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Dentists Who Participate in Medicaid: Who They Are, Where They Locate, How They Practice

September 15, 2022



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RESEARCH ARTICLE

Consolidation in the dental industry: a closer look at dental payers and providers

Kamyar Nasseh¹ · John R. Bowblis² · Marko Vujčić¹ · Sean Shengshu Huang³

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Abstract We examine practices, that at a dental become more data from the Un from FAIR I the size of d market conc inconclusive dentist's de findings imp commercial

Keywords D

JEL Classification

Introduction Traditionally few dentists become aff become sal come dental

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Rachel Klein was director of organizational strategy for Frontier USA in Washington, D.C., at the time of this writing.

Original Investigation | Health Policy

Earnings of Employed and Self-employed US Health Care Professionals, 2001 to 2015

Kamyar Nasseh, PhD, Marko Vujčić, PhD

Abstract

IMPORTANCE Over the last 15 years, the health care practitioner landscape has changed significantly. Fewer practitioners are self-employed and more are employed by for-profit or nonprofit organizations. These shifts can have an impact on annual labor earnings.

OBJECTIVES To examine trends in self-employment and employment and to assess the gap in annual labor earnings between self-employed and employed US health care professionals from 2001 to 2015.

DESIGN, SETTING, AND PARTICIPANTS Survey study in which data on employment type (self-employed, employed by private sector, or employed by government) and annual labor earnings for 50 states and the District of Columbia were extracted from the 2001 to 2015 American Community Survey. The analysis was restricted to 175 74 self-identified dentists, physicians, pharmacists, optometrists, podiatrists, chiropractors, and physical therapists aged 19 years and older who worked at least 40 weeks per year and 20 hours per week. Controlling for age, sex, race/ethnicity, year, and state of residence, median regression models were used to measure the gap in annual labor earnings between self-employed and employed health care professionals.

MAIN RESULTS AND MEASURES Annual labor earnings, defined as the sum of self-employment and wages or salary income.

RESULTS Our sample of 15 714 respondents included 99 077 physicians, 20 008 dentists, 26 143 pharmacists, 4 238 optometrists, 6076 chiropractors, 1164 podiatrists, and 19 008 physical therapists. The weighted percentage of self-employed physicians decreased from 35.2% (95% CI, 34.4%–36.1%), (80% of 15 715 physicians) in 2001 through 2005 to 24.7% (95% CI, 24.2%–25.2%; 10 974 of 44 205 physicians) in 2011 through 2015. The percentage of self-employed dentists decreased from 73.0% (95% CI, 71.2%–74.8%), 3117 of 4153 dentists) in 2001 through 2005 to 65.7% (95% CI, 63.7%–66.4%), 5260 of 7920 dentists) in 2011 through 2015. Among physicians, the regression-adjusted earnings gap narrowed from \$19 679 (95% CI, \$14 439–\$24 921, P < .001) during 2001 through 2005 to \$10 623 (95% CI, \$–547 to \$–6699, P < .001) during 2011 through 2015. Among dentists, the regression-adjusted earnings gap narrowed from \$30 448 (95% CI, \$23 040–\$37 856, P < .001) during 2001 through 2005 to \$21 291 (95% CI, \$15 739–\$26 849, P < .001) during 2011 through 2015. From 2001 to 2015 the earnings gap also narrowed among pharmacists, optometrists, and podiatrists. The regression-adjusted earnings gap narrowed among chiropractors and physical therapists.

CONCLUSIONS AND RELEVANCE Since 2001, the percentage of health care professionals who are self-employed declined, and the gap in earnings between self-employed and employed health care professionals narrowed.

Key Points

Question Since 2001, what changes have occurred in the gap in annual earnings between health care professionals who are self-employed and those who are employed by for-profit or nonprofit organizations?

Findings In this survey study examining responses from self-identified dentists, physicians, pharmacists, chiropractors, optometrists, podiatrists, and physical therapists aged 19 years and older who worked at least 40 weeks per year and 20 hours per week. Controlling for age, sex, race/ethnicity, year, and state of residence, median regression models were used to measure the gap in annual labor earnings between self-employed and employed health care professionals.

Meaning These trends may represent a move of health care professionals toward larger provider groups. Additional research is warranted to determine the driving forces behind the shift away from self-employment and the shrinking earnings gap between health care professionals who are self-employed and those employed by for-profit or nonprofit organizations.

Author Affiliations and Article Information are listed at the end of this article.

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JAMA Network Open. 2019;2(12):e191841. doi:10.1001/jamaopen.2019.01841

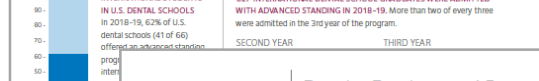
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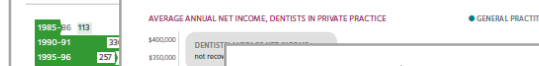
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International Students in U.S. Dental Schools



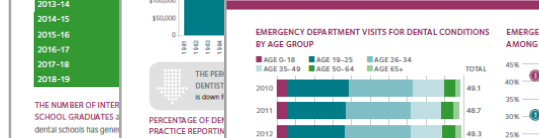
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Dentist Earnings and Busyness in the U.S.



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Emergency Department Visits for Dental Conditions – A Snapshot



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Emergency Department Visits for Dental Conditions – A Snapshot

EMERGENCY DEPARTMENT VISITS FOR DENTAL CONDITIONS BY AGE GROUP

EMERGENCY DEPARTMENT VISITS FOR DENTAL CONDITIONS AMONG ADULTS BY PAYER

70% Percentage of hospital emergency department visits for dental conditions occurring outside of normal business hours.¹

\$2.4 BILLION Total amount of dollars spent on hospital emergency department visits in the United States in 2016.

41% of hospital emergency department visits for dental conditions among adults in the United States that are paid for by Medicaid.

68% of hospital emergency department visits for dental conditions among children in the United States are paid for by Medicaid.

Medicaid expansion under the Affordable Care Act led to increased dental coverage and dental care use among Medicaid-enrolled adults, some of which occurred in hospital emergency departments.¹

Source: HPI analysis of the 2016 Nationwide Emergency Department Sample, Agency for Healthcare Research and Quality, as reported by 1. Blau, T., Nasseh, K., Vujčić, M. Majority of dental-related emergency department visits took emergency care and can be directed to dental offices. Health Policy Institute. *Research in Rural American Dental Association*. Accessed July 31, 2019.

2. Chalmers, N., Green, C., Cooper, R. After Medicaid by patients in Kentucky, Use of Hospital Emergency Departments for Dental Conditions Increased. *Health Affairs*. December 2016. Published August 2018.

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Features

Health Policy Perspectives

Oral health trends for older Americans

Cassandra Yarbrough, MPP; Marko Vujčić, PhD

Commentary

Guest Editorial

Our dental care system is stuck

And here is what to do about it

Marko Vujčić, PhD

In 1926, the work of William Cies¹ helped chart a new course for dentistry. I think we are approaching another “Cies” moment in which the dental community must face some hard facts and ask itself how public. In my view, if sustained improvement segments of the population but major reforms. Let us first look at minority children, and seniors is also on the den, high-income meaning income dip adults (those aged 1, been fairly flat for several years. In fact, seniors adults avoid steady reductions in adults in recent years bounce back in relief for dental care among of the dental economy especially for noncom sector is in a low-level major expansions in improvements in or especially among the status quo model major reforms in 4 at First, we need to Only 10% of US chi that has steadily de significant share of a the top reason adult coverage will drive a simply convincing pe they should just open have seen major exp Act. This has drama can include: The p US health policy tre covered by public pr private health insur

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Are We in a Medical Education Bubble Market?

