

Understanding Medi-Cal's High-Cost Populations

March 2015



Created by the DHCS –
Research and Analytic
Studies Division

dhcs
RASD
research and analytic studies division



Overview

This presentation was designed to provide audiences with a panoramic view of Medi-Cal spending as well as offering examples of how currently available data sources can be used to identify individual patient level patterns of health care use. The Department of Health Care Services (DHCS) Research and Analytic Studies Division (RASD) has used data from multiple sources to construct a picture of Medi-Cal spending across populations, eligibility pathways, diseases, service delivery systems, provider service categories, and special health programs. Special emphasis has been placed on identifying and describing Medi-Cal's high cost populations, comparing them to Medi-Cal's lower cost populations. The descriptive statistics and crude rates presented are intended to generate thought and inspire further investigative topics.

This presentation begins with a review of recent trends in Medi-Cal enrollment and spending, highlighting Medi-Cal's transition from a fee-for-service (FFS) delivery system to a managed care delivery system, and corresponding changes in spending mix.

RASD then describes the taxonomy used to evaluate and describe Medi-Cal spending. This includes creating two distinct subpopulations for analyses: (1) individuals eligible for Medi-Cal only, and (2) individuals eligible for both Medi-Cal and Medicare. Subpopulations were then assigned to distinct health delivery system groups based on their participation history. Individuals that participated in Medi-Cal's traditional FFS system throughout their entire Medi-Cal enrollment experience during calendar year 2011 were assigned to the FFS group, hereafter referred to as "FFS." Individuals that participated in both the FFS system and the managed care delivery system were assigned to the FFS – managed care group, hereafter referred to as "FFS_MC." Individuals that participated in only Medi-Cal's managed care delivery system during their enrollment experience were assigned to the managed care group, hereafter referred to as "MC".

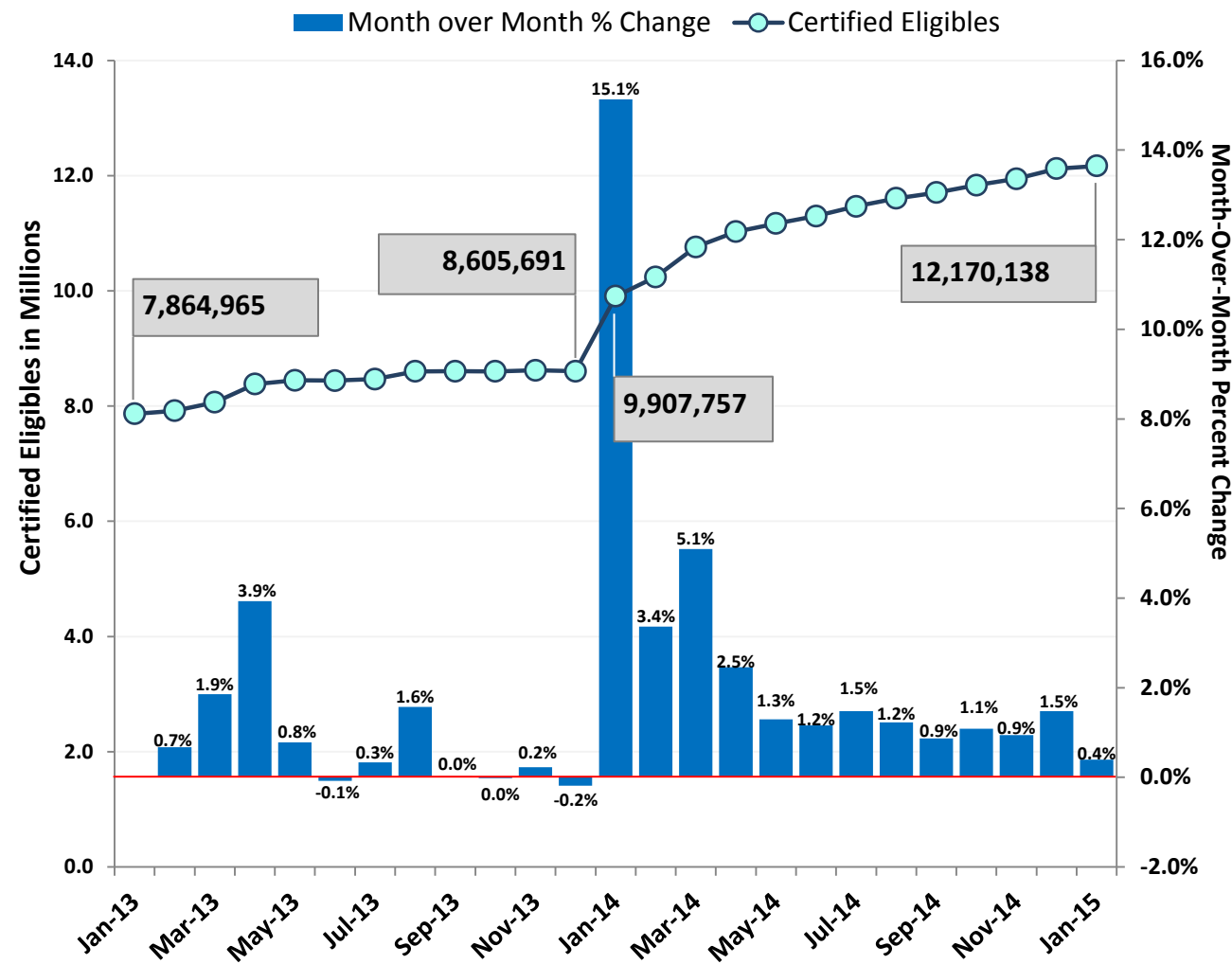
Overview, continued

RASD presents the distribution of spending by individuals for each subgroup and health delivery system group. Consistent with health care spending among individuals in general, Medi-Cal spending is unevenly distributed among individuals, with a small group of individuals accounting for a disproportionate amount of spending. Roughly 10% of the population accounts for between 50% and 80% of all spending among the groups studied. RASD also compares and contrasts the spending, emergency department use rates, acute care hospital inpatient use rates, demographic mix, conditions treated, and mortality among various spending cohorts. This entailed comparing members of the most costly one percent, five percent, and ten percent of each group to the least costly 50% or least costly 95%. As expected, stark differences were noted. Among members of the most costly cohorts within each group studied, a high prevalence of disability, mental illness, and multiple chronic conditions were noted. Significant cost drivers included acute care hospital inpatient care, nursing facility, in-home supportive services, and pharmacy. As expected, differences were noted between individuals eligible for Medi-Cal only and those eligible for both Medi-Cal and Medicare.

After providing audiences with a view of Medi-Cal's overall spending picture, RASD concentrates on individuals treated for diabetes. This will allow audiences to visualize the possibilities, given the analytic datasets. RASD first evaluates a group of individuals eligible for Medi-Cal only treated for diabetes that participated in Medi-Cal's traditional FFS system. These 100,680 individuals accounted for \$1.9 billion in spending during CY 2011. The most expensive one percent of this population, just 1,006 individuals, accounted for 13% of total group spending, or \$248 million.

Finally, RASD will present some individual case examples. Drilling down to patient level anonymized cases, RASD will present spending, utilization, and conditions treated. In addition, information related to eligibility pathway, socio-economic standing, and housing is also explored.

Current Trends In Medi-Cal Caseload January 2013 through January 2015



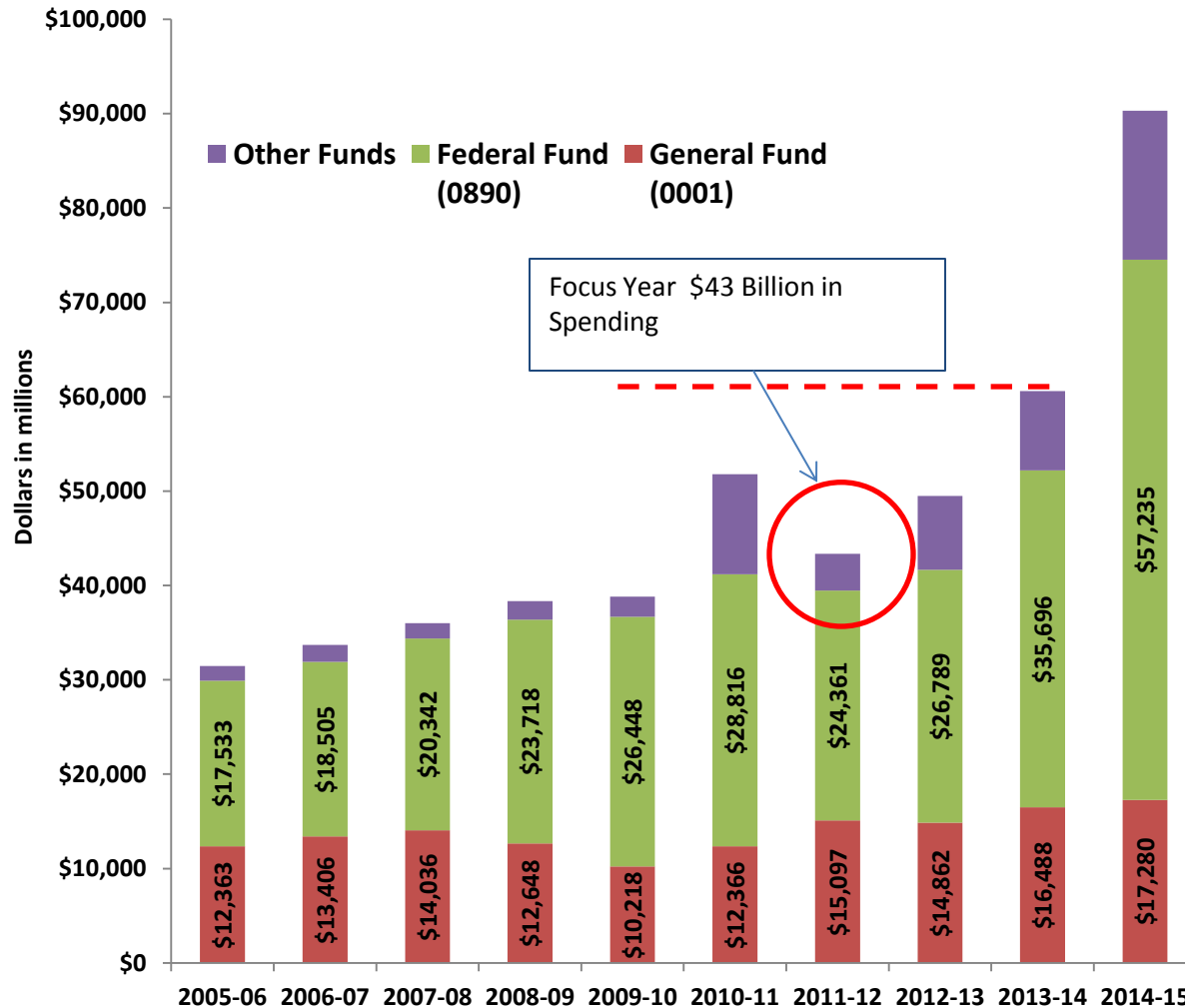
January's 2015 certified eligible count increased substantially (22.8%) above the January 2014 eligible count, just 12 months prior.

This growth is even greater when compared to the eligible count for December 2013 – the month preceding the implementation of the Affordable Care Act (ACA).

Between December 2013 and January 2015, the eligible count increased by 41.4%. This increase is largely attributed to several program and eligibility changes which have occurred as a result of the ACA.

Today, roughly 1/3 of California's population is enrolled in Medi-Cal.

Trend in Medi-Cal Spending



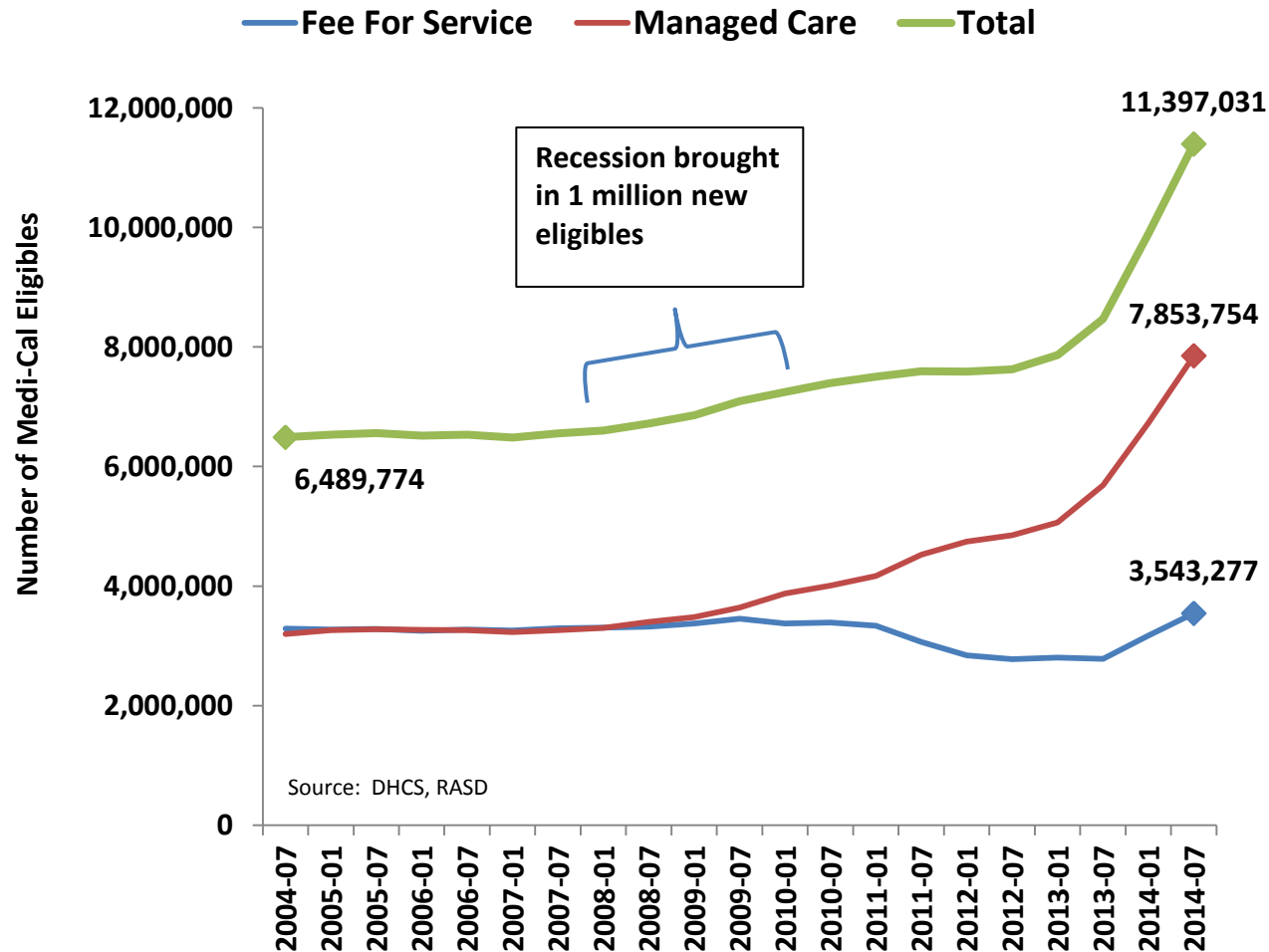
Source: DHCS Fiscal Forecasting Branch; Appropriations Budget

Over the last 10 years, Medi-Cal has seen a significant increase in overall spending, experiencing a nearly three fold increase between Fiscal Year 2005-06 and the estimated Fiscal Year 2014-15 budget.

Federal Fund spending also increased significantly with the largest increases in Fiscal Years 2013-14 and 2014-15 related to the implementation of Health Care Reform.

General Fund spending has remained relatively stable, with only moderate growth during this same time period.

Trend in Medi-Cal Enrollment



Significant trends occurred in Medi-Cal enrollment over the period 2007 through the present. During the Great Recession, Medi-Cal's enrollment grew by over one million, as individuals lost employer sponsored health care coverage. Medi-Cal also continually altered its health delivery system, moving away from traditional FFS to managed care delivery systems.

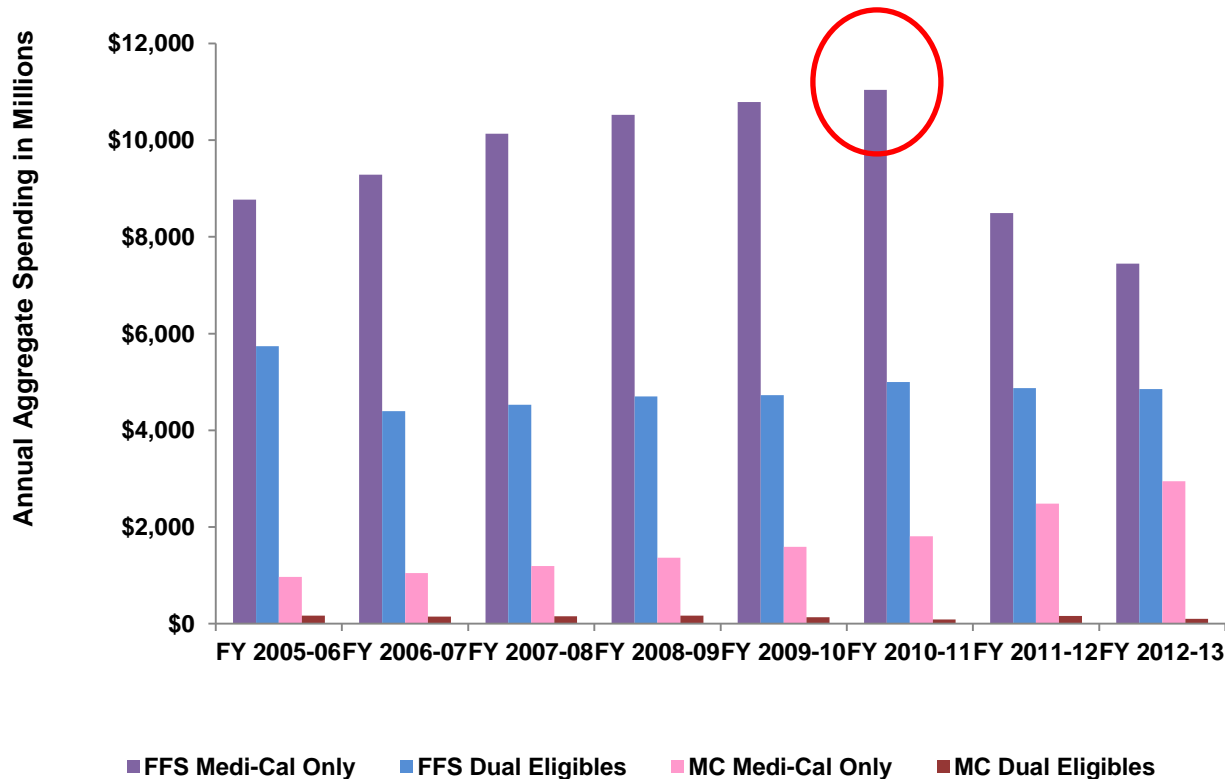
Medi-Cal also saw an increase in enrollment due to the Healthy Families transition, Low Income Health Program (LIHP), and other ACA enrollment expansion populations.

