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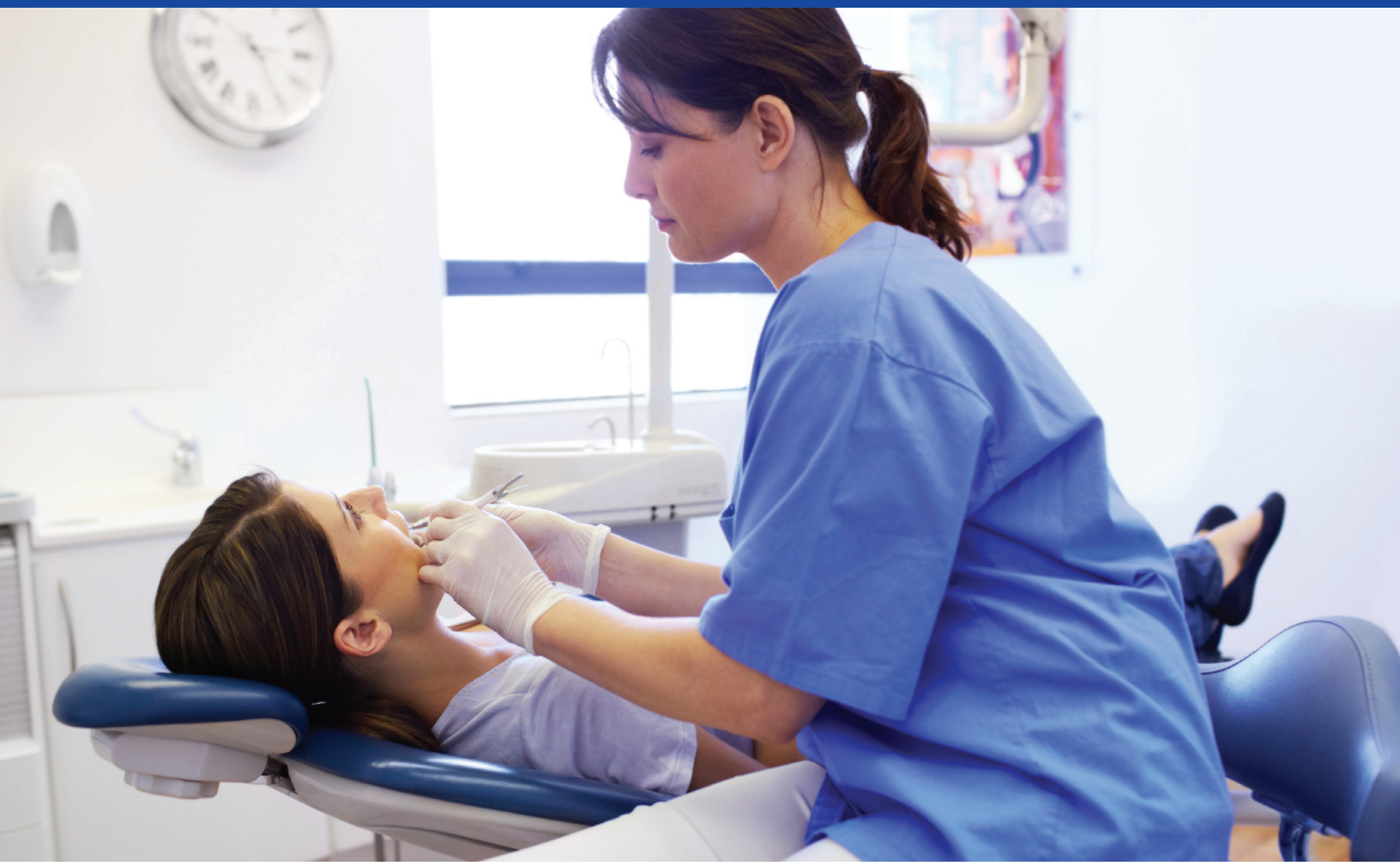

A Comparison of Medicaid Dental Claims Data in 2 States With Different Adult Dental Benefits, 2012-2013

OHWRC
Oral Health Workforce Research Center

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School of Public Health
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PREFACE

This report summarizes dental care utilization patterns of Medicaid-eligible adults based on the availability of providers and the extent of coverage provided by the adult Medicaid benefit in New York compared with Oklahoma in 2012-2013.

The report was prepared for the Oral Health Workforce Research Center (OHWRC) by Simona Surdu, Margaret Langelier, and Jean Moore, with layout design by Leanne Keough. OHWRC is supported by the Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (HHS) under grant number U81HP27843, a Cooperative Agreement for a Regional Center for Health Workforce Studies. The content and conclusions of this report are those of OHWRC and should not be construed as the official position or policy of, nor should any endorsements be inferred by, HRSA, HHS, or the US government.

The mission of OHWRC is to provide accurate and policy-relevant research on the impact of the oral health workforce on oral health outcomes. The research conducted by OHWRC informs strategies designed to increase access to oral health services for vulnerable populations. OHWRC is based at the Center for Health Workforce Studies (CHWS) at the School of Public Health, University at Albany, State University of New York (SUNY), and is the only research center uniquely focused on the oral health workforce.

The views expressed in this report are those of OHWRC and do not necessarily represent positions or policies of the School of Public Health, University at Albany, SUNY, or other subcontractors.

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ACKNOWLEDGEMENTS

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Executive Summary

BACKGROUND

Emergency department visits for oral health problems, many of which are ambulatory care–sensitive conditions, have increased in the US over the past decade. Hospital emergency departments are not generally equipped to address the causes of dental pain and infection and usually provide only palliative care. In addition, the provision of dental services in these settings tends to be costlier and less effective than services provided by oral health providers in private dental offices or dental clinics.

Factors associated with an increased likelihood of emergency department dental visits include lack of health insurance, enrollment in Medicaid, age, gender, race/ethnicity, urban versus rural residence, and the local supply of dentists providing oral health services to Medicaid patients.

The large variation in the adult Medicaid dental benefit has an important impact on where Medicaid patients receive oral health services. Many of the states that provide an adult Medicaid benefit limit the number of permissible dental visits and/or treatments, and 22 states either offer no adult dental benefit or provide emergency-only coverage for adults.

Oklahoma Medicaid provides only a limited dental benefit for adult enrollees 21 years of age and older, including emergency exams and extractions of diseased teeth. In contrast, adult Medicaid beneficiaries in New York State have a comprehensive dental benefit that includes preventive services, restorative services, periodontal services, dentures, and oral surgery services.

The objective of this research was to understand the impact of the quality of Medicaid dental benefits and the availability of dental providers for Medicaid enrollees on utilization of dental services. The present report summarizes the findings of an analysis of Medicaid dental claims data from Oklahoma and New York covering a 2-year period. The following provides a comparative analysis between the 2 states, in which the Medicaid program provides very different dental benefits for eligible adults.

METHODS

This study is based on an analysis of Medicaid enrollment and dental claims data for the period between January 1, 2012, and December 31, 2013, for adults aged 21 years and older in New York and Oklahoma. The New York State Department of Health Institutional Review Board (IRB) has reviewed and approved this research study (IRB reference No. 15-026).

New York Medicaid data were extracted using the Salient Interactive Miner software tool (Source: Salient NYS Medicaid System: includes payment cycles through 2011; access dates: March 15-22, 2016). The New York data were aggregated by demographic characteristics and geography. The data for Medicaid-enrolled adults aged 21 years and older in SoonerCare, Oklahoma's Medicaid program, were obtained from the Oklahoma Health Care Authority (OHCA).

Each data set contained demographic information for all Medicaid enrollees for the study period, including age, sex, race, ethnicity, and county of residence. The claims data also included information about the settings in which services occurred (dental office or clinic, emergency department). The study sample included all adults aged 21 years and older who were eligible for Medicaid benefits during the study period. Medicaid enrollees who could not be linked to residence in a specific county were excluded.

Enrollment rates were calculated using the demographic distribution of all adults 21 years of age and older in New York and Oklahoma. The source of population data was the 2009-2013 American Community Survey (ACS), the 5-year estimates from the US Census Bureau. The ACS is a national survey that collects representative individual-level information about the population's demographic and socioeconomic characteristics.

The measure selected to describe utilization rates for dental services provided in dental offices or clinics and in hospital emergency departments was the number (percentage) of Medicaid enrollees using dental services. Utilization rates for dental services were compared by state of enrollment using odds ratios (OR) and 95% confidence intervals (95% CI) to contrast dental care obtained in hospital emergency departments with that obtained in dental offices or clinics. These comparisons were affected by enrollees' demographic characteristics (sex, age, race/ethnicity) and county of residence (rural, urban, or mixed urban-rural classification as well as the supply of dentists providing services to the Medicaid population in each county). Statistical significance was defined as $P<.05$ using 2-tailed tests. Analyses were conducted using SAS v9.4 (SAS Institute Inc., Cary, North Carolina).

