

# The Geography of Medicaid Spending

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## Introduction

From one county to another, from one community to the next, there are substantial variations in per capita spending on Medicaid patients. This geographic variation in Medicaid spending offers us a substantial opportunity to identify opportunities to control spending while doing minimal harm or even by improving care for low income patients.

Many assume that a uniform Medicaid policy necessarily generates uniform results. It doesn't. Medicaid, like all health care, actually functions in a world where subtle differences in how medicine is organized and practiced accumulate to generate substantial differences in service use and expenditures, but not necessarily outcomes. As for most people, the actual care of Medicaid clients varies widely and so do expenditures. These variations are not the result of "government inefficiency" or fraud, but from differences in the configurations of local health systems and subtle differences in how medicine is practiced. The day-to-day accumulation of these subtle differences produces a signature for each local system that is uniquely its own. While many contrast the costs of New York's Medicaid program with that of California, the differences are greater inside New York and they point to opportunities for providing more effective care.

We should not assume that variations in care lead to variations in outcomes. On the contrary, variations in care generally do not produce such differences. For example, a recent study focused on the Medicare population. It found that "Quality of care in higher spending regions was no better on most measure and was worse for several preventive care measures. Access to care in higher-spending regions was also no better or worse." (Elliott S. Fisher, MD, MPH; David E. Wennberg, MD, MPH; Thérèse A. Stukel, PhD; Daniel J Gottlieb, MS; F.L. Lucas, PhD; and Étoile L. Pinder, MS; The Implications of Regional Variations in Medicare Spending. Part 1: The Content, Quality, and Accessibility of Care," Annals of Internal Medicine, Volume 138, Number 4, 18 February, 2003 pp.273-288.)

## Medicaid's Differences

We don't usually compare Medicaid indicators for each local district (New York City and all the other counties) which are responsible for Medicaid's local administrative functions. But when we do, we see striking differences in expenditure and medical service use patterns from one place to the next. Starting at the most aggregate level in Table 1, we look at total average spending for Medicaid clients in each district. Here we see that the county with the highest per capita expenditures spends more than double the state average and more than three and a half times as much per client as the least expensive. We also see something that usually surprises local officials – and many State officials. On a per capita basis, New York City is far from the most expensive. In Federal Fiscal Year 1999-2000, New York City ranked 19<sup>th</sup> among local districts in New York in per capita Medicaid expenditures.

Of course, there is great diversity in New York and it hardly makes sense to compare a small rural county with an upstate urban county, much less with a densely populated suburban county near New York City. However, even when we compare counties with those with similar demographic compositions and densities, we still see notable differences. For example, if we look at upstate metropolitan areas, we see that per capita expenditures in Dutchess County are over 70 percent higher than those in Broome County (Binghamton) and over 35 percent greater than those in Albany County. But, lest Albany get too comfortable, its expenditures were 14 percent above Monroe (Rochester). Similarly, per capita expenditures in predominantly rural Sullivan and Essex Counties are 102 and 82 percent higher than those in Allegany County.

Table 1: Medicaid Expenditures in NYS  
Variation in Per Capita Expenditures by District  
Ranked by Per Capita Spending  
Federal Fiscal Year 1999-2000  
All Aid Categories & All Ages

