



MEDICAID AND HIV: A NATIONAL ANALYSIS

OCTOBER 2011

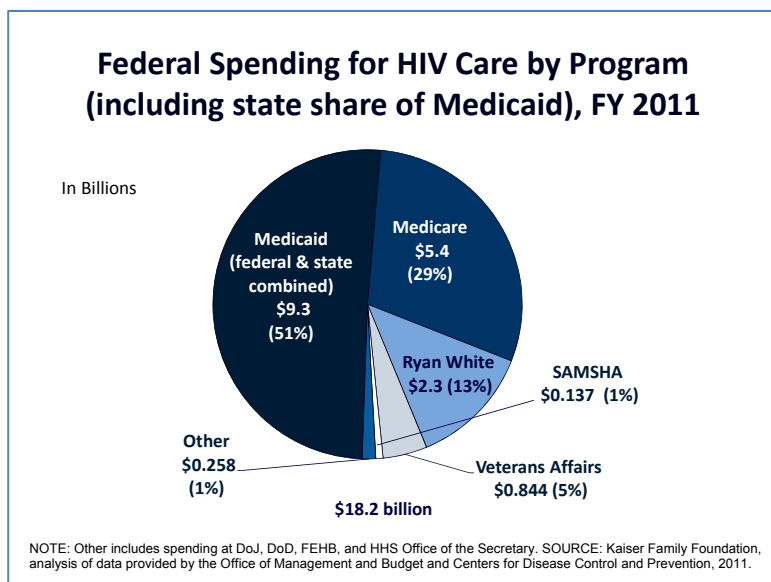
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EXECUTIVE SUMMARY

Medicaid, the nation's principal safety-net health insurance program for low-income Americans, has played a critical role for people with HIV from the early days of the AIDS epidemic in the 1980s and has remained so ever since. Medicaid is estimated to be the single largest source of coverage for people with HIV in the U.S., and to account for more than half of all spending on HIV care by the federal government (including the state share of Medicaid spending) (see Figure).



Despite the importance of Medicaid for people with HIV, there is a dearth of comprehensive and current information about its role for this population. Most studies conducted to date have been limited to small, non-representative samples or are outdated. This has significantly hampered the ability of policymakers and others to fully understand Medicaid's role for people with HIV. This gap is all the more important to fill given pending changes to the Medicaid program as a result of the Patient Protection and Affordable Care Act (The Affordable Care Act or ACA), which will significantly expand access to Medicaid for many people with HIV as of 2014. It is also important in light of the release of the first comprehensive National HIV/AIDS Strategy (NHAS) for the U.S., which includes "increasing access to care and improving health outcomes for people living with HIV" as one of three primary goals.

This report provides new information about Medicaid and HIV based on analysis of data reported by all states to the federal government through the Medicaid Statistical Information System (MSIS). Although Medicaid enrollees with HIV represent just a small fraction of the overall Medicaid population, they account for a significant share of people with HIV in regular care. Medicaid enrollees with HIV have a different demographic profile than enrollees without the disease and also have higher costs, even when compared to other high-cost enrollees groups such as the elderly and disabled, reflecting their care needs and the high cost of HIV care. The role played by prescription drugs is significant, accounting for the largest share of spending by service for those with HIV. Most enrollees with HIV qualify because they are permanently disabled and unable to work, and about three in 10 are also dually eligible for Medicaid and Medicare, a greater share than enrollees without the disease. Finally, the prevalence of mental illness and substance use, complex co-morbid conditions that often require more intensive and coordinated services, is much greater for those with HIV. Other key findings include:

Enrollment and Demographics

- There were 212,892 Medicaid enrollees with HIV in FY 2007, comprising a small fraction of the Medicaid population (<1%), but almost half (47%) of people with HIV estimated to be in regular care.
- Whereas Medicaid enrollees with HIV are most likely to be male, black, and over the age of 19, as are people with HIV overall, Medicaid enrollees without HIV are most likely to be female, white, and under the age of 19.
- Disability is by far the most common categorical eligibility pathway for people with HIV with three quarters (74%) qualifying for Medicaid as disabled. This is likely due to current federal Medicaid eligibility rules which categorically exclude non-disabled adults without dependent children; as a result, low-income people with HIV typically cannot qualify for Medicaid until they become disabled.
- A significant share of enrollees with HIV – about three in 10 (29%) – are dually eligible for both Medicaid and Medicare, compared to 19% of those without HIV. Dual eligibles are among the most chronically ill and costly Medicaid enrollees, with many having multiple chronic conditions and

requiring long-term care. Half of enrollees with HIV also had a co-occurrence of mental illness and/or substance use, compared to 22% of enrollees without HIV.

Spending and Services

- Spending on enrollees with HIV totaled \$5.3 billion in FY 2007, about 2% of overall Medicaid spending. Prescription drugs accounted for the largest share of spending for enrollees with HIV (31%); by contrast, it was the smallest for enrollees without HIV (7%). In addition, enrollees with HIV were significantly more expensive than their non-HIV positive counterparts, with per capita costs almost five times greater (\$24,867 compared to \$5091). This pattern holds across all eligibility categories.
- The distribution of enrollees with and spending on HIV varies across the country, and differs from the distribution of HIV/AIDS prevalence. For example, while people with HIV overall are most likely to live in the South, the Northeast accounted for the largest share of Medicaid enrollees with HIV and spending for HIV. The top 10 states by enrollment and spending were generally those with the greatest number of people living with the disease, although per capita spending varies significantly.

These findings have important implications for policy. First, they underscore the importance of Medicaid for people with HIV, confirming and updating prior estimates. Second, they provide new information on Medicaid's role for the population, particularly as compared to enrollees without HIV. Finally, they serve as an important baseline from which to monitor the impact of the ACA. Given Medicaid's already critical role for those with HIV, one that is expected to expand significantly as of 2014, such information can help to inform ongoing efforts to increase access to care and improve health outcomes for people with HIV.

INTRODUCTION

Medicaid, the nation's principal safety-net health insurance program for low-income Americans, has played a critical role for people with HIV since the beginning of the AIDS epidemic in the 1980s.¹ Early on, Medicaid emerged as an increasingly important source of coverage for people with HIV. At that time in the epidemic, there were no effective treatments available and most people with HIV became very sick quite quickly. Often unable to work, they lost access to income and health insurance and became eligible for Medicaid. As Medicaid financed an increasing share of HIV care, researchers coined the phrase, the "Medicaidization of AIDS".²

The emergence of effective, combination antiretroviral therapy a decade later dramatically changed the treatment landscape for HIV disease, reducing HIV-related illness and death significantly, and enabling people with HIV/AIDS to live longer and stay healthier.^{3,4} Yet these new treatments – the standard of HIV care today – are not a cure for HIV disease. Antiretroviral treatment is expensive and complex, and multiple other health services are needed to manage HIV disease which remains a disabling condition for many who often must turn to Medicaid for health insurance. In addition, an increasing share of those newly affected by HIV are likely to be low income.^{5,6,7,8,9} As such, Medicaid continues to be a critical source of care for people with HIV/AIDS in the U.S., estimated to be their single largest source of coverage.^{10,11} It is also estimated to account for more than half of all federal spending on HIV care, when the state share of Medicaid spending is included.¹²

Despite the importance of Medicaid for people with HIV disease, there is a dearth of information about its role for this population. Most studies conducted to date have been limited to small, non-representative samples (e.g., a limited number of states, medical sites, or patient populations) and/or are outdated.^{11,13} In fact, the only nationally representative study of people with HIV/AIDS in care ever conducted – the HIV Cost and Services Utilization Study (HCSUS)¹⁴ – is now nearly 15 years old. As a result, even official federal government estimates of Medicaid spending on HIV care are based on these limited studies.¹⁵

The lack of more comprehensive and current data has hampered the ability of policymakers and others to fully understand Medicaid's role for people with HIV/AIDS. This gap is all the more important to fill given pending changes to the Medicaid program as a result of the Patient Protection and Affordable Care Act (The Affordable Care Act or ACA), which will significantly expand access to Medicaid for many people with HIV/AIDS as of 2014. It is also important in light of the release of the first comprehensive National HIV/AIDS Strategy (NHAS) for the U.S., which includes "increasing access to care and improving health outcomes for people living with HIV" as one of three primary goals. Understanding Medicaid coverage for HIV is also timely given the announcement of new scientific evidence indicating that providing HIV treatment to people with HIV significantly reduces the risk of transmission to their negative partners.^{16,17} This latter development underscores the importance providing access to HIV treatment, including through Medicaid, for this population.

This report provides new information on Medicaid and HIV based on analysis of data reported by all states to the federal government through the Medicaid Statistical Information System (MSIS). It examines national enrollment and spending patterns for Medicaid enrollees with HIV/AIDS, looking at key demographics, Medicaid eligibility pathways, spending by service, and other variables. It also compares the profile of Medicaid enrollees with HIV to their counterparts without HIV, as well as to the population of people living with HIV in the U.S. Finally, it examines geographic distribution of enrollees with HIV, looking at data by region and state. Taken together, this analysis not only provides new information on the extent of Medicaid's role for people with HIV/AIDS, it also provides an important baseline from which to assess changes due to the implementation of ACA. In addition, it demonstrates the feasibility of using MSIS for such an analysis, which has only recently begun to be utilized by federal officials for this purpose.¹⁸

OVERVIEW OF MEDICAID^{19,20,21,22}

Medicaid, the nation's principal safety-net health insurance program for low-income Americans, covers health and long-term care services for nearly 60 million low-income Americans and is the largest health coverage program in the country. Medicaid is a means-tested entitlement program, jointly financed by the

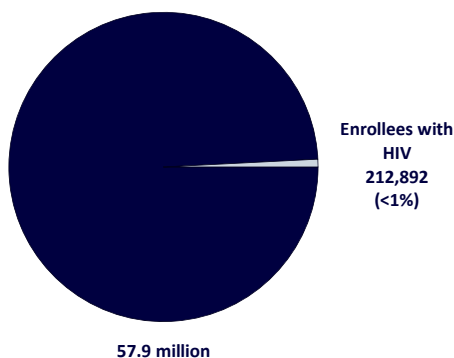
federal and state governments and designed and administered by the states within broad federal guidelines. As a result, there is significant variation across states in terms of eligibility criteria, benefits packages, and other aspects of the program. Under health care reform, Medicaid's role will expand and change in several significant ways. A brief overview of current Medicaid eligibility criteria and services, as well as key changes expected as a result of the ACA, is provided below.

