

Moving Towards Value Base Care: Implications for the Oral Health Workforce

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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) for an **Oral Health Workforce Research Center (OHWRC)** based at CHWS

Today's Presentation

- Changing landscape in U.S. health care and the impact of the move to valued based care in oral health on the dental workforce and access to services
- A changing definition of the dental home
- Practical examples of efforts to improve access using workforce innovation
- Dental hygiene scope of practice and its impact on oral health outcomes
- Infographic on dental hygiene scope of practice

Evidence of the Impacts of the Move to Value Based Care in Oral Health

- Increasing emphasis on improving **oral health literacy**
 - Community education
 - Health promotion
- Focus on **prevention and early intervention** in disease process
 - New materials – glass ionomer sealants, silver diamine fluoride
- **Integration** of oral health services in primary care settings
- Movement to implement **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 and affordability
- Use of capable technology to improve access and navigate patients to appropriate providers through applications of **teledentistry**
- 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
- 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.

The Impact of the Move to Value Based Care on the Dental Home

- We are now building a system of care that is no longer centered on private dental practice but one that is more distributed and patient centered
- Many access initiatives focus on bringing services to the patient rather than the patient coming to the provider.
- This is more difficult in dentistry than medicine because of the procedure oriented nature of practice
- Employing workforce to maximum competency is an essential part of the success of these initiatives

“For many years, policymakers and others have spoken of the ‘dental home’ as if it were an explicit brick-and-mortar location. It is possible to establish a dental home from wherever the patient is located, even virtually, especially when the care is continuous and comprehensive. Oral health can be achieved in many different settings and enabled through care coordination by the dental home provider”



Providers are Now Helping Patients Access Oral Health Services and Build Dental Homes in Many Locations

Different Modalities and Settings

- Mobile and Portable Services
 - Vans
 - Portable Equipment Programs
- Teledentistry Services
 - Virtual dental home
- Fixed Clinics in Alternative Settings
 - Denturist Practice
 - Skilled Nursing Facilities
 - School Based Health Centers
- Integration of Services in Medical Settings
 - Hospitals/ EDs
 - Pediatric Offices
 - Primary Care Practices

Workforce

- Dentists
- Expanded function dental assistants
- Public health dental hygienists
- Independent practice dental hygienists
- Collaborative practice dental hygienists
- Primary care providers
 - Physicians
 - Nurse practitioners
 - Physician assistants

The Particular Advantages of These Modalities and of Distributed Settings

- **Mobile and Portable Dentistry**
 - Improves access, compliance, and convenience
 - Especially useful for dependent populations – children and elders
 - A tool to effect service integration in health care settings
- **Teledentistry**
 - Provides access to both specialty and general dentistry services in rural areas and dental deserts
 - Provides the ability to triage the patient to the most appropriate level of care
 - Many can remain in their communities for preventive services
 - Reserves scarce dental resources for those most in need
 - Providers find the modality efficient, timely, and cost effective
- **Services in Medical Settings**
 - Medical providers can leverage their relationship with patients to emphasize importance of oral health to systemic health
 - Increases likelihood of referral to a dental provider
 - Improves literacy about prevention and oral hygiene

Emerging systems of care may employ one or multiple modalities in various settings engaging several types of professionals to build a continuous and coordinated dental home

