

Understanding Variation in Dental Hygiene Scope of Practice: Why It Matters

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OHWRC
Oral Health Workforce Research Center

The OHWRC at CHWS

- The **Center for Health Workforce Studies (CHWS)** has more than 20 years' experience studying all aspects of the health workforce:
 - Established in 1996
 - A research center of the University at Albany School of Public Health
 - Committed to collecting and analyzing data to understand workforce dynamics and trends
 - Goal to inform public policies, the health and education sectors, and the public
 - Broad array of funders in support of health workforce research

- This study was funded under a three year cooperative agreement with the US Health Resources and Services Administration (HRSA)

Today's Presentation

- Changing landscape in U.S. health care and workforce impacts
- Issues with health professional scope of practice
- Changes in oral health care including impacts on
 - services
 - settings
 - workforce models
- Dental hygiene scope of practice and its impact on oral health outcomes
- Infographic on dental hygiene scope of practice

Acknowledgements

- Co-authors of this work included Tracey Continelli, PhD, Simona Surdu, MD, PhD, Bridget Baker, MA, and Rachel Carter
- The ADHA, which helped to organize dental hygiene focus groups to inform this work
 - In 2015, focus groups participants informed the development of the 2016 dental hygiene professional practice index
 - In 2016, focus group participants informed the development of the scope of practice infographic

The Changing Landscape in Health Care

New goals for the health service delivery system

- To increase access to basic health and oral health services
- To provide high quality, cost-effective care
- To improve population health

What is Changing in Health Care?

- Shift in focus away from acute care to primary and preventive care
- Service integration: primary care, behavioral health and oral health
- More team based service delivery
- Better coordination of care
- Payment reform, moving away from fee-for service and toward value based payment
 - incentives for keeping people healthy and penalties for poor outcomes, e.g., inappropriate hospital readmissions

What Are the Workforce Problems We Face?

- Workforce maldistribution, particularly in underserved areas and high need populations
- Many health professionals not prepared for current practice realities
- Some health professionals aren't allowed to do what they are trained and competent to do
- Workforce innovations are challenging to

Examples of Workforce Innovations

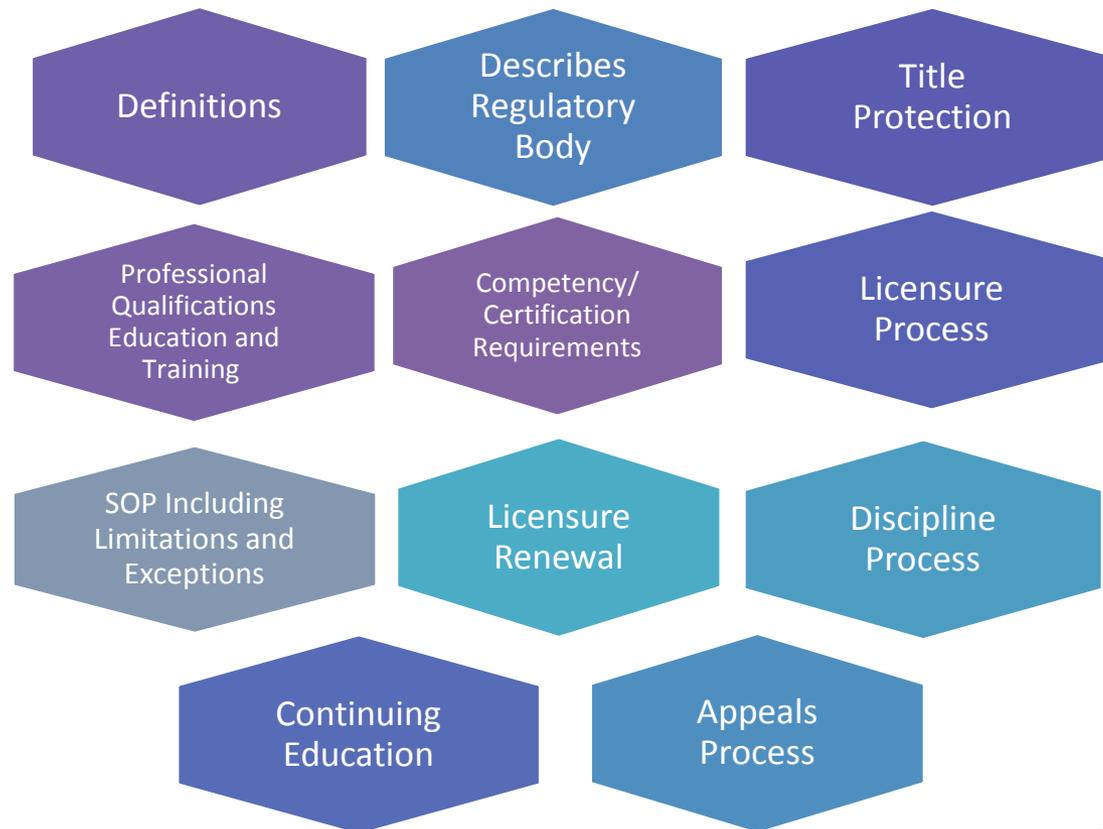
- New categories of workers
 - Care coordinators
 - Dental therapists/advanced practice dental hygienists
- Expanding roles for existing workers
 - Community paramedics
 - Pharmacists
 - Dental hygienists