David A. Asch, M.D., M.B.A., Sean Nicholson, Ph.D., and Marko Vujčić, Ph.D.

In November 1636, the prices of tulip bulbs in the Dutch market rose rapidly from their normal level to the point where a single bulb might sell for 10 times the annual earnings of a typical worker. Just as quickly, in May 1637, tulip-bulb prices returned to their previous values. The causes of this dramatic rise and fall remain in dispute. The event occurred during the Dutch Golden Age, when stock exchanges, central banking, and many of the fundamental structures that govern contemporary capital markets and the approach deployed by MBAs today were developed.

One modern economic analysis suggests that the precipitous decline in tulip-bulb prices resulted from a February 1637 change in the way that futures contracts were enforced, which immediately reduced the value of those contracts by 99%,¹ but this

analysis doesn't explain why the prices had shot up in the first place. Clearly, tulipomania was a bubble market fueled by speculation rather than intrinsic valuation. After all, why would people be willing to pay 10 times the average annual wage for a single tulip bulb unless they were confident that they could sell it to an even greater fool willing to pay even more?

Bubble markets are created when an asset trades for increasingly higher prices as it is bought by people who are hopeful about its future value and then sold to others with even more optimistic views of that value. Recent examples include the U.S. housing bubble, in which home prices rapidly

rose until 2007 and then just as rapidly fell, and the dot-com bubble, in which prices of Internet stocks rose until 2000 and then plummeted. Bubbles burst when some new sense of lower intrinsic value appears. The last buyers are stuck with something they paid too much for and can no longer unload. It's like being caught without a chair when the music stops, but whereas even the losers at musical chairs knew that at some point someone would be left standing, bubble markets are usually recognized only in retrospect — the losers never saw it coming.

Are we in a bubble market in medical education? In medicine, students buy their education from medical schools and residency programs (which pay wages that are lower than the value of the work that residents provide in return). This education is re-

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Most dental offices' patient volume nearing normal, data suggests

The latest polling from American Dental Association's Health Policy Institute suggests over 60% of dental offices are running business as usual

The New York Times *How's the Economy Doing? Watch the Dentists*



Why Wisconsin and the nation have a dental hygienist shortage



Why you don't need dental insurance to go to the dentist



Dentists Who Participate in Medicaid: Who They Are, Where They Locate, How They Practice

Medical Care Research and Review
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Kamyar Nasseh¹, Chelsea Fosse¹, and Marko Vujicic¹

Abstract

Low utilization of dental services among low-income individuals and racial minorities reflects pervasive inequities in U.S. health care. There is limited research determining common characteristics among dentists who participate in Medicaid or the Children's Health Insurance Program. Using detailed Medicaid claims data and a provider database, we estimate that among dentists with 100 or more pediatric Medicaid patients, 48% practice in high-poverty areas, 10% practice in rural areas, and 29% work in large practices (11 or more dentists). Among those with zero Medicaid patients, 18% practice in high-poverty areas, 4% practice in rural areas, and 11% work in large practices. We found that dentist race/ethnicity has an independent effect on Medicaid participation even when adjusting for community characteristics, meaning non-White dentists are more likely to treat Medicaid patients, regardless of the median income or racial/ethnic profile of the community.

Keywords

dentists, Medicaid, poverty areas, ethnic and racial minorities, health services accessibility

Introduction

Oral health is an essential component of overall health, yet low-income populations experience significant barriers to dental care compared with high-income individuals. In fact, compared with medical care services, prescription drug services, mental health care, and eyeglass services, more people reported not getting needed dental services due to cost, irrespective of age and income (Vujicic et al., 2016). Racial disparities in dental care access have narrowed over the last decade for children, but Black and Hispanic children are still less likely to visit a dentist than White children (American Dental Association [ADA], 2021). However, lack of providers and the level of Medicaid reimbursement (Buchmueller et al., 2015) are not always reasons why there are disparities in dental care access in Medicaid populations. For example, in North Carolina, 90% of publicly insured children live within a 15-min travel time of a dentist who participates in Medicaid or the Children's Health Insurance Program (CHIP), and 96% of the entire population lives within a 15-min travel time of any dentist (Vujicic, 2017). Rather, for a given supply of dentists, one should examine how intensely they treat publicly insured populations and the factors associated with dentist participation in Medicaid. This sheds light on what factors are likely to expand the provider network serving low-income populations. Hence, it is important for

policymakers to understand provider, practice, and local area characteristics that influence dentist participation in Medicaid, including the role of provider and population race and ethnicity. This helps policymakers devise strategies to attract more dentists to treat publicly insured patients, particularly racial and ethnic minorities and other populations that are traditionally underserved.

There is evidence that physician primary care practices that were most likely to have substantial Medicaid revenue were affiliated with large groups/hospitals, located in rural areas, located in Medicaid expansion states, part of federally qualified health centers (FQHCs), or located in areas with lower median household income (Spivack et al., 2021). In dentistry, the level of Medicaid reimbursement has a modest effect on dentist participation in Medicaid (Buchmueller et al., 2015). Other studies examining characteristics among Medicaid dentists have been single-state studies that were

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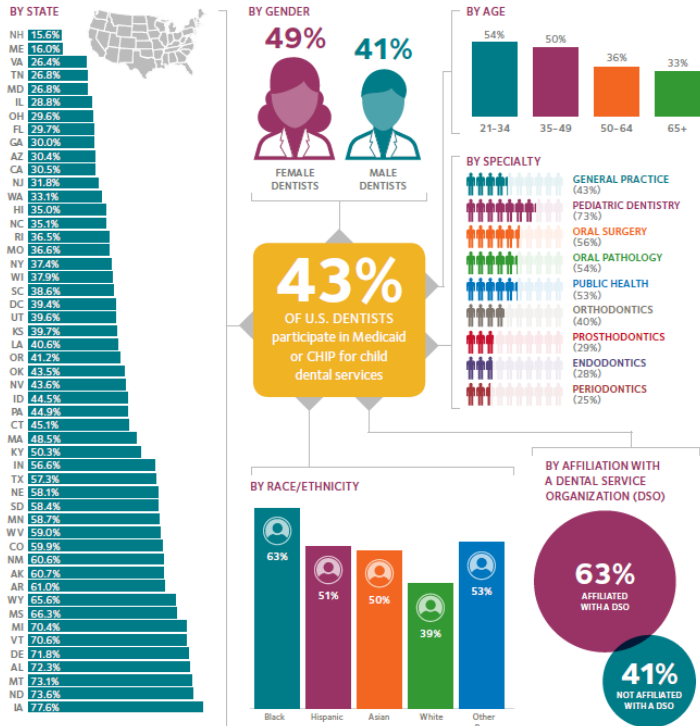


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Dentist Participation in Medicaid or CHIP

