



Model Clean Indoor Air Act

Presented by:
**The Johns Hopkins
Center for Health Security (JHCHS)**

Co-sponsored by:



Acknowledgments

JHCHS acknowledges the following individuals for their contributions to this initiative:

Legal Drafters:

James G. Hodge, Jr., JD, LL.M.

Peter Kiewit Foundation Professor of Law
Director, Center for Public Health Law and Policy
Sandra Day O'Connor College of Law
Arizona State University (ASU)

Erica N. White, JD, MPH (Candidate)

Research Scholar
Center for Public Health Law and Policy
Sandra Day O'Connor College of Law, ASU

Summer Ghaith, JD, MD (Candidate)

Senior Legal Researcher
Center for Public Health Law and Policy
Sandra Day O'Connor College of Law, ASU

JHCHS Indoor Air Quality Team:

Gigi K. Gronvall, PhD

Senior Scholar, JHCHS
Associate Professor
Johns Hopkins Bloomberg School of Public Health (JHSPH)

Paula Olsiewski, PhD

Contributing Scholar, JHCHS

Richard Bruns, PhD

Senior Scholar, JHCHS
Assistant Scientist, JHSPH

Clint Haines, MS

Analyst (former), JHCHS
Research Associate (former), JHSPH

Erin Fink, MS

Analyst, JHCHS
Research Associate, JHSPH

Suggested citation: Johns Hopkins Center for Health Security. *Model Clean Indoor Air Act*. Baltimore, MD: Johns Hopkins Center for Health Security; 2023.

© 2023 This work is licensed under a CC BY-NC-SA 4.0 license

National Advisory Committee (NAC) Members

Please note that the model act and accompanying text do not reflect the official policy or views of the NAC members, or entities, bodies, institutions, or organizations with which they are employed or affiliated.

William Bahnfleth, PhD, PE

Professor of Architectural Engineering
Pennsylvania State University
104 Engineering Unit A
University Park, PA 16802

Leila Barraza, JD, MPH

Associate Professor, Mel & Enid
Zuckerman College of Public Health
University of Arizona
1295 North Martin Avenue
Drachman Hall A245
Tucson, AZ 85724

Paloma Beamer, PhD

Professor, Mel & Enid Zuckerman College
of Public Health
University of Arizona
1295 North Martin Avenue
Drachman Hall A223
Tucson, AZ 85724

Georges Benjamin, MD

Executive Director
American Public Health Association
800 I Street NW
Washington, DC 20001

Tobie Bernstein, JD

Director, Indoor Environments and Green
Buildings Program
Environmental Law Institute
1730 M Street NW, Suite 700
Washington, DC 20036

Seema Bhangar, PhD

Principal, Healthy Buildings &
Communities
United States Green Building Council
2101 L Street, NW Suite 600
Washington, DC 20037

Thomas Burke, PhD

Jacob I. And Irene B. Fabrikant Chair
Professor – Emeritus
JHSPH
615 North Wolfe Street
Baltimore, MD 21205

Ian Cull, CIH, PE

Founder & Chief Science Officer
Indoor Science
75 Executive Drive, Suite 202
Aurora, IL 60504

Brian Gilligan, PE, SCPM

High Performance Buildings Expert
US General Service Administration
1800 F Street NW
Washington, DC 20405

Lawrence Gostin, JD, LLD (Hon.)

Foundation Professor and Faculty Director
O'Neill Institute for National and Global
Health Law
Georgetown University Law Center
600 New Jersey Avenue, NW
Washington, DC 20001

Janet Handal, MLA, MBA

President & Co-Founder
Transplant Recipients & Immuno-
compromised Patient Advocacy Group
30 Waterside Plaza
New York, NY 10010

Jose-Luis Jimenez, PhD

Distinguished Professor
University of Colorado-Boulder
Cristol Chemistry, 215 UCB
Boulder, CO 80309-0215

Kerry Kinney, PhD
L.P. Gilvin Centennial Professor in
Engineering
University of Texas at Austin
301 East Dean Keeton Street, ECJ 4.200
Austin, Texas 78712-1700

Abraham Kulungara, MPH
Senior Director for Environmental Health
Association of State and Territorial Health
Officials
2231 Crystal Drive, Suite 450
Arlington, VA 22202

Jonathan Levy, ScD
Professor of Environmental Health
Boston University
Talbot Building, 3C
715 Albany Street
Boston, MA 02118

Paul Locke, DrPH, JD
Associate Professor
JHSPH
615 North Wolfe Street
Baltimore, MD 21205

Linsey Marr, PhD
Charles P. Lunsford Professor
Virginia Polytechnic Institute & State
University
750 Drillfield Drive, 200 Patton Hall
Blacksburg, VA 24061

Kenneth Martinez, CIH, MSEE
Chief Science Officer
Integrated Bioscience & Built Environment
Consortium
Sandford, FL 32773

Glenn Morrison, PhD
Professor
University of North Carolina
163A Rosenau Hall, CB #7431
Chapel Hill, NC 27599

Alexandra Phelan, SJD, LLM, LLB
Associate Professor and Senior Scholar
JHCHS
700 East Pratt Street, Suite 900
Baltimore, MD 21202

Janet Phoenix, MD, MPH
Assistant Research Professor
George Washington University
950 New Hampshire Ave NW
Washington, DC 20052

Theresa Pistochini, MS
Co-Director of Engineering
University of California, Davis–Western
Cooling Efficiency Center
215 Sage Street, Suite 100
Davis, CA 95616

Christopher Pyke, PhD
Senior Vice President
ArcSkoru
2099 Pennsylvania Avenue NW #650
Washington, DC 20006

Angana Roy, MPH
Senior Program Analyst - Environmental
Health
National Association of County and City
Health Officials
1201 I Street NW 4th Floor
Washington, DC 20005

Lainie Rutkow, JD, PhD
Vice-Provost and Professor
Johns Hopkins University
615 North Wolfe Street
Baltimore, MD 21205

Jelena Srebric, PhD
Margaret G. and Frederick H. Kohloss
Chair Professor in Mechanical Engineering
University of Maryland
2181 Glenn L. Martin Hall, Building 088
College Park, MD 20742

Brent Stephens, PhD

Department Chair and Professor
Illinois Institute of Technology
Department of Civil, Architectural &
Environmental Engineering
10 West 35th Street
Chicago, IL 60616

Alice Yates, MS

Director of Government Affairs
American Society of Heating, Refrigerating
and Air-Conditioning Engineers
1255 23rd Street NW, Suite #825
Washington, DC 20037

Marwa Zaatari, PhD

Partner
D ZINE Partners
600 Congress Ave, FL 14
Austin, TX 78701

Preface

Improving indoor air quality (IAQ) will diminish routine exposure to airborne diseases,^{1,2} limit outbreaks or epidemics,³ and lower risks of noninfectious respiratory conditions like asthma that affect the health of millions each year.⁴ Improving IAQ is also cost-effective. Proper ventilation and filtration in crowded public indoor settings can significantly reduce the costs of illness at a benefit-cost ratio ranging from 3:1 to 100:1,⁵ exceeding similar ratios for most other public health interventions.⁶

Despite these clear benefits, there is little federal legal support to protect peoples' health through improved IAQ or to incentivize IAQ improvements. Consequently, major public health interventions have been left to states to implement, with inconsistent results over time. Compounding the problem, the health and economic benefits of good IAQ are also not widely known and thus not publicly demanded.

The Model Clean Indoor Air Act (MCIAA)* is intended to be adapted and adopted by state legislatures as a legal framework for good IAQ in public spaces, outlining best practices for how to monitor implementation, inform the public about the quality of indoor air and the benefits of good IAQ, adjust acceptable standards based on the latest research from expert bodies, and seek compliance among building owners. This framework is flexible and may be adjusted over time as monitoring instrumentation improves.

Respiratory infections (eg, measles, influenza, COVID-19) are a major public health concern and significant cause of preventable morbidity and mortality. Respiratory infectious diseases, including influenza and respiratory syncytial virus (RSV), contribute to tens of thousands of deaths annually in the United States.⁷ The COVID-19 pandemic demonstrated how damaging a communicable, airborne infection can be. In addition, air pollutants such as fine particulate matter kill thousands of Americans each year with substantial morbidity burdens among vulnerable populations.⁸

More than 90% of transmissions of most airborne respiratory diseases and most exposures to air pollutants occur from breathing indoor air.⁹ These health impacts are amenable to technological or other interventions similar to how waterborne diseases have been remedied through better sanitation for over a century.¹⁰ Just as drinking water needs to be made safe through filtration and other sanitation measures requiring monitoring and enforcement, indoor air within building spaces can also be made safe through filtration, ventilation, and other measures.

Public health interventions in response to major pandemics like COVID-19 demonstrate how improved indoor air ventilation and filtration systems can reduce (1) the spread of airborne infectious diseases and (2) exposures to other contaminants (eg, nitrogen dioxide,¹¹ carbon dioxide, fine particulate matter, volatile organic compounds¹²) that

* The name of this document was changed from the 'Model State Indoor Air Quality Act' to the 'Model Clean Indoor Air Act.' No other changes have been made to the content or provisions of the document.

cause substantial morbidity and mortality. Poor IAQ in schools has also been linked to cognitive deficits¹³ and tied to negative and tangible economic impacts in the workplace, including impacts on the number of employee sick days and job retention.¹⁴ Security concerns arise as well. In the unlikely but plausible scenario of an attack using biological or chemical weapons, effective filtration and ventilation will be essential to ameliorate dangerous IAQ.¹⁵

Assuring improved IAQ in public buildings is complicated by the need for funding, lack of effective measurements for many contaminants, and misinformation about risks and remedies. In addition, there is inconsistent legal architecture for IAQ nationally and across the states. While multiple federal and state legislative and regulatory laws have addressed IAQ over decades, laws collectively present only a patchwork of coverage. Most public indoor spaces in the US lack sufficient and enforceable IAQ standards. Modern IAQ measures in public spaces would help prevent significant harms to human health, address disparities across populations, and reduce negative economic impacts tied to low worker productivity, high healthcare costs, and premature mortality.