Barriers and Facilitators of Health Workforce Innovation

- Financial
- Organizational
- Cultural
- Educational
- Regulatory

In the U.S., States Are Primarily Responsible for Regulating Health Professions

State Regulations



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 can and cannot 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

Issues With State Based Health Professions Regulation

- Mismatches between professional competence and state-specific legal scopes of practice
- Lack of uniformity in legal scopes of practice across states for some health professions
- The process for changing state-specific scope of practice is slow and adversarial

State to State SOP Variation: Nurse Practitioners



View the interactive version online:
www.bartonassociates.com/np-laws

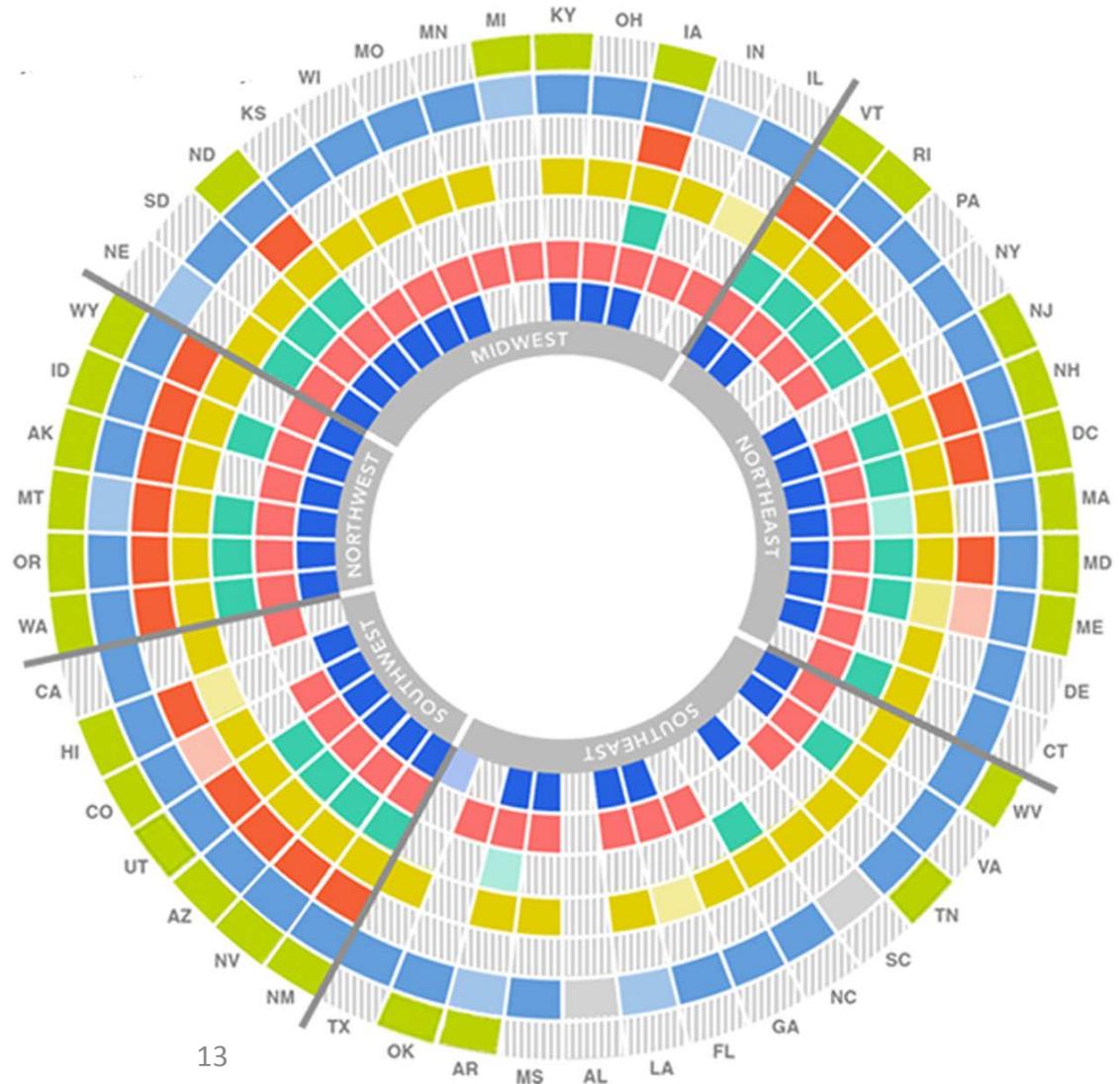
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DISCLAIMER