The 62 New York counties and 77 Oklahoma counties were classified as urban, rural, or mixed urban-rural based on the percentage of the population living in urban census tracts in the county, according to the Rural-Urban Commuting Area (RUCA) definition.

The use of Medicaid data for workforce research has several limitations. Because the intent of administrative claims data is to be reimbursed for services provided, there is some likelihood of misclassification in a number of variable fields, including location of service and patient's county of residence. Additionally, research findings are generalizable only to people with Medicaid insurance and do not necessarily apply to the general population, to people with commercial dental insurance, or to those without insurance.

KEY FINDINGS

Medicaid Enrollment for Adults and Utilization Patterns for Dental Services in New York and Oklahoma

Adult Medicaid Enrollees and Dental Services Utilization in New York and Oklahoma

- During all or part of the 2-year study period (2012-2013), 21.9% of adults aged 21 years and older in New York and 15.9% of adults in Oklahoma were insured by Medicaid.

- Medicaid enrollment rates were highest among adults aged 21 to 24 years, women, Hispanics, and Non-Hispanic Blacks or African Americans in both New York and Oklahoma during the 2-year study period.

- Enrollment rates for 2012-2013 showed that New York had higher enrollment rates overall than Oklahoma (37% difference) for each age, gender, and racial/ethnic group except Non-Hispanic Whites.

- The differences in enrollment rates between New York and Oklahoma were greatest among adults aged 45 to 54 years (69% difference), men (78% difference), Non-Hispanic American Indians (44% difference), and Hispanics (41% difference). Some of these differences may be due to differences in Medicaid eligibility in the 2 states.

Medicaid-Enrolled Adults Receiving Services in Dental Offices or Clinics in New York and Oklahoma

- Approximately 30.2% of adult New York Medicaid enrollees and 14.9% of adult Oklahoma Medicaid enrollees received at least 1 dental service in a dental office or clinic during the 2-year study period.

- Medicaid-enrolled women, young adults, enrollees living in urban or mixed urban-rural counties, and enrollees residing in counties with a large supply of dentists serving the Medicaid population utilized the most oral health services in dental offices or clinics in both New York and Oklahoma in 2012-2013.

- Hispanics in New York and Non-Hispanic Blacks or African Americans in Oklahoma had higher utilization rates for oral health services in dental offices or clinics than other racial/ethnic groups in each state.

- The differences in utilization rates for oral health services in dental offices or clinics between New York and Oklahoma were greatest for adults aged 55 to 64 years (178% difference), men (140% difference), Hispanics (178% difference), Non-Hispanic American Indians (146% difference), urban counties (103% difference), and counties with 50 to 299 dentists providing services to Medicaid patients (75.4% difference).

Medicaid-Enrolled Adults Receiving Services for Dental Problems in Hospital Emergency Departments in New York and Oklahoma

- Approximately 0.8% of adult Medicaid enrollees in New York and 1.8% of adult Medicaid enrollees in Oklahoma received at least 1 service for an oral health–related problem in a hospital emergency department in the 2-year study period.

- Utilization rates for oral health services in hospital emergency departments among Medicaid-enrolled adults were highest for women and for adults in urban counties in Oklahoma and for young adults, Non-Hispanic Blacks or African Americans, and in counties with between 20 and 49 dentists providing services to Medicaid enrollees in both New York and Oklahoma during the 2-year study period.

- Rates of utilization of hospital emergency departments for dental complaints were much higher in Oklahoma than in New York, particularly among adults aged 35 to 44 years (140% difference), women (152% difference), Non-Hispanic American Indians (143% difference), and Non-Hispanic Blacks or African Americans (113%), and in urban counties (341% difference) and counties with between 20 and 49 dentists providing services to Medicaid adults (46% difference).

- In 2012-2013, adult Medicaid beneficiaries in Oklahoma were significantly (4.48 times) more likely than those in New York to seek dental services in hospital emergency departments as opposed to dental offices or clinics.

- The likelihood of seeking care in emergency departments among adult Medicaid enrollees in Oklahoma was particularly elevated for women (odds ratio [OR]=4.87; 95% confidence interval [CI]: 4.72-5.03), adults aged 35 to 44 years (OR=5.76; 95% CI: 5.41-6.12), Hispanics (OR=6.15; 95% CI: 5.56-6.80), Non-Hispanic American Indians (OR=5.96; 95% CI: 4.62-7.70), adults residing in urban counties (OR=8.95, 95% CI: 8.61-9.30), and adults residing in counties with 50 or more dentists providing services to Medicaid-enrolled adults (OR=5.73; 95% CI: 5.50-5.97).

CONCLUSIONS

This study compared dental claims data from 2 states with different dental benefits for adults in their Medicaid programs. State Medicaid programs are not required to offer an adult dental benefit, although approximately half of the states have elected to offer some coverage for dental services to adult enrollees.

As might be expected, in New York, where adults enrolled in Medicaid have a comprehensive dental benefit, utilization of dental services (30.2%) was significantly higher than in Oklahoma (14.9%), which offers only an emergency dental benefit to adults enrolled in the SoonerCare program (with some exceptions for categorically needy adults). The lack of a dental benefit restricts access to dental services in dental offices and clinics and, by virtue of the benefit structure, encourages utilization of emergency departments when dental complaints arise. As a result, Medicaid enrollees in Oklahoma were more than 4 times more likely than those in New York to use emergency departments to obtain needed oral health services. Use of emergency departments for dental treatment services is both expensive and inefficient, as emergency departments are generally not equipped to address dental needs.

One concerning finding from these analyses is that even in New York, where enrollees have an extensive dental benefit, utilization of dental services remains quite low. These findings suggest a need to improve the oral health literacy of enrollees and to educate them on the importance of routine preventive services to maintain oral health.

This study's findings also suggest that the supply of dentists participating in state Medicaid programs, coupled with an adequate adult dental benefit in Medicaid, is predictive of lower use of emergency departments for avoidable dental conditions. In New York, the number of people served in emergency departments for dental complaints decreased concomitantly with an increasing supply of participating dentists.

In contrast, in Oklahoma, in which Medicaid covers only urgent dental services, utilization of emergency departments increased as the supply of dentists participating in the Medicaid program increased. There are likely several reasons for this finding. It may be that there are more emergency departments available in counties with more dentists due to population size and urbanity. Another explanation is that because of the emergency-only dental benefits, dentists restrict practice capacity related to the publicly insured, who would generally seek care only on an emergency basis. Most dental practices would give priority for services to patients of record over those seeking episodic, infrequent services.

The findings from this research are supported by much of the current literature on improving access to oral health services. Many cite the importance of financial access—that is, having a dental benefit that

covers much of the cost of dental care. However, the literature also suggests that having dental insurance is not the only factor impacting the utilization of oral health services. The delivery system must also provide access for those who are publicly insured and increase the number of private-practice dentists fully participating in Medicaid programs.

Technical Report

BACKGROUND

Emergency department visits for oral health problems have increased in the US over the past decade.[1-5] Yet hospital emergency departments are not generally equipped to address the causes of dental pain and infection and usually provide only palliative care. In addition, the provision of dental services in these settings tends to be costlier and less effective than services provided by oral health providers in private dental offices or dental clinics.[6-9]

Patients' insurance status, demographic characteristics, and the local dentist supply have been studied and linked to the use of emergency departments for dental care.[3,4,6,10,11] In 2012-2013, 22 states did not provide any adult dental benefit or provided an emergency-only adult dental benefit in their Medicaid programs, some states provided an extensive adult Medicaid benefit, and others offered limited dental benefits that restricted the number of permissible dental visits or treatment options.[11]

Oklahoma Medicaid provided an emergency-only dental benefit for adult enrollees 21 years of age and older that included only examinations for urgent conditions and extractions of diseased teeth, with some exceptions for special populations.[12,13] In contrast, New York offered adult Medicaid beneficiaries an extensive dental benefit that included preventive services, restorative services, periodontal services, dentures, and oral surgery services.[14,15] These more extensive benefits have the potential to reduce the need and demand for dental services in hospital emergency departments and other medical settings, such as hospital outpatient departments.

The objectives of this study were to:

- Describe differences in oral health service utilization in dental offices or clinics and hospital emergency departments by adult Medicaid beneficiaries in New York and Oklahoma
- Compare patterns of oral health service utilization by Medicaid-enrolled adults in New York and Oklahoma
- Evaluate the effects of patient demographics and county characteristics on utilization of oral health services in New York and Oklahoma

The Center for Health Workforce Studies (CHWS), which has been designated the national Oral Health Workforce Research Center (OHWRC) under a cooperative agreement with and funding from the Health Resources and Services Administration (HRSA), conducts research related to oral health and the oral health workforce. This study was conducted with funds from this grant.

METHODS

This study is based on an analysis of Medicaid enrollment and dental claims data for the period between January 1, 2012, and December 31, 2013, for adults aged 21 years and older in New York and Oklahoma. The New York State Department of Health Institutional Review Board (IRB) has reviewed and approved this research study (IRB reference No. 15-026).

