

# Medicaid Patients' Utilization of Outpatient and Emergency Department Services for Cardiovascular and Diabetes-Related Conditions in New York State

## BACKGROUND

Low-income New Yorkers have higher rates of diabetes, obesity, cardiovascular disease, and coronary heart disease than all other income groups. They are also less likely to have a regular source of care and to obtain preventive screenings, including cholesterol testing.<sup>1</sup> Additionally, low-income New Yorkers, especially those on Medicaid, tend to use emergency departments for primary care.

Due to the increased cost for treatment in inpatient and emergency department settings, better access to outpatient services that support chronic disease management could lower the cost of care and improve health outcomes. Although New York's Medicaid program is designed to increase access to care for low-income New Yorkers, a number of barriers may limit this access. These barriers include: physician maldistribution, with fewer physicians in rural areas compared with urban areas; an insufficient number of physicians who accept Medicaid; lack of transportation; and limited ability to take time off from work for medical appointments.<sup>2-4</sup> This research brief reports on an analysis of Medicaid patients' use of outpatient and emergency department services for cardiovascular and diabetes-related conditions in New York State, using claims data for patients ages 18 to 64 during the 2013 federal fiscal year (FFY).

## KEY FINDINGS

**Medicaid patients in rural<sup>5,a</sup> areas are more likely than Medicaid patients in urban areas to obtain cardiovascular and diabetes-related services from primary care physicians, physician assistants, nurse practitioners, and in emergency departments.**

Statewide, Medicaid patients received cardiovascular and diabetes-related services from cardiologists and endocrinologists (11%), other medical specialists (34%) such as ophthalmologists and gastroenterologists, primary care physicians (44%), other providers (5%) such as physician assistants and nurse practitioners, and in emergency departments (6%) (Table 1). Patients in rural areas were more likely to receive cardiovascular and diabetes-related services from primary care physicians (52%) such as general internists and family or general practitioners, other providers (8%), and in emergency departments (8%), compared with urban areas (42%, 5%, and 6%, respectively). By contrast, patients receiving these services in urban areas were more likely to obtain them from cardiologists and endocrinologists (12% compared with 7% in rural areas) or other medical specialists (36% compared with 25% in rural areas).

**Table 1. Percent Distribution of Who Provided Cardiovascular and Diabetes-Related Services by Setting of Service, Specialty, and Rural/Urban Status, FFY 2013**

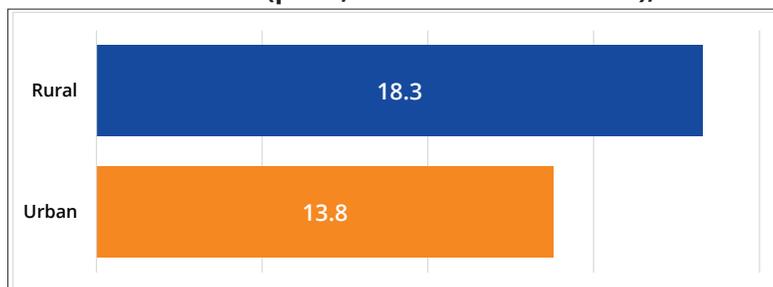
County of Service	Outpatient Physician Services				Emergency Department Services
	Cardiologists & Endocrinologists	Other Medical Specialists	Primary Care Physicians	Other Providers <sup>a</sup>	
Rural	7.30%	25.00%	51.80%	7.90%	7.90%
Urban	11.50%	35.90%	42.10%	4.70%	5.80%
Statewide	10.90%	34.40%	43.50%	5.10%	6.10%

<sup>a</sup> Other Providers includes: physician assistants, nurse practitioners, physical therapists, optometrists, podiatrists, registered nurses, registered dietitians, occupational therapists, and diabetes educators.

<sup>a</sup> This definition of rural and urban is based on Ebert's Typology as outlined in Article 2, Title 2C, Section 235 of the New York State Public Health Law.

As noted above, Medicaid patients in rural areas tended to receive more cardiovascular and diabetes-related services from emergency departments than did patients in urban areas. The rate of hospital emergency department visits for these services was 18.3 per 1,000 Medicaid patients in rural areas, compared with 13.8 visits per 1,000 Medicaid patients in urban areas (Figure 1).

**Figure 1. Emergency Department Visit Rate for Cardiovascular and Diabetes-Related Services by Rural/Urban Status (per 1,000 Medicaid Patients), FFY 2013**



**Black<sup>b</sup> Medicaid patients were more likely to access cardiovascular and diabetes-related services in hospital emergency departments than in outpatient settings.**

Table 2 shows the race/ethnicity for Medicaid patients who received cardiovascular and diabetes-related services in outpatient settings and hospital emergency departments by rural/urban status as well as statewide. Differences in the race/ethnicity distribution across care settings (outpatient and emergency departments) indicate that there are differences in access to care for particular racial/ethnic groups. Statewide, white Medicaid patients were equally likely to access cardiovascular and diabetes-related services in outpatient settings (30%) and in emergency departments (28%). Statewide, black Medicaid patients were more likely to access these services in emergency departments (34%) than in outpatient settings (22%). By contrast, statewide, Asian Medicaid patients with cardiovascular and diabetes-related conditions were more likely to receive services in outpatient settings (14%) than in emergency departments (4%). Statewide, Hispanic Medicaid patients accessed cardiovascular and diabetes-related services similarly in outpatient settings (28%) and emergency departments (27%). Comparable patterns were found in both rural and urban areas.

