

**TITLE:** Oregon Public Health Burden and Economic Costs of Tobacco Use

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**STUDENT SUBMISSION:** No

**TOPIC/TARGET AUDIENCE:** Tobacco, chronic disease prevention and health promotion/ researchers and evaluators.

**ABSTRACT:** Tobacco is the number-one cause of preventable mortality and morbidity in Oregon. This burden is not distributed equally, with the tobacco industry targeting populations facing systemic racism and other discrimination as well as lower-income populations. Many of these populations have not received adequate access to treatment or protection through public health policy interventions. Oregon Tobacco Prevention and Education Program has relied on the state-level CDC's Smoking-Attributable Morbidity and Mortality Economic Costs (SAMMEC) to communicate the economic burden of tobacco use in Oregon communities and advocate for prevention policies and cessation support. However, the SAMMEC does not provide community-scale estimates reflecting disparities in smoking rates and health baseline conditions among vulnerable populations. We developed county-scale, age-, sex-, and race/ethnicity-specific population-attributable fractions using the most recent tobacco epidemiology studies for adult mortality and morbidity endpoints (including cancer, diabetes, respiratory, and cardiovascular disease) and maternal smoking-related infant mortality and morbidity. We characterize impacts for several products (cigarette, cigar, non-combustible tobacco), current/former smokers, secondhand smoke. We use Oregon Behavioral Risk Factor Surveillance System 2014-2019 data, 2016-2019 vital statistics for adult mortality data, 2013-2018 vital statistics for live births-infant mortality data, 2015-2019 vital statistics for infant mortality data, and American Community Survey 2019 5-year population data. Economic burden of smoking-related mortality was represented by the present value of lost productivity, where per case age-, sex-, and race/ethnicity-specific values were estimated using American Time Use Survey 2019, CDC 2017 life tables, and 2020 Oregon wage data and assuming 3% discount rate. To assess economic burden of morbidity attributable to tobacco use, we implemented a new analysis of the Medical Expenditure Panel Survey 2010-2018 data to estimate the smoking-attributable incremental rate ratios for hospital visits and emergency room visits, along with the relative risk of exiting the labor market and a percent reduction in hours worked due to smoking-related illness. Economic burden of morbidity was assessed by combining these estimates with Oregon 2016-2020 hospital discharge data, Oregon 2018-2019 emergency room data, and American Community Survey 2018 5-year labor market data. This presentation will provide an overview of the key results from this effort, including our core estimates of nearly 8,000 premature deaths, 162,000 disability-adjusted life years (DALY) lost, 4,800 hospital stays, 7,300 emergency room visits, and \$5.7 billion (2020 USD) in medical costs and lost productivity annually in Oregon. In addition, we will share notable insights regarding the distribution across demographic groups defined by age, sex, and race/ethnicity; tobacco product types; use/exposure patterns; and disease causes for Oregon communities. We will also share our insights about sustainability of updates to this analysis in Oregon, as well as feasibility of implementing this framework in other states. The results of this work will help target Oregon Tobacco Prevention and Education Program's outreach and planning efforts via identification of Oregon

communities that bear the largest burden of tobacco use will help direct communication, prevention and cessation support policies thereby promoting healthier environments in communities that need these interventions the most.

**OBJECTIVE(S):** As a result of this presentation, participants will the key information types that are needed to implement a tobacco use burden assessment, including epidemiological evidence, population size and demographics, tobacco use patterns, and baseline mortality and morbidity rates. Participants will gain understanding of most recent epidemiological evidence regarding the health endpoints affected by tobacco use for a range of products and exposure types. Participants will gain understanding of healthcare utilization and labor market impacts of tobacco use-related mortality and morbidity. During this session, participants will gain insights into the distribution of tobacco burden across demographic groups, tobacco use/exposure patterns, and causes, along with insights into spatial patterns in the tobacco burden. At the end of this presentation, participants will understand the insights that can be generated by an assessment of this type and the data requirements for implementing similar assessments.

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