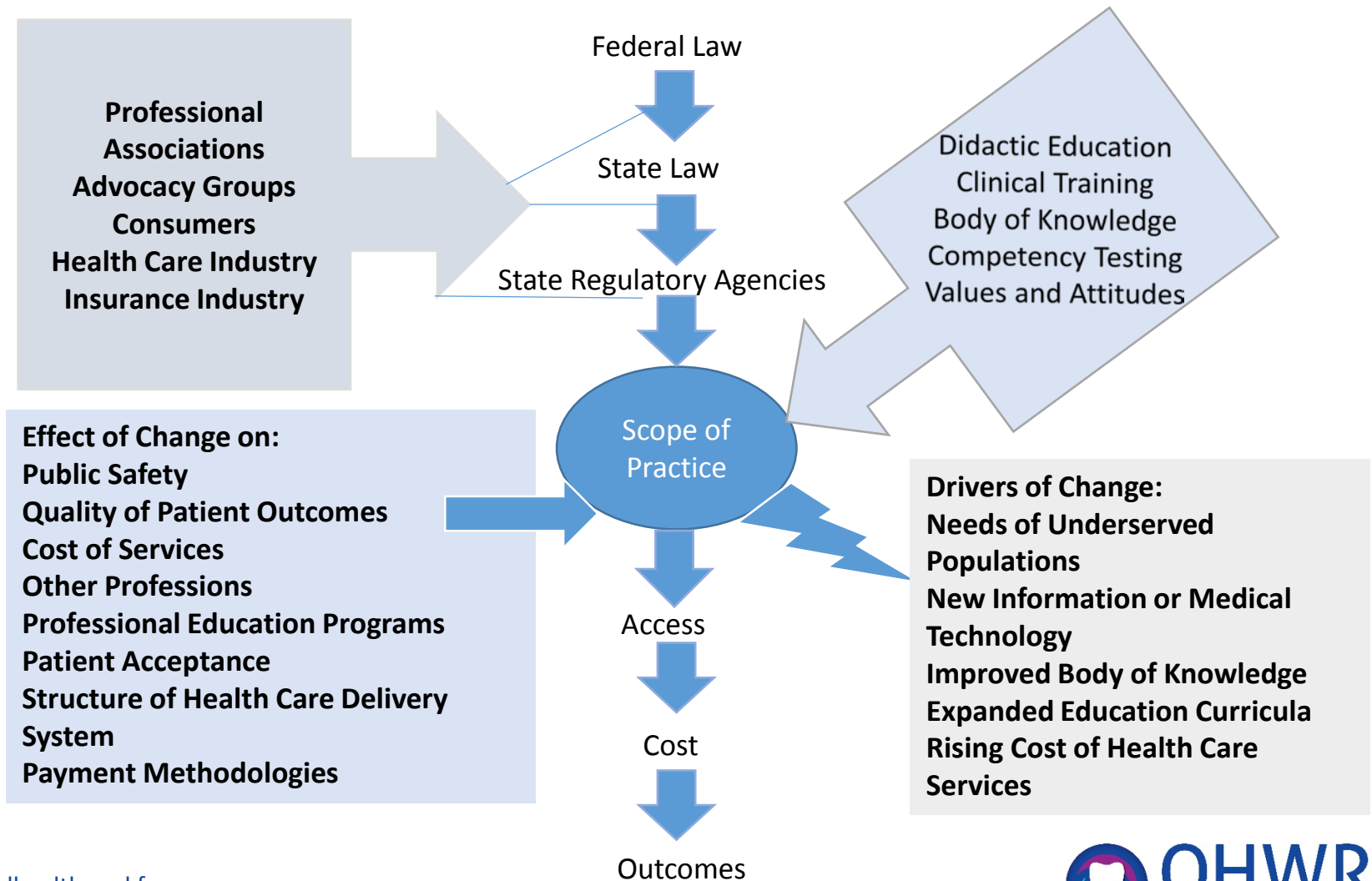
The Impact of a Shifting Paradigm on the Oral Health and Health Workforce

- Expansion of roles for existing workforce
 - Expanded function dental assistants (DAs)
 - Public health dental hygienists (DHs)/Independent practice dental hygienists/
Collaborative 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 professionals in medicine
 - 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
 - Movement to integration of services especially in safety net settings

Drivers of Change in Dental Hygiene Scope of Practice

- Workforce shortages: Dental Health Professions Shortage Areas (800 in 1993, 4900 in 2014)
- Distribution of dentists
- Changing public policy: Affordable Care Act
- Demographics: growing diversity of the population and racial/ ethnic health disparities
- A shift in focus from treatment to **an emphasis on prevention**
- Limited resources to pay for care
- Technology: teledentistry, lasers, portable imaging equipment
- 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 Evolves with Changes in the Knowledge Base, Progress in Science and Technology, and Stakeholder Efforts to Increase Access