At the federal level, Congress has not authorized federal environmental or health authorities in the United States to regulate IAQ in most nonoccupational settings. The Radon Gas and Indoor Air Quality Research Act of 1986¹⁶ encouraged the Environmental Protection Agency (EPA) to support IAQ research programs,¹⁷ but the act did not authorize the agency to set affirmative, national standards. Subsequent proposed federal IAQ initiatives (eg, Indoor Air Quality Act introduced in 1991, 1993, and 1994) would have authorized national IAQ assessments, public awareness campaigns, job training requirements, response plans, and support for state IAQ programs, but these proposals were never enacted.

Federal regulatory provisions and recommendations have helped fill some gaps. An Occupational Safety and Health Administration (OSHA) standard (1910.1000) regulates exposures to toxic or hazardous substances in the workplace.¹⁸ Additional OSHA guidance outlined indoor air pollutant sources, prevention, and control measures, but a comprehensive rule proposed by OSHA to regulate IAQ nationally was jettisoned in December 2001.¹⁹ EPA guidelines support limited IAQ standards in office buildings, schools, and homes. In March 2022, the White House launched a Clean Air in Buildings Challenge, including voluntary incentives and guidance to improve ventilation and filtration.²⁰ In May 2023, the Centers for Disease Control and Prevention updated its indoor ventilation guidelines, recommending 5 air changes per hour.²¹ Still, federal authorities have not directly regulated IAQ as extensively as they have outdoor air through environmental laws like the Clean Air Act.²² Additional comprehensive federal action in this arena may be unlikely for 2 reasons: (1) Congress has not passed extensive IAQ legislation to date and (2) existing judicial limitations concerning the breadth and scope of federal regulatory authorities may inhibit the existing reach of agencies like OSHA and EPA in indoor environments.^{23,24,25}

While federal guidelines provide a “floor” for some IAQ requirements, many states have established their own base-level IAQ standards via diverse laws dating back to the 1990s.²⁶ Per citations to select provisions referred to in the model act below, these laws differ across jurisdictions and settings. Some state laws regulate IAQ in public and private schools, publicly owned buildings, office workspaces, and even private residences. These laws may specifically regulate (1) contaminants like carbon dioxide/monoxide, aldehydes, radon, ozone, water vapor, and particulate matter, or (2) controlled conditions such as humidity, temperature, dust, mold, pest infestation, and pesticide use. Select states designate entities or persons qualified to evaluate or maintain IAQ, the level and frequency of IAQ reviews, and the use of heating, ventilation, air conditioning, and refrigeration (HVAC&R) or other electronic instruments to improve IAQ.

Multiple state legislatures defer to published standards of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) specifying minimum ventilation rates and other operating and maintenance measures to promote safe IAQ consistent with ASHRAE’s position that “provision of acceptable IAQ is an essential building service.”²⁷ In June 2023, ASHRAE published Standard 241P: Control of Infectious Aerosols, which provides minimum requirements to control infectious aerosols to reduce the risk of disease transmission.²⁸ The MCIAA is designed to align with ASHRAE standards through a legal framework, providing options for states to defer to existing regulatory standards or craft their own.

This initiative seeks improvements to the extant, patchwork legal environment through the development of model statutory IAQ provisions informed by subject matter experts. ***The premier objective is to produce a cohesive set of legislative provisions that achieve tangible improvements in IAQ in public indoor spaces in the interests of improved health, greater worker productivity, and increased economic well-being.***

MCIAA Summary

The MODEL CLEAN INDOOR AIR ACT (hereinafter “Act” or “MCIAA”) is intended for wide distribution, consideration, and implementation across state governments in the US. As with many model state laws, local, tribal, and territorial governments with sufficient jurisdiction to regulate IAQ may also find the Act’s provisions highly instructive toward their respective goals and objectives.

The scope, depth, and subject matter of the Act reflect extensive research, review of dozens of existing IAQ legal provisions, assessments of secondary sources, literature reviews, and input on key provisions from the JHCHS IAQ Team, legal drafters, and NAC members from differing backgrounds, perspectives, and geographic diversity. The final version of the Act and accompanying text do not reflect the official policy or views of the entities, bodies, institutions, or organizations with which NAC members are employed or affiliated.

MCIAA presents extensive statutory language on IAQ in many public buildings and spaces (as defined in the Act, below) based on modern constitutional, statutory, regulatory, and case-based law at the national and state levels, as well as current scientific and ethical principles. Select provisions of existing laws providing insights or approaches for language in the Act are referenced via endnotes. To the extent that the Act is designed to present a cohesive series of legislative options governing IAQ, its provisions may be adapted or edited in any state or other jurisdiction.

The Act’s provisions are divided into 6 prime Articles with various key Sections [*see [Table of Contents](#) below*] framed around a broad mission to protect and promote IAQ in public buildings through alliances among various public and private actors. MCIAA balances protection of the public’s health and safety with respect for individual rights and principles of equity. Though comprehensive, the scope of the Act is limited in the following ways:

- It does not cover some distinct areas of law despite their relevance. For example, it does not include provisions directly relating to regulating specific sources of poor IAQ tied to human behaviors (eg, prohibiting indoor smoking), disability protections, declared public health emergencies, or worker compensation protections.
- It does not include extensive language concerning areas of the law that are traditionally replicated elsewhere in state statutes (eg, administrative procedures, tax-related benefits, funding mechanisms, general public health powers).
- As a model statutory law, MCIAA does not attempt to present precise regulatory language, which is left to the discretion of state executive agencies to promulgate administrative rules consistent with the Act. As with most model public health laws, the Act authorizes an array of regulations to specify parameters of its coverage and implementation on multiple issues.

- The Act is intended for potential adoption based on existing administrative agency and organizational structures within a state. Consequently, it does not design nor designate new state oversight agencies or departments. Some structural options, like the creation of an IAQ Advisory Council in Article II, are proffered for consideration, but overall, the Act does not delineate an ideal state/local organizational structure to address IAQ in public buildings. Extensive variations in state/local organization preclude a model statutory approach on this specific front across the US.

The substantive content of MCIAA is briefly summarized and depicted in [Figure 1. MCIAA Provisions](#), below. Please refer to the text of the Act for precise language.

ARTICLE I. PURPOSES & DEFINITIONS sets forth legislative findings and purposes ([Section 1-101](#)), as well as definitions ([Section 1-102](#)) that shape the scope and context of the Act. Among key terms is the definition of “building” (“a publicly or privately owned structure accessible by the public for commercial, housing, or governmental purposes that exposes individuals to indoor air in permanently enclosed public spaces”). As defined, the term includes a broad array of built structures for which the provisions of the Act apply. Though comprehensively defined, “buildings” do not include (a) some structures (eg, federal buildings, structures exempted via existing building codes, free-standing houses, temporary structures) or (b) some spaces within structures (eg, industrial uses, individual or familial residences such as apartments, or living quarters, and exterior or other spaces).

Another key term, “contaminants,” broadly covers an array of agents that may pollute or decrease the purity of indoor air in buildings, including particulates or agents currently or prospectively identified by EPA, World Health Organization (WHO), or ASHRAE. This definition is purposefully designed to include multiple, known agents as well as new or emerging ones that may be injurious to human health.

Additional definitions of multiple terms tied explicitly to IAQ, including “assessment,” “certification,” “complaint,” “event,” “inspection,” and “investigation,” clarify the scope and purposes of the provisions of the Act, as summarized in the Articles below. Primary enforcement of key provisions of the Act is based on the definition of “State agency,” through which the state legislature assigns primary regulatory and other authorities. Designation of such agencies may vary across jurisdictions. To the extent such designated agency is not also the “State public health agency,” that term is also defined in [Section 1-102](#) to demarcate specific, additional public health responsibilities under the Act.

ARTICLE II. MISSION, SCOPE & AWARENESS clarifies the legislative mission of the Act to protect and promote acceptable IAQ in buildings while balancing individual rights and principles of equity ([Section 2-101](#)). Overseeing the achievement of this mission through a series of legislative directives is vested in an IAQ Advisory Council ([Section](#)

[2-102](#)) created to provide independent guidance to the State agency assigned primary responsibility for planning ([Section 2-103](#)) and execution of the Act. Critical to these objectives is transparency of information, education, and public awareness of the risks of contaminants contributing to poor IAQ in buildings ([Section 2-104](#)). Generating reliable information on these risks over time presupposes available surveillance data and effective public health research, which the State public health agency is expressly authorized to collect and conduct ([Section 2-105](#)).

ARTICLE III. BUILDING TESTING & ASSESSMENTS authorizes the State agency, in consultation with the IAQ Advisory Council, to set specific testing requirements for IAQ and designate parameters for conducting comprehensive IAQ assessments for buildings. The State agency is tasked initially with setting classifications of buildings generally based on the level of IAQ risks (**high, medium, or low**) to building occupants ([Section 3-101](#)). Depending on a building’s classification, specific testing requirements and frequencies may apply ([Section 3-102](#)). Given anticipated difficulties in regularly testing for an array of actual or potential contaminants, proxy tests may be conducted in lieu of more specific tests ([Section 3-102\[c\]](#)). Pursuant to state regulatory provisions guided by the IAQ Advisory Council, public postings of test results are authorized onsite and online ([Section 3-103](#)). These public posting requirements inform individuals who may wish to utilize personal protective measures to mitigate their specific risks of harm tied to poor IAQ ([Section 3-104](#)).

Building owners may conduct “IAQ assessments” via skilled contractors consistent with regulations promulgated by the State agency ([Section 3-105](#)). These assessments may include recommended remedial actions for observed IAQ issues, which owners may rely on in making repairs to HVAC&R systems or undertaking renovations. IAQ assessments and documentation of remedial actions may be filed with and reviewed by the State agency. The public may also review these assessments upon request to building owners. While the performance of IAQ assessments by building owners at their own expense is voluntary, owners are provided incentives to conduct such assessments pursuant to additional provisions of the Act, noted below.

