setting (42% for each group). Asian or Pacific Islander people were also most likely to be participating in Personal Care Assistance (PCA) without a waiver (15%). When compared to the other racial or ethnic categories, white people were least likely to be participating in an Elderly Waiver in a community setting (17%); while they were most likely to be participating in an Elderly Waiver in a residential setting (16%). White people were also most likely to be in a nursing facility or other institutional care (16%). Hispanic people were the least likely to use HCBS. Well over half (60%) were participating in neither AC, Elderly Waiver, nor PCA. Smaller, yet significant percentages of other racial or ethnic groups over were non-participants in HCBS services: 48% of American Indian, 37% of white, 37% of Asian or Pacific Islander, and 36% of African American or Black people.

Figure 3.7. Program by Race/Ethnicity for Persons Age 65 and Older



	Asian or Pacific Islander	African American / Black	Hispanic or Hispanic + White	American Indian	White
Alternative Care	0%	1%	1%	1%	4%
Elderly Waiver - Community	42%	42%	24%	22%	17%
Elderly Waiver - Residential	2%	2%	5%	5%	16%
65+ - Other Waivers (CAC/CADI/BI)	3%	8%	4%	6%	9%
65+ - non-Waiver PCA	15%	8%	2%	9%	1%
65+ - non-Waiver no PCA	37%	36%	60%	48%	37%
Institutional Care 65+	1%	3%	4%	8%	16%

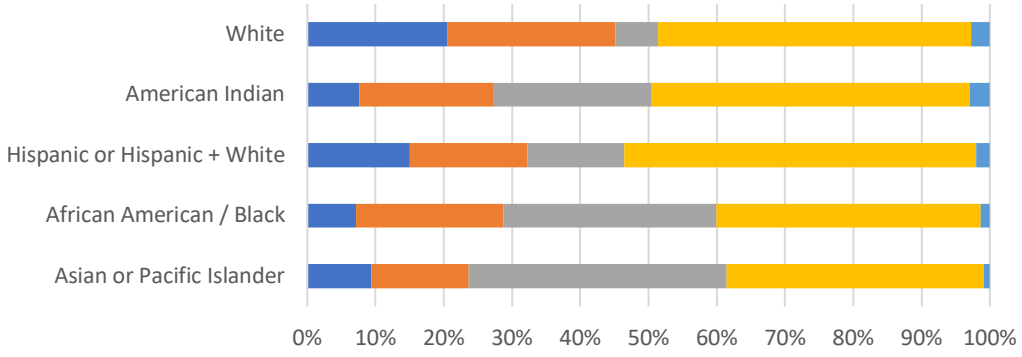
Note: Cell sizes were too small to report reliable estimates of program participation for the multiple race category.

Under Age 65

Compared to other ethnic/racial categories, white people under the age of 65 were more likely to participate in a waiver. Forty-six percent participated in a waiver – 21% in the DD Waiver and 25% in another Disability Waiver (Figure 3.8). Other racial and ethnic groups had substantially lower waiver participation: 32% of Hispanic people, 29% of African American or Black people, 28% of American Indian people, and 23% of Asian or Pacific Islander people.

Asian or Pacific Islander people were the most likely to participate in PCA alone without a waiver program (38%), followed closely by African American or Black persons (31%). White people had the lowest use of PCA without a waiver at 6%. More than half of Hispanic (52%) and nearly half of American Indian (42%) people were not participating in either a waiver service or PCA. Other racial/ethnic categories had lower yet significant percentages participating in neither a waiver nor PCA service: 46% of white, 39% of African American or Black and 38% of Asian or Pacific Islander people.

Figure 3.8. Program by Race/Ethnicity for People Under Age 65



	Asian or Pacific Islander	African American / Black	Hispanic or Hispanic + White	American Indian	White
DD Waiver	9%	7%	15%	8%	21%
U65 -Other Waivers (CAC/CADI/BI)	14%	22%	17%	20%	25%
U65 - Non-waiver PCA	38%	31%	14%	23%	6%
U65 - Disabled Non-waiver w/o PCA	38%	39%	52%	47%	46%
Institutional Care U65	1%	1%	2%	3%	3%

Note: Cell sizes were too small to report reliable estimates of program participation for the multiple race category.

Chapter 4: Major Diagnoses

We begin the chapter by reporting prevalence of each recorded diagnosis among people age 65 and older and people under the age of 65. We then compare prevalence rates between racial/ethnic groups. Summary information, across all Medicaid waiver and other program categories, is presented in the following tables and figures. Appendix 3 contains detailed tables for diagnoses by different program categories.

Major Diagnoses

Age 65 and Older

Over 90% of people age 65 and older had a record of one or more of the major chronic disease diagnoses (Table 4.1). They averaged 3.57 diagnoses per person. The most prevalent diagnoses were: hypertension (78%), diabetes (41%), chronic obstructive pulmonary disease (COPD) (41%), peripheral vascular disease (PVD) (36%), obesity (32%), kidney disease (29%), cerebrovascular disease/stroke (25%), heart failure (21%), cancer (15%), liver disease (16%), and myocardial infarction (MI) (13%). They also had relatively high rates of dementia (30%).

In total, 61% of people age 65 or older had a history of one or more mental illness or substance use diagnoses, and 44% had one or more diagnoses in the last year. Half of them had a history of any record of depression and 35% had a record of depression in the last year. Twenty-eight percent had a history of substance use, while 16% had a substance use diagnosis in the last year. Twelve percent had any history of a diagnosis of severe mental illness (SMI) or severe and persistent mental illness (SPMI), and 6% had a diagnosis in the last year. Finally, 35% had a record of a hearing loss diagnosis.

Under Age 65

Table 4.2 shows diagnoses that were recorded for under the age of 65. A large percentage of people in the under 65 age group had a diagnosis of mental illness or substance use. In all, 73% of the subgroup had any history of diagnoses of mental illness or substance use, and 56% had a diagnosis in the last year. The mean number of diagnoses per person was 1.44 for a history and 0.94 in the last year. The diagnoses included: depression (60%), substance use (any history 44%, last year 28%) severe mental illness or severe and persistent mental illness (SMI or SPMI) (any history 39%, last year 26%).

Half of the age group under 65 had one or more recorded developmental disability diagnoses, and they averaged 0.85 diagnoses per person. The percentage of persons with developmental disability diagnoses were: 32% with developmental disabilities, 22% with ADHD, 18% with autism, 7% with cerebral palsy, and 5% with Down Syndrome.

In addition, a relatively high percentage (75%) of the age group under 65 had one or more major chronic disease diagnoses, and they averaged 2.11 diagnoses per person. The most prevalent major chronic disease diagnoses were: hypertension (40%), COPD (40%), obesity (38%), diabetes (24%), liver disease (14%), kidney disease (10%), peripheral vascular disease (11%), and CVA/stroke (11%).

Prevalence of Diagnoses by Race and Ethnicity

Age 65 and Older

Table 4.1 shows major diagnoses by racial/ethnic groups for people age 65 and older. American Indian people had the highest mean number of major chronic diseases (4.30); Asian or Pacific Islander people had the lowest mean number (3.09). White people had the highest percentage of dementia or other neurological conditions (42%), while Asian or Pacific Islander people had the lowest percentage (19%). All of the racial/ethnic groups had a high percentage of people with one or more major diagnoses, ranging from 90% to 94%.

White people had the highest percentage of developmental disability diagnoses (11%), while Asian or Pacific Islander people had the lowest percentage (2%). With regard to mental illness and substance use diagnoses, American Indian people had the highest percentage with any of these diagnoses in the last year (53%); Asian or Pacific Islander people had the lowest percentage (27%). The racial/ethnic groups were in a relatively narrow range in the percentage with a communication disorder diagnosis (34%-38%).

Under Age 65

Diagnoses by racial/ethnic groups for people age 65 and older are shown in Table 4.2. As was the case for people age 65 and older, American Indian people had the highest mean number of major chronic diseases (2.78) and highest percentage of people having one or more major chronic diseases (82%). People identifying with multiple races had the lowest mean number of diagnoses (1.61) and lowest percentage with one or more diagnoses (70%).

American Indian and white people had the highest percentages with dementia or other neurological conditions (33%). While Asian or Pacific Islander people had the lowest percentage (21%). People identifying with multiple races had the highest percentage of developmental disability diagnoses (67%), and Asian or Pacific Islander people had the lowest percentage (31%). With regard to mental illness and substance use diagnoses, American Indian people had the highest percentage with any of these diagnoses in the last year (66%) and Asian or Pacific Islander people had the lowest percentage (48%). The racial/ethnic groups were in a relatively narrow range in the percentage with a communication disorder diagnosis (29%-35%).

Table 4.1. Aging and Disability Subgroup Participants Age 65 or Older

Diagnosis Group	White	African American / Black	Asian / Pacific Islander	Hispanic	American Indian	Multiple Races	Total
Number of Participants	47,748 (65%)	9,689 (13%)	8,281 (11%)	2,035 (3%)	1,410 (2%)	267 (0%)	73,855 (100%)
Major Chronic Diseases							
Mean # of Dx	3.68	3.70	3.09	3.59	4.30	3.48	3.57
SD	2.30	2.22	2.03	2.26	2.45	2.35	2.27
*Hypertension**	78%	83%#	80%	79%	82%#	76%	78%
*Heart Failure***	24%	15%#	11%#	16%#	21%	14%#	21%
*Myocardial Infarction***	14%	13%	9%#	12%	23%#	15%	13%
*Peripheral Vascular Disease**	41%	26%#	21%#	29%#	42%	29%#	36%
*CVA / Stroke***	27%	24%#	24%#	21%#	27%	22%	25%
*Diabetes****	37%	51%#	49%#	57%#	60%#	42%	41%
Kidney Disease	30%	27%#	28%#	24%#	29%	25%	29%
Cancer	16%	15%#	9%#	14%	17%	13%	15%
*Liver Disease**	12%	21%#	19%#	20%#	23%#	16%	14%
*COPD**	42%	44%	34%#	35%#	58%#	46%	41%
Obesity	34%	39%#	16%#	38%#	37%	36%	32%
Immune Disorder	3%	4%#	3%	4%	5%#	4%	3%
HIV	0%	1%#	0%	1%#	1%#	1%	0%
One or More	90%	93%	90%	90%	94%	93%	90%
Dementia & Neurological Conditions							
Mean # of Dx	0.56	0.38	0.23	0.32	0.40	0.28	0.48
SD	0.75	0.63	0.49	0.59	0.73	0.56	0.71
*Dementia****	34%	24%#	15%#	20%#	21%#	18%#	30%
Epilepsy	8%	5%#	2%#	4%#	8%	3%	6%
Brain Injury	6%	6%	3%#	4%	7%	4%	5%
Multiple Sclerosis	2%	1%#	0%#	1%#	1%	0%	2%

Diagnosis Group	White	African American / Black	Asian / Pacific Islander	Hispanic	American Indian	Multiple Races	Total
Parkinsonism	5%	2%#	2%#	2%#	2%#	2%#	4%
One or More	42%	30%#	19%#	25%#	28%#	22%#	36%
Developmental Disabilities							
Mean # of Dx	0.14	0.06	0.02	0.04	0.09	0.06	0.11
SD	0.43	0.26	0.19	0.21	0.34	0.25	0.37
Developmental Disability (DD)	8%	4%#	1%#	2%#	3%#	3%	6%
ADHD	2%	1%#	0%#	1%#	3%	3%	2%
Autism	1%	0%#	0%#	0%	1%	0%	1%
Down Syndrome	1%	0%#	0%#	0%	1%	0%	0%
Cerebral Palsy	2%	1%#	0%#	0%#	1%	0%	1%
One or More	11%	5%#	2%#	3%#	7%#	6%	8%
Mental Illness & Substance Use							
Mean # of Dx (any history)	0.99	0.99	0.64	0.78	1.30	1.08	0.92
SD (any history)	0.89	0.91	0.74	0.83	0.90	0.92	0.88
Mean # of Dx (last year)	0.66	0.55	0.33	0.45	0.77	0.69	0.59
SD (last year)	0.76	0.75	0.57	0.67	0.84	0.84	0.74
Depression (any history)*	53%	49%#	42%#	45%#	55%	52%	50%
Depression (last year)*	40%	27%#	23%#	28%#	34%#	34%	35%
SMI (any history)	12%	16%#	8%#	7%#	10%	12%	11%
SMI (last year)	6%	7%	3%#	3%#	5%	7%	5%
SPMI	5%	3%#	2%#	3%#	3%	5%	4%
Substance Use (any history)	31%	33%#	13%#	23%#	63%#	42%#	28%
Substance Use (last year)	18%	20%#	6%#	12%#	36%#	25%	16%
SMI or SPMI (any history)	12%	16%#	8%#	7%#	10%	12%	12%
SMI or SPMI (last year)	7%	7%	4%#	4%#	5%	9%	6%
One or More (any history)	65%	63%#	49%#	54%#	78%#	68%	61%
One or More (last year)	49%	40%#	27%#	35%#	53%	48%	44%

Diagnosis Group	White	African American / Black	Asian / Pacific Islander	Hispanic	American Indian	Multiple Races	Total
Communication Disorders							
Mean # of Dx	0.39	0.37	0.38	0.38	0.40	0.35	0.37
SD	0.51	0.50	0.50	0.50	0.51	0.49	0.51
Hard of Hearing	36%	35%	35%	36%	38%	34%	35%
Blind	2%	2%	1%	1%	1%	1%	2%
Deaf	0%	0%	0%	0%	0%	0%	0%
One or More	37%	36%	36%	37%	38%	34%	35%

*Elixhauser Index definition; **Charlson Index definition; ***DHS definition

Italics: Indicates heightened risk for COVID-19 (Center for Diseae Control and Prevention, 2020).

[#]Statistically significantly different at the $p < .001$ level when compared to white race in a generalized linear model.

Table 4.2. Diagnoses for People Under the Age 65

Diagnosis Group	White	African American / Black	Asian / Pacific Islander	Hispanic	American Indian	Multiple Races	Total
Number of Participants	71,699 (66%)	22,208 (20%)	6,086 (6%)	3,355 (3%)	3,714 (3%)	4,308 (2%)	109,572 (100%)
Major Chronic Diseases							
Mean # of Dx	2.07	2.41#	2.04	1.98#	2.78#	1.61#	2.11
SD	2.02	2.12	1.91	2.02	2.36	1.78	2.04
*Hypertension**	38.6%	49.1%#	45.2%#	31.6%#	49.3%#	22.9%#	40%
*Heart Failure****	5.3%	6.8%#	5.1%	3.9%#	8.2%#	3.3%#	6%
*Myocardial Infarction***	4.8%	6.8%#	4.1%	4.2%	10.8%#	2.9%#	5%
*Peripheral Vascular Disease**	11.8%	10.9%#	8.2%#	8.6%#	15.9%#	5.5%#	11%
*CVA / Stroke***	10.2%	12.7%#	13.8%#	9.5%	15.1%#	6.8%#	11%
*Diabetes****	22.0%	28.5%#	33.0%#	23.7%	35.9%#	14.4%#	24%
Kidney Disease	8.9%	12.3%#	14.3%#	8.0%	12.9%#	5.6%#	10%
Cancer	6.7%	6.2%	5.2%#	5.3%	6.5%#	3.3%#	6%
*Liver Disease**	13.8%	14.8%#	18.3%#	15.8%#	24.0%#	10.4%#	14%
COPD	39.8%	44.8%#	26.7%#	39.7%	48.5%#	47.5%#	40%
Obesity	38.7%	40.0%#	24.2%#	40.4%	44.6%#	34.3%#	38%
Immune Disorder	4.0%	4.3%	3.7%	4.6%	4.3%	3.2%	4%
HIV	0.8%	2.7%#	0.4%#	0.9%	1.3%#	0.6%	1%
One or More	73.9%	80.0%#	74.2%	72.5%	82.4%#	70.1%#	75%
Dementia & Neurological Conditions							
Mean # of Dx	0.46	0.38#	0.27#	0.38#	0.49#	0.33#	0.43
SD	0.76	0.68	0.58	0.70	0.80	0.64	0.73
*Dementia****	14.6%	13.7%	11.0%#	12.7%	15.3%	10.5%#	13.8%
Epilepsy	16.7%	11.8%#	9.3%#	14.9%	15.7%	13.1%#	15.0%
Brain Injury	10.8%	10.7%	5.6%#	8.9%#	15.3%#	8.1%#	10.4%
Multiple Sclerosis	2.8%	1.3%#	0.7%#	1.1%#	1.6%#	1.2%#	2.2%

Diagnosis Group	White	African American / Black	Asian / Pacific Islander	Hispanic	American Indian	Multiple Races	Total
Parkinsonism	1.1%	0.4%#	0.5%#	0.5%	0.9%	0.2%#	0.8%
One or More	32.8%	28.2%#	21.2%#	27.9%#	33.4%	25.2%#	30.6%
Developmental Disabilities							
Mean # of Dx	0.95	0.58	0.53	1.02	0.62#	1.13#	0.85
SD	1.04	0.87	0.90	1.06	0.88	1.02	1.01
Developmental Disability (DD)	36.3%	21.1%#	23.9%#	34.9%	21.0%#	28.0%#	31.6%
ADHD	24.0%	18.0%#	7.5%#	26.1%	22.8%	44.5%#	22.4%
Autism	18.8%	11.8%#	12.6%#	23.6%#	10.3%#	30.2%#	17.5%
Down Syndrome	6.2%	2.1%#	2.9%#	7.7%#	1.9%#	4.6%	5.1%
Cerebral Palsy	8.6%	4.5%#	5.5%#	8.6%	5.5%#	5.4%#	7.4%
One or More	55.0%	37.4%#	31.4%#	57.5%	40.2%#	66.6%#	50.1%
Mental Illness & Substance Use							
Mean # of Dx (any history)	1.46	1.52#	1.14#	1.25#	1.75#	1.48	1.44
SD (any history)	1.10	1.05	0.97	1.09	1.01	1.07	1.08
Mean # of Dx (last year)	0.96	0.98	0.71	0.81	1.15	1.04	0.94
SD (last year)	0.99	0.97	0.84	0.94	1.01	0.99	0.98
Depression (any history)*	60%	62%#	59%	53%#	68%#	61%	60%
Depression (last year)*	40%	39%	39%	34%#	43%#	41%	39%
SMI (any history)	41%	36%#	35%#	38%	38%	51%#	39%
SMI (last year)	24%	19%#	19%#	23%	20%#	34%#	23%
SPMI	21%	18%#	14%#	20%	20%	28%#	20%
Substance Use (any history)	44%	53%#	19%#	33%#	68%#	36%#	44%
Substance Use (last year)	28%	36%#	10%#	20%#	47%#	25%#	28%
SMI or SPMI (any history)	41%	36%#	35%#	38%	39%	51%#	39%
SMI or SPMI (last year)	27%	23%#	21%#	27%	25%#	38%#	26%
One or More (any history)	73%	77%#	68%#	66%#	85%#	75%	73%
One or More (last year)	56%	59%#	48%#	50%#	66%#	61%#	56%

Diagnosis Group	White	African American / Black	Asian / Pacific Islander	Hispanic	American Indian	Multiple Races	Total
Communication Disorders							
Mean # of Dx	0.33	0.30[#]	0.31[#]	0.37[#]	0.31[#]	0.36[#]	0.32
SD	0.49	0.48	0.50	0.50	0.48	0.50	0.48
Hard of Hearing	31%	28%[#]	28%[#]	35%[#]	30%	34%[#]	30%[#]
Blind	1%	1%	1%	1%	1%	1%	1%
Deaf	0%	0%	2%[#]	0%	0%	0%	0%
One or More	32%	29%[#]	29%[#]	35%[#]	31%	35%	31%

*Elixhauser Index definition; **Charlson Index definition; ***DHS definition

Italics: Indicates heightened risk for COVID-19 (Center for Diseae Control and Prevention, 2020).

