

Date: April 1, 2015

TO: The Honorable Mitch Greenlick, Chair
House Health Care Committee

FROM: Bruce Gutelius, MD, MPH
Public Health Division
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SUBJECT: HB 3310

Representative Greenlick and members of the committee, I am Dr. Bruce Gutelius, Deputy State Epidemiologist with the Public Health Division of the Oregon Health Authority. I am a public health physician with specialty training in Internal Medicine and Endocrinology. I am here to provide information today on the impact of diesel exhaust on human health.

Components of diesel exhaust are known to be harmful to human health in a variety of ways. Diesel exhaust contains fine particles, less than one-fifth the thickness of a human hair, that penetrate deep into the lungs and contributes to a range of health problems. Short-term exposure to increased levels of these fine particles is known to increase hospitalizations in the population for several cardiovascular conditions, including heart attacks and heart failure, and for lung diseases such as asthma. Deaths from heart disease, lung disease, and other causes also increase in the population with short-term exposure to elevated levels of these fine particles. These harmful health impacts increase with higher levels and longer durations of exposure to fine particles.

According to the World Health Organization, diesel exhaust is also a known human carcinogen that is linked to lung cancer. It contains more than 40 hazardous air pollutants, several of which are known or suspected cancer-causing substances, such as benzene, arsenic, and formaldehyde.

Diesel exhaust particles are suspended in the air, so exposure to this pollutant occurs whenever a person breathes air that contains diesel exhaust. The prevalence of diesel exhaust makes it almost impossible to avoid exposure, regardless of whether you live in a rural or urban setting. However, people living and working in urban and industrial areas

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are more likely to be exposed to this pollutant. Those spending time on or near roads and freeways, truck loading and unloading operations, operating diesel-powered machinery or working near diesel equipment face exposure to higher levels of diesel exhaust and face higher health risks.

The short-term and long-term health risks related to exposure to diesel exhaust are disproportionately borne by society's most vulnerable groups. Low-income, inner-city families face the greatest risks of exposure due to their proximity to major highways. People with existing heart and lung disease, asthma, or other respiratory problems suffer the most adverse health outcomes associated with exposure to particulates from diesel exhaust. There are also adverse health effects associated with occupational exposure to the harmful components of diesel exhaust.

Exposure to particulate matter is also associated with a variety of harmful health effects in children, including increased bronchitis and asthma symptoms, increased emergency department visits for asthma, and reduced lung function.

In conclusion, emissions from diesel exhaust can lead to increased hospitalizations and deaths from heart and lung disease and contain chemicals that are known to cause cancer. Known health effects from components of diesel exhaust disproportionately affect vulnerable populations such as children, those with chronic diseases, people from lower-income communities, and the elderly.

Thank you for the opportunity to provide you with this testimony. I would be pleased to provide the committee with additional information as needed.