

The Feasibility and Impact of Adjusting Ryan White Program, Part A Services to Account for Variations in Medicare and Medicaid Enrollment

Draft Report

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Abstract

Background. In response to congressional reauthorization legislation, Title XXVI of the PHS Act as amended by the Ryan White HIV/AIDS Treatment Modernization Act of 2006 (the Ryan White Program) is developing a quantitative index to measure individual grantee needs for Part A services. Eligible Metropolitan Areas (EMAs) in which a larger proportion of HIV/AIDS patients are enrolled in Medicare or Medicaid may have lower Ryan White Program resource needs than other areas because the needs of these patients are paid for through Medicare or Medicaid programs. This analysis attempts to create an estimate of the portion of Ryan White Program Part A service needs in each EMA that are already being provided for through other sources of federal funding.

Data. To create our estimates, we used Social Security Administration data on disability beneficiaries, Medicaid policy information on eligibility criteria and benefit generosity, income data from the U.S. Census Bureau, Ryan White Program Part A financial information, Bureau of Labor Statistics, Housing and Urban Development data, Centers for Disease Control and Prevention (CDC) HIV/AIDS surveillance data, published estimates of the cost of HIV/AIDS care, and assumptions.

Methods. We estimated the number of HIV/AIDS patients in each EMA with Medicare, Medicaid, or dual benefits. We then adjusted this number to account for the adequacy of state Medicaid reimbursements to pay for ideal patient care, the proportion of Ryan White Program Part A services that went to pay for medical services similar to those paid for by Medicare or Medicaid, and the proportion of those services that were paid for from federal sources. This yielded an estimate of the quantity of Ryan White Program Part A services that were paid by the federal government through sources other than the Ryan White Program.

Results. We estimated that approximately 25% of all patients with HIV/AIDS who reside in EMAs and were reported as alive by CDC in 2005 have some form of Medicare or Medicaid insurance. Adjusting for program adequacy, state contributions, and Ryan White Program resource requirements, federal Medicare and Medicaid programs paid for an estimated 7.9% of the Part A resource needs that would otherwise need to be provided through the Ryan White Program. If the estimated amount of Part A resources paid for by other federal sources was used to adjust an allocation of equal funding per case, it would result in a maximum reduction in per capita funding of 3.9% per case and a maximum increase of 6.0% per case, with 21 EMAs experiencing a decrease in funds and 30 EMAs experiencing an increase.

Implications for the Development of a Severity of Need Index. Adjusting Ryan White Program allocations for the portion of medical coverage that is already paid for by other federal sources would reallocate some Ryan White Program funds from more generous to less generous states without penalizing states for additional contributions made by their taxpayers. Estimates of program enrollment needed to make such adjustments are feasible given current data sources and could be improved with minimal additional data collection.

1. INTRODUCTION

In response to congressional reauthorization legislation, the Ryan White Comprehensive AIDS Resource Emergency (CARE) Act is developing a quantitative index to measure individual grantee needs for Part A services (Ryan White HIV/AIDS Treatment Modernization Act of 2006). One key determinant of variations in need is the amount of Medicare and Medicaid insurance coverage utilized by patients with HIV and AIDS. Such coverage is important to understand because it could be used as a substitute for the outpatient medical services provided through Part A and Part AI of the Ryan White Program and for the prescription drug services provided through Part AI of the Ryan White Program. Therefore, patients in areas with generous Medicaid programs may have several options for care, whereas patients in areas with less generous Medicaid programs may have to compete for access to the Ryan White Program.

Measuring the impact of Medicare and Medicaid enrollment on the need of different EMAs for Ryan White Program resources is complicated by a number of factors. First, although the rules governing Medicare eligibility via disability are uniform across EMAs, the rules governing Medicaid enrollment vary much more widely. In many states, there is virtually no possibility of Medicaid enrollment for a single, childless adult regardless of their illness, whereas other states offer more generous eligibility through medically needy programs. Further, an EMA's income distribution will influence the number of patients who are eligible for Medicaid through a medically needy program, even when comparing states with identical eligibility criteria.

