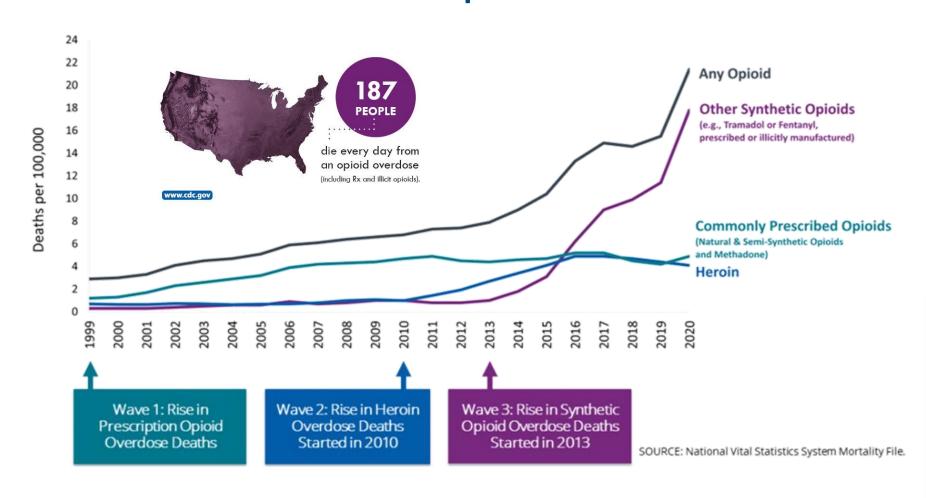
RURAL-URBAN DIFFERENCES IN DENTAL OPIOID PRESCRIBING AMONG ADOLESCENT/YOUNG ADULT AND ADULT MEDICAID BENEFICIARIES

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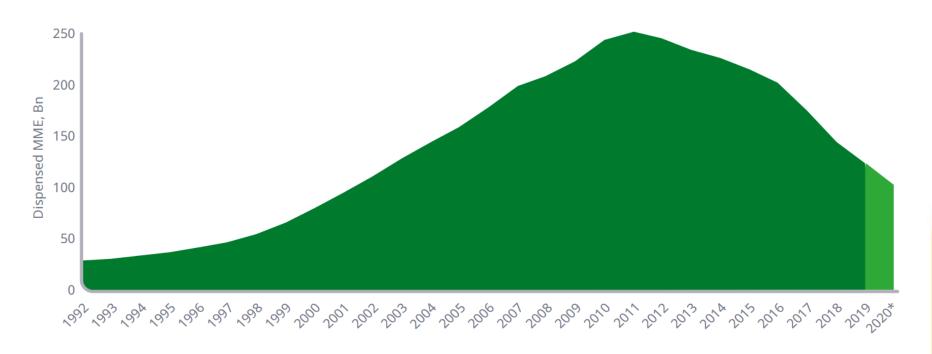




Three Waves of Opioid Overdose Deaths

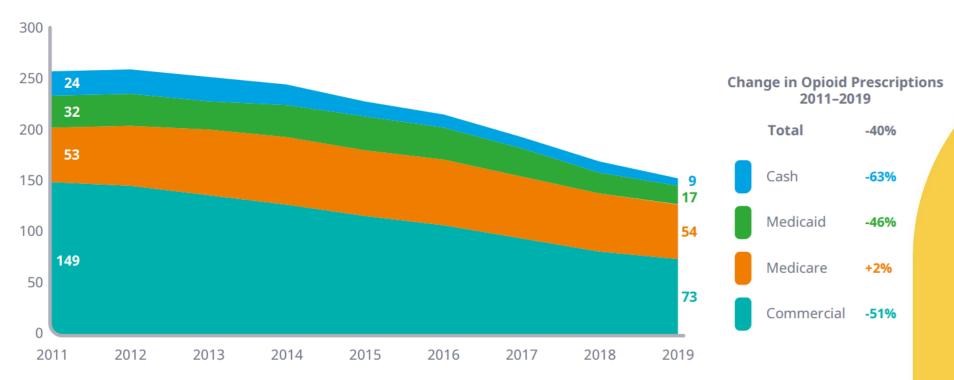


Prescription Opioid Use in Morphine Milligram Equivalents (MME) Bn, 1992–2020



Source: IQVIA Xponent, Mar 2020; IQVIA National Prescription Audit; IQVIA Institute, Nov 2020