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RESOURCES

AANP - www.aanp.org
 The 2012 Pearson Report - www.webnponline.com
 The Nurse Practitioner's 24th Annual Legislative Update - www.tnpj.com



States Are Adopting Their Own Strategies to Expand Access to Health Services

- + Designed to address local needs and can account for factors unique to that state
- Continues to contribute to state-to-state variation in scope of practice, training, qualifications for similar titles
- As states learn from each other, there will be more consistency in state regulations for emerging professions over time

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

- Increasing emphasis on improving **oral health literacy**
- Focus on **prevention and early intervention** in disease process
 - New materials – glass ionomer sealants, silver diamine fluoride
- Recognition of importance of **risk assessment** to triage patients to most appropriate level of care.
 - To foster better use of existing capacity
 - To accommodate uneven distribution of professionals
- Interest in the use of capable technology to improve access and navigate patients to appropriate providers through applications of **teledentistry**
- **Integration** of oral health services in primary care settings

More Changes....

- Movement to use of diagnostic codes to enable monitoring of quality and research activities
- Proliferation of electronic dental records and efforts to integrate the health record
- Consolidation into large group practices to increase efficiencies
- Emergence of team based models of care delivery
- Initiatives to move oral health workforce into the wider community
 - Mobile and portable dentistry in schools, long-term care, etc.
- Strategies for reducing oral disease burden is shifting from an emphasis on treatment of disease to a focus on prevention and management
- This requires engagement of oral health care teams especially dental hygienists

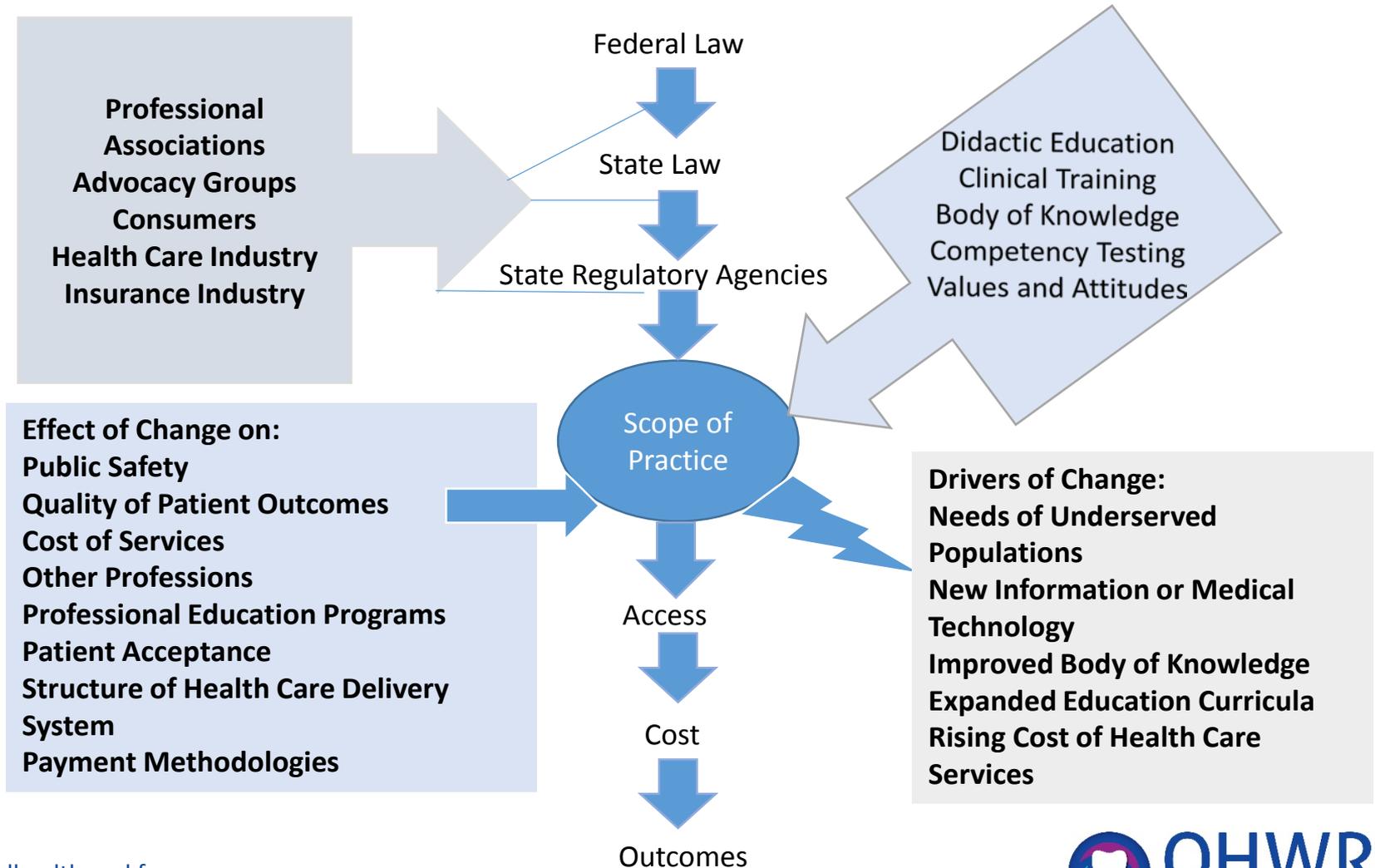
The Impact of This Shifting Paradigm on the Oral Health Workforce