Second, Medicaid programs that do offer Medicaid eligibility may vary in the generosity of the benefits they offer. Patients enrolled in Medicaid programs that restrict access to services through utilization management and gatekeeper services would likely still need to turn to the Ryan White Program to meet some of their outpatient Medical needs. Third, the cost of health care varies across EMAs, and this variation must be taken into account to accurately assess the adequacy of an EMA's Medicaid benefits. Fourth, Part A of the Ryan White Program pays for non-medical services that are not supplied by Medicare or Medicaid programs, and the impact of these services needs to be accounted for to avoid overestimating the impact of these programs on Part A resource needs. Fifth, EMAs pay for a variable portion of Medicaid services using state resources. Algorithms that do not distinguish between Medicaid services paid for by the federal government and those paid for by the state will likely create disincentives for states to offer Medicaid coverage to patients with HIV/AIDS.

Finally, at this time, insufficient data exist to enumerate the exact number of patients enrolled in either Medicare or Medicaid at the EMA level. Any estimates that are created must rely at least in part on assumptions and choices about how to combine information from disparate and inexact data sources. For such a process to result in credible estimates,

these assumptions and decision points should be clearly articulated and their impact on results should be evaluated.

In this study, we estimated the number of patients with HIV and AIDS with Medicare and Medicaid coverage in each EMA. We then adjusted this count of patients to account for the adequacy of their medical coverage, the portion of that coverage that the federal government pays for, and the portion of Ryan White Program Part A funds that are devoted to health services. Our combined estimate represents the estimated quantity of need for Ryan White Program Part A services in a given area that is already paid for through other federal sources.

2. DATA

We used data from multiple sources to create our estimates (Table 2-1). Although the estimates are intended to represent resource needs in 2006, some of the data were only available for earlier years. To estimate the number of patients in each state who qualified for Medicare benefits via disability criteria related to infectious diseases, we used the Social Security Administration (SSA), Disabled Beneficiaries and Dependents Master Beneficiary Record file, 100% data file from 2005 (SSA, 2005). We used data compiled by the Henry J. Kaiser Family Foundation describing state Medicaid, Medically Needy eligibility policies (2001 data), enrollment in 1915(c) waiver programs for people with HIV/AIDS (2003 data), and the average yearly payments for patients who qualified for eligibility through disability or Medically Needy Program (2003 data) (Henry J. Kaiser Family Foundation, 2003, 2006b). Data on the number of households with incomes within defined dollar brackets (below \$10,000; \$10,000 to \$19,999; \$20,000 to \$29,999) were taken from the American Community Survey, collected by the U.S. Census (2005 data) (U.S. Census Bureau, 2005).

Table 2-1. Data Elements, Sources, and Year

Category and Data Element	Source	Year
<i>Enrollment Eligibility</i>		
Social Security disabled beneficiaries due to infectious diseases	Social Security Administration, Disabled Beneficiaries and Dependents Master Beneficiary Record file, 100% data	2005
Medically Needy Program income eligibility data	Henry J. Kaiser Foundation, Medically Needy Eligibility as a Percent of Federal Poverty Level	2001
County income data	U.S. Census, American Community Survey	2005
Medicaid 1915(c) Waiver program enrollment	Henry J. Kaiser Foundation, Medicaid 1915(c) Home and Community-Based Service Waiver participants, by type of waiver	2003
Massachusetts enrollment eligibility for people with HIV/AIDS	Massachusetts Medicaid Policy Institute, the Basics of MassHealth, the Medicaid Program in Massachusetts	2006
Patients with HIV/AIDS to whom eligibility criteria would apply	CDC Surveillance Estimates of Patients with HIV and AIDS by EMA	2005
<i>Benefit Adequacy</i>		
Average annual Medicaid benefit per disabled beneficiary	Henry J. Kaiser Foundation, Medicaid payments per enrollee	2003
Cost of labor by medical labor class	Bureau of Labor Statistics, Occupational Employment Survey	2005
Cost of rent for facility space	Department of Housing and Urban Development, Fair Market Rent Index	2005

To estimate variations in area medical costs, we compiled 2005 data from the Bureau of Labor Statistics, Occupational Employment Survey (Office of Policy and Development and Research, 2006), and from the Department of Housing and Urban Development data, Fair Market Rent Index (HUD, 2006). To estimate the number of cases in each EMA, we used proprietary surveillance data provided by the Centers for Disease Control and Prevention (CDC), Division of HIV/AIDS Prevention for 2006. Our estimate also relied on additional parameter estimates drawn from published studies and assumptions (Table 2-2).