Rank, FFY 2000	District	Per Capita Spending per FTE Client	Ratio to NYS Average	Ratio to Lowest
1	Putnam	\$ 17,709.04	2.18	3.49
2	Nassau	13,431.41	1.65	2.64
3	Suffolk	11,623.64	1.43	2.29
4	Dutchess	10,993.84	1.35	2.16
5	Sullivan	10,283.03	1.26	2.02
6	Westchester	10,173.48	1.25	2.00
7	Essex	9,269.45	1.14	1.82
8	Saratoga	9,177.41	1.13	1.81
9	Ulster	9,138.91	1.12	1.80
10	Columbia	8,929.04	1.10	1.76
11	Hamilton	8,663.13	1.06	1.71
12	Ontario	8,565.99	1.05	1.69
13	Schenectady	8,320.48	1.02	1.64
14	Rensselaer	8,319.22	1.02	1.64
15	Rockland	8,212.12	1.01	1.62
	<i>New York State, Excl NYC</i>	<i>8,201.40</i>	<i>1.01</i>	<i>1.61</i>
16	Madison	8,168.23	1.00	1.61
17	Seneca	8,165.65	1.00	1.61
	<i>New York State</i>	<i>8,138.32</i>	<i>1.00</i>	<i>1.60</i>
18	Albany	8,111.18	1.00	1.60
19	<i>New York City</i>	<i>8,105.48</i>	<i>1.00</i>	<i>1.60</i>
20	Wayne	8,093.72	0.99	1.59
21	Otsego	8,039.70	0.99	1.58
22	Montgomery	7,972.47	0.98	1.57
23	Fulton	7,948.56	0.98	1.56
24	Schoharie	7,763.91	0.95	1.53
25	Washington	7,737.52	0.95	1.52
26	Delaware	7,705.65	0.95	1.52
27	Schuyler	7,662.65	0.94	1.51
28	Genesee	7,597.46	0.93	1.50
29	Livingston	7,503.66	0.92	1.48
30	Warren	7,400.09	0.91	1.46
31	Wyoming	7,306.05	0.90	1.44
32	Franklin	7,177.66	0.88	1.41
33	Monroe	7,096.13	0.87	1.40
34	Onondaga	7,036.99	0.86	1.39
35	Orange	7,024.37	0.86	1.38
36	Herkimer	6,944.67	0.85	1.37
37	Greene	6,926.39	0.85	1.36
38	Oneida	6,636.87	0.82	1.31
39	Niagara	6,621.03	0.81	1.30
40	Chemung	6,600.05	0.81	1.30
41	Clinton	6,590.94	0.81	1.30
42	Cayuga	6,544.77	0.80	1.29
43	Yates	6,525.86	0.80	1.28
44	Erie	6,438.52	0.79	1.27
45	Broome	6,432.21	0.79	1.27
46	Cortland	6,421.45	0.79	1.26
47	Tompkins	6,208.21	0.76	1.22
48	Lewis	6,177.41	0.76	1.22
49	Jefferson	6,151.73	0.76	1.21
50	Cattaraugus	6,052.05	0.74	1.19
51	Steuben	6,037.57	0.74	1.19
52	St. Lawrence	5,877.18	0.72	1.16
53	Chautauqua	5,872.74	0.72	1.16
54	Tioga	5,850.27	0.72	1.15
55	Chenango	5,653.02	0.69	1.11
56	Oswego	5,493.05	0.67	1.08
57	Orleans	5,402.36	0.66	1.06
58	Allegany	5,079.82	0.62	1.00

## The Deeper We Go, the Greater the Contrasts

Generally, for individual program components, the differences are accentuated. When we look at hospital or nursing home expenditures the range of differences expands. When we look even more deeply such as looking at hospitalizations for specific diagnoses, the range of differences expands even more.

Table 2 presents long term care costs for selected districts. (The data are available for all districts, but some are not shown here due to space constraints.) Long term care (nursing home and home health care) comprises 34 percent of total Medicaid expenditures (37 percent outside of New York City). Here also, we see variation and the figures for some counties leap off the table. Nassau's figures are 50 percent greater than Westchester's. But Westchester's are almost double Erie's. On the average, the district with the highest per capita expenses spends over five times as much per client as that with the lowest.