- Expansion of roles for existing workforce
 - Expanded function dental assistants (DAs)
 - Public health dental hygienists (DHs)/Independent practice dental hygienists
 - Advanced dental therapists, dental hygiene therapists
- New workforce models
 - Community dental health coordinator
 - Case finding, care coordination, community and patient education and engagement
 - Stand alone credential or add on for the DH or the DA
 - Dental Therapists
 - Basic restorative services
- Engagement of medical professionals
 - Interprofessional education, Smiles for Life
 - Training primary care clinicians to screen and refer and medical assistants and nurses in application of fluoride, especially for children
 - Service integration, especially in safety net settings
- Advancements in scope of practice that support new and emerging roles
 - **Change in perception of DHs from dental extender to preventive oral health specialist**
 - Increasingly practicing in public health settings

Drivers of Change in Dental Hygiene Scope of Practice

- Workforce shortages
- Concerns about the distribution of oral health providers- Dental Health Professions Shortage Areas
- Need to use workforce efficiently
- Demographics - growing diversity of the population and racial/ ethnic health disparities
- Changing public policy - Affordable Care Act, American Health Care Act
- Changes in insurance – more people insured by Medicaid
- Medicaid conversions to managed care/ interest in value and trajectory of care
- Limited resources to pay for care
- Changing focus from treatment of disease to preventive
- Technology - teledentistry, new dental materials including ITRs and silver diamine fluoride
- Consumer demand for alternative providers
- Market forces - desire for convenient care, dental support organizations,

Scope of Practice Should Evolve with Changes in the Knowledge Base and Progress in Science and Technology



The Dental Hygiene Professional Practice Indexes

- DH scope of practice (SOP) varies considerably by state
 - Permitted tasks and required supervision differ by state and these differences impact service delivery
- Important to assess the impact of variation in SOP by state on oral health outcomes
- Dental Hygiene Professional Practice Index (DHPPI):
 - Developed in 2001
 - Used to score state SOP in 2001 and again in 2014
 - New index with revised variables and scoring was created in 2016
- DHPPI contains numerous variables grouped into 1 of 4 categories:
 - Regulation, supervision, tasks, and reimbursement
- Numerical scoring based on each state's law and regulation
 - Possible composite score from 0-100

The 2001 and 2014 DHPPI

- **Descriptive analysis**

2001 scores -10 in West Virginia, 97 in Colorado
 2014 scores -18 in Alabama and Mississippi, 98 in Maine.
 Mean score on the DHPPI 43.5 (2001) ↑ 57.6 (2014)

- **Factor Analysis**

In 2014, exploratory and confirmatory factor analysis confirmed that the component structures were all aspects of the overarching concept (in this case scope of practice)