Table 2-2. Model Input Parameters, Source, and Year

Parameter	Value	Source	Year
Proportion of disabled SSDI/SSI recipients eligible due to infectious disease causes that are attributable to HIV/AIDS	0.43	Derived from SSA data on number of eligible due to infectious diseases, and the number of patients with HIV/AIDS with Medicare insurance (Kates, 2005)	2005
Annual cost of average HIV/AIDS care	\$16,945	Hutchinson et al., 2006	Base year 2002 estimate inflated to 2007 value
Annual cost of ideal HIV/AIDS care	\$27,821	Schackman et al., 2006	Base year 2004 estimate inflated to 2007 value
Federal poverty income limit for a single adult	\$10,210	<i>Federal Register</i>	2007
Proportion of Medicare costs paid by patient	0.20	CMS, 2006	2007
Proportion of Ryan White Program Part A resources devoted to medical care	0.762	Gilman and Hart, 2006	2004

3. METHODS

We estimated the portion of Ryan White Program Part A services paid for by the federal government in several steps. First, we estimated the number of patients with HIV/AIDS that were likely enrolled in Medicare or Medicaid in each EMA. Next, we estimated the adequacy of this care in terms of the proportion of ideal medical services it would likely pay for. Multiplying the first figure by the second figure yielded an estimate of the number of patients whose medical needs were fully covered by Medicare and/or Medicaid. Next, we adjusted this number by the proportion of Ryan White Program resources that is devoted to medical services. Our results present this value in two separate units: (1) the number of full cases reimbursed by Medicare and/or Medicaid and (2) the percentage of total cases this represents. Details of the estimation steps are described below.

Medicare Enrollment

Patients who qualify for federal disability insurance through the social security administration become eligible for Medicare coverage after 24 months of continuous enrollment. Nationwide, according to estimates from the Centers for Medicare & Medicaid Services (CMS) cited in a secondary study conducted by the Henry J. Kaiser Family Foundation, approximately 100,000 patients with HIV/AIDS had health insurance coverage through Medicare in 2004 (Kates, 2006). To estimate the number of HIV/AIDS patients with

Medicare insurance in each Part A EMA, we started with the number of people in each state who qualified for disability due to infectious disease causes based on the Disabled Beneficiaries and Dependents Master Beneficiary Record file. Nationwide, 223,447 people qualified for disability due to infectious diseases. To get estimates of the number of people in each state who qualified for disability and received Medicare insurance due to HIV/AIDS, we multiplied each state estimate by 0.43, the quotient of the estimated nationwide number of patients with HIV/AIDS who have Medicare insurance divided by the total number of patients who qualified for disability for due to infectious diseases. To derive EMA estimates from this state estimate, we first estimated the proportion of total state HIV/AIDS cases an EMA represented based on CDC surveillance data. We then multiplied this proportion by the total state estimate of HIV/AIDS cases with Medicare insurance.

Medicaid Enrollment

We estimated Medicaid enrollment in several steps. First, we collected the income eligibility thresholds that would allow people with HIV/AIDS to qualify for Medicaid under the assumption that each patient would need to qualify as a single adult. For all states but one, single adults would either not qualify for Medicaid or would qualify for Medicaid under a Medicaid, Medically Needy Program (Henry J. Kaiser Family Foundation, 2003). Medicaid Medically Needy Program allow patients to reach income eligibility criteria (expressed as a percentage of the federal poverty limit (FPL) (*Federal Register*, 2007) by deducting their medical expenses from their gross incomes. In many instances, patients may qualify for coverage by demonstrating that their illness will require them to incur expenses that will push them below the eligibility criteria (CMS, 2005).

We estimated the spend-down income threshold for Medically Needy eligibility in each state by multiplying the Medically Needy threshold criteria converted into a proportion of FPL, by the published FPL in 2007. To estimate the maximum income value a single adult could earn to qualify for Medicaid through the Medically Needy eligibility criteria, we added the average annual value of typical HIV/AIDS treatment, adjusted for EMA variations in medical costs to this amount (Hutchinson et al., 2006; Gilman and Hart, 2006).