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Each data set contained demographic information for all Medicaid enrollees for the study period, including age, sex, race, ethnicity, and county of residence. The claims data also included information about the settings in which services occurred (dental office or clinic, emergency department). The study sample included all adults aged 21 years and older who were eligible for Medicaid benefits during the study period. Medicaid enrollees who could not be linked to residence in a specific county were excluded.

Enrollment rates were calculated using the demographic distribution of all adults 21 years of age and older in New York and Oklahoma. The source of population data was the 2009-2013 American Community Survey (ACS), the 5-year estimates from the US Census Bureau. The ACS is a national survey that collects representative individual-level information about the population's demographic and socioeconomic characteristics.

The measure selected to describe utilization rates for dental services provided in dental offices or clinics and in hospital emergency departments was the number (percentage) of Medicaid enrollees using dental services. Utilization rates for dental services were compared by state of enrollment using odds ratios (OR) and 95% confidence intervals (95% CI) to contrast dental care obtained in hospital emergency departments with that obtained in dental offices or clinics. These comparisons were affected by enrollees' demographic characteristics (sex, age, race/ethnicity) and county of residence (rural, urban, or mixed urban-rural classification as well as the supply of dentists providing services to the Medicaid population in each county). Statistical significance was defined as $P<.05$ using 2-tailed tests. Analyses were conducted using SAS v9.4 (SAS Institute Inc., Cary, North Carolina).

The 62 New York counties were classified as urban, rural, or mixed urban-rural based on the percentage of the population living in urban census tracts in the county, according to the Rural-Urban Commuting

Area (RUCA) definition:

- Counties with 95% or more of their population living in an urban census tract were considered urban (9 counties). These counties were Westchester, Suffolk, Rockland, Nassau, New York, Kings, Queens, Bronx, and Richmond.

- Counties with 65% to 95% of their population living in urban census tracts were considered mixed urban-rural (15 counties). These counties were Warren, Oneida, Rensselaer, Saratoga, Broome, Dutchess, Chemung, Niagara, Orange, Putnam, Onondaga, Albany, Erie, Schenectady, and Monroe.

- Counties with less than 65% of their population living in urban census tracts were considered rural (the remaining 38 counties).

The 77 Oklahoma counties were classified as rural, urban, or mixed urban-rural as follows:

- Counties with 95% or more of their population living in urban census tracts (urban): Cleveland, Comanche, Oklahoma, Tulsa

- Counties with 65% to 95% of their population living in urban census tracts (mixed urban-rural): Canadian, Creek, Logan, McClain, Wagoner

- Counties with less than 65% of their population living in urban census tracts (rural): the remaining 68 counties

FINDINGS

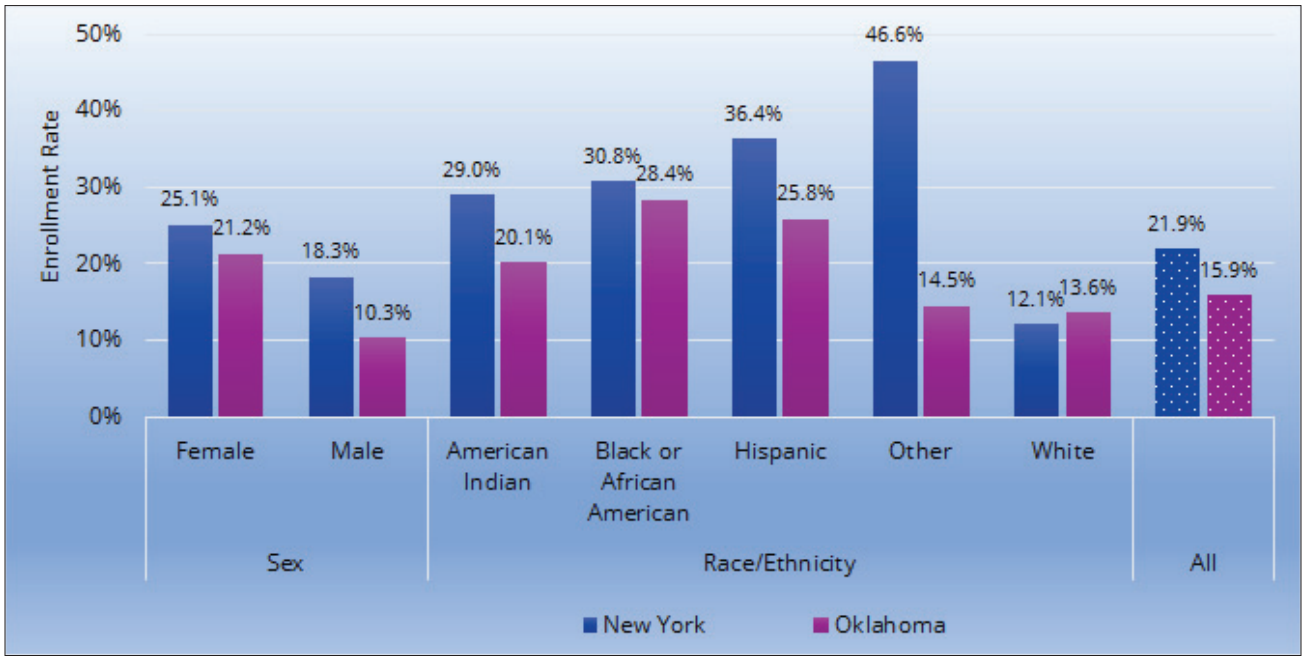
Medicaid Enrollment Rates Among Adults in New York and Oklahoma

In 2012-2013, 21.9% of the 14,328,088 adults aged 21 years and older residing in New York were enrolled in the state Medicaid program, which provided a comprehensive dental benefit. In Oklahoma, 15.9% of the 427,036 adults aged 21 years and older residing in the state were enrolled in the state Medicaid program, which included an emergency-only dental benefit (Figure 1).

Medicaid enrollment rates for adults were highest among women, Hispanics, and Non-Hispanic Blacks or African Americans both in New York (25.1%, 36.4%, and 30.8%, respectively) and in Oklahoma (21.2%, 25.8%, and 28.4%, respectively) during the 2-year study period (Figure 1).

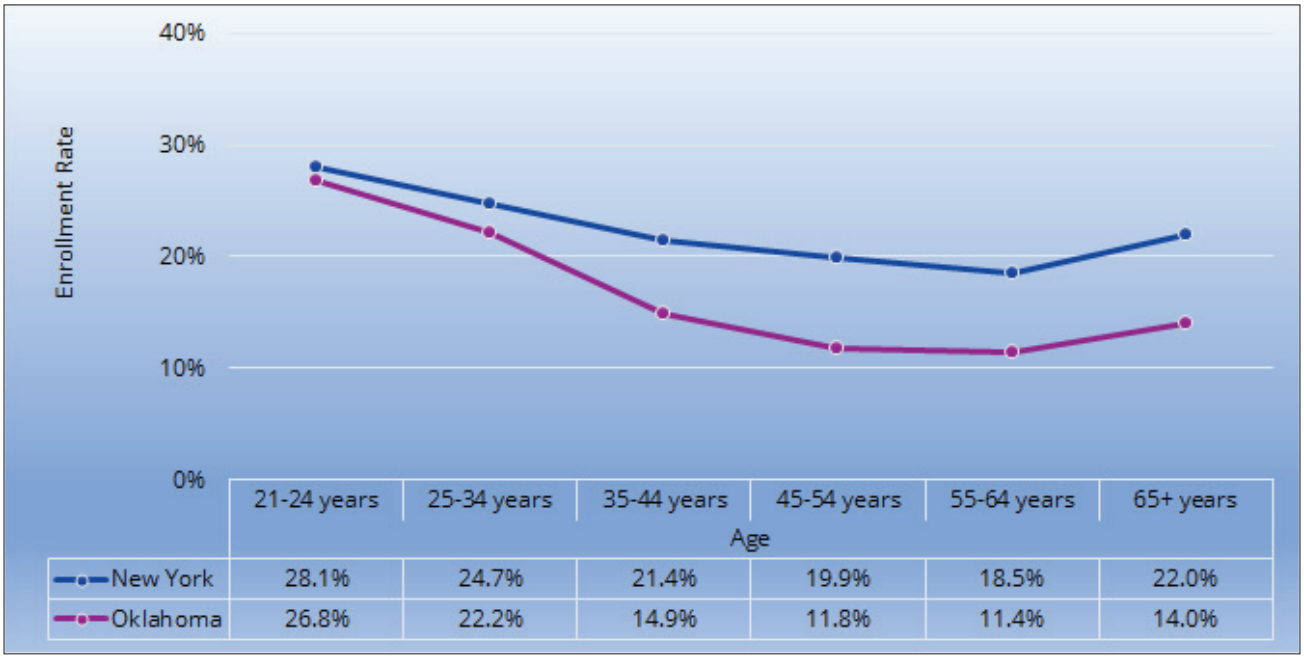
The 2012-2013 data showed that New York had a much higher enrollment rate than Oklahoma overall (37% difference) and for each gender and racial/ethnic group except Non-Hispanic Whites (Figure 1). The differences in enrollment rates between New York and Oklahoma were highest for men (78% difference), Non-Hispanic American Indians (44% difference), and Hispanics (41% difference).

