Factors Affecting Oral Health Care Utilization in Hospital Emergency Departments Among Medicaid-Insured Adults in New York

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ABSTRACT

Background: Adult Medicaid beneficiaries in NY have a comprehensive dental benefit. This coverage has the potential to reduce the need for dental services in emergency departments (EDs). However, approximately 25,000 adult Medicaid beneficiaries received dental care in these settings in 2012-2013. The objectives of this study were to: 1) assess oral health services utilization in EDs by adult Medicaid beneficiaries in NY; and 2) evaluate the effects of demographics and geography on this usage in 2012-2013.

Methods: This research is based on an analysis of Medicaid enrollment and dental claims data from 2012-2013 for NY adults 21 years of age and older. Multivariable Poisson regression models with robust variance estimation were used to determine rate ratios (RR) and 95% confidence intervals (CI) for associations between ED utilization rates and patients' demographics, rural status of county of residence, and ratio of dentists providing services to Medicaid enrollees, accounting for clustering by county. Analyses were conducted using SAS v.9.4.

Results: On average, among the 3,133,049 Medicaid-enrolled adults in NY, 8 adults per 1,000 Medicaid enrollees used EDs for dental services. Men (RR=1.08), adults 25 to 29 years old (RR=4.19), individuals who are Non-Hispanic Black/African American (RR=1.48), adults of multiple races (RR=1.21), and those residing in rural counties (RR=1.73) had significantly higher adjusted utilization rates compared to other patients ($P<.0001$). Adult Medicaid enrollees in 4 rural counties (Chenango, Schuyler, Clinton, Ulster) and in 2 mixed urban-rural counties (Albany, Schenectady) had adjusted utilization rates ≥25.8 per 1,000 Medicaid enrollees for dental services in EDs.

Conclusions: Medical providers are not well equipped to address the causes of dental pain and infection and usually provide palliative care for oral health problems. This suggests the need to expand the capacity of oral health safety-net providers and dentists willing to treat Medicaid patients especially in rural areas and for underserved populations. The study findings also suggest a need for improved oral health literacy about the value of preventive services, and suitable sources for dental treatment services. Further research is needed to better document differences in oral health outcomes between Medicaid adults receiving dental services in EDs and those receiving care from dental providers.

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INTRODUCTION

Emergency department (ED) visits for non-traumatic dental problems are on the rise in the US. It is widely recognized that the provision of dental services in EDs tends to be costlier and less effective than services provided by oral health providers.

Adult Medicaid beneficiaries in NY have an extensive dental benefit. Along with an adequate adult dental benefit in Medicaid, the supply of dentists participating in state Medicaid programs has been identified as a predictor of lower use of EDs for dental care.

Although an extensive dental benefit has the potential to reduce the use of EDs for dental services, more than 25,000 adult Medicaid enrollees in NY received dental care in EDs from 2012 to 2013.

The objectives of this study were to: 1) assess oral health services utilization in EDs by adult Medicaid beneficiaries in NY and 2) evaluate the effects of patient demographics and geography on this usage in 2012-2013.

METHODS

This research brief is based on an analysis of Medicaid enrollment and dental claims data for the period from 2012-2013 for NY adults 21 years of age and older.

Based on the percentage of population living in urban census tracts, each of the 62 NY counties was classified as urban (≥95%), mixed urban-rural (65%-95%), or rural (<65%).

Multivariable Poisson regression models with robust variance estimation were used to determine rate ratios (RR) and 95% confidence intervals (CI) for associations between ED utilization rates and patients' demographics, rural status of county of residence, ratio of dentists providing services to Medicaid enrollees, accounting for clustering by county.

Analyses were conducted using SAS v9.4. Statistical significance was defined as $P<.05$ using 2-tailed tests.

RESULTS

On average, among the 3,133,049 Medicaid-enrolled adults in New York, 8.0 (95% CI=6.8-9.4) per 1,000 used hospital EDs for oral health services (Table 1).