[#]Statistically significantly different at the $p < .001$ level when compared to white race in a generalized linear model.

Number of Major Chronic Disease Diagnoses

We chose the count of major chronic disease as an indicator of the overall effect of multiple comorbid chronic health conditions. All of the diagnoses under the major chronic disease category plus dementia were included in this count. These chronic diseases happen to coincide with the complications putting people at risk of COVID-19. (Center for Disease Control and Prevention, 2020). Differences between race and ethnic groups in their diagnostic conditions likely contribute to differences in COVID-19 incidence and mortality. Since age is a major correlate of chronic disease prevalence, we report findings separately for age 65 and older and under age 65.

Age 65 and Older

Figure 4.1 shows the percentage distribution of persons by total number of major disease diagnoses, including dementia. Over 90% had one or more of these diagnoses, and 50% had four or more diagnoses.

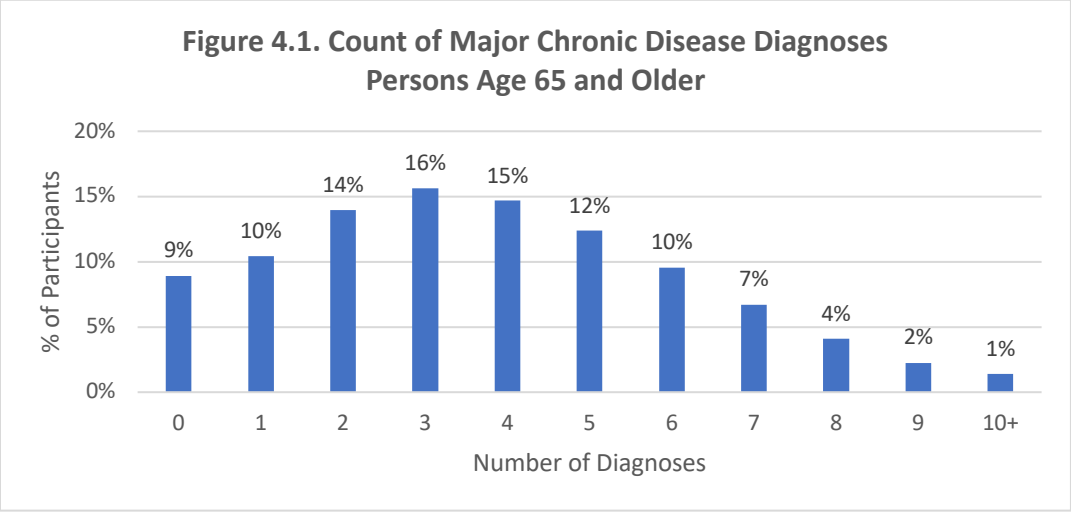


Table 4.3 contains the mean number of major chronic disease diagnoses by racial or ethnic groups. Overall, people age 65 and older averaged 3.92 diagnoses. American Indian people had the highest mean number of diagnoses (4.52) and people in the Asian or Pacific Islander group had the lowest mean number of diagnoses (3.24).

Table 4.3. Mean Major Chronic Disease Diagnoses by Race and ethnicity for Age 65 and Older

Race/Ethnicity	Mean	SD
White	4.03	2.42
African American/Black	3.94	2.34
Asian/Pacific Islander	3.24	2.13
Hispanic	3.80	2.39
American Indian	4.52	2.56
Multiple Races	3.67	2.45
Total	3.92	2.39

The multiple race category is not significantly different from African American or Black and Hispanic respectively. All other categories are significantly different from each other. ($p < .001$)

Under Age 65

Figure 4.2 shows the percentage distribution of people in the under 65 subgroup by total number of major chronic disease diagnoses. Over 75% of the sample had one or more high risk diagnoses, and a substantial percentage (36%) had 3 or more high risk diagnoses.

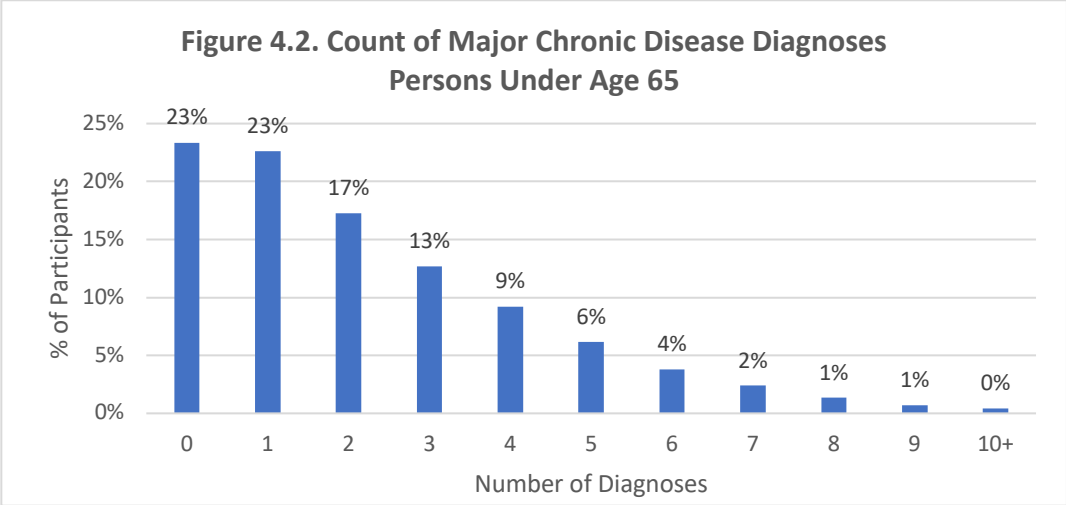


Table 4.4 displays the mean number of COVID-19-related diagnoses for people under the age of 65. Overall, the members of the subgroup under age 65 averaged 2.24 diagnoses. American Indian people had the highest mean number of diagnoses (3.70) and people identifying with multiple races had the lowest mean number of diagnoses (1.71).

Table 4.4. Mean Major Chronic Disease Diagnoses by Race and ethnicity for People Under Age 65

Race/Ethnicity	Mean	SD
White	2.20	2.12
African American/Black	2.54	2.19
Asian/Pacific Islander	2.13	1.96
Hispanic	2.09	2.08
American Indian	3.70	2.44
Multiple Races	1.71	1.83
Total	2.24	2.12

The Asian or Pacific Islander category is not significantly different from the Hispanic category. All other categories are significantly different from each other. ($p < .001$)

Limitations

Our analysis is subject to the limitations of our data. First, disease prevalence rates are based on diagnoses recorded in Medicaid claims; much disease in the population may be undiagnosed or missing from claims. Claims data could be subject to under-reporting, particularly among members of minority racial/ethnic groups, who may be less likely to use medical care or other services where diagnostic information is recorded. Also, their conditions could be under-diagnosed or mis-diagnosed due to racial/ethnic biases.

Second, racial/ethnic groups differ in age, living arrangement, geographic location, program participation or other factors that could be associated with either the true prevalence of disease or the recording of diagnoses. For example, the higher prevalence of dementia among older whites could be the result of their higher mean age because age is strongly associated with the incidence of dementia. We are in the process of further analysis to examine differences between the racial/ethnic groups.

Chapter 5: Nursing Facility Level of Care Screenings

Level of Care screenings are the entry points for HCBS waiver programs and services, including Elderly Waivers, Alternative Care, Community Access for Disability Inclusion (CADI) Waiver, Brain Injury (BI) Waiver, and Community Alternative Care (CAC). Screenings are performed by case managers and other staff in county agencies, tribal agencies, or health plans. To meet level of care, people must satisfy one or more criteria that indicate a level of need corresponding to a Nursing Facility Level of Care (NF-LOC).

We drew comparisons between racial/ethnic groups according to planned living arrangements after screening, meeting NF-LOC criteria, and waiver program status before and after screening. We conducted logistic and multinomial regression analysis in order to estimate the relationships between race and ethnicity and screening results when controlling for other variables that could also influence screening results. These variables included age group for persons under age 65 (0-17, 18-29, 30-44, and 45-64), residential location (Twin Cities, other Metropolitan Statistical Area, or rural), major diagnostic categories from our factor analysis (Appendix 4), and prior program status.

NF-LOC Criteria

In order to meet Nursing Facility Level of Care (NF-LOC), an individual must satisfy one of the 4 main criteria:

- Living arrangement risk: living alone, homeless, or a risk of homelessness in combination with fall risk, vision impairment, hearing impairment, risk of self-neglect, or risk of maltreatment by others.
- Cognitive or behavioral needs: disorientation, indication of dementia, behavioral need, or incapable of self-preservation.
- Dependency in activities of daily living (ADL): combinations of dependencies in dressing, grooming, bathing, eating, walking, bed mobility, transferring, or toileting.
- Clinical monitoring: having a clinical monitoring plan developed by a medical provider.

The NF-LOC criteria are applied to the screening data through a computer algorithm. A person meets overall NF-LOC by meeting one or more of the criteria.

Number of Screenings by Type and Race and ethnicity of People Being Screened

These tables present summary finding from an analysis of NF-LOC screenings for persons age 65 and older and under age 65 during SFY 2019 (July 2018 – June 2019). Approximately two-thirds of the screenings for people 65 and older were reassessments for persons already in a waiver program and the remainder were initial face-to-face assessments for persons not in a waiver program (Table 5.1). Among people under age 65, 54% were reassessments for people in a waiver program and the remainder were initial face-to-face assessments (Table 5.2).

Table 5.1. Nursing Facility Level of Care Screenings by Race and ethnicity for People Age 65 and Older

	Total	Asian/ Pacific Islander	African American/ Black	Hispanic	American Indian	White	Multiple Races	Unknown
All Assessments								
Number	42,405	5,528	6,312	931	681	26,010	111	2,832
Percent	100.0%	13.0%	14.9%	2.2%	1.6%	61.3%	0.3%	6.7%
New								
Number	13,634	2,107	1,933	352	305	7,280	46	1,611
Percent	100.0%	15.5%	14.2%	2.6%	2.2%	53.4%	0.3%	11.8%
Reassessments								
Number	28,771	3,421	4,379	579	376	18,730	65	1,221
Percent	100.0%	11.9%	15.2%	2.0%	1.3%	65.1%	0.2%	4.2%

Table 5.2. Nursing Facility Level of Care Screenings by Race and ethnicity for People Under Age 65

	Total	Asian/ Pacific Islander	African American/ Black	Hispanic	American Indian	White	Multiple Races	Unknown
All Assessments								
Number	42,668	2,035	8,642	1,104	1,725	25,926	1,089	2,147
Percent	100%	5%	20%	3%	4%	61%	3%	5%
New								
Number	18,871	1,258	4,320	576	1,066	9,424	716	1,511
Percent	100.0%	6.7%	22.9%	3.1%	5.6%	49.9%	3.8%	8.0%
Reassessment								
Number	23,797	777	4,322	528	659	16,502	373	636
Percent	100.0%	3.3%	18.2%	2.2%	2.8%	69.3%	1.6%	2.7%

Planned Living Arrangement

The NF-LOC screening form contains an item inquiring about the planned living arrangement in the future after the screening. This living arrangement could be the continuation of a person's current living arrangement or a new arrangement.

Age 65 and Older

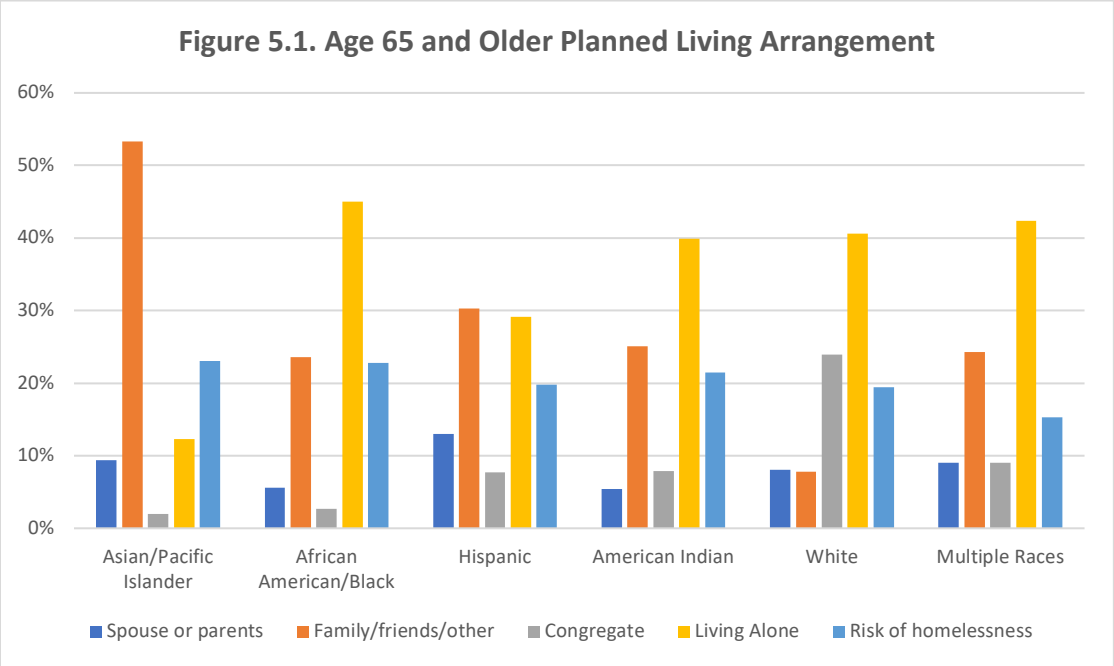
Overall, among people age 65 and older, living alone was the most common planned arrangement (37%), followed by a congregate setting (17%) and family/friends/others (17%) (Table 5.3, Figure 5.1). Only 8% were planning to live with a spouse or parent. Twenty-one

percent were at risk of homelessness (without services) while few people (< 1%) would actually be homeless.

The racial/ethnic groups differed considerably in planned living arrangement. White, American Indian, African American or Black, and people identifying with multiple races were most likely to plan on living alone (41%-45%), while Asian or Pacific Islander people were least likely (12%). In contrast, over half (53%) of Asian or Pacific Islanders were planning to live with family/friends/others. White people differed from the other racial/ethnic groups in two areas: only a small percentage of white people (8%) was planning to live with family/friends/others, while 24% was planning to live in a congregate setting. The finding about plans to live in a congregate setting reflects the fact that white people were more likely to enter assisted living or another congregate setting after screening (see below).

Table 5.3. Planned Living Arrangement for Persons Age 65 and Older

	Total	Asian/ Pacific Islander	African American/ Black	Hispanic	American Indian	White	Multiple Races
Planned Living Arrangement							
Spouse or parents	8%	9%	6%	13%	5%	8%	9%
Family/friends/other	17%	53%	24%	30%	25%	8%	24%
Congregate	17%	2%	3%	8%	8%	24%	9%
Living Alone	37%	12%	45%	29%	40%	41%	42%
Homeless	0%	0%	0%	0%	0%	0%	0%
Risk of homelessness	21%	23%	23%	20%	21%	19%	15%



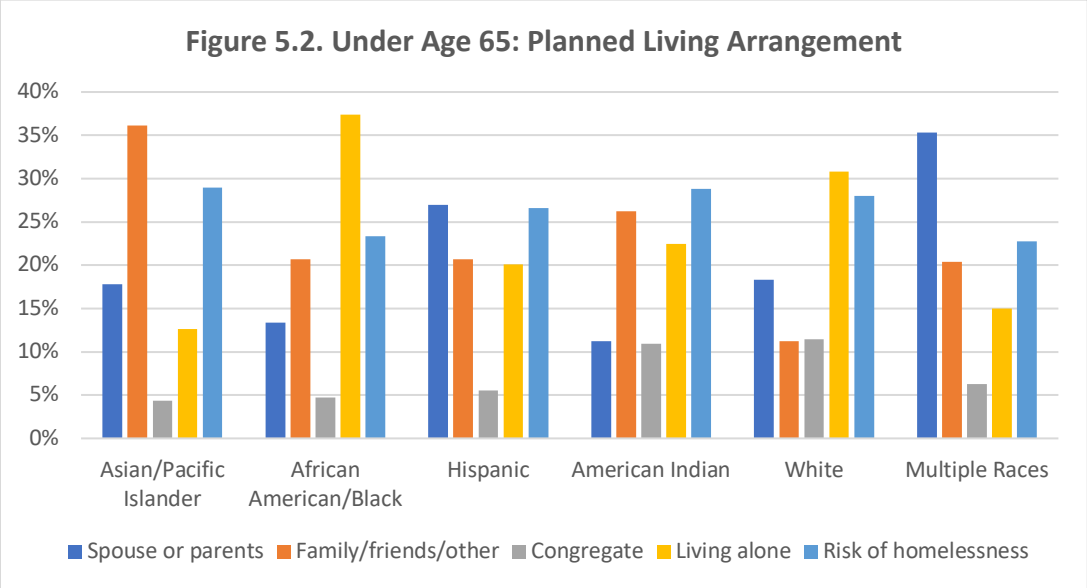
Under Age 65

Similar to people age 65 and older, living alone was the most common planned arrangement (29%) for people under the age of 65 (Table 5.4 Figure 5.2). However, people under the age of 65 were more likely to plan on living with a spouse or parent (19%) or family/friends or others (16%), and less likely to plan on a congregate setting (9%). A somewhat higher percentage (27%) would be at risk of homelessness.

As was the case with people age 65 and older, younger Asian or Pacific Islander people were least likely to plan on living alone (13%) and most likely to plan on living with family/friends/other (36%). White people were least likely (11%) to plan on living with family/friends/other. Otherwise, none of the other racial/ethnic groups stood out as differing from others in their planned living arrangements.

Table 5.4. Planned Living Arrangement for Persons Under Age 65

Planned Living Arrangement	Total	Asian/ Pacific Islander	African American/ Black	Hispanic	American Indian	White	Multiple Races
Spouse or parents	19%	18%	13%	27%	11%	18%	35%
Family/friends/other	16%	36%	21%	21%	26%	11%	20%
Congregate	9%	4%	5%	6%	11%	11%	6%
Homeless	0%	0%	0%	0%	0%	0%	0%
Living alone	29%	13%	37%	20%	22%	31%	15%
Risk of homelessness	27%	29%	23%	27%	29%	28%	23%



Meeting NF-LOC Criteria

Level of care screenings are the entry point into HCBS waiver services for people not already using these services, and as a method for re-determining level of care, if necessary, for people already receiving HCBS waiver services.

Age 65 and Older

The percentages of people age 65 and older meeting the NF-LOC criteria overall and by race and ethnicity are presented in Table 5.5. The criterion met by the highest percentage of people was cognitive or behavioral need (79%), and the criterion with the lowest percentage was clinical monitoring (10%). Asian or Pacific Islander people had the lowest assessed living arrangement risk (33%) and clinical monitoring (3%); whereas they were at the top in meeting the ADL dependency criterion (67%).

