



Written Statement of

Sarah Bucic, MSN, RN

On behalf of the

American Nurses Association
and
the Delaware Nurses Association

“The Clean Air Act and Public Health”

Before the
Committee on Environment and Public Works
U.S. Senate
Washington, DC

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It is a privilege to appear before you today on behalf of the American Nurses Association and the Delaware Nurses Association to discuss the importance of the Clean Air Act, the positive impact it has had on the health of our nation, and the fundamental importance of continuing to support the Act to further protect public health.

The ANA is the only full-service professional organization representing the interests of the nation's 3.1 million registered nurses through its constituent member nurses associations--including the Delaware State Nurses Association. ANA advances the nursing profession by fostering high standards of nursing practice, promoting the rights of nurses in the workplace, projecting a positive and realistic view of nursing, and by lobbying the Congress and regulatory agencies on health care issues affecting nurses and the public.

Since the early years of the nursing profession, nursing leaders such as Florence Nightingale and Lillian Wald have recognized the role of nurses in controlling the influence of environmental factors on health. This underpinning of nursing practice was expressed by Florence Nightingale in her First Rule of Nursing: "Keep the air within as pure as the air without" (Nightingale 1859). ANA clearly recognizes the fundamental tie between the quality of our environment and the health of the nation, and I am honored to have the opportunity to appear before you today to discuss that connection.

Since its initial enactment and subsequent amendments, the Clean Air act has had a proven track record of success, cost-effectively cutting dangerous pollution, and positively impacting our environment and our health. According to a March 2011 report by the Environmental Protection Agency's Office of Air and Radiation, under the 1990 Clean Air Act Amendment Programs, the economic value of the substantial air quality improvements that would be realized by the year 2020 is estimated at almost \$2 trillion, an amount which vastly exceeds the cost of compliance with the law.

This same report estimates that by 2020 the 1990 Clean Air Act Amendment Programs will have resulted in the prevention of 230,000 deaths, 2,400,000 incidences of asthma exacerbation, 120,000 emergency room visits, 3,200,000 lost school days and 13,000,000 lost work days. These statistics represent not only the Act's impact on health and quality of life, but its value in ensuring economic productivity.

Still, as the findings of the American Lung Association's 2011 *State of the Air* report show, despite these successes, we have a long way to go to ensure that we all have clean air to breathe. The *State of the Air* report looked at levels of ozone and particulate matter —types of pollution with the most significant known health impacts--at monitoring sites across the country from 2007-2009, and it revealed some startling facts. While the study identified clear improvement in both categories over past years, serious problems remain. More than 154 million people, just over half the nation, endure pollution levels that make the simple act of breathing hazardous to their health.

The negative health effects of exposure to these pollutants, including ties to premature death, increased mortality, exacerbation of asthma, increased susceptibility to pulmonary and respiratory infection, and more, are well established. In addition, there is a growing body of evidence that even exposure to lower levels of ozone and particulate matter poses a greater health risk than once thought.

For vulnerable populations—children, the elderly, people with asthma, those with diabetes, cardiovascular disease, or chronic bronchitis and emphysema-- the dangers posed by exposure is even greater. Approximately 3.2 million children and nearly 9.5 million adults with asthma live in parts of the United States with high levels of ozone, 1.2 million children and 3.8 million adults with asthma live in areas with high levels of short-term particulate matter pollution.

For these populations, a bad air day isn't just an inconvenience: a day when they are told not to mow their lawn, or have to wait until dark to fill their gas tank. A bad air day can be life or death. A bad air day can keep them from school, from work, from the grocery store, in short from living life.

Ozone is formed by chemical reactions in the atmosphere between gases that are emitted primarily when fossil fuels are burned. Alarmingly, one of the factors in that reaction is temperature, and as a result, warmer temperatures associated with climate change have the real potential to increase ozone pollution. A June 2011 report from the Union of Concerned

Scientists analyzed the health and economic impact of this climate-related ozone increase, with striking results. The report cites that by 2020, the US could pay an average of \$5.4 billion in health impact costs associated with increases in ozone due to climate, and that the resulting higher concentrations of ozone could lead to hospitalization of an average of 3,700 more seniors and 1,400 more infants for respiratory-related problems by that same year.

The American Lung Association gives all three counties in my home state of Delaware an “F” grade placing close to 28,000 pediatric asthma cases at risk. An “F” is given if 9 days are over the ozone standard. There were approximately 3,000 asthma-related hospital admissions involving children through age 9 from 1994-2000 statewide. 46,000 adults are estimated to have asthma; and as many as 72,000 have had asthma at some time during their lives, and a new report on asthma in Delaware estimates that total direct charges for asthma-related health care could be between \$25 and \$30 million a year.

For nurses, these aren’t just numbers, they are our patients. We see them in the emergency room on bad air days, struggling to breathe. They receive their albuterol treatments and stay to rest--sometimes for several days – this is an avoidable consequence of pollution that has a direct impact on individual lives and on our country’s health care costs.

To be clear, asthma isn’t always a condition where you get your medication and move on. In 2000 and 2001, the most recent years for which data are available, there were 17 deaths per year from asthma in Delaware, a state with less than 1 million people.

Ozone and particulate matter are by no means the only air pollutants that threaten our health. As a psychiatric nurse, I feel obligated to testify to the negative health effects of mercury. The harmful effects of mercury on children's developing brains is well known, as are its effects on memory, attention, language, fine motor and visual spatial skills. In addition, toxic metals such as arsenic, chromium, and nickel can cause cancer. According to the EPA, by 2016, cleaning up toxic emissions from power plants will save 17,000 lives each year, prevent 11,000 heart attacks each year, prevent 110,000 asthma attacks each year, eliminate 12,200 hospitalizations and emergency room visits each year and add 850,000 days when people don't miss work each year.

We encourage our patients to make responsible, healthy choices, but this personal responsibility alone only goes so far. What good is eating fruits and vegetables if they were grown in contaminated soil? What good is exercise if the air in their community is full of pollution? We must hold industry just as accountable as we hold our patients. We need to have "prescription/discharge instructions for industry" to be as clean as possible – investments in clean air benefit all of us and will pay dividends in lower health care costs.

The bottom line is pollution creates more patients. From a nursing perspective, our interventions remain limited if the environment remains polluted. We are fixed in a state of keeping patients with chronic conditions like asthma and other pulmonary and cardiovascular conditions stabilized, when we all know that prevention is the only real, effective and long-term treatment.

Our health is clearly and inextricably linked to the health of our environment, and we owe it to ourselves and our children to build on the success of the Clean Air Act by supporting the life-saving standards advanced under this landmark public health law. We cannot afford to roll back these vital protections, and we must ensure that the standards set for regulating ozone, particulate matter, mercury and other air toxics reflect the best science and truly protect the public.

Respectfully submitted,

A handwritten signature in black ink that reads "Sarah B. Bucic, MSN, RN". The signature is written in a cursive style.

Sarah Bucic, MSN, RN