

ID: 87373812

Oral Health, Maternal and Child Health - Host Site Description
Arizona Department of Health Services

Assignment Location: Phoenix, US-AZ
Arizona Department of Health Services
Bureau of Assessment and Evaluation

Primary Mentor: Devina Wadhera, PhD
Prevention, Epidemiology, and Evaluation Team Lead
Arizona Department of Health Services

Secondary Mentor: Abriana Smith, B.S.
Office Chief of Oral Health
Arizona Department of Health Services

Work Environment

Hybrid

Assignment Description

The fellow will be placed within the Bureau of Assessment and Evaluation (BAE), which is responsible for statewide oral health surveillance, and will work closely with the Office of Oral Health (OOH), which leads oral health initiatives and programs. In this role, the fellow will support a combination of surveillance, evaluation, and prevention activities focused on strengthening Arizona’s oral health data systems. Key responsibilities will include enhancing oral health surveillance, analyzing and interpreting data, producing statistical reports and communication products for broad dissemination, and evaluating the effectiveness of oral health surveillance and intervention programs.

Anticipated Day-to-Day Activities

- Participate in meetings (virtual or in-person) with OOH staff and external stakeholders to complete data requests, strengthen surveillance systems, and incorporate feedback for program improvement
- Conduct analyses of oral health surveillance and programmatic data using SAS or other statistical software
- Develop and maintain public-facing and internal data products, including reports, dashboards, data placemats, infographics, and other communication deliverables to translate oral health data for diverse audiences
- Collaborate with other CSTE fellows and epidemiologists to support cross-learning and shared applied epidemiology projects
- Consult with the State Epidemiologist, Bureau Chief for Assessment and Evaluation, the Oral Health Office Chief, and Prevention Epidemiology and Evaluation Team Lead (primary mentor) to support the development and enhancement of oral health surveillance systems, including those focused on school-aged populations
- Perform routine data management, quality assurance, and analytic tasks to ensure data accuracy and reliability
- Work with internal and external partners to identify and monitor data that inform oral health policy and programmatic decision-making
- Participate in regularly scheduled meetings with the Bureau of Assessment and Evaluation staff and other professional development activities

Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow

The fellow will be provided access to essential analytic and data visualization tools, including SAS, PowerBI, and ArcGIS, to support assigned activities. The fellow will also have access to Google Workspace, Microsoft Office Suite products, and Qualtrics. To complete required analyses, the fellow will be granted access to hospital discharge data (HDD), syndromic surveillance data (ESSENCE), vital records, and other relevant internal data sources. Additionally, the fellow

ID: 87373812

Oral Health, Maternal and Child Health - Host Site Description

Arizona Department of Health Services

will have access to major public health survey datasets, including the Behavioral Risk Factor Surveillance System (BRFSS), the Youth Risk Behavior Survey (YRBS), and the Pregnancy Risk Assessment Monitoring System (PRAMS).

To support skill development, the fellow will have opportunities to participate in training for SAS and other statistical or analytic software through LinkedIn Learning and other approved training providers.

Projects

Surveillance Activity Title: Comprehensive Oral Health Surveillance

Surveillance Activity Description:

This activity involves building a collaborative partnership with the Office of Oral Health and its external partners to conduct routine and systematic surveillance on the oral health status of adults and children in Arizona. By leveraging established public surveys like the Behavioral Risk Factor Surveillance System (BRFSS) for adults, the Pregnancy Risk Assessment Monitoring System (PRAMS) for pregnant people, and the National Survey of Children's Health (NSCH) for children, this activity aims to investigate patterns, causes, and effects of poor oral health outcomes in Arizona. The fellow will integrate other oral health data into the state's surveillance protocol, including the Health Resources and Services Administration (HRSA) Uniform Data System (UDS), Centers for Medicare & Medicaid Services (CMS) Form 416, workforce data, hospital discharge data, and syndromic surveillance. The goal is to develop a comprehensive surveillance plan and protocol that will ultimately enhance the Department's ability to provide regular oral health status reports, providing valuable information to stakeholders, policymakers, and the public.

Surveillance Activity Objectives:

The proposed project objectives include:

- 1) building a collaborative partnership with the Office of Oral Health and its external partners for routine oral health surveillance
- 2) integrating supplementary oral health data sources with public health survey data to provide a comprehensive picture of oral health status in Arizona
- 3) creating a comprehensive oral health surveillance plan and protocol that leverages established public surveys and additional data sources

Expected deliverables include:

- 1) a documented collaborative partnership framework or approach between the Office of Oral Health and external partners
- 2) documented processes and findings (e.g., reports, dashboards, infographics) from integrating supplementary oral health data sources with public health survey data
- 3) a comprehensive oral health surveillance plan, protocol, and report for the state

Surveillance Activity Impact:

This project will empower the Office of Oral Health and its stakeholders to make informed decisions about future oral health initiatives by generating regular and comprehensive oral health status reports based on diverse surveillance data, ultimately enhancing public health. The project aims to identify health disparities in the state's holistic approach by examining patterns and disparities in oral health among diverse demographic groups. This, in turn, optimizes prevention strategies and enables the efficient allocation of public health resources, as well as the continuous evaluation of local oral health programs throughout the state. Ultimately, the project aims to support the Office of Oral Health in adopting a more proactive and evidence-based approach to oral health promotion, addressing the distinct needs of communities and reducing health disparities.

