Testimony of Afif El-Hasan, MD
Pediatrician and Governing Board Member, American Lung Association in California
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Introduction

Good morning, my name is Afif El-Hasan and I have been a pediatrician in Orange County for __ years. I'm also a volunteer and Governing Board member for the American Lung Association in California.

As a physician volunteer for the lung association, I am proud of the tremendous health benefits achieved through California's leadership on air pollution control. A quick look at the 1970's era photograph of Los Angeles in demonstrates the hazardous smog levels that communities in the Southern California region had to live with decades ago. Ozone levels were more than twice as high as we experience today. At that time residents would say it literally hurt just to breathe the air. Thankfully, we don't live with these levels today. Without California's history of leadership and innovation, we would live with these levels or even worse.

California has been able to dramatically cut pollution since the 70's, as documented in our American Lung Association in California State of the Air Report. However, we still live with a public health crisis caused by air pollution. Here are a few statistics that demonstrate the extent of the problem today.

- In California, 32 million people (84% of the population) live in counties affected by unhealthy levels of ozone pollution or particle pollution.
- 7,300 deaths per year in California are linked to fine particle pollution
- Despite our progress, we still need to achieve an 80% reduction in smog in the Los Angeles region and about a 50% reduction in smog in the San Joaquin Valley to achieve our health based goals.

Thanks to California's AB 32, we anticipate a 4.3 billion dollar public health savings in 2020, and continued savings from climate programs when we go beyond 2020. In 2020, it is estimated that there will be 770 fewer premature deaths and 76, 000 less days lost to pollution related illness because of the improved air standards. These are tremendous health benefits.

Who's at risk?:

I would like to focus first on children who are among those most at risk. Children who grow up in an area with polluted air will have inhibited lung development. When these children have completed lung growth, their lung capacity and lung function will be reduced when compared

to children who grew up in clean air. This can be an issue for the young adult even if no lung disease is present, since this can inhibit athletic function. As the lung function naturally reduces with aging, this can lead to further impairment in seniors. With the anticipation of longer lives due to medical technology, it is important that maximum lung development is promoted by ensuring that children grow up in clean air.

In addition to children, pollution affects those living with lung illnesses including:

- 2.9 million Californians living with asthma, including 700,000 children.
- 16,500 Californians expected to be diagnosed with lung cancer over the next year.
- There will be approximately 13,000 deaths from lung cancer over the next year.
- 1.4 million Californians living with COPD.

Personal Observations:

Here are a few stories from my practice as a physician:

- As a physician who treats asthma, I am constantly seeing the dilemmas caused by polluted air in the asthmatic patients that visit me. Asthmatics can be affected by walking home from school or participating in after-school athletics, since these activities often coincide with time periods of increased traffic and traffic related pollution. Parents may find themselves having to spend extra money (which they may be unable to afford) to use air conditioning on hotter days because the simple act of opening the windows may trigger or worsen asthma. Asthma medications can be expensive, and at this time, there is no generic inhaled steroids available to provide economic management of chronic asthma.

- For all people, regardless of health, patient airways, from the nostrils to the alveoli in the deepest lungs, are an important defense against infection. Air pollution causes increased inflammation and secretions in all the airways, which increases the susceptibility to respiratory infections from the sinuses to the lungs. This causes significant increases in severe respiratory illness, emergency room visits, hospitalizations, and time off from school and work.

- Diesel is particularly dangerous. Diesel exhaust can produce multiple types of pollution. One of the most concerning pollutants are PM2.5 particles. These particles are small enough to get past the lung's defenses to the blood stream. Once in the blood stream, these particles travel through the body and can cause damage to multiple organs. This can contribute to an increase in the incidence and severity of multiple diseases including cancer, cardiovascular disease, and developmental impairment in children.

How do we achieve our clean air future?

The good news is that we know that our clean air laws do save lives and are working to protect health. The air is cleaner today in California because of the Federal Clean Air Act, California's groundbreaking clean air and clean energy laws, such as AB 32, SB 32 and SB 1383, cleaner cars and freight, the low carbon fuel standard and local air pollution control programs.

The American Lung Association in California has been conducting research to better quantify the health benefits of our California air quality rules, regulations and programs. Our **Clean Air Future report** (released in October 2016) finds a widespread shift to zero-emission vehicles (ZEVs) in 2050 would mean cleaner air, reduced climate change pollution, better health, and a cleaner environment, adding up to huge economic benefits.

- The *Clean Air Future* report finds that emissions from passenger cars and trucks operated in California cost $15 billion dollars in health expenses and climate damage in 2015, including the costs of lost work days, asthma exacerbations and respiratory illnesses, and premature deaths. And that cost is repeated each year!
- To bring the cost of transportation pollution down to a personal level: each 16-gallon tank of gas burned costs society about $18.42 in health and climate-impact costs

Moving to zero-emission vehicles dramatically reduces these costs as well as the public health toll. This report finds that a robust ZEV program in 2050, would result in over 90% reduction in emissions that generate smog and soot, about an 85% reduction in health impacts and more than a 50% reduction in greenhouse gases compared to 2015. This means we will experience fewer asthma attacks, fewer hospitalizations, fewer lost work days, fewer medical visits and fewer premature deaths.

In order to maintain California's progress, we must protect the Federal Clean Air Act. The Clean Air Act is one of the major health success stories in our country. For more than 45 years, it has worked to protect our lungs by reducing harmful air pollutants, such as ozone, sulfur dioxides and particle pollution.

We urge you to join us in reaching out to the California congressional delegation to support continued strong implementation and enforcement of the Clean Air Act, and oppose any legislation that would block, weaken, or delay it. We believe California's authority to set and enforce our vehicle standards allowed under the Clean Air Act is critical for our state to continue clean air progress and protect our communities. California's children and other vulnerable populations are depending on this life-saving law.
Please continue your vital leadership to ensure all children have clean air to breathe. Thank you for your time today.