As of January 2015, Medi-Cal's enrollment stands at nearly 12.2 million.

Source: DHCS Research and Analytic Studies Division

Trend in Fee-for-Service Spending By Population

Medi-Cal Program Fee-For-Service Expenditures
Services Provided in 2005-06 to 2012-13 Fiscal Year



Source: DHCS Research and Analytic Studies Division

Medi-Cal FFS spending peaked in FY 2010-11 at \$17.9 billion dollars, and has subsequently declined as more individuals shift to the managed care health system.

As aggregate FFS spending declined, the composition of populations generating spending also changed. FFS spending for Dual Eligibles as well as spending for carve-out services continue to rise as a percent of all FFS spending.

CY 2011 presents a good opportunity for evaluating some of Medi-Cal's most expensive populations prior to transitioning into managed care delivery systems. Because these individuals participated in Medi-Cal's traditional FFS system, the FFS administrative dataset allows for a much deeper dive into cost drivers and distributions than would otherwise be possible using MC encounter data alone. This provides a glimpse of the population's needs prior to transitioning from FFS to MC.

Total Spending CY 2011

(Eligibles: 9,223,275 / Spending: \$38.8 Billion)

Eligibles for Medi-Cal Only

(Eligibles: 7,914,215 / Spending: \$26 Billion)

Medi-Cal/Medicare Eligible (Duals)

(Eligibles: 1,309,060 / Spending: \$12.8 billion)

Participating in FFS

(Eligibles: 2,547,370 /
Spending: \$8.9
Billion)

Participating in FFS and Managed Care

(Eligibles: 1,697,181 /
Spending: \$6.6
Billion)

Participating in Managed Care

(Eligibles: 3,669,664 /
Spending
\$10.5 Billion)

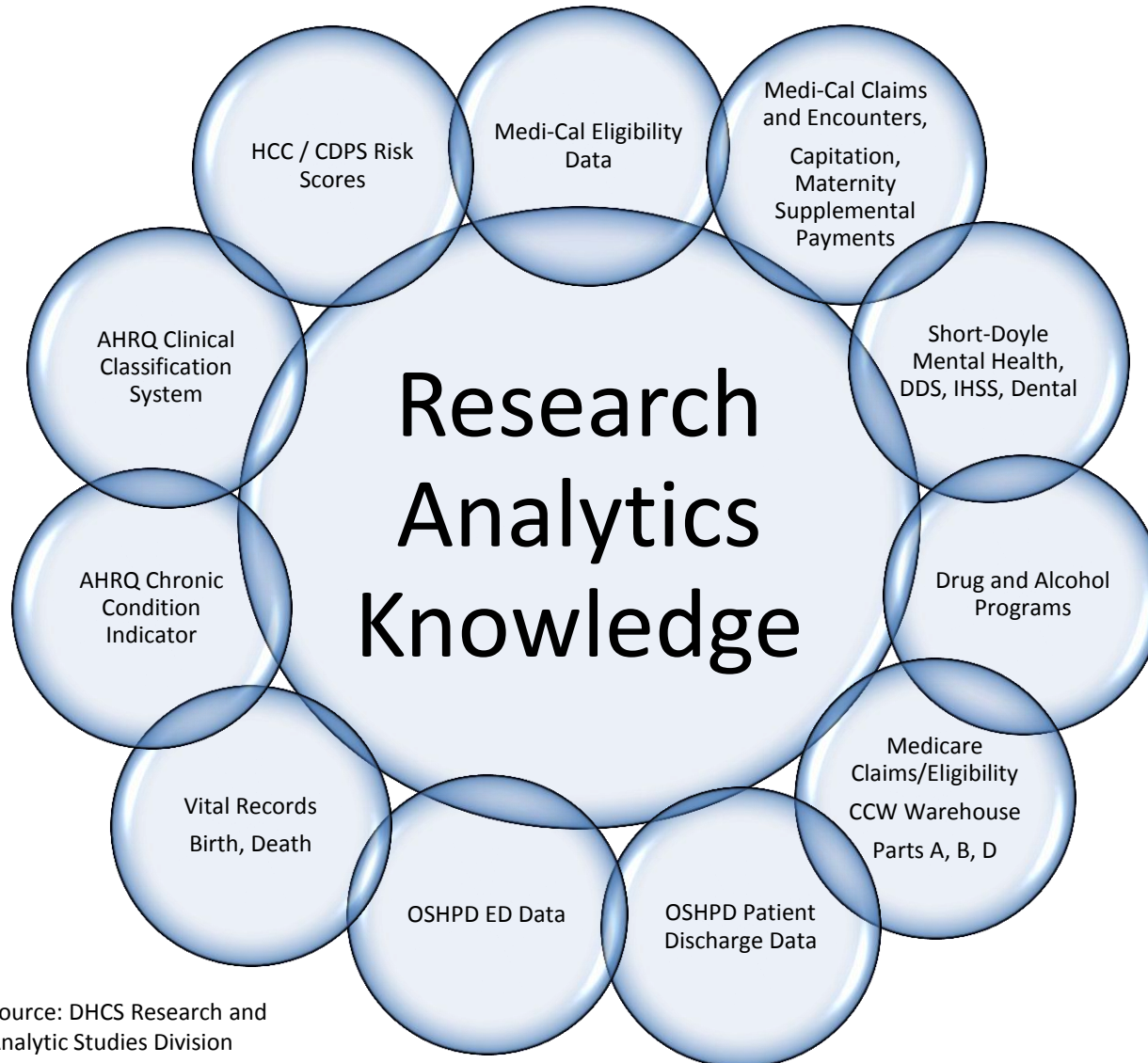
Participating in FFS
(Eligibles: 960,731
/ Spending
\$8.7 Billion)

**Participating in FFS
and Managed Care**
(Eligibles: 90,663 /
Spending
\$943 Million)

**Participating in
Managed Care**
(Eligibles 257,666 /
Spending
\$3.1 Billion)

Medi-Cal's spending can be evaluated based on health delivery system, dual status, age, and eligibility pathway. Health delivery system participation can be separated into three distinct groups: (1) individuals who participated in Medi-Cal's traditional FFS system during their entire Medi-Cal enrollment period; (2) individuals that participated in FFS and managed care throughout the year, and (3) individuals who participated in managed care during their entire Medi-Cal enrollment period. Dual status also represents an important factor, as Medi-Cal represents a secondary payer and in some cases provides wrap-around services to fill the Medicare gaps. Child vs. adult spending patterns are different and unique populations exist within each; therefore groups can also be developed based on age. And finally, eligibility pathway provides insight into expected spending and health use patterns and helps in developing homogeneous subpopulations.

Ingredients Used For Analysis



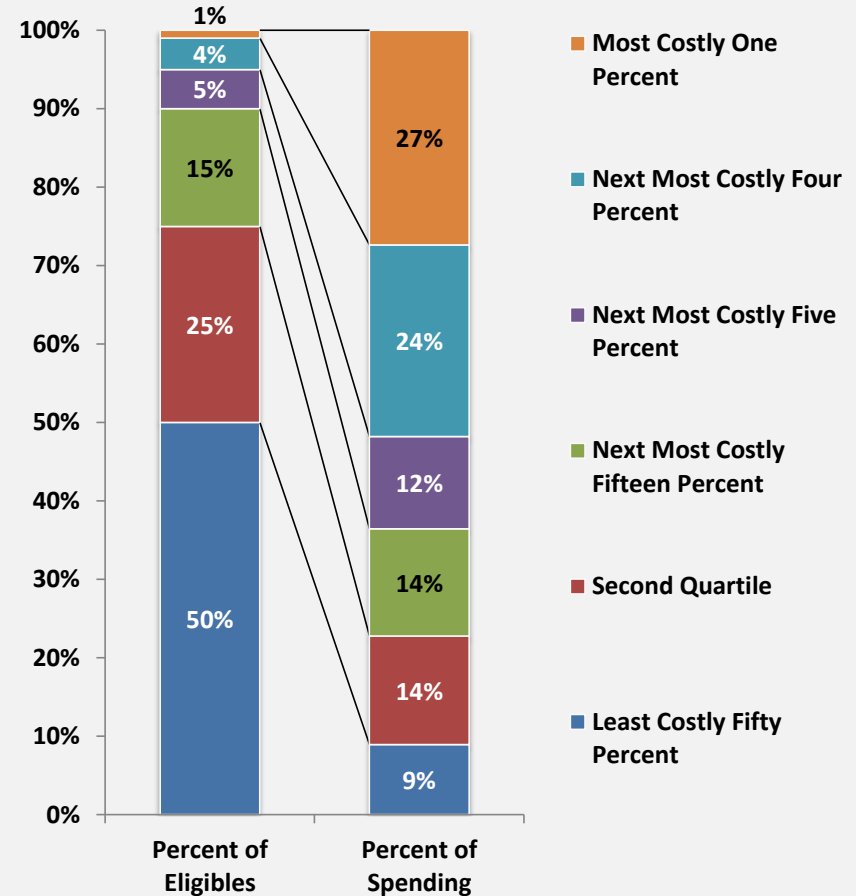
Source: DHCS Research and Analytic Studies Division

To identify Medi-Cal's high cost population and describe its characteristics, RASD queried multiple data resources, utilized the Agency for Healthcare Research and Quality (AHRQ) clinical classification grouping algorithm, and analyzed risk scoring based on two models- the Chronic Illness and Disability Payment System (CDPS) and Medicare's Hierarchical Condition Categories (HCCs).

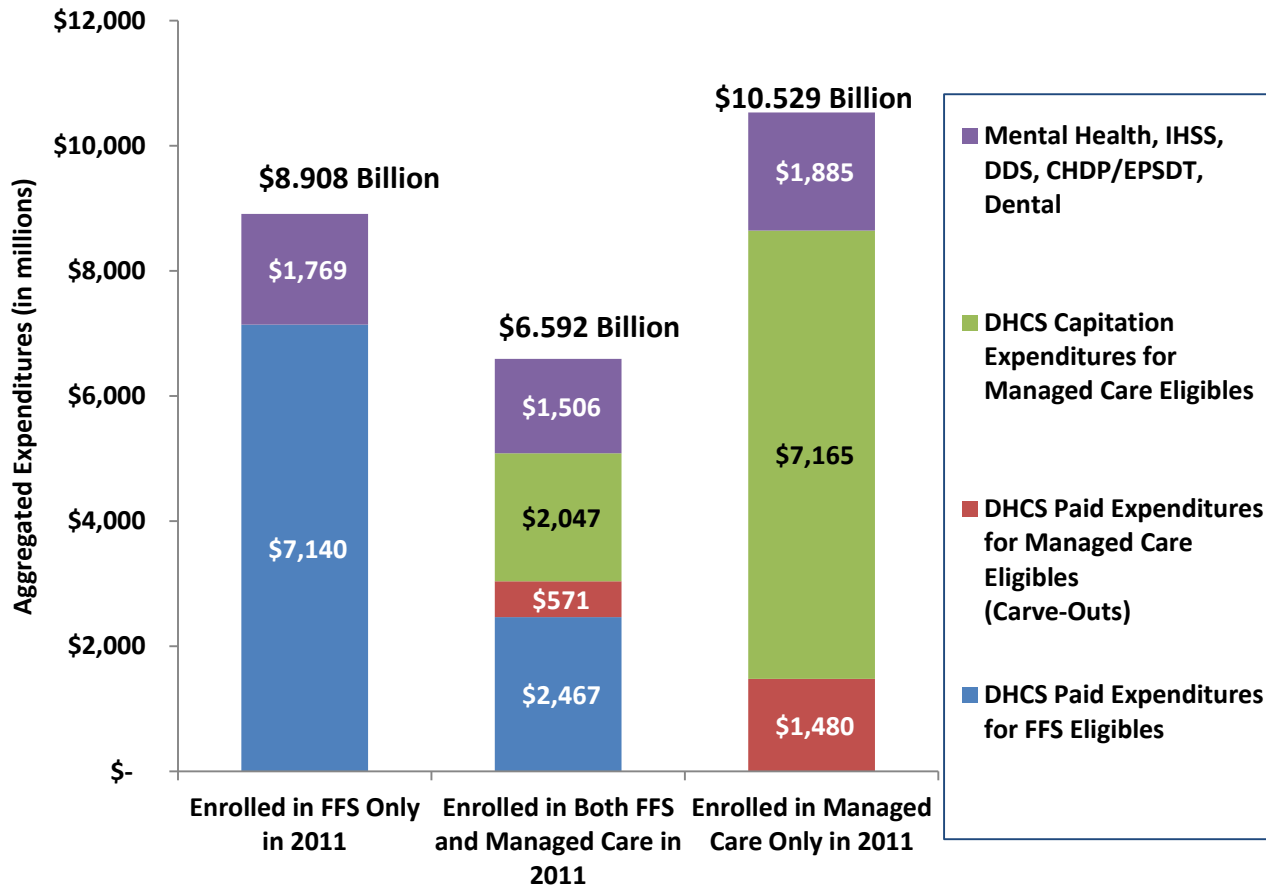
Information was arrayed by 34 major clinical conditions and 21 different categories of service.

Eligible for Medi-Cal Only

7,914,215 Eligibles; \$26 Billion in Total Spending



Medi-Cal Payments By Enrollment Group Based On Health System Participation Individuals Eligible For Medi-Cal Only Eligibles = 7,914,215, Total Spending = \$26 Billion



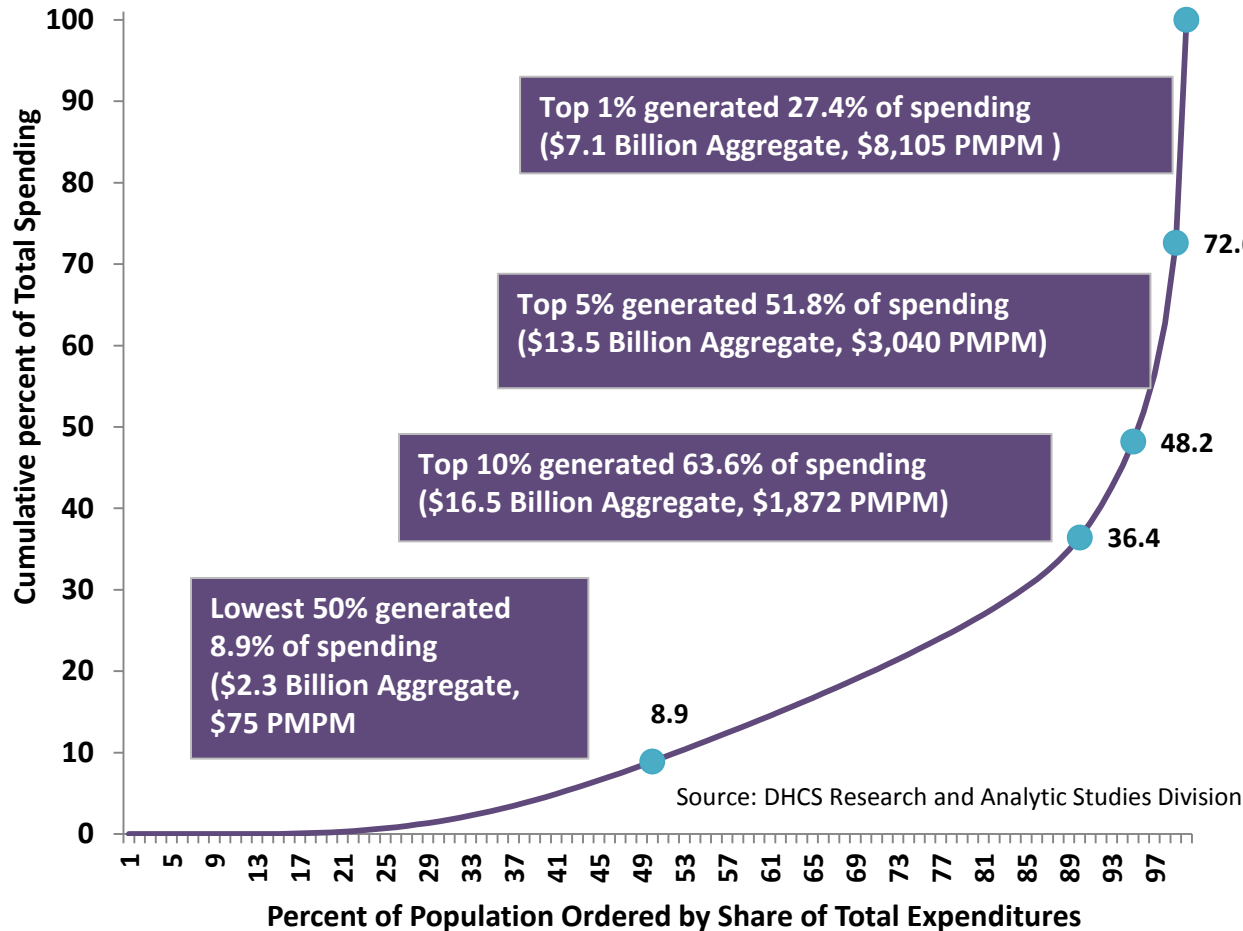
Spending associated with individuals that participated in Medi-Cal's traditional FFS system only was primarily made up of FFS payments for medical services (\$7.1 billion). Roughly \$1.8 billion was associated with Mental Health, IHSS, DDS, Dental, etc.

Conversely, spending associated with individuals that participated only in managed care plans primarily consisted of capitation payments (\$7.2 billion), with \$1.9 billion associated with Mental Health, IHSS, DDS, Dental, etc.

