Value Based Care in Oral Health: Implications for Dental Hygienists

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Health Workforce Needs in a Time of Transformation

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OHWRC
Oral Health Workforce Research Center

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

- Increasing emphasis on improving oral health literacy
- 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
- 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
  - To use capable technology to improve access and navigate patients to appropriate providers through applications of teledentistry
- 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 have shifted from an emphasis on treatment of disease to a focus on prevention and management. This shift requires engagement of an inclusive oral health care team, especially dental hygienists

The Impact of This 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
  - 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
- Progression in scope of practice has impacted professional roles
  - Change in perception of DHs from dental extender to preventive oral health specialist
  - Increasingly practicing in public health settings

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**

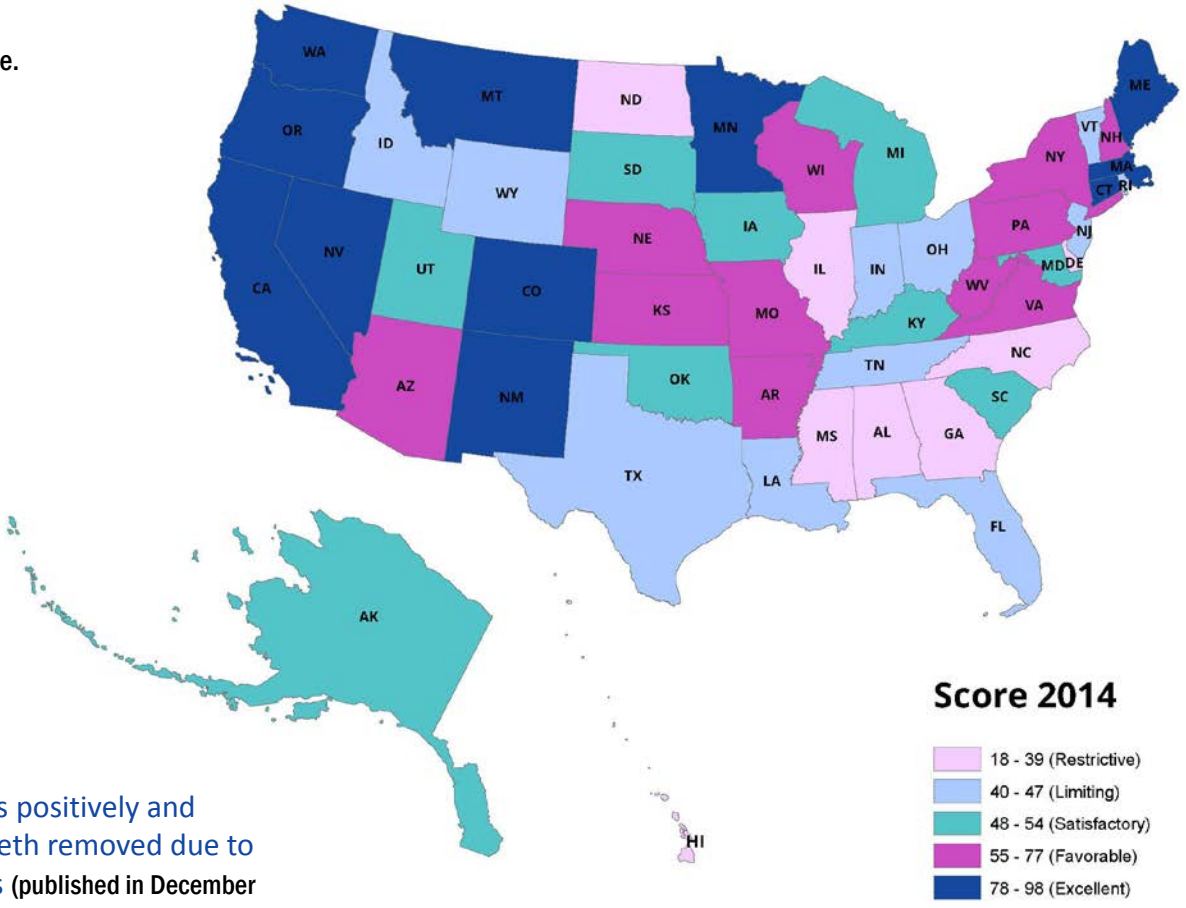
  In 2014, exploratory and confirmatory factor analysis confirmed that the component structures were all aspects of the overarching concept (in this case scope of practice)

- **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?