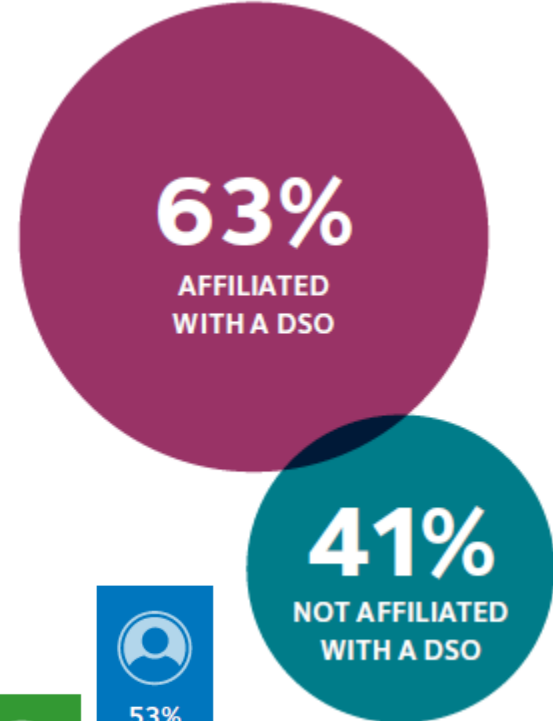
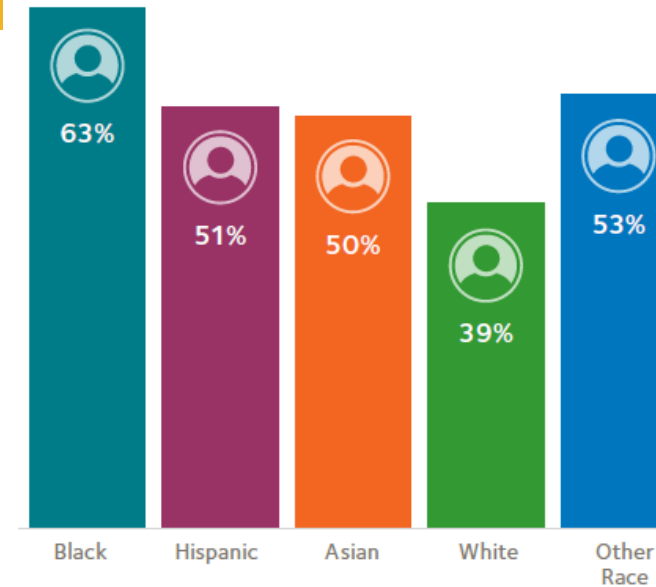
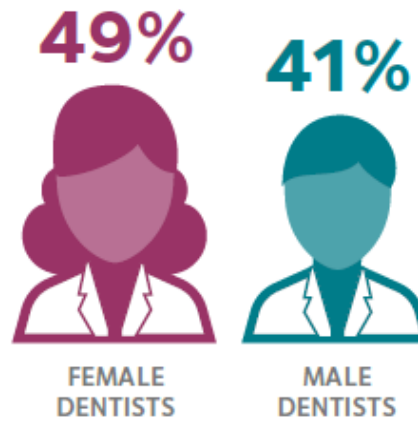
AUGUST 2020



Source: Analysis of the HPI's Office Database maintained by the American Dental Association (2019) and Inure Kids Now data (2019).
Note: CHIP is Children's Health Insurance Program. For full methodology, please contact hpi@ada.org.

For more information, visit [ADA.org/HPI](https://ada.org/HPI) or contact the Health Policy Institute at hpi@ada.org.

43%
OF U.S. DENTISTS
participate in Medicaid
or CHIP for child
dental services



Recent HPI Work

Research Brief

Dentist Participation in Medicaid: How Should It Be Measured? Does It Matter?

Authors: Marko Vujcic, Ph.D.; Kamyar Nasseh, Ph.D.; Chelsea Fosse, D.M.D., M.P.H.

The Health Policy Institute (HPI) is a thought leader and trusted source for policy knowledge on critical issues affecting the U.S. dental care system. HPI strives to generate, synthesize, and disseminate innovative research for policy makers, oral health advocates, and dental care providers.

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Key Messages

- There is considerable debate on how best to measure dentist participation in Medicaid. In a first-of-its-kind analysis, we use of newly accessible data to measure dentist participation in Medicaid according to different metrics and compare results across states.
- Our results show that different metrics give different conclusions. For example, some states have a "wide but shallow" pool of Medicaid providers, meaning many dentists are enrolled in the Medicaid program but, on average, see few patients each. Other states have "narrow and deep" pools of providers, meaning fewer dentists are enrolled providers, but each, on average, sees a high volume of patients.
- Our research does not propose a single best definition of meaningful dentist participation in Medicaid. Rather, it provides different "cuts" of provider enrollment and patient volume data in a transparent way. Further research will explore which measures matter when it comes to access to dental care.

Introduction

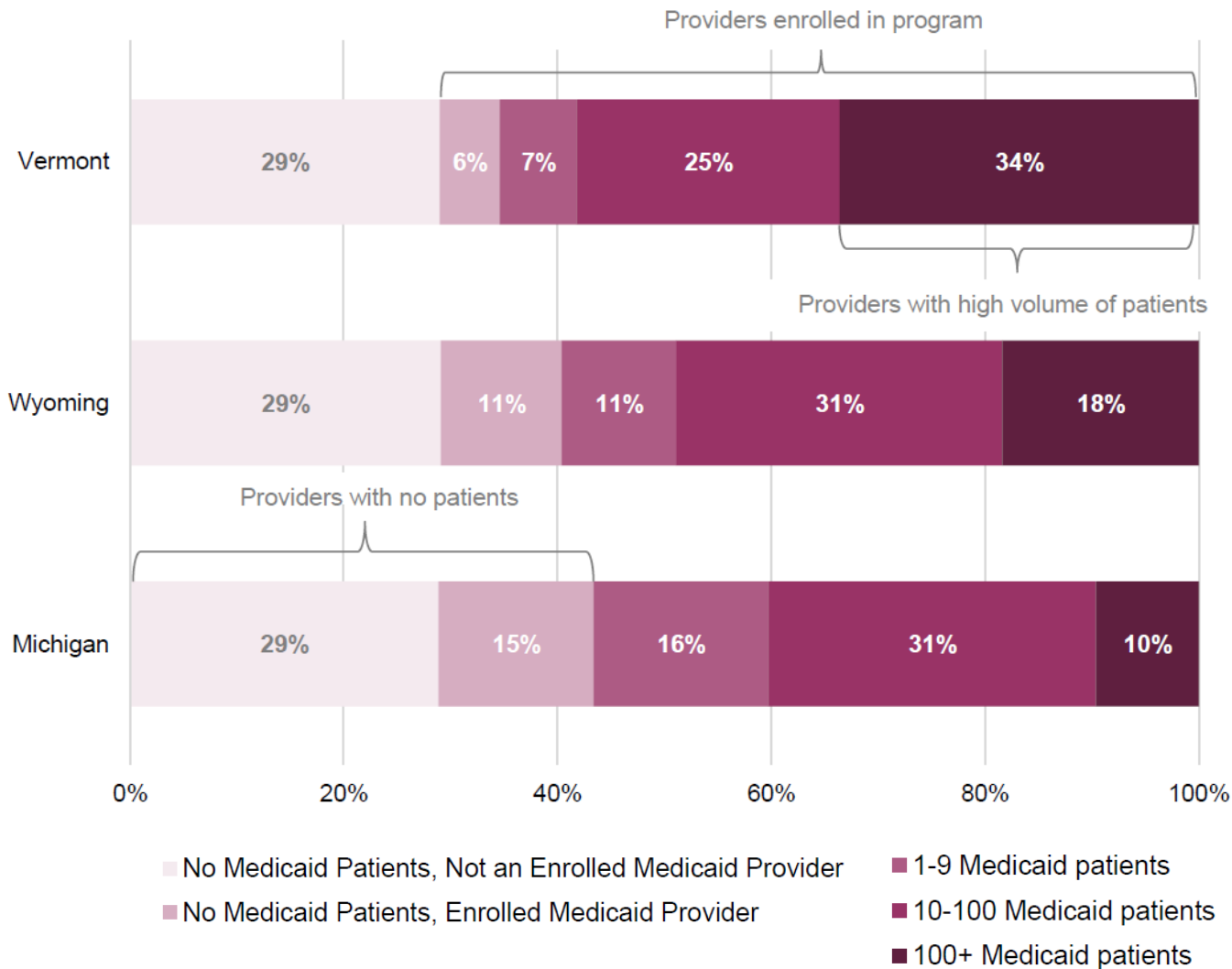
Medicaid enrollment hit record levels in 2021.¹ Dentist participation in state Medicaid programs is an important aspect of the dental care safety net meant to serve nearly 75 million covered adults and children. Research suggests there is an association between dentist participation in Medicaid and access to dental care for low-income individuals.²