Individuals that participated in both FFS and managed care had the most mixed spending pattern. Roughly \$2.5 billion was associated with FFS payments for services received while participating in Medi-Cal's FFS system. Another \$571 million was associated with FFS payments for carved-out services while participating in managed care plans. Capitation payments, while enrolled in managed care plans, totaled \$2 billion and \$1.5 billion was spent on Mental Health, IHSS, DDS, Dental, etc.

Source: DHCS Research and Analytic Studies Division

Distribution of Spending Among Medi-Cal Eligibles
Individuals Eligible For Medi-Cal Only
Participating In FFS, FFS_MC, MC
Eligibles = 7,914,215, Total Spending = \$26 Billion
Per Member Per Month (PMPM) = \$340



Consistent with other research on this topic, RASD found that a small percentage of individuals accounted for a disproportionately large share of Medi-Cal's total spending.

Just 10% of Medi-Cal's population accounted for roughly 64% of total spending on individuals eligible for Medi-Cal only.

The most costly 1% of the Medi-Cal eligible only population accounted for 27% of all spending, while the most costly 5% accounted for over half of all spending on Medi-Cal eligible individuals.

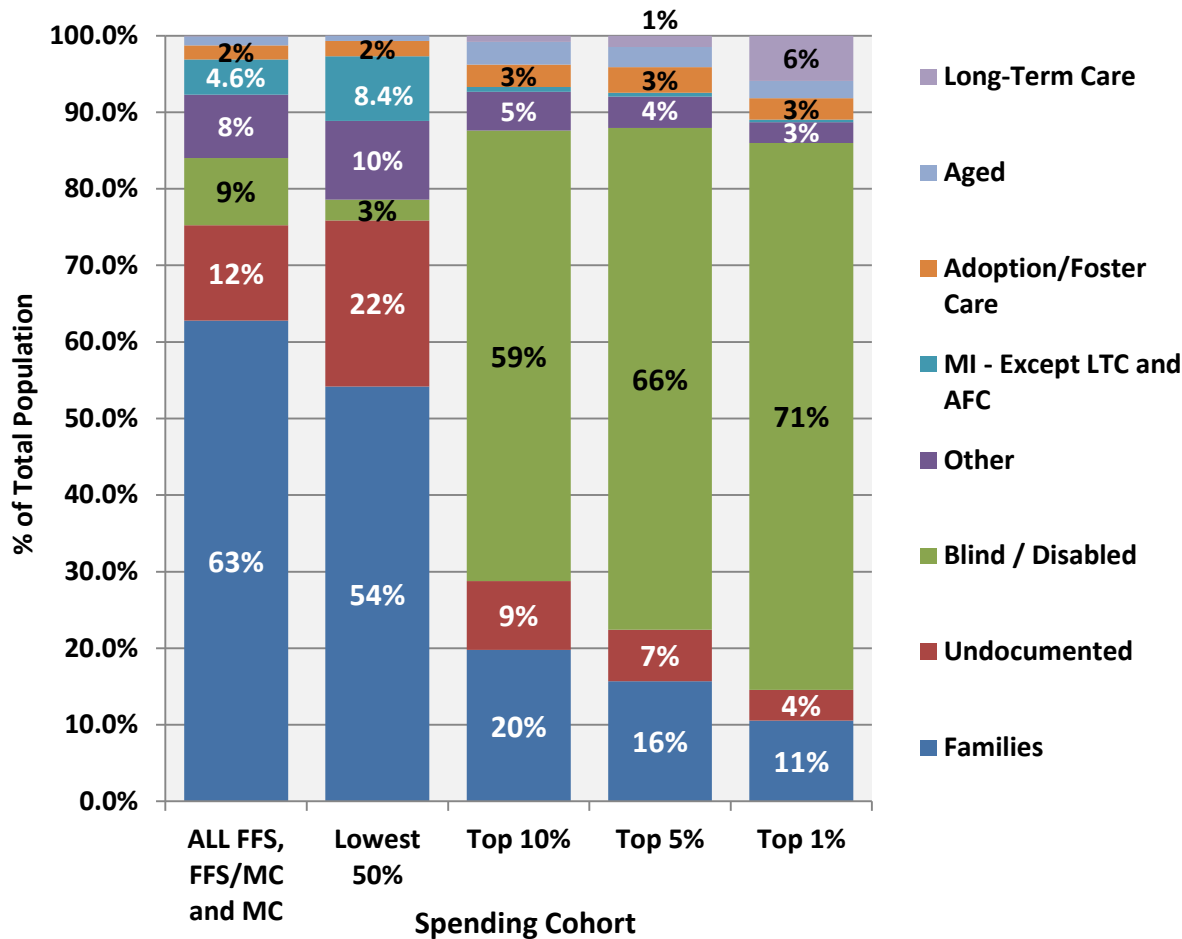
The least costly 50% of the population accounted for just 9% of total spending.

Eligibility Pathway By Spending Cohort

Individuals Eligible For Medi-Cal Only

Participating In FFS, FFS_MC, MC

Eligibles = 7,914,215, Total Spending = \$26 Billion



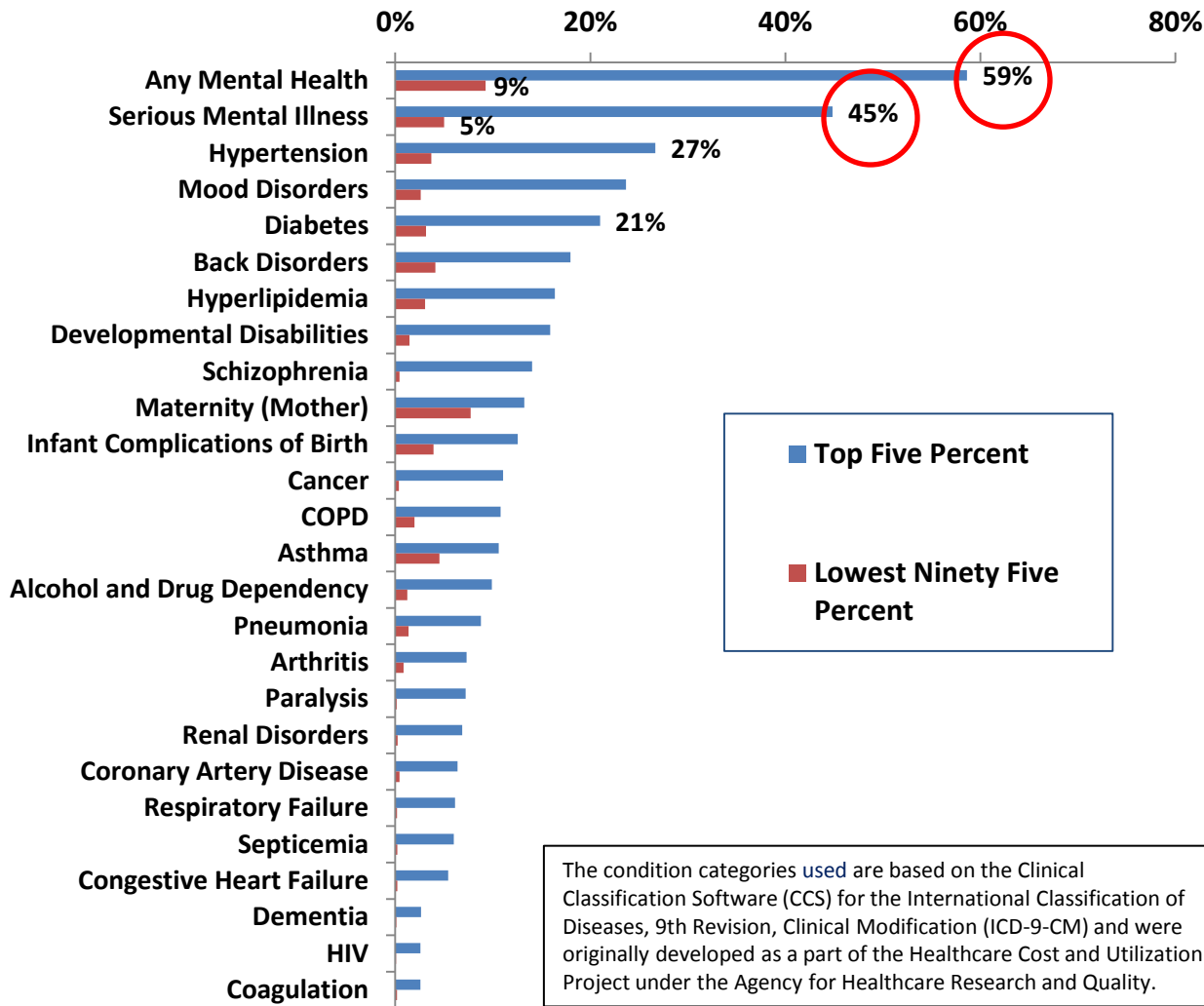
The most costly spending cohorts were dominated by the Disabled and Blind (71%), while the least costly cohorts were heavily populated by individuals whose eligibility pathway was through the Families route.

Among individuals eligible for Medi-Cal only, 63% were enrolled in Family aid codes. But among the most costly 1%, Families constituted only 11% of the population and only 16% and 20% of the most costly 5% and 10% cohorts respectively. In contrast, the Disabled represented 9% of the overall Medi-Cal eligible only population, but constituted 71% of the most costly 1% cohort.

Also present among the most costly cohorts were individuals residing in long term care facilities, the aged, individuals in adoption or foster care pathways, and CCS populations.

The presence of the Aged and LTC are underrepresented relative to expectations due to how RASD has divided the population for analysis. As noted prior, the Medi-Cal population has been separated into two distinct populations: (1) individuals eligible for Medi-Cal only, and (2) individuals eligible for Medi-Cal and Medicare. Aged and LTC groups are more prominently represented among the dual population.

**Prevalence of Major Diseases Treated Among the Most Costly 5% and Least Costly 95%
Individuals Eligible For Medi-Cal Only
Participating In FFS, FFS_MC, MC
Eligibles = 7,914,215, Total Spending = \$26 Billion**



Mental illness was commonly found among the most costly cohorts.

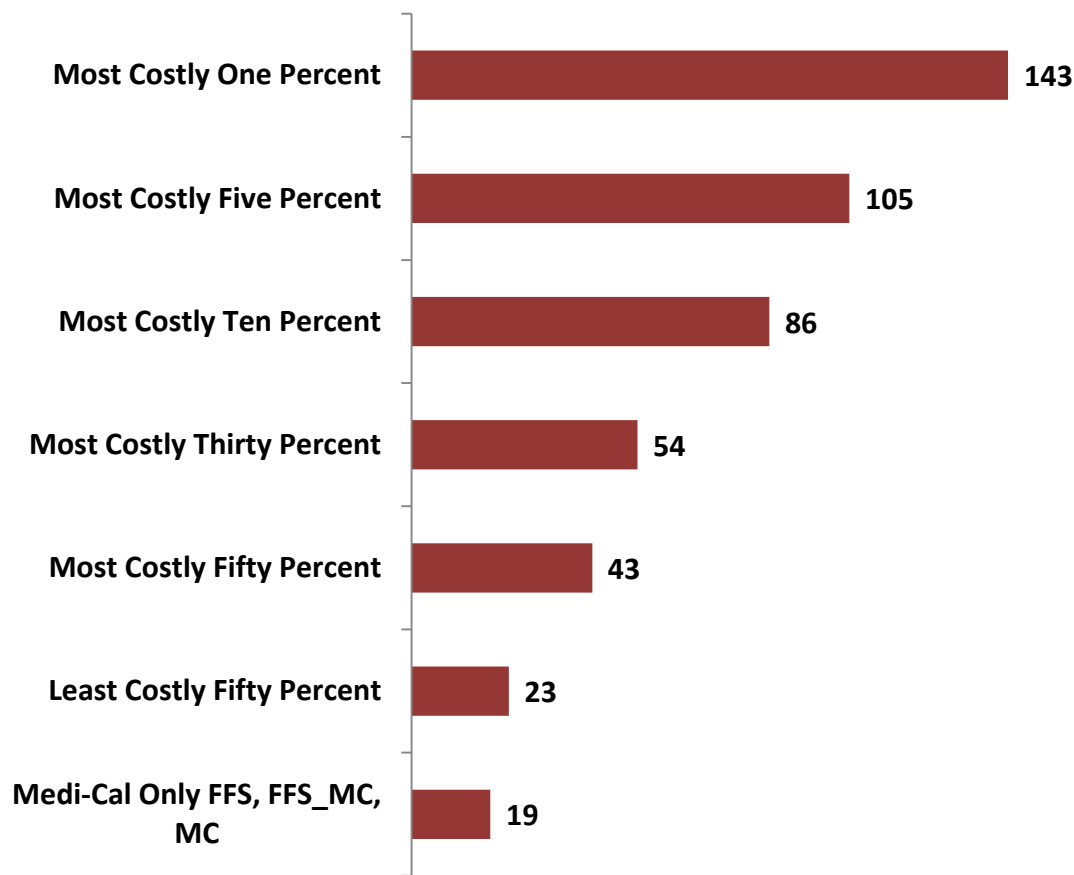
Among the most costly 5% of the population, mental illness of any kind had a treatment prevalence of 59%.

Serious mental illness (SMI) had a treatment prevalence of 45%.

Other conditions that had a treatment prevalence significantly different from the least costly cohorts included diabetes, hyperlipidemia, schizophrenia, infant complications of birth, COPD, asthma, alcohol and drug dependency, pneumonia, arthritis, paralysis, renal disorders, coronary artery disease, respiratory failure, septicemia, congestive heart failure, and HIV.

**Emergency Department Use Rates By Spending Cohort
Individuals Eligible For Medi-Cal Only
Participating In FFS, FFS_MC, MC
Eligibles = 7,914,215, Total Spending = \$26 Billion**

■ ED Visit Rate Per 1,000 Member Months



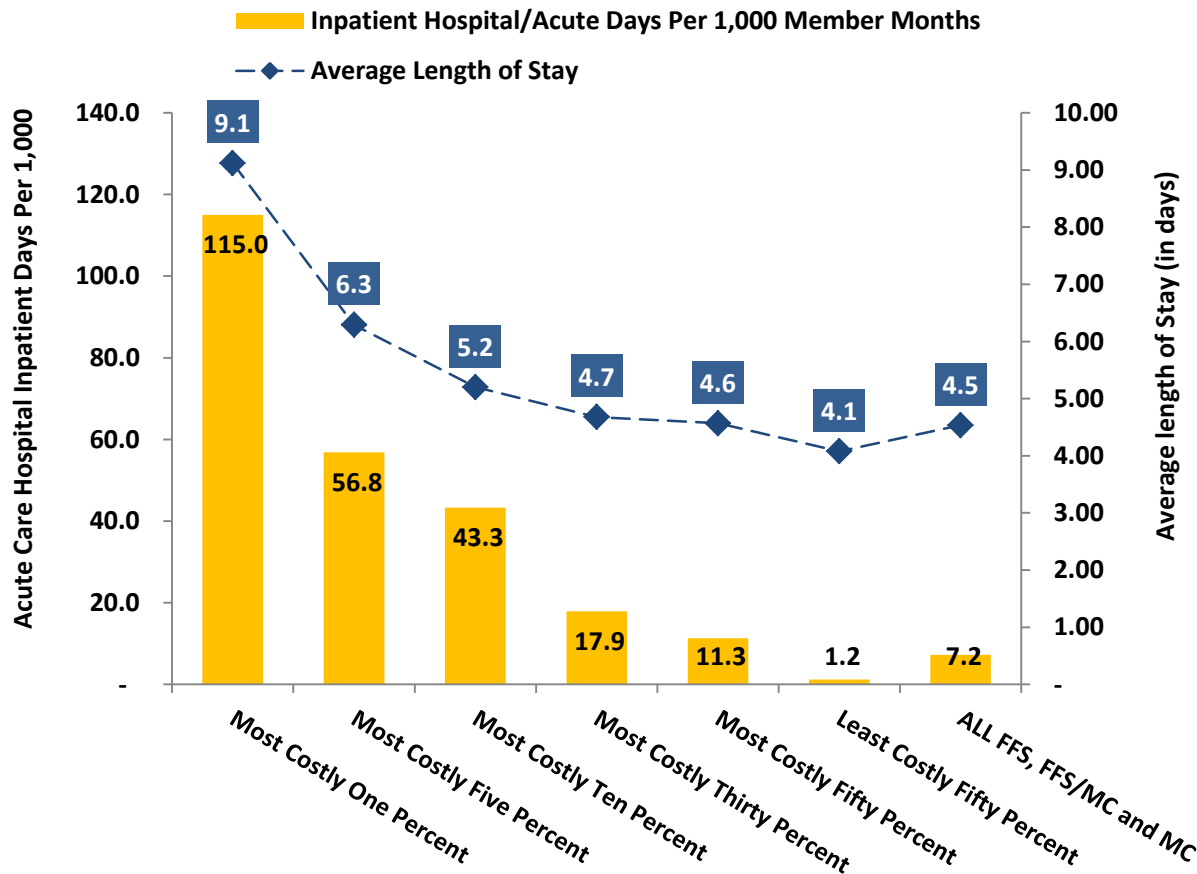
Differences were noted in emergency department (ED) use among various spending cohorts within the Medi-Cal eligible only population.

The overall ED use rate per 1,000 member months among Medi-Cal eligible only individuals was found to be 19.

The most costly 30% of the population generated an ED use rate that was 2.8 times greater than the overall rate, or 54 ED visits per 1,000 member months.

The most costly 5% and 1% percent spending cohorts produced ED visits rates per 1,000 member months of 105 and 143 respectively, rates that were 5.5 to 7.5 times greater than the population's overall ED use rate.

**Acute Care Hospital Inpatient Days Per 1,000 Member Months and
Average Length of Stay (ALOS)
Individuals Eligible For Medi-Cal Only
Participating In FFS, FFS_MC, MC
Eligibles = 7,914,215, Total Spending = \$26 Billion**



Differences were noted in the inpatient hospital acute care days per 1,000 member month rate among spending cohorts.

Members of the most costly 1% of the population generated an inpatient hospital acute care days per 1,000 member months rate that was almost 16 times as great as Medi-Cal's overall rate. Members of the most costly 1% of the population also experienced an ALOS, in days, that was twice the average for this population.