Table 5.5. Percentage Meeting NF-LOC Criteria among People Age 65 and Older

NF-LOC Criteria	Total	Asian/ Pacific Islander	African American/ Black	Hispanic	American Indian	White	Multiple Races
Living Arrangement Risk	51%	33%	61%	44%	48%	53%	50%
Cognitive or Behavior Need	79%	76%	70%	69%	66%	81%	72%
Dependency in ADL	49%	67%	59%	41%	55%	42%	37%
4+ Dependencies	38%	60%	51%	34%	41%	30%	31%
Any Critical Dependency	45%	63%	53%	38%	52%	38%	35%
Clinical Monitoring	10%	3%	5%	10%	16%	12%	8%

Under Age 65

The percentages of people under age 65 meeting the NF-LOC criteria overall and by race and ethnicity are presented in Table 5.6. A very high percentage (94%) met the criterion cognitive or behavioral need. Similar to people age 65 and older, the criterion with the lowest percentage was clinical monitoring (11%). Also, similar to people age 65 and older, Asian or Pacific Islander people had the lowest assessed living arrangement risk (35%); whereas they were highest in meeting the ADL dependency criterion (67%). White people had the highest percentage meeting living arrangement risk (53%) and the lowest percentage meeting the ADL dependency criterion (38%). None of the other racial/ethnic groups, including white people, stood out as having consistency higher or lower percentages meeting the NF-LOC criteria.

Table 5.6. Percentage Meeting NF-LOC Criteria among People Under Age 65

NF-LOC Criteria	Total	Asian/ Pacific Islander	African American /Black	Hispanic	American Indian	White	Multiple Races
Living Arrangement Risk	49%	35%	50%	42%	42%	53%	33%
Cognitive or Behavior Need	94%	92%	91%	94%	92%	94%	97%
Dependency in ADL	45%	67%	55%	50%	56%	38%	47%
4+ Dependencies	32%	56%	40%	36%	39%	27%	28%
Any Critical Dependency	42%	62%	51%	46%	54%	36%	44%
Clinical Monitoring	11%	10%	10%	12%	13%	11%	7%

Program Status Before and After the NF-LOC Screening

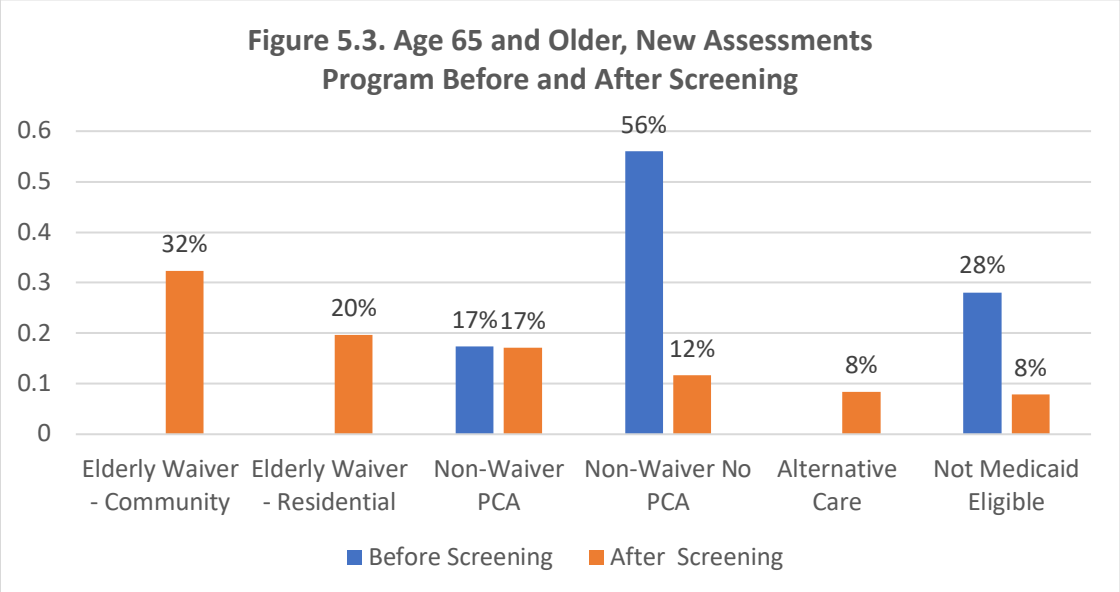
In order to evaluate the outcomes of the NF-LOC screenings, we compared the program status (waiver program, PCA without a waiver, or neither a waiver program or PCA) of people the month before and the months after the screenings. We further divided the analysis into people under age 65 and age 65 and older.

Nearly everyone (99%) who was participating in a HCBS waiver program prior to a NF-LOC screening met the NF-LOC criteria and continued on the waiver after the screening. These findings were consistent across waiver programs, among people age 65 and older and younger than age 65, and across all racial/ethnic groups.

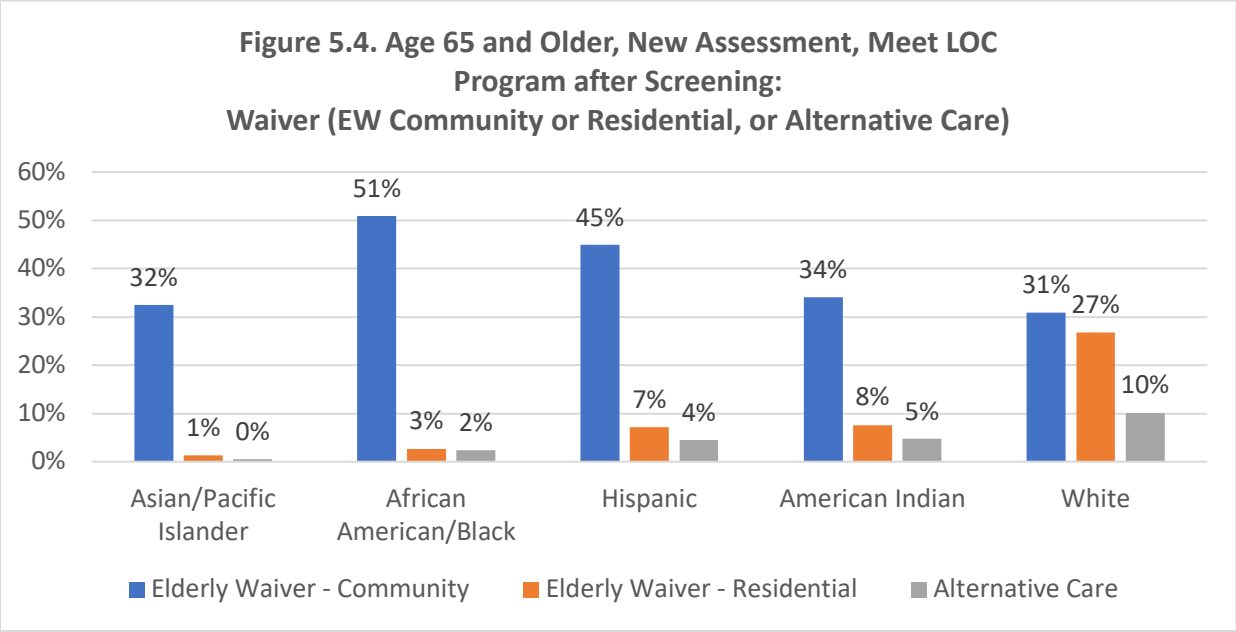
Therefore, we will concentrate the analysis on people who were not participating in a waiver program prior to screening. They presumably were being considered for entry into a waiver program. These people received "new assessments" (Table 5.1 and 5.2). A high percentage (89%) of the 13,634 people age 65 and older met NF-LOC. An even higher percentage (98%) of the 18,871 people under the age of 65 met NF-LOC.

Program Status After Screening for People Age 65 and Older with New Assessments

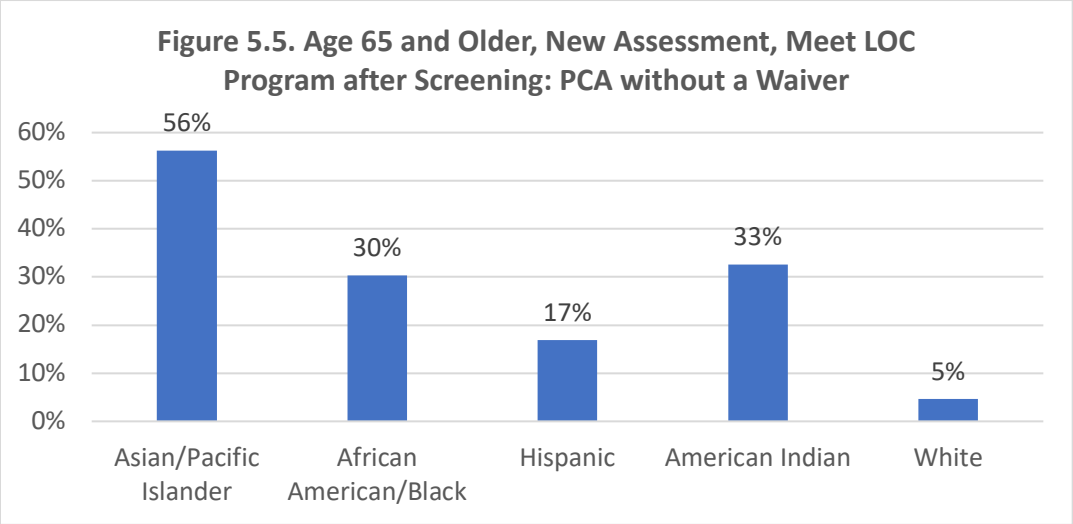
A relatively high percentages of people age 65 and older with new assessments ended up participating in a waiver program in the month after screening (Figure 5.3). The percentage Medicaid eligible people participating in neither a waiver nor PCA dropped from 56% to 12% after screening, while the percentage not Medicaid eligible dropped from 28% to 8%. The percentage using PCA without a waiver remained at 17% before and after screening. Over half of people screened entered an Elderly Waiver – 32% with community HCBS and 20% with residential services (primarily assisted living facilities).



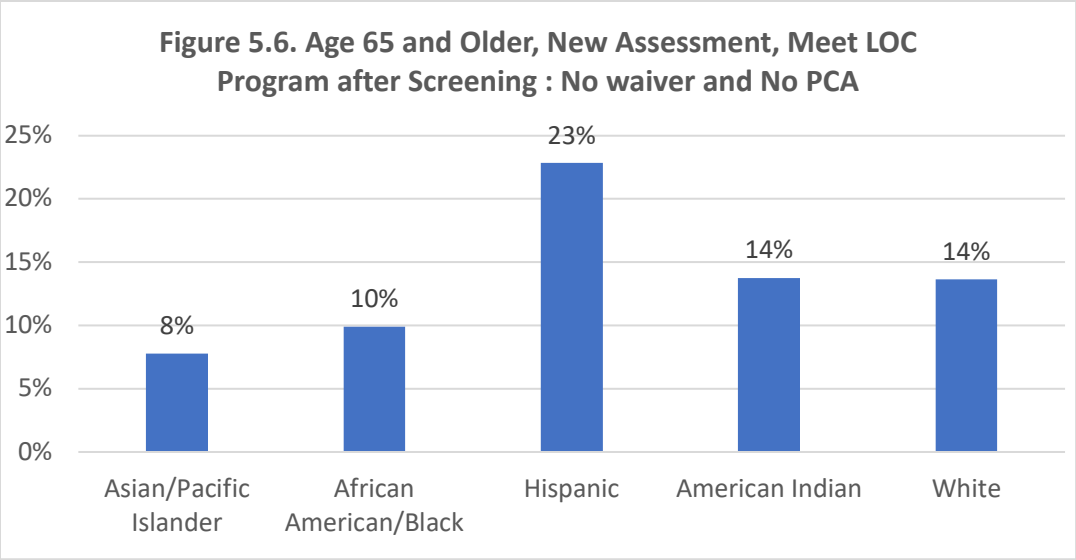
Figures 5.4-5.6 show program statuses after NF-LOC screenings by racial and ethnic groups for people age 65 and older. African American or Black people and Hispanic people were most likely to enter an Elderly Waiver with community services (51% and 45%, respectively) (Figure 5.4). A much higher percentage of white people (27%) compared to other racial or ethnic groups (1-8%) entered an Elderly Waiver with residential services. Similarly, a higher percentage of white people (10%) entered Alternative Care compared to other racial or ethnic groups (0-5%).



Asian or Pacific Islander people age 65 and older were most likely to use PCA without a waiver (56%) after their screening (Figure 5.5). In contrast, only 5% of white people use PCA without a waiver after their screening.

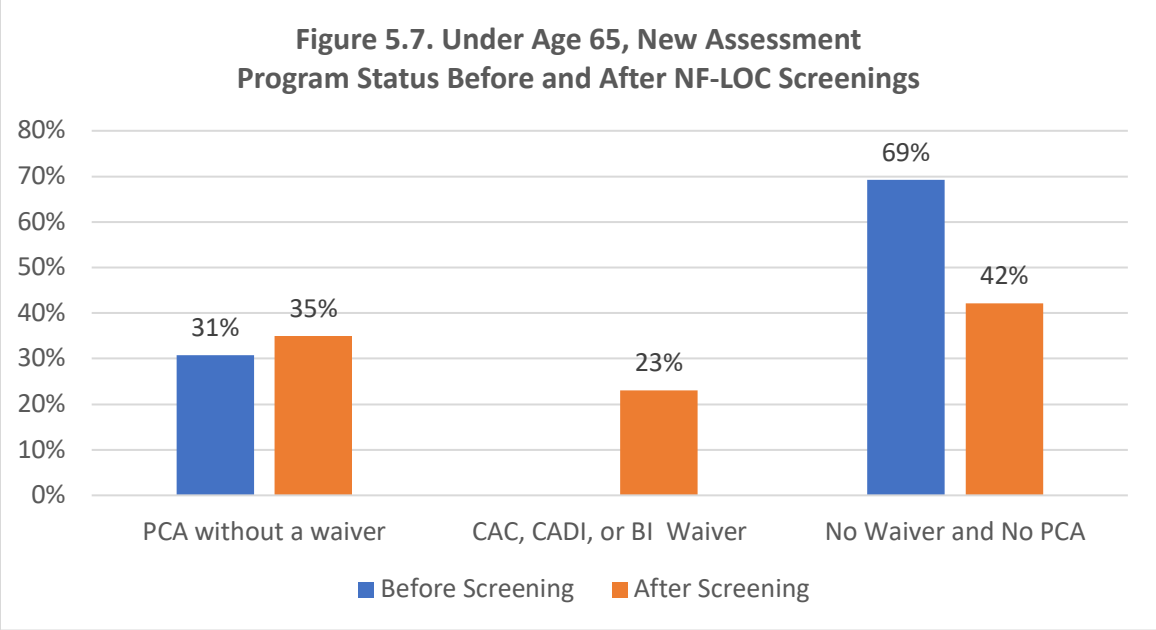


Nearly one fourth (23%) of Hispanic people had neither a waiver program nor PCA after their screening (Figure 5.6). In contrast only 8% of Asian or Pacific Islander people and 10% of African American or Black people had neither a waiver program nor PCA.

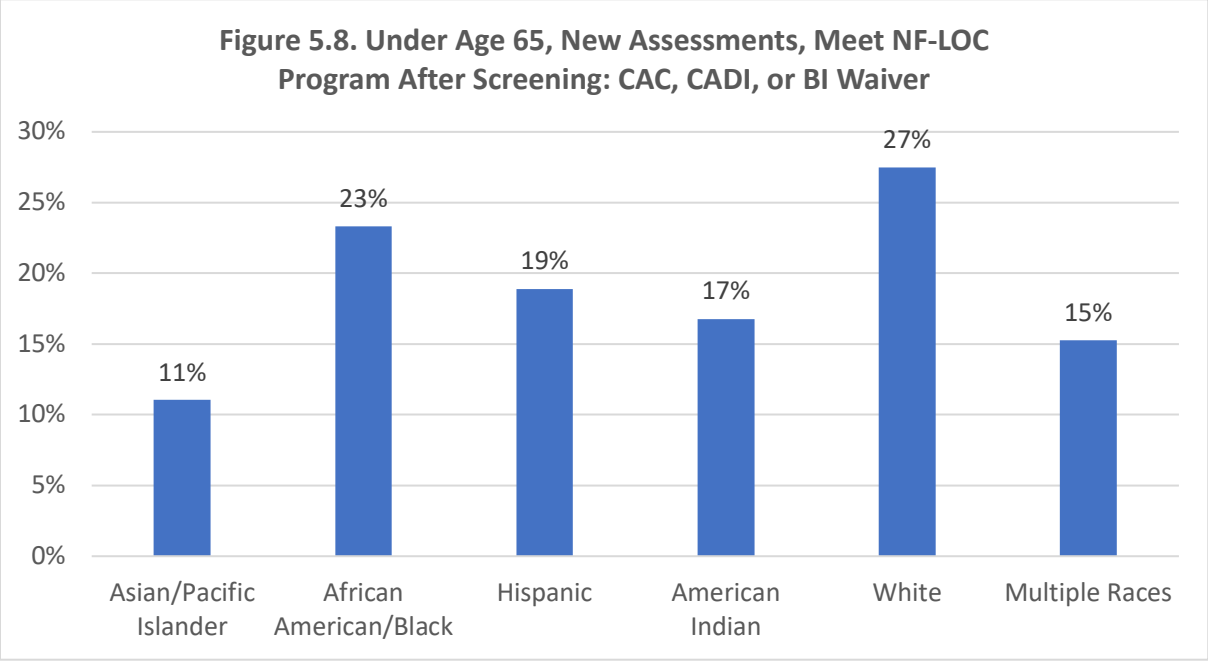


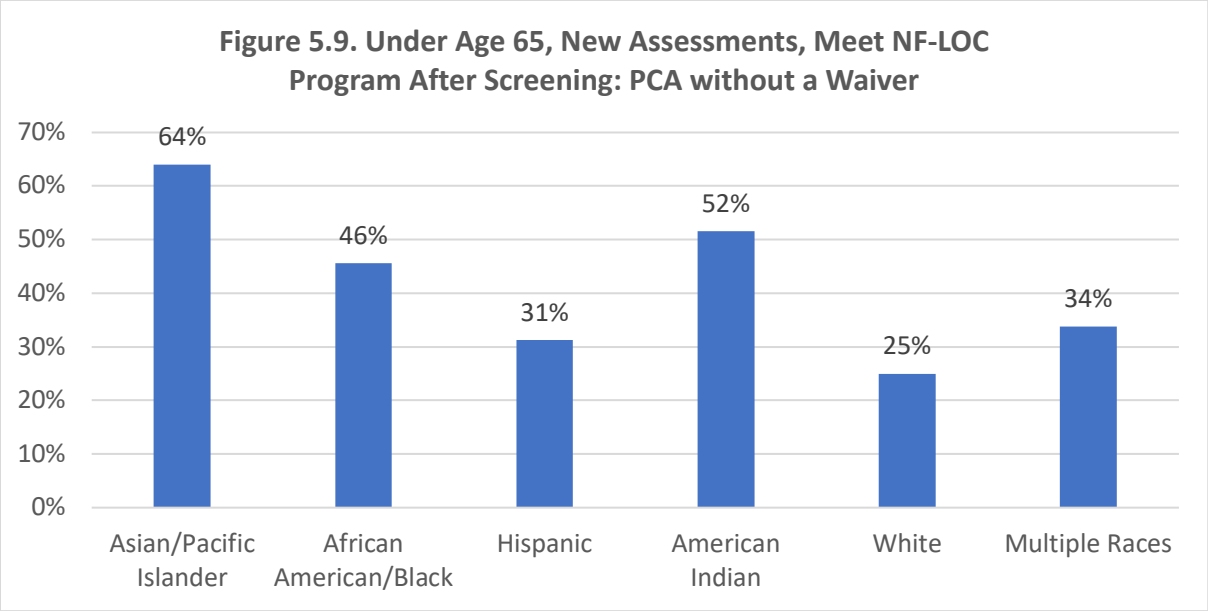
Program Status for People Under Age 65 with New Assessments

