Variation in Dental Hygiene Scope of Practice: Why It Matters

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June 6, 2024

Health Workforce Technical Assistance Center
Schuyler Center for Analysis and Advocacy

OHWRC
Oral Health Workforce Research Center

Oral Health Workforce Research Center (OHWRC)

- A cooperative agreement between the Center for Health Workforce Studies (CHWS) and the Health Research and Services Administration (HRSA)
- Established in 2014 as a partnership between CHWS and the University of California, San Francisco
- Supports workforce research aimed at expanding access to oral health services for vulnerable populations
  - An available, competent, and well distributed workforce is required to meet unmet need for oral health services
  - The work of the OHWRC is designed to inform workforce planning for the delivery of oral health services

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Health Workforce Technical Assistance Center (HWTAC)

- A cooperative agreement established in 2013 between CHWS and HRSA
- Mission: To support health workforce planning through technical assistance that informs strategies for health workforce data collection, analysis, and dissemination
- Resources include:
  - Research Alert System (featuring the latest HWRC research)
  - Research Library (containing 425 reports and articles)
  - Video Library (containing 100 webinars and videos)
  - State Health Workforce Data Collection Inventory (including information on US health workforce data collection activities and examples of survey instruments)
- Visit us at healthworkforceTA.org

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Schuyler Center For Analysis and Advocacy

- Statewide, nonprofit, policy analysis and advocacy organization working to shape policies to improve health, welfare and human services for all New Yorkers, especially children and families experiencing poverty and impacted by inequity.

- *Future Oral Health Workforce: Oral Health Equity Through Workforce Design*
  - Explore topics with broad audiences
  - Learn from those experiencing unmet oral health needs
  - Organize & synthesize ideas
  - Report by the end of the year with recommendations

- More information: scaany.org or sign up for emails: oralhealth@scaany.org

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Poor Oral Health is a Public Health Problem

- Surgeon General Report Oral Health In America (2000, 2021)
- Identified dental caries as the most common chronic disease of childhood
- Links between oral and physical health – diabetes and periodontal disease, poor maternal oral health and pre-term birth
- Substantial unmet need for oral health services
  - Siloed delivery system and separate payment mechanisms
  - Impact of social determinants of health
  - Uneven access to dental services
  - Many state Medicaid programs do not cover adult dental
  - Many dentists do not participate in Medicaid programs

The Changing Oral Health Landscape: Growing Attention to Value Based Care

- Focus on prevention and early interventions
- Increasing emphasis on improving oral health literacy
- Growing importance of risk assessment to triage patients
- Use of technology such as teledentistry to improve access to care
- Integration of oral health with primary care and behavioral health

Workforce Impacts

- Team based care
- New workforce models
  - Dental therapists
  - Community dental health coordinator
- Engagement of medical professionals
  - Training the primary care health workforce to screen, refer, apply fluoride, especially for children
  - Interprofessional education for oral health screening, e.g., 'Smiles for Life'
- Expanding roles for existing workforce
  - Expanded function dental assistants
  - Public health dental hygienists, independent practice dental hygienists, collaborative practice dental hygienists

What is Scope of Practice?

- Professional scope of practice, i.e. professional competence, describes the services that a health professional is trained and competent to perform
- Legal scope of practice, based on state-specific practice acts, defines what services a health professional is allowed to provide under what conditions in a given state
- Legal scope of practice and professional competence overlap, but amount of overlap varies by state and by profession

