INVITED PAPER

State oral health infrastructure and capacity: lessons learned from other states

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Keywords
dental public health; administration; state oral health program.

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Received: 11/16/2011; accepted: 12/10/2011.

doi: 10.1111/j.1752-7325.2011.00308.x

Abstract

This paper discusses some preliminary findings from the Infrastructure Enhancement Project conducted by the Association of State and Territorial Dental Directors (ASTDD), which focuses on state oral health programs and their roles in addressing core public health functions and essential public health services. Findings from analysis of state data since 2000, surveys, reports, and key informant interviews substantiate the value of the following: a) state oral health surveillance; b) oral health improvement plans; c) collaborations and coalitions; d) evidence-based practices and evaluation; e) diversified funding; f) placement and authority of the programs and directors; and g) competencies versus staffing formulas. No single program model fits all the unique populations and political and economic variations among states. Each state is encouraged to use the many tools, resources, and best practices/lessons learned available through ASTDD, federal agencies, and national organizations to design effective and sustainable programs.

Background

Various studies and reports suggest that improved oral health infrastructure and capacity are needed at the national, federal, state, and community levels to assure oral health for the US population (1-3). In 2000, The Association of State and Territorial Dental Directors (ASTDD) released *Building Infrastructure and Capacity in State and Territorial Oral Health Programs.* This report identified infrastructure and capacity elements that state oral health programs should have to perform the core public health functions of assessment, policy development and assurance, and more specifically, the 10 essential public health services (4). The top needs identified were a state oral health surveillance system and leadership consisting of a state dental director and an adequate and competent staff. State oral health programs are units of state government, usually in the public health agency, and are different from state Medicaid or Child Health Insurance Programs, which primarily deal with public financing systems. Ideally these programs should work closely together to assure access to oral health care for underserved populations. Directors of state oral health programs are often referred to as state dental directors or state oral health program managers; some do have a dual advisory role with Medicaid. ASTDD is a national non-profit organization representing state oral health programs and other partners.

Note: This publication was supported in part by Grant/Cooperative Agreement 5U58DP001695 from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official view of the CDC.

The 2000 *Infrastructure Report* led the Centers for Disease Control and Prevention (CDC), Division of Oral Health, and the Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), to base their guidance for oral health funding opportunities for states on the 10 infrastructure elements and to establish cooperative agreements for state oral health programs to work with other partners and coalitions to increase oral health infrastructure and capacity. They also funded ASTDD to provide technical assistance (TA) and tools to state oral health programs, such as:

- *ASTDD Best Practices Project* (5), a systematic vetting process for strategies to improve state and community oral health program activities

- *Basic Screening Survey* (6), a standardized oral health data collection system for children and older adults
- *National Oral Health Surveillance System* (*NOHSS*) (7) sets common standards to track oral health indicators based on data sources and surveillance capacity available to most states.
- *Guidelines for State and Territorial Oral Health Programs* (8), a matrix of state roles and resources based on the 10 essential public health services
- *Annual State Synopses* (9) that capture demographic, infrastructure, workforce, programmatic, and administrative information
- *State Oral Health Program Review Manual* (10) provides guidance to states wishing to perform self-studies or participate in an onsite team review
- *State Oral Health Program Competencies* (11), skills that are needed for accomplishing the core public health functions and 10 essential public health services.

Other federal agencies and public and private entities at the national, state, and local levels have also invested significant resources and provided TA to improve state and local oral health and enhance dental public health infrastructure and capacity.