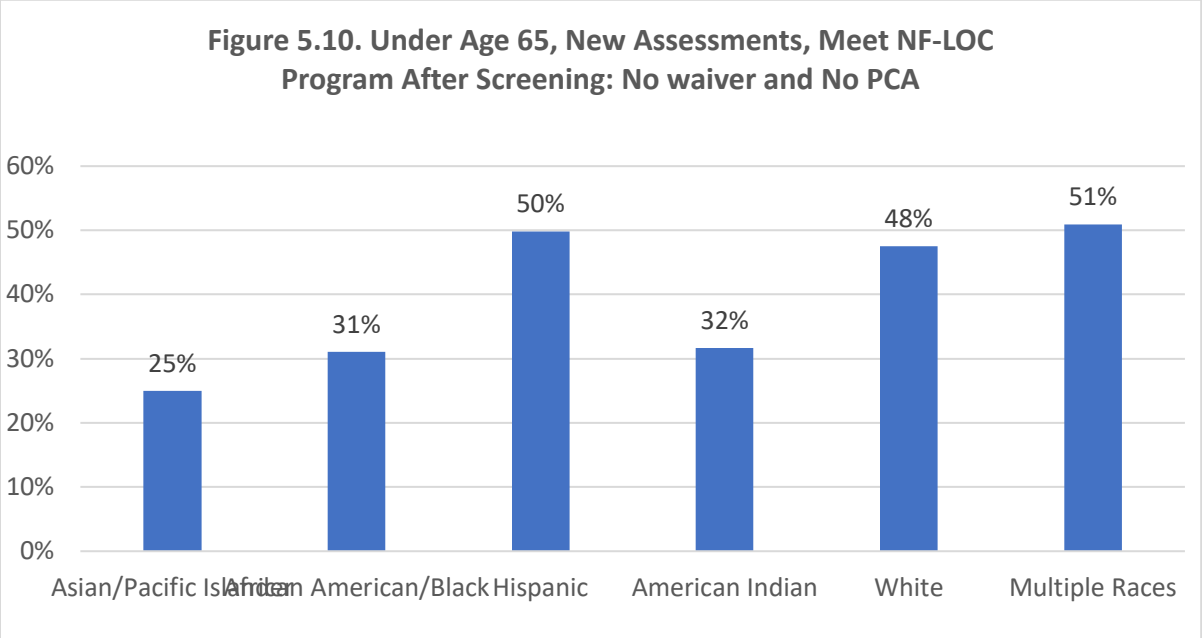
Even though nearly all people with new assessments met NF-LOC and presumably were being considered for entry into a waiver program, only 23% actually entered a waiver program (Figure 5.7). Thirty-one percent was using PCA without a waiver prior to screening; the percentage increased slightly to 35% after the screening. The percentage of people with neither waiver nor PCA dropped from 69% before the screening. Nonetheless, 42% was participating in neither a waiver of PCA after screening.



Figures 5.8-5.10 show program statuses after NF-LOC screenings by racial/ethnic groups. White people were most likely (27%) to enter a CADI, CAC, or BI waiver; whereas Asian or Pacific Islander people were least likely (11%) (Figure 5.8). In contrast, Asian or Pacific Islander people were most likely to use PCA without a waiver (64%); whereas white people were least likely (25%) to use PCA without a waiver (Figure 5.9). About half of Hispanic people and people identifying with multiple races ended up neither in a waiver program nor receiving PCA services after screening (Figure 5.10). In contrast, only one-fourth of Asian or Pacific Islander people were without access to these services in month after screening.







Program Status in 2-12 Months After Screening for Persons NOT Participating in a Waiver Prior to Screening, Screenings in Calendar Year 2018.

In order to inquire into transitions in subsequent months, we followed the cohort of people screened for NF-LOC during 2018 to determine if they entered a waiver program or received PCA without a waiver in the 12 months after their screening.

As was the case for the NF-LOC screenings in 2019, practically everyone participating in a waiver program (e.g., AC, EW, CADI, CAC, BI, or DD) prior to screening in 2018 was participating in a waiver program in the month after screening and in subsequent months (not shown in tables).

In analyzing transitions for people not participating in a waiver program prior to NF-LOC screening in 2018, we determined their waiver and PCA service use status in 1, 2, 3, 6, and 12 months after the screening. We divided the cohort into age 65 and older and under age 65. In addition, we selected individuals who met NF-LOC.

Table 5.7 shows the percentage or people not participating in a waiver in the month prior to screening who participated in a waiver program in the months after the screening. Among people under age 65, 23% began participating in a waiver in 1st month after screening. The percentage participating peaked at 31% in months 2-6 and was down to 26% in month 12.

The percentage participating in a waiver program rose substantially between the first and second months for all of the racial/ethnic groups with the exception of white people. Among white people the percentage participating in a waiver program dropped from 26% to 21% between months 1 and 2, and this percentage had declined to only 18% in month 12.

Among people age 65 and older, 55% began participating in a waiver in 1st month after screening. The percentage participating peaked at 57% in months 2-3 and was down to 47% in

month 12. The percentage participating in a waiver program changed relatively little between months for all of the racial/ethnic groups. White people continued to have the highest percentage participating in a waiver program, while Asian/Pacific Islander people had the lowest percentage.

Table 5.7. Percentage Participating in a Waiver Program in 1-12 Months after NF-LOC Screening for People who Met NF-LOC and were Not in a Waiver Program Prior to Screening (calendar year 2018)

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Under Age 65							
Number	2080	7093	889	868	1428	15335	27693
Month 1	9%	23%	18%	18%	20%	26%	23%
Month 2	63%	42%	30%	30%	43%	21%	31%
Month 3	63%	42%	30%	30%	43%	21%	31%
Month 6	62%	41%	29%	30%	40%	21%	31%
Month 12	53%	34%	27%	26%	32%	18%	26%
Age 65 & Older							
Number	2268	2103	361	39	303	8423	13497
Month 1	34%	54%	52%	56%	42%	62%	55%
Month 2	35%	55%	52%	64%	42%	63%	57%
Month 3	36%	55%	52%	64%	43%	64%	57%
Month 6	36%	55%	50%	64%	41%	61%	55%
Month 12	37%	48%	46%	59%	35%	50%	47%

Table 5.8 shows the percentage or people not participating in a waiver in the month prior to screening who began using PCA services without a waiver in the months after the screening. Among people under age 65, 30% using PCA without a waiver in the first and second months after screening. The percentage was down to 23% in month 12. The percentages using PCA services followed a similar pattern over time for all of the racial/ethnic groups. Asian/Pacific Islander people had the highest percentages using PCA without a waiver and white people had the lowest percentages.

Among people age 65 and older, the percentage using PCA held steady at 17% from month 1 to 3, dropped slightly to 16% in month 6, and then fell off to 12% in month 12. All of the racial/ethnic groups experienced a fall off of PCA use between months 6 and 12. However, there were vast monthly differences in PCA use between racial/ethnic groups. White people had the lowest use, ranging from 4% in month 1 to 3% from month 12. In contrast, us of PCA by Asian/Pacific Islander people ranged from 53% in month 1 to 39% in month 12. African American/Black and American Indian people also had very high percentages of PCA use without a waiver.

Table 5.8. Percentage Using PCA Services without a Waiver in 1-12 Months after NF-LOC Screening for People who Met NF-LOC and were Not in a Waiver Program Prior to Screening (calendar year 2018)

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	
Under Age 65							
Number	2080	7093	889	868	1428	15335	27693
Month 1	63%	42%	27%	27%	43%	19%	30%
Month 2	63%	41%	27%	28%	43%	19%	30%
Month 3	62%	40%	26%	28%	42%	19%	29%
Month 6	61%	39%	25%	26%	39%	18%	28%
Month 12	51%	31%	21%	21%	31%	15%	23%
Age 65 & Older							
Number	2268	2103	361	39	303	8423	13497
Month 1	53%	29%	14%	10%	34%	4%	17%
Month 2	53%	29%	13%	10%	33%	4%	17%
Month 3	52%	29%	12%	10%	32%	4%	17%
Month 6	50%	27%	11%	5%	30%	4%	16%
Month 12	39%	20%	8%	0%	27%	3%	12%

Chapter 6: Developmental Disability Level of Care Screenings

We examined outcomes from the Developmental Disability Waiver Level of Care (DD-LOC) screenings in a parallel analysis to the NF-LOC screenings. The DD-LOC screening analysis had two objectives: determine the proportion of people meeting the criteria for DD-LOC, and compare program statuses before and after screenings.

The sample consisted of 26,479 people with a valid DD screening and a valid race and ethnicity code from January through November 2019. The first screening was selected for participants with multiple screenings. Program statuses were determined from claims and service agreements for each participant in the month before screening and the month after screening. Program status categories are described in the Methods chapter and Appendix 1 of this report.

Age at DD-LOC Screening

People identifying with multiple races were the youngest of the persons screened: 62% were under the age of 18 and 30% were age 18-29 (Table 6.1). White people with screenings were the oldest: 60% were age 30 or older. American Indian people were next oldest: 51% were age 30 or older. Ten percent of white people were age 65 or older, which compared to 3% or fewer for the other racial/ethnic groups.

Table 6.1. Age at DD-LOC Screening by Race and ethnicity

Age Groups	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
0-6	5%	6%	5%	13%	3%	2%	3%
7-17	25%	32%	36%	49%	14%	12%	16%
18-20	8%	11%	14%	13%	6%	6%	7%
21-29	27%	22%	25%	17%	25%	19%	20%
30-44	27%	19%	14%	7%	31%	25%	24%
45-64	8%	8%	6%	2%	17%	25%	22%
65+	0%	1%	1%	0%	3%	10%	8%
Total	100%	100%	100%	100%	100%	100%	100%
Number	936	2511	856	519	387	21270	26479

Care Needs Assessed at DD-LOC Screening

Care needs assessed at the point of the DD-LOC screening are shown in Table 6.2. African American or Black people and white people were most likely to need specialized medical attention or attention ranging from frequent to 24 hours per day (69); American Indian people were most likely to have a vision need (48%); white people were most likely to have a hearing need (18%), seizure need (35%), and mobility need (24%); Asian or Pacific Islander people were most likely to have a fine motor skill need (66%). Asian or Pacific Islander people were also most likely to have an expressive communication need (88%) and receptive communication need (82%), although these needs might have arisen because of English being a second language. Asian or Pacific Islander people were most likely to be assessed as being incapable of

self-preservation (90%) and to need moderate or intensive support to meet vocational needs (74%).

Instrumental Activities of Daily Living

For most instrumental activities of daily living (IADLs), the racial/ethnic groups were similar in the percentages needing assistance (Table 6.3). Small percentages were independent in IADLs. For self-care, the percentage independent ranged from 4% for people identifying with multiple races to 17% for American Indians. The percentage of people independent in the other IADLs was less than 5%.

The percentages unable to participate in an activity ranged from 46%-54% for self-care, 55%-63% for household management; 66%-69% for money management, 64%-68% for community living, and 2%-4% for leisure recreation.

Behavioral Problem Status

For most behavior problem areas, white and American Indian people were most likely to be without behavioral problems (Table 6.4). This pattern could be due to the older age of white and American Indian people who were being screened; many of the problem behaviors would be more likely among juveniles and young adults.

The percentage with no problems in eating nutritious food was 92% for white people, 94% for American Indian people, and 75%-85% for the other racial/ethnic groups. The percentage without injuries to self was 69% for white people, 71% for American Indian people, and 51%-60% for the other racial/ethnic groups. The percentage without a problem of physical aggression was 70% for white people, 69% for American Indian people, and 46%-56% for the other racial/ethnic groups. The percentage without a problem of verbal aggression was 58% for white people, 59% for American Indian people, and 36%-48% for the other racial/ethnic groups. The percentage without a problem of property destruction was 77% for white people, 72% for American Indian people, and 57%-69% for the other racial/ethnic groups. The percentage without a problem of running away was 78% for white people, 75% for American Indian people, and 54%-56% for the other racial/ethnic groups. Finally, the percentage without a problem of temper outbursts was 55% for white people, 54% for American Indian people, and 31%-43% for the other racial/ethnic groups. In two areas, the racial/ethnic groups were all in a relatively narrow range: 80%-86% did not evidence inappropriate sexual behavior, and 92%-99% did not have a problem with breaking the law.

Level of Supportive Services

The screening process determined that the vast majority of people in all racial/ethnic groups required 24-hour support (Table 6.5). The percentage needing a 24-hour plan of care ranged from 81% for people identifying with multiple races to 71% for African American or Black people. The percentage requiring 24-hour awake supervision ranged from 27% for African American or Black and American Indian people to 17% for people identifying with multiple races.

Table 6.2. Care Needs by Race and ethnicity

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Medical Need							
No specialized or serious medical needs	34%	31%	32%	39%	42%	31%	31%
Needs specialized or frequent medical attention	61%	62%	61%	56%	52%	60%	60%
Needs on-call medical attention	3%	4%	3%	3%	3%	4%	4%
Needs on-site medical attention, < 24-hour	2%	2%	2%	1%	3%	2%	2%
Needs on-site medical attention, 24-hour	1%	1%	2%	1%	1%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%
Vision Need							
No impairment	61%	62%	61%	56%	52%	60%	60%
Corrected with glasses or contacts	3%	4%	3%	3%	3%	4%	4%
Difficulty with obstacles in environment	2%	2%	2%	1%	3%	2%	2%
Difficulty with print, graphics, small objects	1%	1%	2%	1%	1%	2%	2%
No useful vision	34%	31%	32%	39%	42%	31%	31%
Total	100%	100%	100%	100%	100%	100%	100%
Hearing Need							0
No impairment	83%	91%	87%	93%	88%	82%	83%
Impairment, correctable with aid	3%	1%	3%	3%	3%	6%	5%
Impairment, not correctable	3%	1%	3%	1%	1%	2%	2%
Loss present, no correction needed	7%	5%	5%	3%	7%	8%	8%
Responds to alarm sounds or intense low frequency noise	2%	1%	1%	0%	1%	1%	1%
No useful hearing - deaf	3%	1%	1%	0%	1%	1%	1%
Total	100%	100%	100%	100%	100%	100%	100%
Seizure Need							
No history or evidence of seizure	69%	72%	66%	76%	66%	65%	66%
History of seizure, none recently	15%	10%	13%	10%	14%	14%	13%
Seizures, controlled	6%	6%	8%	5%	10%	9%	9%
Seizures, partially controlled	8%	10%	9%	6%	9%	9%	9%

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Seizures, uncontrolled	3%	3%	3%	3%	1%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%
Mobility Need							
No impairment	53%	66%	60%	74%	65%	57%	58%
Walks short distances independently	26%	17%	20%	15%	17%	19%	19%
Walks aided (walker/crutches/etc.)	9%	6%	7%	4%	7%	11%	10%
Propels wheelchair, weight-bearing for transfer	1%	1%	1%	1%	2%	2%	2%
Propels wheelchair, total assistance for transfer	1%	1%	2%	0%	1%	1%	1%
Unable to propel wheelchair	6%	5%	5%	2%	3%	5%	5%
Uses electric wheelchair	2%	1%	1%	0%	3%	2%	2%
Not mobile due to overriding medical conditions	3%	2%	3%	3%	3%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%
Fine Motor Skill Need							
No impairment	20%	24%	24%	23%	43%	33%	31%
Impairment, minimal effect	14%	15%	16%	20%	19%	18%	17%
Impairment, requires occasional assistance	20%	19%	19%	24%	13%	18%	19%
Impairment, requires frequent assistance or adaptations	26%	24%	24%	22%	14%	19%	20%
Impairment, requires constant assistance or adaptations	17%	14%	13%	7%	7%	9%	10%
Overriding medical condition, participation limited	4%	4%	5%	2%	3%	3%	3%
Total	100%	100%	100%	100%	100%	100%	100%
Expressive Communication Need							
Functional	12%	21%	23%	26%	39%	33%	31%
Speech difficult to understand	18%	17%	16%	17%	13%	17%	17%
Speech intelligible to familiar listeners	19%	22%	23%	25%	22%	22%	22%
Speech unintelligible even to familiar listeners	10%	7%	7%	8%	4%	6%	6%
Uses augmentative communication aid	4%	3%	3%	4%	2%	3%	3%
Uses single signs to express wants and needs	15%	10%	10%	8%	7%	7%	8%
Combines signs/gestures to communicate	7%	4%	5%	4%	3%	3%	4%

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Does not have functional expressive communication	15%	15%	12%	7%	10%	8%	9%
Total	100%	100%	100%	100%	100%	100%	100%
Receptive Communication Need							
Comprehends conversational speech	18%	28%	36%	37%	56%	49%	46%
Comprehends phrases with gestural cues / modeling prompts	36%	37%	37%	40%	29%	32%	33%
Comprehends signs / gestures / modeling prompts	13%	8%	7%	4%	4%	4%	5%
Limited comprehension - one or two words	27%	22%	18%	18%	9%	12%	14%
Does not comprehend verbal, visual, or gestural communication	6%	5%	3%	1%	3%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%
Self-Preservation Need							
Is capable of self-preservation	1%	1%	1%	2%	3%	2%	2%
Requires verbal/physical prompts for self-preservation	9%	12%	14%	12%	18%	19%	18%
Is not capable of self-preservation	90%	86%	85%	86%	79%	79%	80%
Total	100%	100%	100%	100%	100%	100%	100%
Vocational Need							
Independent - requires typical training; may use adaptations	0%	1%	1%	2%	1%	1%	1%
Needs minimal support, with or without adaptations	10%	11%	13%	11%	13%	15%	14%
Needs moderate support, with or without adaptations	40%	40%	35%	32%	41%	43%	42%
Needs intensive support, with or without adaptations	34%	32%	29%	22%	29%	27%	28%
Needs on the job training - time limited	1%	1%	2%	2%	2%	2%	2%
Not applicable	15%	16%	21%	30%	14%	12%	13%
Total	100%	100%	100%	100%	100%	100%	100%