2001 Dental Hygiene Professional Practice Index

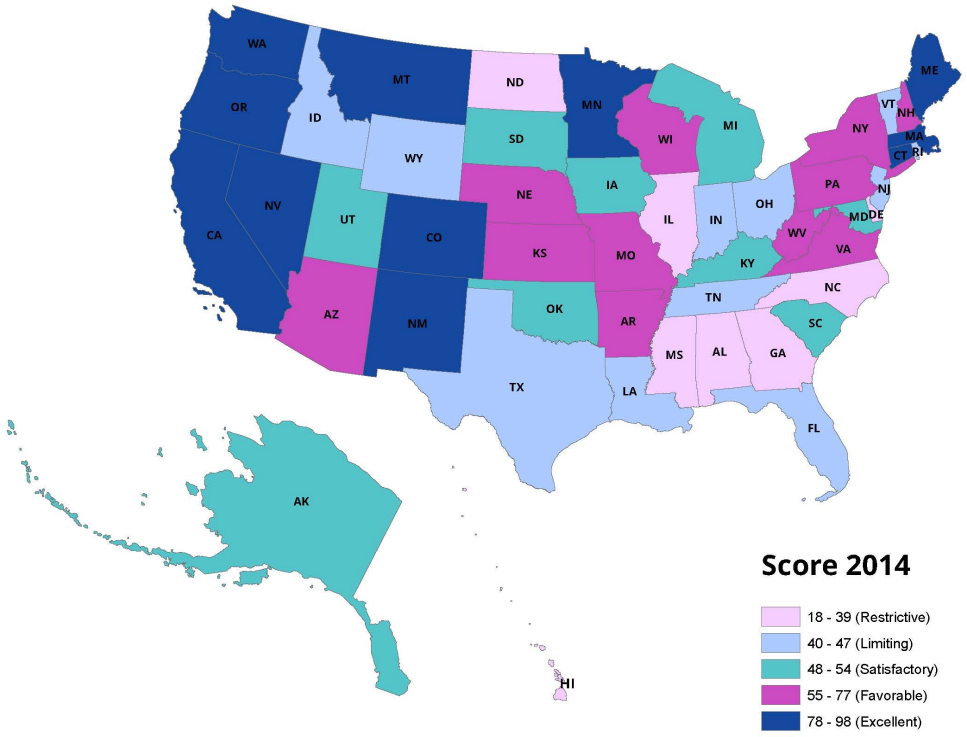
- Dental hygiene scope of practice (SOP) varies considerably
  - Permitted tasks and required supervision differ by state and these differences impact service delivery
- In 2001, the Dental Hygiene Professional Practice Index (DHPPI) was developed
  - Assembled an advisory board of national experts
  - Conducted focus groups and interviews with over 100 dental hygienists
  - Completed an exhaustive examination of statutes and regulations in each state
- The scoring instrument contained 69 variables grouped into 4 categories:
  - Regulation, supervision, tasks, and reimbursement
- Each variable was scored based on its impact on community-based practice
  - Maximum possible score of 100, minimum score of 0
- This instrument was used to score state-level DH SOP in 2001 and 2014

DHPPI Scores
2001 and 2014

2001 scores: 10 in West Virginia, 97 in Colorado

2014 scores: 18 in Alabama, Mississippi, 98 in Maine

Mean score on the DHPPI 43.5 (2001)↑ 57.6 (2014)