- *Eligibility.* Under current law, to qualify for Medicaid, a person must be low-income, with limited assets, and belong to a group that is "categorically eligible". There are "mandatory" eligibility groups, groups all states must cover in order to receive federal matching funds, and "optional" eligibility groups, groups states can choose to cover and receive federal matching funds. Mandatory groups include: children; parents with dependent children; pregnant women; and most elderly and persons with disabilities who receive Supplemental Security Income (SSI), a program for which income eligibility equates to 75% of the federal poverty level (FPL) for an individual. Disability is one of the main eligibility pathways for people with HIV. People with HIV qualify as "disabled" under SSI criteria when their disease progresses to the point when they can no longer work or they transition to an AIDS diagnosis. Non-disabled adults without dependent children are categorically excluded from Medicaid by federal law unless the state has a waiver or uses state-only dollars to cover them. While many states have chosen to expand Medicaid eligibility beyond minimum federal eligibility standards, they have done so primarily for children, and eligibility for low income adults remains quite limited. States also have the option to cover the "medically needy," categorically eligible individuals who exceed Medicaid's financial criteria but have high medical costs (33 states and the District of Columbia currently have medically needy programs²³). Finally, Medicaid plays an important role for many low-income Medicare enrollees, known as "dual eligibles," by assisting them with their Medicare premiums and cost-sharing and covering key services that Medicare does not provide, such as long-term care.
- *Services.* Medicaid covers a broad range of services, many of which are critical for people with HIV/AIDS. States must cover certain "mandatory" services, specified in federal law, in order to receive federal matching funds. These include inpatient and outpatient services, physician and nurse practitioner services; laboratory and x-ray services, and long-term care. States may also cover services that federal law designates as "optional" and receive matching funds. Many of these optional services are particularly critical for people with HIV, such as prescription drugs, an optional benefit that all states cover. Other optional services include personal care services, home and community based care, and rehabilitation services. States have broad flexibility in determining key aspects of their Medicaid benefits packages, including setting limits on the scope of services. For example, several states limit the number of prescriptions, hospital inpatient days, and physician visits allowed per month or year. States can also impose nominal cost-sharing for certain services. Generally, the same Medicaid benefits package must be provided to all Medicaid enrollees statewide, although states can provide some groups with an alternate "benchmark" plan (which may be more or less limited). Medicaid benefits are offered on a fee-for-service basis, through managed care plans, or both. Over the past two decades, state Medicaid programs have increasingly moved to Medicaid managed care, primarily for children and families, but more recently for other Medicaid populations as well, including the disabled. Today, most Medicaid enrollees receive at least some of their care through managed care arrangements.
- *Health Care Reform.* Under health reform, Medicaid coverage will expand significantly. As of 2014, the program will be expanded to provide eligibility to nearly all people under age 65 with income below 133% FPL. This means that Medicaid eligibility for people under the age of 65 will be based solely on income, and categorical eligibility criteria will be eliminated for this population. This expansion is expected to significantly increase access to millions of low-income Americans, including many people with HIV, particularly those who are not yet disabled. The ACA will eliminate a barrier to access that has presented a "Catch-22" for many people with HIV – although there are effective antiretroviral treatments that can help stave off disability and keep people with HIV healthier, they often cannot access Medicaid to receive these treatments until they are already sick and disabled. Also as part of the expansion, states will be required to provide most people who become newly eligible for coverage with benchmark benefits. The ACA made changes to the definition of benchmark

benefits, requiring them to provide all “essential health benefits,” which are the benefits that must be provided to people signing up for Exchange plans or coverage in the individual or small group insurance market, beginning in 2014. The HHS Secretary is charged with defining “essential health benefits,” which to date have not yet been finalized.²⁴ A number of groups will be exempt from the requirement to enroll in the benchmark benefit plan, and will instead be offered the traditional Medicaid benefits plan, including the disabled already eligible for Medicaid, dual eligibles, pregnant women, the medically needy, and the medically frail. While non-disabled people with HIV are not specifically listed, they could fall into the medically frail category, which per final rules from HHS, must, at a minimum, include people with “serious and complex medical conditions.”²⁵

Figure 1

Medicaid Enrollees with HIV as a Share of All Medicaid Enrollees, FY 2007



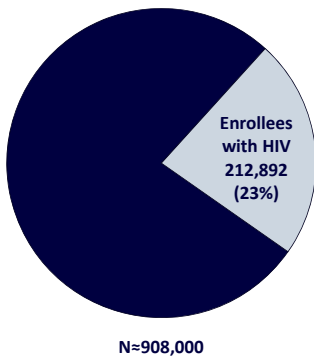
SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

FINDINGS

There were 212,892 Medicaid enrollees with HIV in FY 2007, accounting for <1% of the Medicaid population (see Figure 1). Although enrollees with HIV represent just a small fraction of the Medicaid population, they account for approximately a quarter (23%) of people who have been diagnosed with HIV in the U.S.²⁶ and approximately 47% of those estimated to be in regular care²⁷ (see Figures 2-3). As such, Medicaid plays a bigger role for people with HIV than it does for the U.S. population overall (16% are covered by Medicaid)²⁸, as well as for some other populations that also rely heavily on the program, including people with severe disabilities (20% are estimated to be covered by Medicaid) and diabetes (15%).^{19,29}

Figure 2

Medicaid Enrollees with HIV as a Share of People Diagnosed with HIV, 2007

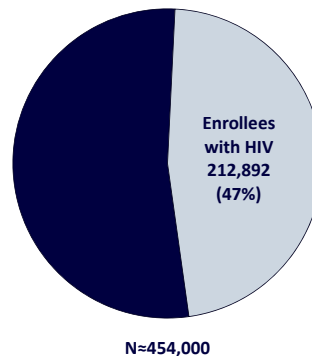


N=908,000

SOURCES: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute and data from CDC, MMWR, 57(39), October 3, 2008 and CDC, MMWR, 60(21), June 3, 2011.

Figure 3

Medicaid Enrollees with HIV as a Share of People with HIV in Regular Care, 2007



N=454,000

SOURCES: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute and data from CDC, MMWR, 57(39), October 3, 2008, CDC, MMWR, 60(21), June 3, 2011, Gardner et al., CID, 52(6), March 2011.

Of the 212,892 enrollees with HIV/AIDS in FY 2007, 142,940 (67%) were enrolled for the full fiscal year, with full Medicaid benefits. This full-year group is used for some of the subgroup analyses and comparisons used in this report.³⁰ Table 1 provides a comparison of the demographic characteristics of full-year Medicaid enrollees with HIV/AIDS to people living with HIV in the U.S. Table 2 provides a comparison of enrollees with HIV compared to their counterparts on Medicaid without the disease.

Table 1: Profile of Medicaid Enrollees with HIV Compared to Population of People with HIV

	Medicaid Enrollees with HIV FY 2007	People with HIV 2007 ³¹
Male	57%	75%
Female	43%	25%
White	25%	35%
Black	50%	46%
Latino	17%	17%
API/AI/AN	2%	2%
Other	7%	--
≤18	7%	2%
19-44	42%	51%
45-64	48%	44%
65+	3%	3%
Total	142,940	≈ 908,000 ²⁶

NOTES: Based on Analysis of Enrollees with Full-Year, Full-Benefits Only. API=Asian/Pacific Islander; AI=American Indian; AN=Alaska Native; SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

Table 2: Profile of Medicaid Enrollees with HIV Compared to Medicaid Enrollees without HIV

	Medicaid Enrollees with HIV FY 2007	Medicaid Enrollees w/o HIV FY 2007
Male	57%	43%
Female	43%	57%
White	25%	42%
Black	50%	26%
Latino	17%	20%
API/AI/AN	2%	5%
Other	7%	6%
≤18	7%	56%
19-44	42%	19%
45-64	48%	13%
65+	3%	12%
Total	142,940	27,922,836

NOTES: Based on Analysis of Enrollees with Full-Year, Full-Benefits Only. API=Asian/Pacific Islander; AI=American Indian; AN=Alaska Native; SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