Number of Prescription Opioids Dispensed by Pay Type, Millions, 2011–2019



Source: IQVIA Xponent, Mar 2020; IQVIA Institute, Nov 2020

Background

- The most common specialty groups among opioid prescribers are internal medicine (16.4%); dentists (15.8%); nurse practitioners (12.3%); and family medicine (10.3%).1
- Dental index opioid prescriptions in opioid-naive adolescents and young adults compared with age- and sex-matched controls were associated with a statistically significant 6.8% absolute risk increase in persistent opioid use and a 5.4% increase in the subsequent diagnosis of opioid abuse.²
- Rates for dental opioid prescriptions for Medicaid beneficiaries are declining.³
- There are racial disparities in dental-related opioid prescribing; Non-Hispanic white and Non-Hispanic black women are most likely to receive a prescription.⁴

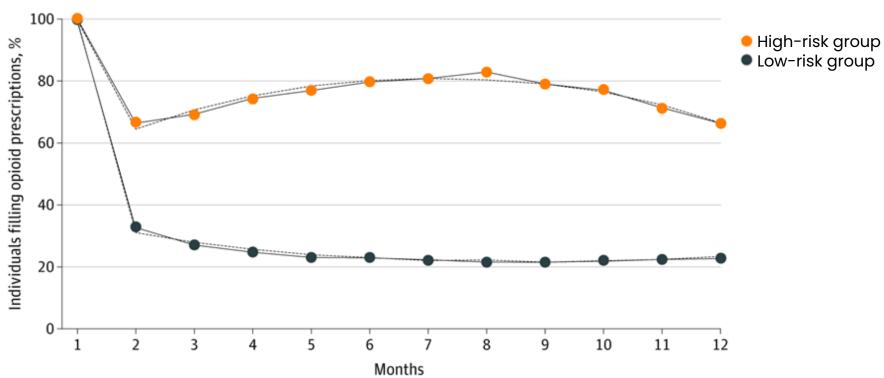
4 Janakiram et al Sex and race or ethnicity disparities in opioid prescriptions for dental diagnoses among patients receiving Medicaid. doi:10.1016/j.adaj.2019.06.016.

¹ Guy and Zhang Opioid Prescribing by Specialty and Volume in the U.S. doi:10.1016/j.amepre.2018.06.008

² Schroeder et al Association of Opioid Prescriptions From Dental Clinicians for US Adolescents and Young Adults With Subsequent Opioid Use and Abuse. doi:10.1001/jamainternmed.2018.5419

³ Okunev et al Trends in national opioid prescribing for dental procedures among patients enrolled in Medicaid. doi.org/10.1016/j.adaj.2021.04.013

Opioid Use Following First Opioid Prescription in Opioid-Naive Youths and Young Adults



Dotted lines represent estimated trajectories, and solid lines represent observed trajectories.