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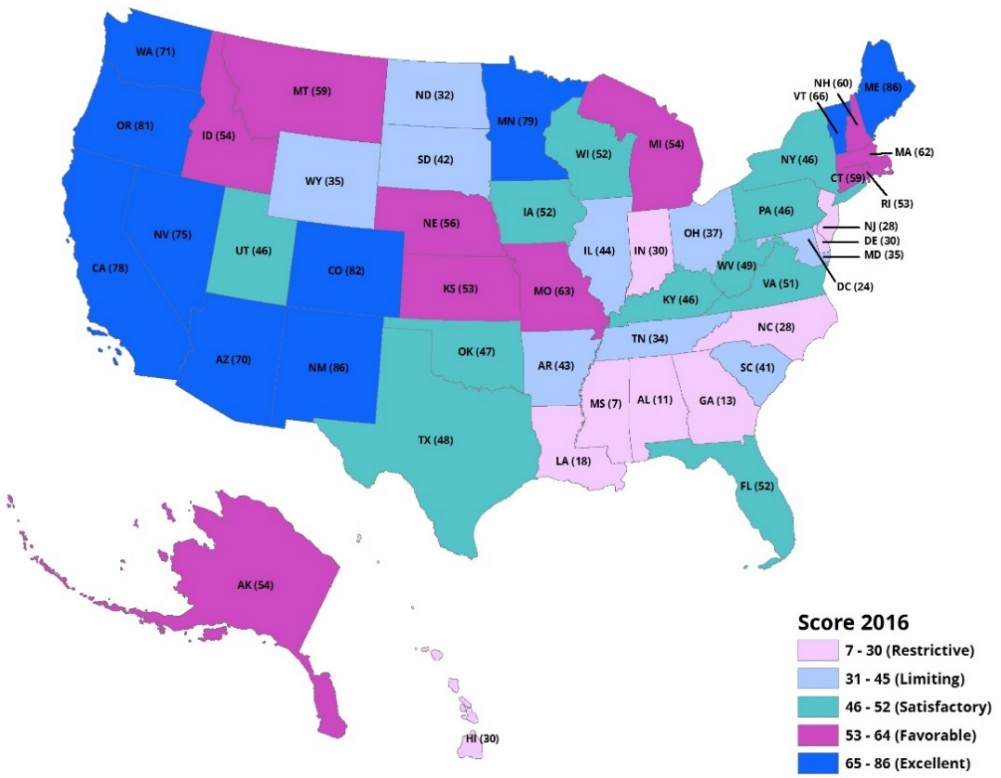
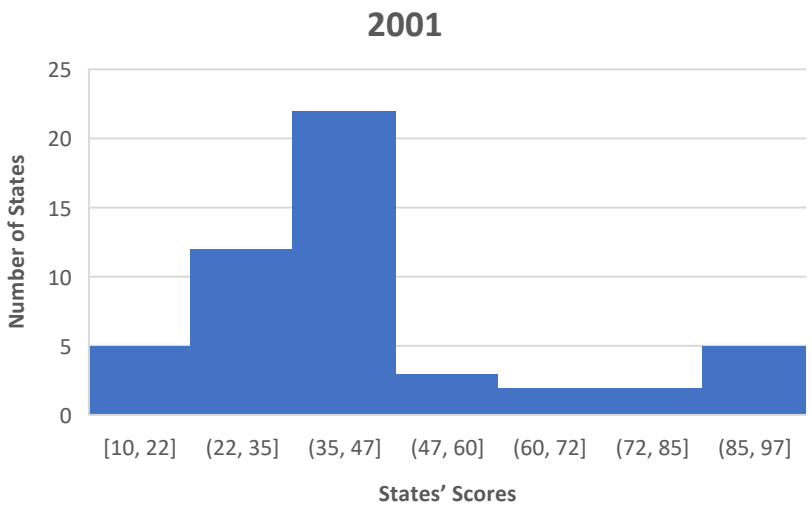
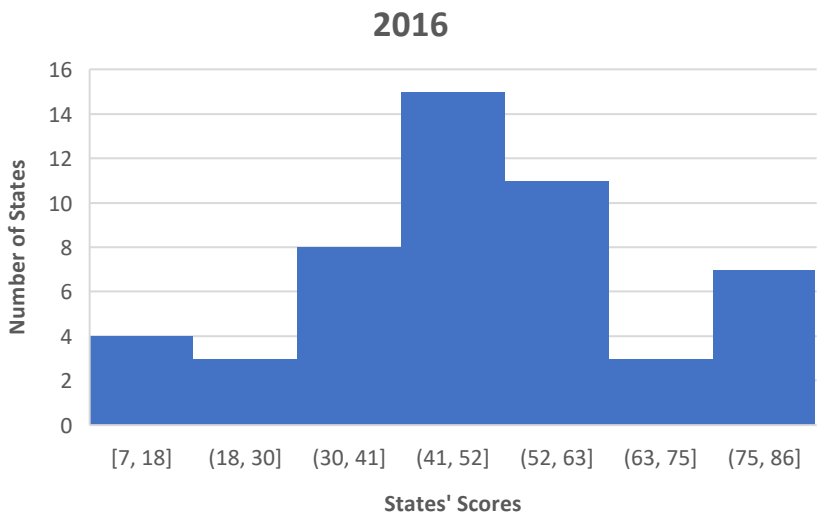
Update of the DHPPI in 2016

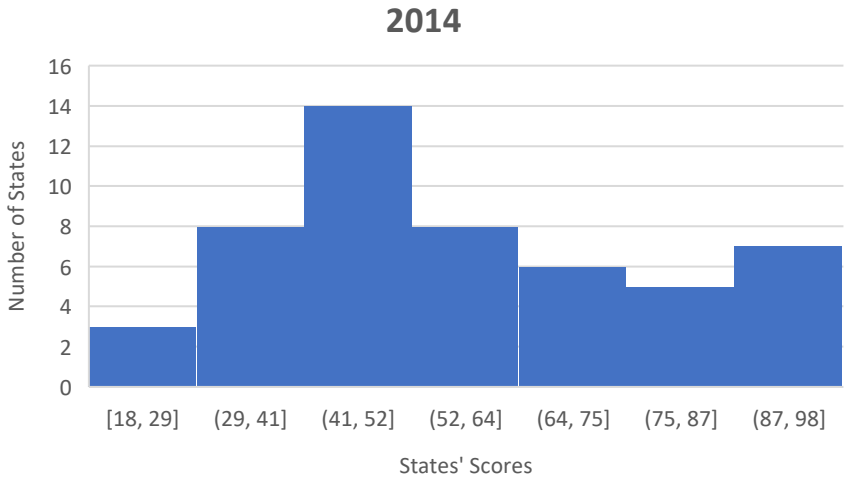
- Dental hygiene roles and responsibilities are changing
  - More autonomy
  - New technologies
  - New settings for care delivery
  - Point of entry - case finding
  - Serve as case managers/patient navigators
- Design process for the revised DHPPI included focus groups with dental hygienists
  - Some variables were retained or modified
  - Fewer variables overall
  - New variables e.g., dental hygiene therapy, use of lasers, and basic restorative tasks
- Range of scores was 7 in Mississippi to 86 in Maine