ASTDD Infrastructure Enhancement Project

In 2010 CDC funded ASTDD to complete a comprehensive review of state oral health program infrastructure and capacity. The review included trends and investments made since 2000, current status, elements that are key to program success and resiliency, and factors that impede progress. In addition to reviewing data from annual *State Synopses* reports, selected ASTDD surveys and CDC and HRSA evaluation reports, the Project Team interviewed multiple key informants (including state dental directors) from nine states and MCH directors from an additional 14 states. States were chosen based on perceived successes and barriers to achieving *Healthy People 2010 Oral Health Objectives* (12) and their ability to address state roles outlined in the *ASTDD Guidelines*. This paper for the Maryland Summit provides a preliminary snapshot of some important lessons learned from states during analysis of data and interviews. Only aggregated data are used and no individual states are identified. A more comprehensive report will help state staff, policymakers, coalitions, and funders understand how to better build and sustain state oral health program infrastructure and capacity using existing and new resources. It will also allow them to strategically and effectively use this infrastructure to leverage additional resources to avoid or mitigate negative outcomes and achieve positive oral health outcomes in communities.

Lessons learned

Oral health data are crucial for identifying program and policy priorities. In 1999 only eight states had a state **oral health surveillance system** (4). At least 43 states now contribute third grade data to the NOHSS (22 for multiple years) and one state has an ongoing surveillance system based on different grade levels; this represents a significant improvement in using core data for needs assessment and tracking effectiveness (7). Most of those states with data have already published or are in the process of publishing oral disease burden documents. States have taken advantage of CDC and HRSA funding and ASTDD TA to conduct surveys, acquire epidemiology support and develop surveillance systems, yet three states still do not have any valid oral health data. An oral health surveillance system is more than having a snapshot of one subset of the population, and requires data about different aspects of oral health across the lifespan, conducted periodically to assess changes. There is a need to reach consensus on a better definition of a state oral health surveillance system based on specific criteria.

It is important for states to have a **comprehensive statewide oral health plan** for a period of 3 to 5 years that is developed and supported by a broad-based group of key stakeholders. There should also be a specific annual workplan for the state oral health program. In 1999 only 16 states had an oral health improvement plan (4). In 2010 about 40 states had such a plan, although some are only for MCH populations, some are *Healthy People 2010* plans, and some are primarily workplans or strategic plans for the state oral health program (13,14). Few truly address the comprehensive needs of a state's population or have the capacity to evaluate implementation and results.

State oral health programs need to actively pursue **collaborations** both inside and outside the health agency. Integrating oral health messages and activities into other health-related programs allows consistent messaging to address determinants of health. Integration can foster sharing of resources, in-kind contributions, and joint grant proposals or activities. From the project interviews, having a broad-based, active oral health coalition has emerged as a crucial element to achieving policy changes and positive oral health outcomes. Oral health professionals and state oral health program staff cannot achieve optimal oral health outcomes by themselves. They rely on other groups to help plan, prioritize, and evaluate activities, advocate for evidence-based and meaningful policies and programs, and leverage resources to fund programs and activities. Coalitions serve as a vital link to community-level activities and often are the key to local successes. The American Network of Oral Health Coalitions, a group of state coalitions, is collecting information to document the number of existing oral health coalitions and sharing success stories and lessons learned (15). Another indicator of success is

having **oral health representation on other statewide coalitions** (e.g., early childhood, chronic disease, tobacco, *Healthy People*) to highlight that oral health is integral to overall health.

National expert panel recommendations, the Best Practices project and issue/research briefs from ASTDD and other national partners have helped **translate research evidence into promising implementation models at the local level and evaluate their impact**, particularly for preventive strategies such as community water fluoridation and fluoride and sealant programs in schools and other community settings. Preventive programs in schools, Head Starts, Women, Infants and Children (WICs), and other perinatal or early childhood programs that a) reach families and children early, b) provide referral and case management, and c) are linked to ongoing public and private dental care in the community, seem to result in the best improvements in oral health. State programs have a key role in disseminating evidence-based recommendations and guidelines to local communities and helping to institute policies and leverage funding to support effective programs. The Best Practices Project currently includes 11 Best Practice Approach Reports supported by more than 230 descriptive summaries of state/community examples (5).