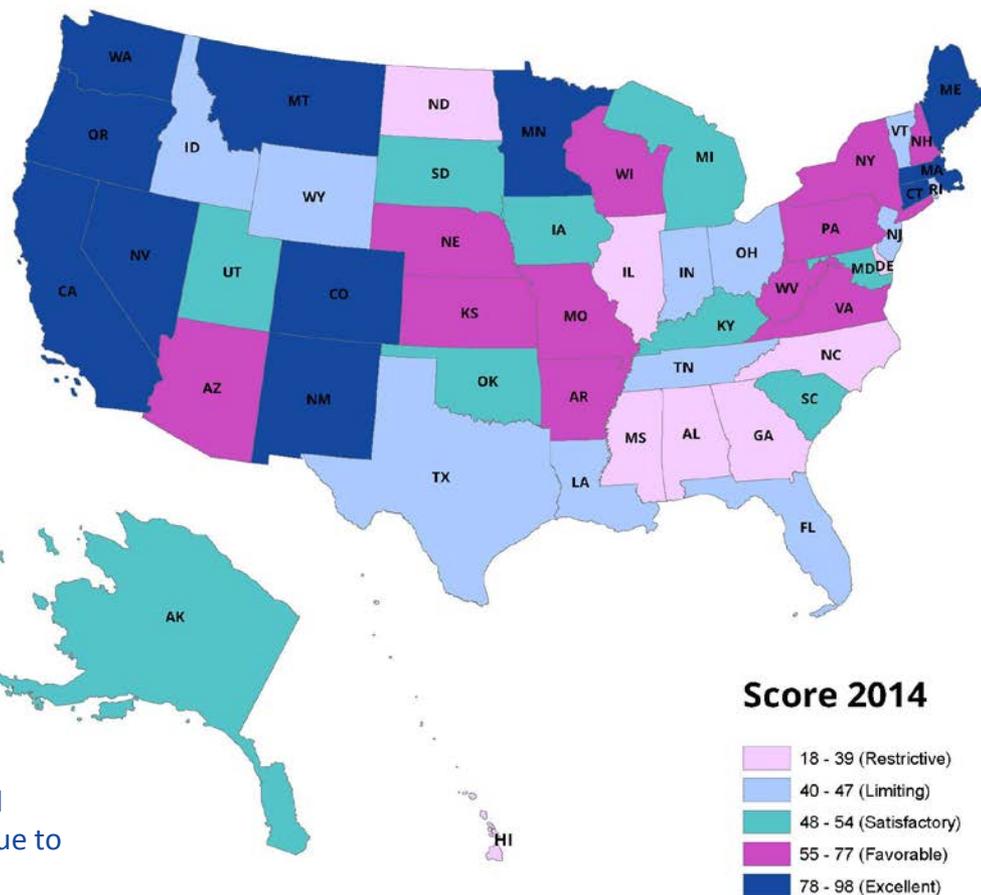
- **Statistical analysis**

In 2001, SOP was positively but not significantly associated with the percent of the population in a state having their teeth cleaned by a dentist or dental hygienist in the past year.

Research question in 2014: Is SOP associated with population oral health outcomes?

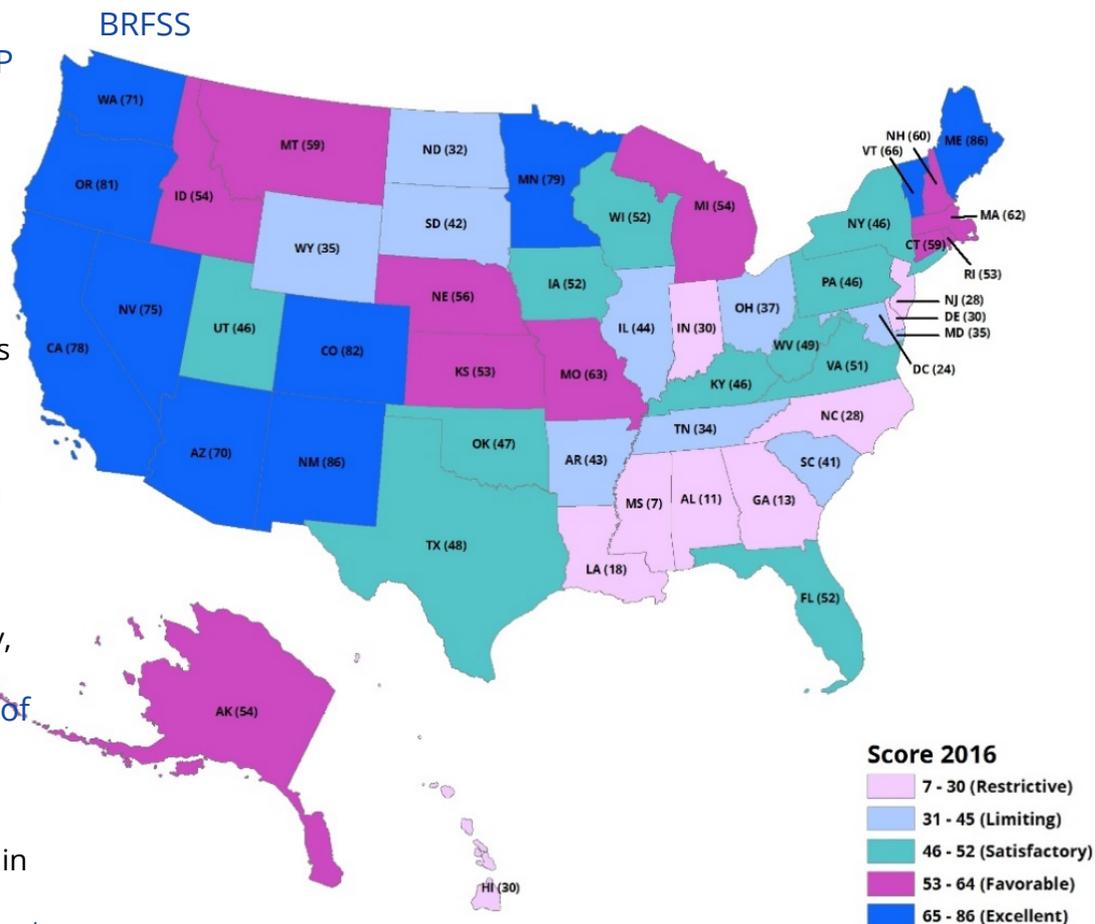
Used multilevel logistic modeling with the DHPPI an BRFSS data controlling for state and individual level factors including community water fluoridation, demographic and socioeconomic factors.