Figure 1. Medicaid Enrollment Rates Among Adults 21 Years and Older Statewide and by Sex and Race/Ethnicity in New York and Oklahoma, 2012-2013



Enrollment rates also were highest among adults aged 21 to 24 years in both New York (28.1%) and Oklahoma (26.8%) during the 2-year study period (Figure 2). In both states, the 2012-2013 enrollment rates decreased with age. However, enrollment rates began to rise again after age 64 in both New York and Oklahoma. New York had higher enrollment rates overall than did Oklahoma across all age groups, particularly among adults aged 45 to 54 years (69% difference) and those aged 55 to 64 years (62% difference).

Figure 2. Medicaid Enrollment Rates Among Adults 21 Years and Older by Age in New York and Oklahoma, 2012-2013



	21-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65+ years
	Age					
New York	28.1%	24.7%	21.4%	19.9%	18.5%	22.0%
Oklahoma	26.8%	22.2%	14.9%	11.8%	11.4%	14.0%

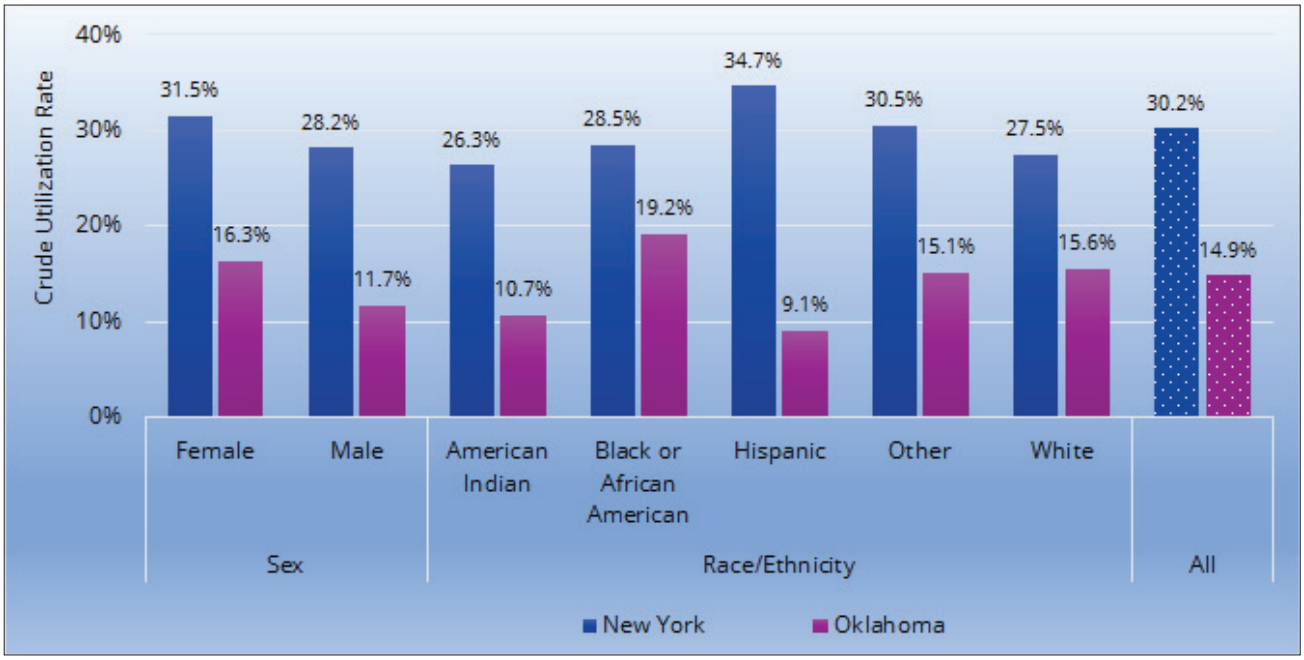
Utilization Rates for Oral Health Services in Dental Offices or Clinics Among Adults With Medicaid Insurance in New York and Oklahoma

In 2012-2013, 30.2% of the 3,133,049 Medicaid-enrolled adults in New York had at least one oral health service in a dental office or clinic. In Oklahoma, only 14.9% of the 427,036 Medicaid-enrolled adults had at least one service in a dental office or clinic (Figure 3).

Utilization rates for oral health services in dental offices or clinics for Medicaid-enrolled adults were highest among women and Hispanics in New York (31.5% and 34.7%, respectively) and among women and Non-Hispanic Blacks or African Americans in Oklahoma (16.3% and 19.2%) during the 2-year study period (Figure 3). Utilization rates for oral health services in dental offices or clinics were lowest among men and Non-Hispanic American Indians in New York (28.2% and 26.3%) and among men and Hispanics in Oklahoma (11.7% and 9.1%).

Utilization of dental services in offices or clinics was systematically higher in New York than in Oklahoma across all sex and racial/ethnic groups, particularly for men (140% difference), Hispanics (178% difference), and Non-Hispanic American Indians (146% difference).

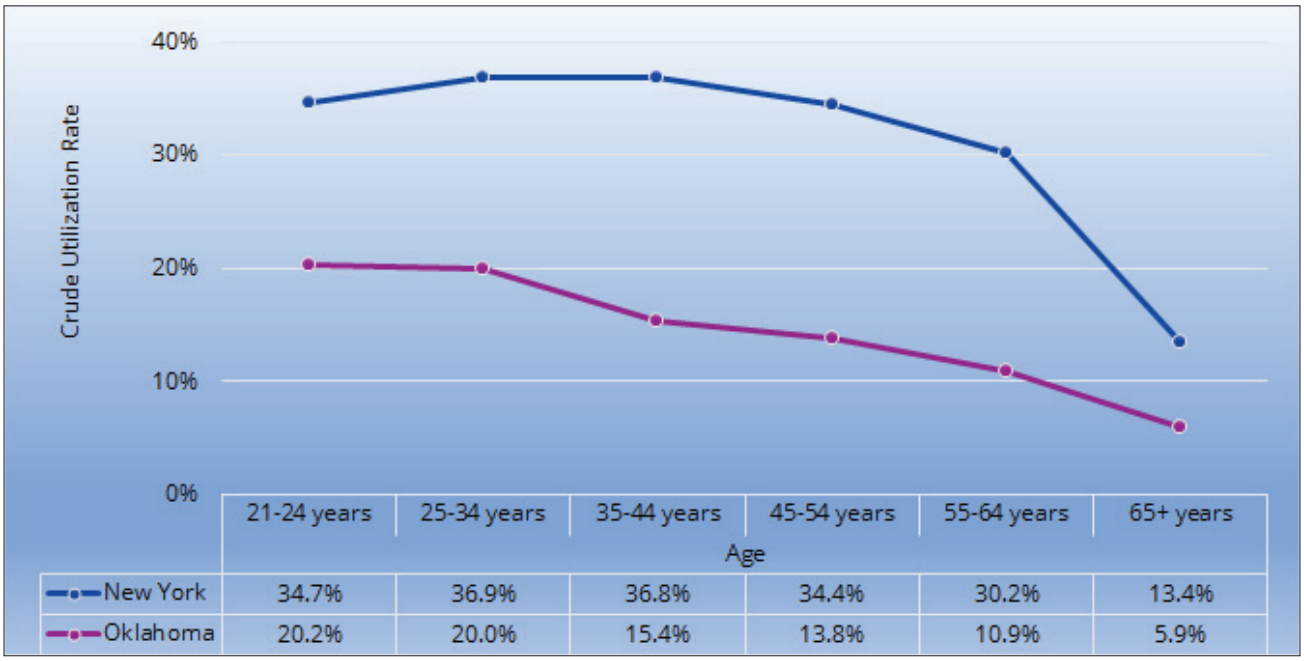
Figure 3. Medicaid Utilization Rates for Oral Health Services in Dental Offices or Clinics Among Adults 21 Years and Older Statewide and by Sex and Race/Ethnicity in New York and Oklahoma, 2012-2013



The 2012-2013 average utilization rates for oral health services in dental offices and clinics decreased with age in both states (Figure 4). During the 2-year study period, utilization of oral health services in dental offices or clinics by Medicaid enrollees was highest among 25- to 34-year-olds in New York (36.9%) and among 21- to 24-year-olds in Oklahoma (20.2%). Utilization of services in dental offices or clinics was lowest among enrollees aged 65 years and older in both New York (13.4%) and Oklahoma (5.9%).

Utilization of oral health services in dental offices or clinics by Medicaid enrollees was much higher in New York than in Oklahoma across all age groups, but particularly for adults aged 55 to 64 years old (178% difference) and those aged 45 to 54 years old (149% difference) (Figure 4).