Barriers to Care in Rural Communities



Low provider-topopulation ratios



Number of dentists who accept Medicaid/CHIP or have discounted fee schedules



Insufficient or lack of dental insurance benefits



Poverty



Geographic barriers to care and lack of transportation



Lack of childcare



Insufficient levels or lack of access to water fluoridation



Lack of awareness and education about oral health



Cultural barriers and stigma

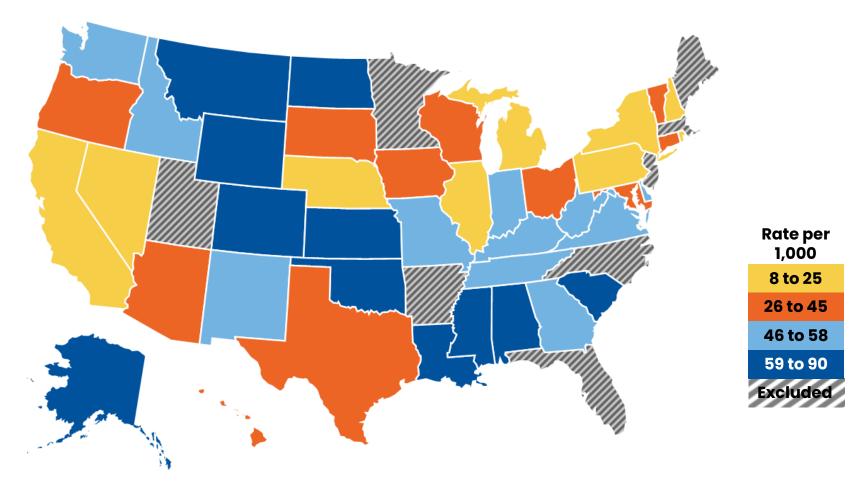
Objectives

- To assess the prevalence of dental opioid prescriptions among adolescent/young adult and adult Medicaid/CHIP beneficiaries with a dental visit
- To investigate the patient-related factors (gender, age, race/ethnicity) that increase the likelihood of receiving a dental opioid prescription
- To compare differences in dental opioid prescribing patterns between rural and urban areas and identify the county-level factors contributing to such disparities.

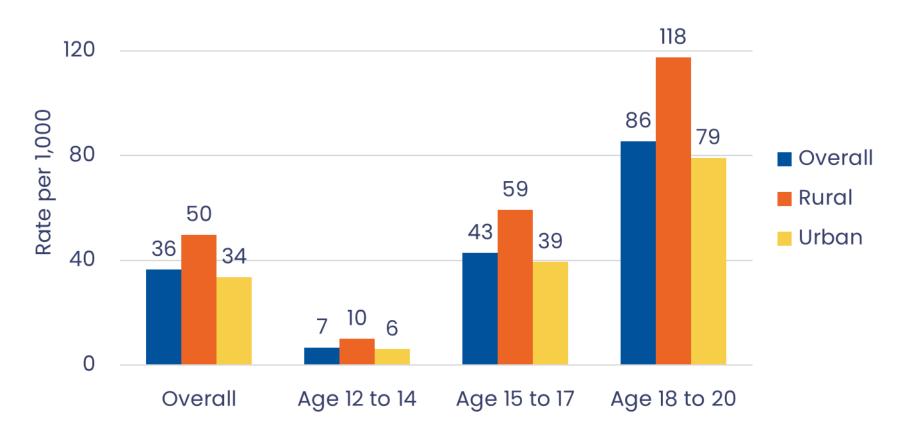
Data and Methodology

- 2021 Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files
 (TAF) Medicaid and Children's Health Insurance Program (CHIP) beneficiaries ages
 12-20 (Adolescents/Young Adults) and 21-64 (Adults) who are non-dually eligible for
 Medicare
- Economic Research Service Rural-Urban Commuting Area Codes
- American Community Survey 5-year Estimates
- DQ (Data Quality) Atlas
 - —Beneficiaries from states with "High Concern" or "Unusable" claims data were excluded from all analyses; eight states
 - Beneficiaries from states with "High Concern" or "Unusable" race and ethnicity information were excluded from all analyses stratified by race and ethnicity; twenty states.
- Chi-square tests were used to test for significant differences in the rates; Multilevel logistic regression models were used to predict the odds of receiving a dental opioid prescription; Pooled t-tests were implemented to test whether the estimates are significantly different across the rural and urban models

Rates of Adolescent/Young Adult Beneficiaries Receiving a Dental Opioid Prescription by State, 2021