Scope of Practice Initiatives

- State by state variation in approaches to expanded practice but results are similar
- Strategies for reducing oral disease burden emphasize education, prevention, early intervention, and risk management.
- The new approach to oral health requires engagement of an inclusive oral health care team, especially dental hygienists.
- Dental hygienists are increasingly able to practice in public health and community settings and to provide a broader range of services in those settings
- Progression in scope of practice has impacted professional roles
- **There is a changing perception of dental hygienists – the profession is no longer viewed simply as a dental extender but is now seen as a preventive oral health specialist**

Examples

- Many examples of how SOP is impacting the design of service delivery.
- Provider organizations design programs using different modalities.
- These programs are often “organic”. They grow out of local need.

The Virtual Dental Home Allows Children to Remain in Their Communities for Preventive Services

- A virtual dental home (VDH) in Oregon uses expanded practice dental hygienists (EPDH) to provide children in schools with preventive oral health services including ITRs
- Modeled on the VDH developed by Dr. Paul Glassman in CA
- Many students served by the program come from families with a primary language other than English, live in rural areas, and work in agriculture
- The EPDH provides services in schools during the academic year and in a pediatrician's office during the summer
- The initiative is sponsored by a dental health maintenance organization that is a dental insurer and also part of a DSO



A System of Care That Incorporates A Fixed Clinic, A Mobile Program, and Teledentistry

- A dental hygienist founded an independent practice in Colorado to provide preventive oral health services for residents of skilled nursing facilities.
- The practice is now a full service dental provider operating in a fixed dental clinic and in a mobile program servicing
 - Residents of a municipal housing project
 - elders in community centers,
 - Residents of nursing homes, and
 - Seniors in rural areas
- The program also uses store and forward teledentistry applications
 - DH acquires images using van Panorex
 - and performs DH diagnosis and assessment services
 - The dental hygienist provides preventive services for the patient in the skilled nursing facility using portable equipment
 - Dentist can log into the patient record to formulate the treatment plan



Combining Credentials To Enhance Professional Skills and Improve Access

- In Pennsylvania, one FQHC affiliated with the local hospital system is the only dental provider in the county that participates with the state Medicaid program.
- The FQHC uses expanded practice workforce in the fixed clinic, integrates oral health into primary medicine practices, and provides mobile services in the community.
- In the dental clinic, the dental hygienists prepare the patients for restorative services by providing local anesthesia and EFDAs place and carve restorations
- A public health dental hygiene practitioner, who is employed by the FQHC, completed her credential for certification as a community dental health coordinator.
- She spends time in the community doing outreach and case finding and significant amounts of community education.
- She provides preventive oral health services in the primary medical practices affiliated with the FQHC as well as in schools and Head Start programs



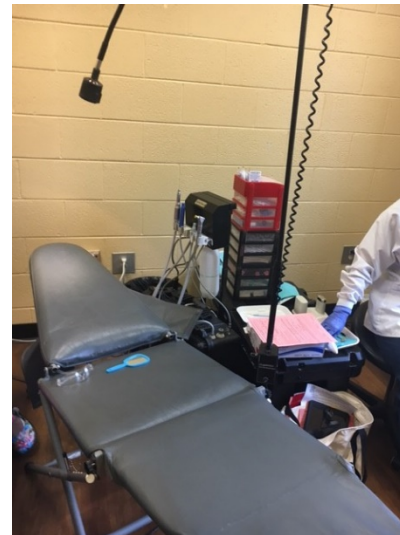
Locating in Places Where Patients Are Able to Access Services