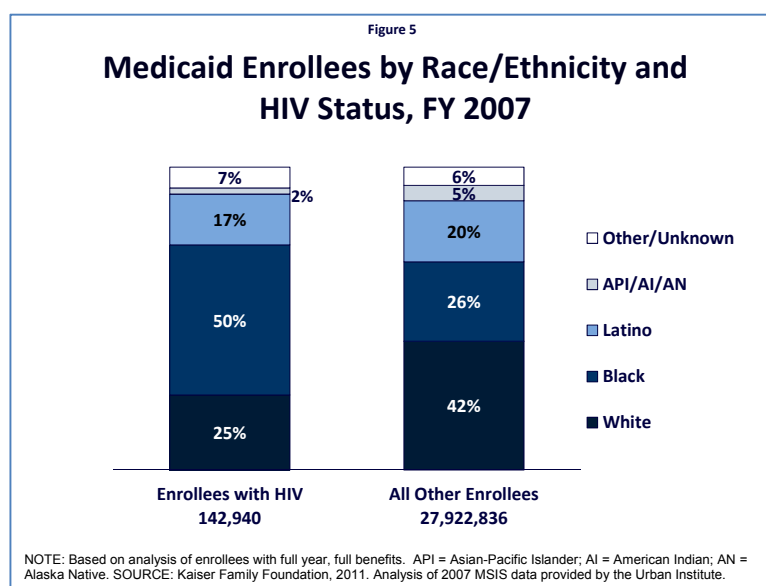
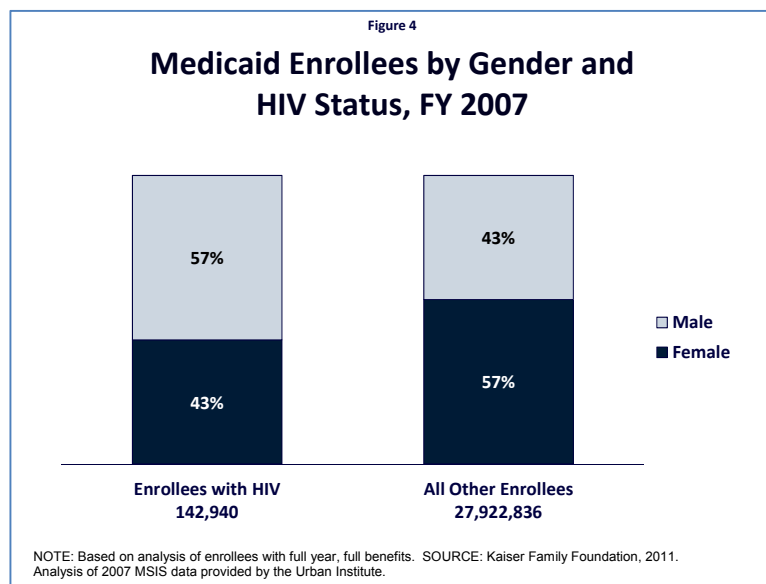
MEDICAID ENROLLEES WITH HIV

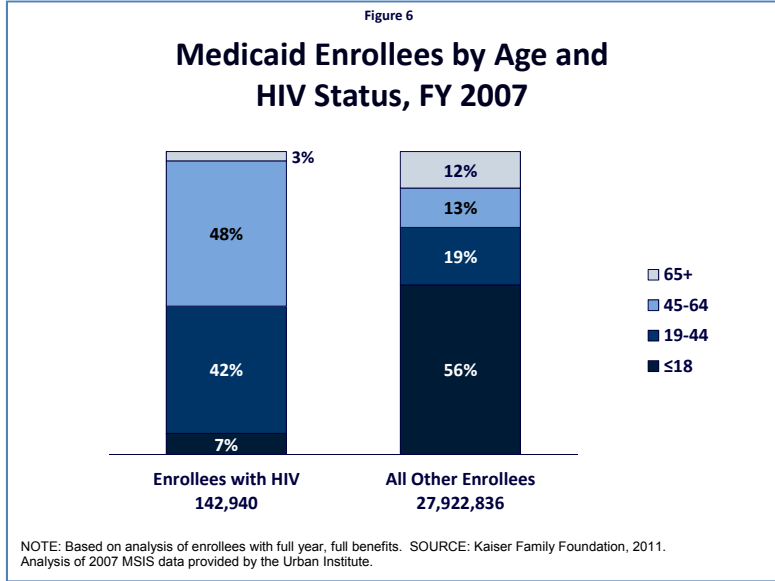
Demographic Profile of Medicaid Enrollees with HIV

The demographic profile of Medicaid enrollees with HIV differs from that of enrollees without the disease, reflecting in part the demographics of the HIV epidemic in the United States as well as current Medicaid eligibility rules.³²

- Gender.** The majority of Medicaid enrollees with HIV in FY 2007 were male (57%) and 43% were female.³¹ This is the opposite gender distribution of enrollees without HIV (57% were female and 43%, male). This difference reflects the demographics of the HIV epidemic, where three quarters of all people living with the disease are men. At the same time, women with HIV are overrepresented on Medicaid relative to their share of people with HIV, reflective of current Medicaid rules which make it more difficult for men, particularly those without dependent children, to qualify for Medicaid (see Tables 1-2 and Figure 4).

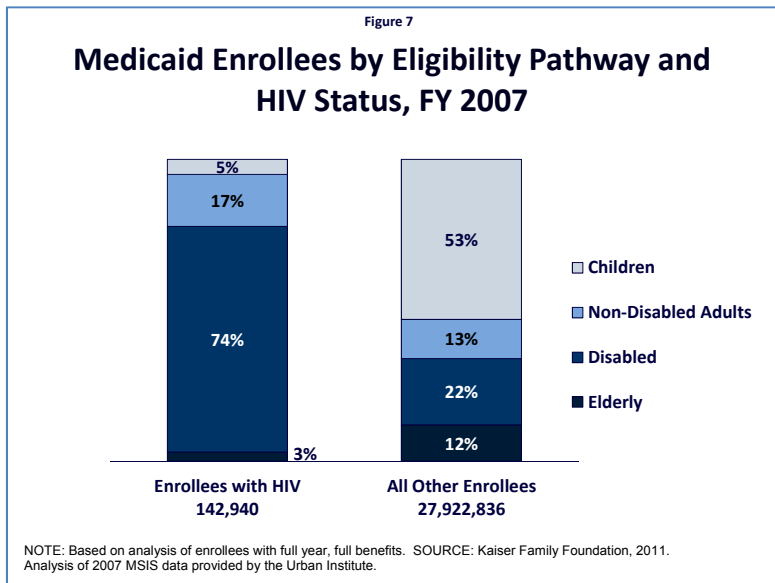
- Race/Ethnicity.** In FY 2007, half of enrollees with HIV were Black (50%), a quarter were white (25%) and 17% were Latino. By contrast, most enrollees without HIV were white (42%), a quarter (26%) were Black, and 20% were Latino. This is likely a reflection of the population living with HIV, 46% of whom are Black, a much greater share than in the U.S. population overall (13%).³¹ Small shares of enrollees were Asian-Pacific Islander, American Indian, or Alaska Native (see Tables 1-2 and Figure 5).
- Age.** The age distribution of Medicaid enrollees with HIV differs significantly from that of other Medicaid enrollees. In FY 2007, almost all enrollees with HIV were between the ages of 19 and 64 (90%), with those between the ages of 45 and 64 alone accounting for almost half (48%) of enrollees with HIV. By contrast, the majority of enrollees without an HIV diagnosis were under the age of 19 (56%); just 7% of Medicaid enrollees with HIV were under age 19. Fewer enrollees with HIV are seniors (3%), compared to enrollees without the disease (12%). The age distribution of enrollees with HIV is similar to that of people with HIV (see Tables 1-2 and Figure 6).





Eligibility Pathways for Enrollees with HIV

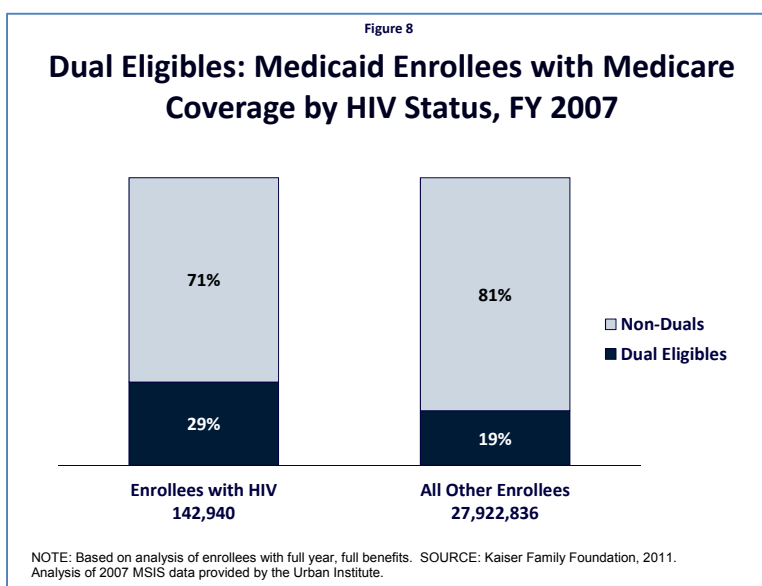
As mentioned above, to qualify for Medicaid under current law, individuals must meet both financial eligibility criteria and be part of a group that is “categorically eligible”; non-disabled adults without dependent children are categorically excluded from Medicaid by federal law, unless a state has a waiver or uses state-only dollars to cover them. Because people with HIV are more likely to be male³³ and less likely to have dependent children than the population overall,³⁴ they typically cannot qualify for Medicaid until they become disabled and receive Supplemental Security Income (SSI) benefits. Indeed, this analysis finds that disability is by far most common categorical eligibility pathway for people with HIV and much more so than for enrollees without HIV disease.



- In FY 2007, approximately three quarters (74%) of Medicaid enrollees with HIV qualified as a result of being disabled compared to just over one fifth (22%) of enrollees without HIV. By contrast, many fewer enrollees with HIV were children (5%), the most common eligibility pathway for those without HIV (53%). A smaller share of enrollees with HIV were elderly (3%) compared to enrollees without HIV (12%). Only 17% of people with HIV and 12% of those without the disease qualified as non-disabled adults, reflecting eligibility limitations for this group (See Figure 7).