Inpatient utilization was found to be much more common among the most costly cohorts and was a significant cost driver.

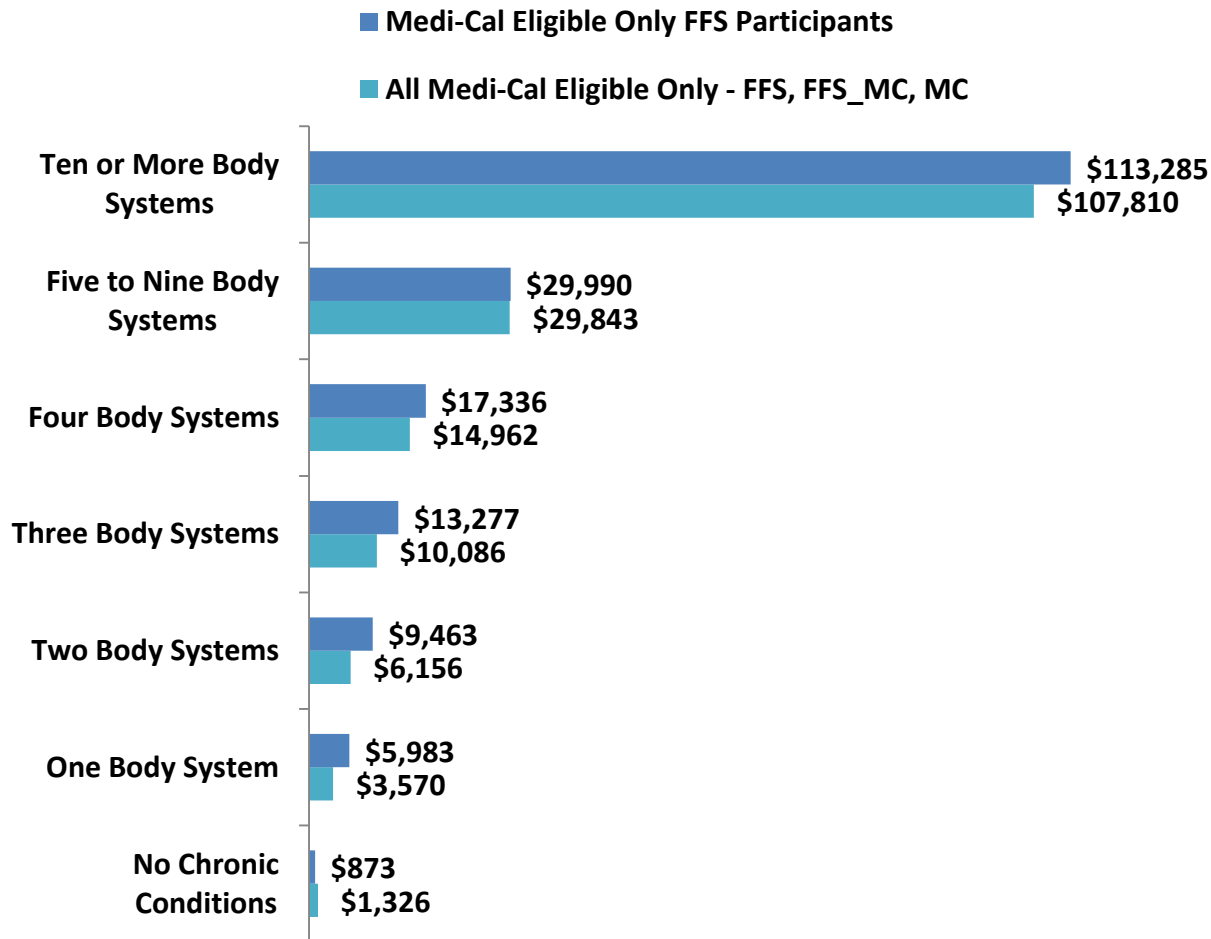
The Impact of Multiple Body System Chronic Condition Affliction

Spending Per Capita

Individuals Eligible For Medi-Cal Only

Participating In FFS, FFS_MC, MC

Eligibles = 7,914,215, Total Spending = \$26 Billion



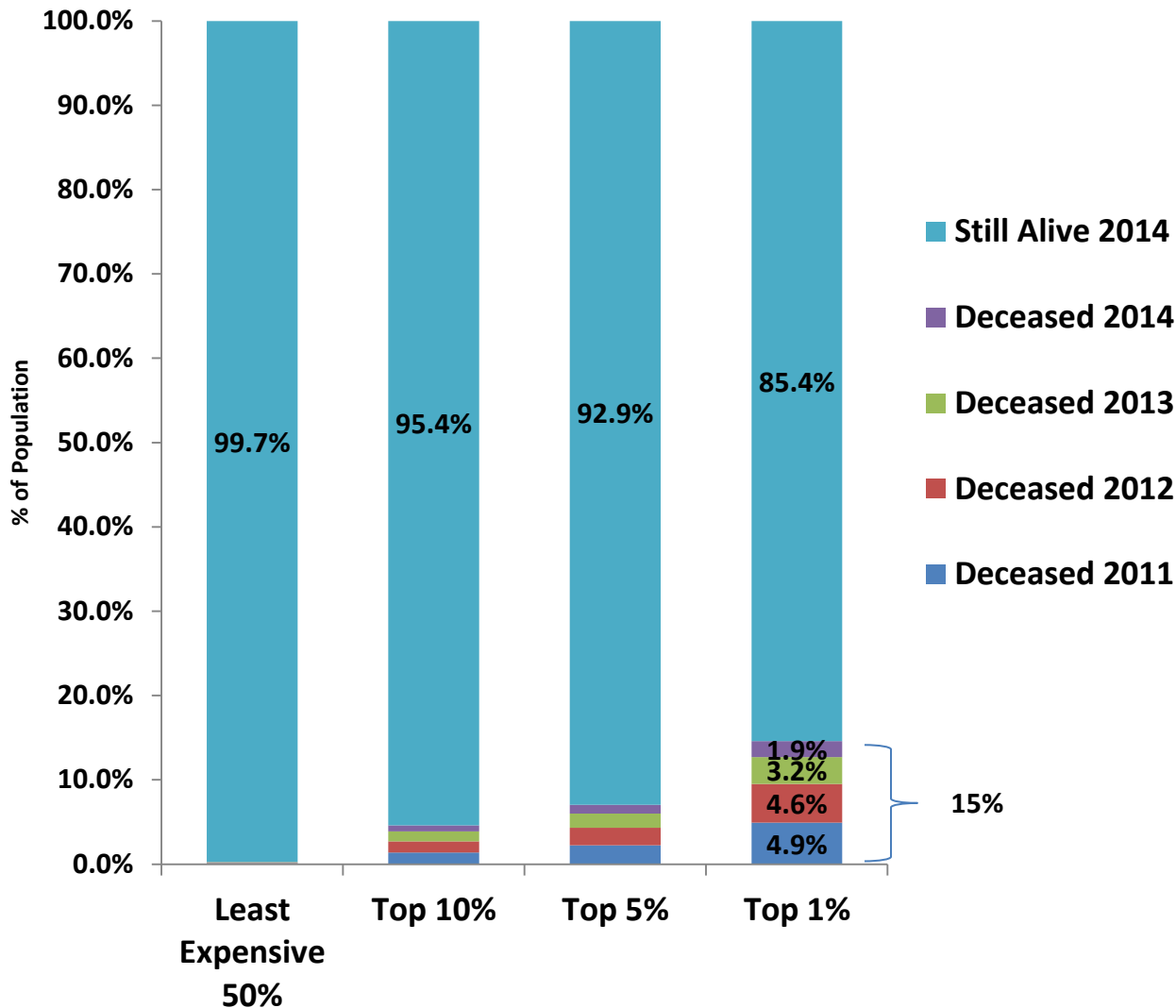
Chronic conditions affecting multiple body systems greatly influenced health care spending.

Medi-Cal eligible only Individuals participating in FFS with no chronic conditions treated, displayed a cost per-capita that was only 14% of the cost per capita for individuals treated for at least one chronic condition.

The Agency for Healthcare and Research & Quality (AHRQ) created the Chronic Condition Indicator to facilitate health services research on diagnoses using administrative data. This classification system allows researchers to readily determine if a diagnosis is a chronic condition. In addition, the tool groups all diagnoses into body systems so that users can create indicators displaying which specific body systems are affected by a chronic condition listed on the record.

The body system indicator is based upon the chapters of the ICD-9-CM codebook. This indicator was used for counting the number of body systems; the indicator is provided for each condition, chronic and not chronic.

Mortality Among Spending Cohorts **Medi-Cal Eligible Only, Participating in FFS, FFS_MC, MC** **Followed through Calendar Year 2014, N= 7,914,215**



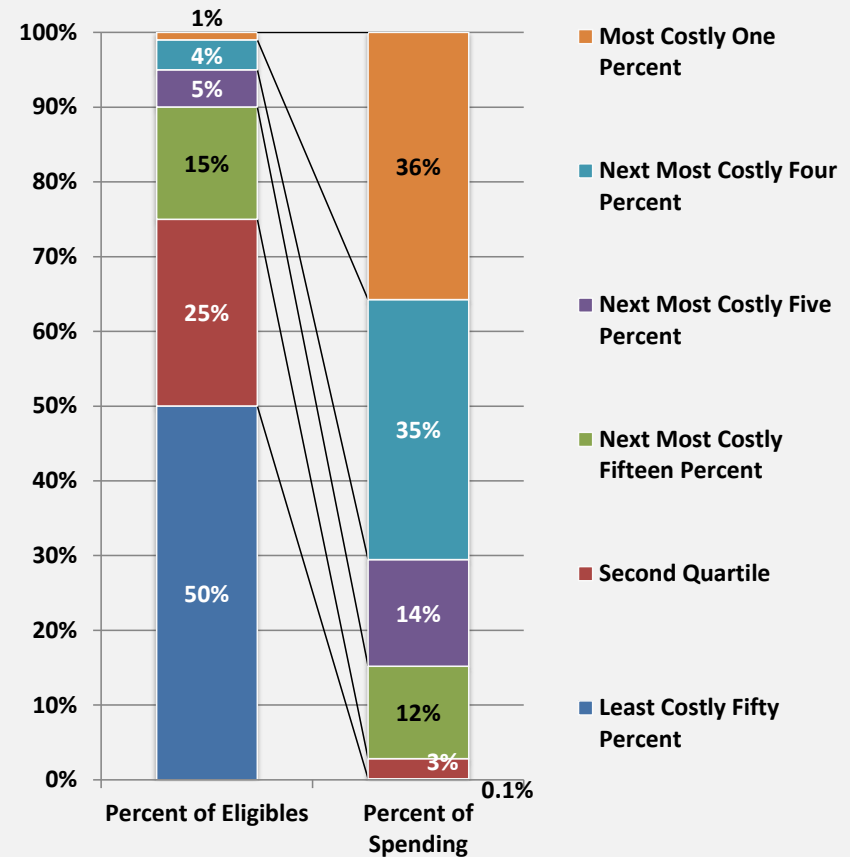
Roughly 15% of the most costly 1% of individuals who were eligible for Medi-Cal only and participated in FFS were deceased within three years.

Five percent died in calendar year 2011, 5% in 2012, 3% in 2013, and 2% in 2014.

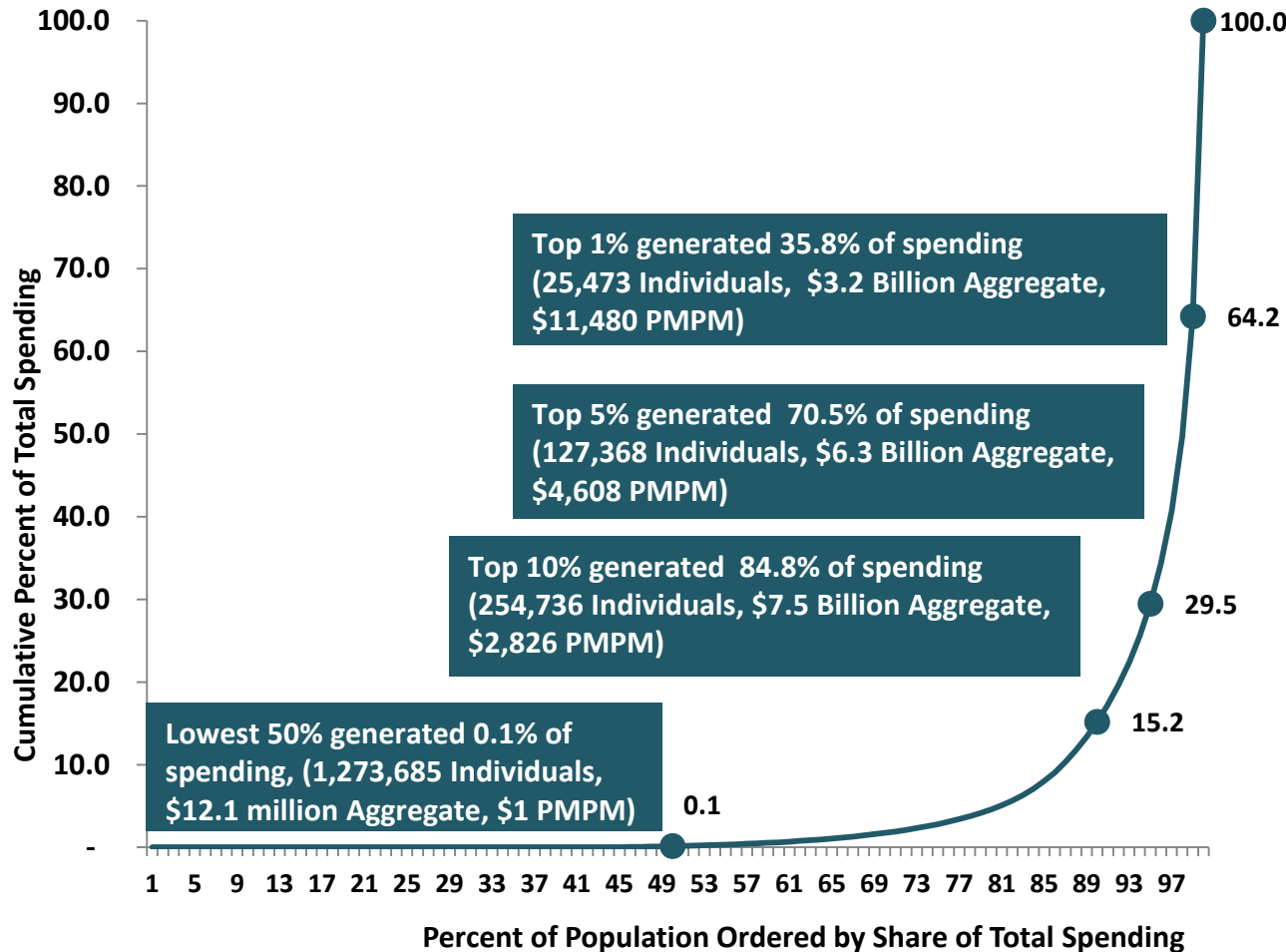
Eligible for
Medi-Cal Only

Participating in
Fee-for-Service
Only

2,547,370 Eligibles; \$8.9 Billion in Total Spending



**Distribution of Spending by Individual
Individuals Eligible For Medi-Cal Only
Participating In FFS**
Eligibles = 2,547,370, Total Spending = \$8.9 Billion
Per Member Per Month (PMPM) = \$442



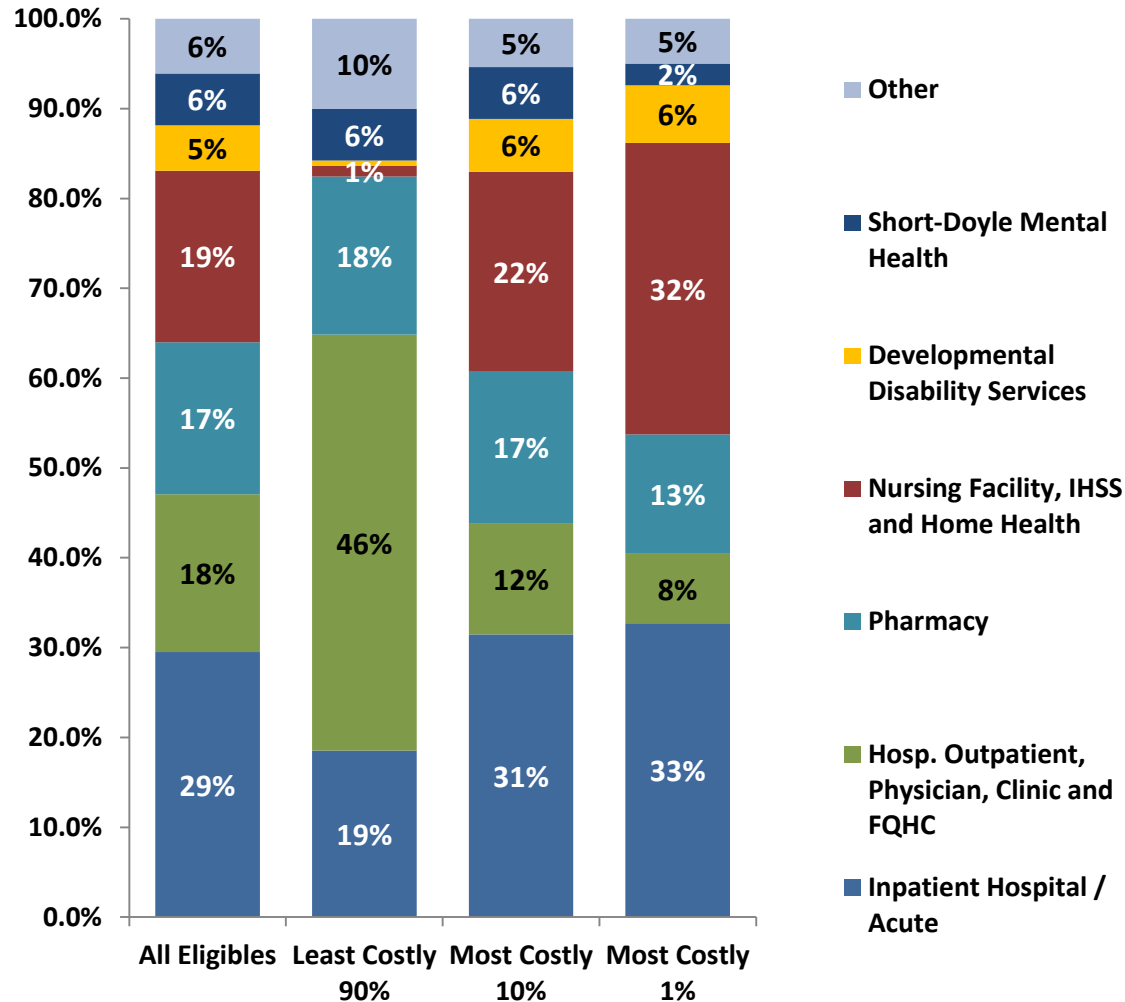
The spending distribution for individuals eligible for Medi-Cal only who participated in Medi-Cal's traditional FFS system only displayed a highly skewed distribution.