Table 2  
Medicaid Long Term Care Expenditures in NYS  
Variation in Per Capita Expenditures by Selected Districts  
Ranked by Per Capita Spending  
Federal Fiscal Year 1999-2000  
All Aid Categories & All Ages

Rank, FFY 2000	District	Per Capita LTC Spending per FTE Client	Ratio to NYS Avg	Ratio to Lowest
1	Putnam	\$ 6,638.16	2.39	5.05
2	Nassau	6,107.32	2.20	4.65
3	Suffolk	4,859.52	1.75	3.70
4	Dutchess	4,420.19	1.59	3.36
5	Hamilton	4,390.85	1.58	3.34
6	Westchester	4,029.74	1.45	3.07
7	Columbia	3,827.34	1.38	2.91
8	Ontario	3,714.45	1.34	2.83
9	Saratoga	3,644.18	1.31	2.77
10	Ulster	3,419.59	1.23	2.60
	<i>New York State, Excl NYC</i>	<i>3,062.21</i>	<i>1.10</i>	<i>2.33</i>
	<i>New York State</i>	<i>2,778.13</i>	<i>1.00</i>	<i>2.11</i>
30	<i>New York City</i>	<i>2,630.26</i>	<i>0.95</i>	<i>2.00</i>
45	Monroe	2,254.30	0.81	1.72
51	Erie	2,069.27	0.74	1.57
52	Cattaraugus	1,937.81	0.70	1.47
53	Orleans	1,869.45	0.67	1.42
54	Clinton	1,856.07	0.67	1.41
55	Oswego	1,818.07	0.65	1.38
56	St. Lawrence	1,752.04	0.63	1.33
57	Tompkins	1,750.27	0.63	1.33
58	Allegany	1,314.39	0.47	1.00

As will be discussed below, such differences can help guide where to focus attention. For example, how to re-configure and re-balance long term care is an issue of immediate concern, especially in light of the Olmstead decision. Detailed analysis of variations such as depicted here can be used to determine where to spend time and energy re-configuring systems of care and identifying systems which may be models of efficient and effective care.

The variation in hospitalization spending shows similar patterns. Per capita inpatient expenditures in Nassau County are almost three times what they are in Erie. They are even 56 percent higher than those in neighboring Suffolk County.

Table 3  
 Medicaid Inpatient Spending in NYS  
 Variation in Spending per Eligible by Selected Districts  
 Ranked by Spending per FTE Eligible  
 Federal Fiscal Year 1999-2000  
 All Aid Categories & All Ages

Rank, FFY 2000	District	IP Spending per FTE Eligible Persons	Ratio to NYS Avg	Ratio to Lowest
1	Nassau	\$ 2,288.91	1.27	4.25
2	New York City	2,171.43	1.21	4.03
3	Putnam	2,040.14	1.14	3.78
	New York State	1,795.99	1.00	3.33
4	Sullivan	1,751.41	0.98	3.25
5	Westchester	1,674.86	0.93	3.11
6	Dutchess	1,606.10	0.89	2.98
7	Suffolk	1,465.89	0.82	2.72
8	Ulster	1,349.10	0.75	2.50
9	Orange	1,216.28	0.68	2.26
10	Hamilton	1,133.23	0.63	2.10
	New York State, Excl NYC	1,074.78	0.60	1.99
38	Monroe	800.11	0.45	1.48
43	Erie	773.41	0.43	1.43
49	Niagara	709.60	0.40	1.32
50	Ontario	703.92	0.39	1.31
51	Schuyler	701.13	0.39	1.30
52	Herkimer	696.06	0.39	1.29
53	Oneida	684.08	0.38	1.27
54	Tioga	639.12	0.36	1.19
55	Seneca	634.04	0.35	1.18
56	Cattaraugus	595.16	0.33	1.10
57	Oswego	590.18	0.33	1.09
58	Chautauqua	539.18	0.30	1.00

Control of Medicaid costs has historically relied on control of prices paid for health services. The Health Care Reform Act (and its predecessor framework) centers on hospital price setting. But Medicaid spending is a function of volume of services as well as prices paid. The differing rates at which services are used are the primary explanation for the contrasts between county Medicaid expenditure patterns and the differing rates at which Medicaid clients are hospitalized provide an excellent example.

Monroe County Medicaid clients are hospitalized at a rate of 159 for every 1,000 clients per year. (See Table 4.) In contrast, Putnam County Medicaid clients are hospitalized more than twice that, a rate of 370 admissions per 1,000. Even the State average is 63 percent above the rate for Monroe County.

