



# Public Health Project/Activity Descriptive Report Form

Please provide a detailed description of your **successful dental public health project/activity** by fully completing this form. Expand the submission form as needed but within any limitations noted. Please return completed form to: [lcofano@astdd.org](mailto:lcofano@astdd.org)

**NOTE:** Please use Arial 10 pt. font.

**CONTACT PERSON PREPARING THE SUBMISSION AND TO ANSWER QUESTIONS**

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**PROVIDE CONTACT INFORMATION FOR ONE ADDITIONAL PERSON WHO COULD ANSWER QUESTIONS REGARDING THIS PROGRAM**

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**SECTION I: ACTIVITY OVERVIEW**

**Title of the dental public health activity:**

**Generating Equitable Health Rankings: Identifying Oral Health Burden Across Colorado**

**Public Health Functions\* and the 10 Essential Public Health Services to Promote Oral Health:** Check one or more categories related to the activity.

"X"	Assessment
	1. Assess oral health status and implement an oral health surveillance system.
X	2. Analyze determinants of oral health and respond to health hazards in the community
	3. Assess public perceptions about oral health issues and educate/empower them to achieve and maintain optimal oral health
	<b>Policy Development</b>
X	4. Mobilize community partners to leverage resources and advocate for/act on oral health issues
	5. Develop and implement policies and systematic plans that support state and community oral health efforts
	<b>Assurance</b>
	6. Review, educate about and enforce laws and regulations that promote oral health and ensure safe oral health practices
	7. Reduce barriers to care and assure utilization of personal and population-based oral health services
	8. Assure an adequate and competent public and private oral health workforce
	9. Evaluate effectiveness, accessibility and quality of personal and population-based oral health promotion activities and oral health services
X	10. Conduct and review research for new insights and innovative solutions to oral health problems

**[\\*ASTDD Guidelines for State and Territorial Oral Health Programs that includes 10 Essential Public Health Services to Promote Oral Health](#)**

**Healthy People 2030 Objectives:** Please list HP 2030 objectives related to the activity described in this submission. If there are any state-level objectives the activity addresses, please include those as well.

Primary Objective:

- PHI-R06: Enhance the use and capabilities of informatics in public health, specifically data-sharing and application to practice and use in decision-making. While this is not a specific state objective, the Colorado Department of Public Health and Environment Oral Health Unit recognizes the applicability of this objective to the overarching goal of the project which is to have a data-focused prioritization process to identifying communities in Colorado with high health care needs.

Secondary Objectives addressed by implementing oral public health programs in priority communities:

- OH-02: Reduce the proportion of children and adolescents with active and currently untreated tooth decay in their primary or permanent teeth
- OH-03: Reduce the proportion of adults with active or currently untreated tooth decay
- OH-05: Reduce the proportion of adults aged 45 years and over who have lost all their teeth
- OH-06: Reduce the proportion of adults aged 45 years and over with moderate and severe periodontitis
- OH-08: Increase the proportion of children, adolescents, and adults who use the oral health care system

- AHS-05: Reduce the proportion of persons who are unable to obtain or delayed in obtaining necessary dental care

**Provide 3-5 Key Words (e.g. fluoride, sealants, access to care, coalitions, policy, Medicaid, etc.) These will assist those looking for information on this topic:**

Acquiring oral health data, Use of oral health data, Access to care, health indices, priority communities, Hispanic/Latinx populations

**Executive Summary: Complete after Section II: Detailed Activity Description. Please limit to 300 words in one or two paragraphs.**

Provide a brief description of the dental public health activity. Include information on: (1) what is being done; (2) who is doing it and why; (3) associated costs; (4) outcomes achieved (5) lessons learned, both positive and negative.

The Colorado Department of Public Health and Environment Oral Health Unit (CDPHE OHU) and chronic disease epidemiologist utilized modifiable determinants of health and county-specific race and ethnicity data to identify and prioritize counties in Colorado with the highest healthcare needs. The [County Health Rankings \(CHR\) model](#) was selected as the method of choice based on its applicability and proven ability to effectively rank counties. To include an equity lens, the race/ethnicity breakdown of each county was compared with the CHR composite scores. These results were compared to current partner coverage areas to identify and prioritize communities in need and opportunities for funding support for oral health interventions. Additional comparisons to communities with higher populations of adults identifying as non-white were also conducted in order to implement an older adult oral health collaboration initiative between the OHU and the Colorado Department of Human Services Unit on Aging.

All 64 counties in Colorado were ranked from greatest to least oral health burden. Of the top 10 prioritized communities, current CDPHE OHU local public health grantees have conducted, or are currently conducting oral public health activities such as outreach, education, preventive services, etc. in roughly 50 percent. The OHU has also identified older adults (60+) as a priority population and results from these analyses showed a 100 percent overlap between prioritized communities and current OHU-funded grantees. Currently, CDPHE OHU and the chronic disease epidemiologist are working to create a map to visualize the county rankings in alignment with CDPHE OHU grantees.