ARTICLE IV. BUILDING INVESTIGATIONS & INSPECTIONS authorizes persons to issue complaints about an “IAQ event” (“a specific or limited circumstance . . . that justifies immediate response by a building owner to address or remedy poor IAQ”) to the State agency ([Section 4-101](#)). Complaints must be submitted pursuant to criteria and processes established by the State agency. On receipt, the agency must evaluate complaints to determine their potential validity and respond appropriately, including through IAQ investigations based on explicit criteria set by the agency ([Section 4-102](#)). Investigations that substantiate an IAQ event may entail remedies that building owners must undertake within a specific period of time. Valid complaints or investigations that allege or uncover “significant medical conditions” among occupants tied to “building-related illnesses” require real-time sharing with the State public health agency and building owners, as well as expedited remedies as warranted.

Pursuant to its investigations, the State agency may conduct onsite inspections of buildings, preferably with the consent of building owners, although non-consensual entries onto premises are authorized with a warrant and other specific procedures ([Section 4-103](#)). IAQ inspections may be conducted by the agency under similar parameters or specifications applied to IAQ assessments ([Section 3-105](#)). Inspection results, including proposed remedies, must be shared with building owners who must reasonably comply with prescribed remedies within a specified time period.

However, any building owner who has conducted an IAQ assessment, successfully performed remedial actions, and filed such documents with the State agency pursuant to Section 3-105 within [12] months prior to the date of an IAQ investigation may be exempted from a formal inspection if the State agency reasonably determines that prior compliance sufficiently ameliorates poor IAQ. Additional provisions in the Act, described below, provide incentives for building owners to conduct an annual IAQ assessment.

ARTICLE V. BUILDING INCENTIVES & ENFORCEMENT provides an express series of incentives to encourage voluntary compliance with the Act ([Section 5-101](#)). These include a slate of benefits rewarding good faith efforts of building owners to adhere to the Act, such as:

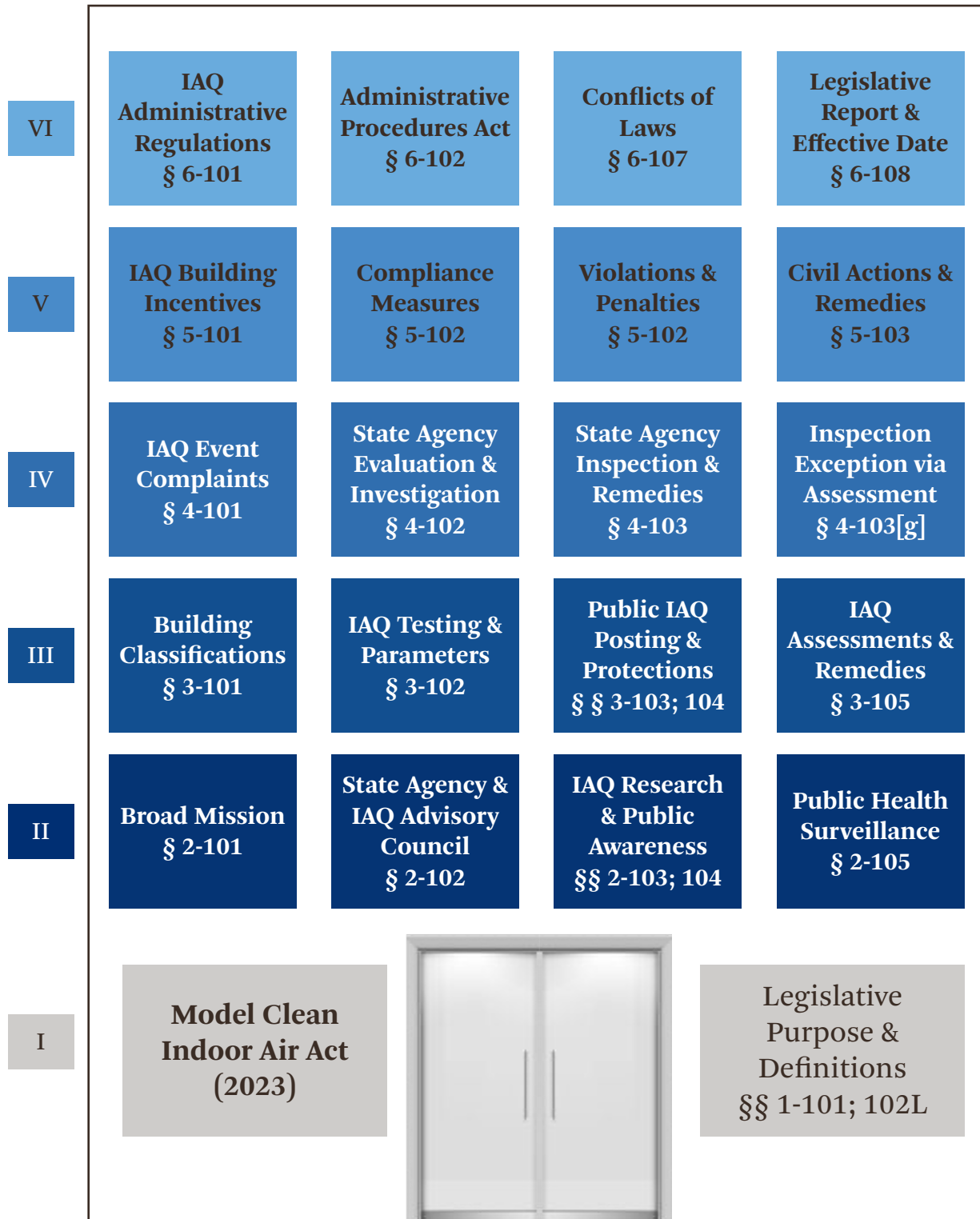
- (1) annual designations of buildings as meeting IAQ certification consistent with predetermined levels (eg, Tier 1, 2, 3) set by the State agency;
- (2) expedited reviews of IAQ assessments of additional buildings owned or leased by the same owner;
- (3) waivers of formal inspections;
- (4) mitigated liabilities or reduced penalties for noncompliance; and
- (5) allowance of reasonable expenses related to IAQ testing, assessment, or remedial actions as fully tax-deductible business expenses under state tax laws.

In cases of knowing and willful violations of the Act by building owners (eg, express failures to remedy specific performance required by the State agency pursuant to an investigation or inspection of an IAQ event), the State agency may issue citations and assess associated penalties ([Section 5-102](#)). Additional sanctions may include leasing prohibitions, de-licensure of applicable buildings, or public access limitations for the period of time in which violations are unresolved. Civil remedies allow any person aggrieved by a violation of the Act to pursue causes of action in court seeking compensatory damages or punitive damages (in rare cases), subject to limitations ([Section 5-103](#)).

ARTICLE VI. ADMINISTRATIVE PROCEDURES & MISECELLANEOUS contains Sections on various administrative matters, including specific allowances for State agencies to promulgate rules and regulations expressly authorized in the Act ([Section 6-101](#)). Given judicial sensitivities to the scope and breadth of administrative agency authorities, the Act clarifies that agencies are authorized to regulate consistent with express provisions. Crafting regulations are governed by existing requirements pursuant to State Administrative Procedures Acts ([Section 6-102](#)).

Additional miscellaneous provisions include (1) clarification that titles and subtitles of Articles, Sections, and subsections are instructive, but not binding ([Section 6-103](#)); (2) uniformity of laws provision ([Section 6-104](#)); (3) severability clause ([Section 6-105](#)); (4) “placeholder” clause for repeals of existing state law, where needed ([Section 6-106](#)); (5) provision concerning unintended conflicts of federal and existing state laws ([Section 6-107](#)); (6) effective date of the Act ([Section 6-108](#)); and (7) requirements for initial and comprehensive reports to be generated and issued to the State legislature/governor on the potential impacts and effects of the Act ([Section 6-108](#)).

Figure 1. MCIAA Provisions



How to Read the Model Act

MCIAA provisions summarized above are organized with a logical flow that builds on preceding definitions and concepts. Consequently, some key ideas or authorities are framed in provisions of the Act that relate back to existing provisions. Reviewing the document consistent with these premises may help in understanding concepts appearing later in the Act.

In reviewing the specific provisions of the Act please note the following formatting techniques:

- **Highlight:** Titles of major sections under each Article are **highlighted** for ease of identification and reference.
- **Underline:** All terms defined in Section 1-102 are underlined in the body of the Act for ease of identification, except when such terms are used in Section titles or subtitles, or when used solely as adjectives or non-definitional ways.
- **Italics:** Language noted in *italics*, which typically appears in *[brackets]*, provides suggested information that is subject to adjustments in any state legislature considering its introduction or passage. For example, specific durations of time (eg, *[15 days]*) may appear italicized in brackets to suggest a duration or timeline for specific interventions. State legislatures may adapt these terms to their discretion.
- **Bold:** Bolding is used for the text of all Section titles and subtitles throughout the Act, as well as in select places to clarify legislative text.

References framed as endnotes are selectively provided for several key content areas of the Act to provide specific examples of primary legal or secondary sources that may have been relied on in part to develop specific language.

MCIAA Available Information

Information regarding implementation, state-based legislative introductions or activity, interpretations, scholarship, and other sources concerning MCIAA is available through the Johns Hopkins Center for Health Security website: <https://centerforhealthsecurity.org/our-work/research-projects/indoor-air-quality>.

Inquiries for more information or technical assistance concerning MCIAA may be directed to: The Indoor Air Team, JHCHS | Email: MCIAA@jhu.edu.