Table 6.3. Instrumental Activities of Daily Living by Race and ethnicity

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
IADL Self Care							
Independent	6%	9%	8%	4%	17%	10%	10%
Instruction required with expectation of increased independence	13%	14%	15%	14%	18%	18%	17%
Minimal supervision, formal program not needed	1%	2%	3%	3%	4%	3%	3%
Person participates with another assisting for all or portions of an activity	53%	46%	48%	54%	40%	46%	46%
Person unable to participate in activity	28%	28%	26%	25%	20%	23%	24%
Total	100%	100%	100%	100%	100%	100%	100%
IADL Household management							
Independent	2%	2%	2%	2%	3%	2%	2%
Instruction required with expectation of increased independence	5%	10%	9%	9%	13%	10%	10%
Minimal supervision, formal program not needed	1%	1%	2%	1%	2%	1%	1%
Person participates with another assisting for all or portions of an activity	29%	25%	27%	29%	27%	25%	25%
Person unable to participate in activity	63%	62%	60%	59%	55%	62%	62%
Total	100%	100%	100%	100%	100%	100%	100%
IADL Money Management							
Independent	1%	1%	2%	3%	2%	1%	1%
Instruction required with expectation of increased independence	5%	5%	5%	6%	8%	5%	5%
Minimal supervision, formal program not needed	1%	1%	1%	0%	2%	1%	1%
Person participates with another assisting for all or portions of an activity	28%	25%	24%	24%	20%	25%	25%
Person unable to participate in activity	66%	69%	68%	67%	69%	68%	68%
Total	100%	100%	100%	100%	100%	100%	100%
IADL Community Living							
Independent	1%	2%	2%	3%	3%	2%	2%

Instruction required with expectation of increased independence	4%	8%	8%	10%	8%	8%	8%
Minimal supervision, formal program not needed	1%	1%	1%	0%	2%	1%	1%
Person participates with another assisting for all or portions of an activity	29%	24%	21%	22%	18%	21%	22%
Person unable to participate in activity	64%	65%	67%	65%	68%	68%	67%
Total	100%	100%	100%	100%	100%	100%	100%
IADL Leisure Recreation							
Independent	2%	3%	3%	3%	4%	3%	3%
Instruction required with expectation of increased independence	23%	30%	28%	37%	32%	32%	31%
Minimal supervision, formal program not needed	5%	8%	12%	8%	16%	13%	12%
Person participates with another assisting for all or portions of an activity	67%	57%	52%	48%	46%	51%	52%
Person unable to participate in activity	3%	3%	4%	2%	2%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%

Table 6.4. Behavioral Problem Status by Race and ethnicity

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Behavior - Eat Non-Nutritive							
None	77%	79%	85%	81%	93%	90%	88%
Mild	5%	3%	3%	2%	1%	2%	2%
Moderate	7%	6%	4%	7%	1%	3%	4%
Severe	8%	8%	5%	6%	3%	3%	4%
Very Severe	3%	4%	3%	4%	2%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%
Behavior - Injurious to Self							
None	51%	57%	60%	54%	71%	69%	67%
Mild	7%	4%	5%	6%	4%	5%	5%
Moderate	15%	11%	10%	11%	7%	9%	10%
Severe	17%	17%	14%	16%	9%	11%	12%
Very Severe	10%	11%	10%	13%	9%	6%	7%
Total	100%	100%	100%	100%	100%	100%	100%
Behavior - Physical Aggression							
None	49%	50%	56%	46%	69%	70%	67%
Mild	6%	5%	7%	3%	4%	4%	4%
Moderate	17%	10%	11%	13%	6%	7%	8%
Severe	19%	20%	13%	19%	9%	11%	12%
Very Severe	9%	16%	13%	19%	12%	8%	9%
Total	100%	100%	100%	100%	100%	100%	100%
Behavior - Verbal Aggression							
None	37%	37%	48%	36%	59%	58%	55%
Mild	8%	6%	6%	3%	5%	6%	6%
Moderate	23%	16%	15%	14%	10%	13%	13%
Severe	24%	30%	22%	33%	17%	18%	19%
Very Severe	8%	12%	9%	14%	9%	5%	6%
Total	100%	100%	100%	100%	100%	100%	100%
Behavior - Inappropriate Sexual							

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
None	80%	83%	82%	81%	84%	86%	86%
Mild	3%	2%	3%	3%	3%	2%	2%
Moderate	6%	4%	5%	4%	4%	4%	4%
Severe	6%	7%	6%	6%	5%	5%	5%
Very Severe	4%	4%	3%	6%	4%	2%	3%
Total	100%	100%	100%	100%	100%	100%	100%
Behavior - Property destruction							
None	57%	59%	69%	60%	72%	77%	74%
Mild	6%	4%	4%	4%	5%	3%	4%
Moderate	14%	8%	8%	7%	5%	6%	6%
Severe	15%	17%	11%	17%	11%	9%	10%
Very Severe	8%	11%	8%	12%	8%	5%	6%
Total	100%	100%	100%	100%	100%	100%	100%
Behavior - Run Away							
None	56%	56%	65%	54%	75%	78%	74%
Mild	7%	3%	4%	5%	3%	3%	3%
Moderate	14%	10%	12%	10%	5%	7%	7%
Severe	14%	18%	11%	18%	9%	8%	9%
Very Severe	9%	13%	9%	13%	8%	4%	6%
Total	100%	100%	100%	100%	100%	100%	100%
Behavior - Break Law							
None	99%	95%	97%	96%	92%	98%	97%
Mild	0%	1%	1%	1%	2%	0%	1%
Moderate	0%	1%	1%	0%	1%	0%	1%
Severe	0%	2%	1%	1%	2%	1%	1%
Very Severe	0%	1%	0%	2%	3%	0%	1%
Total	100%	100%	100%	100%	100%	100%	100%
Behavior - Temper Outburst							
None	35%	38%	43%	31%	54%	55%	52%
Mild	7%	5%	7%	5%	6%	7%	6%
Moderate	25%	15%	18%	17%	13%	15%	15%

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Severe	24%	29%	22%	31%	18%	18%	19%
Very Severe	9%	13%	11%	17%	9%	6%	7%
Total	100%	100%	100%	100%	100%	100%	100%

Table 6.5. Level of Supportive Services by Race and ethnicity

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Person accesses supports as needed	1%	0%	1%	1%	1%	1%	0%
Person requires some services, does not require 24-hour plan of care	2%	2%	2%	1%	2%	2%	2%
Person requires 24-hour awake supervision	24%	27%	19%	17%	27%	22%	22%
Person needs 24-hour plan of care	74%	71%	78%	81%	71%	76%	75%
Total	100%	100%	100%	100%	100%	100%	100%

Screenings by Prior Program Status

The total number of screenings ranged from 475 for people identifying with multiple races to 19,937 for white people (Table 6.6). Overall, 69% of screenings were for people who were participating in a DD waiver prior to the screening and the remainder had other program statuses (Table 6.7). American Indian and white people were most likely to have been participating in a DD waiver in the month prior to screening, while people identifying with multiple races and Hispanic people were least likely.

Table 6.6. Number of Screenings by DD or Other Prior Program Status (Waiver and Non-Waiver)

Prior Program	Asian / Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
DD Waiver	540	1478	457	264	257	14085	17081
Other Program	333	862	332	211	99	5852	7689
Total	873	2340	789	475	356	19937	24770

Table 6.7. Percentage of Screenings by DD or Other Prior Program Status (Waiver and Non-Waiver)

Prior Program	Asian / Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
DD Waiver	62%	63%	58%	56%	72%	71%	69%
Other Program	38%	37%	42%	44%	28%	29%	31%
Total	100%	100%	100%	100%	100%	100%	100%

Level of Care and Program After Screening for Persons Participating in a DD Waiver Prior to Screening

Nearly everyone across all racial/ethnic groups who was participating in a DD waiver prior to screening met the DD-LOC and continued to participate in a DD waiver after screening (Table 6.8). This is the same pattern as for the NF-LOC screenings; people participating in a waiver prior to screening overwhelmingly met NF-LOC and continued to participate in the waiver program after screening.

Table 6.8. LOC and Program Status After Screening for Participants with the DD Waiver Prior to Screening

	Asian / Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Met DD LOC	100%	100%	100%	100%	100%	99%	99%
DD Waiver After Screening	100%	99%	100%	99%	100%	100%	99%
Number of Assessments	539	1471	456	264	257	14004	17081

Prior Program Status for Persons NOT Participating in a DD Waiver Prior to Screening

Table 6.9 shows the prior program statuses for people who were not participating in a DD waiver prior to screening. Overall, 42% were neither participating in a waiver nor PCA without a waiver; 31% were participating in another waiver besides DD (EW, AC, CAC, CADI, or BI); 14% were participating in PCA without a waiver; 9% were in an institutional setting; and 3% were not Medicaid eligible. Among those not in a DD waiver prior to screening, Asian or Pacific Islander and African American or Black people were most likely to be participating in PCA without a waiver; American Indian and white people were most likely to be participating in another waiver program (EW, AC, CAC, CADI, BI). Hispanic people and people identifying with multiple races were least likely to be participating in a waiver program or PCA.

Table 6.9. Program Status Prior to Screening for Participants Who Did Not Have a DD Waiver Prior to Screening

Prior Program	Asian / Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
No Waiver & No PCA	39%	42%	61%	57%	45%	40%	42%
PCA w/o Waiver	42%	41%	20%	22%	12%	8%	14%
Other Waiver	12%	10%	11%	12%	29%	37%	31%
Not MA	3%	4%	5%	6%	7%	3%	3%
IFC/DD RTC NF	4%	3%	4%	2%	6%	11%	9%
Total	100%	100%	100%	100%	100%	100%	100%
Total Assessments	332	860	331	210	99	5831	7663

Level of Care Determination for Persons NOT Participating in a DD Waiver Prior to Screening

Level of care determinations by race and ethnicity are shown in Table 6.10. Overall, among persons not in a DD program prior to screening, 79% met DD-LOC, 10% met NF-LOC, and 11% met neither level of care. Compared to the other racial/ethnic groups, American Indian and white people were somewhat less likely to meet DD-LOC but somewhat more likely to meet NF-LOC.

Table 6.10. Level of Care Determination for Participants Who Did Not Have a DD Waiver Prior to Screening

LOC Status	Asian / Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
DD LOC	86%	84%	79%	83%	75%	77%	79%
NF LOC	5%	6%	7%	6%	14%	12%	10%
Not Met Either LOC	8%	10%	14%	11%	11%	11%	11%
Total	100%	100%	100%	100%	100%	100%	100%
Total Assessments	332	860	331	210	99	5831	7663

Program Status After Screening for Persons NOT Participating in a DD Waiver Prior to Screening

Only a small percentage (8%) of people who were not on a DD waiver prior to screening entered a DD waiver program after screening (Table 6.11). The percentage entering the DD waiver ranged from 6% for white people to 15% for African American or Black people. American Indian and white people were most likely to enter a waiver besides DD. Asian or Pacific islander and African American or Black people were most likely to have PCA without a waiver, and people identifying with multiple races and Hispanic people were most likely to end up with neither a waiver nor PCA.

Table 6.11. Program Status After Screening for Participants Who Did Not Have a DD Waiver Prior to Screening

Program after Screening	Asian / Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
No Waiver & No PCA	39%	38%	52%	50%	39%	37%	38%
PCA w/o Waiver	34%	32%	17%	20%	6%	7%	12%
Other Waiver	12%	10%	11%	12%	31%	37%	31%
DD Waiver	7%	15%	10%	8%	9%	6%	8%
Not MA	4%	3%	6%	8%	8%	3%	4%
ICF/DD RTC NF	4%	3%	5%	2%	6%	9%	8%
Total	100%	100%	100%	100%	100%	100%	100%
Total Assessments	332	860	331	210	99	5831	7663

Program Status After Screening for Persons NOT Participating in a DD Waiver Prior to Screening and who Met the DD Level of Care

In the next step in the analysis, we focused on people who were not participating in a DD waiver program but who met DD-LOC as a result of screening. Even among persons meeting DD-LOC, only 9% entered a DD program (Table 6.12). American Indian and white people were most likely to enter a waiver besides DD. Asian or Pacific islander and African American or Black people were most likely to use PCA without a waiver, and people identifying with multiple races and Hispanic people were most likely to end up with neither a waiver nor PCA.

Table 6.12. Program Status After Screening for Participants Who Did Not Have a DD Waiver Prior to Screening and Who Met DD-LOC

Program after Screening	Asian / Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
No Waiver & No PCA	37%	35%	49%	51%	38%	34%	36%
PCA w/o Waiver	38%	35%	19%	21%	8%	8%	14%
Other Waiver	9%	7%	7%	9%	26%	37%	30%
DD Waiver	8%	17%	13%	9%	12%	8%	9%
Not MA	4%	3%	6%	8%	9%	3%	3%

ICF/DD RTC NF	4%	2%	6%	2%	7%	10%	8%
Total	100%	100%	100%	100%	100%	100%	100%
Total Assessments	286	726	262	174	74	4518	6040

Program Status in 2-12 Months After Screening for Persons NOT Participating in a DD Waiver Prior to Screening, Screenings in Calendar Year 2018.

In order to inquire into transitions into the DD waiver in subsequent months, we followed the cohort of people screened for DD-LOC during 2018 to determine if they entered a DD waiver in the 12 months after their screening. Tables 6.13 and 6.14 present results from the analysis. As was the case for the DD-LOC screenings in 2019, practically everyone participating in a DD waiver prior to screening in 2018 was on the waiver in the month after screening and in subsequent months (not shown in tables). Among people not on a DD waiver prior to screening in 2018, only 11% was participating in a DD waiver in the month following the screening (Table 6.8). The number jumped to 19% in the second month after screening and steadily increased over the 12 months, reaching 23% in month 12. Thus, even though DD waiver participation increased over the 12 months after screening, at month 12 fewer than one-fourth of screened individuals transitioned into a DD waiver.

African American/Black people were most likely to transition to a DD waiver by month 12 (39%), while those least likely to transition were American Indian (17%), white (20%) and Asian/Pacific Islander (24%) people.

Table 6.13. Percentage Participating in a DD Waiver in 1-12 Months after DD-LOC Screening for People Not in a DD Waiver Prior to Screening (calendar year 2018)

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Total Screened	392	1074	372	294	122	7242	9496
1 month	9%	17%	11%	12%	16%	10%	11%
2 months	17%	32%	23%	22%	20%	16%	19%
3 months	19%	34%	24%	25%	22%	18%	20%
6 months	23%	38%	26%	28%	22%	20%	23%
12 months	24%	39%	30%	31%	17%	20%	23%

In the next step in the analysis, we examined the percentage transitioning to a DD waiver among the subgroup of people with the highest transition rates – under the age of 65 and meeting DD-LOC. Table 6.14 shows the percentages transitioning to the DD waiver who were not participating in a DD waiver prior to screening. Among this subgroup, the percentage transitioning to a DD waiver rose from 18% in month 1 to 38% in month 12.

Nearly half (48%) of African American/Black people transitioned to a DD waiver in the 12 months after screening. This contrasts with only 27% of Asian/Pacific Islander and American Indian people, and 38% for white people.

Table 6.14. Percentage Participating in a DD Waiver in 1-12 Months after DD-LOC Screening for People Under the Age of 65, Not in a DD Waiver Prior to Screening, and Meeting DD-LOC (calendar year 2018)

	Asian/ Pacific Islander	African American/ Black	Hispanic	Multiple Races	American Indian	White	Total
Total Screened	322	854	299	247	79	3799	5600
1 month	10%	21%	14%	15%	24%	18%	18%
2 months	20%	39%	28%	26%	30%	31%	31%
3 months	22%	42%	30%	29%	33%	33%	33%
6 months	27%	46%	32%	32%	33%	37%	37%
12 months	27%	48%	36%	35%	27%	38%	38%

Final Action Plans for Persons NOT Participating in a DD Waiver Prior to Screening

About half of the people had a plan involving waiver services, 28% while "living at home" with waiver services and 21% while "living in the community" with waiver services (Table 6.15). Eleven percent of the people had a plan of placement in an ICF/DD Community and 4% in a nursing facility. Less than one-third of people had a plan not involving waivered services: 28% were to live at home without waiver services and 2% were to receive family support services.

Table 6.15. Final Action Plans for Persons NOT Participating in a DD Waiver Prior to Screening

Final Action Plan	No. of Screens	Percentage
Live at home with MN family support services	172	2%
Live at home with waiver services	2349	28%
Live at home without waiver services	2333	28%
Live in community with waiver services	1778	21%
Live in community w/o waiver services but not in ICF/DD or NF	444	5%
Placement in ICF/DD-community	916	11%
Placement in NF	296	4%
Total	8288	100%

Program Status After Screening and Final Action Plans for Persons NOT Participating in a DD Waiver Prior to Screening

Table 6.16 shows the correspondence between Final Action Plans and actual program status in the months after screening. Several Final Action Plan categories had substantial discrepancies between what was planned and what appears to have actually happened in the month after screening. For example, among persons with a plan of living at home with waiver services, 38% had no waiver service or PCA, 17% had PCA without a waiver, and 4% were not Medicaid eligible in the month after screening. Nearly half (47%) of persons who were to be placed in an ICF/DD-Community did not appear to enter the ICF/DD. Among people in the combined categories of living at home or in the community with waivered services, only 14% entered a DD waiver program. Nearly half (47%) entered another waiver program and 10% participated in PCA without a waiver.

We have an important note of caution in interpreting these findings. Discrepancies between plans and actual service arrangements may arise because the action plan is devised with the DD-LOC assessor, however the case manager is one who arranges services; the plan may represent services that people want well into future; and some services may take longer than a month to set up.

Additional Tables

Additional tables showing program status after DD-LOC screenings can be found in Appendix 5.

Table 6.16. Program Status After Screening and Final Action Plan for All Participants Who Did Not Have a DD Waiver Prior to Screening

	Live at home with MN family support services	Live at home with waiver services	Live at home without waiver services	Live in community with waiver services	Live in community without waiver services but not in ICF/DD or NF	Placement in ICF/DD-community	Placement in NF	Total	Plan with Waiver Services – Either Home or Community
No Waiver & No PCA	85%	38%	57%	7%	63%	47%	34%	40%	25%
PCA w/o Waiver	5%	17%	22%	1%	6%	0%	1%	12%	10%
Other Waiver	1%	20%	12%	83%	23%	1%	21%	29%	47%
DD Waiver	2%	20%	2%	5%	1%	1%	1%	8%	14%
Not MA	8%	4%	6%	2%	7%	0%	5%	4%	3%
ICF/DD RTC NF	0%	0%	0%	2%	0%	50%	38%	7%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
No. of Screens	172	2349	2333	1778	444	916	296	8288	4127

Chapter 7: Use of HCBS Services

The findings reported in this chapter compare racial/ethnic groups according to average monthly use of selected HCBS services. Figures are presented for persons age 65 and older, under age 65, and by major program categories within these age groupings.

The data period was October 2018 to September 2019. All people in the aging and disability population during the period were included in the analysis. Use of a service (yes or no) was recorded each month for each person. The number of person-months using each service was then summed divided by the number of months the person was alive, eligible, and in each program status. This method of calculating utilization is more reliable than measuring service use in a single month; it takes advantage of accumulated data during the 12 months.

Additional tables of HCBS service use by race and ethnicity in each major program category are contained in Appendix 6.

Detailed Tables of Program Status and HCBS Service Use by Race and Ethnicity

Table 7.1 at the end of the chapter shows the mean number and percentage of people in each program status during the 12-month period. Figures are reported in total and by racial/ethnic group. These figures, although calculated over a 12-month period, are very close to the program status figures for the point-in-time (March 1 2019) reported in Chapter 3.