Not only are Putnam's Medicaid clients hospitalized more, when hospitalized they stay longer than their counterparts. On the average, Medicaid clients are hospitalized about eight days. Putnam's clients remain hospitalized more than 11 days. Statewide, the average Medicaid client spends twenty percent more days hospitalized than do Medicaid clients from Erie County and more than double clients from the county with the lowest rate. These patterns are pervasive.

Table 4  
 Inpatient Discharges of Medicaid NYS  
 Variation in Discharges per 1,000 FTE Eligible by Selected Districts  
 Ranked by Discharges per 1,000  
 Federal Fiscal Year 1999-2000  
 All Aid Categories & All Ages

Rank, FFY 2000	District	Discharges per 1,000 FTE Eligible Persons	Ratio to NYS Avg	Ratio to Lowest
1	Putnam	370.84	1.42	2.33
2	Nassau	358.50	1.38	2.25
3	Dutchess	333.11	1.28	2.09
4	Sullivan	329.12	1.26	2.07
5	Hamilton	302.09	1.16	1.90
6	Ulster	300.93	1.16	1.89
7	Westchester	297.09	1.14	1.86
8	Fulton	294.52	1.13	1.85
9	St. Lawrence	287.11	1.10	1.80
10	Suffolk	286.15	1.10	1.80
18	<i>New York City</i>	<i>272.71</i>	<i>1.05</i>	<i>1.71</i>
	<i>New York State</i>	<i>260.28</i>	<i>1.00</i>	<i>1.63</i>
	<i>New York State, Excl NYC</i>	<i>236.40</i>	<i>0.91</i>	<i>1.48</i>
49	Erie	181.84	0.70	1.14
50	Columbia	177.92	0.68	1.12
51	Yates	176.43	0.68	1.11
52	Seneca	174.97	0.67	1.10
53	Chautauqua	173.92	0.67	1.09
54	Ontario	173.13	0.67	1.09
55	Rensselaer	172.60	0.66	1.08
56	Niagara	170.52	0.66	1.07
57	Greene	168.49	0.65	1.06
58	Monroe	159.32	0.61	1.00

### **Making Fair Comparisons**

Epidemiologists, health service researchers and informed public officials understand that these averages mask many legitimate explanations for variations. For example, the elderly need more expensive nursing home care and are hospitalized more often than children or young adults. So if one county has a greater proportion of elderly Medicaid clients, we would expect it to have higher average expenses, particularly since Medicaid is the primary source of financing for nursing home care in New York. The figures in Tables 1 through 4 above include all age groups and all eligibility categories and are not adjusted for differences in the demographic composition of county Medicaid populations. However, in the late 1980's, when we first did these analyses for hospitalizations, we did adjust for differences in age and gender and the apparent differences were even greater. We have every reason to expect that the same pattern would hold true today and it's certainly worth doing it again.

### **Medicaid's Differences Are Not New**

The patterns discussed here have been around for a long time. While there have been a handful of districts whose relative ranking has changed significantly, most have not. (As far back as 1980, Putnam had the second highest per capita expenses and Nassau was the highest. Sometime, during the 1980's they reversed positions.) Allegany, ranked 58<sup>th</sup> in the current analysis, ranked 57<sup>th</sup> in 1988 and 56<sup>th</sup> in 1980. Seven of the top 10 in 2000 were in the top ten in 1988. Eight of the bottom 10 in 2000 were in the bottom ten in 1988.

Fifteen years ago, working with the New York State Association of Counties and SCAA (then the State Communities Aid Association, now the Schuyler Center for Analysis and Advocacy), we observed that despite the fact that New York had a uniform Medicaid policy, there were striking differences in how Medicaid clients used the program and thus striking differences in the per patient cost from one county to

the next. We started with analyses much like those presented in this article and then went further. When we did this analysis, the district with the highest per capita expenditures was Putnam. It still is.