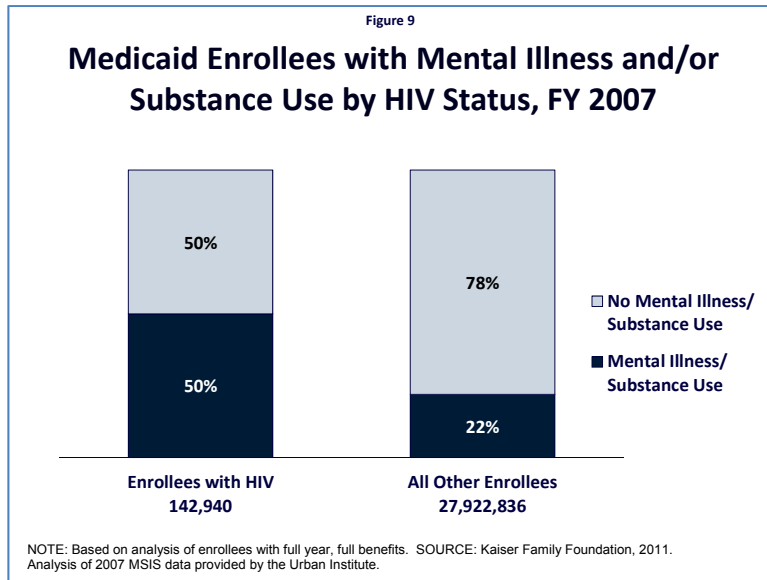
Dual Eligibles: Medicaid & Medicare

As mentioned above, Medicaid plays an important role for many low-income Medicare enrollees, known as “dual eligibles,” by assisting them with their Medicare premiums and cost-sharing and covering key services that Medicare does not provide, such as long-term care.¹⁹ Dual eligibles are among the most chronically ill and costly enrollees, with many having multiple chronic conditions and requiring long term care. This analysis finds that a significant share of enrollees with HIV – about three in 10 (29%) – are dual eligibles, greater than those without HIV (19%) (see Figure 8). This likely reflects the fact that Medicare enrollees with HIV are more likely to be low-income than Medicare enrollees without the disease, and thus need to rely on Medicaid for supplemental coverage.³⁵



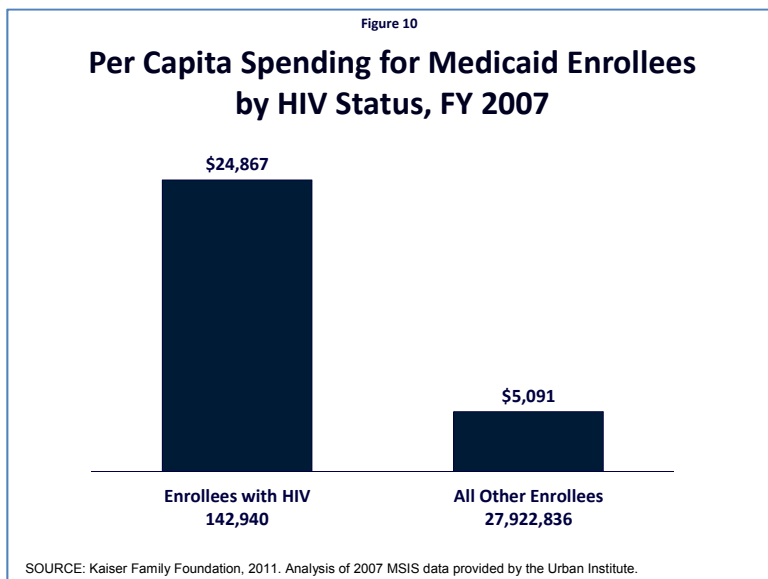
Mental Illness & Substance Use: Dual/Triple Diagnoses

Mental illness and substance use, conditions which are often co-occurring, require multiple and complex health services and present unique care challenges for those with other health conditions, including HIV.³⁶ Studies have shown that people with HIV are more likely to also suffer from mental illness and/or substance use than the population overall.^{4,37} This appears to be the case for people with HIV on Medicaid as well. In FY 2007, half of enrollees with HIV also had a diagnosis of mental illness and/or substance use, more than twice the share of enrollees without the disease (22%) (see Figure 9).



Medicaid Managed Care

The shift to Medicaid managed care, particularly for children and families and more recently for the disabled, is seen among enrollees with HIV as well. In FY 2007, 71% of enrollees with HIV had at least some of their care paid for through Medicaid managed care,³⁸ although, as a population that primarily qualifies for Medicaid through disability, they were less likely to receive services through managed care than enrollees without HIV (85%).

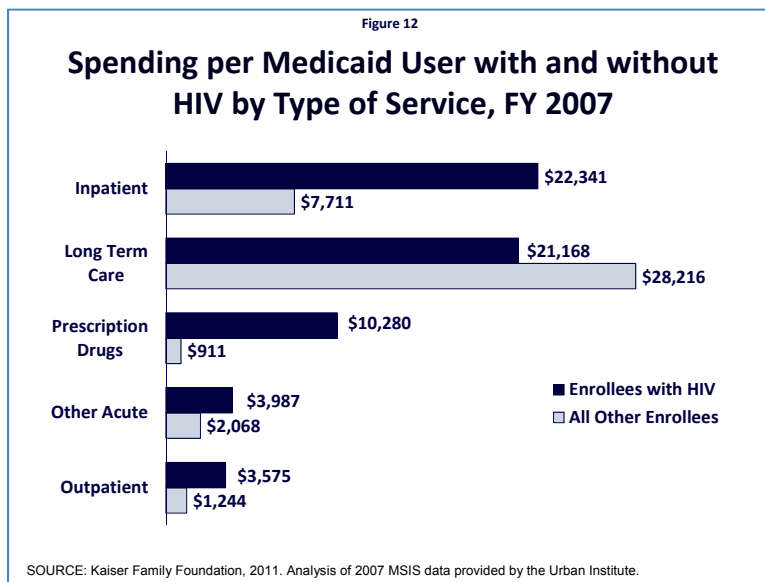
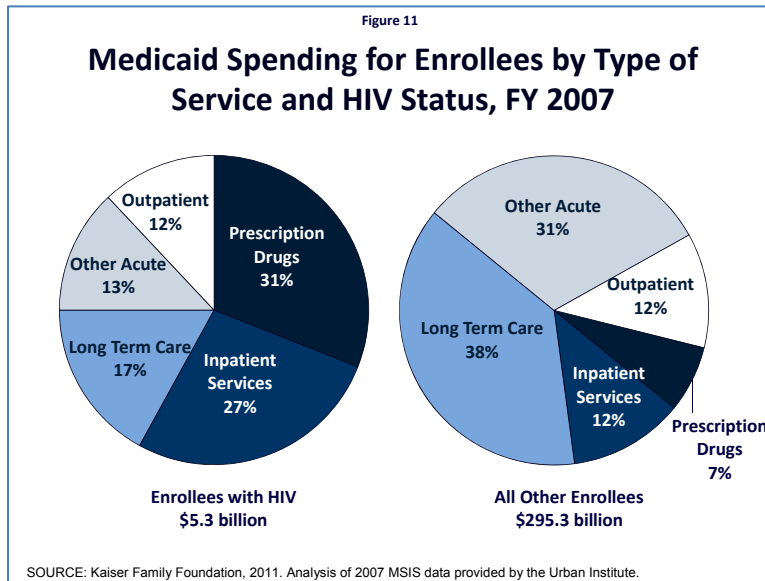


MEDICAID SPENDING ON ENROLLEES WITH HIV

In FY 2007, Medicaid spending on enrollees with HIV—including both full-year and part-year enrollees—totaled \$5.3 billion. This represented 1.8% of overall Medicaid spending, a slightly greater share than their representation among all enrollees and indicative of the high costs of HIV care. Indeed, per capita spending for enrollees with HIV was \$24,867, almost five times higher than for those without an HIV diagnosis (\$5,091) (see Figure 10). Spending patterns for enrollees with HIV differed significantly from those without the disease, reflecting the different services used and their associated costs between the two groups.

Spending by Service

Spending patterns for enrollees with HIV were significantly different than their counterparts without the disease.³⁹ Among enrollees with HIV, prescription drugs accounted for the largest share of spending of any service category (31%), followed by inpatient care (27%), and long-term care⁴⁰ (17%). Outpatient and other acute care accounted for smaller shares.⁴¹ By contrast, among enrollees without HIV, long term care accounted for the largest share of spending (38%), followed by other acute care (31%); prescription drugs account for just 7% of spending (see Figure 11).



While prescription drugs accounted for the largest share of spending by service category for enrollees with HIV, inpatient care, followed closely by long term care, accounted for the highest spending per user (\$22,341 and \$21,168, respectively). Per user spending on prescription drugs was the third highest, and

about half the cost (\$10,280). By contrast, per user spending among enrollees without HIV was highest for long term care.

Per user spending for enrollees with HIV was higher than that for enrollees without HIV for all services except long term care, where it was about a third less than enrollees without HIV. The biggest difference in per user spending was on prescription drugs, which was eleven times higher for enrollees with HIV compared to their counterparts without the disease (see Figure 12).

Enrollees with HIV also were much more likely to have used prescription drug services (75%) and outpatient care (88%) compared to their counterparts without the disease (45% and 58%).⁴²

Spending by Eligibility Pathway

By eligibility category, per capita spending among enrollees with HIV was highest for the disabled, followed by the elderly. Among those without HIV, per capita spending was highest for the elderly, followed by the disabled. In general, this reflects the more intensive use of both acute and long-term care services by both disabled and elderly Medicaid beneficiaries. Still, per capita spending per enrollee with HIV was higher in each eligibility category than for those without the disease (see Figure 13), given the complex care needs of those with HIV.

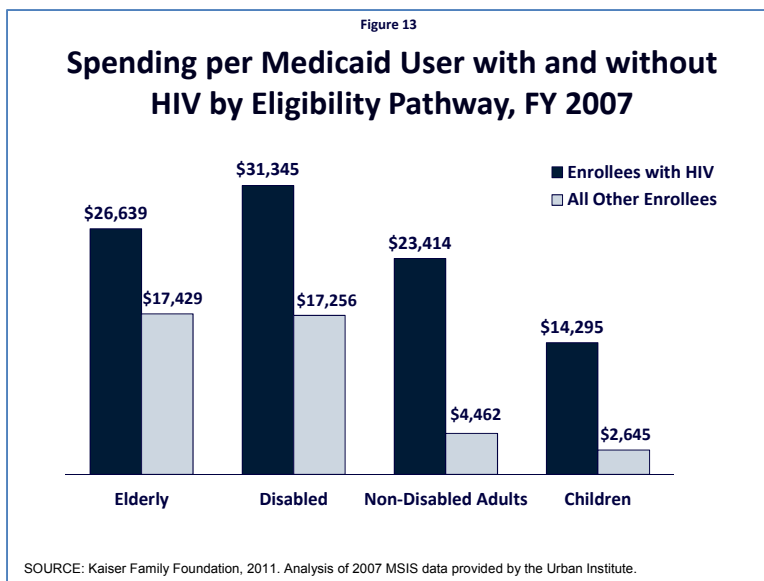


Table 3 presents per capita spending by eligibility group and type of service. As shown, spending per enrollee with HIV was higher in each eligibility group by type of service, compared to enrollees without HIV, with one exception – long term care spending per disabled enrollee without HIV was higher than long term care spending per disabled enrollee with HIV. The biggest difference in spending per service between those with and without HIV was on prescription drugs, which was several times higher for those with HIV across all eligibility groups.

