NEW YORK STATE PUBLIC HEALTH ASSOCIATION

Envisioning Healthy People in Healthy Places

Mission: The mission of NYSPHA is to promote and protect the public's health through professional development, networking, advocacy, and education.

Vision: Strengthening public health and taking action to make New York the healthiest state.

Testimony Submitted on Behalf of the
Board of Directors and the Membership of the
New York State Public Health Association
(NYSPHA)

to
The New York City Council
Committee on Health
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on

Proposed Indoor Air Quality Standards in Schools and Public Buildings in New York City

by
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Dear Chairperson Schulman and Council Member Powers,

Thank you for the opportunity to provide input on the proposed bills (#1127, #1128, #1129, #1130) that aim to improve and standardize indoor air quality in schools and municipal buildings and establish pilot programs to monitor indoor quality in residential and commercial buildings.

These comments on the proposed bills are submitted on behalf of the New York State Public Health Association, a statewide organization whose members come from all disciplines across the spectrum of public health professionals, organizations, academia, and students pursuing careers in public health. Our mission is to improve the public's health through advocacy, education, networking, and professional development.

New York City is grappling with poor indoor air quality in schools and public buildings. In June 2023, New York City had an unusual air pollution event with levels of fine particulates (PM2.5) of more than 22 times the threshold set by the World Health Organization for safe air quality.[1] This event underlined the growing concerns with both the indoor and outdoor air quality of New York City. Air pollution was exacerbated by wind currents on distant wildfires in addition to that generated within New York City. Its impact on school and public building indoor air quality remains a key problem.[1]

A primary and pressing concern regarding air quality has centered on its impact on the health and well-being of individuals of all ages residing in public buildings throughout New York City. According to EPA studies of human exposure to air pollutants, indoor levels of pollutants may be two to five times, and occasionally more than 100 times higher than outside levels, which is particularly worrisome given the majority of people spend around 90 percent of their time indoors.[4] Inadequate maintenance of buildings, improper ventilation, use of harmful construction materials, application of toxic paints on the walls, hazardous surroundings and neighborhoods releasing toxic gases causing air pollution, and use of harsh cleaning products all lead to poor indoor air quality in schools and public buildings.[2] Additionally, combustion products, particulate matter and carbon monoxide emitted in tobacco smoke and wildfire smoke, radon, volatile chemicals in water, mold, pesticides, lead, asbestos, chemical off-gassing from pressed wood products, ozone from air cleaners and other volatile organic compounds are known to further exacerbate indoor air quality.[3]

Developing systemic, social, and community-level changes and improvements can mitigate the impact of unhealthy indoor and outdoor air quality thus improving the health and well-being of people of all ages as well as alleviating health disparities among racially and socially marginalized communities.

Indoor air quality is critical for optimal health and well-being of individuals of all age groups. Indoor air pollution has been consistently ranked as one of the top five environmental risks to public health in the US by the EPA.

The air quality in schools impacts children and adolescent's respiratory health, mental health, and overall health status. In the setting of inadequately ventilated public buildings, aforementioned pollutants and those from wildfire smoke can trigger bronchitis, asthma

exacerbations, coughing, wheezing, flu, colds, severe allergies, and others. Research has established a robust connection between Indoor Air Quality (IAQ) and respiratory infections. Consequently, this leads to higher rates of hospitalizations in those with predisposed respiratory or immunocompromising health conditions.

Poor indoor air quality can also affect mental health, which leads to overall poor health status and contributes to long-term dissatisfaction, stress and anxiety, poor academic and work performance, and absenteeism.

In the case of children, these environmental factors can contribute to poor academic performance, leading to student discouragement, heightened stress and anxiety, increased dropout rates, and overall dissatisfaction among both students and school staff. Studies have provided evidence that schools without significant maintenance backlogs tend to have better average daily attendance (ADA), with 4 to 5 more students attending per 1,000 students, and lower annual dropout rates, with 10 to 13 fewer students dropping out per 1,000 students. [6]

In older adults, exposure to poor air quality, pollutants, and other airborne hazards can lead to the development or worsening of severe health conditions such as COPD, heart attacks, heart failure, stroke, and cancer.

Indoor air pollution can negatively impact the health and well-being of vulnerable and marginalized populations in New York City, necessitating protective measures focusing on regional standards and pilot programs. Notably, studies have shown that low-socioeconomic status households are more exposed to poor indoor air quality, due to a combination of factors including quality of housing conditions, indoor occupancy, and occupant behaviors.

