Translating Scope of Practice Research for Policy Makers

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The Oral Health Workforce Research Center (OHWRC) is based at the Center for Health Workforce Studies (CHWS) at the School of Public Health, University at Albany, State University of New York.

The OHWRC was formed as a partnership between CHWS and the Healthforce Center at the University of California, San Francisco. It was initially funded through a 3-year cooperative agreement with the Health Resources and Services Administration (HRSA) in the US Department of Health and Human Services. In September of 2017, cooperative agreement funding was renewed for an additional 5 years.

OHWRC is 1 of 9 health workforce research centers in the country, and the only one uniquely focused on the oral health workforce.

The goal of OHWRC is to provide research on the oral health workforce to assist in future health workforce planning.

Researchers who contributed to this work included Margaret Langelier, MSHA; Tracey Continelli, PhD; Simona Surdu, MD, PhD; Bridget Baker, MA; and Rachel Carter.

The American Dental Hygiene Association helped to organize dental hygiene focus groups to inform this work.

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PURPOSE

To describe the value of dental hygiene (DH) scope of practice (SOP) and to translate research findings for policy makers seeking strategies to improve access to oral health services.

METHODS

Developed a tool to measure SOP variation:

Dental Hygiene Professional Practice Index (DHPPI)

- Initially developed in 2001 and revised in 2016
- State DH SOP scored in 2001 & 2014 using 2001 DHPPI and in 2016 using the 2016 DHPPI

Assessed impact of SOP variation on health outcomes

Do more expansive DH SOPs, which allow more autonomy in preventive services delivery in public health settings, impact oral health outcomes in the population?

- Multilevel logistic modeling was conducted using:
  - 2001 and 2014 DHPPI scores
  - 2002 and 2012 Behavioral Risk Factor Surveillance System (BRFSS) data on oral health status (ie, permanent teeth removed due to decay or disease)
  - State (eg, supply of dentists & dental hygienists) and individual (eg, age, race, gender, income, education, employment status) level factors

Translated SOP research findings for policy-makers

There is substantial variation in DH SOP across states, but no tools to help policy makers understand these differences.

- A DH SOP infographic was developed using:
  - Scores from the 2016 DHPPI
  - A series of focus groups of dental hygiene leaders from across the country to identify the key DH functions and tasks

RESULTS

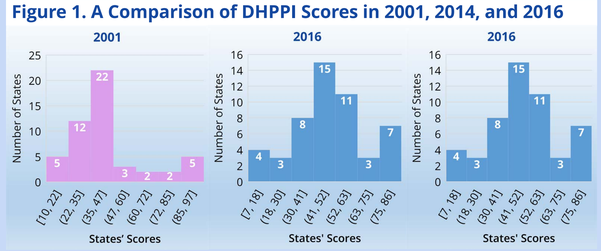
Changing scope of practice for dental hygienists

- State DHPPI scores ranged:
  - From 10 in West Virginia to 97 in Colorado in 2001
  - From 18 in Alabama & Mississippi to 98 in Maine in 2014
  - From 7 in Mississippi to 86 in Maine in 2016
- DHPPI mean score was 43.5 in 2001, 57.6 in 2014 and 48.9 in 2016
- High scoring states in 2014 were also high scoring on the 2016 index (eg, ME, CO, CA, WA, NM were each classified as excellent environments at each scoring)
- Some states were innovators (eg, MN with advanced dental therapy, VT recently enabled dental therapy; professionals have to be DHs)

RESULTS (cont.)

- 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)

Figure 1. A Comparison of DHPPI Scores in 2001, 2014, and 2016



Impact of dental hygiene interventions on outcomes

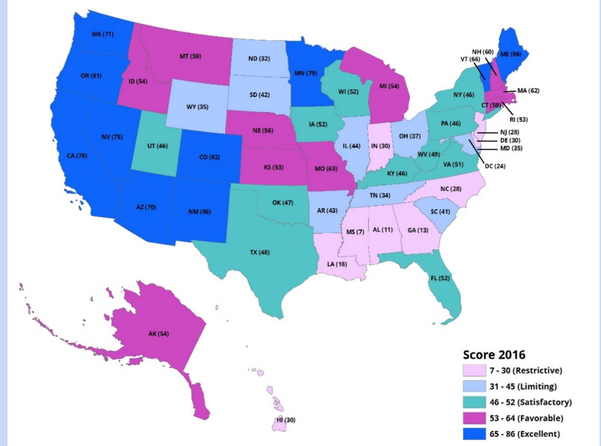
- More expansive SOP for DHs in states was positively and significantly associated ($P<0.05$) with having no teeth removed due to decay or disease among adults in those states.
- 2016 DHPPI accommodates emerging workforce models and newly permitted remediable and irremediable functions for DHs that were not included in the previous iterations of the DHPPI.

Table 1. Multivariable Association Between DHPPI Scores and Having No Teeth Removed Due to Decay or Disease

DHPPI	2001 Model		2014 Model	
	Odds Ratio	P-value	Odds Ratio	P-value
Composite Score	1.005	**<0.001**	1.003	**0.011**
Regulation Score	1.032	0.178	1.035	**0.026**
Supervision Score	1.011	**<0.001**	1.002	0.392
Tasks Score	1.014	**0.004**	1.006	0.299
Reimbursement Score	1.012	**0.008**	1.012	**0.002**

Note: Bold font indicates statistical significance at or below the 0.05 probability level.

Figure 2. Map of the 2016 DHPPI Scores and Ranking of States

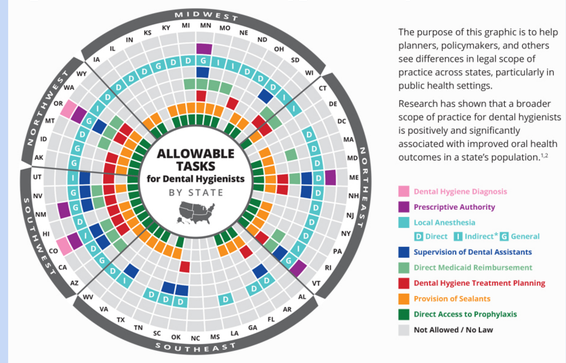


RESULTS (cont.)

Translating research findings for policy-makers

- The graphic visualization on state-specific DH responsibilities associated with SOP helps policymakers and others to understand variation in legal SOP across states, particularly in public health settings.

Figure 4. Variation in Dental Hygiene SOP by State



DISCUSSION

- Efforts to systematically quantify profession-specific SOP variation and measure impacts on population health is critical to helping stakeholders understand why SOP matters.
- A data visualization depicting state-specific SOP variation on key functions within a health profession provides policy makers better perspective on where to focus state-specific efforts to allow health professionals to do what they are trained and competent to do, while improving patient outcomes.
- Infographics such as this one should be considered a work in progress, requiring routine updating as states modify SOP requirements.

REFERENCES

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