The earlier NYSAC/SCAA analyses went deeper in the following ways. They:

1. Focused on hospitalization patterns. There were significant differences from community to community and diagnosis to diagnosis.
2. Adjusted for differences in age and gender. Having factored them out, we were left with differences in how local health care systems are organized and how they function.
3. Examined variations within larger districts as well as between districts. We examined hospitalization rates in over 200 local service areas as well as counties. This identified many individual communities that were worthy of focused attention.
4. Examined variations in hospitalization patterns at the diagnostic as well as the aggregate level. For example, we found that there was considerably more variation in hospitalization patterns for medical than surgical conditions. But even the surgical variation was significant. The highest surgical rate for an individual community was 15 times that of the lowest. When we compared hospitalization rates individual diagnoses we found up to 80 fold differences from one community to the next.

These patterns are durable because they result not from changes in State policy, but from how each local health care system actually cares for its patients. The pattern won't change unless each local health care systems change. That requires direct and customized intervention. Each intervention must be tailored to the unique features and performance of the local system targeted.

### **Medicaid's Differences Make a Difference**

Having established that differences exist, we're forced to ask the question, what difference do they make? Does a high hospitalization rate suggest a responsive medical system or does it indicate a failure elsewhere in providing adequate care, does it suggest a distorted referral pattern, or does it suggest something different altogether? Does a high rate of nursing home use indicate a disproportionately large low income elderly population or does it indicate a lack of alternatives? In some instances we don't know whether a high rate or a low rate is the more appropriate. But in many cases we do know. And we do know that at some point, more treatment becomes counterproductive. During the past dozen years, there has been an explosion of activity in medicine in determining what works best. Numerous clinical protocols have been developed and deployed. Profiling systems have been implemented and used to identify less effective and efficient practice patterns. Most of these activities have taken place in the private sector. Little of it has been applied directly to Medicaid.

But while past efforts led to many challenging new questions, they also point to many opportunities to change the fundamentals.

For example, during the period 1985-89, the hospitalization rate for Medicaid clients under age 65 for medical conditions like Diabetes, Asthma, Chronic Obstructive Pulmonary Disease and other conditions that can be managed outside of hospitals was three times the rate for non-Medicaid persons. The highest county rate for hospitalizations for these conditions was four times higher than the lowest. The highest community rate for hospitalizations for these conditions was nearly 20 times higher than the lowest.

By definition, these are clinical conditions that can be managed without hospitalization if care is timely and effective. So hospitalizations for these conditions not only indicate patient pain and risk and Medicaid expense, they also flag potential local health care system weaknesses or outright failure. Lower hospitalization rates may be mere random events, but higher rates suggest either system breakdown or worse, the lack of a system. These conditions accounted for one out of every six hospital admissions for non-elderly Medicaid clients. Better controlling those conditions and reducing the risk of hospitalization had the potential for saving hundreds of millions of dollars and enhancing the lives of thousands of patients.

To its credit the State has undertaken a significant managed care effort. (Many managed care plans use similar methods as used by NYSAC and SCAA to focus their efforts on quality improvement and cost control.) And in fact, managed care seems to have improved the care that Medicaid patients receive. However, the managed care program explicitly excluded many patients and many services which generate the greatest expenses. And so for the Medicaid clients that generate the bulk of program expenditures, those outside of managed care plans, there are still substantial opportunities for improvement.

### **What Should We Do Now?**

Although a challenge, because of the pervasive and stable nature of local health care systems and thus health service use patterns, the patterns described above present us with a substantial opportunity to improve care to Medicaid clients and, in many cases, other patients as well.