We estimated the average annual value of typical HIV/AIDS treatment as the published undiscounted lifetime cost of typical care divided by the average duration of infection (infection to death) (Hutchinson et al., 2006). We inflated this figure into 2007 dollars using the Bureau of Labor Statistics Consumer Price Index for all Urban Consumers (CPI-U).

We adjusted this overall average cost estimate to account for variations in regional costs using an HIV/AIDS cost of care adjustment index based on the types of medical labor categories utilized by the Ryan White Program, EMA differences in the cost of that labor, and regional differences in rent (Gilman and Hart, 2006). The wage component of this index was created by dividing medical labor into categories, based on the proportion of total Part

A Ryan White Program services each category of service accounted for (Table 3-1), and developing wage rates for each based on average wage for each associated Standard Occupational Code (SOC) listed on the Bureau of Labor Statistic's Occupational Employment survey (<http://www.bls.gov/oes/>). The EMA-level composite wages represent a further weighted average of the reported wage for each Primary Metropolitan Statistical Area (PMSA) or Metropolitan Statistical Area within the EMA weighted by their share of the EMA's total population using a mapping algorithm provided by HRSA's HIV/AIDS Bureau.

The rent component of this index was created in a similar manner, using variations in the Department of Housing and Urban Development's (HUD) Fair Market Rent (FMR) for a two-bedroom apartment index as a proxy for overall facility costs (HUD, 2006). To derive the index for EMAs, we combined county FMR values weighting each based on the county's contribution to the total EMA population.

Both labor and facilities cost indexes were normalized against the national average, which received a value of 1.00. Based on expert opinion (Gilman and Hart, 2006) regarding the relative contribution of labor and facilities costs to overall Ryan White Program expenditures, we combined the two components of the index were combined by giving a weight of 0.80 to labor inputs and 0.20 to non-labor inputs.

We used several steps to estimate the proportion of the population in each EMA that would qualify for Medicaid via the Medically Needy Program eligibility criteria. First, we compiled data from the American Community Survey on the number of households with incomes in the following categories: \$0 to \$9,999; \$10,000 to \$14,999; \$15,000 to \$19,999; \$20,000 to \$24,999; \$25,000 to \$29,999; \$30,000 to \$34,999; \$35,000 to \$39,999; \$40,000 to \$44,999; \$45,000 to \$49,999; \$50,000 to \$59,999; \$60,000 to \$74,999; \$75,000 to \$99,999; \$100,000 to \$124,999; \$125,000 to \$149,999; \$150,000 to \$199,999; and \$200,000 and more. Because not all counties in each EMA were surveyed, we assumed that the data from the surveyed counties were roughly representative of the results that would be obtained if all counties were surveyed.

Table 3-1. Labor Groups and Weights Used to Create Wage Index

Labor Group	Definitions	SOC ^a Codes	Weight
Physicians	• General practitioner	29-1062	20%
	• Internist	29-1063	
Nurses	• Licensed practical nurse	29-2061	20%
	• Registered nurse	29-1111	
Clinical and Social Case Managers	• Medical and public health social worker	21-1022	20%
Pharmacists	• Pharmacist	29-1051	15%
Mental Health Counselors	• Clinical psychologist	19-3031	10%
	• Mental health counselor	21-1014	
	• Mental health social worker	32-1023	
Substance Abuse Counselors	• Substance abuse counselor	21-1011	10%
	• Substance abuse social worker	21-1023	
Oral Health Providers	• Dentist	29-1021	5%
	• Dental hygienist	29-2021	
	• Dental assistant	29-9091	

^aBureau of Labor Statistics, Standard Occupational Code.

Second, we transformed the count data of the number of households in each income category into the percentage value of the total population of households that earned income at the midpoint of the income bin or lower. Third, for each EMA, we fit a linear regression line which predicted income values as a function of an estimated intercept values, and an estimated slope parameter multiplied by the population proportion with that income value or lower.

$$\text{Eligibility Income } i = \text{Intercept } i + \text{Slope } i \times \text{Population Proportion with Eligibility Income or Lower } i \quad (1)$$

where i indexes the EMA, and the Intercept and Slope parameters are estimated through ordinary least squares regression analysis. For this regression, we restricted our data to income values below \$100,000 because the distribution of this portion of the population's income can be explained by a linear function, whereas the income distribution beyond that point cannot.