ID: 87373812

Oral Health, Maternal and Child Health - Host Site Description

Arizona Department of Health Services

Surveillance System Evaluation Title: Evaluating Oral Health Surveillance Strategies in Arizona

Surveillance System Evaluation Description:

This project aims to conduct a thorough cross-walk evaluation of oral health and chronic disease surveillance datasets, providing valuable insights into the strengths and limitations of each system. The analysis aims to identify gaps in critical health indicators, allowing for a better understanding of the current state of oral health & chronic disease surveillance. The project will also assess and identify discrepancies in definitions and methodologies across multiple datasets. By critically assessing various surveillance systems, the project will provide actionable recommendations to improve surveillance in the state. The goal is to inform decision-makers, stakeholders, and policymakers about Arizona's most effective strategies for optimizing oral health surveillance. This ensures that oral health surveillance captures a comprehensive and accurate representation of oral health indicators. Through this initiative, the project aims to contribute to a more robust and refined oral health surveillance framework at the state and national levels.

Ultimately, the fellow will engage in the following activities to accomplish this project:

- 1) compare various surveillance data elements
- 2) assess surveillance methodologies
- 3) evaluate data quality and accuracy
- 4) align health indicators with Healthy People 2030
- 5) identify gaps
- 6) provide recommendations

Surveillance System Objectives:

The proposed objectives for this project are :

- 1) designing and implementing a thorough cross-walk comparison of oral health data sources
- 2) developing a framework to align oral health indicators available in multiple data sources with Healthy People 2030
- 3) developing actionable recommendations to improve alignment and accuracy of oral health and chronic disease surveillance mechanisms

The expected deliverables for this project include

- 1) an evaluation plan that describes the framework, methods, and processes for conducting a cross-walk comparison of oral health surveillance data sets
- 2) an evaluation report outlining strengths and limitations for each surveillance system along with a proposed framework for the alignment of indicators
- 3) a list of actionable recommendations to enhance the accuracy and reliability of oral health and chronic disease data in Arizona

Surveillance System Impact:

This project will provide ADHS and its partners with a comprehensive understanding of the strengths, limitations, and discrepancies of existing oral health surveillance systems. The actionable recommendations from this project will inform improvements to future oral health surveillance mechanisms, resulting in more effective and targeted initiatives. The findings from this project may influence national surveillance frameworks, promoting consistency and standardization in oral health surveillance practices at a broader scale. Lastly, aligning with current health initiatives ensures that oral health surveillance efforts contribute directly to overarching health goals and promote a holistic, coordinated approach to public health.

ID: 87373812

**Oral Health, Maternal and Child Health - Host Site Description
Arizona Department of Health Services**

Major Project Title: Enhancing Pediatric Oral Health Surveillance in Arizona

Major Project Description:

Good oral health has a significant positive impact on a child's overall social, physical, and mental development. Despite the preventability of tooth decay, many children in Arizona still experience cavities. In response, the ADHS Office of Oral Health, in collaboration with the Bureau of Assessment and Evaluation (BAE), conducts a statewide oral health survey every five years, known as the Healthy Smiles Healthy Bodies Survey.

The survey focuses on kindergarten and third-grade children attending public schools and is designed to assess current oral health status across the state. Data are collected on key oral health indicators, including tooth decay (cavities), untreated decay, dental sealants, missing teeth, use of dental services, and access to dental insurance. Survey findings are used to monitor trends in oral health over time, identify disparities among children's populations, and inform oral health policy, planning, and programmatic decision-making in Arizona.

Historically, the oral health survey has been administered every 5 years to approximately 3,600 kindergarten and 2,300 third-grade children across 84 schools statewide. Due to challenges related to school recruitment, personnel training, and data collection logistics, ADHS will refine and modernize the survey methodology while maintaining the five-year cycle. This project aims to strengthen the sustainability, efficiency, and data quality of the statewide oral health surveillance system.

The fellow will support this effort by:

- Refining the survey design to ensure comprehensive and high-quality data collection for kindergarten and third-grade children.
- Enhancing sampling methods to ensure appropriate demographic and geographic representation; and
- Improving strategies for school recruitment and engagement based on lessons learned from prior survey cycles.
- The fellow will serve as the lead investigator, coordinating necessary Institutional Review Board approvals to ensure ethical data collection.
- In partnership with the secondary mentor, the fellow will develop updated training materials for survey personnel, establish standardized data management and quality assurance protocols, oversee data aggregation and analysis, and contribute to the development of a final analytic report. The next survey cycle is planned for implementation during the 2027-2028 school year.