Table 7.2 shows the mean monthly use per person of selected HCBS services for people participating in a waiver, as well as PCA use for people not participating in a waiver.

Use of Waivered Participation by Age Group

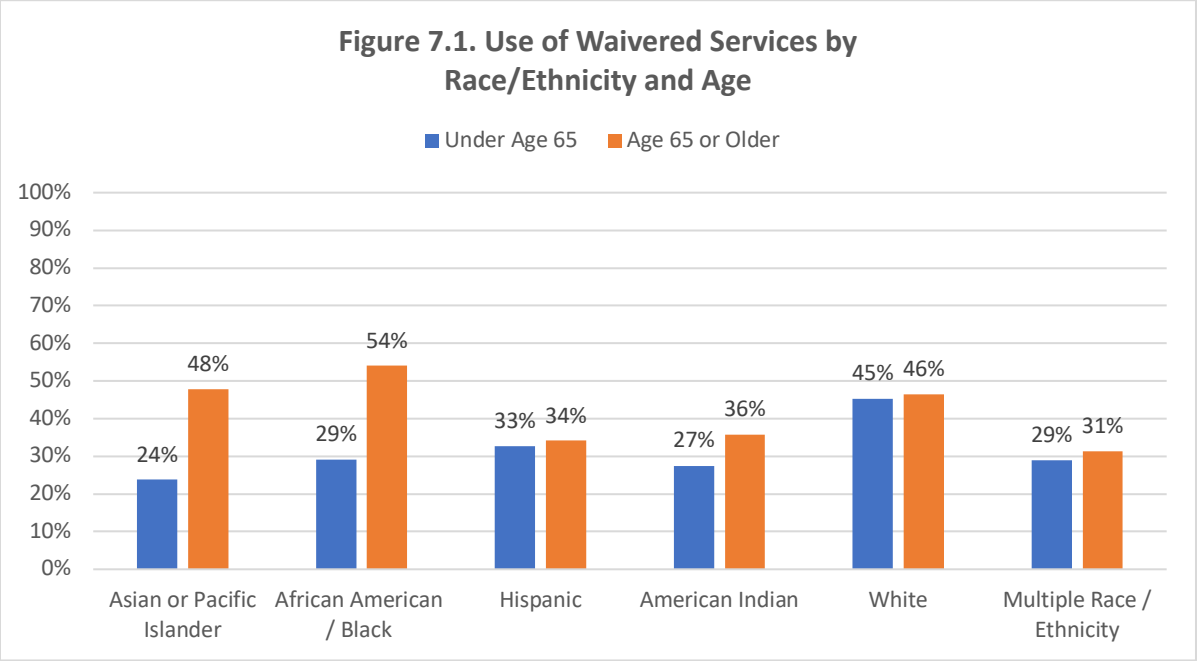
Figure 7.1 shows percentages of people participating in HCBS waiver services by age group and race and ethnicity. In general, participation in waiver services was at the same level or higher for people age 65 and older compared to people under age 65. Asian or Pacific Islander and African American or Black people age 65 or older had substantially higher participation in waivers than those under age 65; whereas American Indian people age 65 or older were somewhat higher, and participation in waivers was about the same for people age 65 and older and under age 65 in the rest of the racial/ethnic groups.

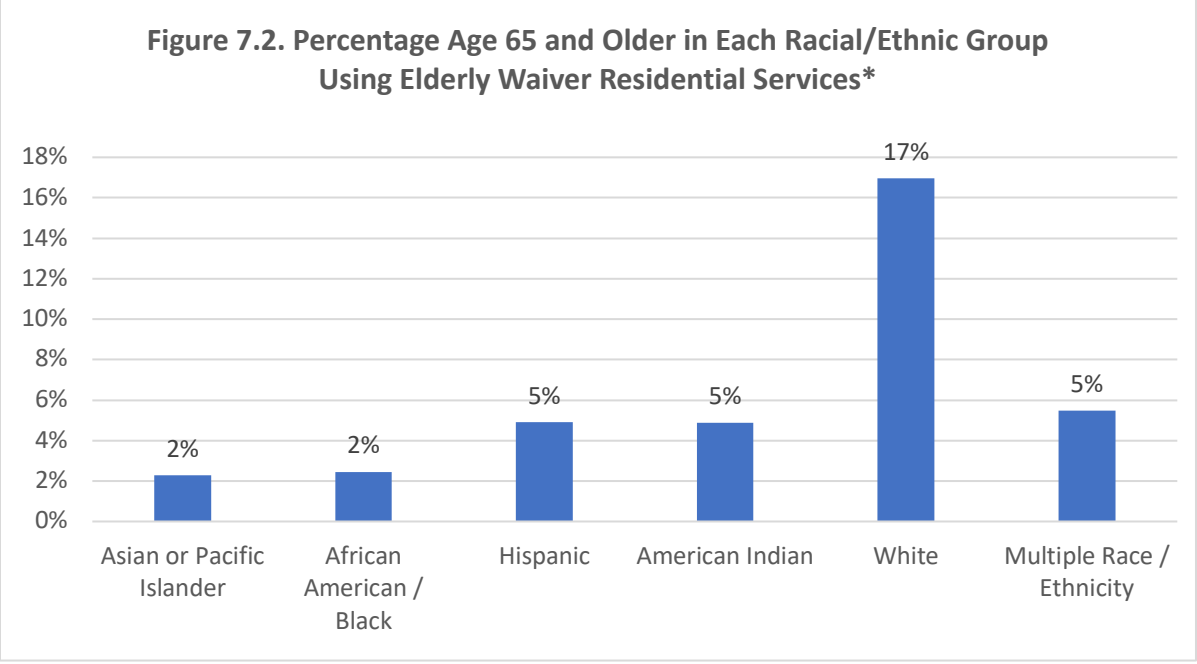
Among people under age 65, 45% of white people participated in a waiver, in comparison to 22% to 33% in other racial/ethnic groups. For people age 65 or older, Asian or Pacific Islander, African American or Black, and white people had the highest percentages of waiver participation, ranging from 46% to 54%, in comparison to percentages in the other racial/ethnic groups that ranged from 31% to 36%.

HCBS Service Use by People Age 65 and Older

The next series of figures show use of selected HCBS services for people in racial/ethnic groups who are age 65 and older. Use of residential services through waivers (primarily customized living) was substantially higher for white people (17%) compared to other racial/ethnic groups (range 2%-5%) (Figure 7.2). In contrast, the highest use of waiver services provided in a

community (non-residential) setting was for Asian or Pacific Islander (43%) and African American or Black (43%) people (Figure 7.3). White people had the lowest percentage (17%) using waiver services in the community.





* Includes Customized Living and Foster Care

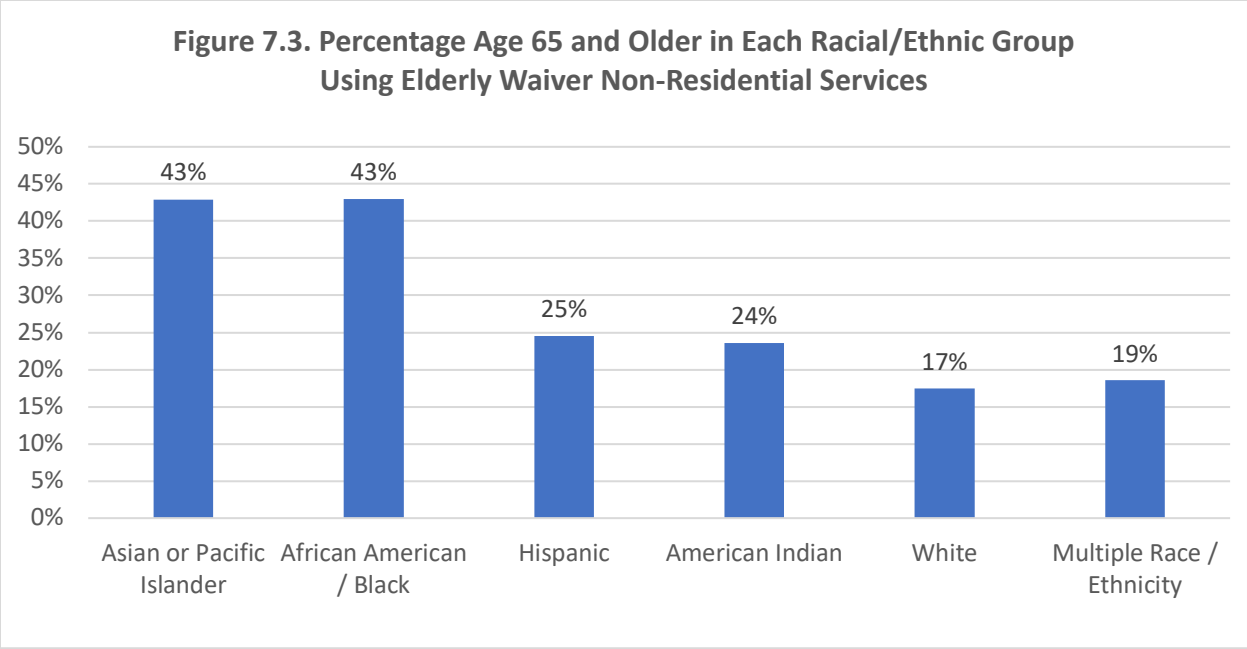
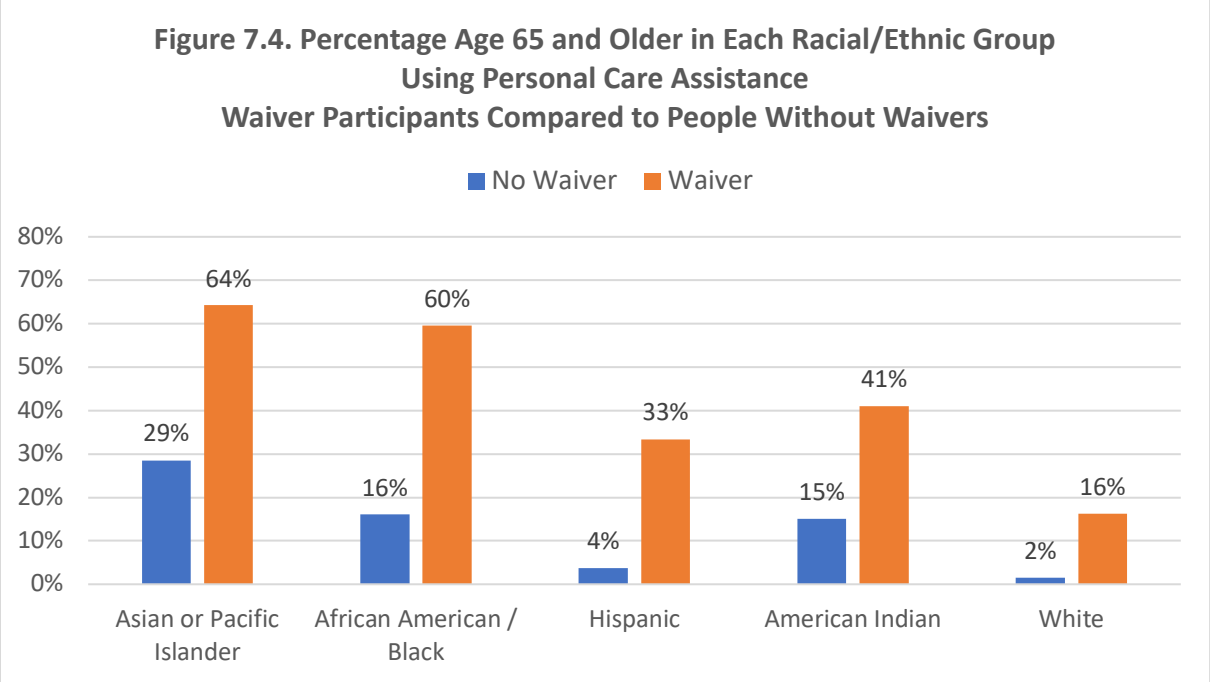
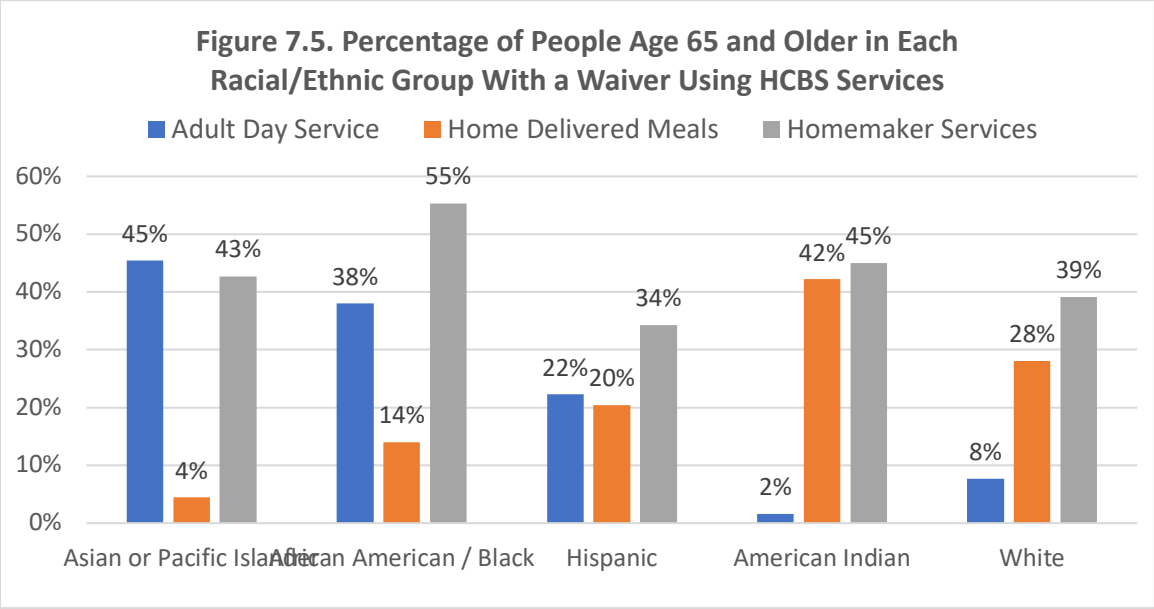


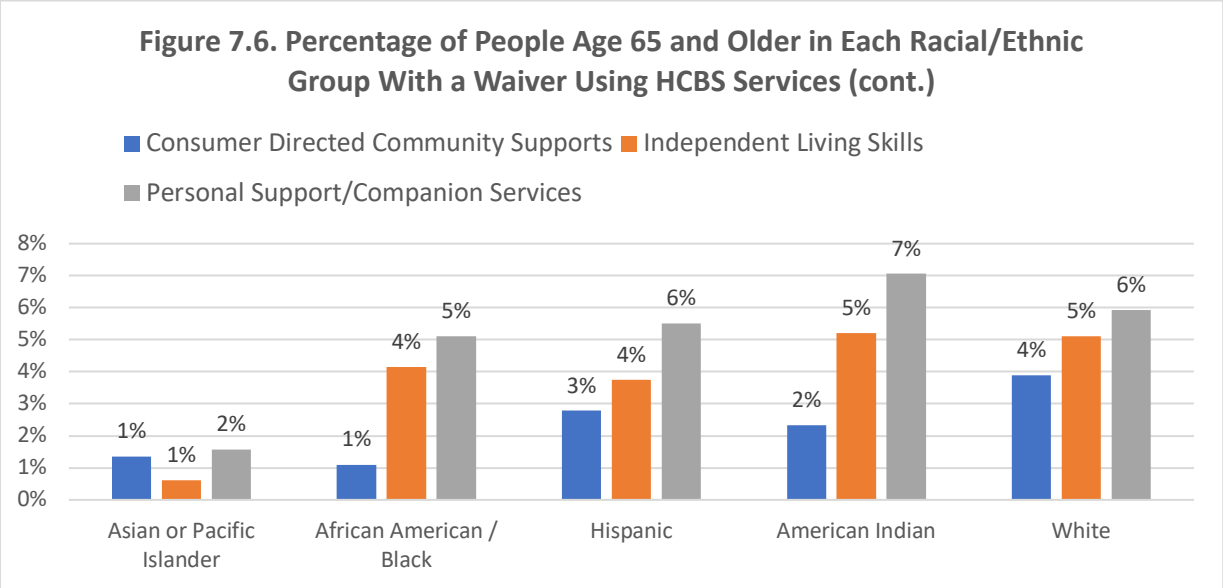
Figure 7.4 shows the percentages of people age 65 and older using Personal Care Assistance services (PCA) provided either through a waiver program or without a waiver. Across all racial/ethnic groups, the use of PCA is much higher among waiver than among non-waiver participants. Among waiver participants, well over half of Asian or Pacific Islander people (64%) and African American or Black people (60%) were using PCA. The lowest percentage was for white people (16%). Among people not participating in a waiver, Asian or Pacific Islander people had the highest percentage using PCA (29%), in contrast only 2% of white people were using PCA without a waiver.



Percentages using other HCBS are shown in Figures 7.5 and 7.6. Homemaker services were the most frequently used by all racial/ethnic groups (Figure 7.5). Use of adult day services varied widely from a high of 45% of Asian or Pacific Islander people to only 2% of American Indian people. In contrast, Asian or Pacific Islander people were least likely to use home delivered meals (4%), while American Indian people were most likely (42%).

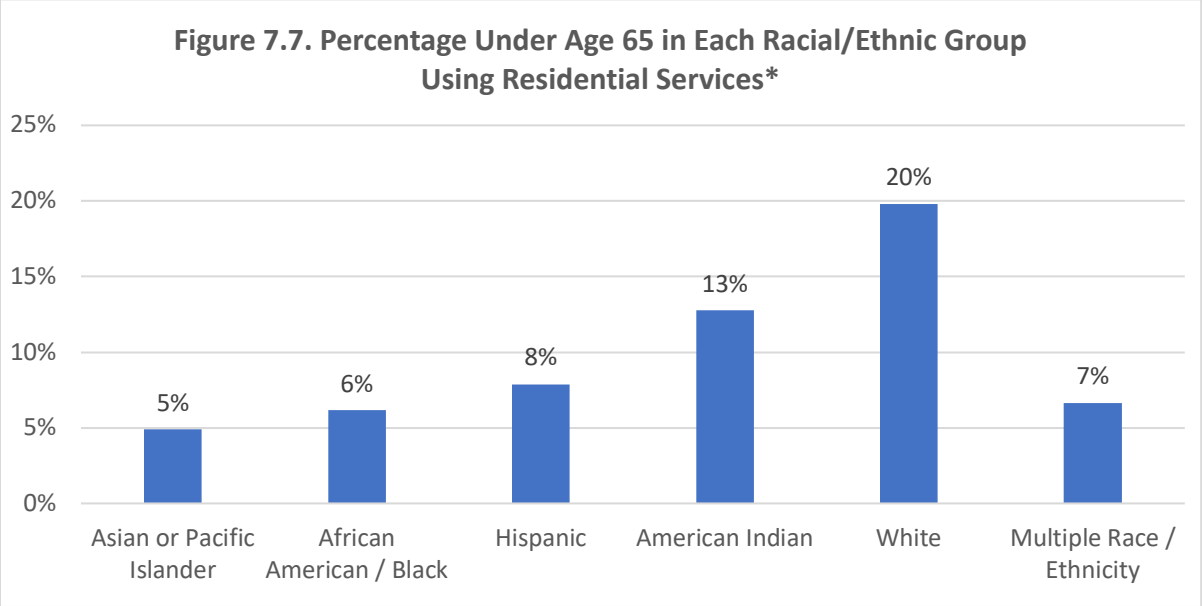


Lower percentages of people used other HCBS waiver services (Figure 7.6). Asian or Pacific Islander people had the lowest use, ranging from 1% for consumer-directed consumer supports (CDCS) and independent living skills to 2% for personal support or companion services. White people had the highest use of CDCS (4%); American Indian and white people had the highest use of independent living skills services (5%), and American Indian people had the highest use of personal support or companion services.



