



COVID-19 PHE Impact on Pediatric Antibiotic Prescribing for Medicaid-enrolled Children

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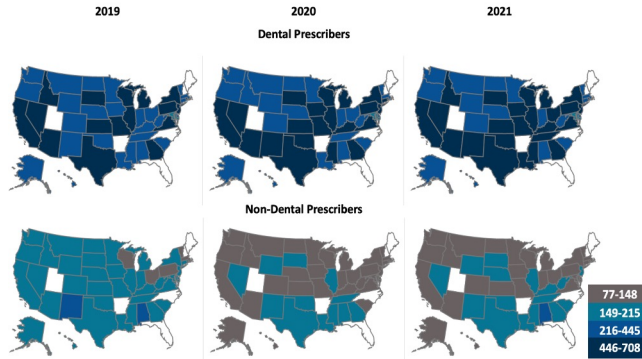
Introduction

Pediatric dentists are the third highest outpatient antibiotic dental prescribers, prescribing 13-16% of all outpatient dental antibiotic prescriptions. Concerns for over treatment, prolonged treatment duration, and use of broad-spectrum agents have prompted calls to create heightened awareness of current antibiotic prescription guidelines. The objective of this study is to inform antibiotic stewardship through an evaluation of the impact of the COVID-19 public health emergency (PHE) on antibiotic prescribing trends for children enrolled in Medicaid/CHIP by dental and non-dental providers.

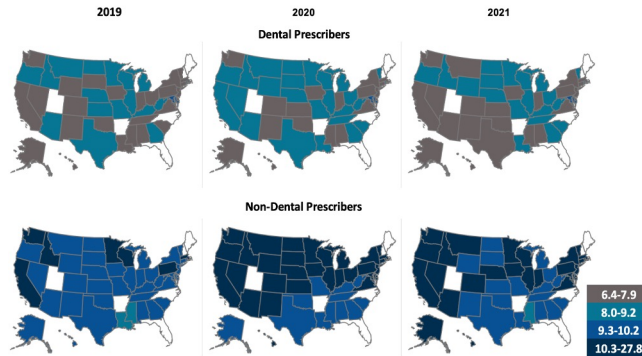
Methods

The 2019-2021 CMS T-MSIS data were pulled for Medicaid and CHIP child and young adult beneficiaries aged 0 to 20 who were non-dually eligible for Medicare. Prescription rates, average number of prescriptions and average days supplied for oral antibiotic prescriptions were evaluated for each prescriber type (dental and non-dental) and were characterized by geographic (rural/urban, state-level) and demographic characteristics (age, sex, race and ethnicity).

Geographic Variation of Dental and Non-Dental Pediatric Antibiotic Prescription Rates per 1,000 Prescriptions, 2019-2021



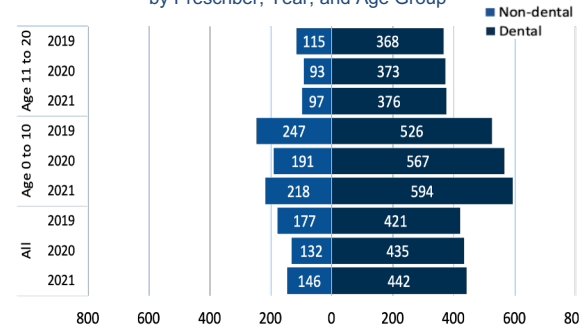
Geographic Variation of Average Day Supply for Pediatric Antibiotic Prescriptions by Dental and Non-dental Prescribers, 2019-2021



Results

All oral prescriptions decreased from 2019 (121.1 million) to 2020 (99.4 million), and then increased slightly in 2021 (103.6 million). This trend was consistent for dental and non-dental prescribers, and specifically for oral antibiotic prescriptions. The trend was largely driven by non-dental prescribers. The rate of antibiotics per 1,000 oral prescriptions remained relatively stable from 2019-2021 for dental prescribers (421.23 in 2019, 435.20 in 2020, and 441.95 in 2021), whereas non-dental rates decreased more significantly from 2019 (177.47) to 2020 (132.34) and 2021 (146.27). The rate of oral antibiotics per 1000 oral prescriptions is roughly three times greater for dental than non-dental prescribers. By age group, the rate of oral antibiotics prescribed per 1,000 overall prescriptions was higher for the "Age 0 to 10" group than the "Age 11 to 20" group. There were no significant differences for the rate of antibiotic prescription claims by sex or race/ethnicity. Dental prescribers, in general, prescribe for fewer days than non-dental prescribers. The average days supply for antibiotics prescribed by dentists between 2019 and 2021 ranged from 8.06-8.12, whereas non-dental prescribers days' supply ranged from 11.27-11.76. The rate of amoxicillin prescriptions was higher for general dentists compared to pediatric dentists. Consistent with the AAPD and ADA best practice statements, dentists most commonly prescribe amoxicillin, which accounts for 75% of all dental antibiotic prescriptions. Following amoxicillin, dentists most frequently prescribe penicillin V potassium, clindamycin hydrochloride, amoxicillin potassium clavulanate, clindamycin palmitate hydrochloride, azithromycin, cephalexin, cefdinir, and metronidazole.

Rate of Pediatric Antibiotics Prescriptions per 1,000 Prescriptions by Prescriber, Year, and Age Group



Conclusions

The COVID-19 public health emergency impacted pediatric antibiotic prescribing for Medicaid-enrolled children. Further research to better understand the significant provider, state, rural/urban, and demographic variations found in this study can inform policy.