Spending by Demographic Group

Medicaid spending by demographic group was higher across the board for enrollees with HIV compared to their non-HIV counterparts. There were also significant differences in per capita spending, particularly by race/ethnicity.

Table 3. Medicaid Spending Per User by Eligibility Pathway and Type of Service, FY 2007

	With HIV	Without HIV
Elderly		
Long Term Care	\$30,167	\$28,667
Inpatient	\$13,783	\$3,954
Outpatient/Physician/Clinic	\$2,245	\$812
Drugs	\$3,402	\$497
Other Acute	\$3,233	\$2,746
Disabled		
Long Term Care	\$21,413	\$33,796
Inpatient	\$23,800	\$14,922
Outpatient/Physician/Clinic	\$3,837	\$2,668
Drugs	\$11,295	\$2,636
Other Acute	\$4,381	\$4,144
Adults		
Long Term Care	\$12,790	\$1,947
Inpatient	\$19,386	\$5,463
Outpatient/Physician/Clinic	\$3,200	\$1,154
Drugs	\$9,006	\$550
Other Acute	\$3,181	\$1,986
Children		
Long Term Care	\$12,469	\$6,137
Inpatient	\$15,657	\$6,085
Outpatient/Physician/Clinic	\$2,168	\$787
Drugs	\$5,492	\$414
Other Acute	\$2,724	\$1,442

NOTE: Represents positive total spending for beneficiaries in each service category only, and does not include beneficiaries with total negative spending which would reflect adjustments for previous overpayments. SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

Gender. Spending patterns by gender generally mirror the gender representation of enrollees with HIV. Per capita spending is slightly higher for male enrollees with HIV than female, although in both cases, higher than their male and female counterparts without HIV.

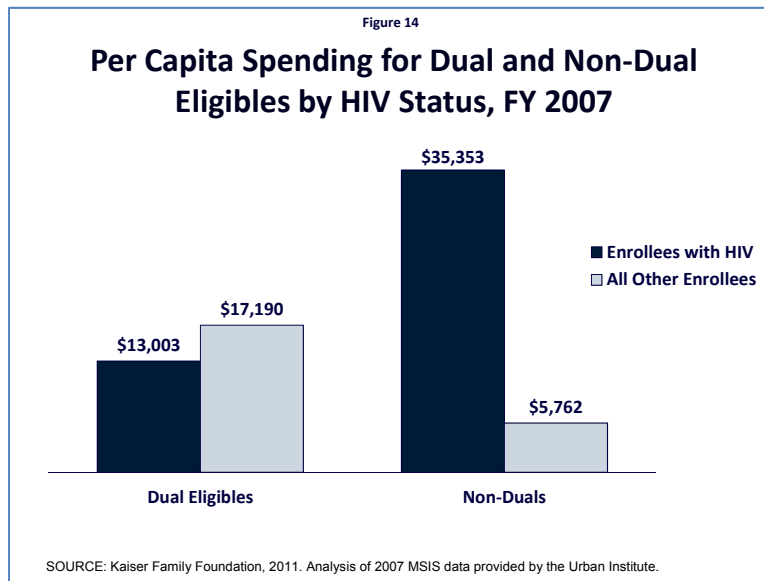
Race/Ethnicity. Spending on enrollees with HIV by race/ethnicity is also similar to their share of enrollment. Per capita costs for enrollees with HIV were highest for Latinos, followed by Blacks. By contrast, per capita costs among enrollees without HIV were highest among whites.

Age. Spending by age group varies between those with and without HIV. Per capita spending among enrollees with HIV was highest among the 45-64 year old age group, followed by the 19-44 year old age group. By contrast, among those without HIV, per capita spending was highest among the elderly. This reflects different service use, and their associated costs, between the groups, as described above.

Spending for Dual-Eligibles

Among enrollees with HIV, dual eligibles accounted for a smaller share of spending (13%) than enrollment (29%). By contrast, among those without HIV, duals accounted for a much higher share of spending (41%) than enrollment (19%). In addition, per capita costs for duals with HIV were significantly less than for non-duals with HIV. The opposite was true for those without the disease, where per capita expenditures were higher for duals than non-duals. Finally, although per capita spending per enrollee with HIV was higher than for their non HIV counterparts overall and by eligibility group, it was lower for duals (see Figure 14).

The lower per capita spending for dual eligibles with HIV appears to be due to the role of prescription drugs in HIV care and the implementation of the Medicare Part D prescription drug benefit in 2006, which shifted prescription drug costs from Medicaid to Medicare for all dual-eligibles. Given the critical role played by prescription drugs in HIV care – much more so than for people without the disease – this shift would be noticeable for this population; indeed, analysis of data for years prior to the implementation of Part D indicates that per capita expenditures for dual-eligibles with HIV were, at that time, on par with their non-dual counterparts.⁴³



Spending For Enrollees with HIV/AIDS & Mental Illness/Substance Use

Finally, enrollees with HIV who also have a diagnosis of mental illness and/or substance use accounted for a greater share of expenditures (67%) than enrollment (50%) in FY 2007. Their per capita expenditures were almost twice as high as other enrollees with HIV (\$38,246 compared to \$19,515), and more than twice as high as their non-HIV counterparts with diagnoses of mental illness and/or substance use (\$17,288).

Geographic Distribution

There is regional and state-level variation in enrollment and spending for enrollees with HIV across the country, in part reflecting the distribution of HIV in the U.S. and in part reflecting other factors including state Medicaid eligibility criteria and benefits, availability of other, non-Medicaid sources of coverage and care, and state fiscal environments.⁴⁴

Table 4: Medicaid Enrollment & Spending by Region, FY 2007

Region	Enrollees with HIV			Region	Enrollees without HIV		U.S. Population ⁴⁶
	Enrollees	Spending	People with HIV ⁴⁵		Enrollees	Spending	
Northeast	39%	52%	26%	Northeast	18%	28%	18%
Midwest	11%	10%	12%	Midwest	19%	21%	22%
South	36%	28%	42%	South	35%	32%	37%
West	15%	11%	19%	West	28%	20%	23%

SOURCES: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute and of data from CDC, HIV Surveillance Supplemental Report, 15(1), 2010 and U.S. Census, 2011.

Medicaid Enrollees with HIV/AIDS and Spending by Region

The distribution of enrollees with HIV, as well as their spending, varies by region, and also varies somewhat from the distribution of HIV prevalence by region and from that of enrollees without HIV.

- Enrollment.** The Northeast accounted for the largest share of Medicaid enrollees with HIV (39%), followed by the South (36%). The West accounted for 15% and the Midwest, 11%. This differs from the distribution of HIV prevalence by region, where the South accounts for the greatest share of those living with HIV (42%), followed by the Northeast (26%). It also differs from the distribution of Medicaid enrollees without HIV, who do reflect the U.S. population distribution (see Table 4).
- Spending.** The Northeast also accounted for the majority (52%) of all spending on enrollees with HIV, followed by the South (28%). Spending per enrollee with HIV was significantly higher in the Northeast compared to other regions. The South, despite accounting for the second largest share of enrollees and expenditures, ranked third in spending per enrollee. Among those without HIV, spending per enrollee ranked similarly (see Tables 4 & 5).

Table 5: Per Capita Medicaid Spending by Region and HIV Status, FY 2007

Region	Enrollees with HIV	Enrollees without HIV
Northeast	\$33,220	\$7,614
Midwest	\$23,232	\$5,414
South	\$19,249	\$4,651
West	\$18,007	\$3,720

SOURCES: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute and from CDC, HIV Surveillance Supplemental Report, 15(1), 2010.

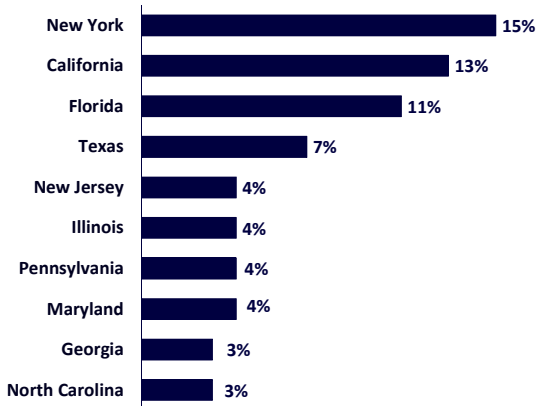
Medicaid Enrollees with HIV/AIDS by State

Medicaid enrollment and spending for people with HIV are concentrated in those states with the greatest number of people living with the disease, although per capita spending varies significantly. Most of the top 10 states by enrollment and spending for those with HIV also rank in the top 10 for enrollees without the disease (See Figures 15-18, and Appendix III).