Fourth, we rearranged the results of our function and solved for the population proportion that resulted in the income value needed to qualify for Medicaid through the Medically Needy Program (the FPL multiplied by the eligibility criteria proportion plus the average annual cost of usual HIV/AIDS care multiplied by the area cost index).

$$\text{Population Proportion}_i = \frac{\text{Eligibility Income}_i - \text{Intercept}_i}{\text{Slope}_i} \quad (2)$$

To estimate the number of HIV/AIDS patients in each EMA with incomes at or below the Medically Needy Program eligibility income, we multiplied this proportion by the number of total cases in that EMA (under the assumption that the same proportion of HIV/AIDS patients would have incomes at or below the medically needy threshold as in the general population).

To these cases, we added the additional patients enrolled in Medicaid through a 1915(c) waiver program as identified through published data (Henry J. Kaiser Family Foundation, 2006a). We also accounted for eligibility criteria in Massachusetts by using the Massachusetts income threshold for patients with HIV (200% FPL) (Massachusetts Office of Health and Human Services, 2007).

Medicare and Medicaid Adequacy

We adjusted Medicare and Medicaid coverage to account for their adequacy in covering the medical needs of patients with HIV/AIDS. We defined adequate care as the average annual dollar value of ideal HIV/AIDS care. We set this value equal to the published undiscounted lifetime cost of ideal care divided by the average duration of infection (Schackman et al., 2006). We then adjusted this figure into 2007 dollars using the CPI-U, and we further adjusted it for differences in EMA costs using the EMA cost index described above. We then defined the adequacy of Medicare and Medicaid insurance based on the proportion of these costs they could be expected to pay.

We assumed that, once the premium had been paid, Medicare would reimburse 80% of outpatient medical services normally provided by Part A of the Ryan White Program, based on the standard Medicare Part B (outpatient service) coinsurance rate (CMS, 2006). To adjust for this coinsurance rate and for premiums, we subtracted the annual Part B premium cost (\$1,062) from the EMA-adjusted dollar value of ideal care, then multiplied this value by 0.80 and divided this amount by the dollar cost of ideal care.

$$\text{Medicare Adequacy}_i = \frac{(\$Ideal Care_i - \$1,062) \times 0.80}{\$Ideal Care_i} \quad (3)$$

To adjust for Medicaid adequacy, we divided the average annual payment per disabled patient enrolled (Henry J. Kaiser Family Foundation, 2006b) by the EMA-adjusted dollar value of ideal care:

$$\text{Medicaid Adequacy}_i = \frac{\text{Average annual payment per disabled enrollee}_i}{\$Ideal Care_i} \quad (4)$$

Proportion of Ryan White Program Part A Services Devoted to Medical Care

Finally, we adjusted all cases with Medicaid or Medicare insurance by the proportion of Part A Ryan White Program dollars devoted to medical services. Based on an earlier analysis of Ryan White Program expenditures for 2004, we assumed that 76.2% of Part A services were used for medical care, 12.9% were used for support services, and 10.9% were used for case management (Gilman and Hart, 1006). Although some Medicaid programs may pay for case management, we were unable to collect data to characterize the nature of these services, and therefore we grouped those costs as services outside the scope of Medicare and Medicaid.

Proportion of Care Paid for by Federal Sources

We assumed that all insured medical costs for those with Medicare or dual Medicare/Medicaid insurance were paid by the federal Medicare program. For Medicaid, we assumed that the proportion of medical costs paid for by the federal government was equal to the federal matching rate for Medicaid services (Henry J. Kaiser Family Foundation, 2006c).

Combined Estimation Algorithm

We combined our adjustments to estimate the proportion of Part A services that are currently reimbursed by other federal sources. This amount is equal to our estimate of the number of HIV/AIDS patients covered by Medicare or dually insured by Medicare and Medicaid multiplied by the Medicare adequacy of that area plus the estimated number of HIV/AIDS patients covered by Medicaid multiplied by the estimated Medicaid adequacy for that area multiplied by the Federal Matching Percentage (FMAP) for Medicaid services. This total number is then multiplied by the proportion of Ryan White Program, Part A services devoted to medical services and divided by the total number of cases in the EMA:

$$\text{Federally Reimbursed Proportion}_i = \frac{((MCR / DE_i \times MCRA_i) + (MCD_i \times MCDA_i \times FMAP_i)) \times CAP}{\text{Total Cases}_i} \quad (5)$$

where, as above, i indexes the EMA, and MCR/DE is the number of Medicare and dual eligible patients, $MCRA$ is the adequacy of the Medicare program, MCD is the number of Medicaid-only patients, $MCDA$ is the adequacy of the Medicaid program, $FMAP$ is the federal matching percentage for Medicaid services, CAP is the proportion of Ryan White Program services spent on medical services, and total cases is the total number of cases in an area.