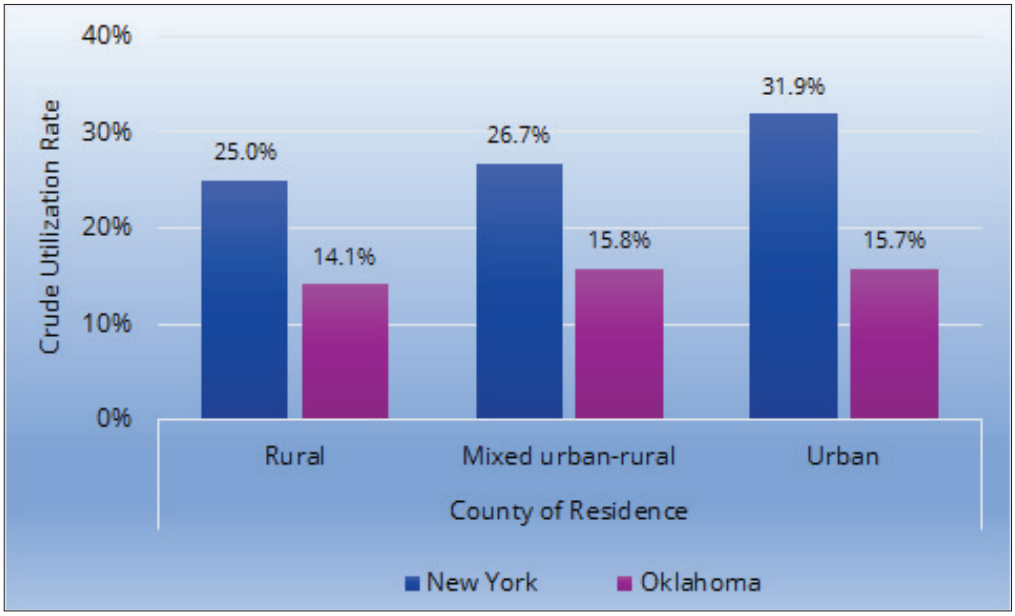
Figure 4. Medicaid Utilization Rates for Oral Health Services in Dental Offices or Clinics Among Adults 21 Years and Older by Age in New York and Oklahoma, 2012-2013



Utilization of oral health services in dental offices or clinics by Medicaid enrollees was highest in urban and mixed urban-rural counties in both New York (31.9% and 26.7%, respectively) and Oklahoma (15.7% and 15.8%) during the 2-year study period (Figure 5). Utilization rates were lowest among adults residing in rural areas in New York (25.0%) and Oklahoma (14.1%).

Utilization of oral health services in dental offices or clinics in 2012-2013 was much higher in New York than in Oklahoma across all geographic areas. The largest difference in utilization of dental services between the 2 states was in urban counties (103% difference).

Figure 5. Medicaid Utilization Rates for Oral Health Services in Dental Offices or Clinics Among Adults 21 Years and Older by Urban-Rural Status of the County of Residence in New York and Oklahoma, 2012-2013

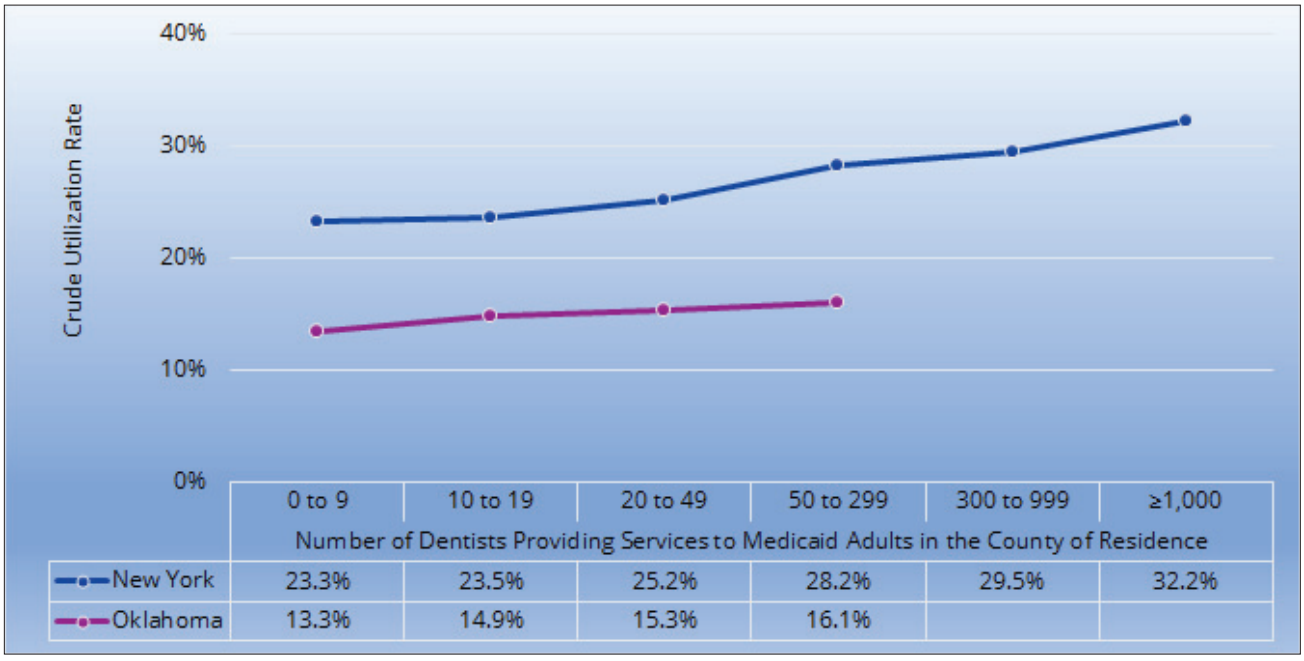


In both states, the 2012-2013 average utilization rates for oral health services in dental offices or clinics increased as the number of dentists providing services to Medicaid adults in a county increased. Figure 6 shows a notable increase in dental services utilization in counties with 50 or more dentists providing services to Medicaid enrollees. In Oklahoma, there were only 2 counties with 50 or more dentists, while in New York there were 14 counties with between 50 and 299 dentists, 3 counties with 300 to 999 dentists (Erie, Suffolk, and Nassau), and 4 counties with 1000 or more dentists (New York, Kings, Queens, Bronx) providing services to Medicaid enrollees.

In the New York counties with 50 or more dentists serving Medicaid enrollees, between 28.2% and 32.2% of Medicaid beneficiaries in those counties received an oral health service in a dental office of clinic in 2012-2013 (Figure 6). In Oklahoma counties with 50 or more dentists serving the adult Medicaid population, only 16.1% of enrollees received an oral health service during the study period.

Dental utilization rates were universally higher in New York than in Oklahoma regardless of the number of dental providers (Figure 6). However, the largest difference in utilization rates between the 2 states was in counties with 50 to 299 dentists providing services to Medicaid enrollees (75% difference).

Figure 6. Medicaid Utilization Rates for Oral Health Services in Dental Offices or Clinics Among Adults 21 Years and Older by Urban-Rural Status of the County of Residence in New York and Oklahoma, 2012-2013



	0 to 9	10 to 19	20 to 49	50 to 299	300 to 999	≥1,000
	Number of Dentists Providing Services to Medicaid Adults in the County of Residence					
New York	23.3%	23.5%	25.2%	28.2%	29.5%	32.2%
Oklahoma	13.3%	14.9%	15.3%	16.1%		

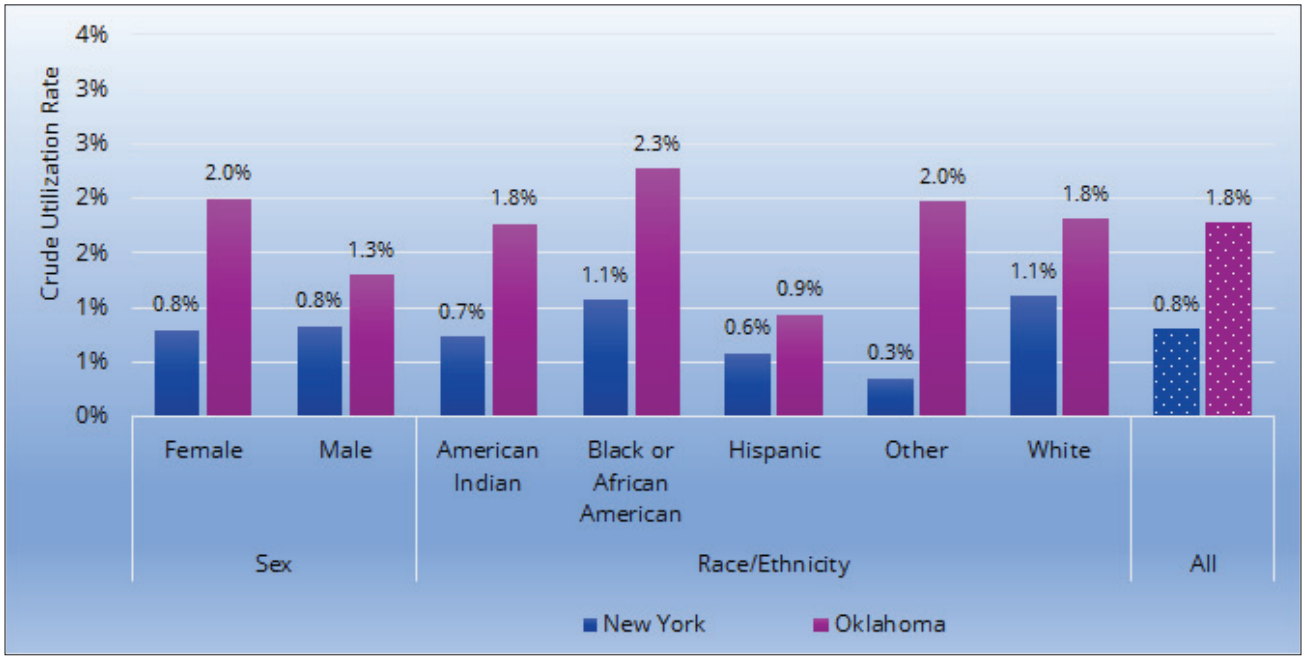
Utilization Rates for Oral Health Services in Hospital Emergency Departments Among Adults With Medicaid Insurance in New York and Oklahoma