Major Project Objectives:

There are four overall objectives for this project:

- 1) develop an improved survey design capturing comprehensive data on the oral health of kindergarten and third-grade children
- 2) optimize sample selection and school recruitment
- 3) facilitate IRB approvals
- 4) establish a robust training program and data management system

The expected deliverables include

- 1) an updated survey instrument for comprehensive oral health data collection
- 2) documented strategies for optimized sample selection and enhanced school recruitment
- 3) documentation approval from the IRB
- 4) training materials for personnel
- 5) a functional data management system for efficient data handling

ID: 87373812

Oral Health, Maternal and Child Health - Host Site Description

Arizona Department of Health Services

Major Project Impact:

The proposed project will provide a more sustainable and responsive model for pediatric oral health surveillance. Lessons learned from this process can be shared with other state oral health offices to implement in their respective states. By addressing the challenges faced in the previous cycle, this project aims to provide policymakers, healthcare professionals, and educators with timely and reliable data to inform targeted interventions and improve the overall oral health of Arizona's children.

Additional Project #1 Title: Oral Health & Other Chronic Disease Associations

Project #1 Type: Major Project

Project #1 Description:

Oral diseases such as tooth decay and periodontal disease share common risk factors with chronic conditions, including diabetes, cardiovascular disease, and adverse pregnancy outcomes. Despite growing evidence of these correlations, oral health data are often siloed from chronic disease surveillance systems, limiting their use in population-level public health decision-making. This project will investigate the relationships between oral health conditions and chronic diseases to inform integrated public health surveillance, prevention, advocacy, and policy initiatives. The fellow will work with state and/or local health department partners to analyze available oral health, chronic disease, and behavioral risk data (e.g., BRFSS, oral health surveillance systems, Medicaid claims, hospital discharge data). The project will identify population-level correlations, disparities, and trends, with a focus on priority populations disproportionately affected by both oral and chronic diseases. Findings will be translated into actionable public health products to support cross-program collaboration, program planning, and policy development.

Project #1 Objectives and Expected Deliverables:

There are four overall objectives for this project:

- 1) assess population-level associations between oral health outcomes (e.g., tooth loss, periodontal disease, unmet dental care needs) and selected chronic diseases such as diabetes and cardiovascular disease using surveillance and administrative data
- 2) identify disparities in these associations by geography, race and ethnicity, age, income, and insurance status
- 3) evaluate opportunities and limitations for integrating oral health data with chronic disease surveillance systems
- 4) translate findings into actionable public health guidance to support integrated prevention strategies and cross-program collaboration

The expected deliverables include

- 1) a comprehensive analytic report describing methods, findings, and public health implications of oral health and chronic disease associations
- 2) data visualizations and summary briefs highlighting disparities and priority population
- 3) documented recommendations and best practices for integrating oral health into chronic disease surveillance and prevention efforts
- 4) presentations for internal and external public health stakeholders
- 5) a manuscript or conference abstract suitable for dissemination as feasible

Project #1 Impact:

This project will advance public health practice by promoting the integration of oral health into frameworks for chronic disease surveillance and prevention. By demonstrating population-level associations and shared risk factors, the project will enable health departments to adopt more coordinated and efficient approaches to disease prevention. The findings will support evidence-based decision-making, inform resource allocation, and enhance cross-program collaboration between oral health and chronic disease management.

ID: 87373812

**Oral Health, Maternal and Child Health - Host Site Description
Arizona Department of Health Services**

Ultimately, the project aims to improve health outcomes by elevating oral health as a critical component of chronic disease prevention, particularly for populations experiencing persistent health disparities. The tools and methods developed through this work will be adaptable for use by other states, expanding the impact beyond a single health department and contributing to national oral health surveillance and policy efforts.

Please Describe the Fellow’s Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)

BAE staff frequently contribute to statewide emergency responses, including those related to COVID-19, measles outbreaks, and the infant formula shortage. The fellow will be integrated into the Health Emergency Operations Center (HEOC) structure, primarily supporting the data analysis and epidemiology functions. Activities may include analyzing surveillance and programmatic data, producing timely reports and visualizations, and assisting with ad hoc epidemiologic requests to inform decision-making during public health emergencies. The time allocated to preparedness and response activities will vary based on the public health need, with the fellow participating as needed to support rapid, data-driven response efforts while maintaining their core surveillance and evaluation responsibilities.

Please Describe the Fellow’s Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)

The fellow will support cluster and outbreak investigations by analyzing surveillance and programmatic data to identify trends and unusual patterns in oral health conditions across the state. Key conditions include tooth decay, periodontal disease, edentulism, and oral cancers, which can serve as indicators of broader health concerns and underlying risk factors. The fellow will assist in early detection efforts, data interpretation, and reporting to inform timely public health action, including prevention and intervention strategies. While the majority of the fellows’ time will focus on oral health surveillance and program evaluation, they will dedicate time as needed to support cluster detection and outbreak response, applying epidemiologic methods to guide evidence-based public health decisions.