- A mobile van program with a focus on special needs patients delivers oral health services in 86 facilities in 23 counties in North Carolina including group homes, medical clinics, PACE programs, day habilitation programs.
- Modeled on Apple Tree Dental
- Dentists and dental hygienists provide services in the regional center for infectious diseases for HIV positive patients 3 to 5 days each month
- The program provides a full range of dental services including dentures
- The founding dentist also provides surgical services in hospitals near patients' homes



Dental Hygiene Practices in Schools and Skilled Nursing Facilities

- Dental hygienist entrepreneurs in Nevada and South Carolina own school linked and school based oral health programs providing a range of preventive services to thousands of school children annually.
- In SC the DHs provide preventive services to 23,000 children in 46 school districts each year. Most are Medicaid eligible. The practice also participates with the state sponsored sealant program. The practice is mainly supported by revenue from services provided to the children.
- In Nevada, the DHs see about 4,800 children annually in the fifth largest school district in the nation. They provide preventive services in both fixed school based oral health centers and in a mobile format. The program participates with the state sealant program. Services are mainly supported through grants and philanthropy.
- A public health dental hygienist in New Hampshire collaborates with a dentist to provide services to residents of two skilled nursing facilities in the state. The dentist and dental hygienist alternate weeks in the facility and provide much of the care for patients either bedside or when patients are in their wheelchairs. The organization is capitated for services to residents.



Does Expansion of Dental Hygiene Scope of Practice Really Matter?

- The development of the Dental Hygiene Professional Practice Index (the DHPPI)
- Analysis of the DHPPI by state and surveillance data describing oral health outcomes in the population
- Scope of Practice Wheel

Dental Hygienists and the 2001 and 2004 Dental Hygiene Professional Practice Index

- Scope of practice (SOP) varies considerably by state
 - assorted models of public health supervision practice
- 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
- No numerical measure to permit comparison
- Dental Hygiene Professional Practice Index (DHPPI):
 - Developed in 2001
 - Scoring update occurred 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)