Various criteria have been used to measure dentist participation in Medicaid, including provider enrollment, volume of patients, claims, and share of revenues. Each measure yields different levels and distributions of provider participation. The most meaningful way to measure dentist participation in Medicaid is still under debate.^{3,4}

Medicaid is a state-administrated health insurance program funded at the federal and state levels for low-income populations. Each state program determines its covered services,

HPI obtained Medicaid claims data from all states via TMSIS. We merge with our provider data to measure Medicaid patient volume for individual dentists.

Recent HPI Work



In VT, WY, MI, 71% of dentists were enrolled as providers in their respective Medicaid programs.

However, the level of patient volume varied drastically.

What this Paper Contributes

- We set out to measure which dentists participate most intensively as Medicaid and CHIP providers.
- We rely on detailed Medicaid and CHIP claims data. The universe. Not a sample.
- We merge claims data with individual dentist data that contains dentist demographics, practice location data, and other practice characteristics.
- We merge the community characteristics of the population in the practice area.
- Our analysis covers all states except: Arkansas, DC, Indiana, Nebraska, Nevada, Pennsylvania, South Dakota and West Virginia (due to high # of missing NPI values).

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Data

- 2017 Medicaid/CHIP claims data from T-MSIS (Numerator)
 - A depository of medical inpatient, medical outpatient, pharmacy and dental de-identified claims maintained by CMS.
 - All states required to submit annual claims to T-MSIS.
 - Contains a linkable individual provider NPI number.
 - For children ages 0-20, we extracted all dental claims with a CDT Code (D0100-D9999).
 - For each NPI number, we enumerated the number of unique patients seen in 2017.
- 2017 ADA office database (Denominator)
 - Includes linkable individual provider NPI number.
 - Maps dentists into specific office locations, and those locations are tagged as DSOs, FQHCs. Contains FIPS and ZIP codes which we link to Census data.
 - Contains dentist demographic information (Age, Race, Gender, Specialty).
- Analysis limited to GP and Pediatric dentists since these dentists more likely to treat children.

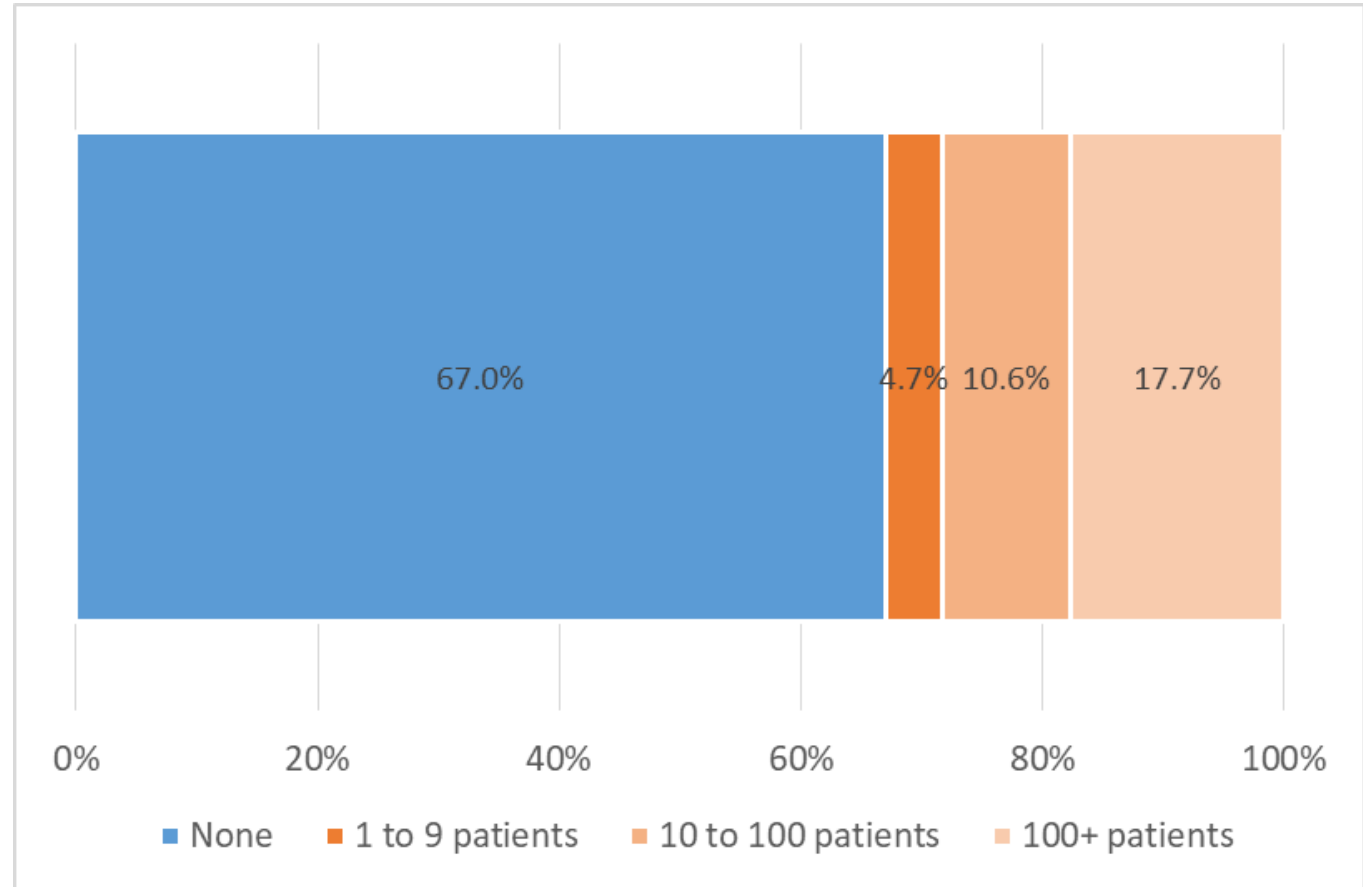
Methods

- Outcome variable: Number of unique patients a dentist sees in calendar year
- Independent Variables:
 - Individual dentist characteristics: age, gender, race/ethnicity, specialty
 - Practice characteristics: DSO status, FQHC status, practice size, urban/rural
 - Local area characteristics: Poverty rate, median household income, dentists per capita, Racial/Ethnic mix (i.e. is it a majority non-white zip code).
 - State fixed-effects to control for differences across states.
- We estimated a hurdle model
 - We are interested in modeling the expected number of Medicaid patients a dentist treats conditional on independent variables.
 - Disentangles the participation decision (Medicaid: Yes/No) and from the decision of how much to participate (How many patients to treat conditional on participating).