Table of Contents

ARTICLE I. PURPOSES & DEFINITIONS

- 1-101. Legislative Purposes
- 1-102. Definitions

ARTICLE II. MISSION, SCOPE & AWARENESS

- 2-101. Mission Statement
- 2-102. IAQ Advisory Council
- 2-103. Research, Planning, and Priority Setting
- 2-104. Public Education and Risk Awareness Information
- 2-105. IAQ Public Health Surveillance and Research

ARTICLE III. BUILDING TESTING & ASSESSMENTS

- 3-101. Building Classifications
- 3-102. Indoor Air Contaminant Testing
- 3-103. Public Postings of IAQ Test Measures
- 3-104. Personal Protective Measures
- 3-105. IAQ Assessments

ARTICLE IV. BUILDING INVESTIGATIONS & INSPECTIONS

- 4-101. IAQ Events
- 4-102. IAQ Investigations
- 4-103. IAQ Inspections

ARTICLE V. BUILDING INCENTIVES & ENFORCEMENT

- 5-101. Compliance Strategies and Incentives
- 5-102. Noncompliance Citations and Penalties
- 5-103. Civil Remedies

ARTICLE VI. ADMINISTRATIVE PROCEDURES & MISCELLANEOUS

- 6-101. Administrative Rulemaking
- 6-102. Applicability of State Administrative Procedure Act
- 6-103. Titles
- 6-104. Uniformity Provision
- 6-105. Severability
- 6-106. Repeals
- 6-107. Conflicting Laws
- 6-108. Reports and Effective Date

ARTICLE I. PURPOSES & DEFINITIONS

1-101. Legislative Purposes

The [State legislature] states that the purposes of this Act are to:

- (1) Acknowledge and respond to the public health risks of poor IAQ related to airborne infectious disease agents and other contaminants through enhanced measures applicable to public buildings;
- (2) Set a broad mission for improving IAQ across the State through efforts of State and local public health, environmental, and other agencies in collaboration with building owners, contractors, technicians, and building occupants;
- (3) Create scientifically sound, efficacious, and economically viable authorities of State agencies to identify, prevent, and control multifarious factors (eg, ventilation, filtration, air cleaning, human occupancy) related to IAQ within buildings;
- (4) Craft corresponding legal provisions that are consistent with individual personal and property rights and reflective of principles of equity;
- (5) Assess opportunities for improving IAQ statewide through ongoing, inclusive, and systematic research, planning, response, and reporting efforts;
- (6) Enhance public education and awareness of the risks of poor IAQ in buildings for occupants, including development of affirmative and equitable strategies to protect against these risks;
- (7) Identify specific roles and responsibilities of State agencies to work with public and private partners to set standards, provide guidance, or seek conditions to prevent associated negative health outcomes extending from poor IAQ;
- (8) Assure that relevant data and real-time information on IAQ in buildings are publicly available through onsite, online, or other sources;
- (9) Delineate base-level performance, monitoring, and reporting standards or other tangible measures for buildings to improve and maintain IAQ;
- (10) Require building owners to test their premises periodically and report to State authorities on IAQ compliance issues contributing to known IAQ events;
- (11) Identify IAQ events or impacts warranting specific governmental interventions or responses through additional requirements or enforcement measures;
- (12) Enable state-based investigations of buildings based on complaints that may include identifying air contaminants and their levels or sources, and evaluating HVAC&R systems or building occupant exposures;
- (13) Authorize inspections of buildings when necessary to assure compliance with the Act;

(14) Provide fair and appropriate legal incentives to encourage accountability and compliance among building owners and occupants, as well as penalties for violations; and

(15) Authorize administrative rulemaking authorities for State agencies consistent with affirmative procedural due process protections.

1-102. Definitions

As used in this Act, these terms are defined as follows:

- (1) “Act” means the Model Clean Indoor Air Act (MCIAA).
- (2) “Agent” means a State or local official or employee authorized to carry out provisions of this Act.
- (3) “Aggrieved person” means a person (or legal representative) who has a real and actual interest that may be adversely affected by actions inconsistent with this Act.
- (4) “ASHRAE” means the American Society of Heating, Refrigerating and Air-Conditioning Engineers.
- (5) “Building” means a publicly or privately owned structure for commercial, housing, or governmental purposes that exposes individuals to indoor air in permanently enclosed²⁹ public spaces.³⁰ Buildings do not include:³¹
 - (a) spaces designated and used solely for industrial purposes;
 - (b) private spaces used solely for individual or familial residential purposes (eg, apartments, living quarters, or free-standing houses);
 - (c) temporary structures or spaces unintended for public access or use beyond [3] consecutive months;
 - (d) any structures exempted from coverage via the [*State building code*];³² and
 - (e) structures owned or leased, in whole or in part, by the US government.
- (6) “Building occupant” or “occupant” means any individual who is regularly exposed to indoor air in a building.
- (7) “Building owner” or “owner” means the lawful owner of a building, or the owner’s designated person responsible for implementation of IAQ compliance with this Act.
- (8) “Building-related illness” means specific acute or chronic health conditions of known etiology traced to onsite exposures to indoor air in a particular building that can be validated by physical signs and laboratory findings.³³
- (9) “Contaminant” or “contamination” refers to a biological, chemical, physical, or radiological agent that may be present in a building that pollutes, or decreases the purity of, indoor air, including particulate matter or agents identified by the Environmental Protection Agency,³⁴ World Health Organization,^{35,36} or ASHRAE.³⁷

- (10) “Contractor” means a nongovernmental person who provides services or functions to (or on behalf of) a public or private entity via contract or other agreement.³⁸
- (11) “Court” means any State, tribal, territorial, or local court of competent jurisdiction under the laws of this State.
- (12) “HVAC&R” means heating, ventilation, air conditioning, and refrigeration.
- (13) “Individual” means a natural human being.
- (14) “Indoor air quality” (IAQ) means the degree to which indoor air is free of excessive levels of contaminants injurious to human health.^{39,40}
- (15) “IAQ assessment” or “assessment” means an assessment of the levels of contaminants in buildings determined to contribute to adverse health effects among exposed individuals.⁴¹
- (16) “IAQ certification” means a rating of building IAQ compliance that may include differing levels of adherence to specific activities or requirements in the Act.
- (17) “IAQ complaint” or “complaint” means documentation of actual or suspected breaches or violations of the Act through onsite measurements or observations of building conditions or HVAC&R systems, medical symptoms or conditions of suspected or actual building-related illnesses, or other identifiable factors.⁴²
- (18) “IAQ event” means a specific or limited circumstance emanating from a complaint, investigation, inspection, or other notification that warrants responses by a building owner to address or remedy poor IAQ.
- (19) “IAQ inspection” or “inspection” means an onsite evaluation of actual or projected building IAQ performance initiated by the State agency.
- (20) “IAQ investigation” or “investigation” means an evaluation of actual or projected building IAQ performance conducted in specific response to complaints or actual or suspected risks of harm to individuals.⁴³
- (21) “License” or “licensure” means an authorization that conditionally allows the recipient to conduct activities for a specified period of time that would be unlawful without the authorization.²⁹
- (22) “Person” means an individual, corporation (for-profit or nonprofit), partnership, limited liability company, association, institution, joint venture, governmental body, or other legal entity.²⁹
- (23) “Public health” means the assurance of conditions in which populations can be healthy through efforts primarily aimed at the prevention of injury, disease, or premature mortality, or the promotion of health in communities.²⁹
- (24) “Regulation” means rules or directives created by a State agency via the Act.
- (25) “Renovation” means substantial efforts to restore or repair a building that may negatively impact IAQ onsite for a period exceeding [10] workdays during the course of performance.⁴⁴

- (26) “Significant medical conditions” mean conditions attributable to building-related illnesses impacting the health or safety of a cluster of no less than [5] building occupants that led affected individuals to seek medical care or are confirmed through valid tests.
- (27) “State agency” means any existing agency, department, or division operated by the State that is principally assigned responsibility to administratively execute the terms of this Act, specifically [*identify State agency*].
- (28) “State public health agency” means any existing agency, department, or division operated by the State that is principally assigned responsibility to protect the public’s health, specifically [*identify State agency*].

ARTICLE II. MISSION, SCOPE & AWARENESS

2-101. Mission Statement

[a] **General.** Everyone is equally entitled to acceptable IAQ in public building spaces. Consequently, it is the policy of this State that public health be protected and promoted through the regulation of IAQ within buildings consistent with individual personal and property rights, other legally protected interests, and principles of equity.

[b] **Achievement.** Improving IAQ within buildings entails planning, development, and promotion of sustainable IAQ measures, actions, or requirements that are:

- (1) intended to assure conditions in which people can be healthy;
- (2) based on scientifically supported and effective standards;
- (3) grounded in existing or forthcoming legal regulations;
- (4) reflective of principles of equity justifying distributions of benefits;
- (5) framed in collaboration with public and private sector partners; and
- (6) supported by adequate investments and funding through public or private sources.

2-102. IAQ Advisory Council

[c] **Creation.** An IAQ Advisory Council shall be created within [3] months of the passage date of this Act to serve as an advisory body to the Governor and State agencies responsible for implementing or overseeing IAQ measures, actions, or requirements in this Act.

[d] **Membership.** The IAQ Advisory Council shall be composed of no fewer than [15] members who are diverse socially, ethnically, by gender identity, or other State-based, applicable diversity standards. Members shall be appointed for staggered terms of [2-3] years by the Governor in consultation with the State agency and subject to legislative approval via majority vote of the [*State specific legislative committee*].

[e] **Composition.** The Council must include individuals from public and private sectors, and at least one representative from [5] of the following governmental entities (not including the State agency):

- (1) *State Governor's office;*
- (2) *State legislative committee;*
- (3) *State environmental agency;*
- (4) *State occupational safety and health agency;*
- (5) *State health agency;*
- (6) *State housing agency;*
- (7) *State education agency;*
- (8) *State disabilities protections agency;*
- (9) *State planning agency;*

- (10) *State medical board;*
- (11) *State chamber of commerce;*
- (12) *State construction or building code agency/council;*
- (13) *Locally elected official (eg, mayor or county executive [or designee], or council member);*

and at least one representative from [5] of the following nongovernmental entities:

- (1) *State hospital or public health association;*
- (2) *Small business administration;*
- (3) *ASHRAE or other professional HVAC&R representative;*
- (4) *IAQ professional assessor representative;*
- (5) *Labor union representative;*
- (6) *Building owner/realtor representative;*
- (7) *Mechanical engineering representative;*
- (8) *Academician with IAQ expertise;*
- (9) *Public health ethicist;*
- (10) *Member of the public.*

[f] **Chair.** The members of the IAQ Advisory Council shall elect a Chair (and other officers in the Chair's discretion) by majority vote among its members on a biennial (ie, every other year) basis.

[g] **Subcouncils.** IAQ Advisory Council members may create subcouncils to address specific IAQ issues, areas, or objectives.