**Table 2. Percent Distribution of Medicaid Patients with Cardiovascular and Diabetes-Related Services by Race/Ethnicity and Rural/Urban Status, FFY 2013**

County of Residence and Type of Settings	White	Black	Asian	Hispanic	Other <sup>a</sup>
<b>Rural</b>					
Outpatient Settings	85.40%	5.70%	0.80%	5.00%	3.00%
Emergency Departments	83.00%	7.80%	0.50%	5.90%	2.80%
<b>Urban</b>					
Outpatient Settings	22.80%	23.70%	15.00%	30.20%	8.30%
Emergency Departments	19.40%	38.10%	4.00%	30.80%	7.70%
<b>Statewide</b>					
Outpatient Settings	29.50%	21.70%	13.50%	27.50%	7.80%
Emergency Departments	28.40%	33.80%	3.50%	27.30%	7.00%

<sup>a</sup> Includes patients who are non-Hispanic American Indian or Alaskan Native, multiple races, or whose race is unknown.

<sup>b</sup> Hereafter, racial/ethnic categories are shortened: non-Hispanic white is referred to as white; non-Hispanic black/African American is referred to as black; Asian/Pacific Islander is referred to as Asian; and Hispanic/Latino is referred to as Hispanic.

**In many rural counties, Medicaid patients obtain most of their cardiovascular and diabetes-related services outside their county of residence.**

In nearly a quarter of New York’s 62 counties, Medicaid patients received most (75% or more) of their cardiovascular or diabetes-related services in their county of residence, although there were significant differences by the urban/rural location (Table 3). Medicaid patients in 53% of urban counties received most of their cardiovascular or diabetes-related services in their county of residence, ranging from 95% of visits in Monroe, 93% in Erie, and 91% in Onondaga counties to 77% of visits each in Albany and Rockland counties. In contrast, Medicaid patients in only 12% of rural counties received most of their cardiology or diabetes-related services in their county of residence, whereas Medicaid patients in 12% of rural counties received most of these services outside their county of residence, including Washington (81% of visits), Hamilton (79%), and Tioga (78%) counties.

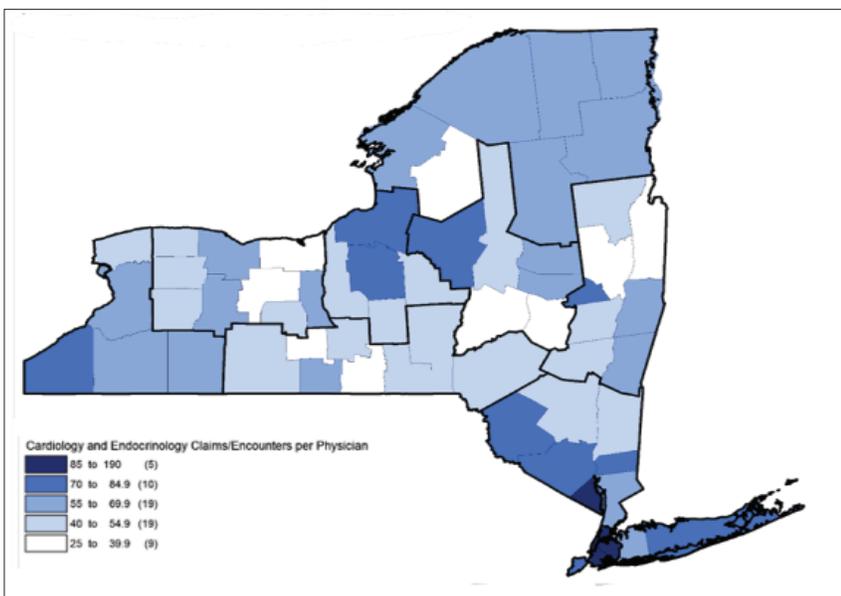
**Table 3. Number and Percent Distribution of Counties by Patient Commuting Pattern and Rural/Urban Status, FFY 2013**

County of Residence	Number of Counties and Percent of Patient Visits for Cardiovascular and Diabetes-Related Services in County of Residence			
	0-24.9%	25-49.9%	50-74.9%	75% Plus
Rural	5 (11.6%)	15 (34.9%)	18 (41.9%)	5 (11.6%)
Urban	0 (0.0%)	1 (5.3%)	8 (42.1%)	10 (52.6%)
Statewide	5 (8.1%)	16 (25.8%)	26 (41.9%)	15 (24.2%)

**Rural counties with small populations have the lowest average number of cardiovascular and diabetes-related visits per physician.**

The average number of cardiovascular and diabetes-related Medicaid visits statewide per physician (cardiologists, endocrinologists, other medical specialists, and primary care physicians) was 101. The counties with the lowest average number of cardiovascular and diabetes-related visits per physician included Schoharie (26), Schuyler (27), Wayne (32), Tioga (33), Otsego (34), and Lewis (34) counties.