Severity of Need Adjustment

The combined estimation algorithm can be used to adjust Ryan White Program allocations by following these steps:

- Multiply the proportion derived by the algorithm by actual reported number of cases in each area.
- Divide the total allocation for all areas by the total number of adjusted cases to derive a per capita allocation adjusted for Medicare and Medicaid coverage.
- Multiply the new adjusted per capita allocation by the number of adjusted cases in each area.
- Divide the total area allocation by the starting number of unadjusted cases in that area to determine how the adjustment allocation impacted each area.

Demonstration

We demonstrate the use of this methodology using the number of living HIV/AIDS cases reported to CDC in 2006 while assuming a hypothetical total allocation equal to all EMAs equal to \$100 multiplied by the total cases in all EMAs in 2006. The analysis does not include estimates for EMAs newly added in the 2006 reauthorization act (Baton Rouge, Charlotte, Indianapolis, Memphis, or Nashville) because we lacked HIV/AIDS data for those areas. We used a hypothetical funding level of \$100 per actual HIV/AIDS rate to allow changes in the per capita rate to be translated directly as the percentage change in allocations per enrollee.

4. RESULTS

We estimated that there were 429,963 living people with HIV/AIDS and reported to CDC surveillance systems in 2005 from the 51 EMAs we evaluated. Of these, we estimated that 104,904 (24.4%) were insured at least in part through Medicare alone (1.4%), Medicaid alone (17.4%), or through both programs (5.7%). Caguas, Puerto Rico, had the lowest proportion of patients with at least some coverage (4.4%) and Miami, Florida, had the highest proportion (39.4%). (Table 4-1)

Medicare adequacy was largely the same across areas. The proportion of ideal care Medicare could be expected to pay ranged from a low of 72.4% in Caguas to a high of 76.9% in San Francisco. Variations in this rate were a function of the constant impact of the Medicare premium in relation to the cost of ideal care, which varied by area. Thus, the Medicare premium was relatively more onerous in areas with lower overall health care costs such as Puerto Rico.

According to published data on Medically Needy eligibility criteria, 14 EMAs had no eligibility program for people with HIV/AIDS and therefore had an adequacy score of zero. Of those

EMAs in states with a Medically Needy program, the proportion of ideal care Medicaid could be expected to pay ranged widely, from a low of 28.3% in Atlanta to a high of 86.5% in San Francisco. Among the EMAs in states with Medically Needy programs, the FMAP rates varied from a low of 50% in 26 EMAs to a high of 70% in New Orleans.

Adjusting the number of insured cases for adequacy of coverage, the proportion of costs paid by the federal government, and the proportion of Ryan White Program resources spent on medical services yields an estimate of the proportion of Ryan White Program resources needed by these individuals that is currently provided by payments from other federal sources. Over all EMAs, we estimated that other federal sources provided for 32.7% of the Part A resource needs of those with insurance and 7.9% of the resource needs of all patients. This figure varied by area, from 2.4% of Part A resource needs in Caguas to 11.6% in New York City.

Adjusting Part A allocations for federal Medicare and Medicaid payments while holding the total allocation constant results in higher payments per unadjusted patient for EMAs in which less than 7.9% of their patient's Part A needs are paid for via federal insurance programs and lower payments per unadjusted patient in which more than 7.9% of their patient's Part A needs are paid for via federal insurance programs. Caguas experienced the greatest increase in payments per unadjusted case (6.0%), while New York City and Portland, Oregon, experienced the largest decrease (3.9%). Of all EMAs, 30 experienced increases in their per capita allocation and 21 experienced decreases.