The most costly 1% of the population generated 36% of total spending. In this case, 25,473 individuals generated \$3.2 billion in spending.

The most costly 10% of the population generated an astounding 85% of all spending. Just 254,736 individuals, of the total 2.5 million, generated \$7.5 billion in Medi-Cal spending.

Roughly 40% of the individuals eligible for Medi-Cal only who participated in FFS did not receive a health care service reimbursed by Medi-Cal during the observation period.

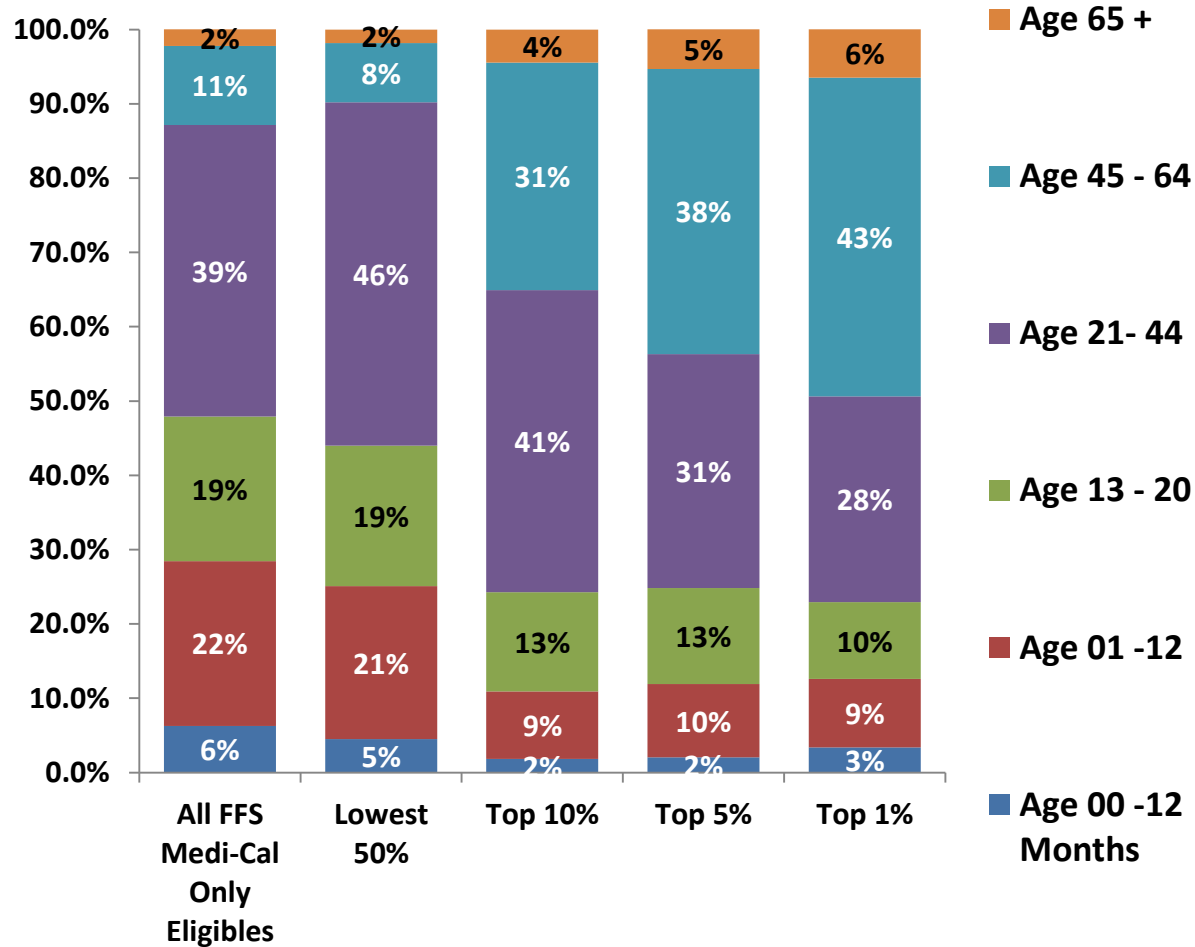
Distribution By Service Category
Individuals Eligible For Medi-Cal Only
Participating In FFS
2,547,370 Eligibles, Total Spending = \$8.9 Billion



The majority of spending for members of the most costly 1%, who generated 36% of the spending, was related to inpatient hospital, nursing facility, home health services and In-Home Supportive Services. These service categories accounted for 65% of the total spending associated with the most costly 1% of the population.

Similarly among the most expensive 10% of the population, hospital inpatient, nursing facility, home health services and In-Home Supportive Services accounted for 53% of total spending.

Age Distribution Individuals Eligible For Medi-Cal Only Participating In FFS Eligibles = 2,547,370, Total Spending = \$8.9 Billion



The most costly cohorts were populated disproportionately by older individuals.

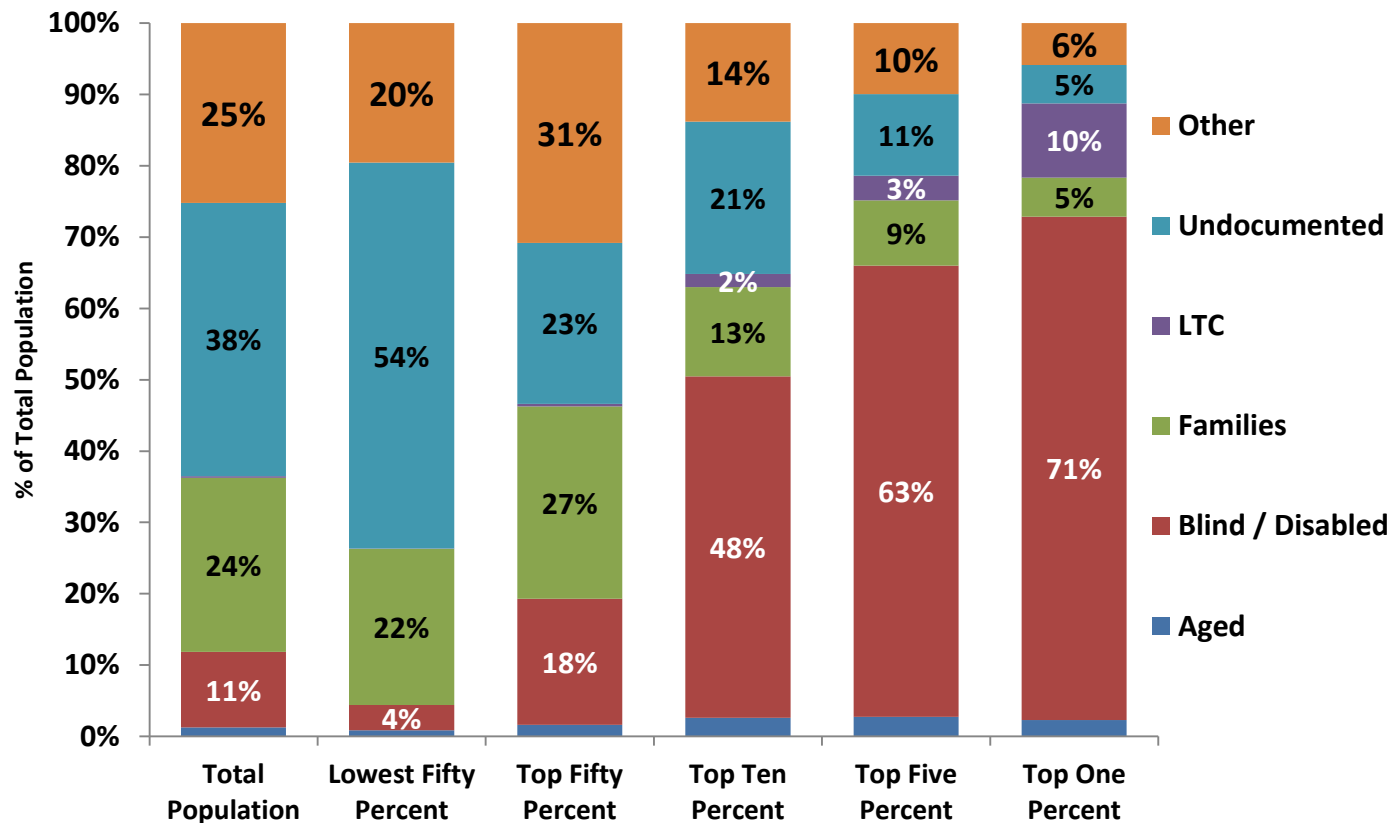
Roughly 2% of individuals eligible for Medi-Cal only who participated in FFS were age 65 or older, while among the most costly 1%, they constituted 6% of the population.

Similarly, individuals between the ages of 45 and 64 represented 11% of the overall population, but constituted 43% of the most costly 1%, 38% of the most costly 5%, and 31% of the most costly 10%.

Younger individuals were likely to populate the lower cost cohorts.

Individuals 1 to 12 years of age represented 22% of the overall population, but only 9% of the most costly cohorts.

**Distribution By Eligibility Pathway
Individuals Eligible For Medi-Cal Only
Participating In FFS
Eligibles = 2,547,370, Total Spending = \$8.9 Billion**



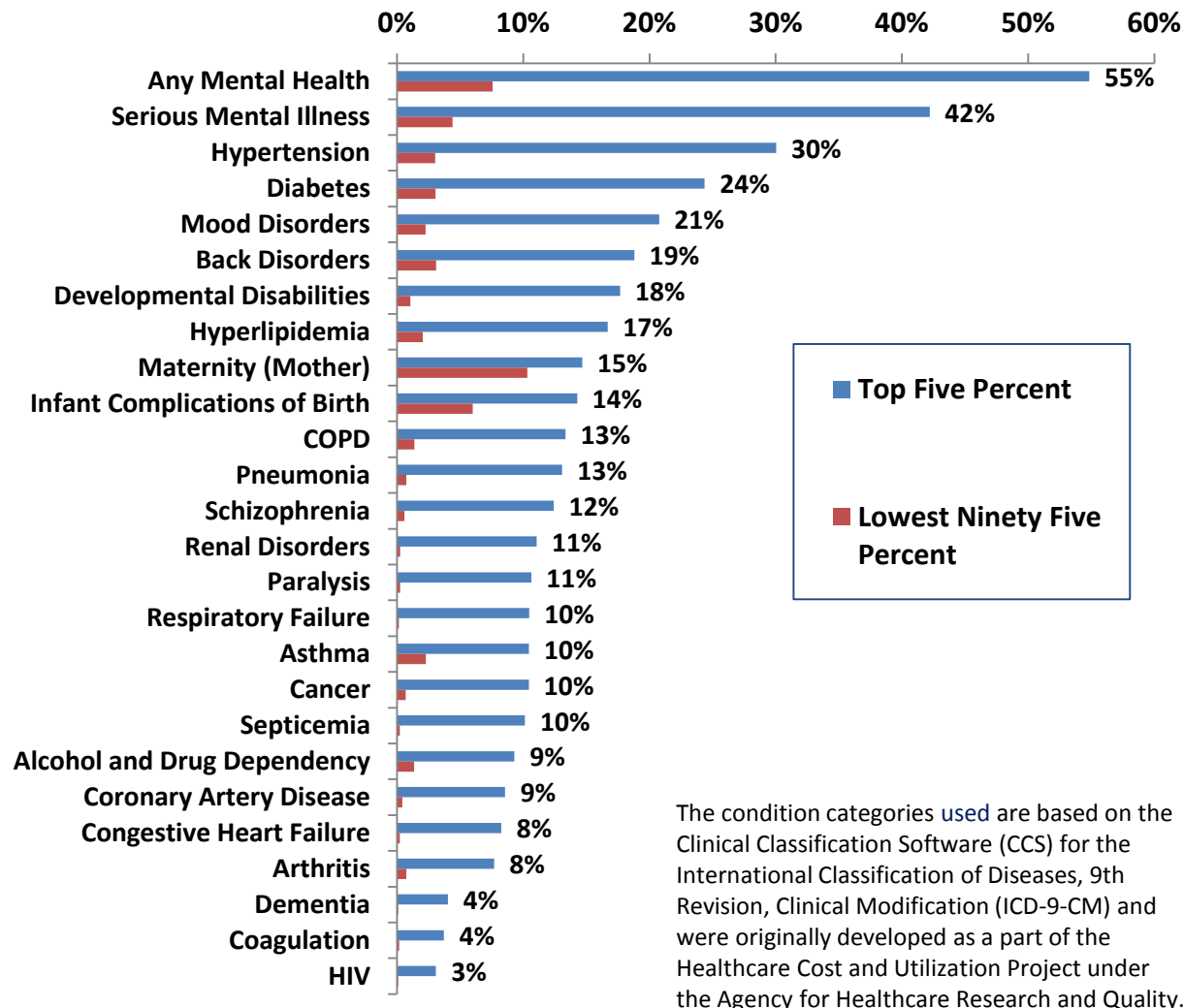
The most costly spending cohorts were primarily populated by the Disabled.

Among the most costly 1% of the population, individuals classified as Disabled constituted 71% of the population.

The most costly 5% and 10% of the population displayed a similar pattern, with 63% and 48% of their populations classified as disabled.

The undocumented, which primarily participates in Medi-Cal's FFS system, constituted 38% of the overall population and were concentrated in the least costly cohort, comprising 54% of the least costly 50%.

**Prevalence of Major Disease Among the Most Costly 5% and Least Costly 95%
Individuals Eligible For Medi-Cal Only , Participating In FFS
Eligibles = 2,547,370, Total Spending = \$8.9 Billion**

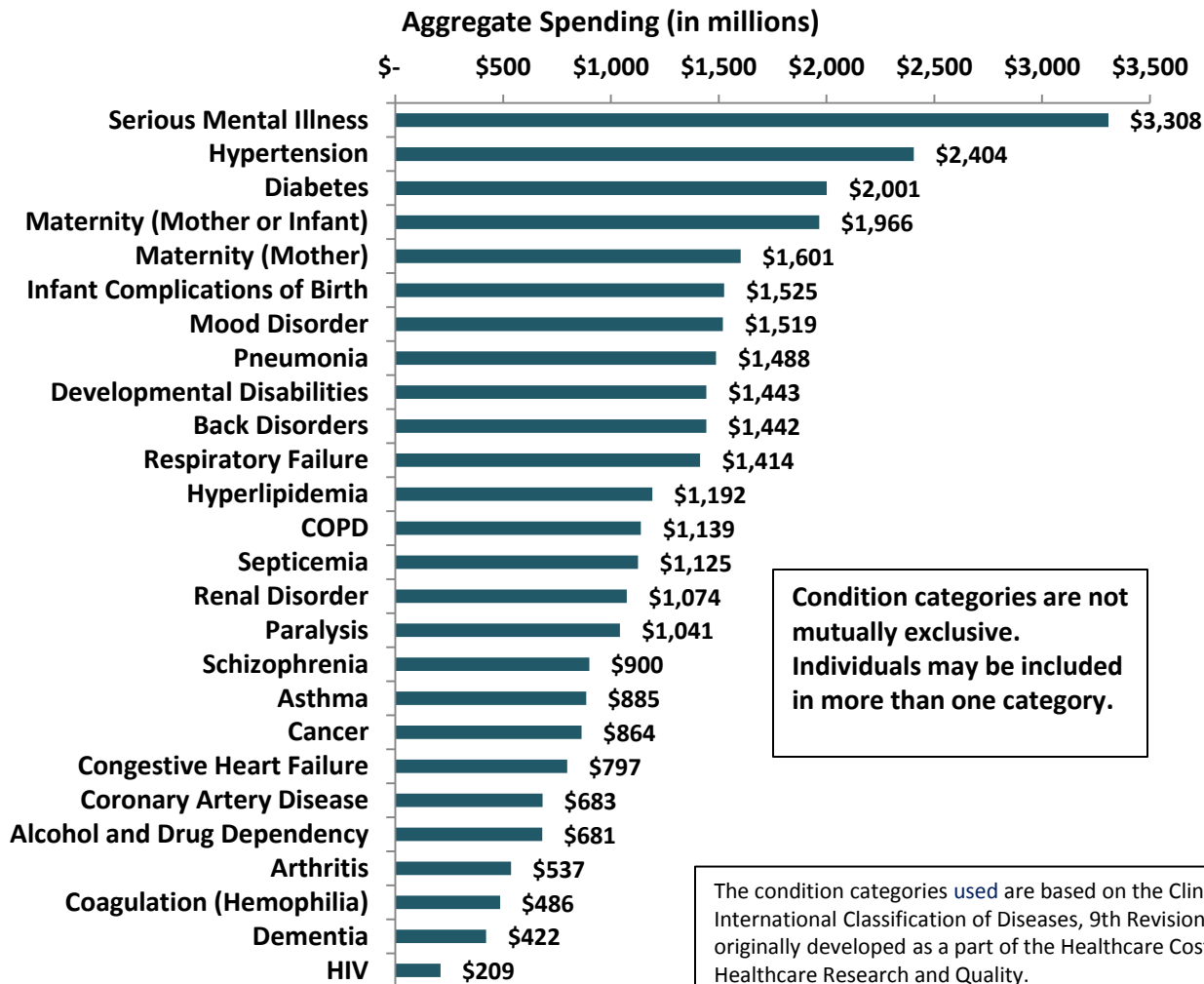


Mental health conditions were very common among the high cost populations.

Within the most costly 5%, individuals eligible for Medi-Cal only who participated in FFS displayed a treatment prevalence for any mental health condition of 55%, while serious mental illness displayed a treatment prevalence of 42%.