- Nine of the top 10 states by HIV prevalence also had the highest number of enrollees with HIV. These top 10 states accounted for 73% of enrollment. The top 10 enrollment states also ranked as top 10 for expenditures, collectively accounting for 81% of spending on enrollees with HIV. Per capita spending varied by state, ranging from \$7,719 in Arizona to \$37,075 in New York, almost five times greater.
- Seven of the 10 states with the greatest enrollment and spending on those with HIV also ranked among the top 10 for enrollees without HIV. Per capita spending for enrollees without HIV also varied across the states, although the difference between the highest and lowest per capita states was smaller (2.8 times).
- While enrollees with HIV accounted for <1% of total Medicaid enrollment in most states, as they did nationally, they accounted for 1.2% of New York's Medicaid population and 2.1% of DC's. Spending on enrollees with HIV ranged from 0.3% or less in several states to 4.7% of spending in Maryland, 5.3% in New York, and 7.2 % in DC.
- The share of women enrollees with HIV, which was 43% overall, ranged from 22% in Hawaii to 70% in Maine; in 11 states, women represented more than half of Medicaid enrollees with HIV.
- Blacks, who accounted for 50% of Medicaid enrollees with HIV overall, ranged from just 2% of enrollees in Idaho to 92% in DC. In 10 states, all located in the South, Blacks accounted for 60% or more of enrollees with HIV.
- Children, who accounted for 7% of enrollees with HIV overall, accounted for more than 10% in six states.
- The share of disabled enrollees with HIV, which averaged 73% across the country, ranged from 37% in Maine to 97% in Idaho. In nine states, the disabled account for 90% or more of enrollees with HIV. Non-disabled adult enrollees with HIV, who accounted for 17% of enrollees with HIV overall, accounted for no enrollees in Montana, but 43% of enrollees in Maine.

Figure 15

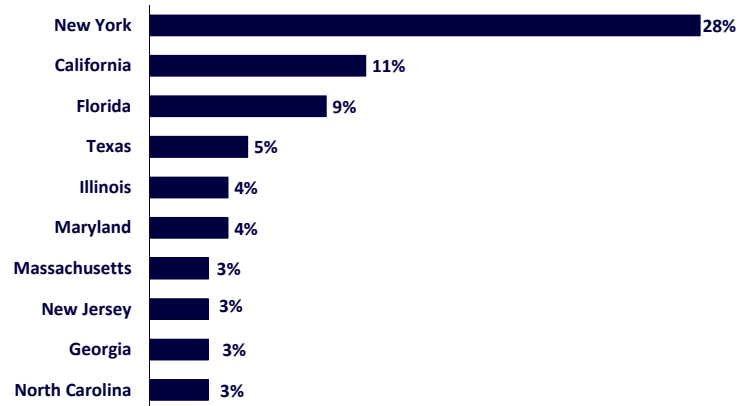
Share of National HIV/AIDS Prevalence, Top 10 States, 2007



SOURCE: CDC, HIV/AIDS Surveillance Report, 15(1), 2010.

Figure 16

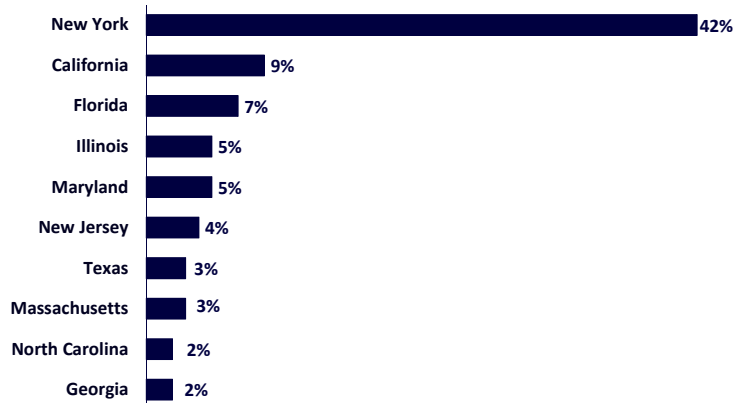
Share of National Medicaid Enrollees with HIV, Top 10 States, FY 2007



SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

Figure 17

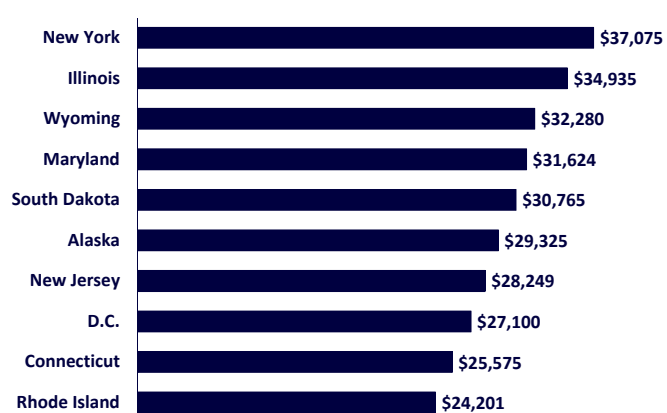
Share of National Medicaid Spending on HIV, Top 10 States, FY 2007



SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

Figure 18

Medicaid Spending per Enrollee with HIV, Top 10 States, FY 2007



SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

POLICY IMPLICATIONS & CONCLUSION

This analysis confirms and expands upon prior studies which found Medicaid to play a significant role for people with HIV. It also provides new national and state-level data on Medicaid and HIV, including comparisons between enrollees with and without the disease. As it shows, although Medicaid enrollees with HIV represent just a small fraction of the Medicaid population, they account for almost half of people with HIV in regular care in the United States.

Medicaid enrollees with HIV differ from their counterparts without the disease in many ways, in part reflecting the demographics of the epidemic but also HIV-related care needs, particularly a heavy reliance on prescription drugs, as well as current Medicaid eligibility rules. For example, whereas Medicaid enrollees without HIV are most likely to be female, white, and under the age of 19, enrollees with HIV are most likely to be male, black, and over the age of 19, as are people with HIV overall. Disability is by far the most common categorical eligibility pathway for people with HIV – approximately three quarters of enrollees with HIV are disabled, compared to about a fifth of enrollees without HIV. This is likely due to current Medicaid eligibility rules which categorically exclude non-disabled adults without dependent children from Medicaid under federal law; as a result, low-income people with HIV often cannot qualify for Medicaid until they become disabled.

Spending patterns are also quite different for enrollees with HIV, who are significantly more expensive than their non-HIV positive counterparts, even those who are also disabled. Per capita spending on enrollees with HIV was almost five times higher than for those without HIV overall, and, for those who were disabled, almost twice that of their non-HIV positive counterparts. A big difference between enrollees with and without HIV was service mix. Prescription drugs accounted for the largest share of spending of any service category for enrollees with HIV; it was the smallest for enrollees without HIV. Enrollees with HIV were also more likely to be dual eligibles than their non-HIV counterparts, and had a much higher co-occurrence of mental illness and substance use.

Finally, there is regional and state-level variation in enrollment and spending patterns for enrollees with HIV across the country. The variation generally reflects the geographic distribution of the HIV epidemic, but also other factors including state Medicaid eligibility criteria and benefits. For example, while people with HIV overall are most likely to live in the South, the Northeast accounted for the largest share of Medicaid enrollees with and spending for HIV.

These findings have several implications for research and policy. First, this study underscores the important role played by Medicaid for people with HIV, and as such, further analysis of these data could yield additional information on a substantial share of people living with HIV in care. Additional analyses could explore areas such as: the quality of care received by enrollees with HIV, a critical area that could not be assessed by the current analysis; variations in spending by service for different groups of enrollees with HIV; and the variation in Medicaid HIV enrollment and spending across the country, which cannot fully be explained by HIV prevalence alone.

Finally, these findings can serve as a baseline for monitoring the impact of health care reform, which is expected to significantly change this picture in 2014. At that time, many more low income people with HIV will be able to qualify for Medicaid without having to be disabled, which has in the past presented a barrier to their access. However, these findings suggest several issues that warrant particular attention in the context of HIV. First, it is likely that the newly eligible population of people with HIV will have higher expenses and more complex needs than their counterparts without HIV; understanding more about them, including whether they differ from traditional enrollees with HIV as well as other enrollees without the disease, will be critical. Second, it will also be important to assess how new opportunities presented by health care reform for care and service delivery coordination for populations with complex health care needs (e.g., medical homes, expanded home and community based services) will benefit enrollees with HIV. This will be particularly critical given the high prevalence of substance use and mental illness found among current Medicaid enrollees with HIV, as well as the higher share who are dually eligible for Medicare, relative to those without HIV. In addition, given the uneven distribution of enrollees with HIV across the country, it will be important to assess whether there is adequate provider capacity to serve an expanded population going forward. Finally, given the complex and multiple care needs of people with HIV, it will be important to assess the comprehensiveness of Medicaid benefits, including the essential health benefits package, as implemented by states under health care reform.

ACKNOWLEDGMENTS

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APPENDIX I: DATA SOURCES AND METHODS

The data used in this analysis come from the Medicaid Statistical Information System (MSIS) Summary File maintained by the Centers for Medicare and Medicaid Services (CMS) and provided to the Kaiser Family Foundation and the Urban Institute through a data use agreement, after personal identifiers were removed. The current analysis focuses on MSIS data for the fiscal year (FY) 2007. MSIS contains demographic, eligibility, and expenditure information for all Medicaid enrollees, reported by states to CMS on an annual basis. Enrollees are designated using their Basis of Eligibility in MSIS as: elderly (age 65 and older); disabled under age 65; non-disabled adults; and non-disabled children. Expenditures reported in MSIS do not include disproportionate share payments to providers, payments to Medicare, or administrative payments. Individuals in MSIS are classified by the level of benefits they receive, either full-benefit (entitled to the full scope of Medicaid benefits) or partial-benefit (entitled to only a subset of services, such as pregnancy-related or substance abuse-services) and whether they are full-year or part-year enrollees. As restricted benefit and part-year enrollees often display notably different patterns of spending from full-benefit, full-year enrollees, some of the analyses were limited to full-benefit, full-year enrollees only. Enrollees in both fee-for-service Medicaid and Medicaid managed care plans were included, unless otherwise noted.