Finding: 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 (published in December 2016, *Health Affairs*)



The 2016 DHPPI

- Finding from 2014 update – variables in 2001 DHPPI no longer adequately represented SOP
- Dental hygienists now seen as experts in prevention education and services
 - More autonomous roles
 - Team based care
 - New technologies
 - New settings for care delivery
 - Point of entry - case finding
 - Roles as case managers/patient navigators
- Design process for the new DHPPI included focus groups with dental hygienists at the ADHA annual leadership symposium
 - Some variables were retained or modified
 - New variables were added
 - Fewer variables overall
 - Scoring weights were redistributed
 - New variables e.g., dental hygiene therapy, use of lasers, and basic restorative tasks
- Factor analysis again confirmed the integrity of the construct
- As expected, scores were lower on the new index
 - Range of scores was 7 in Mississippi to 86 in Maine
- Currently in the process of analyzing the impact of SOP on outcomes using the most recent



Mean Scores Varied by Year

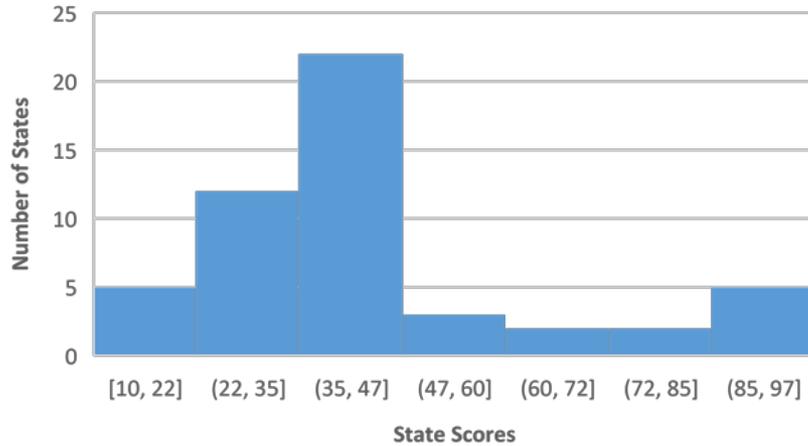
Mean Scores 2001, 2014, 2016

Range of State Scores	2016	2014	2001
Highest Possible Score	100	100	100
Lowest Score	7	10	18
Highest Score	86	98	97
DHPPI Category	2016 Mean Scores	2014 Mean Scores	2001 Mean Scores
Regulation	5 (22 pts)	7.8 (10 pts)	7.4 (10 pts)
Supervision	23.9 (30 pts)	27.3 (47 pts)	19.1 (47 pts)
Tasks	16.5 (36 pts)	18 (28 pts)	14.8 (28 pts)
Reimbursement	3.6 (12 pts)	4.4 (15 pts)	2.2 (15 pts)
Composite State Score	48.9	57.6	43.5