Changing Scope of Practice for Dental Hygienists in 2001, 2014, and 2016







- High-scoring states in 2014 were also high-scoring on the new index (eg, ME, CO, CA, WA, NM were each classified as excellent environments at each scoring)
- Some states were innovators in expanding practice opportunities for dental hygienists (eg, MN with advanced dental therapy, VT recently enabled dental therapy; the model requires professionals to also be dental hygienists)
- Other states used a slower, more incremental approach to increasing scope of practice (eg, IA classified as satisfactory at each scoring)
- Some low-scoring states were consistently low-scoring (eg, GA, MS, NC classified as restrictive at each scoring)

Does Variation in DH SOP Matter?

- *Research question*: Do more expansive DH SOPs, which allow more autonomy in providing preventive services, especially in community based settings, impact oral health outcomes?
- In 2001, 2014 and 2016, we used multilevel logistic modeling with the DHPPI, federal data sources for state-level information and BRFSS data for individual-level information, controlling for state and individual level factors

2014 Data: Individual Level

Individual-level variables (Source: BRFSS 2014):

- Race/Ethnicity (White NH & Asian NH vs All Others)
- Age (Age 45 and up vs Younger)
- Gender (Male vs Female)
- Income ($50,000 or higher vs Less than $50,000)
- Education (Bachelor's degree or higher vs Less than Bachelor's)
- Marital status (Married/cohabitating vs Not married/cohabitating)
- Last visit to a dentist or dental clinic (Last visit less than 12 months ago vs Further back in time)
- Number of permanent teeth removed due to decay or disease (No teeth removed due to decay or disease vs Some teeth removed due to decay or disease; binary dependent variable)

Data: State Level

State-level variables

- Number of dentists per 100,000 population (5 year American Community Survey by state of employment)
- Number of dental hygienists per 100,000 population (5 year American Community Survey by state of employment)
- Percent of state population with access to fluoridated water (Centers for Disease Control)
- Per capita income (US Department of Commerce/Bureau of Economic Analysis)
- Percent of the population living in an urban area (US Census)
- Dental Hygiene Professional Practice Index (DHPPI) 2014

Results

- 2014 DHPPI scores exerted a positive and significant impact on adult oral health
- More expansive SOP for DHs in states was positively and significantly associated ($p<0.05$) with having no teeth removed due to decay or disease among individuals in those states
- A 10-point increase in the 2014 DHPPI score results in a 3.5% relative increase in the percentage of adults with no teeth removed due to decay or disease

Langelier M, Continelli T, Moore J, Baker B, Surdu S. Expanded scopes of practice for dental hygienists associated with improved oral health outcomes for adults. Health Affairs. 2016; 35(12); doi: 10.1377/hlthaff.2016.0807.

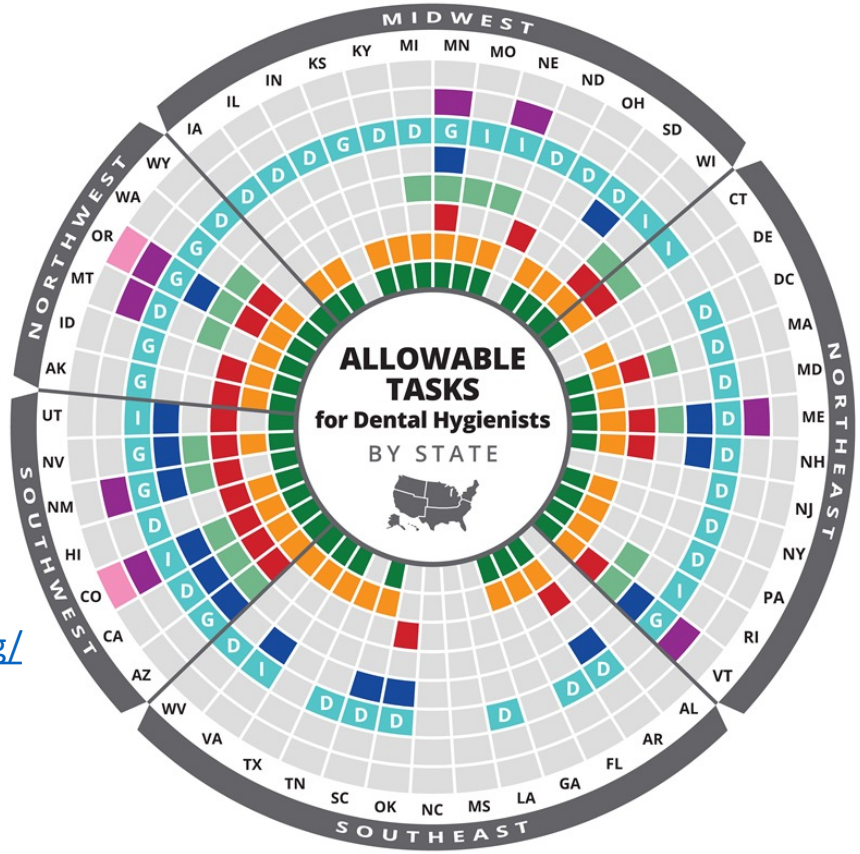
Developing a Dental Hygiene SOP Infographic: Why and How