Table 1. Adjusted Utilization Rate of Oral Health Services in Hospital Emergency Departments Among Adult Medicaid Enrollees in New York

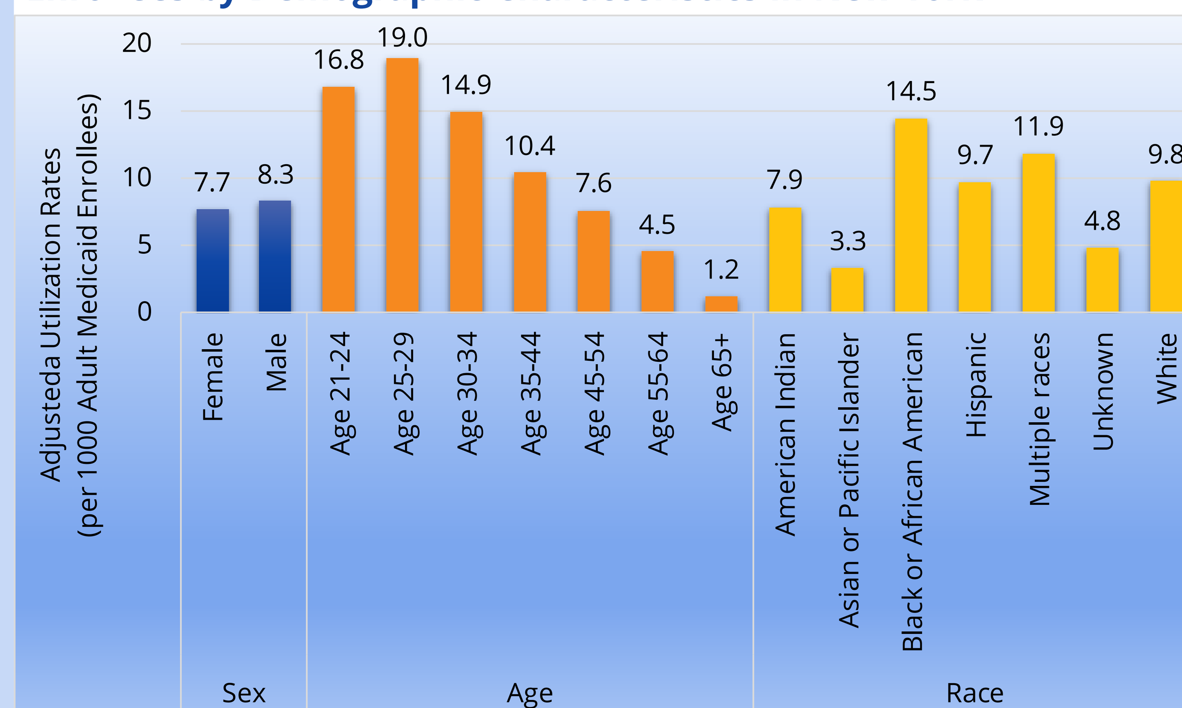
Utilization of Oral Health Services by Medical Setting	Adjusted Utilization Rate and 95% Confidence Interval (CI) (per 1000 Adult Medicaid Enrollees)		
	Mean	Standard Error	95% CI
Hospital Emergency Departments	8	0.6	6.8-9.4

Utilization rates and 95% confidence interval were adjusted for patients' gender, age, race/ethnicity, rural status of county of residence, ratio of dentists providing services to Medicaid enrollees, and year of service, accounting for clustering by county.