To carry out priority programs in state oral health plans during difficult economic times, particularly community-based programs, generally requires a **diversified funding base**. Data from the *Synopses of State Dental Public Health Programs for FY 2009-2010* show that eight states received 100 percent of their funding from one primary source (Medicaid, non-Medicaid state funds, HRSA or CDC), and an additional 10 states received 75-99 percent from one primary source (9). This is disconcerting, especially when the Federal Preventive Health and Health Services Block Grants are ending and state health agencies face severe cuts to their entire budgets. During interviews, however, we learned that while the state oral health program administration may have only one primary funding source, support for actual oral health activities often is funded from a variety of sources, e.g., federal, state, private or foundation funding. States do not always report all these sources of funding to the *Synopses* as they are not included in the direct state oral health program budget. Forming partnerships and having data to support requests for resources and documenting positive outcomes are becoming crucial for states. A better way to collect more comprehensive statewide funding data is needed to track the multitude of investments in oral health and to link them to health outcomes.

Placement and level of authority of the state oral health program and state dental director in the health agency is important for advocacy, policymaking, and securing critical resources. State dental directors who are only one or two levels away from the health officer often have more successful programs and more resources than those who have to navigate multiple levels of bureaucracy to communicate their needs to high level administrators and get a "seat at the table." As state agencies reorganize, downsize or eliminate programs, the importance of advocacy by external partners and strong oral health leadership is crucial to sustaining key oral health activities. Statutes in 10 states require a state oral health program in the health agency and 15 require a state dental director (12 of the 15 require both). (9) Although having statutes mandating the state oral health program and the state dental director position are helpful, some state situations demonstrate it is not sufficient for sustainability unless enforced and supported by the administration and outside organizations.

Staffing for a state oral health program depends on a number of factors including state population, size, and organization of the health agency, level of integration with other programs, state health agency relationship to local/other jurisdictions for clinical services, and resources available within and outside the health agency. No one model is appropriate for all states. The *Healthy People 2020* objectives note that a state dental director ideally should have a full-time position and be a dental professional who has public health training (16). Experience has shown, however, that credentials do not always equate with the skills needed to lead and manage a successful state program. ASTDD created *Competencies for State Oral Health Programs* (11), using competencies from the Chronic Disease Directors (17) and draft performance standards and measures from the Public Health Accreditation Board's voluntary accreditation process (18), as a tool for states to assess the skills of current staff and consultants and identify strengths to build upon and gaps to fill via new hires or existing resources inside and external to the health agency. The *Competencies* can be used by administrators to develop job positions and interview questions to find candidates who are the best "fit" with the unique needs of the state. To assure a competent state workforce, ASTDD conducted an Oral Health Leadership Institute for 3 years with HRSA funding and regularly provides professional development opportunities. The most competent dental director and staff, however, can only be effective with adequate internal and external support.

Conclusions

Healthy People 2020 establishes building public health infrastructure as a national goal and includes oral health objectives that address infrastructure. Ongoing Federal and state budget reductions make it imperative for state oral health programs to form unique partnerships to diversify funding and leverage a variety of resources to support their core public health functions and evidence-based programs at the local level. Each state has unique needs with political and economic situations that fluctuate over time. No single program model will fit all the states, so each state is encouraged to use the tools,

resources, best practices, and lessons learned available through ASTDD, federal agencies, and national and state organization partners to design effective and sustainable programs.

Conflict of interest

The authors developed this paper with financial support from the Association of State and Territorial Dental Directors and the Maryland Oral Health Coalition.