To identify enrollees with an HIV-related diagnosis, a “flag” created by CMS containing standard ICD-9 diagnosis codes for HIV disease was used. This flag captures any enrollee with at least one of these ICD-9 codes. There are some potential limitations to this analysis, including possible mis- or under-reporting of diagnosis codes although there are no data to suggest that this occurs at higher rates for those with HIV than those without HIV. In addition, because MSIS disease flags only capture individuals who received a service in FY 2007, individuals with diagnosed HIV but no service use in the study year would not be included. The analysis also excludes anyone who has HIV that has not yet been diagnosed, estimated by the CDC to be approximately 20% nationally, although this population was not the focus of this study. Finally, it is important to note that the standard CMS flag used for HIV includes one ICD-9 diagnosis code (V01.7) that is not necessarily indicative of an HIV diagnosis; rather, it is used for exposure to HIV and other viral diseases. As such, some individuals without HIV may have been included in the analysis (we were unable to disaggregate by individual diagnosis code). However, preliminary analysis of data from CMS for FY 2008 indicates that this is highly unlikely, as enrollees with such a code (regardless of whether they also had an HIV-related claim) accounted for less than 1% of paid claims by enrollees with any HIV flag.⁴⁷

APPENDIX II

Medicaid Enrollees with HIV, FY 2007					
	Enrollees		Spending		Spending per Enrollee
	#	%	\$	%	
Female	62,096	43%	\$1,783,932,830	43%	\$28,729
Male	80,843	57%	\$2,354,702,162	57%	\$29,127
≤18	9,587	7%	\$200,508,008	5%	\$20,915
19-44	60,357	42%	\$1,549,393,363	37%	\$25,670
45-64	68,631	48%	\$2,272,482,183	55%	\$33,112
65+	4,364	3%	\$116,251,440	3%	\$26,639
White	35,811	25%	\$867,044,045	21%	\$24,212
Black	70,987	50%	\$2,152,336,972	52%	\$30,320
Latino	24,527	17%	\$792,361,491	19%	\$32,306
API/AI/AN	2,227	2%	\$53,027,473	1%	\$23,811
Other	9,388	7%	\$273,921,284	7%	\$29,178
Dual Eligibles	40,925	29%	\$532,141,989	13%	\$13,003
Non-Duals	102,015	71%	\$3,606,549,276	87%	\$35,353
Elderly	4,364	3%	\$116,251,440	3%	\$26,639
Disabled	106,474	74%	\$3,337,463,997	81%	\$31,345
Adults	24,792	17%	\$580,477,782	14%	\$23,414
Children	7,310	5%	\$104,498,047	3%	\$14,295
Mental Illness/Substance Use	72,029	50%	\$2,754,834,581	67%	\$38,246
No Mental Illness/Substance Use	70,911	50%	\$1,383,856,683	33%	\$19,515

NOTES: Based on Analysis of Enrollees with Full-Year, Full-Benefits Only. API=Asian/Pacific Islander; AI=American Indian; AN=Alaska Native; SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

APPENDIX III

Medicaid Enrollees without HIV, FY 2007					
	Enrollees		Spending		Spending per Enrollee
	#	%	\$	%	
Female	15,786,543	57%	\$127,033,669,234	57%	\$8,047
Male	12,127,067	43%	\$94,207,106,755	43%	\$7,768
≤18	15,670,612	56%	\$55,081,489,097	25%	\$3,515
19-44	5,368,096	19%	\$52,569,570,156	24%	\$9,793
45-64	3,501,987	13%	\$54,779,799,951	25%	\$15,642
65+	3,374,496	12%	\$58,815,745,534	27%	\$17,429
White	11,735,872	42%	\$120,875,370,470	55%	\$10,300
Black	7,197,346	26%	\$46,812,294,440	21%	\$6,504
Latino	5,692,875	20%	\$26,948,615,748	12%	\$4,734
API/AI/AN	1,514,943	5%	\$9,344,124,076	4%	\$6,168
Other	1,781,800	6%	\$17,275,143,939	8%	\$9,695
Dual Eligibles	5,281,145	19%	\$90,783,824,236	41%	\$17,190
Non-Duals	22,641,691	81%	\$130,471,724,438	59%	\$5,762
Elderly	3,374,506	12%	\$58,815,874,522	27%	\$17,429
Disabled	6,235,750	22%	\$107,606,683,484	49%	\$17,256
Adults	3,518,152	13%	\$15,698,278,142	7%	\$4,462
Children	14,794,428	53%	\$39,134,712,526	18%	\$2,645
	6,068,094	22%	\$104,905,212,388	47%	\$17,288
	21,854,742	78%	\$116,350,336,286	53%	\$5,324
Mental Illness/Substance Use	15,786,543	57%	\$127,033,669,234	57%	\$8,047
No Mental Illness/Substance Use	12,127,067	43%	\$94,207,106,755	43%	\$7,768

NOTES: Based on Analysis of Enrollees with Full-Year, Full-Benefits Only. API=Asian/Pacific Islander; AI=American Indian; AN=Alaska Native; SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

APPENDIX IV: Medicaid Enrollment and Spending on HIV, by State, FY 2007

State	Enrollees with HIV	% of Total State Medicaid Enrollment	Spending on Enrollees with HIV	% of Total State Medicaid Spending	Spending Per Capita
Alabama	2,090	0.2%	\$21,764,143	0.6%	\$10,413
Alaska	184	0.2%	\$5,395,801	0.6%	\$29,325
Arizona	2,744	0.2%	\$21,181,671	0.3%	\$7,719
Arkansas	872	0.1%	\$11,174,564	0.4%	\$12,815
California	23,350	0.2%	\$454,079,420	1.4%	\$19,447
Colorado	767	0.1%	\$14,356,786	0.5%	\$18,718
Connecticut	2,910	0.5%	\$74,422,955	1.9%	\$25,575
Delaware	1,381	0.7%	\$22,505,637	2.2%	\$16,297
District Of Columbia	3,457	2.1%	\$93,683,093	7.2%	\$27,100
Florida	18,691	0.7%	\$366,465,754	2.9%	\$19,607
Georgia	6,743	0.4%	\$112,251,523	1.7%	\$16,647
Hawaii	475	0.2%	\$6,619,833	0.6%	\$13,936
Idaho	121	0.1%	\$2,393,379	0.2%	\$19,780
Illinois	7,804	0.3%	\$272,636,487	2.2%	\$34,935
Indiana	1,956	0.2%	\$27,425,223	0.6%	\$14,021
Iowa	724	0.2%	\$6,747,593	0.3%	\$9,320
Kansas	520	0.1%	\$8,320,108	0.4%	\$16,000
Kentucky	903	0.1%	\$11,734,825	0.3%	\$12,995
Louisiana	4,015	0.4%	\$79,656,988	1.8%	\$19,840
Maine	1,076	0.3%	\$10,445,732	0.5%	\$9,708
Maryland	7,719	1.0%	\$244,107,534	4.7%	\$31,624
Massachusetts	7,364	0.5%	\$158,836,084	1.5%	\$21,569
Michigan	1,640	0.1%	\$34,160,199	0.4%	\$20,829
Minnesota	1,449	0.2%	\$28,478,041	0.5%	\$19,654
Mississippi	2,060	0.3%	\$28,034,596	0.9%	\$13,609
Missouri	2,580	0.3%	\$47,396,962	0.8%	\$18,371
Montana	114	0.1%	\$2,209,356	0.3%	\$19,380
Nebraska	342	0.1%	\$4,454,473	0.3%	\$13,025
Nevada	818	0.3%	\$14,895,307	1.3%	\$18,209
New Hampshire	221	0.2%	\$3,888,335	0.4%	\$17,594
New Jersey	7,262	0.8%	\$205,146,807	2.8%	\$28,249
New Mexico	415	0.1%	\$4,849,889	0.2%	\$11,686
New York	59,455	1.2%	\$2,204,312,023	5.3%	\$37,075
North Carolina	6,649	0.4%	\$128,514,757	1.4%	\$19,328
North Dakota	39	0.1%	\$346,631	0.1%	\$8,888
Ohio	3,973	0.2%	\$74,015,077	0.6%	\$18,630
Oklahoma	1,068	0.1%	\$19,402,948	0.6%	\$18,168
Oregon	934	0.2%	\$14,599,263	0.5%	\$15,631
Pennsylvania	2,765	0.1%	\$47,175,005	0.3%	\$17,061
Rhode Island	828	0.4%	\$20,038,124	1.2%	\$24,201
South Carolina	3,144	0.4%	\$52,399,388	1.4%	\$16,666
South Dakota	96	0.1%	\$2,953,459	0.5%	\$30,765
Tennessee	3,535	0.2%	\$62,292,459	0.9%	\$17,622
Texas	9,805	0.2%	\$161,893,709	0.9%	\$16,511
Utah	219	0.1%	\$3,525,353	0.3%	\$16,098
Vermont	199	0.1%	\$2,397,566	0.3%	\$12,048
Virginia	3,207	0.4%	\$35,079,486	0.7%	\$10,938
Washington	2,341	0.2%	\$40,295,937	0.7%	\$17,213
West Virginia	432	0.1%	\$7,555,710	0.4%	\$17,490
Wisconsin	1,400	0.1%	\$16,328,573	0.3%	\$11,663
Wyoming	36	0.0%	\$1,162,073	0.3%	\$32,280
Total	212,892	0.4%	5,294,006,640	1.8%	\$24,867

SOURCE: Kaiser Family Foundation, 2011. Analysis of 2007 MSIS data provided by the Urban Institute.

