Quantifying Arizona’s Dental Health Workforce Shortage Using Health Professional Shortage Area (HPSA) Data

Arizona needs between 341 and 485 dentist full-time equivalent (FTE) to eliminate the current dental health care shortage.1 County Health Rankings states “untreated dental disease can lead to serious health effects including pain, infection, and tooth loss.”2 Oral health is a critical component of overall health.3 Chronic oral disease can lead to “increased risk for chronic conditions, including heart disease and diabetes, lost work/school hours and lost wages, and reduced quality of life, throughout the lifespan.”3 For all income groups, “cost is the primary reason for not visiting the dentist.”3 In addition, “inconvenient location or time” and “trouble finding a dentist” are also among the top reasons for not visiting the dentist.3

This brief summarizes the full-time equivalent (FTE) shortage for dentists by county and tribal area in Arizona. The dental health, Health Professional Shortage Areas (HPSAs) in Arizona are based on a ratio of dentists to population. The target ratio for dentists to population is 1 to 5,000 or 1 to 4,000 in high need areas. The target ratio for correctional facilities is 1 to 1,500.1

Arizona has dentist FTE shortages in all counties.

- Arizona meets just 33.67% of its dental health need.1
- The ratio of dentists to population in the U.S. is 1:1,360, in Arizona the ratio is 1:1,510.2
- Of the fifty states and the District of Columbia, Arizona ranks 34th in active dentists per population.4
- Arizona is one of the fastest growing states in population, growing 1.13% between 2010 and 2020, compared to median growth of 0.55%.5

HPSAs are “geographic areas, populations, or facilities that have a shortage of primary, dental or mental health care providers.”6 These are Health Resources and Services Administration (HRSA) designations used to describe workforce needs, identify eligible locations for National Health Service Corps, Nurse Corps, IHS Loan Repayment, and other federal programs.

<table>
<thead>
<tr>
<th>TRIBAL NATION</th>
<th>HIGHEST HPSA SCORE</th>
<th>#DENTIST FTE SHORT*</th>
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<tbody>
<tr>
<td>Colorado River Indian</td>
<td>13</td>
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<td>Hualapai</td>
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<td>Navajo Nation &amp; Hopi</td>
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<td>Pascua Yaqui</td>
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<tr>
<td>White Mountain Apache</td>
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<td>3.61</td>
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Designated Indian Health Service, Tribal Health, and Urban Indian Health Facility Dental Health HPSAs
Definitions
HPSAs are a geographic area, population, or facility with a shortage of primary care, dental, or mental health providers and services. HPSAs are based on factors illustrated below.\(^7,8\)

Dental HPSA Score Formula

\[
\text{Population-to-Provider Ratio} \quad + \quad \% \text{ Populations < FPL < 100% Federal Poverty Level} \quad + \quad \text{Water Fluoridation Status} \quad + \quad \text{Travel time to nearest source of care (NSC)} \quad = \quad \text{HPSA Score} 0-26
\]
Brief Methods

This brief uses HPSA data from the HRSA. The HPSA data files can be found here https://data.hrsa.gov/data/download and an interactive report can be found here https://data.hrsa.gov/tools/shortage-area/hpsa-find on the HPSA Find site. HRSA includes data on designated, proposed for withdrawal, and withdrawn HPSAs. HRSA includes data on designated and proposed for withdrawal HPSAs to estimate the total FTEs needed to eliminate the shortage designation. This brief includes a more conservative estimate of the shortage (341) by subtracting the FTEs in dental health HPSAs proposed for withdrawal (485). Only designated HPSAs are counted by county and tribal area. The percentage of the population living in a HPSA area was calculated by adding the population reported in each HPSA type (geographic, geographic high needs, and population) and then dividing by the total population in the county (from the U.S. Census American Community Survey, 2020). Some HPSAs span county boundaries, we assigned HPSAs to a single “majority” county based on land area that composed the majority of the land area in the HPSA.

References


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