Other conditions displaying significant differences in treatment prevalence between the most costly 5% and least costly 95% included hypertension, diabetes, mood disorders, back disorders, developmental disabilities, hyperlipidemia, birth complications, COPD, pneumonia, schizophrenia, renal disorders, and paralysis.

Total Spending Associated with Individuals Treated for Major Diseases
Individuals Eligible For Medi-Cal Only
Participating In FFS
Eligibles = 2,547,370, Total Spending = \$8.9 Billion

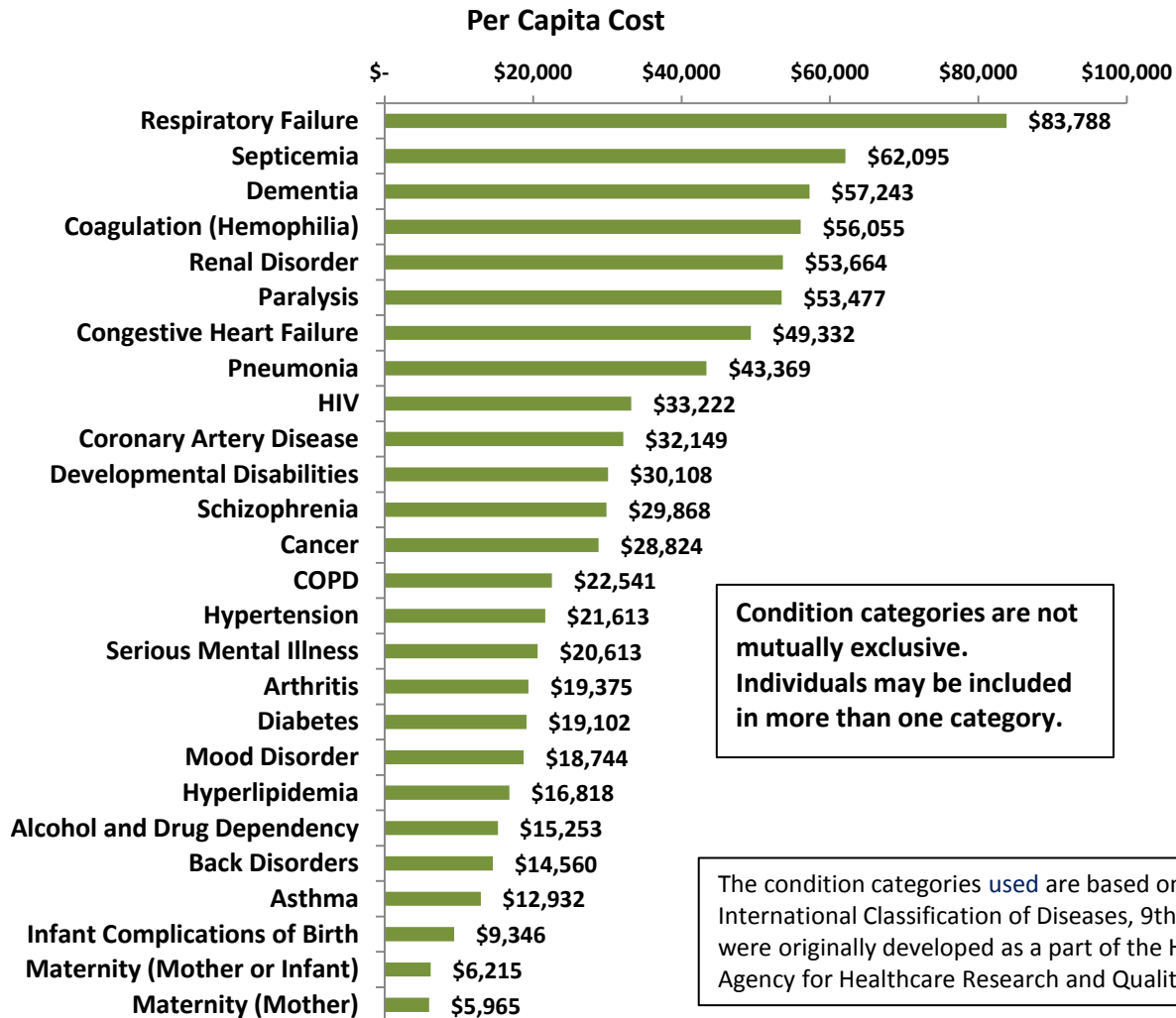


The amount of aggregate spending associated with individuals treated for specific clinical conditions may result from the high prevalence of the condition, the high cost of treating individual cases of that condition, or the types of co-occurring conditions associated with specific conditions.

Each bar in the chart represents aggregate Medi-Cal health care spending associated with individuals treated for particular conditions. Spending includes all services associated with each distinct population, including any other services and spending related to co-occurring conditions.

While per-capita costs for individuals treated for some conditions listed may be low, aggregate spending may be high due to widespread prevalence of the particular condition.

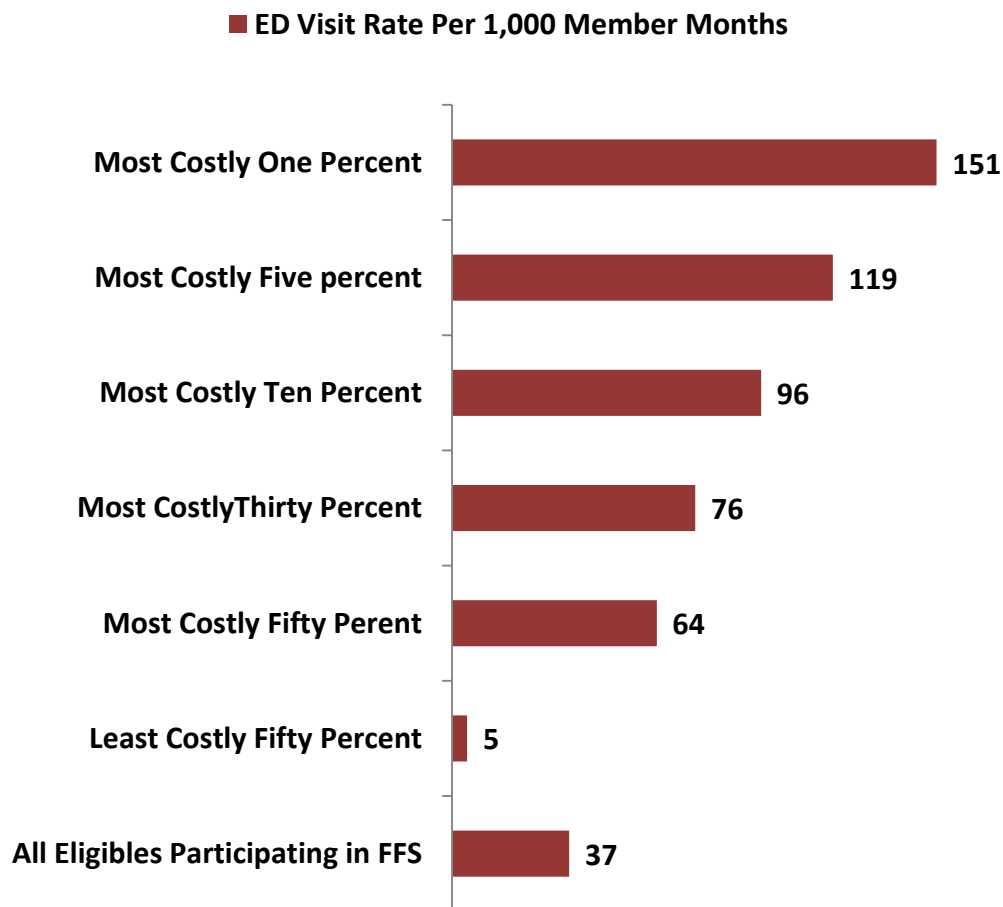
Per Capita Spending Associated with Individuals Treated for Major Diseases
Individuals Eligible For Medi-Cal Only
Participating In FFS
Eligibles = 2,547,370, Total Spending = \$8.9 Billion



The bars in the chart present the per-capita spending for individuals treated for particular conditions. As noted prior, some conditions and populations are relatively small, but generated a high per-capita cost. Others may have impacted a significant population, but generated relatively low per-capita spending.

Note, the spending presented includes total health care costs for individuals, including health care costs associated with other co-occurring conditions. Further, spending is driven, in many cases, by co-occurring conditions and specific conditions may be more likely to include individuals with high cost co-occurring conditions.

Emergency Department Use Rates by Spending Cohort
Individuals Eligible For Medi-Cal Only
Participating In FFS
Eligibles = 2,547,370, Total Spending = \$8.9 Billion

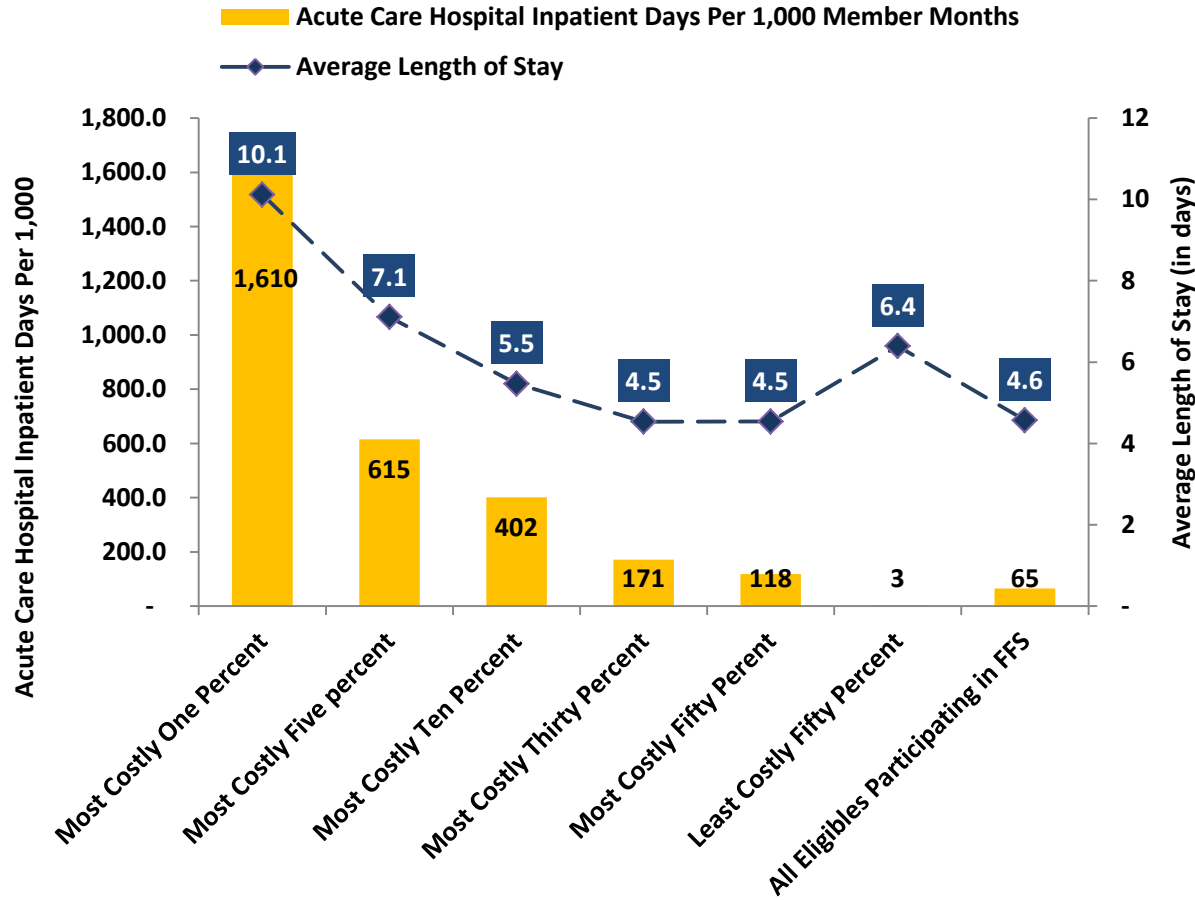


Individuals eligible for Medi-Cal only who participated in FFS generated an ED visit rate per 1,000 member months of 37.

There were extreme disparities in ED utilization among the low- and high-cost members of this population.

The least costly half of the population generated only 5 visits per 1,000 member months, while the most costly 1% generated 151 visits per 1,000 member months.

**Acute Care Hospital Inpatient Days / 1,000 Member Months and
Average Length of Stay (ALOS)
Individuals Eligible For Medi-Cal Coverage Only
Participating in FFS
Eligibles = 2,547,370, Total Spending = \$8.9 Billion**



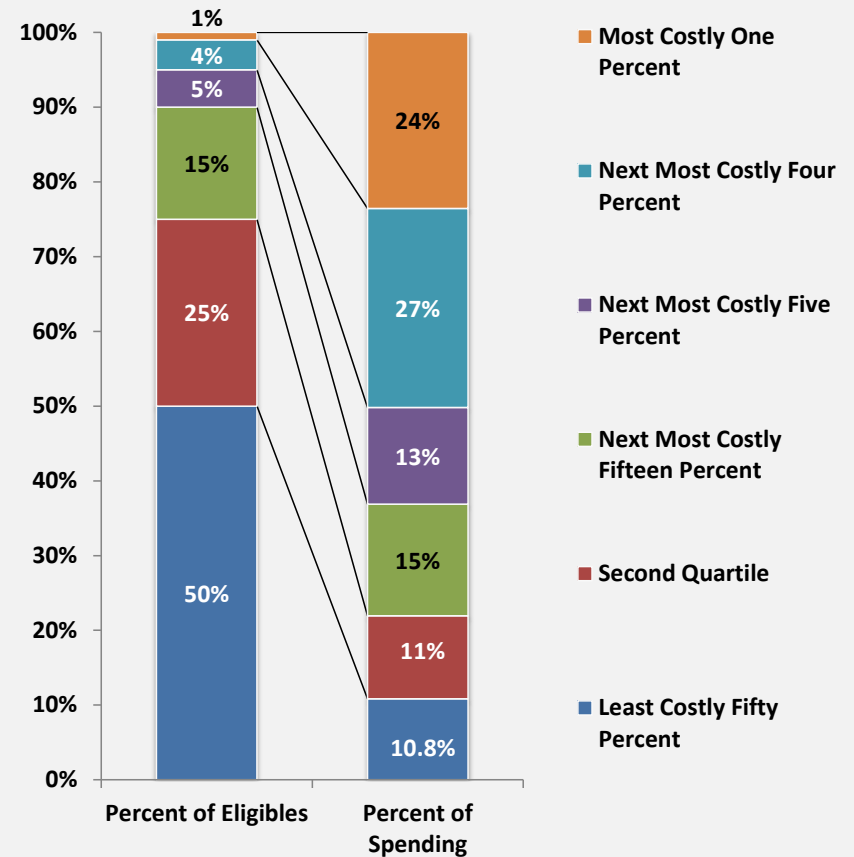
Individuals eligible for Medi-Cal only who participated in both FFS and managed care generated an acute care hospital inpatient day per 1,000 member months rate of 65.

Wide disparities in utilization were evident between the low- and high-cost members of this population. The least costly half of the population generated only 3 acute care hospital inpatient days per 1,000 member months, while the most costly 1% generated 1,610 acute care hospital inpatient days per 1,000 member months, a rate that was 25 times greater. Members of the most costly 1% of the population also experienced an ALOS, in days, that was twice the average for this population.

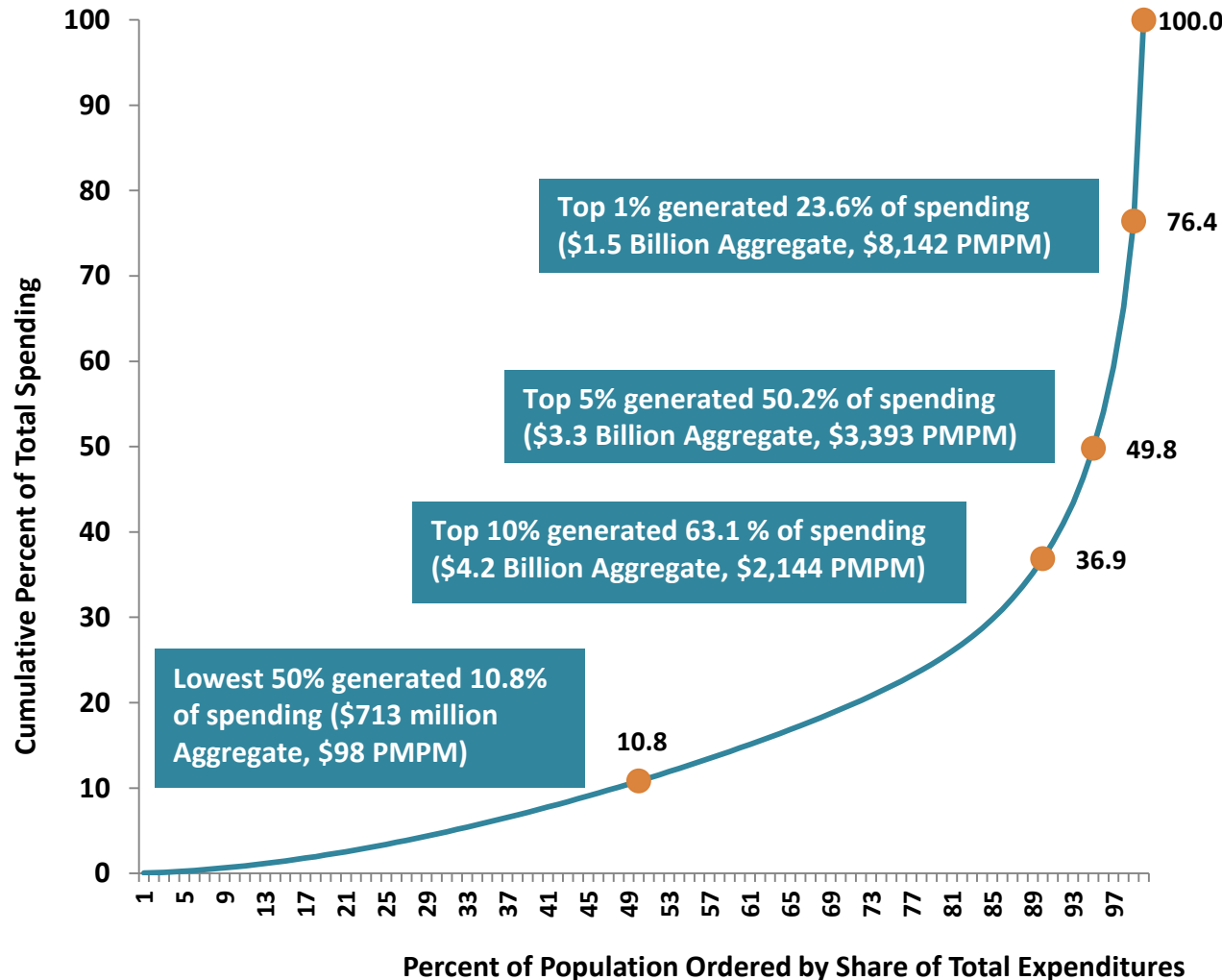
Eligible for Medi-Cal Only

Participating in Both Fee-for- Service and Managed Care

1,697,181 Eligibles; \$6.6 Billion in Total Spending



Spending Distribution
Individuals Eligible For Medi-Cal Only
Participating in Both FFS and Managed Care
Eligibles = 1,697,181, Total Spending = \$6.6 Billion
Per Member Per Month (PMPM) = \$392



Like the previous spending distributions presented, individuals eligible for Medi-Cal only who participated in both FFS and managed care also displayed a skewed distribution.