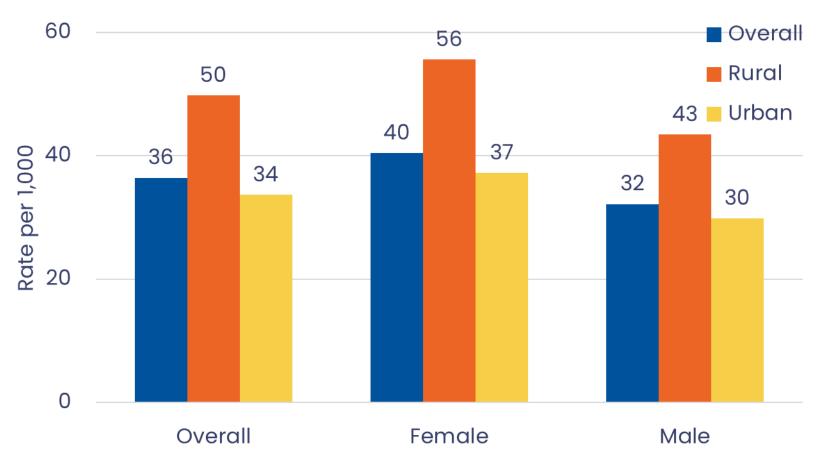


Rates of Adolescent/Young Adult Beneficiaries Receiving a Dental Opioid Prescription by Age, 2021



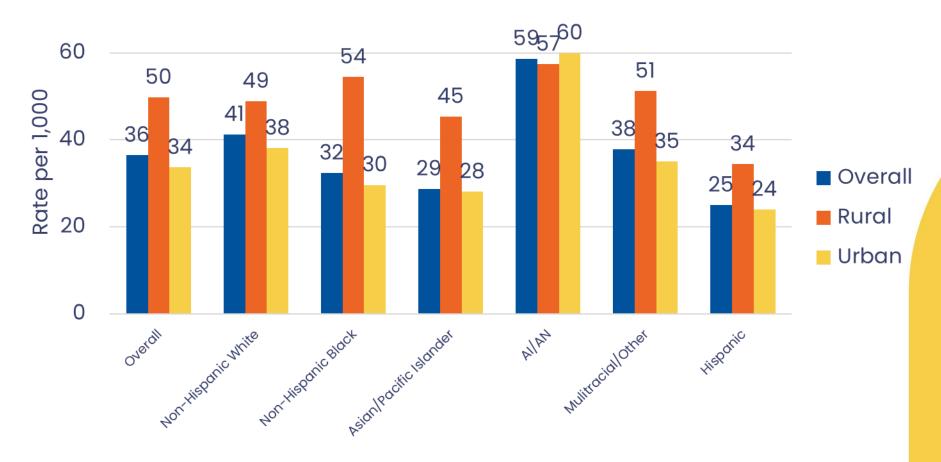
- Rates are significantly different between age groups.
- Age group-specific rates are significantly different across rural and urban areas.

Rates of Adolescent/Young Adult Beneficiaries Receiving a Dental Opioid Prescription by Sex, 2021



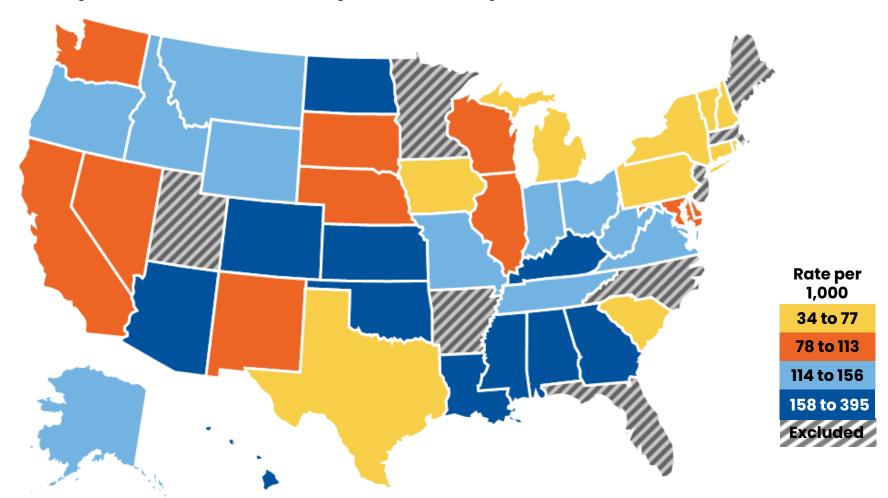
- * Rates are significantly different between males and females.
- Male and female-specific rates are significantly different across rural and urban areas.

