

Regional Variations in Medicare Expenditures for the SSDI Population

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Jonathan Skinner, PhD
Dartmouth College
The Dartmouth Institute for Health Policy and Clinical Practice
Department of Economics, Dartmouth College
National Bureau of Economic Research

Thomas Bubolz, PhD
The Dartmouth Institute for Health Policy and Clinical Practice

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1. Introduction

There are wide variations in Medicare expenditures across the U.S. among the elderly Medicare population over age 65, with age-sex-race-adjusted per capita annual spending in 2005 ranging from \$5,358 in Salem, OR to \$14,359 in Miami (www.dartmouthatlas.org). These variations persist even after accounting for differences in health status across regions, for example by studying expenditures for just patients who have had an index heart attack or hip fracture (Fisher, 2003a,b; Skinner et. al., 2005), and after adjusting for differences in Medicare cost-of-living adjustments.

Little is known, however, about regional variations in Medicare expenditures for those enrollees under age 65. Medicare coverage is available to widows and children of Medicare enrollees, but the vast majority of the under-65 population receives Medicare benefits through the Social Security Disability Insurance (SSDI) program following a two-year waiting period. Aggregate expenditures are rising for this population more rapidly than for the over-65 Medicare program. In 1990, real Medicare expenditures for the DI population was \$16 billion (in \$2005), or 13 percent of the corresponding \$124 billion in expenditures for the over-65 population. As Figure 1 shows, by 2005 real Medicare expenditures for the DI population had grown by a factor of 2.9 (relative to the baseline spending in 1990), while real Medicare expenditures for the over-65 population increased by a factor of 1.8, again relative to the baseline in 1990. By 2005, according to our calculations, the under-65 population, most of whom are eligible because of SSDI, had risen to 20 percent of total Medicare enrollees. Furthermore, expenditures per enrollee for the DI

population (\$8,320 in 2005) is slightly larger than expenditures for the elderly (\$8,085).

Despite the billions of dollars in spending for this group, remarkably little is known about the type and quality of health care received by SSDI recipients. In this paper, we take a first look at regional variations in enrollment rates and expenditures in the Medicare program with the use of the Dartmouth Atlas hospital referral regions (HRRs) of which there are 306 in the United States. We find that enrollment rates in the age 20-64 population exhibit substantial differences across regions, ranging from under 2 percent in Alexandria VA and Boulder, CO to more than 8 percent in Oxford, MS, Charleston, WV, and Kingsport TN. High-enrollment regions are spatially correlated, starting near West Virginia and Tennessee and extending southwest to Louisiana and Mississippi.

However, per-enrollee Medicare expenditures (conditional on enrollment) are much less spatially correlated in the under-65 population, with some regions in Florida experiencing very high rates of expenditures but other areas in Mississippi showing below-average rates of expenditures. We focus further on just seven regions; for example, Elyria, OH spends \$14,059, more than twice as much as the \$6593 per enrollee spent in Buffalo, NY. But the real outlier in these data is Miami, where total expenditures per enrollee tops out at \$19,854. While Part A expenditures in Miami are high – roughly double expenditures in San Francisco – the largest differences between Miami and elsewhere arise from Part B expenditures, nearly four times those in San Francisco.

In examining the clinical conditions that account for high Miami Part B expenditures, we observed an extraordinarily high prevalence of primary thrombocytopenia (low platelets in the blood) and associated use of immunoglobulin which bill at \$2500 or more per injection. Whether this represents an undetected epidemic of this condition in Miami, or over-diagnosis or over-treatment requires further inquiry as to the cause. The medical importance of a possible epidemic – or the financial importance of the enormous costs to the Centers for Medicare and Medicaid Services (CMS) and their patients (through copayments) of over-diagnosis or over-treatment suggests the importance of the appropriate federal agency taking steps to clarify the causes of these expenditures.

While Miami is the definite outlier, even when excluding Miami from the sample the regional patterns of expenditures for the under-65 population exhibits extraordinary variation, as presented in Appendix Table A. One hypothesis for this degree of variation is a potentially more profound lack of consensus in how to treat the often difficult clinical conditions associated with the under-65 disabled population. Physicians can agree on how to treat an 85-year-old with a hip fracture, but might be less able to arrive at a consensus for a 45-year-old with back pain and evidence of mental illness.

2. Methods

Our primary data source is the Continuous Medicare History Survey (CMHS), a 5 percent sample of the fee-for-service Medicare enrollees, determined by the last digits of the individual's insurance number, typically the social security number.

Previous Dartmouth Atlas studies have excluded the under-65 population, but for this study we include only this population. As noted above, a very large fraction of the under-65 Medicare enrollees are eligible through the SSDI program (albeit after a 2-year waiting period). Less than 4 percent are eligible through the end-stage renal disease (ESRD) program, and we exclude all individuals under age 20 from the analysis. Thus for expositional purposes we sometimes make inferences about health care for the SSDI population while recognizing that a small fraction of the costs are the consequence of non-SSDI enrollees.

All individuals in the Medicare data are allocated to one of 306 Hospital Referral Regions (HRRs) in the Dartmouth Atlas database by their zip code of residence. These HRRs comprise contiguous health care “markets” as measured by zip-code level discharge data for the over-65 population, with the zip-to-HRR crosswalks available at [www. dartmouthatlas.org](http://www.dartmouthatlas.org). Because the assignments to regions are made using zip codes, if someone lived in (e.g.) the Huntington West Virginia but received care in Charlottesville, VA, that treatment would be assigned to the Huntington HRR, not the Charlottesville HRR. This approach tends to attenuate regional differences in treatment intensity (because the Huntington HRR reflects in part the Charlottesville practice style). On the other hand, our approach avoids the much more serious biases associated with assigning health care costs to where the provider is located, for example in Washington DC where many residents of Virginia or Maryland seek care.

All estimates are adjusted for differences across Medicare enrollees by sex and age composition in 5-year increments using the indirect adjustment approach.