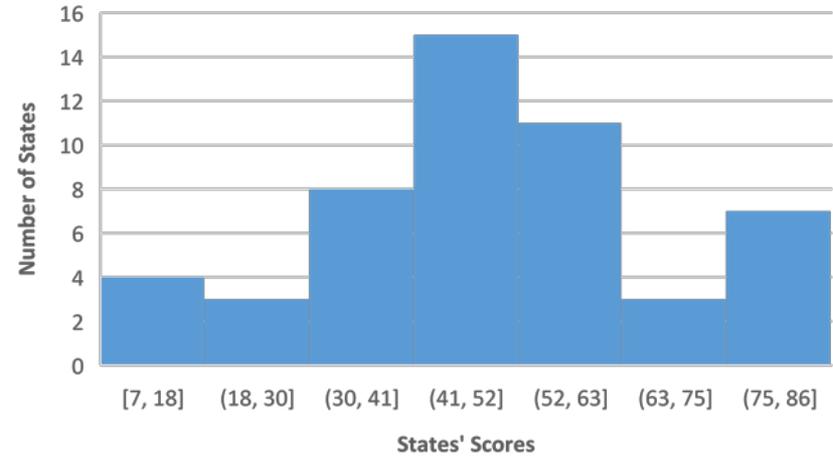
- The mean score on regulation was lower comparatively in 2016 than in previous years due mainly to an expanded category and limited permissions in states for advanced or extended functions for DHs.
- The high mean score relative to the possible score for supervision in 2016 suggests that many states now allow for lower levels of supervision for DHs.
- The relatively low mean score on tasks in 2016 was probably related to the inclusion of permissible restorative tasks, prescriptive authority, and lasers that are not widely allowed in states. The index was built to assess practice going forward so inclusion of these variables was important.
- The variables in the reimbursement category were consistent across instruments but the value allocated to the category dropped in 2016 which likely affected the overall mean for all states.

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

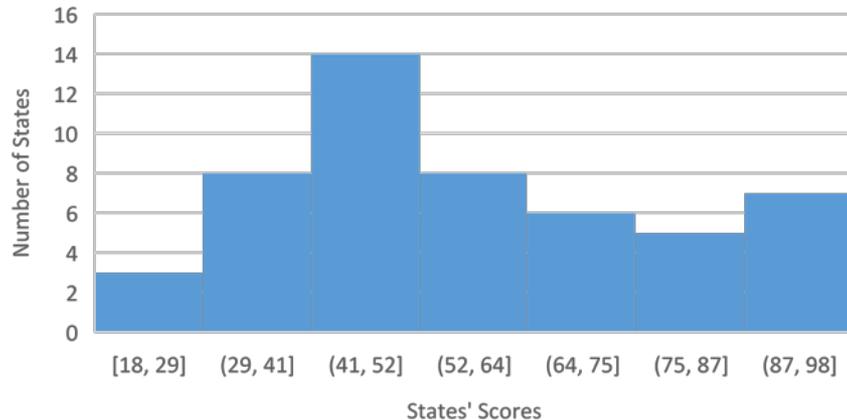
2001



2016



2014



High scoring states in 2014 were also high scoring on the new index (e.g., 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 (e.g., 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 (e.g., IA classified as satisfactory at each scoring)

Some low scoring states were consistently low scoring (e.g., GA, MS, NC classified as restrictive at each scoring)

Some Examples of the Impact of Expanded Scopes of Practice on Access to Care in Community Settings

- A dental hygienist owns an independent practice in Colorado with a fixed clinic and mobile van that provides services to residents of a municipal housing project and to seniors in rural areas
- Dental hygienists work in a Virtual Dental Home providing atraumatic restorations to children in California and Oregon using teledentistry applications.
- Advanced dental therapists provide preventive and restorative services to underserved populations in Minnesota's federally qualified health centers and other community clinics
- A public health dental hygienist with certification as a community dental health coordinator provides preventive services in primary care physician practices in Pennsylvania
- A public health dental hygienist works in nursing homes in New Hampshire providing routine preventive services and case management
- Dental hygienist entrepreneurs in Nevada and South Carolina own school linked oral health programs providing a range of preventive services to thousands of school children annually

This Work Is Important to the Profession

These studies have been presented in a variety of formats to various audiences nationally and internationally.