HCBS Service Use by People Under Age 65

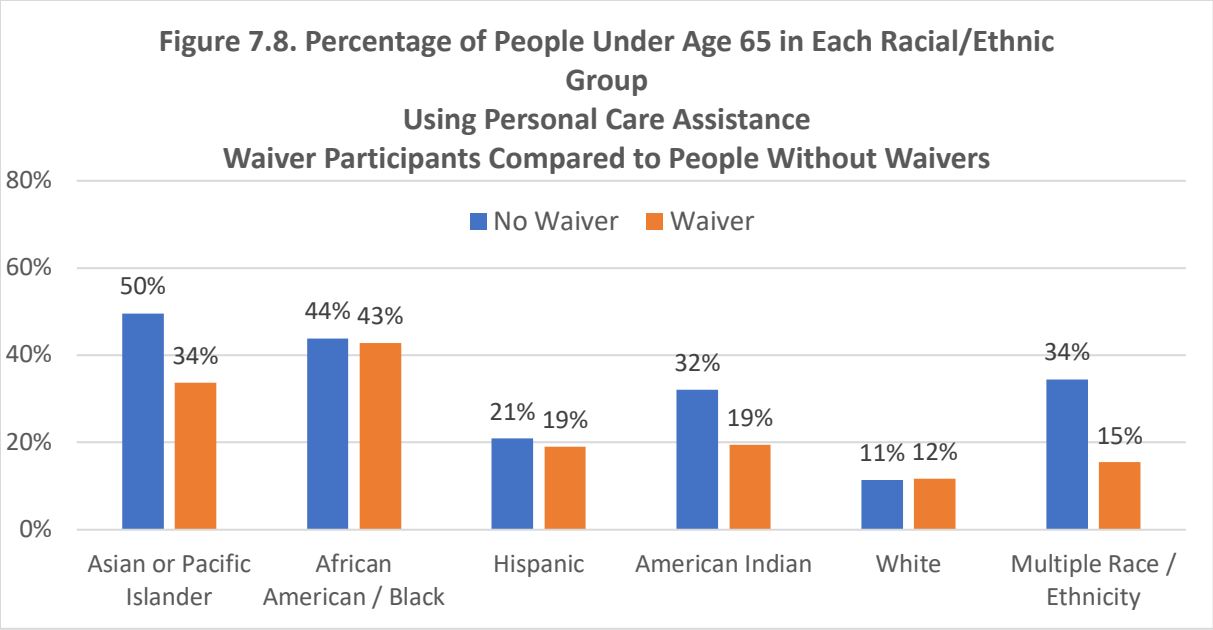
The next series of figures show use of selected HCBS services for people in racial/ethnic groups who are under age 65. Use of residential services through waivers (customized living, foster care, and supportive living services) was higher for white people (20%) and American Indian people (13%) compared to other racial/ethnic groups (range 5%-8%) (Figure 7.7).



* Includes Customized Living, Foster Care, and Supportive Living Services

Figure 7.8 shows the percentages of people under age 65 using PCA provided either through a waiver program or without a waiver. Use of PCA was higher for people not having waiver services than for people with waivers among Asian or Pacific Islander people, American Indian people, and people identifying with multiple races. For white, African American or Black and Hispanic people, the percentages were similar for waiver participants and people without waiver services.

The highest PCA use without a waiver was for Asian or Pacific Islander people (50%) and African American or Black people (44%), while white people had lowest percentage (11%). Similarly, the highest PCA use among waiver participants was for African American or Black people (43%) and Asian or Pacific Islander people (34%), while white people had the lowest percentage (12%).



Percentages using other HCBS are shown in Figures 7.9-7.11. The most frequently used of other HCBS waiver services are shown in Figure 7.9. Among people under age 65, highest CDCS use was for people identifying with multiple races (31%) and Hispanic people (28%), while the lowest use of CDCS was for American Indian people (8%). Use of day training ranged widely as well, from 22% for white people to 3% of people identifying with multiple races. The percentages with independent living skill training had a narrower range from 18% of African American or Black people to 11% for American Indian and Hispanic people. Finally, the highest use of adult day services was for Asian or Pacific Islander people (17%) and for African American or Black people (8%), while other racial/ethnic groups ranged from 1% to 3%.

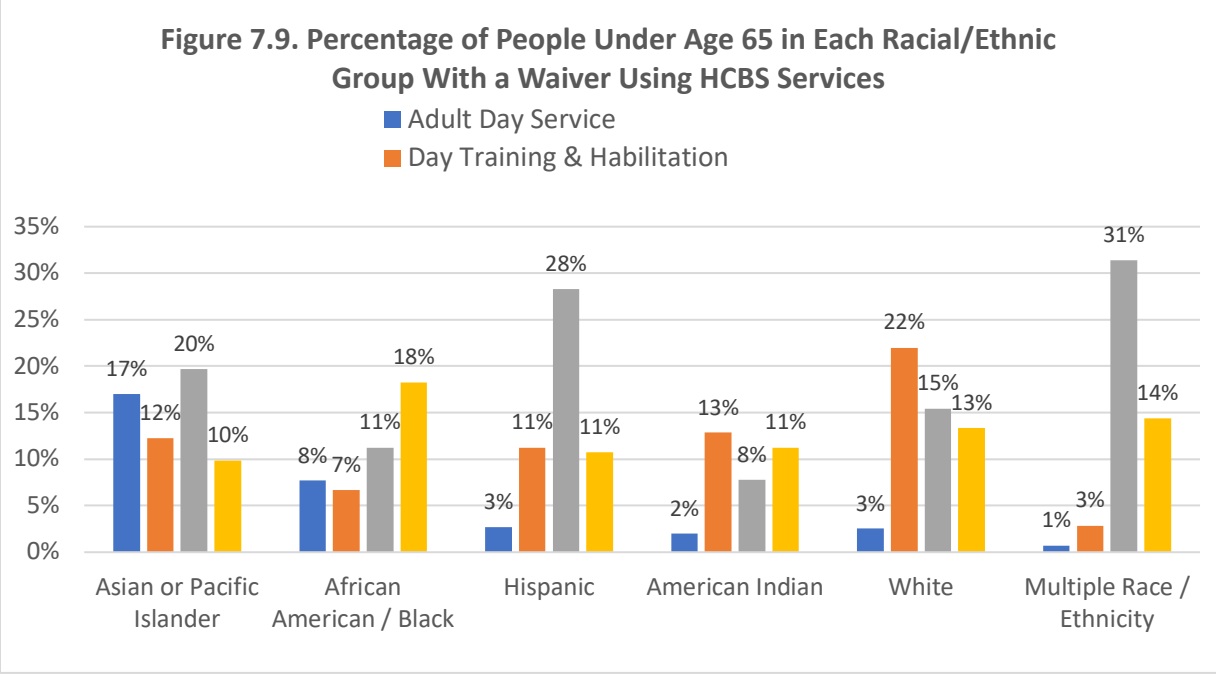


Figure 7.10 shows less frequently used HCBS waiver services. Use of supported employment services ranged from a high of 13% for white people to 5% among African American or Black people. Use of the other three services ranged narrowly from 3% to 8%.

Figure 7.10. Percentage of People Under Age 65 in Each Racial/Ethnic Group With a Waiver Using HCBS Services (cont.)

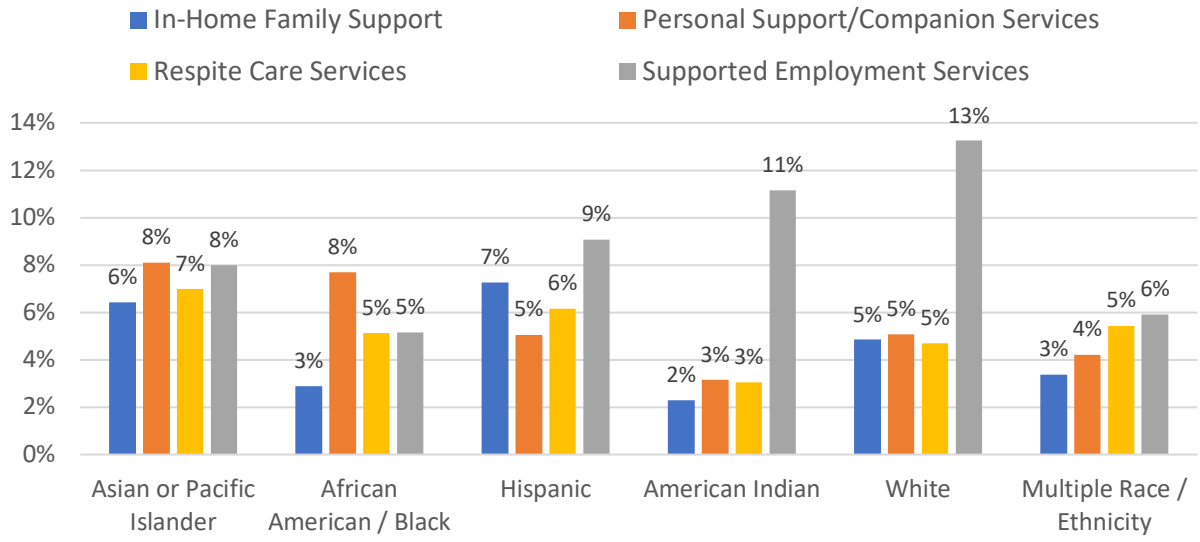


Table 7.1. Number and Percentage of Aging and Disability Group by Program Category and Race and Ethnicity

Program Categories	Asian or Pacific Islander	African American / Black	Hispanic	American Indian	White	Multiple Race / Ethnicity	Overall w/o Missing Race/Ethnicity
All Persons							
Number of Persons per Month	14,333	31,929	5,395	5,115	120,444	2,780	179,996
All Age 65 +							
Number of Persons per Month	8,186	9,573	2,017	1,372	48,247	257	69,651
% of Persons/ Month	57%	30%	37%	27%	40%	9%	39%
Elderly Waiver-Residential							
Number/Month	186	234	99	67	8,177	14	8,777
% of Persons/ Month	2%	2%	5%	5%	17%	5%	13%
Elderly Waiver-Community							
Number/Month	3,511	4,116	494	324	8,410	48	16,903
% of Persons/ Month	43%	43%	25%	24%	17%	19%	24%
Alternative Care							
Number/Month	15	136	22	20	1,800	5	1,999
% of Persons/ Month	0%	1%	1%	1%	4%	2%	3%
Age 65+ Other Waiver (CAC, CADI, BI)							
Number/Month	204	684	74	80	4,022	14	5,077
% of Persons/ Month	2%	7%	4%	6%	8%	5%	7%
Age 65+ PCA Only							
Number/Month	1,219	708	50	132	400	6	2,516
% of Persons/ Month	15%	7%	2%	10%	1%	2%	4%
Age 65+ No Waiver and No PCA							
Number/Month	3,051	3,695	1,278	749	25,437	170	34,381
% of Persons/ Month	37%	39%	63%	55%	53%	66%	49%
All Under Age 65							

Program Categories	Asian or Pacific Islander	African American / Black	Hispanic	American Indian	White	Multiple Race / Ethnicity	Overall w/o Missing Race/Ethnicity
Number of Persons per Month	6,147	22,356	3,378	3,743	72,198	2,523	110,344
% of Persons/ Month	43%	70%	63%	73%	60%	91%	61%
Under 65 DD Waiver							
Number/Month	578	1,596	512	285	14,805	259	18,035
% of Persons/ Month	9%	7%	15%	8%	21%	10%	16%
Under 65 Other Waiver (CAC, CADI, BI)							
Number/Month	888	4,932	592	743	17,902	472	25,529
% of Persons/ Month	14%	22%	18%	20%	25%	19%	23%
Under 65 PCA Only							
Number/Month	2,321	6,939	475	871	4,502	617	15,725
% of Persons/ Month	38%	31%	14%	23%	6%	24%	14%
Under 65 No Waiver and No PCA							
Number/Month	2,361	8,890	1,799	1,843	34,988	1,174	51,056
% of Persons/ Month	38%	40%	53%	49%	48%	47%	46%

Table 7.2. Percentage Using HCBS Services per Month by Age, Program Status and Race and ethnicity

		Asian or Pacific Islander	African American / Black	Hispanic	American Indian	White	Multiple Race / Ethnicity
All Age 65+	Adult Day Service	21%	20%	7%	1%	3%	3%
	Home Delivered Meals	2%	7%	6%	13%	9%	7%
	Homemaker Services	20%	29%	10%	14%	12%	11%
	Consumer Directed Community Supports	1%	1%	1%	1%	1%	2%
	Extended Transportation	25%	29%	12%	9%	8%	10%
	Personal Care Assistance	44%	38%	12%	22%	6%	10%
EW Community	Adult Day Service	45%	41%	25%	1%	8%	13%
	Home Delivered Meals	4%	11%	19%	45%	33%	23%
	Homemaker Services	43%	57%	35%	50%	48%	46%
	Consumer Directed Community Supports	1%	1%	2%	2%	4%	6%
	Extended Transportation	47%	47%	31%	15%	19%	22%
	Personal Care Assistance	64%	61%	33%	46%	20%	33%
65 or Older Other Waiver	Adult Day Service	59%	25%	8%	5%	9%	7%
	Home Delivered Meals	5%	27%	25%	33%	14%	27%
	Homemaker Services	41%	49%	26%	30%	16%	38%
	Consumer Directed Community Supports	1%	1%	5%	0%	2%	0%
	Extended Transportation	63%	55%	34%	37%	26%	41%
	Personal Care Assistance	65%	52%	36%	25%	10%	13%
65 or Older Non Waiver	Personal Care Assistance	29%	17%	4%	17%	2%	4%
All Under Age 65	Day Training & Habilitation	3%	2%	4%	4%	11%	1%
	Consumer Directed Community Supports	5%	3%	9%	2%	7%	9%
	Home Delivered Meals	1%	6%	3%	5%	5%	3%
	Homemaker Services	4%	9%	3%	4%	5%	3%

		Asian or Pacific Islander	African American / Black	Hispanic	American Indian	White	Multiple Race / Ethnicity
	Independent Living Skills	2%	5%	4%	3%	6%	4%
	In-Home Family Support	2%	1%	2%	1%	2%	1%
	Extended Transportation	16%	21%	13%	13%	15%	10%
	Personal Care Assistance	46%	44%	20%	29%	12%	29%
Under 65 DD Waiver	Day Training & Habilitation	31%	27%	24%	45%	48%	8%
	Consumer Directed Community Supports	37%	31%	41%	14%	21%	50%
	Home Delivered Meals	0%	1%	1%	1%	1%	2%
	Homemaker Services	2%	4%	2%	2%	1%	3%
	In-Home Family Support	16%	11%	16%	8%	11%	9%
	Personal Support/Companion Services	17%	16%	8%	5%	8%	8%
	Extended Transportation	19%	20%	17%	21%	19%	11%
	Respite Care Services	16%	18%	11%	7%	9%	11%
	Supported Employment Services	13%	12%	12%	25%	20%	9%
	Supportive Living Services	24%	29%	25%	64%	56%	23%
	Personal Care Assistance	10%	18%	12%	7%	5%	9%
Under 65 Other Waiver	Adult Day Service	27%	10%	4%	2%	3%	1%
	Home Delivered Meals	9%	26%	18%	22%	19%	14%
	Homemaker Services	29%	40%	15%	19%	19%	14%
	Independent Living Skills	16%	24%	20%	16%	24%	22%
	Extended Transportation	45%	49%	34%	31%	32%	26%
	Customized Living	8%	11%	8%	16%	13%	8%
	Foster Care	10%	8%	15%	24%	21%	15%
	Personal Care Assistance	49%	51%	25%	24%	17%	19%
Under 65 No Waiver	Personal Care Assistance	50%	45%	22%	34%	12%	35%

Chapter 8: Acute Care Utilization

This chapter reports on the use of acute care by racial/ethnic groups. We present findings by age groups and program categories. We examined three types of acute care events: physician visits, emergency department (ED) visits alone without an admission to the hospital, and inpatient acute hospital admissions.

The data period was October 2018 to September 2019. All people in the aging and disability population during the period were included in the analysis. There were 69,651 people age 65 and older and 110,344 under the age of 65.

Number of events -- physician visits, ED visits and inpatient admissions -- was recorded each month for each person. The number of events by type was summed across the 12-month period and then divided by the number of months the person was alive, eligible, and in each program status. This method of calculating utilization is more reliable than counting the number of events in a single month; it takes advantage of accumulated data during the 12-month period. The mean number of events was then standardized to a rate per 1,000 people in the racial/ethnic group during the month.

Acute Care Utilization for People Age 65 and Older and Under Age 65

The racial/ethnic groups did not vary a great deal in their physician visits. However, they differed dramatically in ED visits and inpatient hospitalizations. Higher rates of ED visits and inpatient admissions is likely indicative of poorer health status. It also could result from limited access to primary care. A visit to the ED might be substituting when primary care is unavailable. Visits to the ED or a hospital admission could also result from exacerbations of chronic conditions that have not been effectively managed because of limited access to primary care.

The rates of physician and ED visits did not differ significantly between people under age 65 and age 65 and older (Figures 8.1 and 8.2). However, people age 65 and older had higher rates of inpatient admissions.

Monthly physician visits per 1000 persons under age 65 ranged from 532 for African American or Black to 429 for Asian or Pacific Islander people (Figure 8.1). In contrast, monthly ED visits per 1000 ranged widely from 131 for American Indian to 30 for Asian or Pacific Islander people (Figure 8.2). Monthly inpatient hospital admissions also ranged widely from 49 for American Indian to 18 for Asian or Pacific Islander people (figure 8.3).

For people age 65 or older, monthly physician visits per 1000 persons ranged from 592 for African American or Black people to 443 for white people (Figure 8.1). Monthly ED visits followed the same pattern as for people under age 65: they ranged from 116 for American Indian to 41 for Asian or Pacific Islander people (Figure 8.2). Similarly, monthly inpatient hospital admissions ranged from 70 for American Indian to 33 for Asian or Pacific Islander people.