Rates of Adolescent/Young Adult Beneficiaries Receiving a Dental Opioid Prescription by Race and Ethnicity, 2021

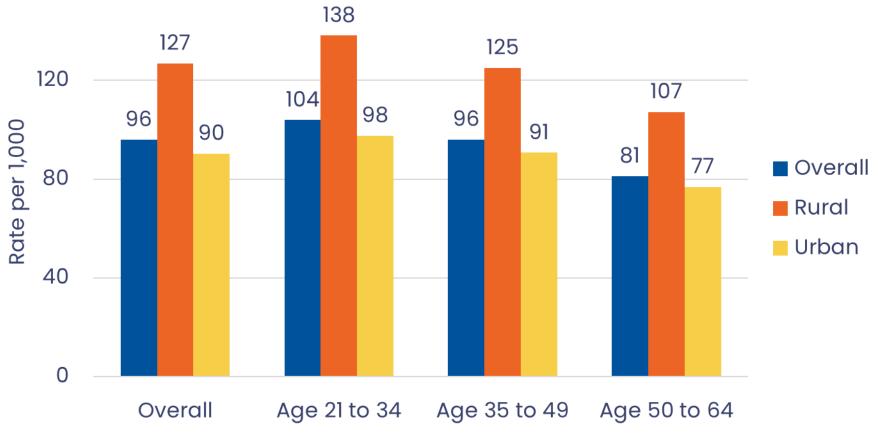


- * Rates are significantly different across race and ethnicity groups.
- Race and ethnicity-specific rates significantly differ across rural and urban areas, except for AI/AN.

Rates of Adult Beneficiaries Receiving a Dental Opioid Prescription by State, 2021