Consider first the age-sex adjusted enrollment rate. Let π_{ikj} be the number of people at age i and sex k in HRR j , this is taken from Census data by zip code matched to the HRRs. Now suppose that m_{ik} is the fraction of each age and sex group (under age 65) enrolled in the Medicare program, calculated from the national data. Thus the expected number of people in HRR j enrolled in the Medicare program, E_j , is given by

$$E_j = \sum_{i=1}^N \sum_{k=1}^2 \pi_{ikj} m_{ik}.$$

If the crude observed number of people in HRR j enrolled in Medicare is given by O_j the ratio of observed to expected is simply O_j/E_j ; and one can derive the age-sex adjusted rate by multiplying this ratio by the national average. For example, in Columbia SC the observed/expected ratio is 1.28. With a national rate of 3.7 percent of the age 20-64 population enrolled in Medicare, this translates to an adjusted rate for Columbia of 4.7 percent.

A similar transformation occurs for expenditures, only in this case m_{ik} is the national average level of Medicare expenditures for age group i and sex k . This indirect method is particularly robust compared to direct adjustment approaches when relatively small sample sizes within certain cells couple with large outliers can potentially skew estimates of the average.

We also supplement the CMHS data, which only provides breakdowns of highly aggregated spending (such as Part A and Part B), with more detailed analysis of specific diagnosis codes and treatment amounts for inpatient, outpatient, and Part B (physician) utilization. For these analyses, we focus on two cities: Miami and San Francisco.

3. Results

We first consider average enrollment rates, shown in Figure 2. First, there are wide ranges in enrollment rates, ranging from under 2 percent – with the lowest 5 regions being Arlington VA, Hinsdale IL, Evanston IL, Takoma Park MD, and Orange County, CA. By contrast, all of the five regions with the highest enrollment -- Kingsport TN, Charleston WV, Oxford MS, Huntington WV, and Lexington KY – report rates in excess of 8 percent of the population (age 20-64) enrolled in Medicare.

There is considerable geographic clustering of enrollment rates, with substantially higher rates in the Appalachian regions and the deep South (e.g., Mississippi, Arkansas, Georgia (excluding Atlanta), Louisiana, and Arkansas). There is a larger literature seeking to explain participation in SSDI (e.g., Autor and Duggan, 2006), but it seems clear that in these regions three factors leading to SSDI enrollment – high rates of chronic disease in the under-65 population, poor labor market opportunities for lower-educated workers, and minimal social insurance benefits from other programs such as TANF – would be expected to contribute to high rates of participation.

More surprising is the patchwork quilt of expenditure patterns across the U.S. in Medicare expenditures, as shown in Figure 3. First, there is substantial variation across regions in age-sex adjusted expenditures, ranging from \$3,923 per enrollee in Dubuque IA to \$19,854 in Miami, or a nearly five-fold difference. (Individual HRR-level average expenditure measures are listed in Appendix Table A.) One might expect (from the discussion above) that regions with the greatest level of disability

might also experience the highest average expenditures.¹ However, there is a negative correlation between rates of enrollment and spending ($\rho = -.37$, $p < .001$), with quite modest rates of expenditures in many regions of the South and much higher rates in (e.g.) western Texas. Recall that we have not adjusted for differences in cost-of-living across regions, but such adjustments are on the order of 10-25 percent and are unlikely to offset these enormous differences across regions which arise from variations in utilization. Note also that the standard deviation in spending for the under-65 population, \$1794, is larger than the corresponding deviation for the over-65 population, \$1245..

We next focus on seven representative regions: San Francisco, Miami (which we view as comparable large metropolitan areas), Monroe LA, Worcester MA, Minneapolis, Buffalo NY, and Elyria OH. Figure 4 provides a finer breakdown of their spending measures for Part B (physician) spending shown by the top bar (green), and Part A (hospital) spending shown by the bottom bar (red), with total spending the sum of the two. The national average is \$8,320, slightly higher than the rates in San Francisco (\$7,471), Minneapolis (\$7,172) and Buffalo NY (\$6,593), slightly lower than Monroe, LA (\$8,628), but well below Worcester MA (\$10,368), Elyria OH (\$14,059), and Miami (\$19,854). There are also differences in the share of Part A and Part B spending. While Miami is extraordinarily high because of its Part B (physician) spending (which we consider in more detail below), \$12,432 per enrollee, Elyria

¹ Suppose there is a common distribution of illness, and the high SSDI enrollment regions correspond to a shift to the right in the distribution, so that more people are sufficiently disabled to become eligible for SSDI. It is possible in theory that the conditional mean might fall as the distribution shifts to the right – if enough of the newly eligible experience disability rates below the conditional mean – but it seems highly unlikely that the conditional mean would decline by as much as one needs to explain the geographical patterns we observe.

appears to be unusually high because of its much higher Part A expenditures, \$8,338 versus \$3,031 in Minneapolis.

We next consider a more detailed comparison of two large metropolitan areas, Miami and San Francisco. One might expect that the prevalence of severe chronic illness caused by HIV might be relatively high in Miami, but at least an older comparison study did not find a higher prevalence in Miami compared to San Francisco (Holmberg, 1996). Table 1 shows Part A and Part B spending (along with the total) for the Under-65 population in these two regions, along with the over-65 average expenditures from the Dartmouth Atlas data for the same year, 2005. (The US averages are also shown on the right-most column.) The strong correlation between under-65 and 65+ average expenditures is replicated across all HRRs ($\rho = .71, p < .001$).

It is useful to check whether there are systematic differences in expenditures and utilization across the two cities for specific disease categories. We consider first in Table 2 the top-5 diagnostic categories nationwide. For psychosis (the most common hospitalization), Miami's payment per enrollee is \$989, substantially above San Francisco's rate of \$273, but the payment per hospital discharge in Miami is substantially below the rate in San Francisco. These patterns are easily explained by the much higher incidence of hospital admissions for psychosis in Miami. By contrast, the payments per discharge for HIV with major related conditions in San Francisco are nearly double payments in Miami, although (judging from per-capita measures of spending) the incidence of admissions for HIV are slightly higher in Miami.