Three things, all feasible, are required to take advantage this opportunity:

- First, is build a team that can target local health care systems, design changes for improving the care of specific types of patients and Medicaid clients, train professionals when necessary, and work cooperatively with both local officials and medical groups. Ideally, to anticipate problems and minimize expense proposed system changes will be simulated and tested before implementation. Many of the necessary changes will require different organization of medical care and different styles of medical practice. This team should be made up of analysts, experts in health care systems and clinicians who will bring treatment expertise and credibility in dealing with local medical personnel.
- Second, is access to Medicaid and related data and the development of an analytical information system. This sounds daunting, but it's actually the easiest hurdle to cross. The raw data already exist (though much of it is not shared with localities). Most of the necessary data have already been generated through the Medicaid claims payment and eligibility systems. Moreover, the Department of Health has been working for some time on a Medicaid "data warehouse." Certainly the technology has advanced way beyond what was available 15 years ago when we did the first hospitalization studies on a single early personal computer. Major manufactures and retailers, credit card companies, banks and a host of others have changed forever how data is used for business analysis. Depending on the nature of the analysis the lag time between events (creation of data) and the production of reports is nil. Standard Medicaid reports for detecting anomalies and identifying utilization patterns that previously could take six to nine months to produce at a cost of thousands of dollars for additional computer time have been created in hours. This type of power and capability can be used to dramatically change how policy makers think of and use health care data and reports. The ability to ask questions of the full range of Medicaid claims data over several years, present hundreds of analysis and what ifs can be accomplished in days not months. The evaluation of policy and fiscal changes can be accomplished as quickly as the measuring criteria can be developed. (Tools could also be created to aid county officials in projecting Medicaid expenditures.) Once approved, an analytical system could be in use in months rather than years. An analytical information system will allow rapid exploration of the differences and identification of opportunities for interventions that are tailored to individual local circumstances and patterns of health service use.
- Third, political commitment from both State officials and preferably local elected as well. Without commitment, the opportunity will be lost. Support of administrative officials at both levels will be necessary as well, but some will require a political push and all will require political support. Certainly, the variation described above should not be viewed as an excuse for the State to cut localities loose and to saddle them with the entire responsibility. However we can take advantage of the fact that locally elected officials know the local terrain and who have a significant stake in how well the program is run in their jurisdiction. For local officials Medicaid expenditures are "non-discretionary." But that does not mean that they cannot be locally influenced. So long as they have the necessary comparative data to help them focus attention, local leaders can make a

difference. Perhaps assistance would be useful in analyzing the data and in developing local strategies. But most importantly, they need to be willing to take the initiative and to be actively involved in local implementation of a State effort.

This paper will be supplemented shortly with a more detailed description of a process to identify opportunities, simulate and test alternatives, and manage the processes of local system re-configuration.

What the team should do is identify opportunities and develop interventions that are tailored to local patterns of care and expenditure. Just a few examples of tailored interventions might include:

- Finding gaps or delays in primary or community based care that allow deterioration in chronic conditions and increased risk of hospitalization.
- Identifying nursing homes that are most likely to unnecessarily hospitalize patients for minor changes in patient status and re-training staff.
- Highlighting referral patterns that lead to very high surgical rates.
- Examining communities where the use of particular pharmaceuticals is especially high and how that may relate to the use of other services.
- Identifying communities where the chronically ill are most likely to be sent to nursing homes when an adequate support network would have allowed them to stay in their own homes and encouraging the development of such resources.
- Zeroing in on communities that appear to have particularly high hospitalization rates for conditions that can be clinically managed without hospitalization, determining why, and working with State and local officials and local medical leaders to develop an appropriate response.
- Identifying providers that are particularly effective in caring for Medicaid patients with specific conditions and designing methods to highlight the results and encourage patients to use such providers.

## **Conclusion**

During the last decade and a half, many private sector employers have become very sophisticated in how they analyze, think about, design and manage employee health benefit programs. They have developed profiling systems and sophisticated strategies for responding to untoward patterns of care. We can do the same with Medicaid.

It is time to complement State policy with tailored interventions designed to improve the care and program effectiveness for Medicaid clients in every community in the State. Historically we have assumed that one size fits all, not only for individual patients but for individual systems of care. But the assumption is false and misleading.

We can now use advanced analytical and simulation systems supported by teams to aid in re-designing and re-configuring health care systems to uproot years of habit patterns and structural impediments to effective care. This provides us with one of the few real opportunities to control Medicaid expenditures without doing real harm – and in some cases by actually improving care to low income patients.

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