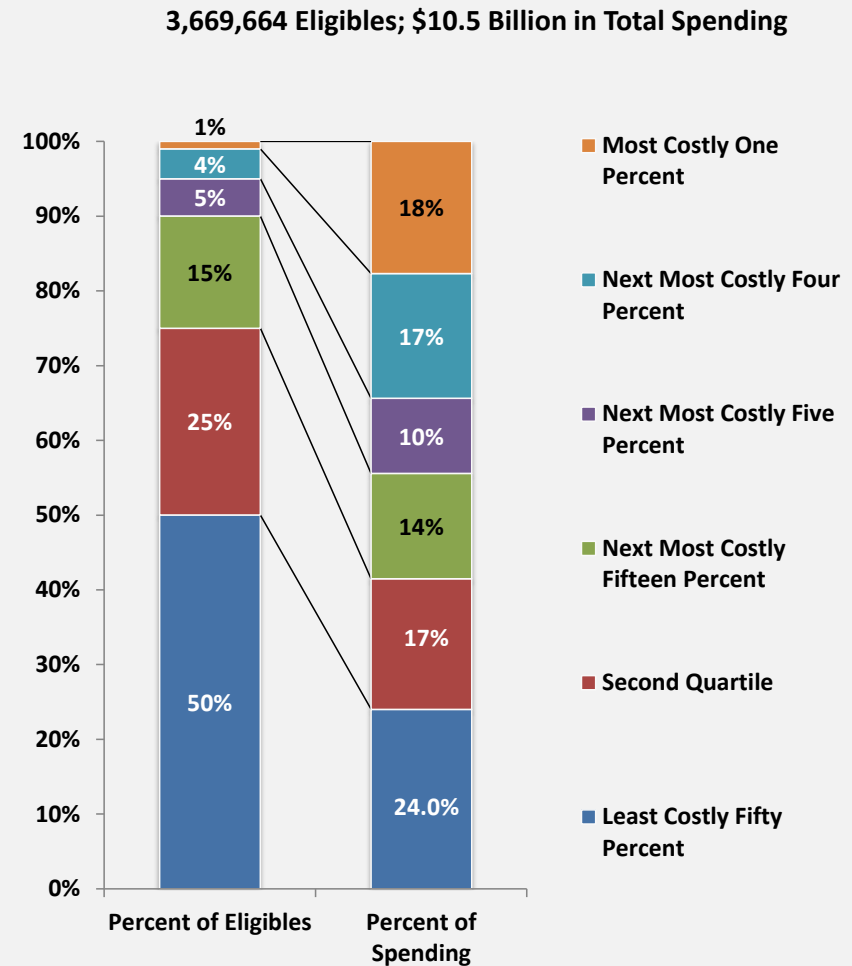
A small segment of this population generated a disproportionate share of total spending. The most costly 1% of the population, just 16,972 individuals, generated 24% of all spending or \$1.5 billion.

The most costly 10% of this population generated 63% of total spending.

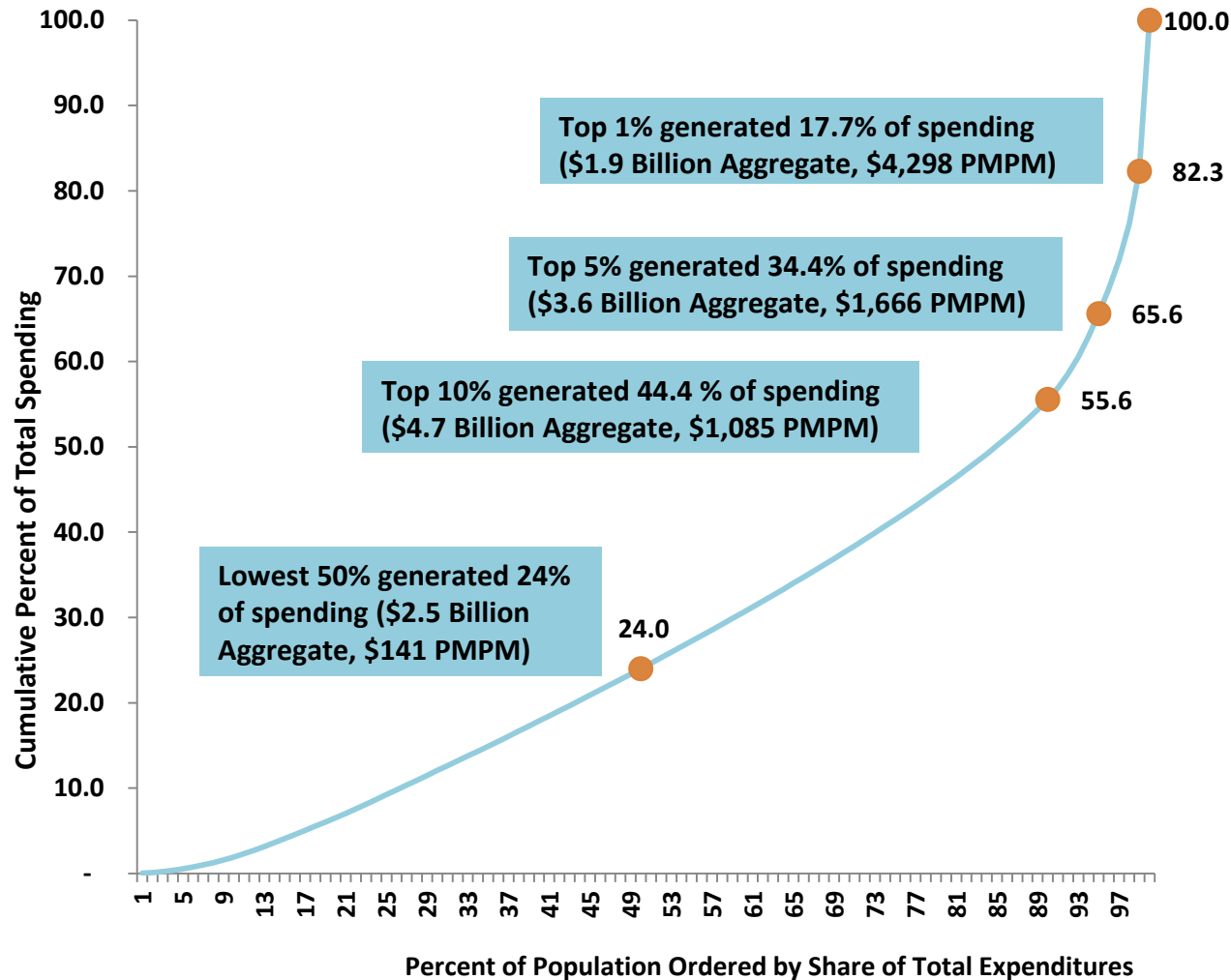
The least costly 50% of the population generated roughly \$700 million in spending, representing only 11% of total spending.

Eligible for
Medi-Cal Only

Participating in
Managed Care
Only



Spending Distribution
Individuals Eligible For Medi-Cal Only
Participating in Managed Care
Eligibles = 3,669,664, Total Spending = \$10.5 Billion
Per Member Per Month (PMPM) = \$266



The spending distribution for individuals eligible for Medi-Cal only who participated in managed care plans was less skewed than the other distributions displayed.

This is the result of the form of reimbursement. While risk adjustment is applied somewhat to calibrate payments to the expected health care costs, even so, a perfect risk adjustor does not exist. Therefore, even under the best circumstances, at the state level, we are not able to truly evaluate the spending distribution associated with this population.

But because of carve-outs, risk adjustment applied, and other service costs such as mental health, developmental services, in-home-supportive services, etc., the spending distribution does provide some insight into high cost populations.

Medi-Cal's Diabetic Population Participating in FFS Eligible For Medi-Cal Only N = 100,680

Health Care Cost, Utilization, and Demographics

In this section, RASD provides descriptive statistics for individuals that participated in Medi-Cal's traditional fee-for-service (FFS) system and were treated for diabetes.

The information will describe this population's health care use, how spending was distributed among the population, and provide a demographic picture of this high cost population.

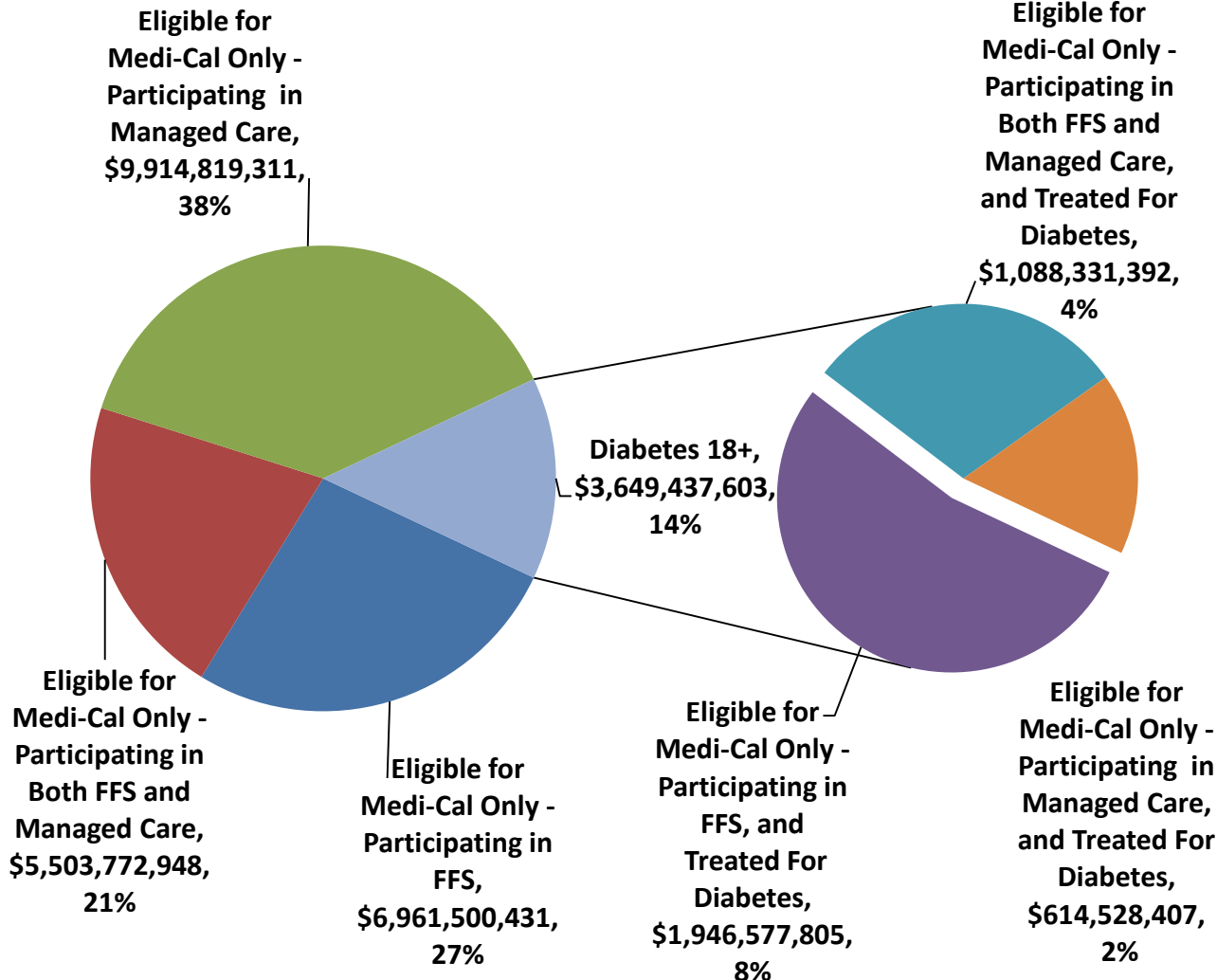
RASD compares and contrasts the high cost cohorts to the low cost cohorts throughout.

RASD also provides the audience with health condition treatment prevalence by cost cohort. This will allow the audience to compare and contrast the various subpopulations and members of the various cost cohorts studied.

Spending Distributions, All Medi-Cal Only Eligibles Compared to Medi-Cal Only Adults 18+ Treated For Diabetes

Total Spending = \$26 Billion
N=7,914,215

Total Spending Diabetes = \$3.6 Billion
N=303,560

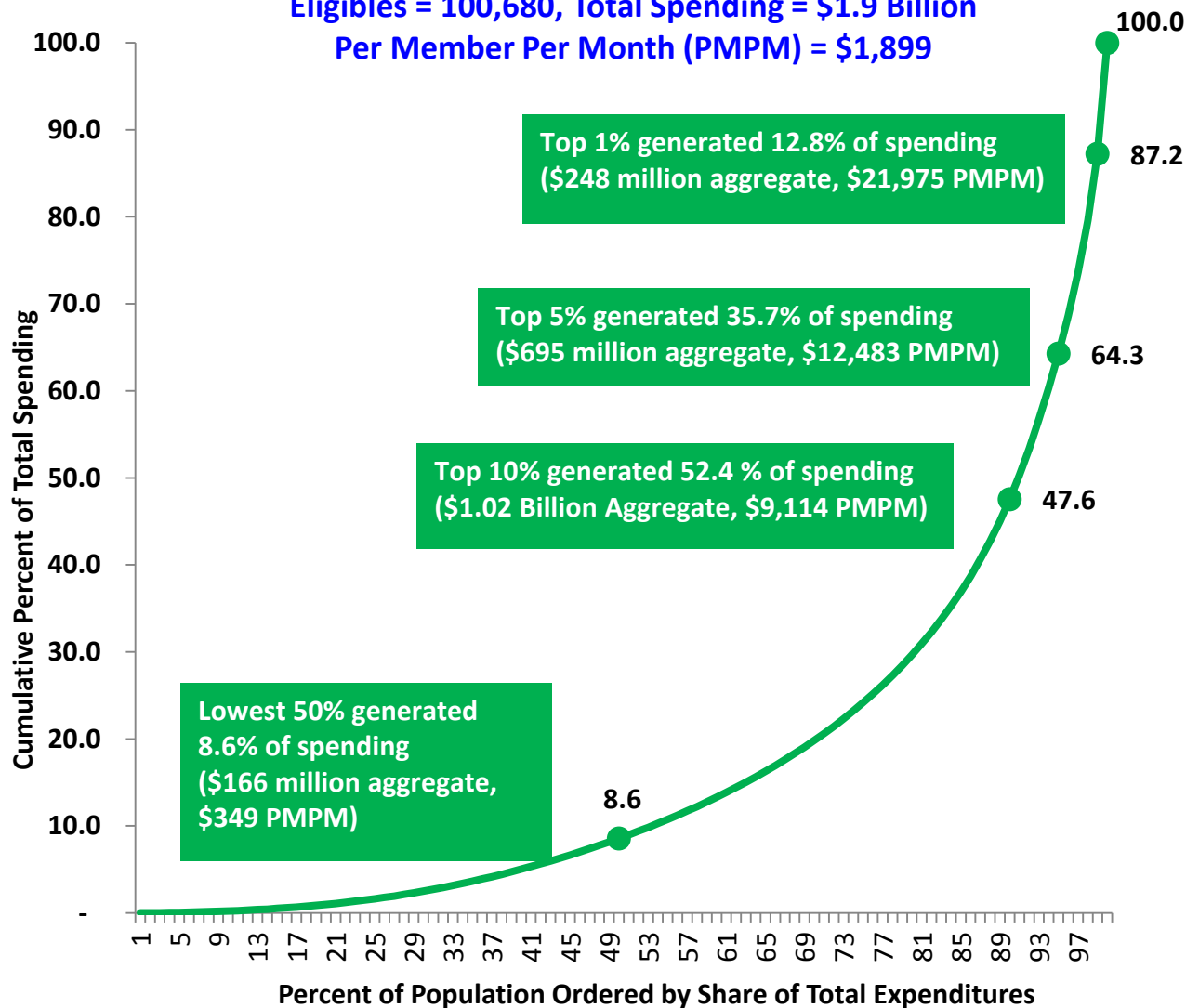


Among Medi-Cal eligible only individuals, spending associated with adult individuals treated for diabetes totaled \$3.6 billion, or roughly 14% of total spending on non-dual eligibles.

During CY 2011, 303,560 individuals, eligible for Medi-Cal only, were treated at some time for diabetes.

The greatest spending was associated with individuals that participated in Medi-Cal's traditional FFS system throughout the year (\$1.9 billion).

Spending Distribution
Fee-for-Service Eligibles Treated For Diabetes
Age 18+, Eligible For Medi-Cal Coverage Only
Eligibles = 100,680, Total Spending = \$1.9 Billion
Per Member Per Month (PMPM) = \$1,899



The cost profile for adults treated for diabetes displayed the familiar right skewed distribution.

In this case, the most costly 1% of the population, just 1,006 individuals, generated roughly 13% of total spending or \$248 million.

The most costly 5% of the population generated roughly 36% of all spending, while the most costly 10% generated over 50% of total spending.