In 2012-2013, 0.8% of the 3,133,049 Medicaid-enrolled adults in New York had at least one visit for an oral health problem in a hospital emergency department. In Oklahoma, 1.8% of the 427,036 adult enrollees received at least one service for a dental complaint in a hospital emergency department (Figure 7).

Utilization of emergency departments for oral health problems by Medicaid enrollees was highest among women in Oklahoma (2.0%) and among Non-Hispanic Blacks or African Americans in both New York (2.3%) and Oklahoma (1.1%) during the 2-year study period (Figure 7).

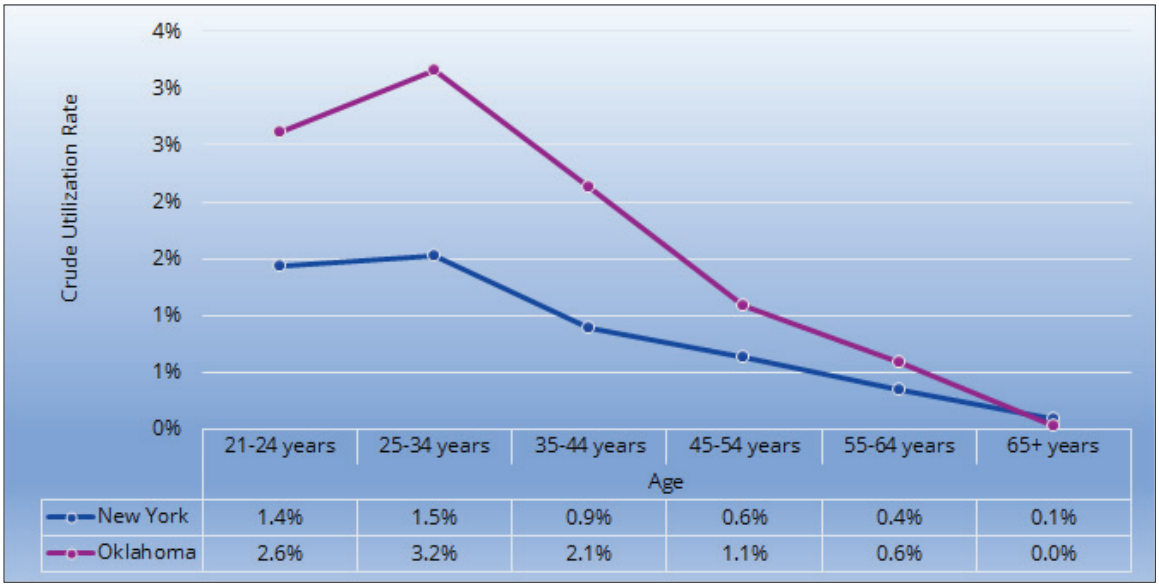
Rates of utilization of emergency departments for oral health complaints were higher in Oklahoma than in New York across all sex and racial/ethnic groups, particularly among women (152% difference), Non-Hispanic American Indians (143% difference), and Non-Hispanic Blacks or African Americans (113%) (Figure 7).

Figure 7. Medicaid Utilization Rates for Oral Health Services in Hospital Emergency Departments Among Adults 21 Years and Older Statewide and by Sex and Race/Ethnicity in New York and Oklahoma, 2012-2013



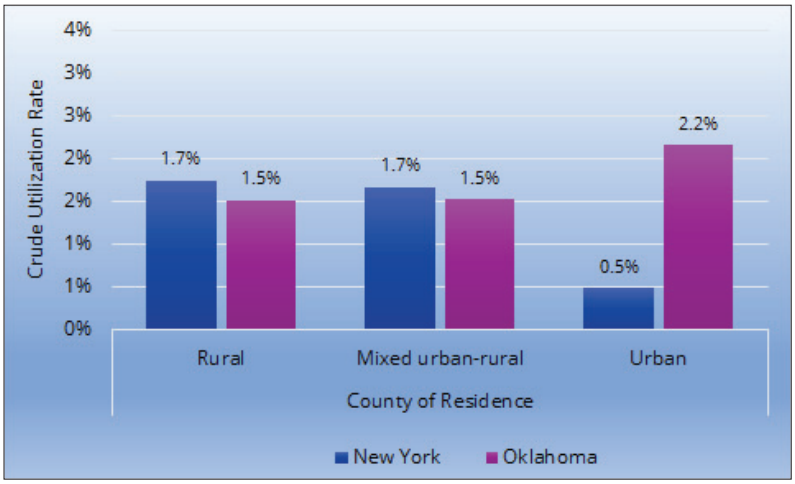
In 2012-2013, utilization of hospital emergency departments for dental complaints was highest among adults aged 25 to 34 years in both Oklahoma (3.2%) and New York (1.5%) (Figure 8). Rates decreased with age in both states. Utilization rates were higher in Oklahoma than in New York across all age groups except for adults 65 years and older, and especially among adults aged 35 to 44 years (140% difference).

Figure 8. Medicaid Utilization Rates for Oral Health Services in Hospital Emergency Departments Among Adults 21 Years and Older by Age in New York and Oklahoma, 2012-2013



Utilization of hospital emergency departments for dental complaints in 2012-2013 was highest in urban counties in Oklahoma (2.2%) and in rural (1.7%) or mixed urban-rural (1.7%) counties in New York (Figure 9). Utilization of hospital emergency departments was much higher in Oklahoma's urban counties than in urban counties in New York (341% difference). In rural and mixed urban-rural counties in Oklahoma, the utilization rates were slightly lower than in similar counties in New York.

Figure 9. Medicaid Utilization Rates for Oral Health Services in Hospital Emergency Departments Among Adults 21 Years and Older by Urban-Rural Status of the County of Residence in New York and Oklahoma, 2012-2013

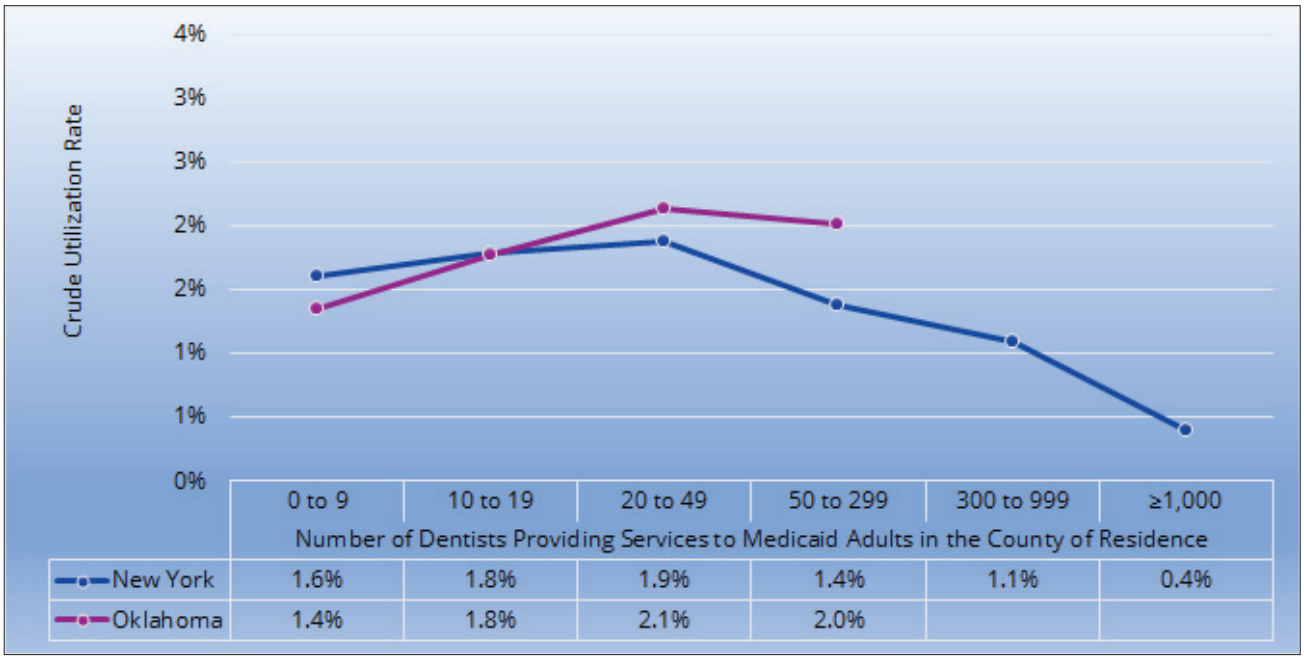


The average rate of utilization of hospital emergency departments for dental complaints in 2012-2013 was highest in counties with between 20 and 49 dentists providing services to Medicaid enrollees in both Oklahoma (2.1%) and New York (1.9%) (Figure 10).