[h] **Funding.** The IAQ Advisory Council shall be funded and staffed pursuant to [specify existing state law regarding advisory committees] to convene in person or virtually at least annually or as needed. Council members shall be compensated in accordance with [specify existing state law regarding advisory committee compensation].

[i] **Functions.** In consultation with federal, state, and local agencies, IAQ committees, regulatory bodies, or other bodies in other jurisdictions, as well as private sector partners or subject matter experts, the IAQ Advisory Council shall provide specific information or guidance to the State agency on:

- (1) criteria and recommendations for acceptable IAQ requisite standards (eg, ASHRAE), and appropriate monitoring technologies in buildings;
- (2) source control guidelines for contaminants and indicators impacting IAQ in buildings;
- (3) public IAQ educational materials and resources; and
- (4) any other topical areas related to IAQ in buildings for which the State agency seeks guidance.

[j] **Data Acquisition and Sharing.** The IAQ Advisory Council may collect data over time from IAQ assessments, complaints, investigations, inspections, and other sources authorized in this Act to evaluate short- and long-term IAQ impacts and amend IAQ plans as needed. The Council may share non-identifiable data with other governmental agencies or nongovernmental entities to assess or promote IAQ.

2-103. Research, Planning, and Priority Setting

[a] **Comprehensive IAQ Plan.** In consultation with the IAQ Advisory Council, the State agency shall develop a comprehensive, statewide plan to help assess and set priorities for improving IAQ in buildings through the mitigation of contaminants; identification of environmental, public health, and other bases for interventions; and regulatory proposals or policy options consistent with the Act.²⁹

[b] **Enhanced Research.** The State agency may coordinate with the IAQ Advisory Council to improve IAQ through enhanced research, guidance, and studies relating to the causes, sources, effects, mitigation, resolutions, and prevention of contamination in buildings.

[c] **Prevention.** The State agency may develop effective and practical processes, protocols, methods, and techniques for the detection and prevention of contamination in buildings consistent with existing knowledge and scientific input.

2-104. Public Education and Risk Awareness Information

[a] **General.** In consultation with the IAQ Advisory Council, the State agency shall collect and make available through publication and other appropriate means:

- (1) results of IAQ planning, research, and prevention efforts conducted pursuant to Section 2-103;
- (2) educational guidance on potential or actual harms extending from excessive exposures to contaminants or building-related illnesses; and
- (3) information on how the public can mitigate actual or potential risks or harms related to poor IAQ in buildings.

[b] **Content.** Published information or guidance consistent with subsection [a] may address or include:

- (1) known or potential short- and long-term health effects of contaminants;
- (2) actual or prospective settings or locations where harmful exposures to contaminants are likely to occur;
- (3) adverse health effects of varied levels of contaminants, including information on subpopulations or groups at special or heightened risk;
- (4) likely sources of exposures to specific contaminants, including particular types of buildings or materials;
- (5) recommendations for lowering health risks to building-related illnesses by identifying, reducing, and preventing exposures;

- (6) technical information regarding implementing programs and other methods for reducing exposures to contaminants;
- (7) prevention, management, or measurement technologies and their effectiveness, cost, and feasibility or ease of operation; and
- (8) remedial actions including elimination, substitution, engineering or administrative controls, and use of personal protective equipment.

2-105. IAQ Public Health Surveillance and Research

[a] **Compilation.** The State public health agency is authorized to collect, analyze, and maintain surveillance data or other information related to human impacts associated with IAQ, including:

- (1) adverse health effects of varied contaminants;
- (2) risk factors and sources of building-related illnesses;
- (3) communicable or chronic conditions;
- (4) short- and long-term injuries;
- (5) preventable morbidity and mortality;
- (6) disparate impacts on specific subpopulations;
- (7) feasibility and appropriateness of monitoring technologies; and
- (8) efficacy of specific IAQ interventions to improve public health.

[b] **Public Health Research.** The State public health agency may coordinate with the IAQ Advisory Council, State agency, and international or national IAQ entities to conduct interdisciplinary, epidemiological, and clinical/laboratory studies of the effects of contaminants, including:

- (1) identification of potential or actual contaminant sources of building-related illnesses;
- (2) mortality and morbidity associated with contaminant exposures, including additive, cumulative, and synergistic effects on populations;
- (3) identification of subpopulations or groups at increased risk of illnesses from exposures, as well as effective risk communications;
- (4) biochemical, immunological, physiological, and toxicological effects including cardiovascular, carcinogenic, mutagenic, neurotoxic, and teratogenic effects of contaminants and building-related illnesses;
- (5) identification of building classes, types, design features, HVAC&R systems, or characteristics associated with varying likelihood or reduction of contaminant exposures; and
- (6) development of protocols, methods, techniques, and instruments for sampling indoor air to determine contaminant levels and processes for removing identified contaminants.

[c] **Data Sources.** In support of activities authorized in subsections [a] and [b], the State public health agency is authorized to request, obtain, and use information from public or private organizations including:

- (1) environmental surveillance or other data; and
- (2) health data including hospital discharge data, vital statistics, or other records identifying patients with known respiratory or other conditions associated with poor IAQ so long as identifiable health information is only used or disclosed consistent with applicable federal and state health information privacy laws.

ARTICLE III. BUILDING TESTING & ASSESSMENTS

3-101. Building Classifications

[a] **Identification.** In consultation with the IAQ Advisory Council, the State agency is authorized to identify types or classes of buildings that routinely present risks of potential or actual contaminant exposures to occupants based on:

- (1) probable or actual indoor air health risks typically experienced among occupants of similar buildings;
- (2) probable or actual sources of building-related illnesses or exposures to contaminants; and
- (3) available measures to mitigate preventable health risks to occupants consistent with ongoing, intended uses of the buildings.

[b] **Classifications.** Pursuant to subsection [a], the State agency may designate types or classes of buildings that routinely present **high, medium, or low** risks of potential or actual exposures of building occupants to contaminants during periods of full or partial occupancy.

3-102. Indoor Air Contaminant Testing

[a] **Testing Authorization.** In consultation with the IAQ Advisory Council, the State agency is authorized to examine, develop, or adopt specific techniques or standards for approved tests that accurately and reliably measure the prior or current presence of contaminants and identify sources in buildings. Such tests may not:

- (1) pose any known health risks to building occupants when conducted onsite;
- (2) pose disproportionate environmental harms as compared to other technologies;
- (3) contradict scientific consensus of appropriate, independently verified technologies; or
- (4) impose significant financial burdens on building owners required to use them per this Act.

[b] **Frequency.** During periods consistent with typical occupancy, building owners must test for IAQ consistent with subsection [a] at a level of frequency determined by the State agency in consultation with the IAQ Advisory Council based on the building classification under [Section 3-101\[b\]](#).

[c] **Use of Proxies.** The State agency in consultation with the IAQ Advisory Council may authorize building owners to conduct proxy tests in lieu of more specific tests authorized in subsection [a] at frequencies proposed pursuant to subsection [b]. Proxy tests must:

- (1) provide a sufficient assessment of acceptable IAQ in a building;
- (2) accurately detect the prior or current presence of targeted contaminants or IAQ indicators in a building; and
- (3) help ensure proper ventilation, exhaust, and filtration system performance.

3-103. Public Postings of IAQ Test Measures

[a] **Onsite Postings.** Building owners shall visibly post results of IAQ tests onsite to alert occupants and others of prior or current IAQ levels at the same frequency prescribed for conducting such tests per [Section 3-102\[b\]](#).

[b] **Online Postings.** Building owners shall post results of IAQ tests online through publicly accessible websites created or authorized by the State agency to alert occupants and others of prior or current IAQ levels at the same frequency prescribed for conducting such tests per [Section 3-102\[b\]](#).

[c] **Timing.** Onsite or online postings per subsections [a] and [b], above, shall be made within [*48 hours*] of the administration of IAQ tests.

[d] **Criteria.** In consultation with the IAQ Advisory Council, the State agency shall create requirements for postings required via this Section, including specifications as to:

- (1) real-time signage onsite;
- (2) permissible electronic notices;
- (3) explanations of specific test measurements (including proxies);
- (4) verification of testing frequencies or rates;
- (5) use of plain language to improve public understanding; and
- (6) limitations of reported testing information.

3-104. Personal Protective Measures

Building occupants may use their own personal equipment or devices onsite to assess IAQ and take reasonable measures to mitigate their risks of exposure so long as such uses do not heighten risks of poor IAQ, produce excessive noise or odor, or unreasonably affect other occupants physically or mentally.

3-105. IAQ Assessments

[a] **Assessments.** Building owners may conduct an IAQ assessment consistent with base-level parameters determined by the State agency in consultation with the IAQ Advisory Council. Parameters for these assessments may include:

- (1) ongoing tests required via [Section 3-102](#);
- (2) reviews of proper ventilation, filters, air cleaning devices, and fans (adjusted for number of building occupants per ASHRAE standards);⁴⁵
- (3) measurable risks to the health of occupants explicitly tied to contaminants, building-related illnesses, or planned renovations;

- (4) identification of potential, remediable causes of poor IAQ including pollutant pathways, contaminant sources, or use of specific equipment or devices;
- (5) observation of areas prone to moisture problems, visible mold, or odors associated with biological growth or water stains;
- (6) use of technological or other analytical tools to screen or identify contaminants;
- (7) physical conditions, placements, and operational status of HVAC&R equipment, parts, or components, or IAQ detectors or other monitors;
- (8) thermal factors such as building temperatures and humidity;
- (9) identification of specific products, materials, volatile compounds, finishes, furniture, or conditions within the building that may cause excessive risks of poor IAQ or building-related illnesses absent proper ventilation, including pursuant to planned renovations;⁴⁶ and
- (10) other determinants within or outside the building to accurately gauge health risks and harms to occupants based on single or repeated exposures to indoor air in periods of regular operations or during planned renovations.

[b] **Remedial Actions.** IAQ assessments may include recommended actions (if warranted), including estimated costs to remedy or improve IAQ within buildings in compliance with this Act. Building owners may refer to these actions in making repairs, engaging in renovations, or taking other steps to improve IAQ.