Table 4-1. Medicare and Medicaid Insurance by EMA, it's Impact on Part A Services, Its Severity of Need Impact

(EMA Code) Name, and State	Percent of Patients With Medicare or Medicaid	Percent of Part A Services Paid for By Federal Sources	Percent Change in Per Capita Allocations From Level Funding
(1310) CAGUAS, PR	4.4%	2.4%	6.0%
(6360) PONCE, PR	4.5%	2.5%	6.0%
(7440) SAN JUAN-BAYAMON, PR	4.5%	2.5%	5.9%
(2080) DENVER, CO	5.8%	3.4%	5.0%
(4120) LAS VEGAS, NV-AZ	5.9%	3.4%	4.9%
(3360) HOUSTON, TX	7.0%	4.1%	4.3%
(640) AUSTIN-SAN MARCOS, TX	7.0%	4.1%	4.3%
(1920) DALLAS, TX	7.0%	4.1%	4.2%
(2800) FORT WORTH-ARLINGTON, TX	7.0%	4.1%	4.2%
(7240) SAN ANTONIO, TX	7.0%	4.1%	4.2%
(1680) CLEVELAND-LORAIN-ELYRIA, OH	7.6%	4.4%	3.9%
(6200) PHOENIX-MESA, AZ	8.4%	4.9%	3.4%
(5015) MIDDLESEX-SOMERSET-HUNTERDON, NJ	17.1%	5.1%	3.1%
(7040) ST. LOUIS, MO-IL	9.6%	5.5%	2.7%
(3760) KANSAS CITY, MO-KS	9.6%	5.6%	2.6%
(8840) WASHINGTON, DC-MD-VA-WV	15.1%	6.0%	2.2%
(5720) NORFOLK-VA BEACH-NEWPORT NEWS, VA	22.6%	6.2%	2.0%
(875) BERGEN-PASSAIC, NJ	22.0%	6.2%	1.9%
(5380) NASSAU-SUFFOLK, NY	17.1%	6.4%	1.8%
(5640) NEWARK, NJ	23.0%	6.5%	1.7%
(520) ATLANTA, GA	19.0%	6.8%	1.3%
(6160) PHILADELPHIA, PA-NJ	24.3%	7.2%	0.8%
(5560) NEW ORLEANS, LA	29.2%	7.4%	0.7%
(3600) JACKSONVILLE, FL	30.1%	7.5%	0.5%
(8960) WEST PALM BEACH-BOCA RATON, FL	31.3%	7.6%	0.5%
(2680) FORT LAUDERDALE, FL	31.9%	7.6%	0.4%
(5960) ORLANDO, FL	29.0%	7.7%	0.3%
(720) BALTIMORE, MD	21.6%	7.8%	0.2%
(2160) DETROIT, MI	24.2%	7.9%	0.1%
(2281) DUTCHESS COUNTY, NY	20.9%	7.9%	0.0%
(3283) HARTFORD CT NECMA	22.3%	8.1%	-0.1%
(8760) VINELAND-MILLVILLE-BRIDGETON, NJ	30.5%	8.2%	-0.2%
(8280) TAMPA-ST. PETE.-CLEARWATER, FL	32.1%	8.2%	-0.2%
(5120) MINNEAPOLIS-ST. PAUL, MN-WI	19.8%	8.2%	-0.3%
(5483) N HAVN-BRPT-DNBRY-WTRBRY,CT NECMA	24.0%	8.2%	-0.3%
(3640) JERSEY CITY, NJ	31.7%	8.4%	-0.4%
(7400) SAN JOSE, CA	24.8%	8.7%	-0.7%
(5945) ORANGE COUNTY, CA	26.8%	8.9%	-1.0%
(5000) MIAMI, FL	39.4%	8.9%	-1.0%
(5775) OAKLAND, CA	29.3%	9.2%	-1.3%
(7360) SAN FRANCISCO, CA	29.8%	9.2%	-1.4%
(7500) SANTA ROSA, CA	29.2%	9.3%	-1.5%
(1123) BOSTON-BROCKTN-NASHUA,MA-NH NECMA	19.6%	9.4%	-1.5%
(7320) SAN DIEGO, CA	29.8%	9.5%	-1.7%
(6920) SACRAMENTO, CA	29.8%	9.6%	-1.8%