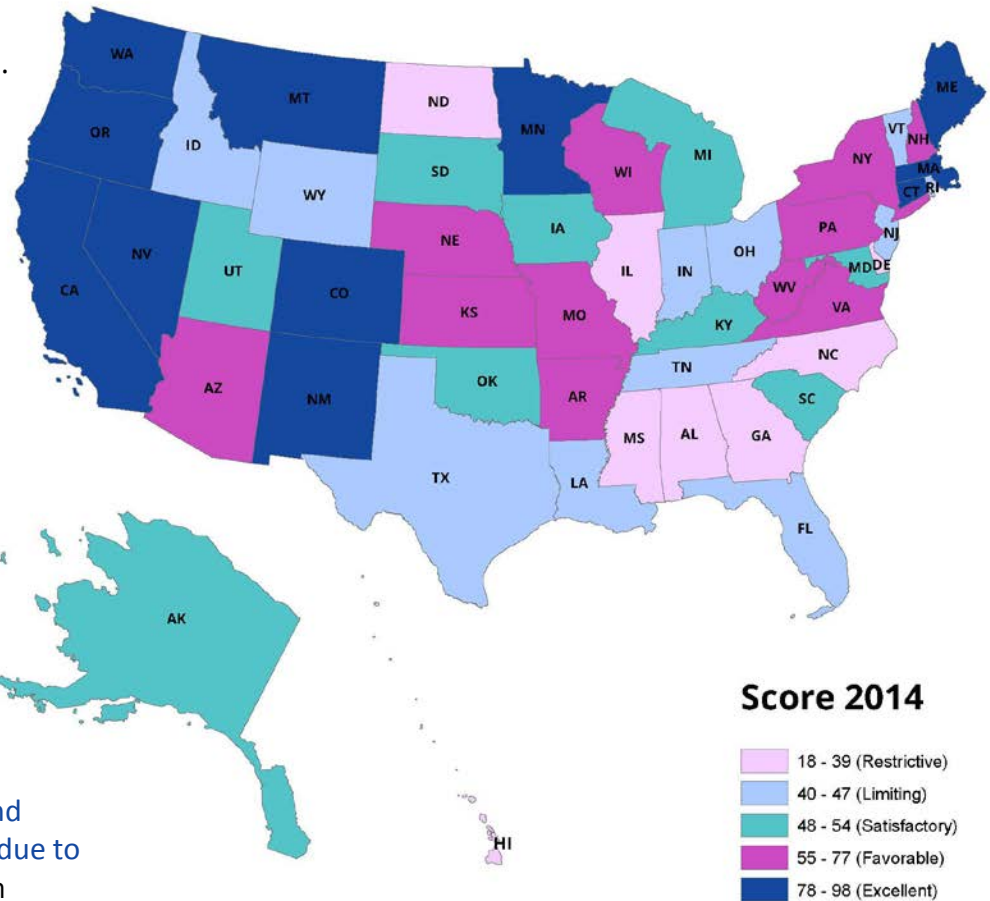
- **Statistical analysis**

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?

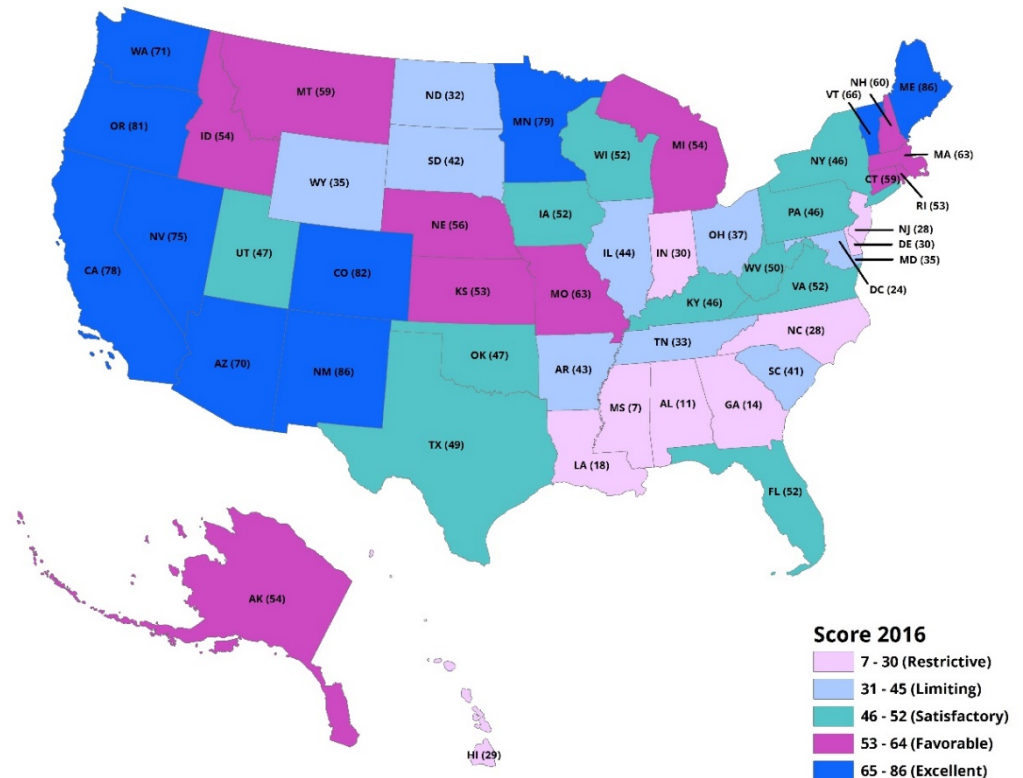
Used multilevel logistic modeling with the DHPPI an BRFSS data controlling for state and individual level factors including community water fluoridation, demographic and socioeconomic factors.