References

1. U.S. Department of Health and Human Services. Oral health in America: a report of the surgeon general. Rockville (MD): USHHS, NIDCR, NIH; 2000. [cited 22 Sept 2011]. Available from: http://www.nidcr.nih.gov/datastatistics/surgeongeneral/report/executivesummary.htm
2. U.S. Department of Health and Human Services. A national call to action to promote oral health. Rockville (MD): USHHS, NIDCR, NIH; 2003. [cited 22 Sept 2011]. Available from: http://www.surgeongeneral.gov/topics/oralhealth/nationalcalltoaction.html
3. Tomar SL. An assessment of the dental public health infrastructure in the United States. *J Public Health Dent.* 2006;**66**(1):5-16.
4. Association of State and Territorial Dental Directors. *Building infrastructure and capacity in state and territorial oral health programs*. Jefferson City, MO: ASTDD; 2000. [cited 22 Sept 2011]. Available from: http://www.astdd.org/docs/Infrastructure.pdf
5. *Best practices project*. [Internet]. Sparks (NV): Association of State and Territorial Dental Directors. [cited 22 Sept 2011]. Available from: http://www.astdd.org/index.php?template=bestpractices.html
6. *Basic screening survey*. [Internet]. Sparks (NV): Association of State and Territorial Dental Directors. [cited 22 Sept 2011]. Available from: http://www.astdd.org/index.php?template=basic_screening.html
7. *National oral health surveillance system*. [Internet]. Sparks (NV): Association of State and Territorial Dental Directors, and Atlanta (GA): Centers for Disease Control and Prevention. [cited 22 Sept 2011]. Available from: http://www.cdc.gov/nohss/
8. Association of State and Territorial Dental Directors. *Guidelines for state and territorial dental directors*. Sparks (NV): ASTDD; 2010 revisions. [cited 22 Sept 2011]. Available from: http://www.astdd.org/state-guidelines/
9. ASTDD and CDC. *Synopses of state and territorial dental public health programs*. [Internet]. Sparks (NV): Association of State and Territorial Dental Directors, and Atlanta (GA): Centers for Disease Control and Prevention. [cited 22 Sept 2011]. Available from: http://apps.nccd.cdc.gov/synopses/
10. Association of State and Territorial Dental Directors. *State oral health program review manual*. Sparks (NV): ASTDD; 2011 Revisions. [cited 22 September 2011]. Available from: http://www.astdd.org/state-oral-health-program-review-(sohpr)-manual/
11. Association of State and Territorial Dental Directors. *Competencies for state oral health programs*. Sparks (NV): ASTDD; 2009. [cited 22 September 2011]. Available from: http://www.astdd.org/docs/CompetenciesandLevelsforStateOralHealthProgramsfinal.pdf
12. U.S. Department of Health and Human Services. *Healthy people 2010*. Vol **II**. 2nd ed. Washington (DC): U.S. Govt. Printing Office; 2000. [cited 22 Sept 2011]. Available from: http://www.healthypeople.gov/2010/Document/tableofcontents.htm#Volume2
13. The state oral health plan comparison tool. [Internet]. Washington (DC): Children's Dental Health Project. c2011. [cited 22 Sept 2011] Available from: http://www.cdhp.org/resource/state_oral_health_plan_comparison_tool
14. *State oral health plans*. [Internet]. Atlanta (GA): Centers for Disease Control and Prevention. [cited 22 Sept 2011] Available from: http://www.cdc.gov/oralhealth/state_programs/OH_plans/index.htm
15. Ketola K, Brunner TD, Holland SB. Building and sustaining successful oral health coalitions. Lessons learned from Kansas, Michigan and Virginia. National Oral Health Conference. Pittsburgh (PA): 12 April 2011. [cited 22 Sept 2011] Available from: http://www.nationaloralhealthconference.com/docs/presentations/2011/One%20for%20All%20and%20All%20for%20One.pdf
16. Healthy People 2020. *Oral health*. [Internet]. Washington (DC): U.S. Department of Health and Human Services. [cited 22 Sept 2011] Available from: http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=32
17. National Association of Chronic Disease Directors. Competencies for public health practice. Atlanta (GA): NACDD. 2008.
18. Public Health Accreditation Board. Standards and measures. Version 1.0. Alexandria (VA): PHAB. May 2011.