

Dental Health Professional Shortage Area Methodology:
A Critical Review

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ACRONYM AND ABBREVIATION REFERENCE GUIDE

AADS: American Association of Dental Schools
ADA: American Dental Association
ADHA: American Dental Hygienists' Association
ASTDD: Association of State and Territorial Dental Directors
BLS: Bureau of Labor Statistics
BRFSS: Behavioral Risk Factor Surveillance System
CDC: Centers for Disease Control and Prevention
CHP: State and Area-wide Comprehensive Health Planning agencies
DHPSA: Dental Health Professional Shortage Area
DHEW: Department of Health, Education and Welfare
DMFT: Decayed, Missing, or Filled Teeth Index
DPIS: Dental Planning Information System
FTE: Full-time Equivalency
FQHC: Federally Qualified Health Center
GAO: Government Accounting Office
HMO: Health Maintenance Organization
HMSA: Health Manpower Shortage Area
HPSA: Health Professional Shortage Area
HRSA: Health Resource and Services Administration
IDU: Index of Dental Underservice
IMU: Index of Medical Underservice
IMR: Infant Mortality Rate
MUA/MUP: Medically Underserved Areas/ Medically Underserved Populations
NHANES: National Health and Nutrition Examination Study
NHIS: National Health Interview Survey
NHSC: National Health Service Corps
NOHSS: National Oral Health Surveillance System
OSHPD: Office of Statewide Health Planning and Development
SES: Socioeconomic Status
WHO: World Health Organization
YRFSS: Youth Risk Factor Surveillance System

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EXECUTIVE SUMMARY

In September 2001, California Assembly Bill 668 was enacted. This law requires the Office of Statewide Health Planning and Development (OSHPD) to report to the legislature the feasibility of establishing a California dental loan forgiveness program. While it references the same basic guidelines as those governing the National Health Service Corps Loan Repayment Program, this bill opens a policy window for designation to be made based on criteria other than the Dental Health Professional Shortage Area (DHPSA) criteria that are the federal standard for identification of workforce shortages.

Similarly, California Assembly Bill 982 has proposed the establishment of a California dental loan repayment program expressly targeted at improving access in “Dentally Underserved Areas.” This bill, which is still being amended, has also allowed for area designation to be made using *either* federal criteria *or new criteria* designed to identify “an area of the state where the unmet priority needs for dentists exist as determined by the Health Manpower Policy Commission pursuant to Section 128224 of the Health and Safety Code.”

At the national level, Senate bill S.1626, a bill “to provide disadvantaged children with access to dental services” which is currently being discussed in the Senate Finance committee, includes a mandate to review the current DHPSA designation standard. The bill calls for federal consultation with state and local dental authorities around the need to “streamline the process to develop, publish and periodically update criteria to be used in designating dental health professional shortage areas.” These calls for new methodologies to identify dentally underserved areas are an acknowledgement of the growing concern that DHPSA designation criteria are outdated and ineffective.

This report explores the history of Dental Health Professional Shortage Areas, critiques the current designation criteria, and provides recommendations for the next steps in revising these criteria. DHPSA designation is currently a prerequisite for participation in a variety of state and federal programs designed to increase access to services, in particular the National Health Service Corps.

Current DHPSA criteria were formulated almost in their entirety in the years 1965-1980, in response to Congressional imperatives to allocate public dentistry funds equitably and rationally. During those fifteen years, the definition of shortage moved from being based on

simple availability of dentists – which focused funding primarily in rural areas – to a definition based on underservice and unmet clinical need. This newer understanding focused attention on urban areas with access issues beyond physical proximity to a dentist.

The current DHPSA methodology makes use of corrected population-to-provider ratios embedded in a definition of shortage intended to be sensitive to the variation in clinical needs of different populations. However, because the current criteria are based on older methods originally formulated to address simple availability of personnel, not access issues more broadly defined, it has been argued that DHPSA designations are ill-suited to their task. An examination of the shortage literature makes it clear that current DHPSA criteria do not meet Congressional requirements to “go beyond ratio’s alone” due to their over-dependence on the population-to-provider ratio and resultant inattention to indicators of need.

The data required for the population-to-provider ratio are more readily available than for other indicators, and it is for this reason that it has continued to be used as the DHPSA criteria’s principle metric for 30 years. In establishing new criteria, the difficulty will be to define a methodology that is simple, feasible, accurate *and* consistent with the public health goal to designate underserved populations. This is a daunting task. Evaluating need in a large population is an expensive endeavor complicated by imperfections in the dental market. The American Dental Association and others collect survey data on dental service utilization and production at the national level, but there is little utilization or supply data available at the local level required to inform the federal designation process.