[c] **Repairs.** Building owners may select from a series of repairs or remedial actions based on efficacy, costs, timeliness, or other factors. Repairs or maintenance to HVAC&R or other systems to improve IAQ must be documented and performed by qualified, skilled, or licensed contractors or workers, as applicable.⁴⁷ The State agency may seek verification that repairs or remedial actions were completed by such contractors or workers, including their names, business addresses, and license numbers.

[d] **Filing.** Assessments and documented proof of remedial actions to ameliorate poor IAQ within buildings may be filed with the State agency pursuant to formal processes it establishes.

[e] **Reviews.** Assessments may be reviewed separately by state agents or licensed professionals employed or contracted by the State agency to determine if any additional adjustments or repairs are needed to meet minimum IAQ standards for classified buildings as specified by the State agency pursuant to the Act.

[f] **Public Access.** Building owners shall maintain information related to assessments and remedial actions for at least [3] years after the date of their performance. During this time any prior or current building occupant may request in writing to examine or receive a copy of the assessment or remedial actions. Fulfilment of any such requests by the owner shall be made no later than [60] days after formal receipt of the request.

ARTICLE IV. BUILDING INVESTIGATIONS & INSPECTIONS

4-101. IAQ Events

[a] **Complaint.** Building occupants or other aggrieved persons may file a formal IAQ complaint of an alleged IAQ event at a building to the State agency pursuant to the direct notification or submission of a form created by the agency.

[b] **Contents.** The State agency shall develop forms for submission of IAQ complaints that may include the following information (if available):

- (1) name, identification, and contact information for the person[s] submitting the form;
- (2) alleged factors (if known) that reasonably suggest a risk of adverse health effects or building-related illnesses due to poor IAQ among building occupant[s];
- (3) identification of specific locales (eg, work areas, customer access areas) within the building that may be at risk of poor IAQ;
- (4) prospective or actual number of individuals impacted;
- (5) specific date[s] over which alleged factors (if known) have occurred or are occurring;
- (6) alleged or suspected building-related illnesses (if known);
- (7) observed data from onsite tests conducted by the building owner, independently conducted tests, assessment of occupants' health symptoms, or other data;
- (8) input from additional sources, including medical providers treating potentially affected individuals;
- (9) simultaneous notice to the owner;
- (10) any known efforts by the owner to address or remedy potential contributing factors (if known); and
- (11) any other State or local agencies or persons that may have been notified or are aware of the bases for the complaint.

[c] **Evaluation.** Any complaint properly filed and received by the State agency shall be initially assessed by the agency for its validity, including through direct outreach and communications with building owners, occupants, or submitters of the complaint.

- (1) If a complaint is determined to be invalid, the State agency shall decline to take further action and notify the person[s] submitting the complaint of its decision.
- (2) If the complaint is determined to be initially valid, the State agency may launch an IAQ investigation regarding the prospective or actual IAQ event as authorized per [Section 4-102](#). Notice of such action shall be provided to the person[s] submitting the complaint as well as other relevant state or local agencies.

- (3) Irrespective of the initial determination of validity by the State agency, it may notify or refer the information in the complaint to other relevant state or local agencies, utilities, or private entities for additional actions authorized under federal or state law (eg, anti-smoking laws, natural gas leak prohibitions, hazardous exposure laws, environmental laws).

4-102. IAQ Investigations

[a] **Initiation.** The State agency may conduct an investigation of an IAQ event within [60] days of receipt of notice of a valid complaint (or other reliable resource) that reasonably alleges a risk of adverse health effects or building-related illnesses among occupants allegedly due to poor IAQ.

[b] **Investigation Components.** Investigations may follow pre-set forms or procedures determined by the State agency, which may include:

- (1) screening, identification, and selective interviews of occupants reasonably suspected of exposure to contaminants in the building;
- (2) optional medical testing of any occupant (with written informed consent) determined through screening, identification, or interview to have been exposed to such contaminants or allegedly harmed by a building-related illness;
- (3) results of inspections authorized via [Section 4-103](#);
- (4) IAQ assessments provided by the building owner;
- (5) interviews of HVAC&R personnel responsible for design, installation, operation, or maintenance of the building systems; and
- (6) determinations of prior or contemporaneous remedial actions consistent with IAQ assessments or inspections.

[c] **Filing.** Investigation results and required remedial actions must be shared with building owners. Investigation results must also be made available to building occupants to the full extent possible by the owner (or State agency in absence of such notice by the owner) within [30] days of completion of the investigation.

[d] **Compliance.** Building owners have no more than [120] days within formal receipt of the agency's investigation results to undertake and complete required repairs or remedial actions. Repairs or remedial actions must be documented and conducted under the same requirements related to IAQ assessments as set forth in [Section 3-105\[c\]](#).

[e] **Extensions.** Additional time to comply per subsection [d] may be provided at the discretion of the State agency upon written application for an extension of time filed by the building owner. Extensions may not exceed [6] months of the original receipt of the agency's investigation results. Documentation of requests for extensions or full compliance with instituting remedial actions shall be filed with the State agency through the same process set forth in [Section 3-105\[d\]](#).

[f] **Significant Medical Conditions.** Any valid complaint, or resulting investigation, that alleges, finds, or supports significant medical conditions among occupants due to building-related illnesses shall:

- (1) be communicated by the State agency within [48] hours of receipt to federal, State or local public health agencies for additional responses;
- (2) be simultaneously shared with the building owners and at-risk occupants within the same time period;
- (3) require owners to initially respond or act within [7] days of receipt as directed by the State agency consistent with the terms of this Act; and
- (4) require remedial actions, if applicable, by owners on an expedited schedule as specified in the real-time investigations of the State agency, public health agencies, or other governmental agencies authorized to act under federal or state law.

4-103. IAQ Inspections

[a] **Authorization.** As warranted pursuant to Sections 4-101 and 4-102, and with prior consent of building owners and sufficient, advance notification of at least [20] days to owners or occupants, a State agent may enter any building at any reasonable time to inspect, investigate, evaluate, conduct tests, or take samples for testing, as needed, to conduct its own IAQ assessment of the building consistent with Section 3-105, or otherwise determine building compliance with this Act.

[b] **Non-consensual Entry.** If the State agent is denied entry to, or cannot physically enter, a building to conduct an IAQ inspection after giving the building owner or occupants sufficient, advance notice pursuant to subsection [a] on at least 2 distinct occasions for the same purposes, the agent may seek an administrative search warrant to enter the building for this specific purpose.

- (1) The State agent shall submit a written and sworn application to the court that identifies the building subject to inspection, the purpose of the inspection, and evidence demonstrating probable cause to inspect the building or investigate a prospective violation of the Act.
- (2) The court may issue an administrative search warrant on finding that there is probable cause for the State agent to inspect the building.
- (3) An administrative search warrant shall be executed and returned to the issuing court within the time specified in the warrant, not exceeding [30] days.
- (4) Information obtained via an administrative search warrant shall be used and disclosed solely for purposes authorized in this Act.

This subsection does not limit the authority of any State or local agency or agent to conduct an administrative search or inspection of buildings under other provisions of the Act or existing federal or state laws.

[c] **Fees.** The State agency may establish a fee to cover reasonable costs of performing an inspection pursuant to subsections [a] or [b], which building owners are required to pay.⁴⁸

- (1) Reasonable costs covered by the fee may include expenses related to administration, personnel or contractor salaries, travel expenses, instrument rentals, tests, laboratory assessments, judicial expenditures, or other legitimate expenses.
- (2) Any owner who fails to pay the fee shall be subject to citations and penalties per Section 5-102.
- (3) The State agency may exempt specific owners from paying the fee if their buildings are classified as low risk pursuant to [Section 3-101](#) and the owners face significant financial burdens.

[d] **Results.** The State agency will share results of any IAQ inspection with the building owner, including proposed remedies, within [30] days of conducting the inspection. At a minimum, the inspection results shall:

- (1) clearly describe key findings related to core elements;
- (2) identify any conditions that are actually contributing to poor IAQ at the building;
- (3) provide guidance or options on remedial actions the building owner may undertake to address these conditions; and
- (4) set procedural requirements for notifying building occupants of probable or actual risks to their health, if applicable.

[e] **Compliance.** Building owners have up to [60] days within formal receipt of the agency's inspection as required pursuant to subsection [c] above to undertake and complete remedial actions to bring the building within compliance of the Act. Remedial actions must be documented and conducted under the same requirements related to IAQ assessments as set forth in [Section 3-105\[c\]](#).

[f] **Extensions.** Additional time to comply per subsection [e] may be provided in the discretion of the State agency upon written application for an extension of time filed by the building owner. Extensions may not exceed [6] months from the original receipt of the agency's inspection results. Documentation of requests for extensions or full compliance with instituting remedial actions shall be filed with the State agency through the same process set forth in [Section 3-105\[d\]](#).

[g] **Inspection Exception.** The State agency may refer to filed IAQ assessments along with documented proof of remedial actions, where made, in determining whether a specific building is subject to inspection. A building owner who has conducted an assessment and successfully performed remedial actions within [12] months prior to the date of an investigation pursuant to [Section 4-102](#) may be exempted from an inspection if the State agency reasonably determines that prior compliance sufficiently ameliorates poor IAQ pursuant to [Section 3-105](#).

ARTICLE V. BUILDING INCENTIVES & ENFORCEMENT

5-101. Compliance Strategies and Incentives

[a] **Voluntary Compliance.** The State agency shall seek voluntary compliance of building owners in meeting provisions or requirements consistent with specific time deadlines or other stated parameters in this Act or authorized regulations.