Still, for inpatient care the patterns of disease (and the rankings of importance) are quite similar; these five DRGs rank 1,3,4,5,6 in Miami and 2,3,1,5,9 in San Francisco. In Miami, the Top-20 DRGs accounted for 55% of spending and 49% of discharges, while in San Francisco, the Top-20 DRGs accounted for 54% of spending and 42% of discharges.

Table 3 shows a comparable list of disease diagnoses for outpatient care, again for the top-5 rankings across the country. Chronic kidney failure was the most important in both cities, followed by end-stage renal disease (i.e. patients on dialysis), and psychiatric illnesses such as schizophrenia and major depressive disorders. While spending per enrollee was higher in Miami, spending per diagnosis was lower than in San Francisco. In Miami, the Top-20 5-digit diagnoses accounted for 69% of spending and 39% of visits; the equivalent values in San Francisco were 58% of spending and 30% of visits.

Finally, Table 4 displays the sharp differences in utilization for Part B (outpatient) spending. Here we do not rank categories according to the most important in the US because in Miami the categories are so different from those in San Francisco and in the rest of the country. Nearly all the differences are accounted for by much higher spending for HIV, and far higher rates (and more intensive treatment) of primary thrombocytopenia and neutropenia in Miami. While spending for HIV in Miami was \$3,465 *per enrollee*, comparable expenditures for this diagnosis code were just \$77 in San Francisco.

But the most remarkable differences arise from primary thrombocytopenia, where expenditures were \$3,594 *per enrollee* in Miami and negligible in San

Francisco. Thrombocytopenia occurs when platelet levels fall to dangerously low levels, and can sometimes occur as a side-effect of patients with HIV (Merck, 2008). In the case of HIV, however, the thrombocytopenia would be viewed as secondary to the HIV, not primary. Primary thrombocytopenia can occur when antibodies run amok and destroy platelets, or when certain bacterial infections result in a sharp decline in platelets, but these are not common afflictions of the under-65 population.

While the prevalence of primary thrombocytopenia is higher in Miami, the dramatic differences in costs arise from its intensive treatment with immunoglobulin, which can cost as much as \$2500 per injection. In a 20% sample of *all 306 regions* in the United States for the population between ages 20-64, there were 6,714 administrations of a 10 mg immunoglobulin injection (HCPCS code J1564). Of those, 3,601 were administered in the Miami HRR, and another 2,282 in Fort Lauderdale. In other words, these two HRRs alone accounted for 88 percent of all US injections. The next highest HRR was Detroit, with 136 injections, and there were no such injections in San Francisco.

4. Conclusion and Discussion

The Medicare population under age 65 comprises about 20 percent of enrollees and a slightly higher percentage of expenditures, yet there are few studies of utilization among this group. In this paper, we consider geographic variations in both enrollment rates and utilization rates across the 306 Hospital Referral Regions (HRRs) in the United States. There was considerable variation in enrollment rates relative to the general population for ages 20-64, with particularly high rates in the

South and in Appalachian states. By contrast, expenditures per enrollee demonstrated a far more “patchwork” pattern with high rates in urban areas like Miami and rural areas like Elyria OH coupled with low rates in urban areas like San Francisco and rural areas such as Dubuque IA.

The variations for the under-65 population are larger in magnitude than corresponding variations in the over-65 population. One reason for this wider variation is that there are fewer “low variation” diseases such as hip fractures and heart attacks, where nearly every patient ends up in a hospital and where there is relatively less variation in per-capita utilization (Wennberg, Fisher, Skinner, 2002). By contrast, the typical diseases for the SSDI population are mental illness and musculoskeletal diseases, where there is evidence (from other populations) of substantial variations in treatment patterns across regions.

For example, many under-65 SSDI enrollees are eligible because of musculoskeletal disabilities, and we might expect variations in treatment rates to be very high given the degree of professional uncertainty in how to treat such diseases and the evidence from the over-65 population in wide variations arising in back surgery rates across regions in the U.S. (Dartmouth Atlas, 2006). The other primary diagnosis leading to eligibility for SSDI and Medicare is mental illness. While the Dartmouth Atlas includes little information about treatment for mental illness, another study by Ashton, et. al. (1999) compared the frequency of health care treatments across Veterans Affairs (VA) hospitals in the US. This study is a particularly good one because VA patients are all former military employees, and thus a reasonably homogeneous patient population, yet they include the under-65 population. Still, they

found substantial variations across hospitals in treatment patterns for bipolar disorder (inpatient days ranging from 16.9 to 36.4 across hospitals), or visits to psychiatric clinics (5.7 to 19.8). Again, it seems unlikely that differences in the average severity of diagnosed bipolar disease across hospitals could explain these wide variations in treatments for mental illness.

These initial measures can still be used for a variety of policy analyses. The most obvious is simply to document what diseases and treatment categories account for the largest variations across regions in expenditures patterns for the under-65 population. While the issue of over-65 variation has attracted the attention of policy-makers in Washington DC (Reichard, 2007), the 20 percent of the Medicare budget flowing to the under-65 population has received much less attention.

Second, documenting these differences can lay the groundwork to evaluate whether additional spending in high-cost regions are justified by unmeasured severity of disease, or whether such spending yields more benefits in terms of return to work or lower rates of hospitalization or emergency room admissions. Previous work using instrumental variables approaches in the over-65 population has not found benefits arising from greater spending, whether in the cross-section (Fisher, 2003b; Skinner et al., 2005); or in a “difference-in-difference” analysis over time (Skinner, et. al., 2006). These patterns raise at least the possibility of substantial degrees of inefficiency in Medicare spending for the under-65 population and suggest future research work comparing spending and outcomes for patients across regions with similar diagnoses.