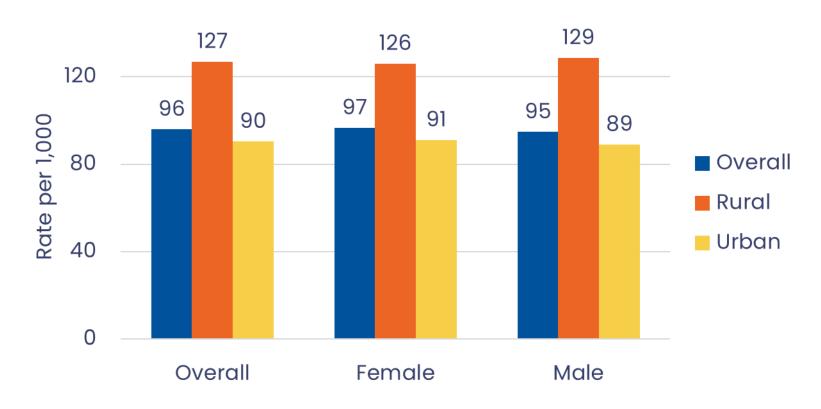


Rates of Adult Beneficiaries Receiving a Dental Opioid Prescription by Age, 2021



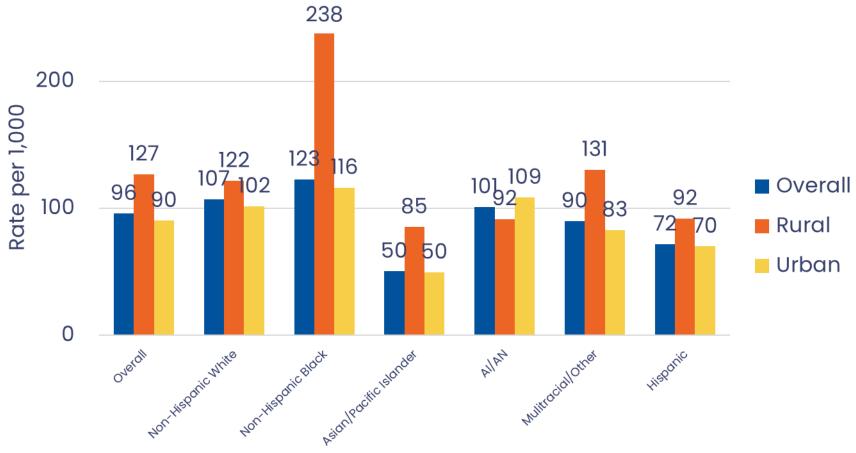
- * Rates are significantly different between age groups.
- Age group-specific rates are significantly different across rural and urban areas.

Rates of Adult Beneficiaries Receiving a Dental Opioid Prescription by Sex, 2021



- * Rates are significantly different between males and females.
- Male and female-specific rates are significantly different across rural and urban areas.

Rates of Adult Beneficiaries Receiving a Dental Opioid Prescription by Race and Ethnicity, 2021



- * Rates are significantly different across race and ethnicity groups.
- Race and ethnicity-specific rates significantly differ across rural and urban areas, except for AI/AN.

Multilevel Logistic Regression Models Predicting the Odds of Receiving a Dental Opioid Prescription, 2021

	Rural Model	Urban Model	
Adolescent/Young Adult Beneficiaries	N=773,733	N=3,723,157	T-test
Age Group (Ref: Age 12 to 14)			
Age 15 to 17	6.4x	7.4x	NS
Age 18 to 20	13.8x	16.7x	Sig
Sex (Ref: Male)			
Female	20%	16%	Sig
Race and Ethnicity (Ref: Non-Hispanic White)			
Non-Hispanic Black	-7%	-11%	Sig
Asian/Pacific Islander	-12%	-17%	NS
American Indian/Alaskan Native	NS	NS	NS
Multiracial/Other Race/Unknown	-4%	-9%	NS
Hispanic	-24%	-19%	NS
County Characteristics			
Percentage Non-Hispanic Black	0.5%	NS	NS
Percentage Hispanic	-0.4%	-1%	Sig
Concentrated Disadvantage	11%	18%	Sig
Residential Stability	-9%	NS	Sig

	Rural Model	Urban Model	
Adult Beneficiaries	N=626,167	N=3,119,173	T-test
Age Group (Ref: Age 21 to 34)			
Age 35 to 49	-11%	-8%	NS
Age 50 to 64	-24%	-16%	Sig
Sex (Ref: Male)			
Female	-12%	-4%	Sig
Race and Ethnicity (Ref: Non-Hispanic White)			
Non-Hispanic Black	10%	18%	Sig
Asian/Pacific Islander	-37%	-47%	Sig
American Indian/Alaskan Native	-9%	-9%	NS
Multiracial/Other Race/Unknown	-14%	-22%	Sig
Hispanic	-27%	-25%	NS
County Characteristics			
Percentage Non-Hispanic Black	2%	1%	Sig
Percentage Hispanic	-1%	-1%	Sig
Concentrated Disadvantage	23%	31%	NS
Residential Stability	-6%	NS	Sig

All model estimates are statistically significant unless noted with NS.

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Summary

- The rates of dental opioid prescriptions among adolescents/young adults and adults are 36 and 96 per 1,000 Medicaid/CHIP beneficiaries with a dental visit.
- The patient-related factors (age, sex, race and ethnicity) have different effects on the odds of receiving an opioid prescription between adolescents/young adults and adults Medicaid/CHIP beneficiaries with a dental visit.
- There are significant geographic (rural/urban) disparities in the receipt of an opioid prescription between adolescents/young adults and adults
 Medicaid/CHIP beneficiaries with a dental visit.

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THANK YOU