[b] **Good Faith Incentives.** Good faith efforts of building owners to comply with the provisions or requirements of this Act or authorized regulations may result in specific benefits to owners including:

- (1) waivers of formal inspections consistent with the terms specified in Section 4-103;
- (2) opportunities to apply for annual designation of buildings meeting IAQ certification consistent with graded levels (eg, Tier 1, 2, 3, . . .) set via regulation by the State agency in consultation with the IAQ Advisory Council. Regulations establishing criteria for IAQ certification may clarify that such status is dependent on:
 - a. risk classifications of a building per Section 3-101;
 - b. owner adherence to data collection and sharing practices per Articles II and III; and
 - c. potential application fees for certifications;⁴⁹
- (3) expedited reviews of IAQ assessments of additional buildings owned or leased by the same owner;
- (4) mitigated liabilities or reduced penalties; and
- (5) allowance of reasonable costs related to IAQ testing, assessment, or remedial actions as fully tax-deductible business expenses under state tax laws.⁵⁰

5-102. Noncompliance Citations and Penalties

[a] **General.** Any building owner who knowingly and willfully violates or fails to comply with express terms, conditions, provisions, regulations, or requirements of this Act may be subject to citation or penalties as set forth in this Section.

[b] **Citation.** The State agency may issue citations against offending building owners pursuant to subsection [a] as follows:

- (1) each alleged violation shall identify the factors, conditions, dates, and locations, as well as specific provisions of this Act or authorized regulations, substantiating the violation;
- (2) alleged violations that counter multiple provisions of this Act or authorized regulations shall be separately stated and subject to specific penalties not to exceed [\$10,000] per violation; and
- (3) penalties may be reduced where alleged violations arise from the same or similar actions by an owner related to the same property.⁵¹

[c] **Additional Recourse.** The State agency may undertake additional recourse against offending building owners pursuant to subsection [a] for the period of time in which a violation is unresolved as follows:

- (1) prohibiting existing or prospective leasing of the applicable building where building occupants may be at risk of harmful exposures to contaminants;
- (2) de-licensure of applicable building facilities; or
- (3) limiting public access to the building in the interests of public health and safety.

[d] **Actions.** The State Attorney General or other appropriate law enforcement official may commence a civil action in court to assess and recover any penalty under subsection [c].

[e] **Determinations.** In determining the amount of any civil penalty to be assessed under this Section, the court shall consider the:

- (1) nature and gravity of the violation;
- (2) severity of health-related consequences of the violation related to affected occupants or populations;
- (3) measurable economic impacts resulting from the violation; and
- (4) business owner's history and extent of compliance with the Act, actions to remedy the specific violation, and capacity to continue doing business or conduct other lawful functions related to imposition of the penalty.

[f] **Statute of Limitations.** Any action under this Section is barred unless it is commenced within [3] years after the cause of action accrues or was or should reasonably have been discovered by the State agency or Attorney General.

5-103. Civil Remedies

[a] **General.** Any aggrieved person harmed by any violation of this Act or pursuant to authorized regulations may maintain an action for relief in court as provided in this Section.

[b] **Appropriate Relief.** A court may order a building owner or other persons to engage in specific performance to comply with this Act and any other appropriate civil or equitable relief, including an injunction to prevent noncompliance.

[c] **Compensatory Damages.** If a court determines there is a violation of this Act, an aggrieved person is entitled to recover damages for losses sustained as a result of the violation. The measure of damages shall be the greater of the aggrieved person's actual damages, or liquidated damages of [\$5,000] for each violation, provided that liquidated damages shall not exceed [\$50,000] for any particular claim.

[d] **Punitive Damages.** If a court determines that there is a violation of this Act that results from willful, grossly negligent, or reckless conduct of a building owner, the aggrieved person may recover punitive damages not to exceed [\$100,000], exclusive of any other loss, for each violation of the offending party.

[e] **Attorney Fees.** If the aggrieved person prevails, a court may assess reasonable attorney's fees and other expenses incurred in the litigation against the non-prevailing parties.

[f] **Joint and Several Liability.** Responsible parties are jointly and severally liable (where applicable under existing state law) for any compensatory damages, attorney's fees, or other costs awarded.

[g] **Statute of Limitations.** Any action under this Section is barred unless the action is commenced within [3] years after the cause of action accrues or was or should reasonably have been discovered by the aggrieved person.

[h] **Pre-existing Remedies.** Nothing in this Section limits or expands the right of an aggrieved person to recover damages under any other applicable law.

ARTICLE VI. ADMINISTRATIVE PROCEDURES & MISCELLANEOUS

6-101. Administrative Rulemaking

[a] **Promulgation.** Within [12] months of the effective date of the Act per Section 6-108, the State agency and other affected agencies are authorized to promulgate and implement such rules, orders, and regulations as are reasonable and necessary to implement and effectuate the provisions and goals of this Act based on the best available scientific evidence and proofs of efficacy to identify, prevent, and control factors affecting IAQ within buildings.

[b] **Amendments.** The State agency and other affected agencies may regularly amend regulations promulgated pursuant to subsection [a] for purposes of clarifying guidance, making essential updates, or revising regulations based on new or emerging information or legal requirements.

[c] **Limitation.** Nothing in this title shall be construed to authorize the State agency or other affected agencies to carry out any program or any activity that is not reasonably related to improving IAQ within buildings as defined in this Act.

6-102. Applicability of State Administrative Procedure Act

Any applicable action of the State agency and other affected agencies made pursuant to this Act, including rendering adjudications, issuing orders, and creating regulations, shall be governed by the [*State's Administrative Procedure Act (APA)*], or other applicable laws. Courts shall review final agency actions in accordance with the APA and may stay or permanently enjoin any such action that fails to comport with its requirements.

6-103. Titles

For the purposes of this Act, titles and subtitles of Articles, Sections, and subsections are instructive, but not legally binding.

6-104. Uniformity Provision

This Act shall be applied and construed to effectuate its general purpose to make uniform the law with respect to the subject of this Act among states enacting it.

6-105. Severability

The provisions of this Act are severable. If any provision of this Act or its application to any person or circumstances is held invalid in court, the invalidity does not affect other provisions or applications of this Act that can be given effect without the invalid provision or application.

6-106. Repeals

The following acts, laws, or parts thereof, are explicitly repealed with passage of this Act:

[a] *[To be inserted in each state considering passage of the Act]*

6-107. Conflicting Laws

[a] **Federal Supremacy.** This Act does not restrict any person from complying with federal law or regulations.

[b] **Prior Conflicting Acts.** In the event of a conflict between this Act and other State or local laws or regulations, the provisions of this Act apply.

6-108. Reports and Effective Date

[a] **Effective Date.** The provisions of this Act shall be effective [12] months after the date of its enactment.

[b] **Initial Report.** No later than [6] months after the date of enactment, the State agency shall prepare and submit a report to the [*receiving entity (eg, Governor, state legislative committee)*] concerning the prospective impacts and effects of this Act on the agency.

[c] **Comprehensive Report.** No later than [9] months after the date of enactment, the State agency shall issue a comprehensive report to the [*receiving entity (eg, Governor, state legislative committee)*] concerning the prospective impacts and effects of this Act, including any recommendations for legislative amendments.

References

- ¹ David A. Rothamer, Scott Sanders, Douglas Reindl, Timothy H. Bertram, *Strategies to minimize SARS-CoV-2 transmission in classroom settings: combined impacts of ventilation and mask effective filtration efficiency*, 27 SCIENCE AND TECHNOLOGY FOR THE BUILT ENVIRONMENT 1181-1203 (2021), <https://www.tandfonline.com/doi/full/10.1080/23744731.2021.1944665> (last visited Mar. 24, 2023).
- ² Joachim Curtius, Manuel Granzin, Jann Schrod, *Testing mobile air purifiers in a school classroom: Reducing the airborne transmission risk for SARS-CoV-2*, 55 AEROSOL SCIENCE AND TECHNOLOGY 586-599 (2021), <https://www.tandfonline.com/doi/full/10.1080/02786826.2021.1877257>.
- ³ Xiaolei Gao, et al., *Building Ventilation as an Effective Disease Intervention Strategy in a Dense Indoor Contact Network in an Ideal City*, 9 PLOS ONE (2016), <https://pubmed.ncbi.nlm.nih.gov/27611368/>.
- ⁴ Sharon Croisant, *Epidemiology of Asthma: Prevalence and Burden of Disease*, in: HETEROGENEITY IN ASTHMA 17-29 (2013), <https://pubmed.ncbi.nlm.nih.gov/24162900/>.
- ⁵ Zafar Zafari, et al., *The cost-effectiveness of standalone HEPA filtration units for the prevention of airborne SARS CoV-2 transmission*, 20 COST EFF RESOUR ALLOC (2022), <https://pubmed.ncbi.nlm.nih.gov/35549719/>.
- ⁶ Angela Chang, Susan Horton, Dean Jamison, *Benefit-Cost Analysis in Disease Control Priorities*, DISEASE CONTROL PRIORITIES: IMPROVING HEALTH AND REDUCING POVERTY (3 ed., 2017), <https://www.ncbi.nlm.nih.gov/books/NBK525301/>.
- ⁷ *Infectious Lung Diseases*, AMERICAN LUNG ASSOCIATION, <https://www.lung.org/lung-health-diseases/lung-disease-lookup/infectious-lung-diseases>.
- ⁸ Parham Azimi & Brent Stephens, *A framework for estimating the US mortality burden of fine particulate matter exposure attributable to indoor and outdoor microenvironments*, 30 JOURNAL OF EXPOSURE SCIENCE & ENVIRONMENTAL EPIDEMIOLOGY 271 (2020), <https://www.nature.com/articles/s41370-018-0103-4#Sec9>.
- ⁹ Nooshin Razani, Mohsen Malekinejad, George W Rutherford, *Clarification Regarding “Outdoor Transmission of SARS-CoV-2 and Other Respiratory Viruses: A Systematic Review,”* 244 JOURNAL OF INFECTIOUS DISEASES 925, 926 (2021), <https://academic.oup.com/jid/article/224/5/925/6291889> (last visited Mar. 24, 2023).
- ¹⁰ US Centers for Disease Control and Prevention, *A Century of US Water Chlorination and Treatment: One of the Ten Greatest Public Health Achievements of the 20th Century*, MORB. MORTAL. WKLY REP. Apr. 2, 1999, <https://www.cdc.gov/healthywater/drinking/history.html>.
- ¹¹ *Nitrogen Dioxide’s Impact on Indoor Air Quality*, US ENVIRONMENTAL PROTECTION AGENCY. <https://www.epa.gov/indoor-air-quality-iaq/nitrogen-dioxides-impact-indoor-air-quality>.
- ¹² American Lung Association, *VOLATILE ORGANIC COMPOUNDS*, <https://www.lung.org/clean-air/at-home/indoor-air-pollutants/volatile-organic-compounds> (last updated Nov. 17, 2022).
- ¹³ Steffen Künn, Juan Palacios, Nico Pestel, *Indoor Air Quality and Strategic Decision Making*, MANAGEMENT SCIENCE ARTICLES IN ADVANCE (Jan. 26, 2023), <https://pubsonline.informs.org/doi/10.1287/mnsc.2022.4643>.
- ¹⁴ US ENVIRONMENTAL PROTECTION AGENCY, *EVIDENCE FROM SCIENTIFIC LITERATURE ABOUT IMPROVED ACADEMIC PERFORMANCE*, <https://www.epa.gov/iaq-schools/evidence-scientific-literature-about-improved-academic-performance> (last updated Sept. 14, 2022).