In counties in Oklahoma with either 20 to 49 or 50 to 299 dentists serving Medicaid enrollees, utilization of emergency departments for dental complaints by enrollees living in those counties was higher than in similar counties in New York. Emergency department utilization was comparable in New York and Oklahoma in counties with 10 to 19 dentists. Interestingly, in counties in Oklahoma with 9 or fewer dentists serving Medicaid-enrolled adults, utilization of emergency departments for dental complaints was lowest in the state and lower than in similar counties in New York.

Figure 10 shows a decrease in utilization of hospital emergency departments for oral health–related problems in counties with more dentists providing oral health care to Medicaid adults, particularly in New York, which has an extensive adult dental benefit. The difference in utilization rates between Oklahoma and New York was highest for adult enrollees residing in counties with 50 to 299 dentists treating the Medicaid population (46% difference).

Figure 10. Medicaid Utilization Rates for Oral Health Services in Hospital Emergency Departments Among Adults 21 Years and Older by Urban-Rural Status of the County of Residence in New York and Oklahoma, 2012-2013



In 2012-2013, Medicaid-enrolled adults in Oklahoma were 4.48 times (95% CI: 4.36-4.60; *P*<.0001) more likely than those in New York to receive dental services in hospital emergency departments as opposed to dental offices or clinics (Table 1). The odds ratios of using hospital emergency departments for oral health

problems were significantly higher in Oklahoma than in New York for each sex, age, race/ethnicity, and geographic category of Medicaid adults, except for those aged 65 years and older.

The odds ratios were particularly high for women (OR=4.87; 95% CI: 4.72-5.03; *P*<.0001), adults aged 35 to 44 years (OR=5.76; 95% CI: 5.41-6.12; *P*<.0001), Hispanics (OR=6.15; 95% CI: 5.56-6.80; *P*<.0001), Non-Hispanic American Indians (OR=5.96; 95% CI: 4.62-7.70; *P*<.0001), and adults residing in urban counties (OR=8.95; 95% CI: 8.61-9.30; *P*<.0001) or in counties with 50 or more dentists providing services to Medicaid adults (OR=5.73; 95% CI: 5.50-5.97; *P*<.0001) (Table 1).

Table 1. Bivariate Analyses of Medicaid Utilization Rates for Oral Health Services in Hospital Emergency Departments Versus Dental Offices or Clinics Among Adults 21 Years and Older in Oklahoma Compared With New York by Demographic and Geographic Characteristics, 2012-2013

Demographic and Geographic Characteristics	Odds Ratio	95% Confidence Interval	
		Lower Limit	Upper Limit
All			
Medicaid adults 21 years and older	4.48	4.36	4.60
Sex			
Female	4.87	4.72	5.03
Male	3.79	3.60	4.00
Age			
21-24 years	3.13	2.95	3.33
25-34 years	3.85	3.70	4.01
35-44 years	5.76	5.41	6.12
45-54 years	4.23	3.88	4.61
55-64 years	4.59	4.05	5.21
65+ years	0.79	0.52	1.19
Race/ethnicity			
American Indian[a]	5.96	4.62	7.70
Black or African American[a]	3.16	2.96	3.37
Hispanic	6.15	5.56	6.80
White[a]	2.89	2.79	2.99
Urban-rural status			
Rural	1.54	1.47	1.61
Mixed urban-rural	1.55	1.40	1.71
Urban	8.95	8.61	9.30
Number of dentists providing services to Medicaid adults in the county of residence			
0-9	1.46	1.34	1.60
10-49	1.68	1.61	1.76
≥50	5.73	5.50	5.97

Note: All differences except among adults aged 65+years were statistically significant (*P* <.0001).

[a] Non-Hispanic ethnicity.

LIMITATIONS

There are several inherent limitations in using administrative claims data for purposes other than those for which they are intended. While claims data are an excellent resource by which to measure utilization of services, reporting requirements are specific and designed to capture a patient encounter with a provider. Dental claims data do not always contain the necessary detail to understand the full scope of services or the severity of the oral health condition.

In addition, Oklahoma Medicaid does not capture all dental services provided to Medicaid-enrolled American Indians, which is a larger population group in Oklahoma than in many states. This population is served not only by dentists participating in Oklahoma Medicaid but also by providers in Indian Health Service facilities, urban Indian clinics, and tribal health care programs.

It should be emphasized that these study findings are generalizable only to adults with Medicaid insurance in New York and Oklahoma and may not necessarily apply to adults insured by Medicare, those who are privately insured, or those without insurance.

DISCUSSION

Medicaid Dental Insurance Coverage for Adults in New York and Oklahoma

During the study period, the New York Medicaid program offered extensive dental coverage inclusive of the range of oral health service categories, without an annual spending limit, for all adult enrollees 21 years of age and older[15,16]:

- Oral examinations: routine dental examinations, radiographs
- Preventive services: prophylaxis including teeth cleanings, fluoride application, sealants
- Basic and advanced restorative services: fillings, crowns, endodontic therapy (root canals)
- Periodontal services: periodontal surgery, scaling, root planning (cleaning below the gum line)
- Prosthodontics services: full or partial dentures
- Oral surgery services: non-emergency extractions, other oral surgical procedures

In 2012-2013, Oklahoma's Medicaid program, SoonerCare, provided only limited dental benefits for adult enrollees 21 years of age and older, including[12,13]:

- Emergency oral health exams
- Emergency extractions of diseased teeth
- Smoking and tobacco use cessation counseling
- Medical and surgical services performed by a dentist or physician

Oklahoma Medicaid provides a full dental benefit for adults with physical or developmental disabilities and an expanded but still somewhat limited dental benefit for pregnant women.[12,17]

Medicaid Dental Insurance for Adults and Utilization Patterns of Dental Services in New York and Oklahoma

Approximately 21.9% of the total adult population of New York and 15.9% of the total adult population of Oklahoma were insured by Medicaid during all or part of the study period (2012–2013). New York offered an extensive adult Medicaid benefit that included all service categories, while Oklahoma provided only a limited dental benefit restricted to services for dental emergencies related to acute pain or infection.

Medicaid enrollment rates were highest among young adults, women, Hispanics, and Non-Hispanic Blacks or African Americans in both New York and Oklahoma in 2012-2013. New York had proportionally higher enrollment rates than Oklahoma for each age, gender, and racial/ethnic group except Non-Hispanic Whites. The differences in enrollment rates in New York and Oklahoma were highest among adults 45 to 54 years of age, men, and Non-Hispanic American Indians.

The limited adult dental benefit in Oklahoma appeared to impact utilization of oral health services, with only 14.9% of Medicaid-enrolled adults in the state receiving any dental service in a dental office or clinic in 2012-2013. In contrast, in New York, 30.2% of Medicaid-enrolled adults had at least one oral health service in a dental office or clinic during the 2-year study period. Study findings also showed that 1.8% of Medicaid-enrolled adults in Oklahoma and 0.8% of Medicaid-enrolled adults in New York received at least one dental service in a hospital emergency department in 2012-2013.

The literature discussing emergency department visits for dental complaints indicates that type of insurance affects the use of the emergency department as a primary source of dental care. Having Medicaid insurance[6,10,11,15,18] and having no insurance[1-4,8,19] were linked to an increased likelihood of seeking services in hospital emergency departments for oral health problems.

Oral health service utilization in dental offices or clinics was lowest for older adults, men, adults residing in rural counties, and adults residing in counties with lower numbers of dentists providing services to the Medicaid population in both New York and Oklahoma in 2012-2013. Non-Hispanic American Indian enrollees in New York and Hispanic enrollees in Oklahoma had the lowest utilization rates in the state.