As a result of these and other difficulties, there are currently no readily available statistics on disease prevalence, utilization, or productivity. The dual policy goal of generating meaningful designations while at the same time simplifying the designation process will necessitate a compromise between accuracy and feasibility given the current lack of infrastructure to collect requisite data.

This report therefore examines the literature on personnel planning with an eye toward developing new shortage criteria. These criteria should ideally be feasible for local administrators to implement *and* consistent with the public health goal to designate underserved populations based on unmet clinical need.

RECOMMENDATIONS

These recommendations are distilled from the opinions and professional feedback of a broad based advisory group that included members of the practice community, academia, facility administrators, professional organizations, policy analysts, and state, federal and local shortage designation authorities. Information was gathered primarily through a one-day guided discussion with stakeholders, but members of the advisory group also participated via phone interviews and written responses.

Recommendation 1: Increase the responsibility of State/Federal agencies and decrease the burden on local communities

HRSA's commitment to "0 percent disparities and 100 percent access" implies a state and federal responsibility for both the data collection and data analysis of shortage designation criteria. If the state is invested in improving oral health, it cannot make rational policy decisions without a clear, current, and comprehensive understanding of the needs of local populations.

When shortage area legislation and programs were first developed, there were state agencies that administered these programs. These no longer exist, leaving the full burden of data collection on local communities. Counting the number of local and contiguous dentists is very labor-intensive, and communities needing the designation rarely have the extra staff needed to develop the proposals.

For both of these reasons – implied federal responsibility and the logistical barriers posed by the current application system– the advisory group recommends that a new methodology be developed in which federal or state authorities proactively determine eligibility and assign designations.

Recommendation 2: Construct an Index of Dental Underservice (IDU) as a new measure for determining shortage designations

The current methodology does not adequately incorporate indicators of need so as to target dentally underserved areas. The advisory group therefore recommended the development of an **Index of Dental Underservice (IDU)**. This index would be a summary statistic made up

of weighted indicators of need, demand, and supply; similar to the current proposal by HRSA for designation of primary care HPSA's. These indicators would have to be nationally available and specific to evaluating the dental market. Some suggestions for proxies included:

- Income, education level, minority presence, number of emergency procedures, and age distribution as indicators of need and demand
- Number of dentists, hygienists and other auxiliaries serving underserved populations and procedures per hour as proxies for supply

It was also noted that it would be useful for this index to be capable of distinguishing/ weighting the characteristics of the preventive and restorative markets, in part based on workforce characteristics and emergency room data.

Recommendation 3: Using state licensure and renewal mechanisms, develop requisite data collection methods and tools to measure the supply, distribution, composition, and practice characteristics of the professions themselves.

Comprehensive provider data is not available at the local level although provider information is helpful in all areas of health planning, from education to practice to financing. Regardless of what final methodology is chosen, some measure of provider supply and distribution will be necessary. It is recommended that each state actively create the infrastructure to collect data on the supply, distribution, composition and practice characteristics of the dental professions. This could be done with minimal financial investment by requiring dental professionals to document practice characteristics when applying for licensure.

Recommendation 4: Include an alternative designation process for hard to measure areas/populations not designated with reference to the Index of Dental Underservice

Even a well-constructed indicator would be unable to identify small underserved populations living in otherwise adequately served areas. Special needs populations such as the elderly, the developmentally disabled, and the mentally ill should therefore be targeted using a separate population-specific designation process.

Recommendation 5: Allow presumptive DHPSA eligibility for providers documented to serve underserved populations.

Safety net institutions, even those serving in a rational service area that is otherwise adequately served, should be given a “presumptive” or automatic DHPSA designation if they can document a realized commitment to serving underserved populations. In this manner, FQHC’s, Community Health Clinics, and other institutions whose mission it is to serve the underserved would avoid the administrative difficulties of obtaining a geographic designation. This designation process should also include some mechanism for setting priorities among providers/facilities based on criticality of intervention, similar to current NHSC criteria.

Recommendation 6: Develop Rational Service Areas Specific to the Dental Market

There are already some states that have developed rational service areas specific to the provision of oral health care. Others rely on county divisions or rational service areas defined for medical services as the de-facto guidelines for dental service provision. Rational service areas should be preserved as they allow for the automation of the designation process and are a good starting point for allocating resources. However, rational service areas should be specific to the provision of dental services. New methods for designing these areas should be explored to improve the accuracy of the methodology and provide standardized results.