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
 - 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 BRFS



Mean Scores Varied by Year

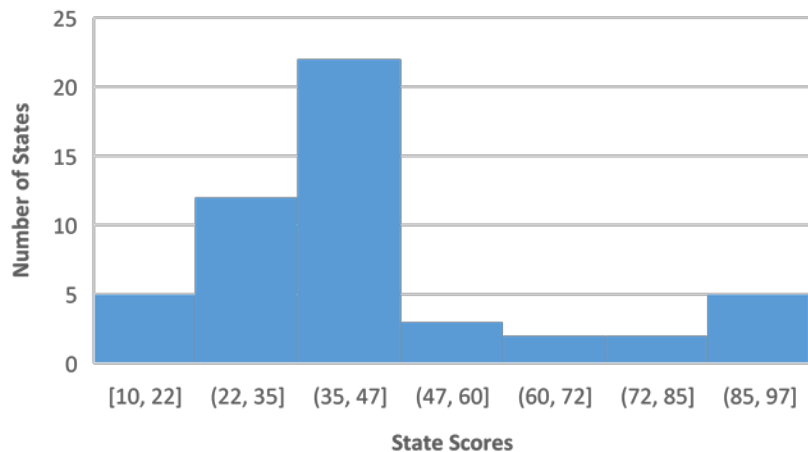
Mean Scores 2001, 2014, 2016

| 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 |

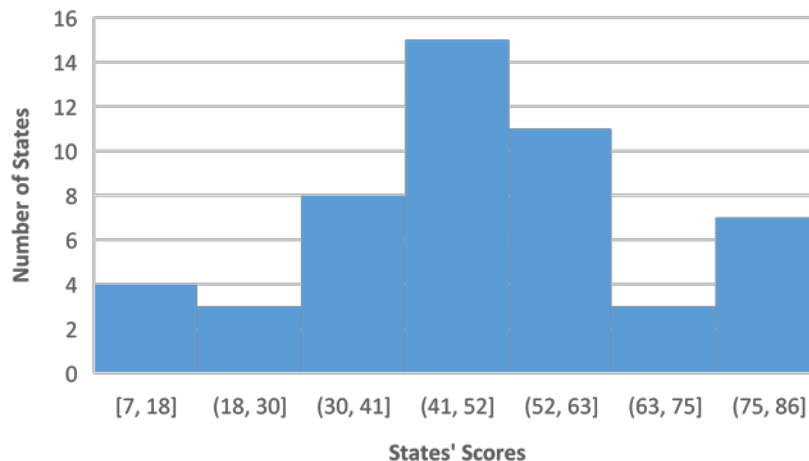
- The mean score on regulation was lower comparatively in 2016 than in previous years due mainly to an expanded category and limited permissions in states for advanced or extended functions for DHs.
- The high mean score relative to the possible score for supervision in 2016 suggests that many states 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 - 2001, 2014, 2016

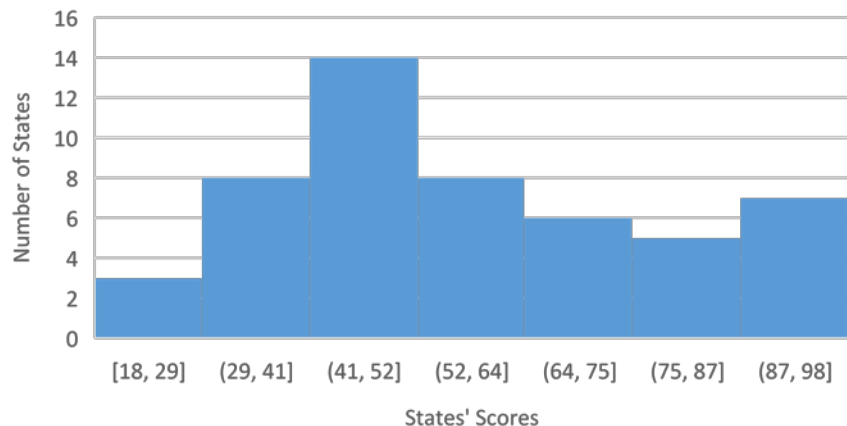
2001



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)