Finally, we are left with something of a puzzle in how to interpret the findings of very high spending in Miami. As noted above, we cannot tell simply from the administrative data whether this represents an undetected epidemic outbreak (or endemic pattern) of disease in Miami, or whether this represents over-diagnosis or over-treatment of an existing disease. Nor do we know if the immunoglobulin injections (if actually administered) improved the functioning of the patients receiving such treatments. But any plausible explanation for these patterns would suggest further inquiry as to the cause by the appropriate government authorities. Furthermore, even if we set aside Miami as a special case, there are several other regions in the United States with remarkably high levels of expenditures which might warrant further research as to the causes and consequences of such intensive treatment patterns.

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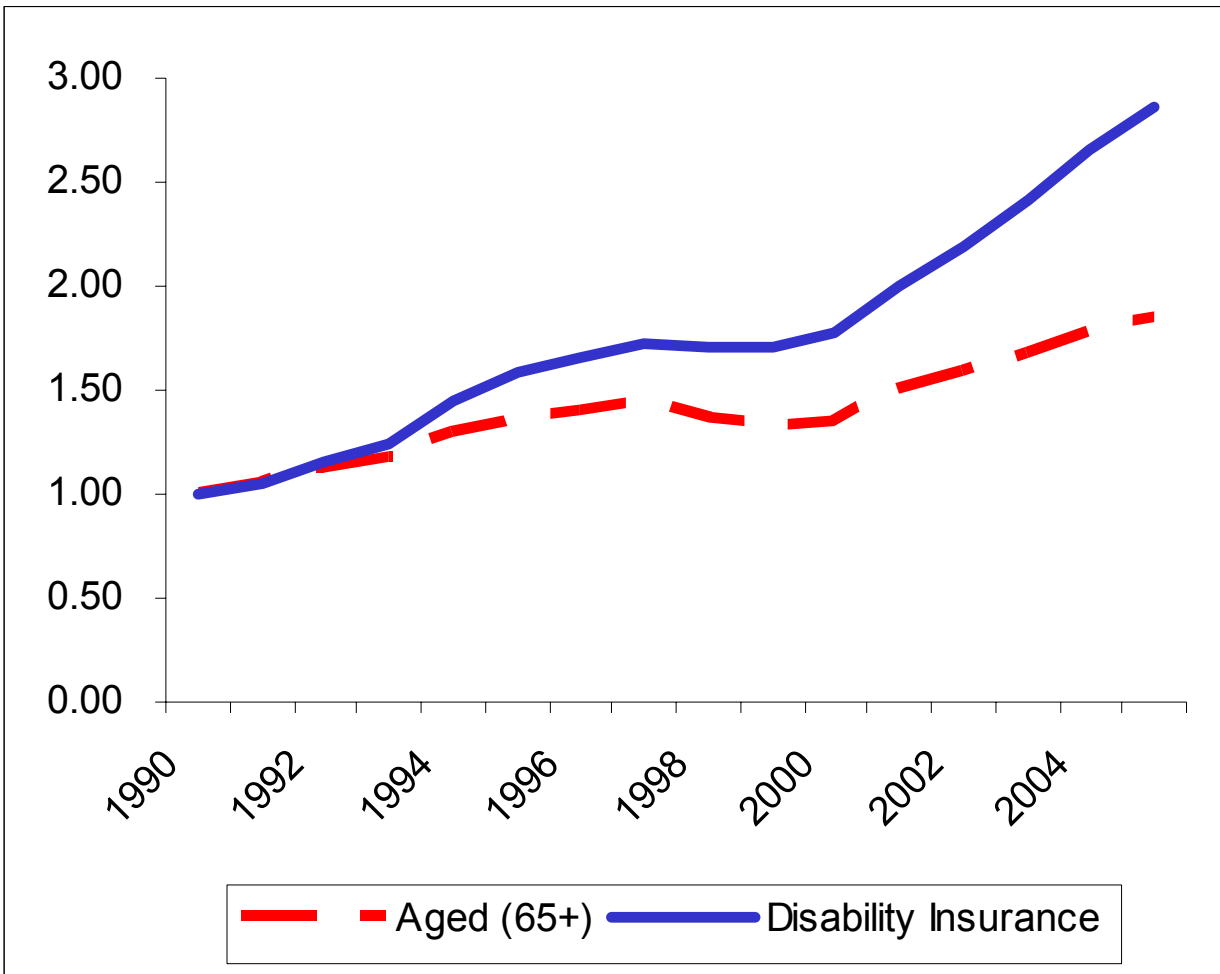


Figure 1: Relative Inflation-Adjusted Medicare Expenditures for Old Age (65+) and for SSDI Recipients (1990=1.00)

Source: DI Statistical Table 3.2 (2007), www.ssa.gov.