The CHR model can be applied to program-specific planning to identify how need varies across the state. This work has helped guide the OHU in their upcoming strategic planning process, as well as strengthen partnerships and identify new ways to collaborate.

This project was supported by CDC, HRSA, and state funding.

## SECTION II: DETAILED ACTIVITY DESCRIPTION

Provide detailed narrative about the dental public health activity using the headings provided and answering the questions. Include specifics to help readers understand what you are doing and how it's being done. References and links to information may be included.

**\*\*Complete using Arial 10 pt.**

### **Rationale and History of the Activity:**

1. What were the key issues that led to the initiation of this activity?

The Colorado Department of Public Health and Environment Oral Health Unit (CDPHE OHU) was in need of a methodology to help prioritize work throughout Colorado. Existing methodologies utilized modifiable health factors and did not take into account race and ethnicity. After completing a literature review, the County Health Rankings methodology was selected based on its ability to identify the burden and risk of health outcomes using a model based in health equity. The ranking of counties throughout Colorado would be used to identify priority areas in which the OHU would increase oral health interventions and focused approaches to increasing access to care. The main goal of this work is to improve oral health outcomes and access to care for all Coloradans.

2. What rationale/evidence (may be anecdotal) did you use to support the implementation of this activity?

Preliminary literature reviews conducted revealed a lack of race/ethnicity being included as a factor in available methodologies resulting in the need for this methodology to be developed. Once the methodology was developed, a comparison to current CDPHE OHU partner coverage areas was necessary in order to identify new areas of high need in Colorado. Additionally, the developed methodology would be utilized in the future for Colorado's oral health strategic planning process.

3. What month and year did the activity begin and what milestones have occurred along the way? (May include a timeline.)

Project planning efforts began in late fall 2019/early spring 2020. Literature reviews were completed in spring/summer 2020 and a preliminary methodology was developed in the fall of 2020. The developed methodology was drafted utilizing the County Health Rankings (CHR) developed model and included the Health Factors model which is broken down into four components: Health behaviors, clinical care, social and economic factors, and physical environment. As a part of the CHR model, each component is weighted, and components collectively add up to 100 percent. Subcomponent focus areas and measures related to these focus areas within each health factor were identified by CDPHE OHU and the chronic disease epidemiologist. Weights for each measure were also determined by CDPHE OHU and the chronic disease epidemiologist and guided by several considerations including findings from literature reviews, input from program staff, program funding, and weighted measures from other rankings. The CDPHE OHU and chronic disease epidemiologist consider this to be an iterative process and are currently planning additional iterations such as school-aged and school-based oral health efforts as well as the state's Cavity Free at Three program enhancements.

The developed methodology was finalized in late fall with a second iteration developed for older adult Latinx populations in early 2021. Subcomponent focus areas and identified measures specific to the older adult Latinx project are broken down as follows:

Health Factor	Focus Area	Measure
	Tobacco Use	Adult smoking

Health Behaviors	Diet and Exercise	Adult obesity
		Food environment index
		Stress
	Alcohol Use	Excessive drinking
	Chronic Disease	Chronic illness
		Periodontal disease
Clinical Care	Access to Care	Uninsured
		Primary care physicians
		Dentists
	Quality of Care	Preventable hospital stays
		Dental visit in past year (adults)
Social and Economic Factors	Education	High school graduation
		Some college
	Employment	Unemployment
	Income	Children in poverty
		Income inequality
	Family and Social Support	Children in single-parent households
		Children eligible for free and reduced lunch
		Family friend and neighbor care
	Community Safety	Violent crime
		Injury deaths

Physical Environment	Water Quality	Drinking water violations
	Housing	Severe housing problems

Source: University of Wisconsin Population Health Institute. County Health Rankings Key Findings 2020. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model>

The sections below follow a logic model format. For more information on logic models go to: [W.K. Kellogg Foundation: Logic Model Development Guide](#)

<b>INPUTS</b>	PROGRAM ACTIVITIES	OUTPUTS	OUTCOMES
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1. What resources were needed to carry out the activity? (e.g., staffing, volunteers, funding, partnerships, collaborations with various organizations, etc.)
  - Robert Wood Johnson Foundation and University of Wisconsin County Health Rankings model
  - Staffing needs: Chronic disease epidemiologist and oral health unit program staff
  - Software needs: SAS and Tableau licenses
  - Funding support for FTE

INPUTS	<b>PROGRAM ACTIVITIES</b>	OUTPUTS	OUTCOMES
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2. Please provide a detailed description the key aspects of the activity, including the following aspects: administration, operations, and services.
  - Chronic disease epidemiologist provided the structure and outline of the modifiable health indices for the developed methodology based on the results of the literature review and data available. Selected health factors and indices were finalized by the epidemiologist and Oral Health Unit program staff.
  - Results were utilized to inform the development of an older adult Latinx outreach project which included the dissemination of oral hygiene supplies and educational outreach in areas identified as high need.

