

Written Statement Submitted for the Record by
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to the
Senate Education, Health and Environmental Affairs Committee
For the Hearing on
Senate Bill 133: Community Healthy Air Act (Senator Madaleno)
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Disclaimer: The opinions expressed herein are my own and do not necessarily reflect the views of The Johns Hopkins University.

Chairperson Conway and members of the Committee, thank you for the opportunity to submit this statement for the record. My name is Dr. Keeve Nachman, and I am an Assistant Professor in the Department of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health. I have a master's degree in environmental health sciences and a doctorate in environmental health policy. I co-direct the Johns Hopkins Risk Sciences and Public Policy Institute and serve as the director of the Food Production and Public Health program at the Johns Hopkins Center for a Livable Future. Prior to joining the Johns Hopkins faculty, I worked at both the US Environmental Protection Agency and US Army Corps of Engineers as a risk assessor and toxicologist. I have published a number of peer-reviewed journal articles in the field of epidemiology, including multiple papers focused on the health effects of air pollution, and the community health impacts of proximity to large-scale animal production. I have been invited by Senator Madaleno to present this written statement and oral testimony at the hearing for Senate Bill 133 (SB133), the Community Healthy Air Act. Recognizing the need for increased air monitoring of concentrated animal feeding operations and the identification of airborne pollutants surrounding these operations, I support SB133, the Community Healthy Air Act.

Maryland's poultry industry produces approximately 300 million broiler chickens each year, the vast majority of which are produced on the Eastern Shore. Maryland ranked 7th in the nation in broiler production in 2016, producing approximately 1.85 million pounds of chicken. While the poultry industry plays a role in Maryland's economy, it critical to understand the public health concerns associated with industrial poultry production.

Studies have shown that the air inside broiler chicken houses can contain elevated concentrations of gases, particulate matter, pathogens, endotoxins and other hazards. These contaminants can be transported from broiler houses through large exhaust fans and may pose health risks to nearby residents. Ammonia, particulate matter, endotoxins, and pathogenic microorganisms have been detected in air samples surrounding poultry operations.

The airborne contaminants found in broiler chicken houses have been associated with a range of adverse health effects in people. Ammonia emissions have been implicated in upper respiratory illness in poultry workers, and studies have shown that endotoxin exposure can exacerbate pre-existing asthma or induce new cases of asthma. Particulate matter has been associated with chronic cough and phlegm, chronic bronchitis, allergic reactions, and asthma-like symptoms in

farmers, and respiratory problems in people living in the vicinities of animal production operations.

Of Maryland's currently air monitoring network, only three monitors are in operation on the Eastern Shore. None of these monitors are located in poultry-dense regions where the highest broiler inventories are located. At present, the Maryland Department of the Environment does not monitor or regulate air emissions from concentrated animal feeding operations. Given this, there is a need for a well-designed monitoring plan to aid in understanding whether community exposures to air pollution originating from poultry production poses public health risks.

The SB133 bill calls for the convening of an expert panel to design a peer-reviewed air monitoring plan that will enable the Department of the Environment to generate the data needed to support evidence-based decision-making. Passing this Act is a simple first step that Maryland can take to develop a better understanding of potential air pollutant releases and their implications, if any, for Maryland communities near poultry production.