- Results were published in Health Affairs in a special edition featuring oral health in December 2016. **Expanded Scopes of Practice For Dental Hygienists Associated With Improved Oral Health Outcomes For Adults** was selected among the top ten articles in Health Affairs Editor's Picks for 2016.
- Findings were presented in a podium presentation, **Impacts of State Level Dental Hygienist Scope of Practice on Oral Health Outcomes in the US Population**, to the Professional Standards Authority of England in London, England in March 2017
- A poster presentation of the work, **Impact of Dental Hygiene Scope of Practice in 2016 on a Population Oral Health Outcome: A Multilevel Logistic Modeling Analysis**, was delivered at the National Oral Health Conference in Albuquerque, New Mexico in April 2017.
- Findings were presented in a podium presentation, **Value Based Care in Oral Health, Implications for Dental Hygienists**, at a symposium of policymakers discussing *Health Workforce Needs in a Time of Transformation*, which was sponsored by the George Washington Workforce Institute in Washington, DC in May 2017.
- A podium presentation of the work, **Understanding Variation in Dental Hygiene Scope of Practice**, will occur at the annual meeting of the American Dental Hygienists' Association in Jacksonville, FL late June 2017.
- A podium presentation, **The Impact of Dental Hygiene Scope of Practice in 2016 on a Population Oral Health Outcome: A Multilevel Logistic Modeling Analysis**, will occur at the Academy Health annual meeting in New Orleans, LA in late June 2017.
- An article, **The Impact of Dental Hygiene Scope of Practice on Oral Health Outcomes in States' Populations**, has been accepted for publication in *Dimensions of Dental Hygiene, Perspectives on Mid-Level Practitioners* in September 2017.

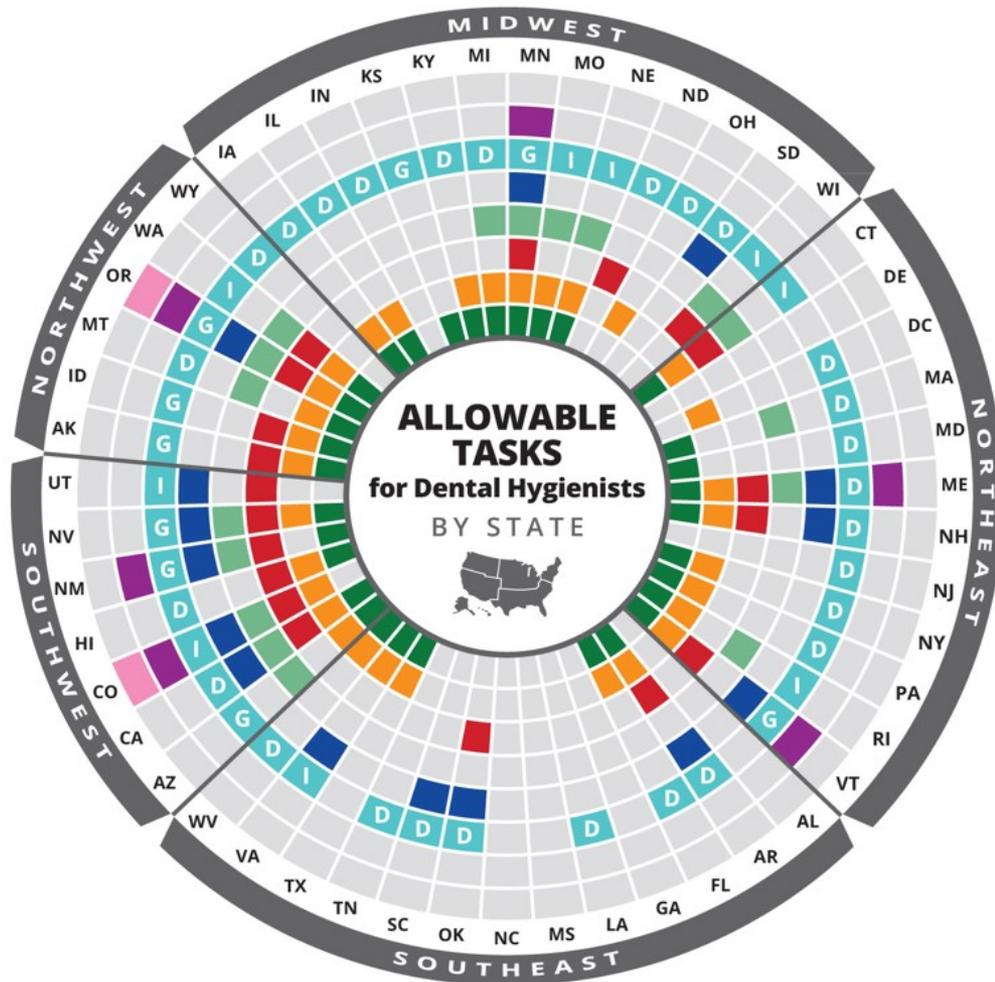
Developing a Dental Hygiene SOP Infographic: Why and How

- Research finds that broader SOPs for DHs are associated with better oral health outcomes in a state
- There is substantial variation in DH SOP across states, but no tools to help policy makers understand these differences
- OHWRC in collaboration with ADHA conducted a series of focus groups of dental hygiene leaders from across the country to identify the key DH functions and tasks to include in the infographic

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 see 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}

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

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Last Updated July 2016.

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