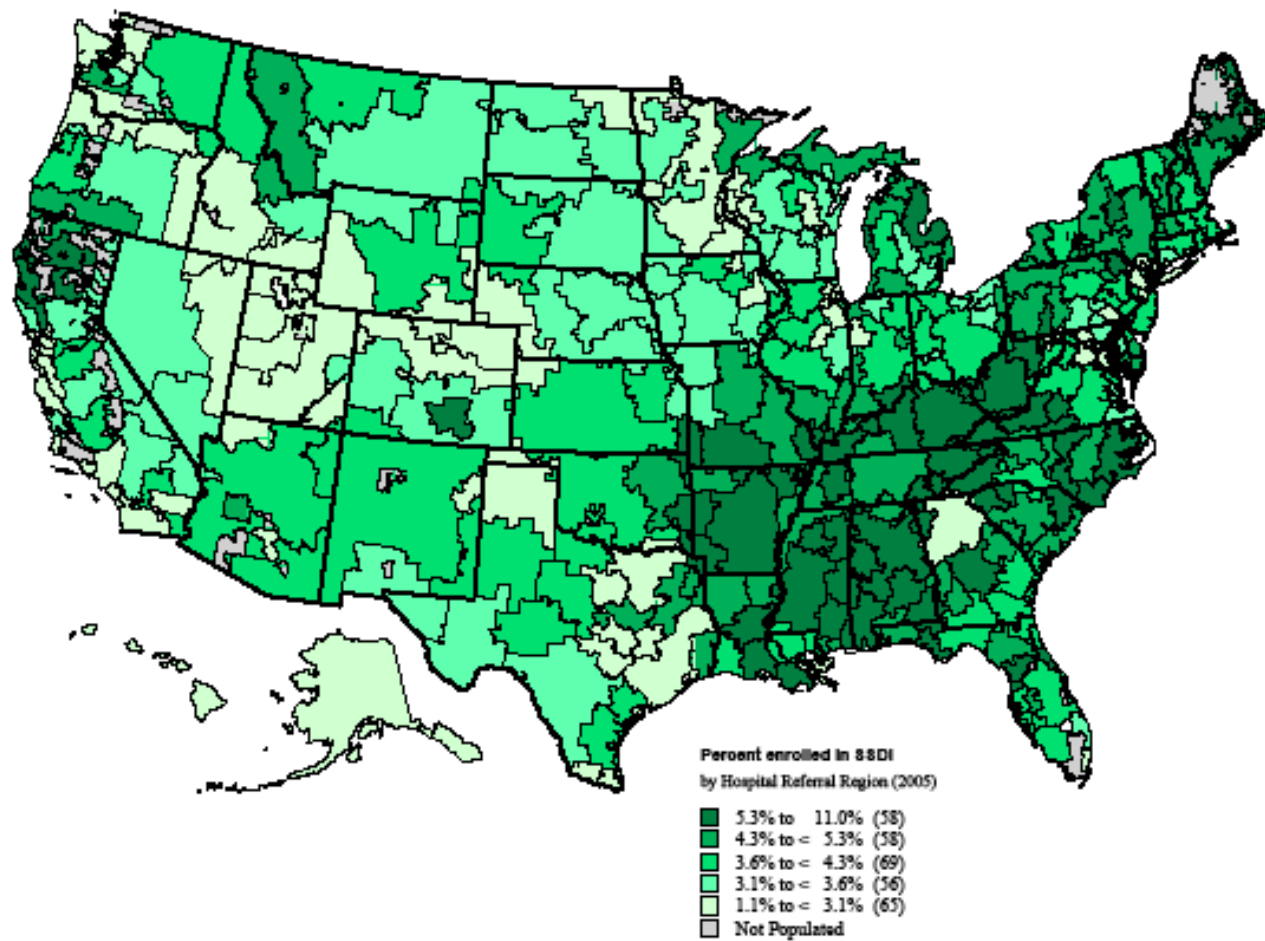


Figure 2: The Age-Sex-Adjusted Prevalence of Medicare Enrollees Under Age 65 in the United States, 2005

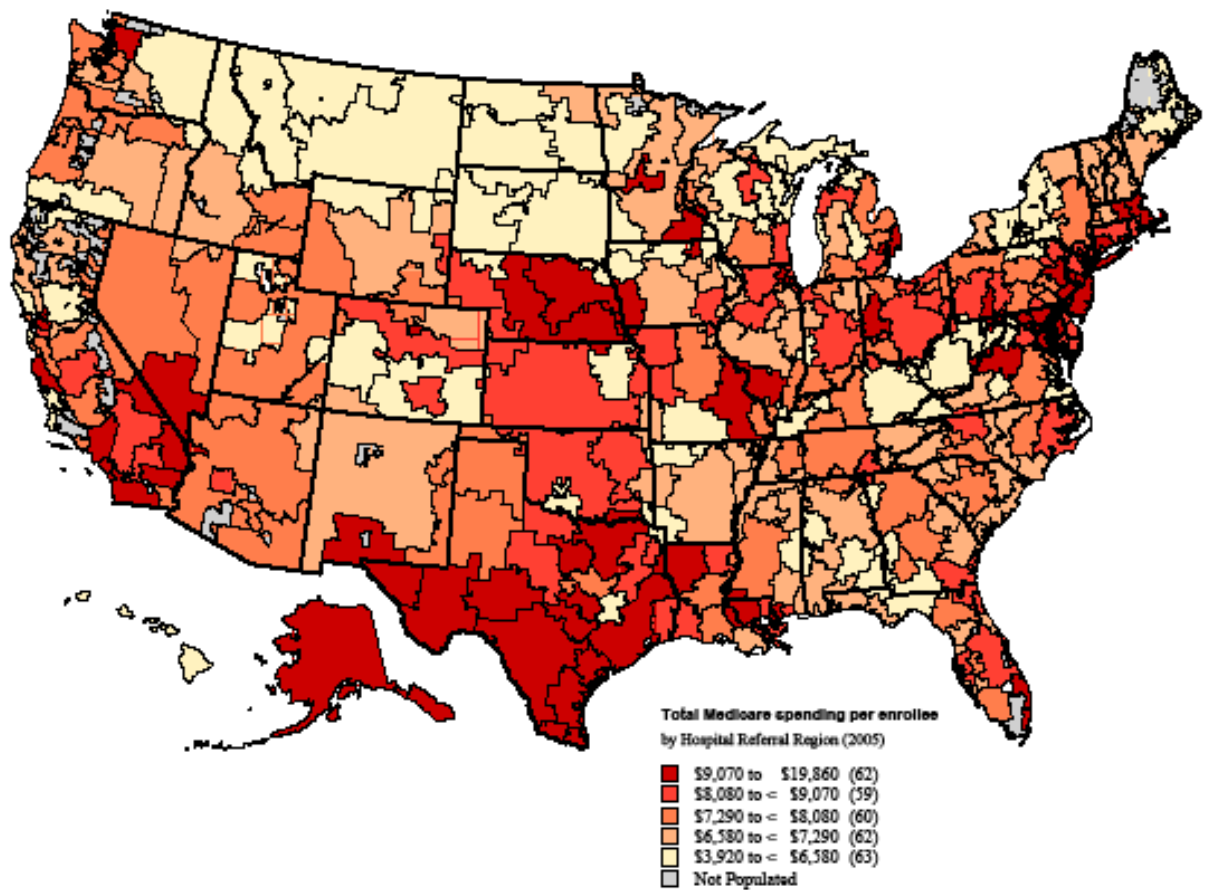


Figure 3: Per-Enrollee Medicare Expenditures Under Age 65 in the United States, 2005