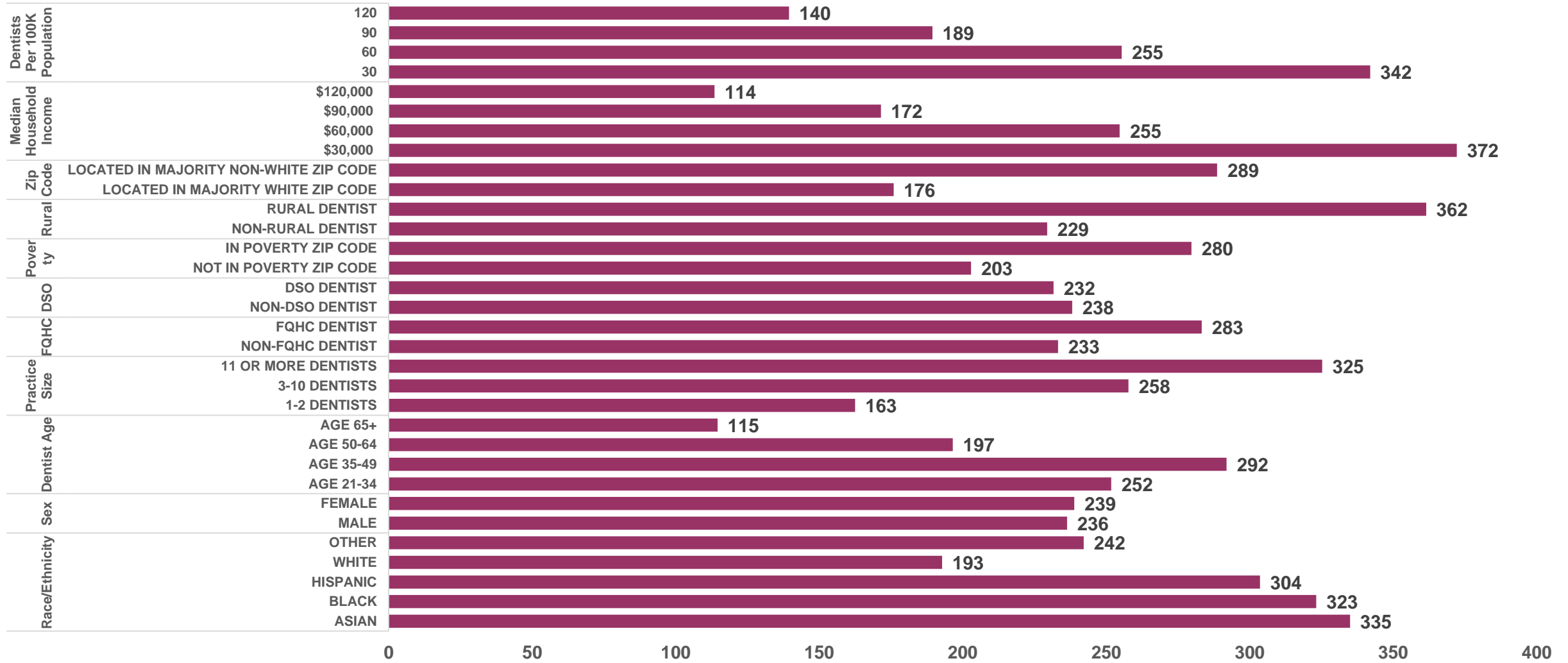
Number of Medicaid Patients

33%

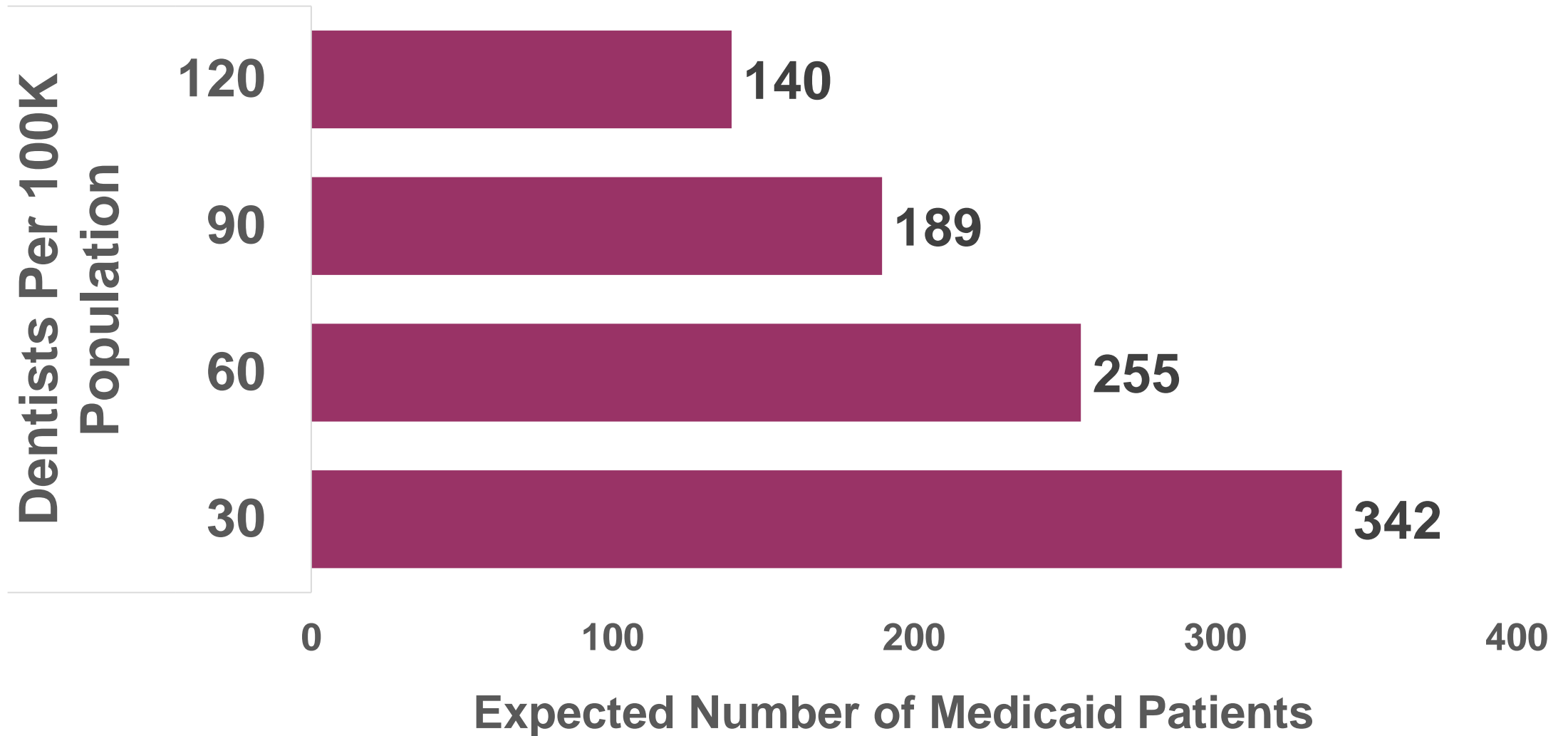
of dentists saw at least one Medicaid patient