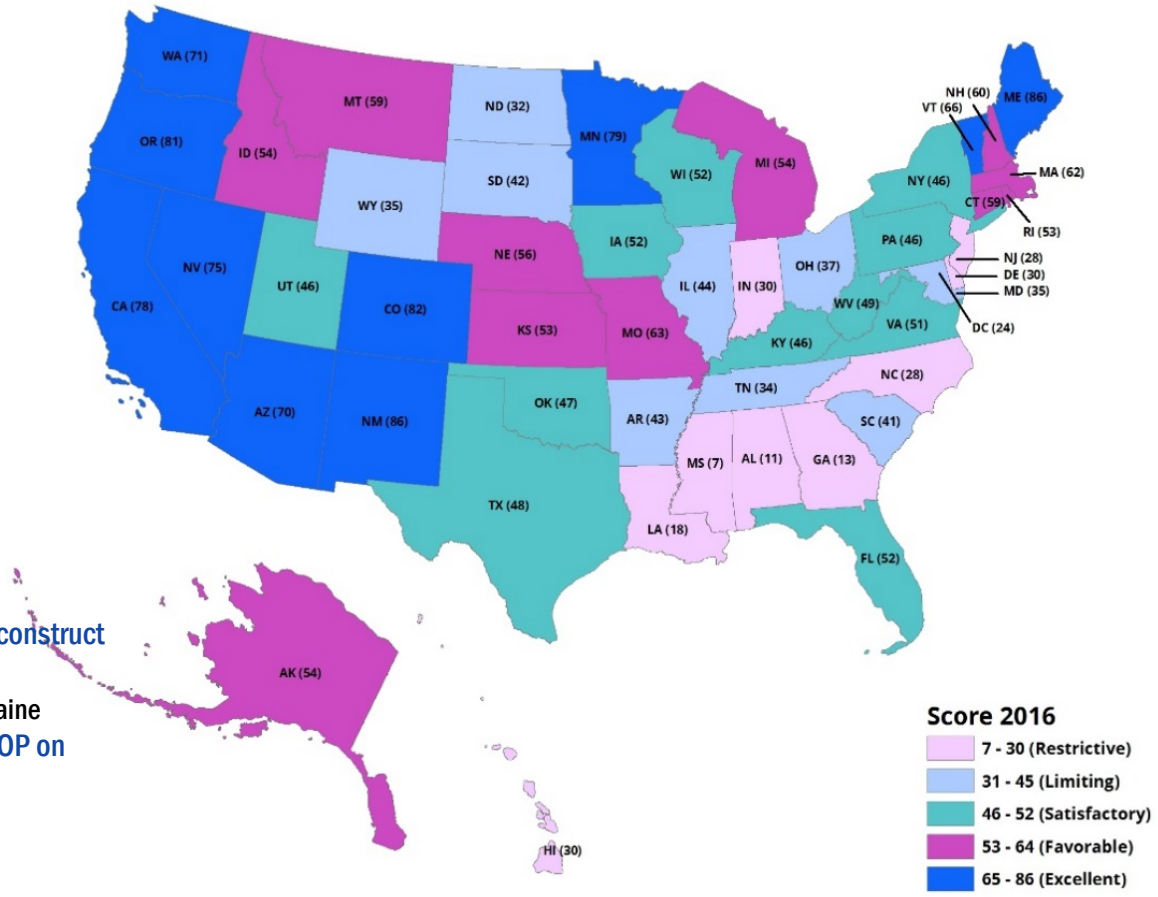
  Used multilevel logistic modeling with the DHPPI an BRFSS data controlling for state and individual level factors including community water fluoridation, demographic and socioeconomic factors.