Specifically, smoke-free housing policies were made mandatory by the New York City Housing Association (NYCHA) under the Housing and Urban Development rule for all public housing from July 30, 2018.[5] The increased use of vapes can also contribute to increasing indoor pollutants. However, uneven adoption of smoke-free housing policies is pervasive among housing communities where socially disadvantaged individuals reside. One example lies in the difference in accepted social norms regarding smoking and tobacco use.[6] Consequences of exposure to second-hand smoke include increased incidence of asthma exacerbations, heart attacks, viral and bacterial respiratory infections, sudden infant death syndrome, blood clots, strokes, and cancers among adult non-smokers.[5]

Implementing systemic changes can help reduce the adverse effects of poor indoor and outdoor air quality. This, in turn, can enhance the health and well-being of individuals in the community and contribute to reduction of health disparities among racially and socially marginalized neighborhoods.

The New York State Public Health Association strongly supports the 4 proposed bills for the following reasons:

Indoor Air Quality in Schools

The proposed standard for indoor air quality in schools outlined in bill #1127 will protect student health. This bill proposes several key measures to improve indoor air quality in schools, including efforts towards establishing air quality standards for schools, providing real-time air quality reports, delivering annual summary reports, maintaining monitoring devices, and promoting awareness and educational outreach.

Specifically, healthy indoor air is crucial for school buildings. Students spend about 1,000 hours per year in school. Their participation in school, environmental exposures, and social activities and connectivity greatly influence childhood health, academic performance, educational attainment, lifelong outcomes in health, life expectancy, and socioeconomic status.

Currently, there is limited indoor air quality data that can measure the impact of pollutants, identify sources, and drive interventions and resolutions. With data on indoor pollutants, New York City officials can better address sources, equipment fuel use, energy performance and efficiency, and socioeconomic differences in resource equity and health in the public-school setting.

Indoor Air Quality in City Buildings

The proposed standard for indoor air quality in city buildings outlined in bill #1130 will have widespread benefits, for over 300,000 city employees in addition to visiting building occupants and employers. This mandates the establishment of indoor air quality standards for city buildings and conducts outreach and educational efforts related to this subject. It additionally supports real-time and annual reports on indoor air quality in city buildings that will be accessible to the public. These provisions encompass aspects that are essential for creating a healthier indoor environment in these structures.

By setting a baseline for acceptable air quality in city buildings and workspaces, these standards ensure that occupants are safe and free from harmful pollutants that can impact overall health and well-being. Poor indoor air quality has been shown to impact cognitive function, work performance, and absenteeism. Adverse effects of poor air quality, in the setting of reduced work productivity and efficiency, prolonged durations of missing work, and decreased cognitive abilities, can prove to be costly for both employers and employees.

Furthermore, by emphasizing the importance of outreach and education, it raises awareness among building occupants, employees, and employers about the significance of indoor air quality. This can promote best practices and actions for individuals in their immediate environments. Compounding with the bill's promotion of transparency with real-time reports, this empowers the public to stay informed about air quality in spaces they visit and work in, which can in turn foster accountability and encourage building owners and managers to prioritize best practices in maintaining good air quality.

Indoor Air Quality Data in Residential and Commercial Buildings

By collecting sufficient data on indoor air pollutants and setting standards in some spaces, the pilot programs proposed in bills #1128 and #1129 will help identify and address health and safety risks by creating a 5-year pilot program that will promote the installation of real-time air quality monitors in commercial buildings. New York City's building stock is varied in

age, proximity to outdoor pollutant sources, fuel use, and energy performance, among other factors that may influence indoor air quality. These pilot programs will help clarify which of these factors influence indoor air quality. Additionally, these pilot programs will provide desired data access to New Yorkers that can drive goal-oriented interventions.

In the wake of COVID-19, people are more concerned about indoor air; a recent US survey showed 91% of consumers believe indoor air quality is critical to fight infectious disease, and 72% would benefit from available data on indoor air quality before entering a building. The presence of dampness and mold in the home increases the risk of asthma and other harmful respiratory health impacts by 30-50 percent.[6]

Including the monitoring and standardization of nitrogen oxides (NO_x) will strengthen the proposed bills by maximizing air pollution reduction and human health benefits. In addition to the proposed pollutant list in all the bills, NO_x, a group of toxic gases including nitrogen dioxide (NO_2) and nitric oxide (NO), should be included due to the association of NO_2 exposure with a range of adverse health impacts, and the role of NO x in the formation of other health-harming pollutants such as ozone (O_3) and fine particulate matter (PM 2.5). NO_2 is a key criteria pollutant of concern, as exposure at even low levels is associated with respiratory effects, with greater impacts for sensitive groups like children including increased risk of illness, asthma exacerbation and morbidity, lung and pulmonary function, and susceptibility to severe outcomes from diseases like COVID-19.

Indoor air quality standards are an important step towards cleaner, healthier air and communities. We are encouraged by the proposals to regulate indoor air quality in New York City to protect human health and are grateful for the opportunity to provide feedback.

Thank you,

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