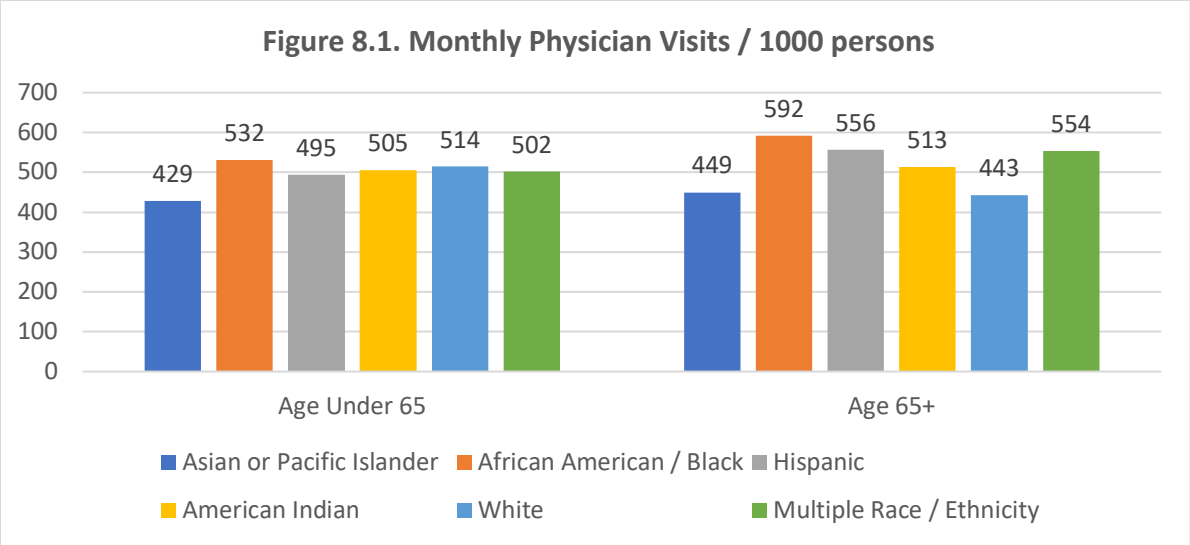


Figure 8.1. Monthly Physician Visits / 1000 persons
700
600
500
400
300
200
100
0
429
532
495
505
514
502
449
592
556
513
443
554
Age Under 65
Age 65+
Asian or Pacific Islander
African American / Black
Hispanic
American Indian
White
Multiple Race / Ethnicity

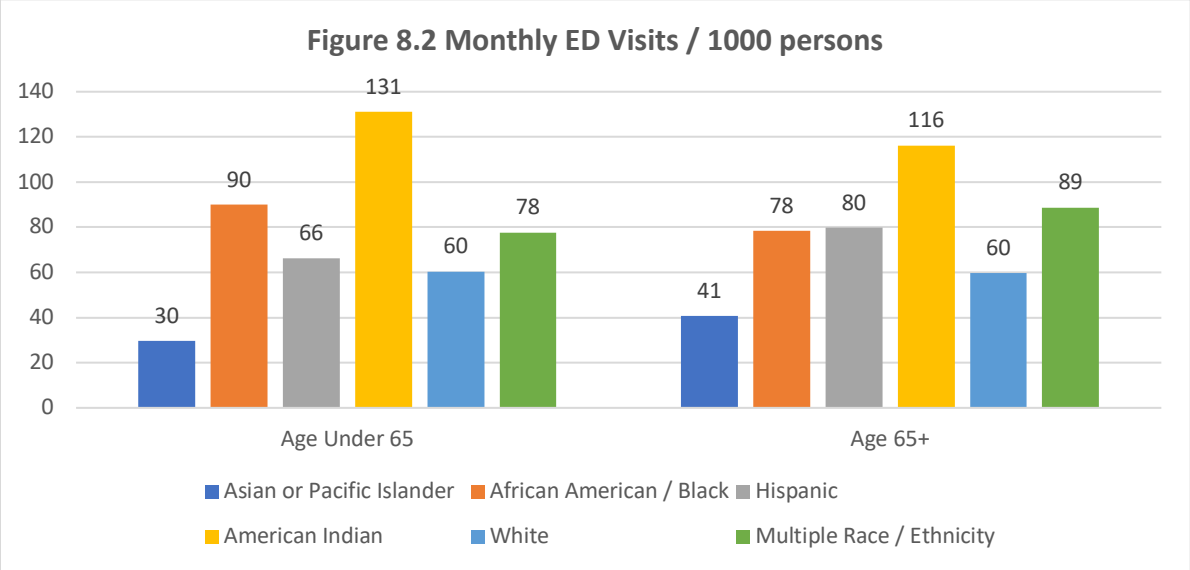


Figure 8.2 Monthly ED Visits / 1000 persons
140
120
100
80
60
40
20
0
30
90
66
131
60
78
41
78
80
116
60
89
Age Under 65
Age 65+
Asian or Pacific Islander
African American / Black
Hispanic
American Indian
White
Multiple Race / Ethnicity

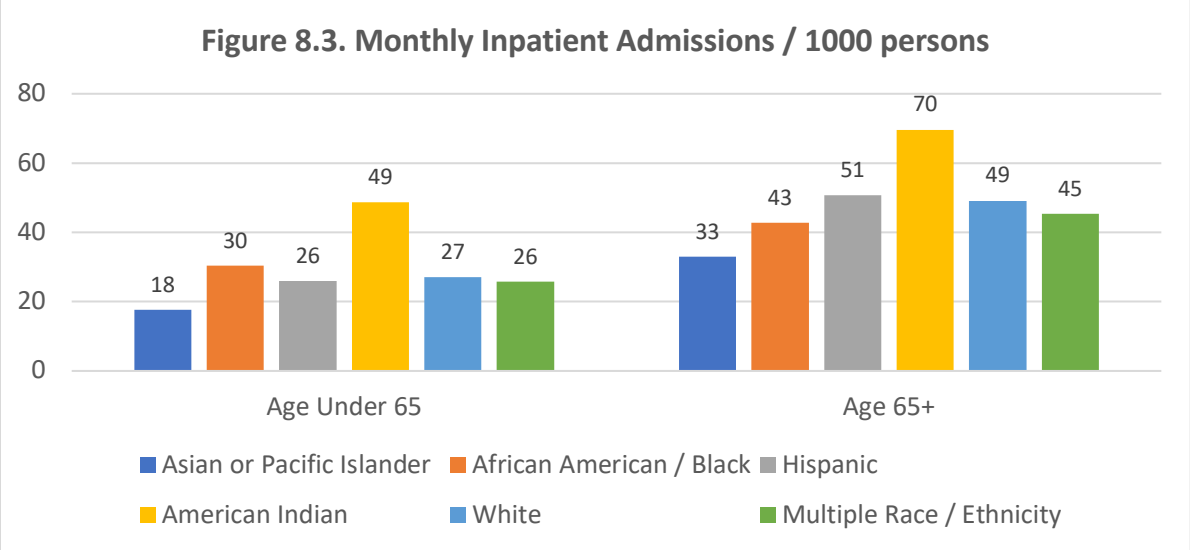


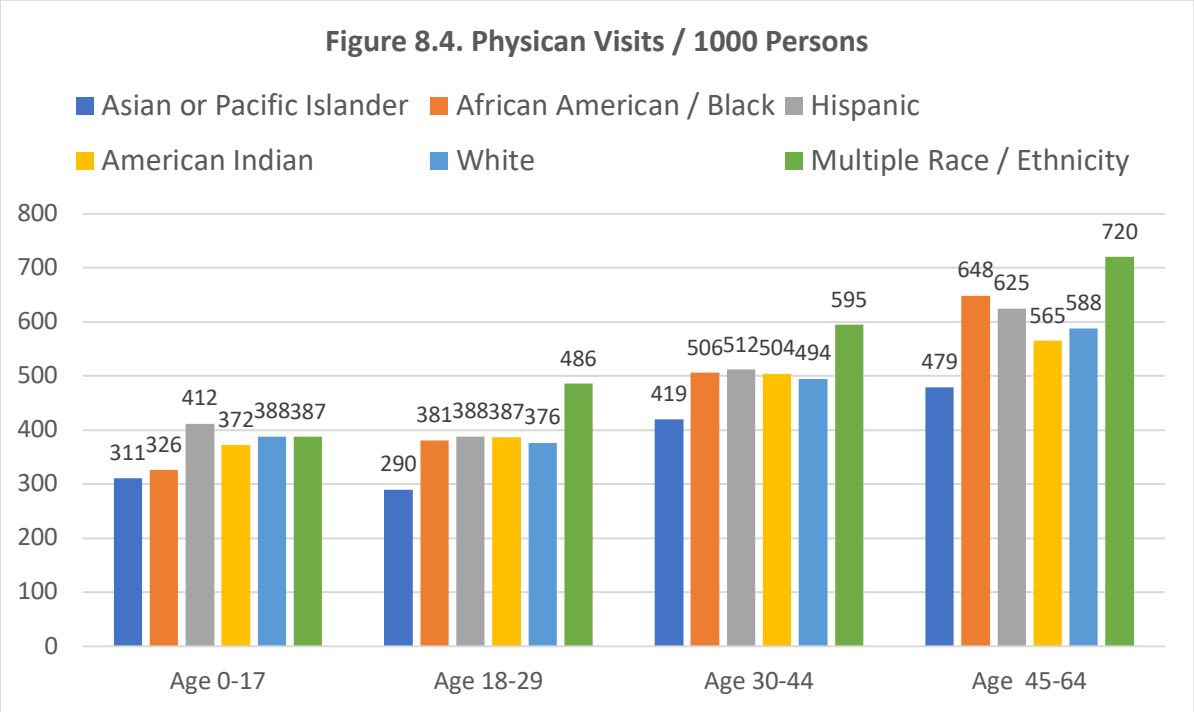
Figure 8.3. Monthly Inpatient Admissions / 1000 persons
80
60
40
20
0
18
30
26
49
27
26
33
43
51
70
49
45
Age Under 65
Age 65+
Asian or Pacific Islander
African American / Black
Hispanic
American Indian
White
Multiple Race / Ethnicity

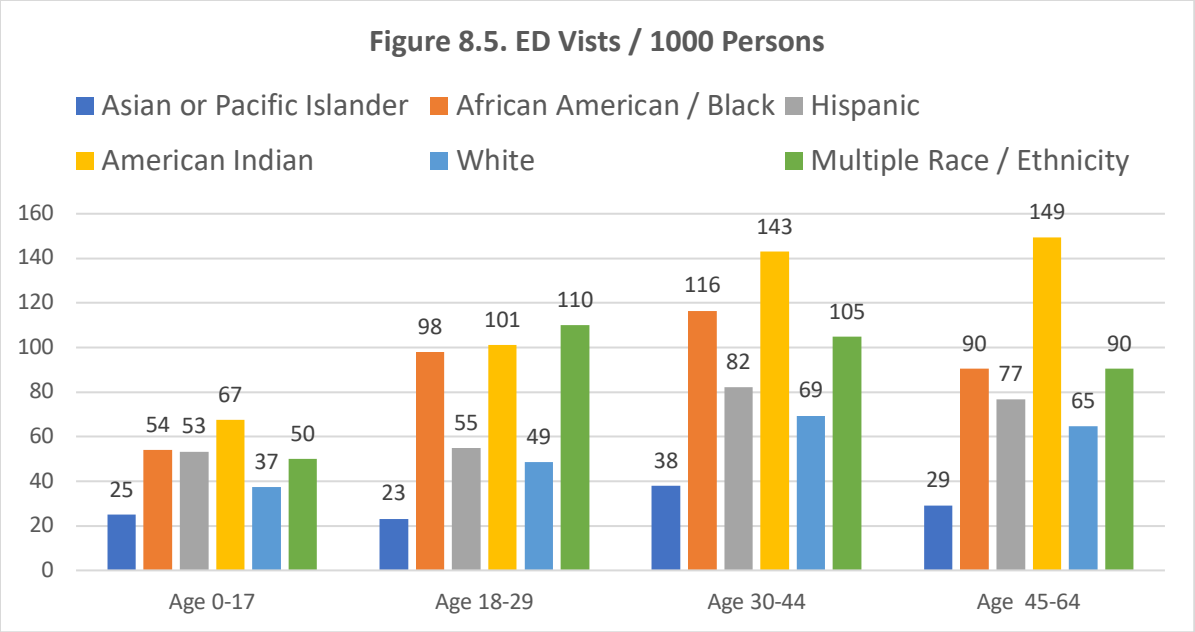
Acute Care Utilization for Different Age Groups Under Age 65

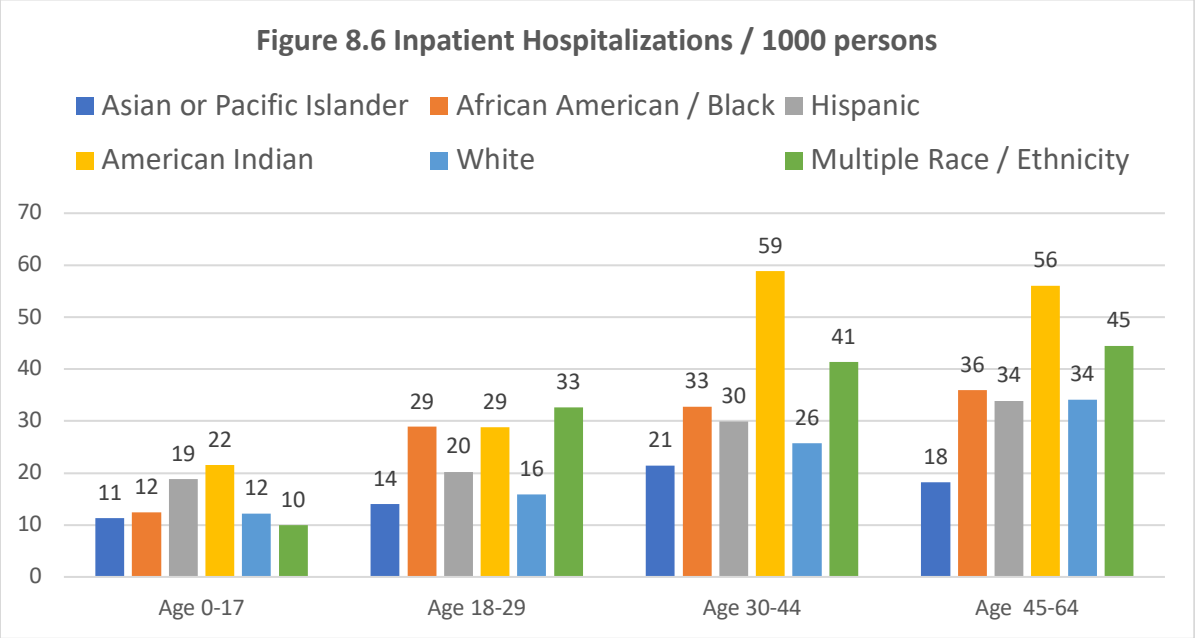
Figures 8.4-8.6 show the rates of acute care use for people in different age groups under age 65. Children and adolescents (age 0 to 17) had the lowest rates of physician visits, ED visits, and inpatient admissions, while people in middle age (age 45-64) had the highest rates of utilization.

The racial/ethnic groups were similar in acute care use for people ages 0-17. Also, there was not a great deal of variation in physician visits, although African American or Black people had higher rates for all of the older ages: 18-29, 30-44, and 45-64.

For people age 18-29, monthly ED visits and inpatient admissions per 1000 persons were highest for African American or Black people, American Indian people, and people identifying with multiple races. For people ages 30-44 and 45-64, the rates of ED visits and inpatient admissions were significantly higher for American Indian people and significantly lower for Asian or Pacific Islander people.







Acute Care Utilization by Age Group and Program Category

Table 8.1 shows the detailed figures on monthly rates per 1000 of acute care services by age group and program categories. Figures in Bold are numbers of people in the category. Other figures are rates per 1000 persons. Because of too few people age 65 and older identifying with multiple races, rates are not reported by program category for that group.

Patterns in acute care utilization by racial/ethnic groups and within program categories were similar to patterns overall, both for people under age 65 and age 65 and older.

Table 8.1. Physician Visits, ED Visits, and Inpatient Admissions by Age Group and Program Status

Program Group	Asian or Pacific Islander	African American / Black	Hispanic	American Indian	White	Multiple Races	Program Overall
All Age 65+	**8,186**	**9,573**	**2,017**	**1,372**	**48,247**	**257**	**69,651**
Physician Visits	449	592	556	513	443	554	469
ER Visits (w/o admit)	41	78	80	116	60	89	62
Inpatient Hospital Admits	33	43	51	70	49	45	47
65+ Elderly Waiver - Community	**3,511**	**4,116**	**494**	**324**	**8,410**	**48**	**16,903**
Physician Visits	513	730	783	634	763		701
ER Visits (w/o admit)	45	90	105	137	90		82
Inpatient Hospital Admits	39	46	77	81	75		61
65+ Elderly Waiver - Residential	**186**	**234**	**99**	**67**	**8,177**	**14**	**8,777**
Physician Visits	460	428	568	438	374		380
ER Visits (w/o admit)	44	78	208	91	76		77
Inpatient Hospital Admits	42	74	104	65	54		55
65+ Other Waivers (CAC/CADI/BI)	**204**	**684**	**74**	**80**	**4,022**	**14**	**5,077**
Physician Visits	577	839	884	876	693		714
ER Visits (w/o admit)	59	104	136	161	99		99
Inpatient Hospital Admits	35	60	84	89	64		63
65+ Non-Waiver PCA	**1,219**	**708**	**50**	**132**	**400**	**6**	**2,516**
Physician Visits	500	643	555	505	714		575
ER Visits (w/o admit)	53	101	50	200	111		83
Inpatient Hospital Admits	49	56	64	113	74		59
65+ All Others	**2,959**	**3,357**	**1,203**	**633**	**17,390**	**160**	**25,703**
Physician Visits	356	432	469	466	422		420
ER Visits (w/o admit)	29	61	58	97	47		49
Inpatient Hospital Admits	17	30	32	50	40		36
All Under 65	**6,147**	**22,356**	**3,378**	**3,743**	**72,198**	**2,523**	**110,344**
Physician Visits	446	570	520	568	552	532	549

Program Group	Asian or Pacific Islander	African American / Black	Hispanic	American Indian	White	Multiple Races	Program Overall
ER Visits (w/o admit)	56	142	107	209	115	120	121
Inpatient Hospital Admits	28	54	44	92	49	43	50
Under 65 DD Waiver	**578**	**1,596**	**512**	**285**	**14,805**	**259**	**18,035**
Physician Visits	265	356	373	378	335	413	338
ER Visits (w/o admit)	26	68	58	66	59	80	59
Inpatient Hospital Admits	11	21	16	19	17	20	17
Under 65 Other Waivers (CAC/CADI/BI)	**888**	**4,932**	**592**	**743**	**17,902**	**472**	**25,529**
Physician Visits	574	792	712	784	723	719	732
ER Visits (w/o admit)	104	176	164	247	160	160	164
Inpatient Hospital Admits	35	74	66	122	71	55	72
Under 65 Non-Waiver PCA	**2,321**	**6,939**	**475**	**871**	**4,502**	**617**	**15,725**
Physician Visits	539	585	551	514	649	523	589
ER Visits (w/o admit)	59	125	111	188	129	108	119
Inpatient Hospital Admits	36	43	46	64	48	26	44
Under 65 All Other	**2,307**	**8,573**	**1,731**	**1,717**	**32,971**	**1,123**	**48,423**
Physician Visits	352	475	495	533	549	481	523
ER Visits (w/o admit)	43	150	101	227	115	119	122
Inpatient Hospital Admits	18	51	37	89	46	43	47

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