RESULTS

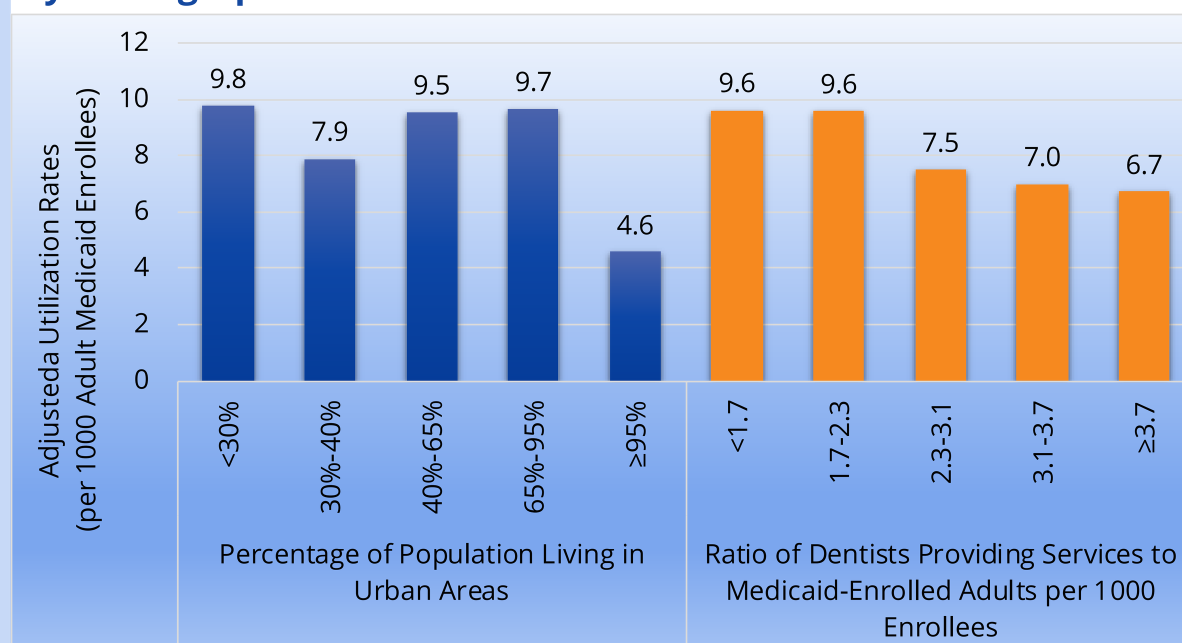
During the 2-year study period, men (8.3 vs 7.7; RR=1.08), enrollees who were young adults 25 to 29 years of age (19.0 vs 4.5; RR=4.19), Non-Hispanic blacks or African Americans (14.5 vs 9.8; RR=1.48), and adults of multiple races (11.9 vs 9.8; RR=1.21) had significantly higher ($P<.0001$) adjusted utilization rates (per 1,000 adult Medicaid enrollees) for oral health services in EDs than other patients (Figure 1).

Figure 1. Adjusted Utilization Rates for Oral Health Services in Hospital Emergency Departments Among Adult Medicaid Enrollees by Demographic Characteristics in New York



Highly rural counties (9.8 vs 4.6; RR=2.14) and mixed urban-rural counties (9.7 vs 4.6; RR=2.12) had remarkably higher adjusted utilization rates for oral health services in EDs than those residing in urban counties (Figure 2). Adjusted rates of ED use for dental care were higher in counties with <2.3 dentists per 1,000 enrollees providing services to Medicaid patients compared to those with the highest ratio of dentists (9.6 vs 6.7; RR=1.43), but differences were not statistically significant.