- Broader SOPs for DHs associated with better state level oral health outcomes
- Substantial variation in DH SOP across states, but no tools to help policy makers understand these differences
- Collaborated with ADHA for a series of focus groups with dental hygiene leaders to identify the key DH functions and tasks to include in the infographic
- Determined a limited number of key variables to be displayed on the graphic
- Reviewed statutes and regulations in each state to accurately capture current legal conditions for practice
  - Updated infographic in 2018 and 2019

DH Tasks and Functions Included in the Infographic

- Dental hygiene diagnosis
- Prescriptive authority
- Level of supervision for administering local anesthesia
- Supervision of dental assistants
- Direct Medicaid reimbursement
- Dental hygiene treatment planning
- Provision of sealants without prior examination
- Direct access to prophylaxis from a dental hygienist

Variation in Dental Hygiene Scope of Practice by State



The purpose of this graphic is to help planners, policymakers, and others understand differences in legal scope of practice across states, particularly in public health settings.

Research has shown that a broader scope of practice for dental hygienists is positively and significantly associated with improved oral health outcomes in a state's population.[1,2]

- Dental Hygiene Diagnosis
- Prescriptive Authority
- Local Anesthesia
  - D Direct
  - I Indirect
  - G General
- Supervision of Dental Assistants
- Direct Medicaid Reimbursement
- Dental Hygiene Treatment Planning
- Provision of Sealants
- Direct Access to Prophylaxis
- Not Allowed / No Law

https://oralhealthworkforce.org/resources/variation-in-dental-hygiene-scope-of-practice-by-state/

Sources: 1. Langelier M, Baker B, Continelli T. *Development of a New Dental Hygiene Professional Practice Index by State, 2016.* Rensselaer, NY: Oral Health Workforce Research Center, Center for Health Workforce Studies, School of Public Health, SUNY Albany; November 2016. 2. Langelier M, Continelli T, Moore J, Baker B, Surdu S. Expanded Scopes of Practice for Dental Hygienists Associated With Improved Oral Health Outcomes for Adults. *Health Affairs.* 2016;35(12):2207-2215.

http://www.oralhealthworkforce.org/wp-content/uploads/2017/03/OHWRC_Dental_Hygiene_Scope_of_Practice_2016.pdf

This work was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS), under the Health Workforce Research Center Cooperative Agreement Program (U81HP27843). The content and conclusions presented herein are those of the authors and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

This graphic describes the highest level of practice available to a dental hygienist in a state, including dental hygiene therapy. The graphic is for informational purposes only and scope of practice is subject to change. Contact the applicable dental board or your attorney for specific legal advice.

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Last Updated January 2019.

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Conclusions and Next Steps

- DH SOP is an important consideration when designing workforce strategies to increase access to and utilization of preventive oral health services
- DHs with broad SOPs can more effectively serve high need populations in community-based settings and achieve better outcomes
- DH SOP infographic is a work in progress, i.e., requires routine monitoring as states modify DH practice requirements
  - Update DHPPI
  - Plans to monitor its use and impacts on DH SOP state policy

Acknowledgements

- OHWRC is supported by the Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (HHS) as part of an award totaling $449,943 with 0% financed with nongovernmental sources. The content of this presentation are those of the authors and do not necessarily represent the official views of, nor an endorsement, by, HRSA, HHS, or the US government. For more information, please visit HRSA.gov
- Research team included: Margaret Langelier, Paul Wing, Tracey Continelli, Simona Surdu, Bridget Baker

Questions?

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