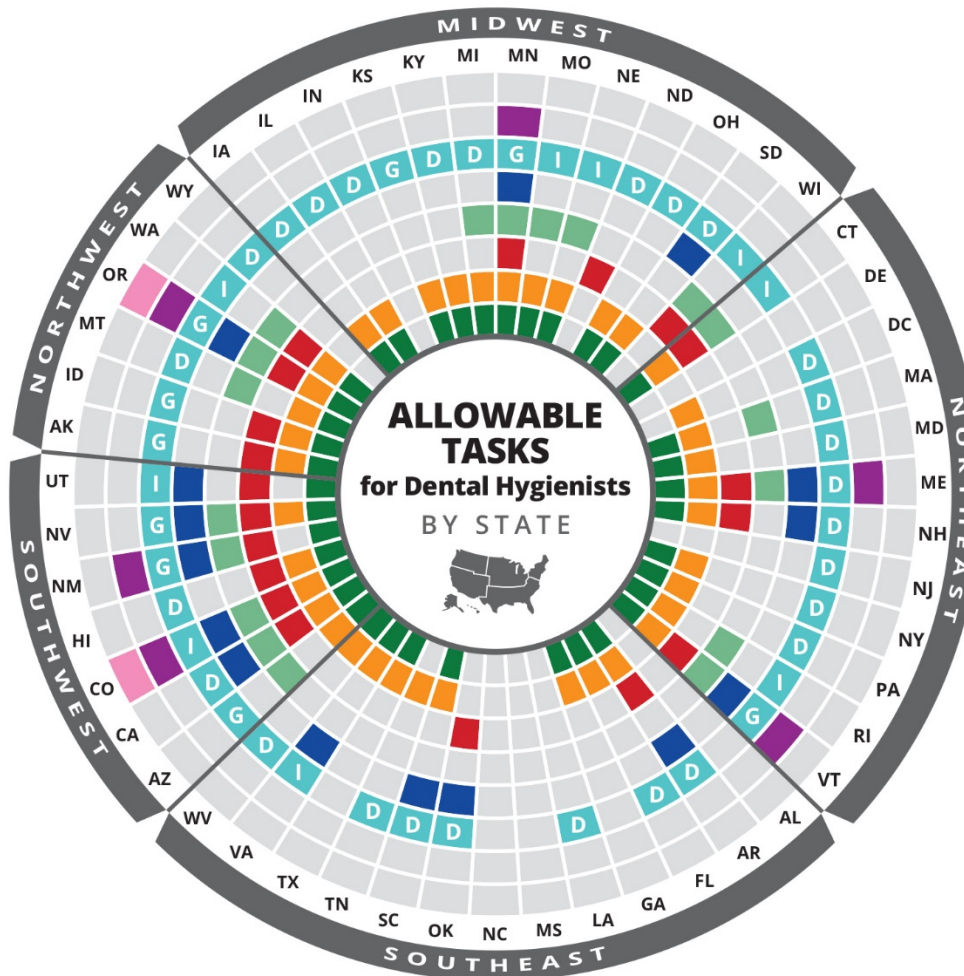
Other states used a slower, more incremental approach to increasing scope of practice (e.g., IA classified as satisfactory at each scoring)

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

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 easily used 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

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}

- 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

* In Colorado, indirect supervision requires only preapproval, not the presence of a dentist.

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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This 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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Conclusions and Next Steps

- SOP is an important consideration when designing workforce strategies to increase access to and utilization of preventive oral health services
- Placing DHs in community settings and enabling service delivery with autonomy within professional competencies may improve outcomes
- In the process of analyzing data to determine the impact of scope of practice on access to oral health services and on oral health outcomes for children
- Preliminary analysis suggests an interaction effect which would support the importance of oral health care teams
- There may be a tipping point at which scope of practice expansion makes a significant difference relative to the oral health of the population. This is an area for further research.

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Thank You

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