**Figure 2. The Average Number of Outpatient Visits for Cardiovascular and Diabetes-Related Services per Physician by County, FFY 2013**



In contrast, all 5 counties with an average higher than 85 cardiovascular and diabetes-related visits per physician were in New York City and the lower Hudson Valley. Queens County had the highest average number of visits, at 186, followed by Kings (176), Bronx (118), New York (103), and Rockland (91) counties.

**METHODS**

Medicaid claims data were extracted using Salient Medicaid Solutions Data, Version 6.4, a database that contains claims from the New

York Medicaid Data Warehouse. The study population was defined based on the following primary diagnoses (1) International Classification of Diseases, Ninth Revision (ICD-9) codes 390 to 459 for diseases of the circulatory system and (2) ICD-9 codes 249 to 250 for diabetes mellitus for individuals

between the ages of 18 and 64 years. The service location was limited to outpatient settings (private physicians, free-standing clinics, or hospital outpatient departments) or to hospital emergency department visits that did not result in an inpatient stay.

The study focused on services that were provided by physicians and other providers, such as nurse practitioners, physician assistants, podiatrists, optometrists, and dietitians/nutritionists. The study population consisted of patients who made at least 1 visit to an outpatient setting or emergency department located in the state and had a least 1 cardiovascular or diabetes-related service in FFY 2013 (October 2012 through September 2013).

The information extracted for this analysis included (1) patients' characteristics, such as county of residence at the date of service and race/ethnicity, (2) providers' characteristics, such as service county, national provider identifier number that was used, and type of specialist that provided the service, and (3) number of visits for cardiovascular and diabetes-related conditions using both fee-for-service claims and managed care encounters.

## LIMITATIONS

It should be noted that the use of Medicaid data for workforce research has several limitations. Because the intent of a claim is to be reimbursed for services provided, there is likely to be a certain level of misclassification in a number of fields, including location of service, patient's county of residence, and provider specialty. Additionally, research findings are generalizable only to people with Medicaid insurance and do not necessarily apply to people insured under Medicare, commercially insured, or those without insurance.

## CONCLUSIONS

There is great variation in Medicaid patient access to cardiovascular and diabetes-related services in New York State. Cardiologists, endocrinologists, and other specialists tend not to practice in rural areas<sup>6</sup>; as a result, Medicaid patients in rural areas are more likely to receive these services from primary care practitioners than from specialists. There are also differences in access by race/ethnicity, with black Medicaid patients receiving more services in hospital emergency departments. In addition, Medicaid patients in many rural counties travel outside their county of residence for cardiovascular and diabetes-related services.

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### References

1. New York State Department of Health, Behavioral Risk Factor Surveillance System.
2. Paradise J, Garfield R. What is Medicaid's impact on access to care, health outcomes, and quality of care? Setting the record straight on the evidence. <http://kff.org/medicaid/issue-brief/what-is-medicaids-impact-on-access-to-care-health-outcomes-and-quality-of-care-setting-the-record-straight-on-the-evidence/>. The Henry J. Kaiser Family Foundation, Commission on Medicaid and the Uninsured. Published 2013. Accessed April 27, 2015.
3. Dayaratna KD. Studies show: Medicaid patients have worse access and outcomes than the privately insured. <http://www.heritage.org/research/reports/2012/11/studies-show-medicaid-patients-have-worse-access-and-outcomes-than-the-privately-insured>. The Heritage Foundation, Backgrounder, No. 2740. Published November 7, 2012. Accessed April 27, 2015.
4. Felland LE, Lechner AE, Sommers A. Improving access to specialty care for Medicaid patients: policy issues and options. [http://www.chc1.com/News/PressReleases/ImprovingAccessSpecialtyCare\\_CMWF\\_June\\_2013.pdf](http://www.chc1.com/News/PressReleases/ImprovingAccessSpecialtyCare_CMWF_June_2013.pdf). The Commonwealth Fund. Published June 2013. Accessed April 27, 2015.
5. Eberts PR. Socioeconomic Trends in New York State: 1950-1990. 2nd ed. Albany, NY: New York State Legislative Commission on Rural Resources; 1994.
6. Armstrong, DP, Forte GJ. *Annual New York Physician Workforce Profile, 2010 Edition*. Rensselaer, NY: Center for Health Workforce Studies, School of Public Health, University at Albany, State University of New York; 2010.