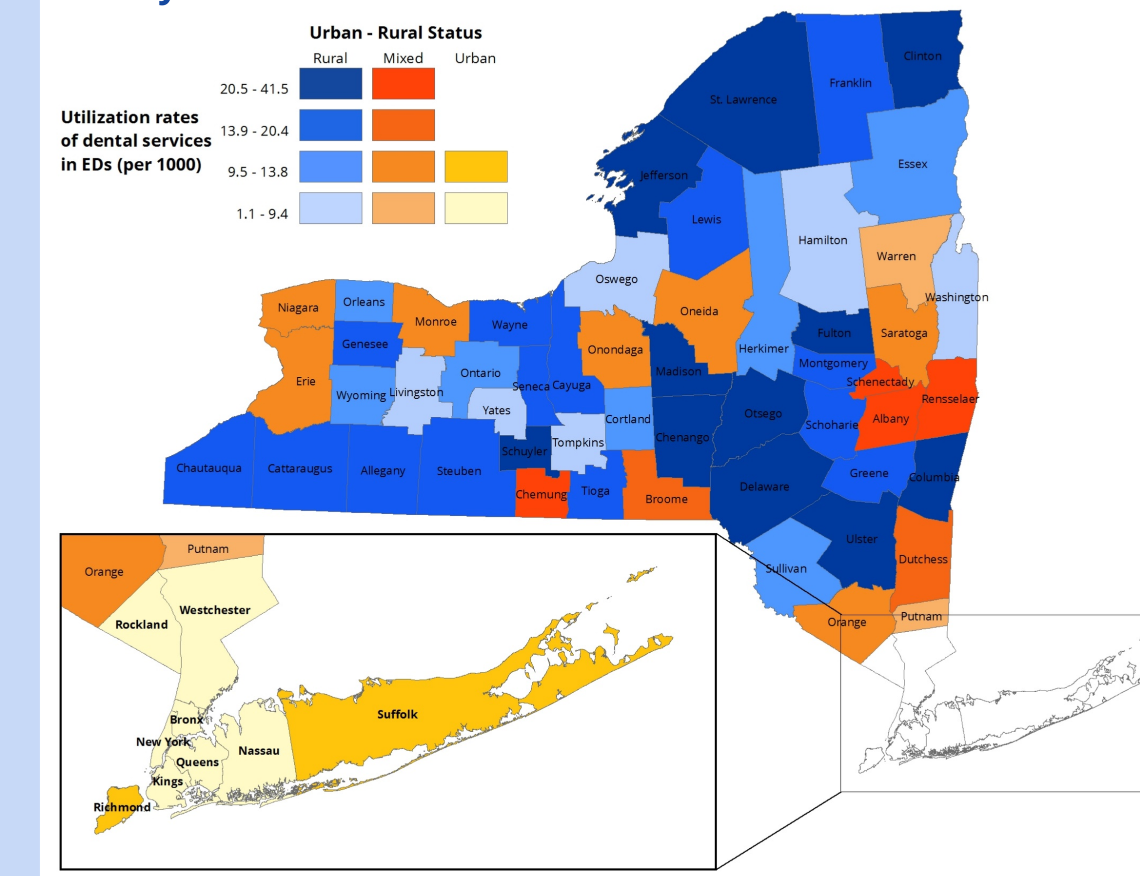
Figure 2. Adjusted Utilization Rates for Oral Health Services in Hospital Emergency Departments Among Adult Medicaid Enrollees by Demographic Characteristics in New York



Adult Medicaid enrollees in 4 rural counties (Chenango, Schuyler, Clinton, and Ulster) and in 2 mixed urban-rural counties (Albany and Schenectady) had utilization rates of 25.8 or above (90th percentile) for dental services in EDs (Figure 3). The utilization rates were 4.1 or below (10th percentile) in 2 rural counties (Washington and Livingston), in 1 mixed urban-rural county (Warren), and in 2 urban counties (Kings and Bronx).

RESULTS

Figure 3. Utilization Rates for Oral Health Services in Hospital Emergency Departments Among Adult Medicaid Enrollees by County in New York



DISCUSSION

Literature on the impact of adult Medicaid dental benefits on oral health service utilization suggests that more extensive dental coverage reduces the likelihood of seeking care in EDs for treatment of dental problems. However, 8 adults per 1,000 adult Medicaid enrollees in NY still sought treatment for dental problems in EDs during the study period. In states that only covered emergency dental benefits for adults, the ED utilization rates were 26 in Maryland and 18 in Oklahoma.[1,2]

The utilization rates for dental services in EDs were the highest for men, young adults, Non-Hispanic blacks or African Americans, and those living in rural or mixed urban-rural counties and in counties with fewer dentists serving Medicaid patients. These results are consistent with previous studies.

CONCLUSIONS

Medical providers are not well equipped to address the causes of dental pain and infection and usually provide palliative care for oral health problems. This suggests the need to expand the capacity of oral health safety-net providers and dentists willing to treat Medicaid patients especially in rural areas and for underserved populations. The study findings also suggest a need for improved oral health literacy about the value of preventive services and suitable sources for dental treatment. Further research is needed to better document differences in oral health outcomes between Medicaid adults receiving dental care in EDs and those receiving care from dental providers.

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