(1600) CHICAGO, IL	29.7%	9.7%	-1.9%
(6780) RIVERSIDE-SAN BERNARDINO, CA	32.5%	10.0%	-2.2%
(7600) SEATTLE-BELLEVUE-EVERETT, WA	23.1%	10.0%	-2.2%
(4480) LOS ANGELES-LONG BEACH, CA	35.0%	10.3%	-2.6%
(6440) PORTLAND-VANCOUVER, OR-WA	25.1%	11.5%	-3.9%
(5600) NEW YORK, NY	33.8%	11.6%	-3.9%

5. DISCUSSION

This research estimated that approximately 25% of all patients with HIV/AIDS who reside in EMAs and were reported as alive by CDC in 2005 have some form of Medicare or Medicaid insurance. Across all EMAs, the federal contribution paid for an estimated 7.9% of the Part A resource needs that would otherwise need to be provided through the Ryan White Program. Individual EMAs varied quite a bit around this overall average from a low of 2.6% to a high of 11.6%. If the estimated amount of Part A resources paid for by other federal sources was used to adjust an allocation of equal funding per case, it would result in a maximum reduction in per capita funding of 3.9% per case and a maximum increase of 6.0% per case, with 21 EMAs experiencing a decrease in funds and 30 EMAs experiencing an increase.

Areas with generous Medically Needy Program eligibility criteria for Medicaid, areas that provided more adequate reimbursements for the care of disabled enrollees, and areas in which the federal government paid for a greater percentage of Medicaid services experienced the largest decrease in per capita funding, whereas areas that did not provide Medically Needy Program eligibility experienced the largest increases. Such a result is unavoidable in adjusting for Medicare and Medicaid services.

Policy makers should be aware that the use of such an adjustment for Part A services may provide a disincentive for states to offer generous Medicaid eligibility for people with HIV/AIDS. This adjustment system attempted to mitigate the extent of this disincentive by adjusting only for the portion of services that are paid for by federal (as opposed to state) sources. This moderated the impact of the negative impact of the adjustment in areas with low FMAP rates. Although a strong argument can be made that the federal government should not be required to pay for the same services twice through two different programs, states with generous Medicaid policies may still resist the use of a Medicaid adjustment.

5.1 Limitations

These estimates are limited by a number of factors. The estimate relies on data collected from secondary sources, which resulted in inputs derived from different years. A more accurate adjustment system would actively collect data for all inputs from the same year. Of note, the Medically Needy eligibility criteria was the oldest and thus likely the least accurate of the inputs.

Furthermore, several of the data inputs rely on assumptions. We assumed the income distribution of people with HIV/AIDS would be the same as that in the general population. Although this is almost certainly not the case, we believe this assumption led to more conservative estimates in terms of the number of people with HIV/AIDS that would qualify for insurance because people with HIV/AIDS are likely to be poorer on average than the general population. We also assumed that all patients eligible for Medicaid service would enroll for service. We justify this assumption for two reasons. First, by assuming that the income of those with HIV/AIDS is the same as in the general population, we very likely underestimate the total number of people who would be eligible. Second, the assumption creates an incentive for Part A programs to identify patients who are eligible for Medicaid and enroll them in services.

Our estimate of patients enrolled in Medicare was based on a constant transformation of the number of patients eligible for reasons of infection disease. Further, our estimates proportionally assigned state cases enrolled in Medicare to EMAs based on the share of total state cases each EMA represented. More precise estimates would directly estimate the number of patients eligible for Medicare in each EMA using primary data from the U.S. Social Security Administration.

Despite these limitations, we believe this analysis provides the best estimate of HIV/AIDS patients with Medicare or Medicaid by EMA to date. The nature of our assumptions serves to bias our estimates toward identifying fewer patients enrolled in Medicaid than likely exist in reality, thus diminishing the impact of the adjustment on resource allocations relative to the real impact of Medicare and Medicaid services on resource needs.

5.2 Implications

It is possible to create credible estimates of the proportion of Part A resources that are currently provided through other federal sources. While these estimates can be improved upon through the collection of better or more updated data, we believe the framework for applying the data is sound and can be easily replicated. As such, the Ryan White Ryan White Program can and should strongly consider including adjustments for Medicare and Medicaid services in any future severity of need adjustment system for Ryan White Program services.

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