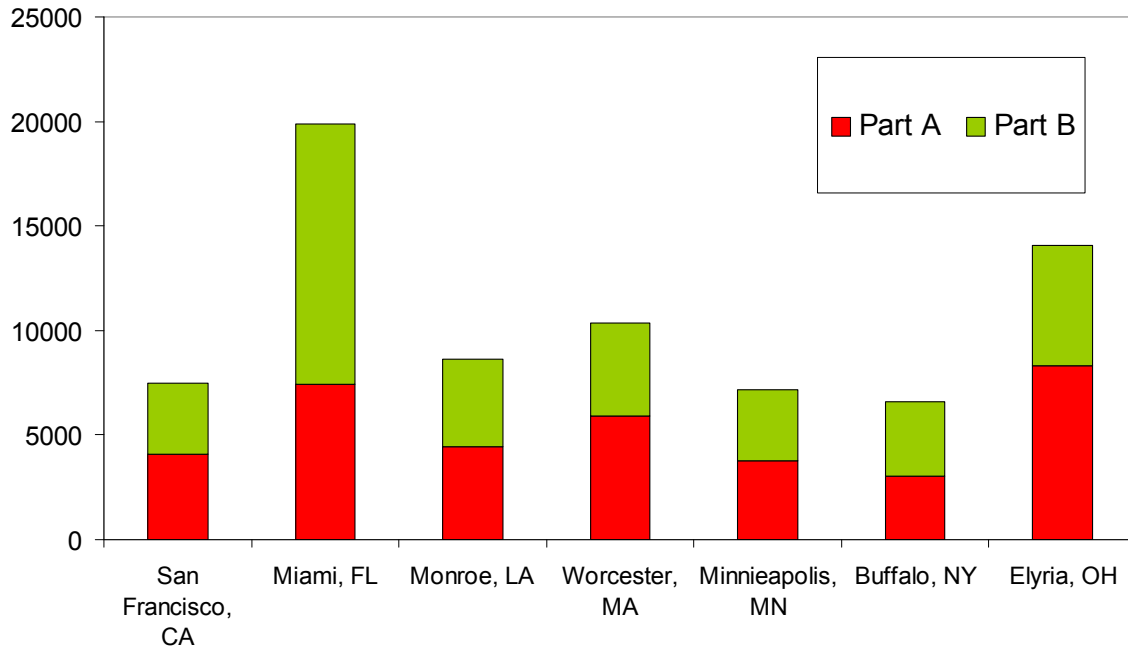


Figure 4: Components of Medicare Expenditures Per Enrollee in Seven Hospital Referral Regions in the Under 65 Population, 2005

Notes: Age-sex adjusted expenditures. Top bar (green) is Part B (physician) spending, lower bar (red) is Part A (inpatient) expenditures.

	San Francisco	Miami	United States
Under-65 Part A	\$4,079	\$7,421	\$4,198
Under-65 Part B	\$3,390	\$12,432	\$4,122
Under-65 Total	\$7,471	\$19,854	\$8,320
65+ Total	\$8,141	\$14,268	\$8,085

Table 1: Components of Per-Enrollee Expenditure for Miami and San Francisco in the Under-65 Population, and Total Expenditures for the 65+ Population

Note: Age, sex adjusted for the under-65 population, age-sex-race adjusted for the age 65+ population. Part A and Part B in Miami and San Francisco do not add exactly to the total because each is separately age-sex adjusted, and indirect adjustment does not ensure additivity. Source: CMHS.

DRG code	DRG description	Miami Payment per Enrollee	Miami Payment per Discharge	SF Payment per Capita	SF Payment per Discharge
430	Psychoses	\$989	\$4,892	\$273	\$8,873
127	Heart failure and shock	\$269	\$6,429	\$137	\$7,800
489	HIV with major related condition	\$263	\$12,570	\$334	\$23,360
490	HIV without related condition	\$208	\$15,460	\$126	\$9,535
475	Respiratory system Diagnosis with ventilation	\$205	\$27,484	\$89	\$26,869

Table 2: Top-5 Medical Diagnostic-Related Groups for Hospitalizations in Miami, compared to San Francisco in the Under-65 Population, 2005

Primary diagnosis	ICD-9-CM description	Miami payment per Enrollee	Miami Payment per Discharge	SF Payment per Enrollee	SF Payment per Discharge
585	Chronic Kidney disease	\$909	\$1,621	\$390	\$1,543
5856	End stage renal disease	\$273	\$1,814	\$136	\$2,529
29530	Paranoid schizophrenia, unspecified condition	\$246	\$823	\$22	\$368
29634	Major depressive disorder with recurrent episodes: psychotic behavior	\$138	\$918	\$44	\$2,106
29633	Major depressive disorder with recurrent episodes: no psychotic behavior	\$111	\$1,034	\$17	\$828

Table 3: Top-5 Outpatient Diagnoses in Miami and San Francisco in the Under-65 Population, 2005

Miami Code	Miami Primary Diagnoses	Miami payment per Enrollee	SF Code	San Francisco Primary diagnoses	SF payment per Enrollee
2873	Primary Thrombocytopenia	\$3,594	042	HIV	\$77
042	HIV	\$3,465	585	Chronic Kidney disease	\$66
2880	Neutropenia	\$678	78650	Unspecified chest pain	\$42
78791	Diarrhea	\$652	51881	Acute respiratory failure	\$31
35781	Chronic inflammatory demyelinating polynuritis	\$620	78900	Abdominal pain, unspecified site	\$21