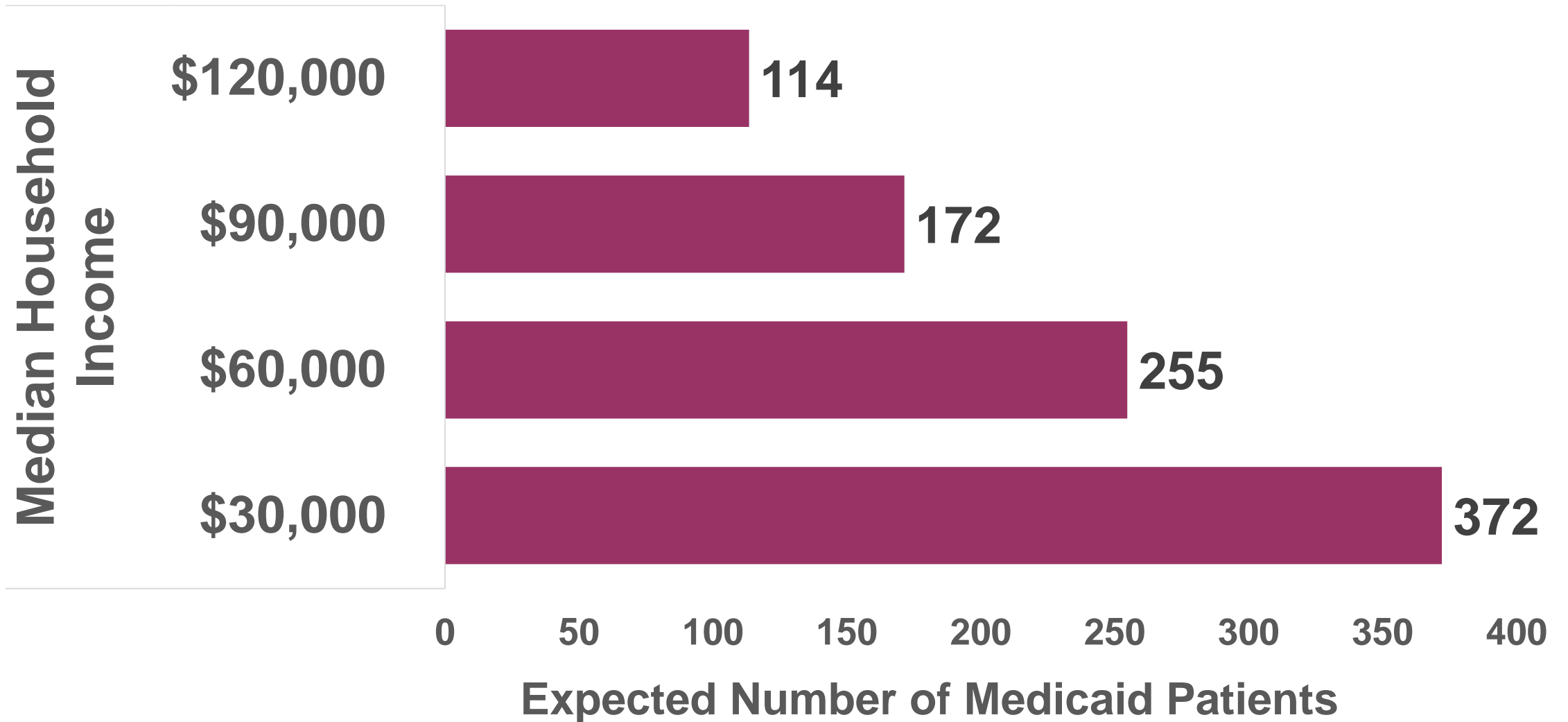
Expected Number of Medicaid Patients Treated