- ¹⁵ Penny J Hitchcock, Michael Mair, Thomas V Inglesby, et al, *Improving Performance of HVAC Systems to Reduce Exposure to Aerosolized Infectious Agents in Buildings; Recommendations to Reduce Risks Posed by Biological Attacks*, 4 BIOSECURITY AND BIOTERRORISM: BIODEFENSE STRATEGY, PRACTICE, AND SCIENCE 41 (2006), <https://doi.org/10.1089/bsp.2006.4.41>.
- ¹⁶ Radon Gas and Indoor Air Quality Research Act of 1986, Pub. L. No. 99-499, 100 Stat. 1758 (1986), <https://www.govinfo.gov/content/pkg/STATUTE-100/pdf/STATUTE-100-Pg1613.pdf>.
- ¹⁷ *Radon Standards of Practice*, US ENVIRONMENTAL PROTECTION AGENCY, <https://19january2021snapshot.epa.gov/radon/radon-standards-practice.html>.
- ¹⁸ *1910.1000 - Air contaminants*, US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1000>.
- ¹⁹ *Indoor Air Quality*, US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, <https://www.osha.gov/laws-regs/federalregister/1994-04-05>.
- ²⁰ *Fact Sheet: Departments and Agencies Commit to Cleaner Indoor Air Across the Nation*, THE WHITE HOUSE, <https://www.whitehouse.gov/ostp/news-updates/2022/12/08/fact-sheet-departments-and-agencies-commit-to-cleaner-indoor-air-across-the-nation/> (Dec. 2022).
- ²¹ *Ventilation in Buildings*, US CENTERS FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html>.
- ²² Clean Air Act, 42 U.S.C. ch. 85, §§ 7401-7671q, <https://www.epa.gov/clean-air-act-overview/clean-air-act-text>.
- ²³ *West Virginia v. Environmental Protection Agency*, 142 S.Ct. 2587 (2022), https://www.supremecourt.gov/opinions/21pdf/20-1530_n758.pdf.
- ²⁴ Stephen M. Johnson, *Deregulation: Too Big for One Branch, but Maybe Not for Two*, 53 SETON HALL L. REV. 839 (2023), <https://scholarship.shu.edu/cgi/viewcontent.cgi?article=3517&context=shlr>.
- ²⁵ Erica N. White, *Overcoming the Major Questions Doctrine with Federal Public Health Authorities*, *HARVARD L. & POLY REV.* (forthcoming 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4410940.
- ²⁶ *ELI's Database of State Indoor Air Quality Laws*, ENVIRONMENTAL LAW INSTITUTE, <https://www.eli.org/buildings/database-state-indoor-air-quality-laws> (March 2023).
- ²⁷ *ASHRAE Position Document on Indoor Air Quality*, ASHRAE, https://www.ashrae.org/file_library/about/position_documents/pd_indoor-air-quality-2020-07-01.pdf (July 1, 2020).
- ²⁸ *ASHRAE Standard 241, Control of Infectious Aerosols*, ASHRAE, <https://www.ashrae.org/technical-resources/bookstore/ashrae-standard-241-control-of-infectious-aerosols> (July 2023).
- ²⁹ Indoor Air Quality Act of 1991, S. 455, 102nd Cong., <https://www.congress.gov/bill/102nd-congress/senate-bill/455>.
- ³⁰ *Indoor Air Quality by Building Type*, US ENVIRONMENTAL PROTECTION AGENCY, <https://www.epa.gov/indoor-air-quality-iaq/indoor-air-quality-building-type> (July 6, 2022); see also N.J. ADMIN. CODE § 12:100-13.1 (2007), <https://www.nj.gov/health/workplacehealthandsafety/documents/peosh/iaqstd.pdf>.
- ³¹ MISS. CODE § 57-39-21 (2022), <https://casetext.com/statute/mississippi-code-1972/title-57-planning-research-and-development/chapter-39-energy-and-transportation-planning/article-1-energy-management-planning/section-57-39-21-repealed-effective-7-1-2023energy-efficiency-standards-for-buildings>.
- ³² FL. STAT. § 553.73 (2022), http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0500-0599/0553/Sections/0553.73.html.

- ³³ N.J. ADMIN. CODE § 12:100-13.1 (2007), <https://www.nj.gov/health/workplacehealthandsafety/documents/peosh/iaqstd.pdf>.
- ³⁴ *Particulate Matter (PM_{2.5}) Trends*, US ENVIRONMENTAL PROTECTION AGENCY, <https://www.epa.gov/air-trends/particulate-matter-pm25-trends> (Aug. 1, 2022).
- ³⁵ WORLD HEALTH ORGANIZATION, WHO GUIDELINES FOR INDOOR AIR QUALITY: SELECTED POLLUTANTS (2010), https://www.euro.who.int/_data/assets/pdf_file/0009/128169/e94535.pdf.
- ³⁶ WORLD HEALTH ORGANIZATION, WHO GLOBAL AIR QUALITY GUIDELINES: PARTICULATE MATTER (PM_{2.5} AND PM₁₀), OZONE, NITROGEN DIOXIDE, SULFUR DIOXIDE AND CARBON MONOXIDE (2021), <https://apps.who.int/iris/bitstream/handle/10665/345329/9789240034228-eng.pdf>.
- ³⁷ *Standards 62.1 & 62.2: The Standards for Ventilation and Indoor Air Quality*, ASHRAE, <https://www.ashrae.org/technical-resources/bookstore/standards-62-1-62-2> (2022) (see Table 6-5).
- ³⁸ Model State Public Health Act (Turning Point Public Health Statute Modernization Collaborative 2003), <https://law.asu.edu/sites/default/files/pdf/turning-point-model-act.pdf>.
- ³⁹ 410 ILL. COMP. STAT. 87/1, <https://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1535&ChapterID=35>.
- ⁴⁰ *Indoor Air Quality*, US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, <https://www.osha.gov/indoor-air-quality>.
- ⁴¹ *Human Health Risk Assessments*, US ENVIRONMENTAL PROTECTION AGENCY (2002), <http://epa.gov/riskassessment/health-risk.htm>.
- ⁴² UNIVERSITY OF TAMPA, INDOOR AIR QUALITY COMPLAINT FORMS (2018), https://www.ut.edu/uploadedFiles/Academics/Environmental_Health_and_Safety/IAQComplaintFormv1.0.pdf.
- ⁴³ *Indoor Air Quality*, TEXAS STATE OFFICE OF RISK MANAGEMENT (2020), <https://www.sorm.state.tx.us/risk-management/iaq/>.
- ⁴⁴ *Best Practices for Indoor Air Quality when Remodeling Your Home*, US ENVIRONMENTAL PROTECTION AGENCY (2022), <https://www.epa.gov/indoor-air-quality-iaq/best-practices-indoor-air-quality-when-remodeling-your-home>.
- ⁴⁵ Airborne Act, H.R. 7671, 117th Cong., <https://www.congress.gov/bill/117th-congress/house-bill/7671>.
- ⁴⁶ TENN. CODE § 49-2-121 (2022), <https://casetext.com/statute/tennessee-code/title-49-education/chapter-2-local-administration/part-1-general-provisions/section-49-2-121-inspection-and-evaluation-program-for-indoor-air-quality-in-schools>.
- ⁴⁷ NEV. REV. STAT. § 393.3915 (2023), <https://casetext.com/statute/nevada-revised-statutes/title-34-education/chapter-393-school-property/indoor-air-quality/section-3933915-expires-6302023-installation-or-improvement-of-ventilation-system-employment-of-certain-personnel>.
- ⁴⁸ OR. REV. STAT. § 624.510 (2022), <https://casetext.com/statute/oregon-revised-statutes/title-49-food-and-other-commodities-purity-sanitation-grades-standards-labels-weights-and-measures/chapter-624-food-service-facilities/administration-and-enforcement-of-food-service-facility-laws/section-624510-intergovernmental-agreements-with-local-public-health-authorities-fee-collection-and-remittance-rules>.
- ⁴⁹ VA. CODE § 15.2-1804.1 (2021), <https://law.lis.virginia.gov/vacode/title15.2/chapter18/section15.2-1804.1/> - :text=Upon a finding that special,such design and construction standards; see also CAL. HEALTH & SAFETY CODE § 13233 (2019), <https://codes.findlaw.com/ca/health-and-safety-code/hsc-sect-13233/>.
- ⁵⁰ Airborne Act, H.R. 7671, 117th Cong., <https://www.congress.gov/bill/117th-congress/house-bill/7671>.
- ⁵¹ CAL. DEP'T OF INDUS. REL., DIV. OF OCCUPATIONAL SAFETY AND HEALTH POLICY AND PROCEDURES MANUAL (1994), <https://www.dir.ca.gov/DOSHPol/P&PC-48.pdf>.



JOHNS HOPKINS
BLOOMBERG SCHOOL
of PUBLIC HEALTH

Center for Health Security

**Johns Hopkins
Center for Health Security**

700 E. Pratt Street, Suite 900
Baltimore, MD 21202

Tel: 443-573-3304

Fax: 443-573-3305

centerhealthsecurity@jhu.edu
centerforhealthsecurity.org