Table 4: Top-5 Physician (Part B) Diagnoses in Miami and San Francisco in the Under-65 Population, 2005

Appendix Table A: Average Medicare Expenditures in the Under-65 Population by Hospital Referral Region, 2005

HRR Name	Medicare Expenditures	HRR Name	Medicare Expenditures
AL- BIRMINGHAM	7,105	CT- NEW HAVEN	10,304
AL- DOTHAN	6,356	DE- WILMINGTON	8,676
AL- HUNTSVILLE	7,314	DC- WASHINGTON	10,692
AL- MOBILE	7,223	FL- BRADENTON	8,180
AL- MONTGOMERY	6,425	FL- CLEARWATER	7,942
		FL- FORT LAUDERDALE	13,036
AL- TUSCALOOSA	5,195	FL- FORT MYERS	7,630
AK- ANCHORAGE	9,252	FL- GAINESVILLE	7,675
AZ- MESA	7,545	FL- HUDSON	6,803
AZ- PHOENIX	7,826	FL- JACKSONVILLE	8,772
AZ- SUN CITY	8,459	FL- LAKELAND	8,048
AZ- TUCSON	7,631	FL- MIAMI	19,854
AR- FORT SMITH	7,102	FL- OCALA	6,986
AR- JONESBORO	6,594	FL- ORLANDO	8,453
AR- LITTLE ROCK	6,797	FL- ORMOND BEACH	6,763
AR- SPRINGDALE	5,797	FL- PANAMA CITY	7,137
AR- TEXARKANA	5,839	FL- PENSACOLA	7,080
CA- ORANGE CO.	12,422	FL- SARASOTA	6,999
CA- BAKERSFIELD	7,847	FL- ST PETERSBURG	10,122
CA- CHICO	7,035	FL- TALLAHASSEE	6,413
CA- CONTRA COSTA CO.	10,068	FL- TAMPA	8,688
CA- FRESNO	8,212	GA- ALBANY	7,984
CA- LOS ANGELES	13,378	GA- ATLANTA	7,952
CA- MODESTO	7,582	GA- AUGUSTA	6,768
CA- NAPA	6,944	GA- COLUMBUS	6,350
CA- ALAMEDA CO.	8,160	GA- MACON	7,750
CA- PALM SPR/RANCHO MIR.	8,400	GA- ROME	6,430
CA- REDDING	6,950	GA- SAVANNAH	6,818
CA- SACRAMENTO	6,503	HI- HONOLULU	6,093
CA- SALINAS	9,640	ID- BOISE	6,781
CA- SAN BERNARDINO	9,036	ID- IDAHO FALLS	7,333
CA- SAN DIEGO	10,230	IL- AURORA	8,080
CA- SAN FRANCISCO	7,471	IL- BLUE ISLAND	8,951
CA- SAN JOSE	8,028	IL- CHICAGO	9,817
CA- SAN LUIS OBISPO	5,039	IL- ELGIN	10,473
CA- SAN MATEO CO.	6,243	IL- EVANSTON	8,480
CA- SANTA BARBARA	6,316	IL- HINSDALE	10,149
CA- SANTA CRUZ	7,759	IL- JOLIET	7,106
CA- SANTA ROSA	6,469	IL- MELROSE PARK	9,234
CA- STOCKTON	6,625	IL- PEORIA	8,251
CA- VENTURA	7,445	IL- ROCKFORD	8,557
CO- BOULDER	9,289	IL- SPRINGFIELD	7,259
CO- COLORADO SPRINGS	5,385	IL- URBANA	6,680
CO- DENVER	8,182	IL- BLOOMINGTON	6,799
CO- FORT COLLINS	7,702		

CO- GRAND JUNCTION	6,251	IN- EVANSVILLE	7,401
CO- GREELEY	6,735	IN- FORT WAYNE	7,205
CO- PUEBLO	8,386	IN- GARY	8,316
CT- BRIDGEPORT	8,844	IN- INDIANAPOLIS	8,771
CT- HARTFORD	8,762	IN- LAFAYETTE	6,866
IN- MUNCIE	8,706	MI- ST JOSEPH	6,873
IN- MUNSTER	9,607	MI- TRAVERSE CITY	8,350
IN- SOUTH BEND	7,781	MN- DULUTH	6,677
IN- TERRE HAUTE	6,357	MN- MINNEAPOLIS	7,172
IA- CEDAR RAPIDS	6,625	MN- ROCHESTER	10,957
IA- DAVENPORT	7,001	MN- ST CLOUD	10,110
IA- DES MOINES	6,802	MN- ST PAUL	7,567
IA- DUBUQUE	3,923	MS- GULFPORT	8,903
IA- IOWA CITY	8,931	MS- HATTIESBURG	7,236
IA- MASON CITY	6,529	MS- JACKSON	7,545
IA- SIOUX CITY	5,311	MS- MERIDIAN	6,532
IA- WATERLOO	6,951	MS- OXFORD	7,037
KS- TOPEKA	6,232	MS- TUPELO	6,835
		MO- CAPE	
KS- WICHITA	8,100	GIRARDEAU	7,419
KY- COVINGTON	8,651	MO- COLUMBIA	7,780
KY- LEXINGTON	5,776	MO- JOPLIN	6,673
KY- LOUISVILLE	7,478	MO- KANSAS CITY	8,245
KY- OWENSBORO	5,770	MO- SPRINGFIELD	6,385
KY- PADUCAH	6,360	MO- ST LOUIS	9,090
LA- ALEXANDRIA	7,417	MT- BILLINGS	6,576
LA- BATON ROUGE	9,684	MT- GREAT FALLS	6,102
LA- HOUMA	6,993	MT- MISSOULA	4,816
LA- LAFAYETTE	7,864	NE- LINCOLN	9,309
LA- LAKE CHARLES	8,494	NE- OMAHA	9,101
LA- METAIRIE	8,502	NV- LAS VEGAS	9,176
LA- MONROE	8,628	NV- RENO	7,657
LA- NEW ORLEANS	8,957	NH- LEBANON	6,666
LA- SHREVEPORT	9,316	NH- MANCHESTER	7,067
LA- SLIDELL	9,946	NJ- CAMDEN	9,215
ME- BANGOR	5,404	NJ- HACKENSACK	11,361
ME- PORTLAND	7,010	NJ- MORRISTOWN	8,172
MD- BALTIMORE	12,718	NJ- NEW BRUNSWICK	9,829
MD- SALISBURY	8,990	NJ- NEWARK	11,071
MD- TAKOMA PARK	10,915	NJ- PATERSON	11,294
MA- BOSTON	9,175	NJ- RIDGEWOOD	12,488
MA- SPRINGFIELD	6,825	NM- ALBUQUERQUE	7,053
MA- WORCESTER	10,361	NY- ALBANY	7,425
MI- ANN ARBOR	8,407	NY- BINGHAMTON	6,212
MI- DEARBORN	10,382	NY- BRONX	9,726
MI- DETROIT	9,630	NY- BUFFALO	6,593
MI- FLINT	7,833	NY- ELMIRA	5,705
		NY- EAST LONG	
MI- GRAND RAPIDS	6,910	ISLAND	10,149
MI- KALAMAZOO	7,308	NY- MANHATTAN	11,465
MI- LANSING	5,985	NY- ROCHESTER	5,883