ENDNOTES

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- ¹² Kaiser Family Foundation analysis of data from the Office of Management and Budget and the Centers for Medicare and Medicaid Services, August 2011. "Other" includes spending at DoJ, DoD, FEHB, and the HHS Office of the Secretary.
- ¹³ Also, see White House Office of National AIDS Policy charge to the Institute of Medicine to conduct a "Review of Data Systems for Monitoring HIV/AIDS Care" (Accessed 7-30-11 at: <http://www8.nationalacademies.org/cp/projectview.aspx?key=IOM-BPH-10-18>).
- ¹⁴ Bozzette SA, Berry SH, Duan N, Frankel MR, Leibowitz AA, Lefkowitz D, Emmons CA, Senterfitt JW, Berk ML, Morton SC, Shapiro MF (1998). "The care of HIV-infected adults in the United States." *New England Journal of Medicine*, 339(26), 1897-904. (Accessed 7-31-11 at: <http://www.nejm.org/doi/pdf/10.1056/NEJM199812243392606>).
- ¹⁵ In FY 2011, CMS estimates that Medicaid spending on HIV care totaled approximately \$9.3 billion in combined federal and state spending, including \$5.1 billion in federal spending. In FY 2007, the year of analysis used for this study, CMS estimated that Medicaid spending on HIV care was \$7.1 billion, including \$3.9 billion in federal spending.
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- ¹⁸ See analysis in Department of Health and Human Services (2011), *HHS Operational Plan: Achieving the Vision of the National HIV/AIDS Strategy*, (Accessed 7-30-11 at: <http://www.aids.gov/federal-resources/policies/national-hiv-aids-strategy/nhas-operational-plan-hhs.pdf>).

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- ²³ Kaiser Commission on Medicaid and the Uninsured (2010). *Medicaid Financial Eligibility: Primary Pathways for the Elderly and People with Disabilities*. (Accessed 7-30-11 at: <http://www.kff.org/medicaid/8048.cfm>).
- ²⁴ While the essential health benefits are to be outlined in more detail by the HHS Secretary, they must include the following specific categories of services: ambulatory patient services; emergency services; hospitalization; maternity and newborn care; mental health and substance use disorder services, including behavioral health treatment; prescription drugs; rehabilitative and habilitative services and devices; laboratory services; preventive and wellness services and chronic disease management; and pediatric services, including oral and vision care.
- ²⁵ 42 CFR 440.315(f).
- ²⁶ Based on analysis of data from CDC's 2006 and 2008 HIV/AIDS prevalence estimates. To obtain a 2007 prevalence estimate for those who have been diagnosed (defined as those who are aware of their status), the average of 2006 and 2008 was used, yielding an estimated 908,368. (Accessed 8-6-11 at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5739a2.htm> and <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6021a2.htm>).
- ²⁷ Based on analysis of data from Gardner EM, McLees MP, Steiner JF, del Rio D, Burman WJ (2011), "The Spectrum of Engagement in HIV Care and its Relevance to Test-and-Treat Strategies for Prevention of HIV Infection," *Clinical Infectious Diseases*, 52(6), 793-800. (Accessed 7-30-11 at: <http://cid.oxfordjournals.org/content/52/6/793.short?rss=1>).
- ²⁸ Kaiser Family Foundation, statehealthfacts.org. Data Source: Calculations based on the Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on data from the Medicaid Statistical Information System (MSIS) report from the Centers for Medicare and Medicaid Services (CMS), 2010 and 2007 population estimates for other states from the United States Census Bureau, available at <http://www.census.gov/popest/states/NST-ann-est.html>. (Accessed 7-30-11 at: <http://www.statehealthfacts.org/comparetable.jsp?ind=199&cat=4>).
- ²⁹ Kaiser Commission on Medicaid and the Uninsured (2007). *An Overview of Medicaid Enrollees with Diabetes in 2003*. (Accessed 8-6-11 at: <http://www.kff.org/medicaid/upload/7700.pdf>).
- ³⁰ Among all other enrollees, 48% were enrolled for the full-year with full-benefits.
- ³¹ Gender and race/ethnicity calculations for 2007 based on analysis of data from CDC's 2006 and 2008 HIV/AIDS prevalence estimates which yield the same overall distribution. The total number of people estimated to be living with HIV/AIDS is 1.1 million (Accessed 8-6-11 at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5739a2.htm> and <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6021a2.htm>). Because detailed age-group data are not available for overall HIV/AIDS prevalence estimates, age calculations were based on analysis of data from the most recent CDC HIV/AIDS surveillance report which includes estimated number of people living with a diagnosis of HIV infection (at any stage of disease) for 2006-2008, from 40 states with confidential name-based HIV reporting (<http://www.cdc.gov/hiv/surveillance/resources/reports/2009report/pdf/table15a.pdf>). Note that the age group for people with HIV/AIDS ≤18 includes those who are 19.
- ³² These demographic distributions are similar to those recently reported by HHS for the calendar year 2007 in *HHS Operational Plan: Achieving the Vision of the National HIV/AIDS Strategy*. (Accessed 7-30-11 at: <http://www.aids.gov/federal-resources/policies/national-hiv-aids-strategy/nhas-operational-plan-hhs.pdf>).
- ³³ Forty-nine percent of the U.S. population is male [see: Kaiser Family Foundation, statehealthfacts.org. "Population Distribution by Gender, states (2008-2009), U.S. (2009)," Data Source: Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on the Census Bureau's March 2009 and 2010 Current Population Survey (CPS: Annual Social and Economic Supplements), accessed 7-31-11 at <http://www.statehealthfacts.org/comparebar.jsp?ind=5&cat=1>].
- ³⁴ According to estimates from the HIV Cost and Services Utilization Study (HCSUS), approximately 15 percent of HIV infected adults in care had children under the age of 18 living at home in 1996 (see: Schuster MA, Kanouse DE, Morton SC, Bozette SA, Miu A, Scott GB, Shapiro MF (2000). "HIV-infected parents and their children in the United States," *American Journal of Public Health*, 90(7): 1074-1081, accessed 7-31-11 at: <http://ajph.aphapublications.org/cgi/reprint/90/7/1074.pdf>). Among the population overall, 35% of adults had children in 2009/2010 [see: Kaiser Family Foundation, statehealthfacts.org, "Population Distribution by Family Structure, states (2008-2009), U.S. (2009)," Data Source: Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on the Census Bureau's March 2009 and 2010 Current Population Survey (CPS: Annual Social and Economic Supplements), accessed 7-31-11 at <http://www.statehealthfacts.org/comparebar.jsp?ind=4&cat=1>].

³⁵ According to estimates from HCSUS, 59 percent of adults with HIV in care with Medicare coverage in 1996 had family income of below \$10,000, which was just above 100% of FPL in that year (\$7,740 for a family of one) [see: Bozzette SA, Berry SH, Duan N, Frankel MR, Leibowitz AA, Lefkowitz D, Emmons CA, Senterfitt JW, Berk ML, Morton SC, Shapiro MF (1998). "The care of HIV-infected adults in the United States." *New England Journal of Medicine*, 339(26), 1897-904, accessed 7-31-11 at <http://www.nejm.org/doi/pdf/10.1056/NEJM199812243392606>]. Among Medicare enrollees overall, 17% had incomes below 100% FPL in 2009, which was approximately \$10,830 for a family of one in that year [see: Kaiser Family Foundation, statehealthfacts.org. Data Source: Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on the Census Bureau's March 2009 and 2010 Current Population Survey (CPS: Annual Social and Economic Supplements, accessed 7-31-11 at: <http://www.statehealthfacts.org/comparebar.jsp?typ=2&ind=295&cat=6&sub=75>].

³⁶ NIDA (2010). Research Report Series: Comorbidity: Addiction and Other Mental Illnesses. NIH Publication Number 10-5771. (Accessed 7-31-11 at: <http://www.nida.nih.gov/PDF/RRComorbidity.pdf>).

³⁷ Bing EG, Burnam MA, Longshore D, Fleishman JA, Sherbourne CD, London AS, Turner BJ, Eggen F, Beckman R, Vitiello B, Morton SC, Orlando M, Bozzette SA, Ortiz-Barron L, Shapiro M. Psychiatric disorders and drug use among human immunodeficiency virus-infected adults in the United States. *Arch Gen Psychiatry*. 2001 Aug;58(8):721-8. (accessed 7-31-11 at: <http://archpsyc.ama-assn.org/cgi/content/full/58/8/721>).

³⁸ At least some of their care was paid for through a health maintenance organization (HMO) or preferred health plan (PHP).

³⁹ Represents positive total spending for beneficiaries in each service category only, and does not include beneficiaries with total negative spending which would reflect adjustments for previous overpayments.

⁴⁰ "Long Term Care" includes nursing facilities, Intermediate Care Facilities for the Mentally Retarded (ICF/MR), inpatient mental health facilities, home health, personal care, and home and community-based services.

⁴¹ "Outpatient Care" includes services related to outpatient, physician, clinic, private duty nursing, lab/x-ray, midwife, nurse practitioner, and other practitioner care. "Other Acute Care" includes dental, hospice, pccm, rehabilitation, targeted case management, therapy, transportation, and other services.

⁴² As measured by the unduplicated number of enrollees who had positive spending in these service categories. Does not represent a measure of service unit.

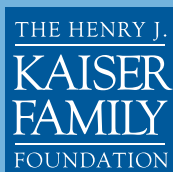
⁴³ Data not shown.

⁴⁴ Kaiser Commission on Medicaid and the Uninsured (2011). *Waiting for Economic Recovery, Poised for Health Care Reform: A Mid-Year Update for FY 2011 - Looking Forward to FY 2012* (accessed 8-6-11, at: <http://www.kff.org/medicaid/8137.cfm>).

⁴⁵ Based on analysis of data from: CDC (2010). "HIV/AIDS Data through December 2007 Provided for the Ryan White HIV/AIDS Treatment Modernization Act of 2006, for Fiscal Year 2009," *HIV Surveillance Supplemental Report*, 15(1) (accessed 7-30-11 at: http://www.cdc.gov/hiv/surveillance/resources/reports/2009supp_vol15no1/index.htm).

⁴⁶ U.S. Census Bureau, Population Division (2011). Table 1. Preliminary Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2010 (NST-PEST2010-01).

⁴⁷ CMS, personal communication, February 2011.



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