Eligibility Group	Individuals Treated For Diabetes Who Were Eligible For Medi-Cal Only and Participated in FFS		
	All Beneficiaries (percent)	Most Costly 5%	Most Costly 1%
Eligibles = 100,680, Total Spending = \$1.9 Billion			
Aged	7%	5%	3%
Blind/Disabled	41%	70%	71%
Undocumented	28%	5%	3%
LTC	2%	15%	19%
Families	13%	3%	3%
Other	9%	2%	1%
Age			
18	1%	0%	0%
19-20	2%	1%	1%
21-64	87%	87%	89%
65+	10%	12%	10%
Gender			
Female			
Male			
Race/Ethnicity			
White	22%	30%	29%
African-American	8%	16%	19%
Missing Not Reported	9%	12%	13%
Hispanic	50%	33%	30%
Asian	10%	8%	7%
Native American	1%	1%	2%
Utilization			
ED User Rate (Visits/1000 MM)	93.1	220.0	248.6
IP Hospital Use Rate (Days/1000 MM)	348.5	2727.0	5260.7

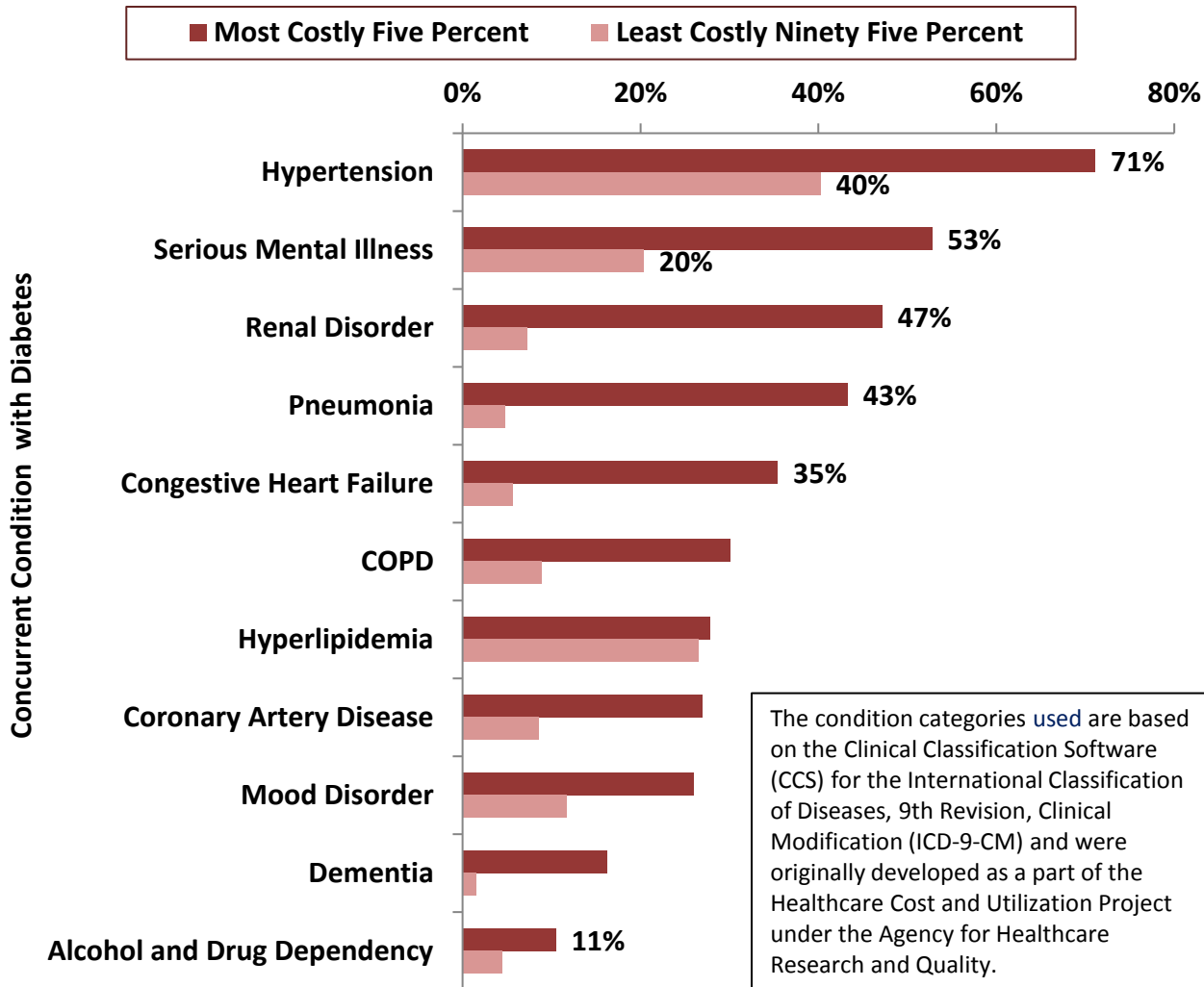
The most costly cohorts among individuals eligible for Medi-Cal only who participated in FFS treated for diabetes were populated by the Disabled.

Seven out of ten individuals constituting the most costly 5% and 1% of the population were classified as Disabled. While the Families made up 13% of the overall diabetes population eligible for Medi-Cal only that participated in FFS, they represented only 3% of the most costly cohorts.

African-Americans represented 8% of the overall population, but constituted 16% and 19% of the most costly 5% and 1% of the population. This was primarily the result of treatment for renal failure.

Hispanics represented 50% of the overall population, but only 30% of the most costly 1%.

Individuals Treated For Diabetes
Health Conditions Treated - Most Costly 5% and Least Costly 95%
Eligible For Medi-Cal Only Age 18+
FFS Participants
Eligibles = 100,680, Total Spending = \$1.9 Billion



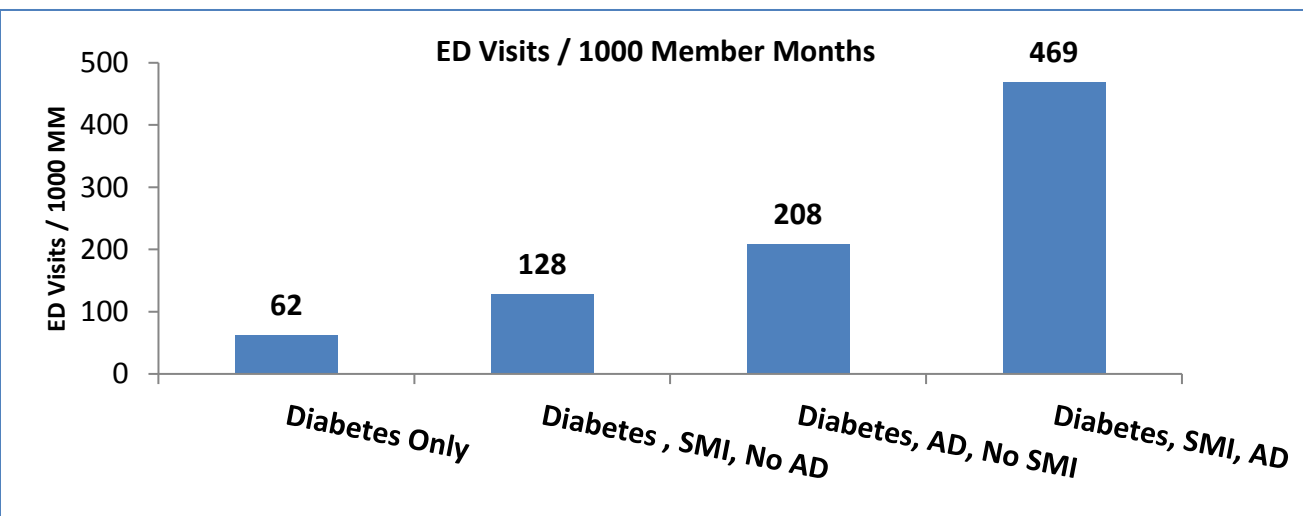
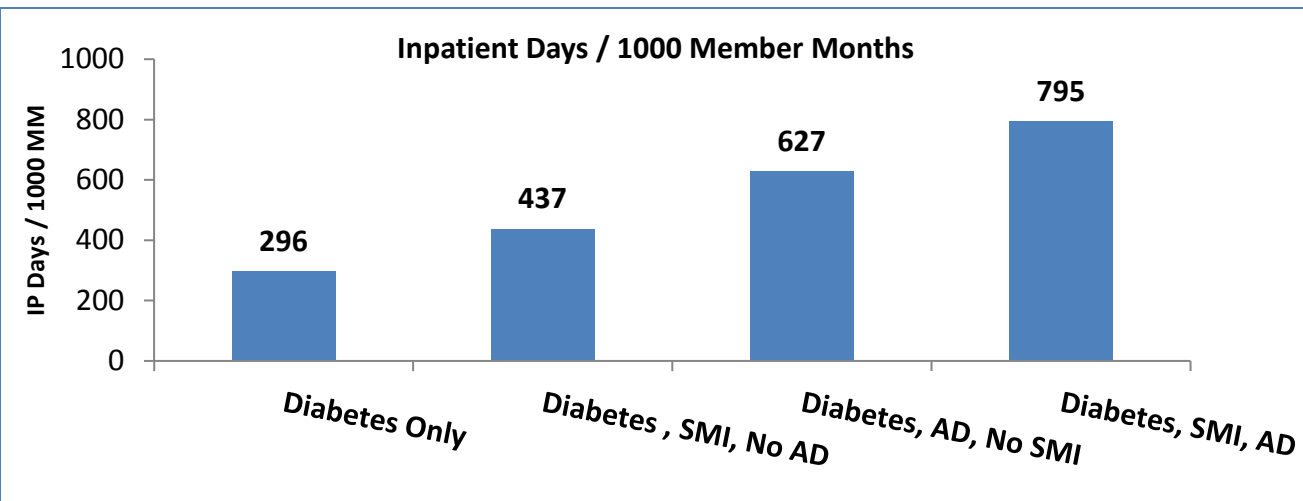
Among the most costly 5% of individuals treated for diabetes and eligible for Medi-Cal only participating in FFS, hypertension displayed the highest treatment prevalence (71%).

Serious mental illness (SMI) was present among more than 50% of the members of most costly 5% cohort, while the least costly 95% displayed a treatment prevalence of 20%.

Renal disorder was found among almost 50% of the members of most costly 5% cohort.

The most costly 5% cohort displayed that 43% were treated for pneumonia. Pneumonia is a serious illness for anyone, but can be very problematic for diabetics. Diabetics are more likely to be sicker longer, admitted to the hospital, or even die.

Health Care Utilization With Multiple Conditions
Individuals Treated for Diabetes
Eligible For Medi-Cal Only Participating in FFS
Adults 18+, N = 100,680



Multiple comorbidities greatly impacted ED health care utilization. Some conditions, when combined with mental health, had a dramatic impact on health care use.

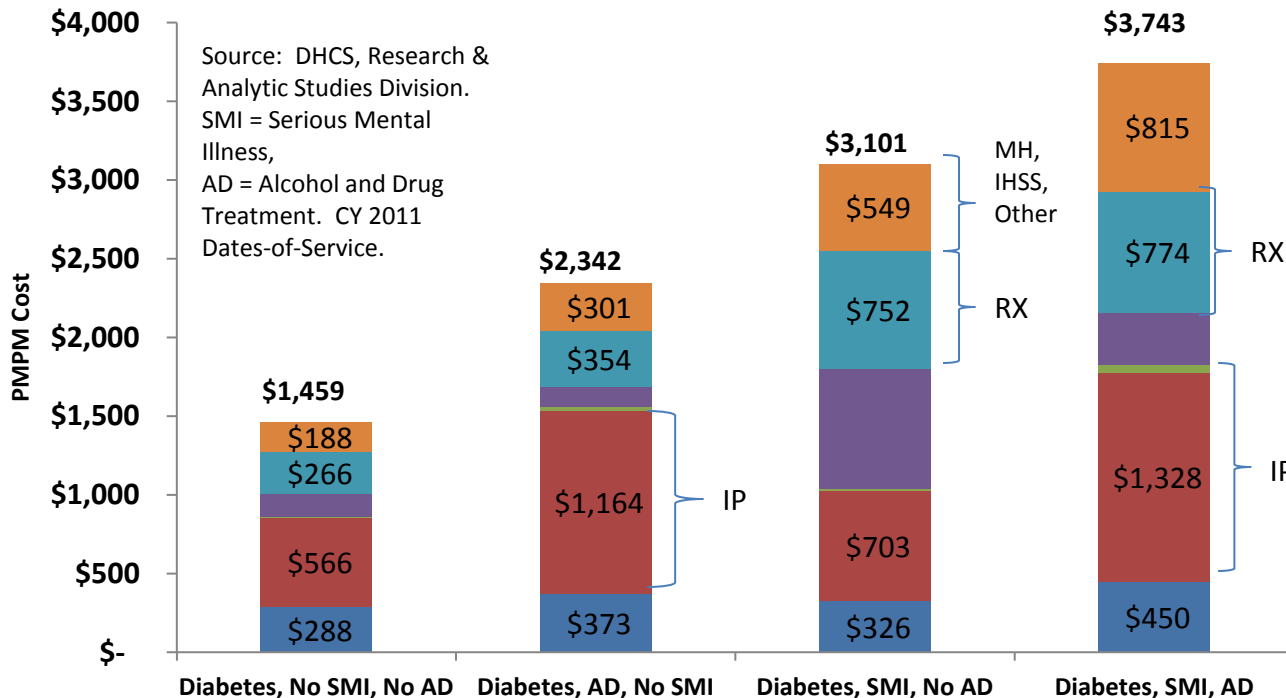
For example, individuals treated for diabetes, serious mental illness, and alcohol and drug dependency displayed emergency room department use rates that are up to 7 times greater than individuals treated for only diabetes.

Acute care hospital inpatient days per 1,000 member months also increased with the presence of multiple co-morbidities.

Individuals treated for diabetes and serious mental illness or alcohol and drug dependency produced an acute care hospital inpatient rate of 795, a rate that was nearly 3 times greater than those treated for diabetes only.

Per-Member-Per-Month Spending By Service Category
Individuals Treated for Diabetes
Eligible For Medi-Cal Only Participating in FFS
Adults 18+, N = 100,680

■ Physician/Clinical/Hosp Outpatient ■ Hospital IP
■ Medical Trans Emergency ■ NF
■ RX ■ Mental Health, IHSS Dental, DDS, Other



*Diabetes Only = Diabetes and no SMI or AD

Per-Member-Per-Month (PMPM) varied considerably based on the presence of specific combinations of chronic illness.

In addition, the distribution of total health care costs varied by service category within each combination of health conditions evaluated.

When evaluating the triad of diabetes, serious mental illness (SMI), and alcohol and drug dependency (AD), it was noted that individuals treated for SMI generated pharmaceutical costs that were roughly 2.1 to 2.9 times greater than individuals treated for only diabetes or diabetes and AD. This was driven by their use of psychotropic drugs.

Individuals treated for diabetes and AD as well as those treated for diabetes, SMI, and AD generated the highest acute care hospital IP costs PMPM. The higher cost was primarily the result of greater acute care inpatient admissions and the average length of stay.

Case Studies: Beneficiaries in the Most Expensive One Percent – Ms. A

Beneficiary		Ms. A
Gender		Female
Age		53 years old
Eligibility Pathway		Disabled
Health System		FFS
Indications of Homeless		No
Rank in the Cost Distribution		Most Costly 1%
Expenditures		
Total Medi-Cal Spending		\$ 185,686
Utilization		
Physician and Clinical Claims		407
Pharmacy Claims		91
Short-Doyle Mental Health Clinic Visits		1
ED Visits		47
Hospital Stays		51
Hospital Days		148
Average Length of Stay		2.9
IP Stays Classified As Preventable Hospitalizations (PQI 90)		24
Clinical profile		
CDPS Prospective Risk Score (Standardized)		8.31
Number of Body Systems with Diagnoses for Chronic Disease		11
Conditions Treated	Alcohol and Drug Dependency, Back Disorders, Congestive Heart Failure, COPD, Coronary Artery Disease, Diabetes, Hypertension, Mood Disorder, Pneumonia, Respiratory Failure, Schizophrenia, Septicemia	

Many individuals that were identified among the highest cost cohorts were treated for multiple chronic conditions and were commonly found to be managing a mental health condition.

In some cases, other social factors, such as homelessness also were present.

Other Case Studies:

Beneficiary	Mr. B	Ms. C	Ms. D	Mr. E
Gender	Male	Female	Female	Male
Age	26 years old	50 years old	48 Years old	60 Years old
Eligibility Pathway	Disabled	Disabled	Disabled	Disabled
Health System	FFS	FFS	FFS	FFS
Indications of Homeless	Yes	Yes	No	Yes
Rank in the Cost Distribution	100 (most costly 1%)	100 (most costly 1%)	100 (most costly 1%)	100 (most costly 1%)
Expenditures				
Total Medi-Cal Spending	\$ 116,113	\$ 103,447	\$ 97,871	\$ 82,724
Acute Hospital Inpatient	\$ 67,509	\$ 37,250	\$ 32,390	\$ 60,576
Utilization				
Physician and Clinical Claims	103	327	109	146
Pharmacy Claims	112	168	149	101
Short-Doyle Mental Health Visits	3	88	0	2
ED Visits	23	28	9	13
Hospital Stays	23	19	5	15
Hospital Days	36	45	19	59
Average Length of Stay	1.6	2.4	3.8	3.9
Preventable Hospitalizations (PQI 90)	18	2	0	7
Clinical profile				
CDPS Prospective Risk Score (Standardized)	6.28	5.74	6.90	4.23
Number of Body Systems with Diagnoses for Chronic Disease	4	10	9	6
Conditions Treated	Alcohol and Drug Dependency, Back Disorders, Congestive Heart Failure, Developmental Disability, Diabetes, Hypertension, Hyperlipidemia, Mood Disorder, Respiratory Failure, Schizophrenia, Septicemia	Back Disorders, Congestive Heart Failure, COPD, Coagulation, Coronary Artery Disease, Diabetes, Mood Disorder, Renal Disorder, Schizophrenia	Congestive Heart Failure, Diabetes, Hypertension, Hyperlipidemia, Pneumonia, Schizophrenia, Septicemia	Alcohol and Drug Dependency, Back Disorders, Coronary Artery Disease, Diabetes, Hypertension, Renal Disorder, Respiratory Failure, Schizophrenia