MI- MARQUETTE	5,224	NY- SYRACUSE	5,961
MI- MUSKEGON	5,941	NY- WHITE PLAINS	8,702
MI- PETOSKEY	6,344	NC- ASHEVILLE	7,094
MI- PONTIAC	11,552	NC- CHARLOTTE	7,493
MI- ROYAL OAK	8,933	NC- DURHAM	7,091
MI- SAGINAW	7,992	NC- GREENSBORO	6,775
NC- GREENVILLE	8,352	TN- JACKSON	7,355
NC- HICKORY	7,526	TN- JOHNSON CITY	6,920
NC- RALEIGH	7,520	TN- KINGSFORT	6,097
NC- WILMINGTON	7,257	TN- KNOXVILLE	6,665
NC- WINSTON-SALEM	8,744	TN- MEMPHIS	6,927
ND- BISMARCK	5,056	TN- NASHVILLE	7,793
ND- FARGO MOORHEAD -MN	6,486	TX- ABILENE	8,883
ND- GRAND FORKS	7,165	TX- AMARILLO	7,952
ND- MINOT	6,517	TX- AUSTIN	9,465
OH- AKRON	7,742	TX- BEAUMONT	8,918
OH- CANTON	8,439	TX- BRYAN	5,153
OH- CINCINNATI	8,009	TX- CORPUS CHRISTI	10,641
OH- CLEVELAND	8,283	TX- DALLAS	10,632
OH- COLUMBUS	8,234	TX- EL PASO	9,244
OH- DAYTON	9,957	TX- FORT WORTH	10,849
OH- ELYRIA	14,059	TX- HARLINGEN	11,245
OH- KETTERING	8,721	TX- HOUSTON	12,056
OH- TOLEDO	7,532	TX- LONGVIEW	8,833
OH- YOUNGSTOWN	7,866	TX- LUBBOCK	8,049
OK- LAWTON	4,861	TX- MCALLEN	13,304
OK- OKLAHOMA CITY	8,632	TX- ODESSA	10,314
OK- TULSA	8,926	TX- SAN ANGELO	10,737
OR- BEND	6,945	TX- SAN ANTONIO	9,979
OR- EUGENE	7,290	TX- TEMPLE	9,153
OR- MEDFORD	6,089	TX- TYLER	9,069
OR- PORTLAND	7,363	TX- VICTORIA	10,825
OR- SALEM	8,078	TX- WACO	7,450
PA- ALLENTOWN	10,609	TX- WICHITA FALLS	9,066
PA- ALTOONA	8,350	UT- OGDEN	5,733
PA- DANVILLE	7,323	UT- PROVO	6,456
PA- ERIE	7,704	UT- SALT LAKE CITY	7,383
PA- HARRISBURG	7,810	VT- BURLINGTON	7,166
PA- JOHNSTOWN	9,478	VA- ARLINGTON	8,317
PA- LANCASTER	7,542	VA-	
PA- PHILADELPHIA	9,713	CHARLOTTESVILLE	9,541
PA- PITTSBURGH	8,419	VA- LYNCHBURG	5,037
PA- READING	7,700	VA- NEWPORT NEWS	6,334
PA- SAYRE	4,298	VA- NORFOLK	6,462
PA- SCRANTON	8,167	VA- RICHMOND	7,880
PA- WILKES-BARRE	8,182	VA- ROANOKE	6,947
PA- YORK	8,605	VA- WINCHESTER	5,324
RI- PROVIDENCE	8,167	WA- EVERETT	9,135
SC- CHARLESTON	7,209	WA- OLYMPIA	7,001
SC- COLUMBIA	7,546	WA- SEATTLE	7,499
		WA- SPOKANE	6,256

SC- FLORENCE	7,207	WI- GREEN BAY	5,138
SC- GREENVILLE	7,031	WI- LA CROSSE	6,280
SC- SPARTANBURG	6,653	WI- MADISON	7,328
SD- RAPID CITY	6,513	WI- MARSHFIELD	6,235
SD- SIOUX FALLS	5,442	WI- MILWAUKEE	8,397
TN- CHATTANOOGA	8,121	WI- NEENAH	6,506
WA- TACOMA	7,321	WI- WAUSAU	8,426
WA- YAKIMA	7,260	WY- CASPER	6,920
WV- CHARLESTON	6,420		
WV- HUNTINGTON	6,467		
WV- MORGANTOWN	6,402		
WI- APPLETON	6,527		