Young adult enrollees, Non-Hispanic Blacks or African Americans, and enrollees living in counties with 20 to 49 dentists providing services to the Medicaid population had the highest rates of utilization of dental treatment services in emergency departments in both New York and Oklahoma during the 2-year study period. Women and residents of urban counties in Oklahoma and residents of rural or mixed urban-rural counties in New York had the highest utilization of emergency departments for dental complaints in their respective states.

Use of dental offices or clinics for oral health services was higher among Medicaid-enrolled adults in New York than in Oklahoma across all demographic, urban/rural, and dentist supply groups in 2012-2013. Conversely, utilization rates for dental care in hospital emergency departments were much higher in Oklahoma than in New York for all demographic groups (except for adults 65 years of age and older), for adult enrollees residing in urban counties, and for enrollees in counties with a greater supply of dentists.

In 2012-2013, Medicaid-enrolled adults in Oklahoma were 4.48 times more likely than the Medicaid adult population in New York to receive dental services in hospital emergency departments as opposed to

dental offices or clinics. The likelihood of using emergency departments for oral health problems was particularly elevated in Oklahoma among adults aged 35 to 44 years, women, Hispanics, Non-Hispanic American Indians, and adults residing in urban counties and counties with 50 or more dentists providing services to Medicaid adults.

Several research studies found that patient insurance status, demographic and socioeconomic characteristics, and the availability of private or safety net dental providers to treat Medicaid patients are important determinants of receiving oral health services. The literature on the use of emergency departments for dental complaints indicates that age, gender, race/ethnicity, area of residence, and local dentist supply are significantly associated with seeking oral health services in emergency departments.[3,4,11]

Oral health services are best provided in private dental offices or dental clinics, where trained professionals are available to provide therapeutic and treatment services. Hospital emergency departments are not generally equipped to address the causes of dental pain and infection and are mostly able to provide only palliative care. Seeking care in community settings, including private dental offices and public or private dental clinics, is a more productive means of addressing dental problems. Regional differences in the use of emergency departments for treatment of dental problems may reflect limited community dental resources available to patients with Medicaid.

CONCLUSIONS

This study compared dental claims data from 2 states with different dental benefits for adults in their Medicaid programs. State Medicaid programs are not required to offer an adult dental benefit, although approximately half of the states have elected to offer some coverage for dental services to adult enrollees.

As might be expected, in New York, where adults enrolled in Medicaid have a comprehensive dental benefit, utilization of dental services (30.2%) was significantly higher than in Oklahoma (14.9%), which offers only an emergency dental benefit to adults enrolled in the SoonerCare program (with some exceptions for categorically needy adults). The lack of a dental benefit restricts access to dental services in dental offices and clinics and, by virtue of the benefit structure, encourages utilization of emergency departments when dental complaints arise. As a result, Medicaid enrollees in Oklahoma were more than 4 times more likely than those in New York to use emergency departments to obtain needed oral health services. Use of emergency departments for dental treatment services is both expensive and inefficient, as emergency departments are generally not equipped to address dental needs.

One concerning finding from these analyses is that even in New York, where enrollees have an extensive dental benefit, utilization of dental services remains quite low. These findings suggest a need to improve the oral health literacy of enrollees and to educate them on the importance of routine preventive services to maintain oral health.

This study's findings also suggest that the supply of dentists participating in state Medicaid programs, coupled with an adequate adult dental benefit in Medicaid, is predictive of lower use of emergency departments for avoidable dental conditions. In New York, the number of people served in emergency departments for dental complaints decreased concomitantly with an increasing supply of participating dentists.

In contrast, in Oklahoma, in which Medicaid covers only urgent dental services, utilization of emergency departments increased as the supply of dentists participating in the Medicaid program increased. There are likely several reasons for this finding. It may be that there are more emergency departments available in counties with more dentists due to population size and urbanity. Another explanation is that because of the emergency-only dental benefits, dentists restrict practice capacity related to the publicly insured, who would generally seek care only on an emergency basis. Most dental practices would give priority for services to patients of record over those seeking episodic, infrequent services.

The findings from this research are supported by much of the current literature on improving access to oral health services. Many cite the importance of financial access—that is, having a dental benefit that

covers much of the cost of dental care. However, the literature also suggests that having dental insurance is not the only factor impacting the utilization of oral health services. The delivery system must also provide access for those who are publicly insured and increase the number of private-practice dentists fully participating in Medicaid programs.

References

REFERENCES

1. Lewis CW, McKinney CM, Lee HH, Melbye ML, Rue TC. Visits to US emergency departments by 20- to 29-year-olds with toothache during 2001-2010. *J Am Dent Assoc*. 2015;146(5):295-302.

2. Wall T, Nasseh K. Dental-related emergency department visits on the increase in the United States. American Dental Association Health Policy Institute Research Brief. May 2013. http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0513_1.pdf. Accessed December 19, 2016.

3. Lee HH, Lewis CW, Saltzman B, Starks H. Visiting the emergency department for dental problems: trends in utilization, 2001 to 2008. *Am J Public Health*. 2012;102(11):e77-e83.

4. Okunseri C, Okunseri E, Thorpe JM, Xiang Q, Szabo A. Patient characteristics and trends in nontraumatic dental condition visits to emergency departments in the United States. *Clin Cosmet Investig Dent*. 2012;4:1-7.

5. Seu K, Hall KK, Moy E. Emergency department visits for dental-related conditions, 2009. Agency for Healthcare Research and Quality (AHRQ) Healthcare Cost and Utilization Project Statistical Brief #143. November 2012. https://www.hcup-us.ahrq.gov/reports/statbriefs/sb143.pdf. Accessed December 19, 2016.

6. Wall T, Nasseh K, Vujicic M. Majority of dental-related emergency department visits lack urgency and can be diverted to dental offices. American Dental Association Health Policy Institute Research Brief. August 2014. http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0814_1.pdf. Accessed December 19, 2016.

7. Nasseh K, Vujicic M, Romaine D. Diverting emergency department dental visits could save Maryland's Medicaid program $4 million per year. American Dental Association Health Policy Institute Research Brief. November 2014. http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_1114_2.pdf. Accessed December 19, 2016.

8. Allareddy V, Rampa S, Lee MK, Allareddy V, Nalliah RP. Hospital-based emergency department visits involving dental conditions: profile and predictors of poor outcomes and resource utilization. *J Am Dent Assoc*. 2014;145(4):331-337.

9. Pew Center on the States. A costly dental destination: hospital care means states pay dearly. Pew Children's Dental Campaign Issue Brief. February 2012. http://www.pewtrusts.org/~/media/assets/2012/01/16/a-costly-dental-destination.pdf. Accessed December 19, 2016.

10. Nasseh K, Vujicic M. Dental benefits continue to expand for children, remain stable for working-age adults. American Dental Association Health Policy Resources Center Research Brief. October 2013. http://www.ada.org/~/media/ADA/Science%20and%20Research/Files/HPRCBrief_1013_3.pdf. Accessed December 19, 2016.Wall TP. Dental Medicaid—2012. Dental Health Policy Analysis Series. Chicago, IL: American Dental Association; 2012. http://www.aapd.org/assets/1/7/ADA-2012_Medicaid_Report.pdf. Accessed December 19, 2016.

11. Medicaid benefits: dental services [2012]. Kaiser Family Foundation website. http://kff.org/medicaid/state-indicator/dental-services. Accessed December 19, 2016.

12. McGinn-Shapiro M. Medicaid coverage of adult dental services. *State Health Policy Monitor*. 2008;2(2):1-6. http://nashp.org/sites/default/files/Adult%20Dental%20Monitor.pdf. Accessed December 19, 2016.

13. Hinton E, Paradise J. Access to dental care in Medicaid: spotlight on nonelderly adults. Kaiser Commission on Medicaid and the Uninsured Issue Brief. March 2016. http://kff.org/medicaid/issue-brief/access-to-dental-care-in-medicaid-spotlight-on-nonelderly-adults. Accessed December 19, 2016.

14. Medicaid and CHIP Payment and Access Commission (MACPAC). Medicaid coverage of dental benefits for adults. In: *Report to Congress on Medicaid and CHIP*. June 2015. https://www.macpac.gov/wp-content/uploads/2015/06/Medicaid-Coverage-of-Dental-Benefits-for-Adults.pdf. Accessed December 19, 2016.

15. Chazin S, Guerra V, McMahon S. Strategies to improve dental benefits for the Medicaid expansion population. Center for Health Care Strategies, Inc., Policy Brief. February 2014. http://www.chcs.org/media/CHCS-Revised-Adult-Dental-Benefits-Brief__021214.pdf. Accessed December 19, 2016.

16. Oklahoma Health Care Authority. *Dental Fast Facts: January–March 2012*. April 2012. https://www.okhca.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=13770. Accessed December 19, 2016.

17. Choi MK. The impact of Medicaid insurance coverage on dental service use. *J Health Econ*. 2011;30(5):1020-1031.

18. DeLia D, Lloyd K, Feldman CA, Cantor JC. Patterns of emergency department use for dental and oral health care: implications for dental and medical care coordination. *J Public Health Dent*. 2016;76(1):1-8.

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