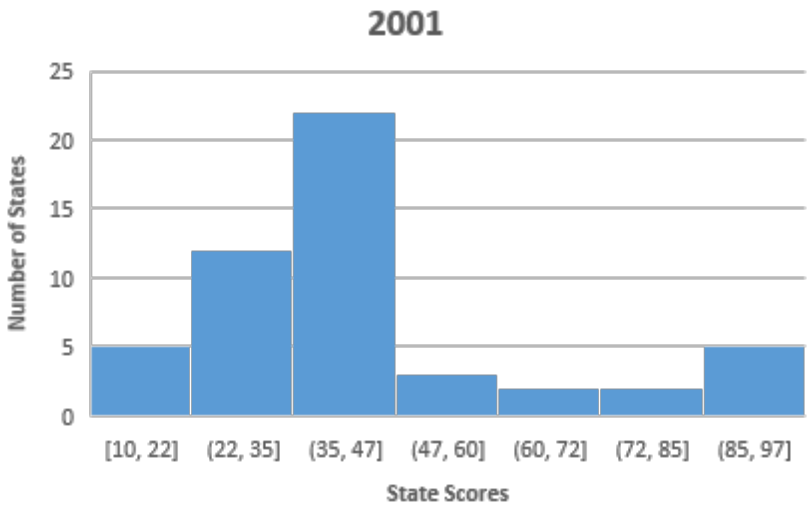
Finding: More expansive SOP for DHs in states was positively and significantly associated ($p<0.05$) with having no teeth removed due to decay or disease among individuals in those states (published in December 2016, *Health Affairs*)

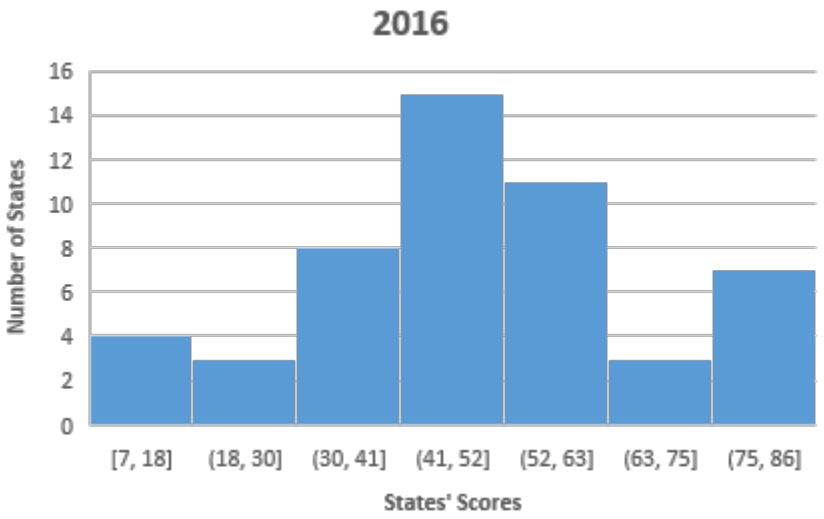
The 2016 DHPPI

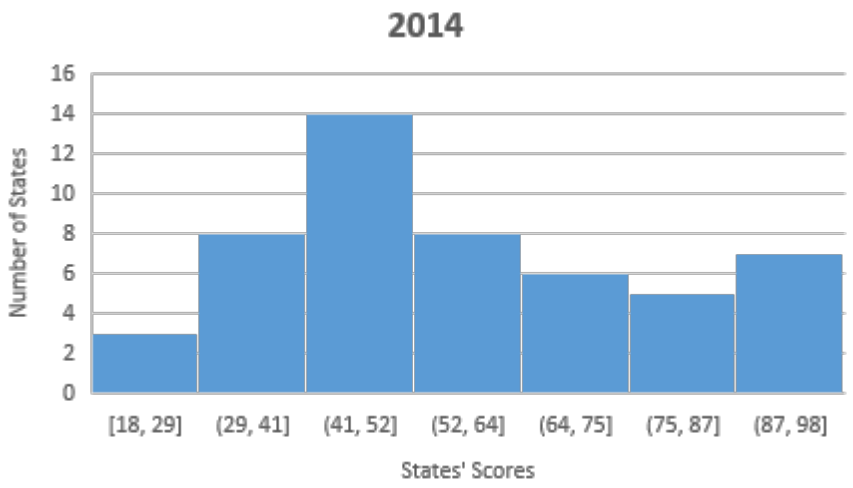
- Finding from 2014 update – variables in 2001 DHPPI no longer adequately represented SOP
- Dental hygienists now seen as experts in prevention education and services
  - More autonomous roles
  - Team based care
  - New technologies
  - New settings for care delivery
  - Point of entry - case finding
  - 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 BRFSS



Changing Scope of Practice for Dental Hygienists – 2001, 2014, 2016







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)

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.