INPUTS	PROGRAM ACTIVITIES	<b>OUTPUTS</b>	OUTCOMES
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3. What outputs or direct products resulted from program activities? (e.g., number of clients served, number of services units delivered, products developed, accomplishments, etc.)
  - Developed methodology including CHR model and county rankings as well as race/ethnicity breakdown by county
  - Results of the methodology were utilized to compare areas of high need to current CDPHE OHU contractors and partners.
  - CDPHE Department of Human Services Unit on Aging older adult population data set was also utilized to identify areas of high need for Colorado's older adult Hispanic/Latinx population.

INPUTS	PROGRAM ACTIVITIES	OUTPUTS	<b>OUTCOMES</b>
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4. What outcomes did the program achieve? (e.g., health statuses, knowledge, behavior, care delivery system, impact on target population, etc.) Please include the following aspects:
  - a. How outcomes are measured
  - b. How often they are/were measured
  - c. Data sources used
  - d. Whether intended to be short-term (attainable within 1-3 years), intermediate (achievable within 4-6 years), or long-term (impact achieved in 7-10 years)

Since applying this model to the OHU's work, CDPHE has:

- Presented the model to a key oral health philanthropy and data partner to provide feedback and potential areas of collaborative grant making and data strategies.
- Applied the County Health Rankings methodology to other programs across CDPHE including the Cancer, Cardiovascular, and Chronic Pulmonary Disease and Comprehensive Cancer programs.
- Planned to include this and future data modelling as part of core OHU strategies during an upcoming state oral health strategic plan development process.
- Performed an additional analysis based on racial and ethnic demographics of Colorado counties to visualize areas of concordant and discordant results, with plans to try to identify additional metrics that may correlate with community strengths and resilience metrics.

#### **Budgetary Information:**

NOTE: Charts and tables may be used to provide clarity.

1. What is the annual budget for this activity?
  - FTE costs associated with chronic disease epidemiologist and oral health unit program staff
2. What are the costs associated with the activity? (Including staffing, materials, equipment, etc.)
  - Staff/FTE costs:
  - Specific to the older adult Latinx project, material costs include hygiene and denture kit orders, kit assembly and shipping. Contracts with local oral health professionals have also been established to help with kit delivery and to provide oral health education at congregate meal sites.
3. How is the activity funded?
  - This activity is supported by CDC, HRSA and state funding.
4. What is the plan for sustainability?
  - CDPHE OHU plans to utilize the developed methodology to help identify new partnerships and opportunities for collaboration in areas of high need through the strategic planning process.
  - Identification of oral health champions in new areas of high need and continued collaboration efforts with known partners will also be key for sustainability.

#### **Lessons Learned and/or Plans for Addressing Challenges:**

1. What important lessons were learned that would be useful for others looking to implement a similar activity? Was there anything you would do differently?
  - The County Health Rankings Health Factors model is broken into four components: Health behaviors, clinical care, social and economic factors, and physical environment. Each of these components have assigned weights defined by County Health Rankings

and Robert Wood Johnson's decade of research in this area. However, determining weights for indicators within each of the component areas had many challenges. In order to prevent these decisions being made subjectively, the process for determining weights was guided by several considerations, including what was seen in literature, input from program staff, program funding, and weights from other rankings.

- Similar to the above, special consideration was taken to identify the total number of indicators included in each component area. This is because too many indicators would dilute the model. The total number of indicators included in each component area was determined after gathering input from program staff and partners, while considering what programs we were currently funding, in order to determine what indicators were the most important to include.
- CDPHE elected to develop a general oral health model as opposed to developing specific models identified by topic areas. Due to limitations with data availability and small sample sizes, it was determined a general oral health index would provide the most reliable results until new data sets are created/available.

2. What challenges did the activity encounter and how were those addressed?

- Due to a lack of robust oral health databases as well as a lack of robust sample sizes at the county level, CDPHE elected to aggregate more than three years of data to have a large enough sample size.
- In addition to the lack of availability of data sets as highlighted above, CDPHE also encountered a lack of population specific data for communities at greatest risk for poor oral health outcomes (e.g. older adults ages 60+, Native American/Alaskan Native, Black/African American, etc.). The main data source for oral health data is the Behavioral Risk Factors Surveillance System (BRFSS), which is a population-based survey. Unfortunately, population-based surveys do not typically include a robust data collection for specific populations including Black, Indigenous and people of color (BIPOC). Colorado recognizes a need for additional surveillance data which utilizes other data collection methods such as community-specific surveys and recognition of social determinants of health leading populations to increased risk. In an attempt to address this challenge for the older adult Latinx project, CDPHE OHU elected to utilize the CDHS state demographic dataset, which included a population estimate classification of "Minority 60+".

**Available Information Resources:**

Share any models, tools, and/or guidelines developed by the program specifically for this activity that may be useful to others seeking additional information. Hyperlink resources if possible.

- University of Wisconsin Population Health Institute. County Health Rankings Key Findings 2020. [County Health Rankings and Roadmaps](#)



<b>TO BE COMPLETED BY ASTDD</b>	
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