Testimony Supporting SB0978
Senate Education, Energy, and the Environment Committee
February 25, 2025

Position: SUPPORT

Dear Chair Feldman and Members of the Committee,

Thank you for the opportunity to provide testimony in support of SB0978, the CHERISH our Communities Act on behalf of Johns Hopkins University.

As a public health scientist and educator, and a Professor and Chair of the Department of Environmental Health and Engineering in the Johns Hopkins Bloomberg School of Public Health and Director of the NIH funded CHARMED Community Health Center, I write in strong support of SB0987. I have doctoral training in human physiology with a particular focus on respiratory immunology and environmental health. I have worked in the field of environmental health for 30 years focusing on understanding the health impact of a range of pollutants from industrial activity on vulnerable individuals (pregnant women, children) and disadvantaged communities.

Health Impacts of Environmental Pollutant Exposures
Throughout our lives, we are exposed to a complex mixture of environmental pollutants from a vast array of sources that affect our health in ways we don't often see. From the chemicals in the air we breathe, the water we drink, and the soil we touch, these environmental exposures result in a myriad of adverse health outcomes and lower quality of life.

A prime example is that exposure to a range of airborne pollutants such as PM2.5-PM10, CO, sulfur dioxide, and nitrogen dioxide from a variety of sources (polluting factories, fossil fuel shipment facilities, trash incinerators, landfills, and polluting factories) contribute to long-term health problems, economic costs, and years of diminished quality of life and productivity. Specifically, air pollution exposure is strongly linked to risk for all-cause mortality as well as specific diseases including stroke, heart disease, chronic obstructive pulmonary disease, lung cancer, and pneumonia. Not surprisingly, the top disease related causes of death in Maryland are stroke, heart disease, cancer, and respiratory disease.

In 2021in Baltimore alone, the Maryland Department of Health found that asthma rates in Baltimore City are not only higher than the national average, but disproportionately affect children, African Americans, and low-income residents. A staggering 18.6% of children in Baltimore suffer from asthma, compared to just 5-8% nationally. Adults in the city also suffer at higher rates, with 13.7% of the population living with asthma—well above both state and national averages. More troubling still, emergency room visits for asthma-related conditions in Baltimore are the highest in the state, with African Americans experiencing asthma-related hospitalizations and mortality rates far higher than their white counterparts. The life expectancy in Maryland for all causes is lower in Baltimore than other parts of the State. Moreover, the life expectancy of Black men and women in MD are lower than their white counterparts.

My colleagues and I have also reported that exposure of pregnant women to even low levels of air pollution (PM2.5) during pregnancy is associated with inflammation of the placenta and a dose-related increased risk of preterm birth (PTB) and low birth weight (Nachman et al., 2016,). Being borne prematurely is associated with neonatal complications such as respiratory distress syndrome, sepsis, but also adverse psychological, behavioral, and educational outcomes in later life (Saigal and Doyle, 2008) In addition, preterm babies are at higher risk of developing hypertension, obesity, diabetes, stroke (Mao et al., 2017) and Attention Deficit Hyperreactivity Disorder (ADHD) later in life (Ahmed, 2024; Forns J, 2018).

Cumulative Impacts

The science behind cumulative impacts shows that the health effects of these pollutants don't simply add up—they interact in complex ways, worsening outcomes over time. We observed that urban Baltimore ambient air contains a wide variety of harmful chemicals [PM2.5, polyaromatic hydrocarbons, and heavy metals (lead, mercury, cadmium)] (Walters et al., 2001) each of which have been individually associated with adverse health outcomes including neurodevelopmental impairment and respiratory disease (Agency for Toxic Substances and Disease Registry; Yang et al, 2024; Zhi, et al., 2025). An illustration of the cumulative burdens of toxic exposure in a community is the report by Hsieh et al (2024) that the increased density of gas stations (benzene) in a neighborhood is associated with increased cancer risks because of cumulative emissions from the individual gas stations. This data highlights the need to take cumulative impacts into consideration when making decisions regarding expansion or development of new pollutant sources in an overburdened community.

Economics Costs of Pollutant Exposures

Addressing the cumulative impacts of pollution is not just a matter of science—it's a matter of economic justice. The costs of unchecked pollution are staggering. In Baltimore, asthma alone results in thousands of emergency room visits every year, with the burden falling disproportionately on the public healthcare system. In 2019, an estimated $23 million in emergency room costs were associated with asthma treatment, with nearly 71% of those costs covered by public funds. Added to these figures, are the high health care costs for treatment of PTB-associated comorbidities and the loss of economic productivity due to PTB-associated reductions in cognitive potential (11.9 IQ point decrements on average) (Trasande and Liu, 2011). These costs represent only a fraction of the broader economic impact of environmental pollution on healthcare, lost productivity, and education.

Environmental Justice Concerns

This cumulative impact of environmental stressors is a critical factor in public health, especially for communities already burdened by systemic inequality. From the Maryland EJ Screening tool we know that people in many Maryland communities are faced with more than their fair share of chemical stressors as well as challenging health disparities, social and economic circumstances. According to the U.S. Environmental Protection Agency (EPA) communities of color are exposed to higher-than-average levels of toxic air pollution. In fact, MDE reports that there are 70 regulated pollutant sources in the Curtis Bay area. These cumulative exposures over the lifespan of residents result in higher rates a variety of chronic health conditions that place an enormous burden on both individuals and the healthcare system.

Conclusion
As we move forward, it is crucial that we adopt policies that recognize the full complexity of environmental harm. To truly address the health disparities exacerbated by pollution, we must consider how multiple environmental stressors affect communities when approving permits. Only by taking a comprehensive approach to understanding and mitigating cumulative impacts can we protect public health and ensure a healthier future for all.

I respectively submit that the CHERISH Act's requirement for an Existing Burden Report provides decision makers with a more complete understanding of this critical context so risk management decisions can be made that protect health in all communities.

- **I support SB0978 to ensure that permit decisions are made with a full understanding of the health impacts on affected communities.**
- **I look forward to working with community members and state and local decision makers to implement practical cumulative risk and impact assessment approaches for Maryland.**

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