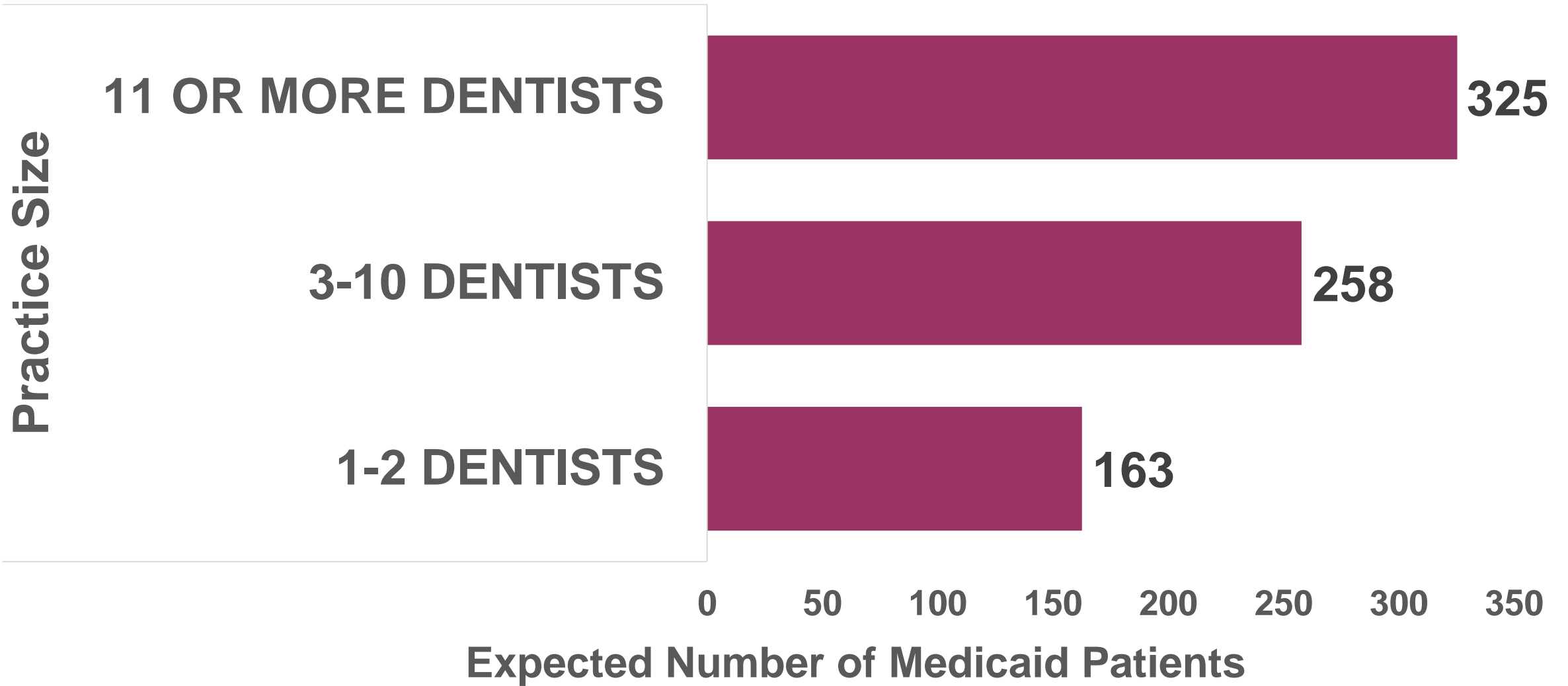
Dentist per 10K Population



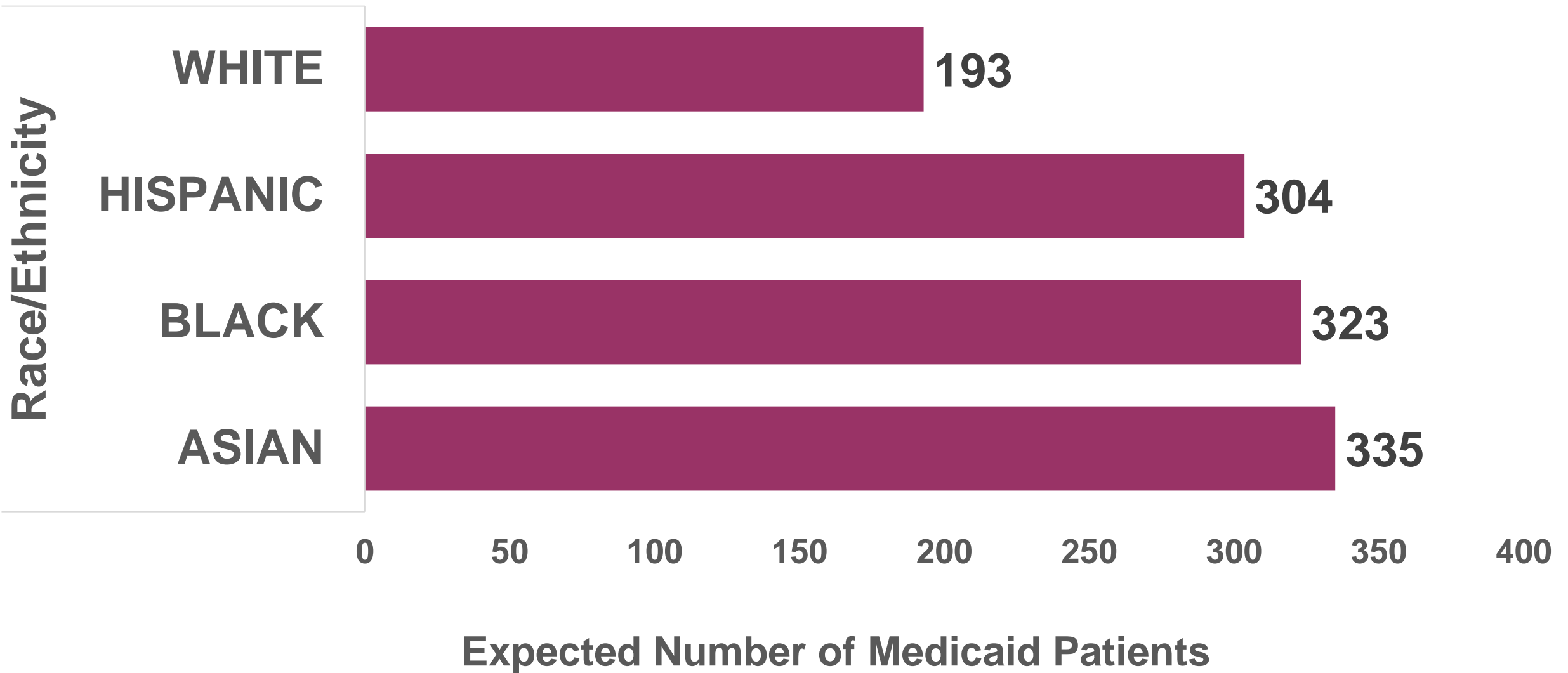
Median Household Income



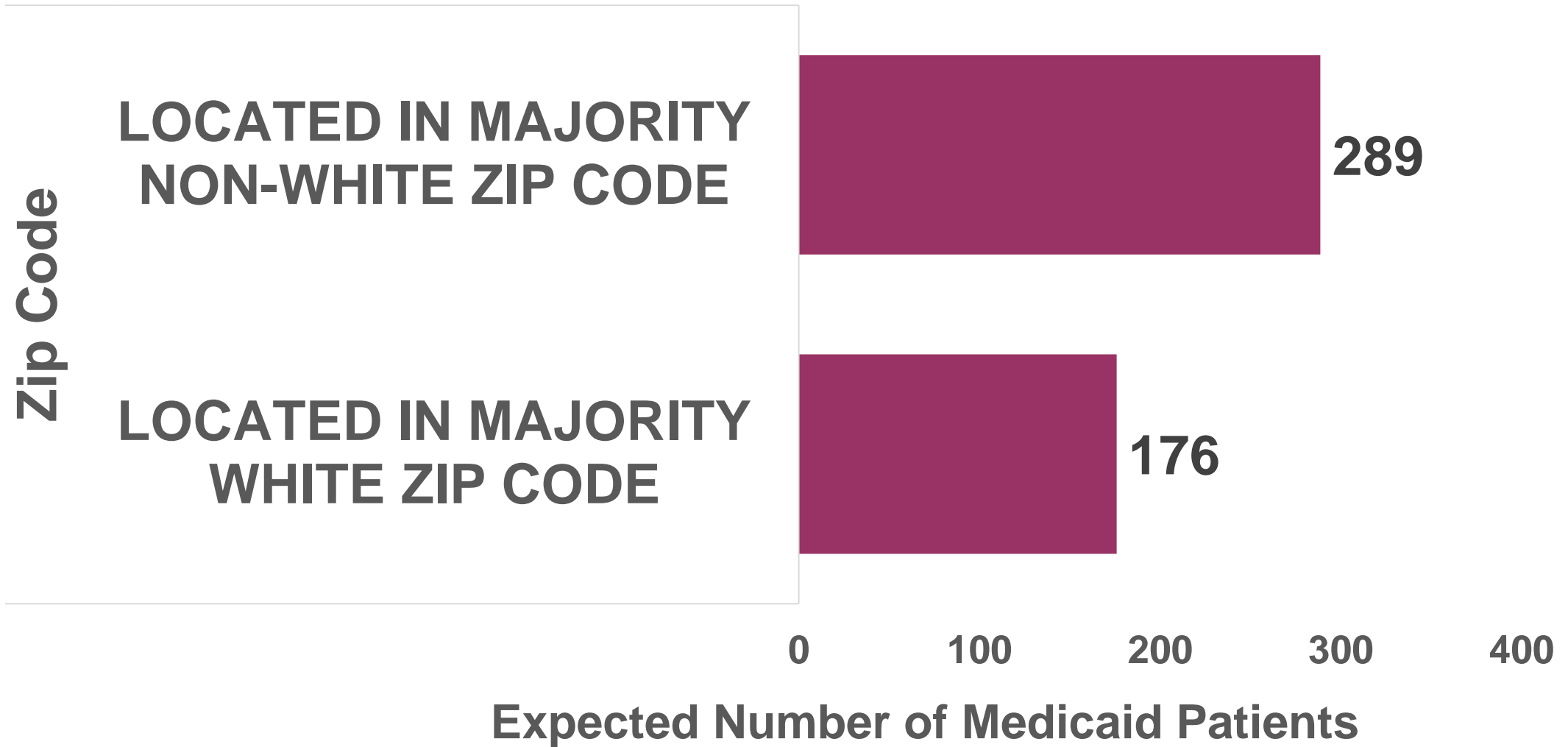
Practice Size



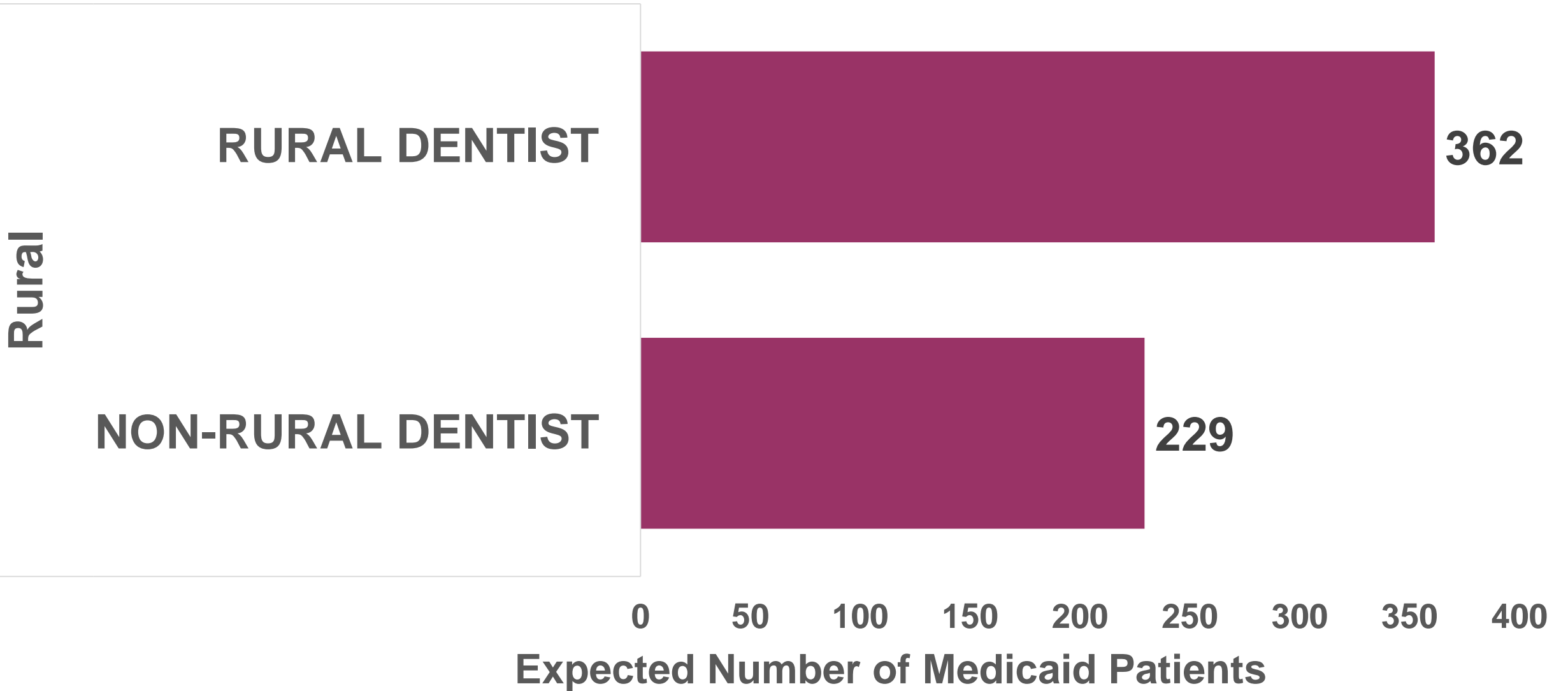
Race and Ethnicity



Local Area Race and Ethnicity

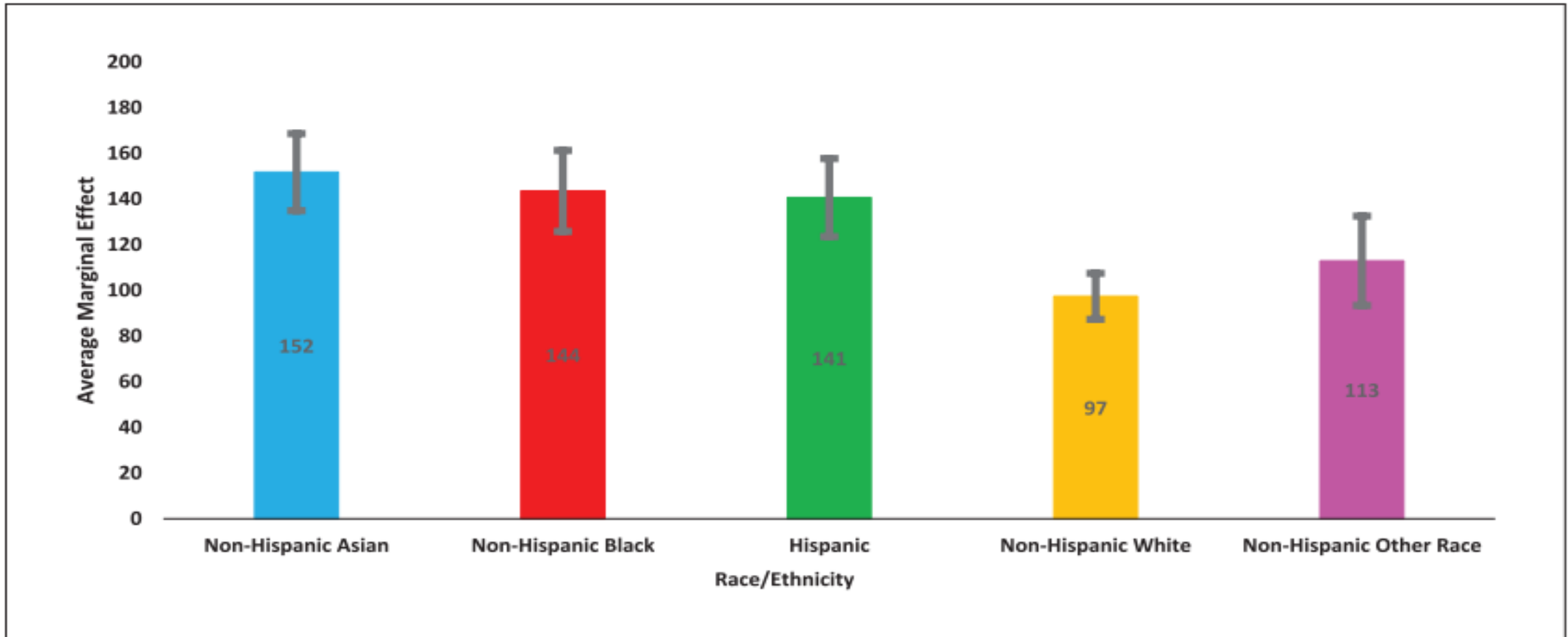


Rural-Urban



Interaction of the Community and Provider

Impact of a Dentist Locating in a Majority Non-White Zip Code by Race and Ethnicity



Key Findings

- High volume Medicaid dentists are less likely to be White, more likely to locate in a non-White, rural, or high-poverty area, work in large group practice, and be affiliated with an FQHC. This is consistent with medical care provider research.
- Racial and ethnic differences in Medicaid participation are not accounted for simply by where dentists locate. Controlling for the demographic make up of the neighborhood, White dentists are still less likely to participate in Medicaid than non-White dentists.
- Practice modality matters. Larger group practices are more likely to participate in Medicaid.
- Promoting growth within the segments of the dentist workforce that treat more Medicaid patients—dentists who are Black, Hispanic, or Asian, those that locate in rural areas—could create a more robust dental care safety net for low-income populations.

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