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State Policies for Improving Health Now and Addressing Future Risks in a Changing Climate

CHAPTER 3: DAMPNESS AND MOLD

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CHAPTER 3

Dampness and Mold

Molds are a type of fungi whose tiny spores can be found in indoor and outdoor air or settled on indoor and outdoor surfaces. Molds can grow almost anywhere provided they have nutrients and water. Since organic nutrients that mold can digest are generally always available, *controlling moisture* in buildings is the key to controlling dampness and mold indoors.[135] While this chapter discusses dampness and mold, indoor dampness may also lead to other problems, such as bacterial growth, increased dust mites, cockroach and rodent infestations, and off-gassing of chemicals from building materials and furnishings.[136] Flooding of a home presents additional health and safety risks.[137]

The past two decades have witnessed considerable advances in public health and building science, yielding a clearer understanding of both the health effects of exposure to indoor dampness and mold and the technical approaches to preventing and remedying those conditions. Yet despite these scientific advances, indoor dampness and mold remain pervasive. As the Institute of Medicine concluded in its 2011 report on climate change and the indoor environment, the potential impact of changing climatic conditions on indoor dampness and mold "increase the urgency with which prevention and interventions must be pursued."[138] A number of states have underscored this point by incorporating dampness and mold issues into their climate planning documents.[139]

This report discusses two areas of state policy for facilitating best practices to prevent and remedy dampness and mold problems – licensing of mold service providers and establishment of minimum standards governing rental housing. Following brief background information on the problem of dampness and mold, the chapter describes current state laws and regulations and suggest considerations for states in strengthening their policies.

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[135] *See generally* U.S. EPA, Mold Remediation in Schools and Commercial Buildings: App. B – Introduction to Molds, http://www.epa.gov/mold/append_b.html.

[136] National Academy of Sciences – Institute of Medicine, Damp Indoor Spaces and Health at 1 (2004), https://www.nap.edu/download/11011.

[137] *See* U.S. EPA, Protecting Children's Health During and After Natural Disasters, https://www.epa.gov/children/protecting-childrens-health-during-and-after-natural-disasters; Centers for Disease Control and Prevention (CDC), Natural Disasters and Severe Weather, http://www.cdc.gov/disasters/floods/; Conn. Dept. of Health, Hurricanes: Important Health Information, http://www.ct.gov/dph/cwp/view.asp?a=3115&q=513014.

[138] National Academy of Sciences – Institute of Medicine, Climate Change, the Indoor Environment, and Health at 134-135 (2011), https://www.nap.edu/download/13115.

[139] *See, e.g.,* Cal. Natural Resources Agency, Safeguarding California: Implementation Action Plans: Public Health Sector Plan at 166 (2016), http://resources.ca.gov/docs/climate/safeguarding/Public%20Health%20Sector%20Plan.pdf; Delaware Sea Level Rise Advisory Comm., Preparing for Tomorrow's High Tide Sea Level Rise: Vulnerability Assessment for the State of Delaware at 93 (2012), http://www.dnrec.delaware.gov/coastal/Documents/SeaLevelRise/AssesmentForWeb.pdf; Mass. Exec. Office of Envtl. Affairs and Adaptation Advisory Committee, Climate Change Adaptation Report at 80-82 (2011), http://www.mass.gov/eea/docs/eea/energy/cca/eea-climate-adaptation-report.pdf.

Background

Indoor Dampness and Mold in the U.S. Indoor dampness and mold are already significant problems in the United States. A review of several studies concluded that approximately half of U.S. homes have visible evidence of a dampness problem or mold contamination.[140] According to the U.S. EPA, "Excessive moisture accumulation plagues buildings throughout the United States, from tropical Hawaii to arctic Alaska and from the hot, humid Gulf Coast to the hot, dry Sonoran Desert."[141] Climate change is expected to make this problem even more significant.

Among the climate-related factors that impact indoor dampness are "extreme weather events, local changes in temperature and humidity, and the adaptations that occupants make and mitigation strategies that they use in response to changed environmental conditions."[142] The U.S. Global Change Research Program has found that the "frequency of heavy precipitation events has already increased for the nation as a whole, and is projected to increase in all U.S. regions."[143] Recent heavy storms – from Superstorm Sandy in 2012 to Tropical Storm Hermine in 2016 – have caused severe damage to homes and other infrastructure. But dampness and mold contamination are not problems that are limited to the aftermath of major storms. Increasing average precipitation and outdoor humidity in some regions of the country makes it more likely that indoor humidity, condensation, and dampness will rise as well.[144] In the continental U.S., 2015 was the third-wettest year on record, and 2016 has seen record-breaking rainfall totals in many areas of the country – from Houston and parts of Kentucky, to the Willamette Valley in Oregon.[145]

Indoor dampness and mold are already significant problems in the U.S.

Health Effects of Exposure to Dampness and Mold. In addition to damaging buildings, dampness and mold are associated with a variety of respiratory and allergic effects. This chapter addresses not only mold, but dampness as well, because public health science studies have shown that both conditions are associated with health effects to exposed occupants. A recent policy statement issued by the

[140] Lawrence Berkeley National Laboratory (LBNL), Indoor Air Quality Scientific Findings Research Bank: Prevalence of Building Dampness, https://iaqscience.lbl.gov/dampness-prevalence.
[141] U.S. EPA, Moisture Control Guidance for Building Design, Construction and Maintenance at 1 (2013), https://www.epa.gov/sites/production/files/2014-08/documents/moisture-control.pdf.
[142] Institute of Medicine, Climate Change, the Indoor Environment, and Health, *supra*, at 134.
[143] U.S. Global Change Research Program (USGCRP), Climate Change Impacts in the United States: The Third National Climate Assessment at 224 (2014), http://nca2014.globalchange.gov/ [hereinafter Third National Climate Assessment].
[144] USGCRP, The Impacts of Climate Change on Human Health: A Scientific Assessment at 81 (2016), https://health2016.globalchange.gov/downloads [hereinafter Impacts of Climate Change on Human Health] (noting also, "Outdoor humidity is usually the largest contributor to indoor dampness on a yearly basis.").
[145] Natl. Oceanic and Atmospheric Administration, National Centers for Environmental Information (NOAA NCEI), https://www.ncdc.noaa.gov/sotc/national/201513; NASA Earth Observatory, Record Rainfall in Southeast Texas, http://earthobservatory.nasa.gov/IOTD/view.php?id=87907&src=eorss-iotd&utm_source=twitterfeed&utm_medium=twitter; NOAA NCEI, National Overview July 2016, http://www.ncdc.noaa.gov/sotc/national/201607; KGW Portland, Rainfall Records Shattered this October, http://www.kgw.com/weather/october-in-oregon-brings-record-rainfall/345127225.

California Department of Public Health summarized current knowledge, based on recent scientific research:

> Human health studies have led to a consensus among scientists and medical experts that the presence in buildings of (a) visible water damage, (b) damp materials, (c) visible mold, or (d) mold odor indicates an increased risk of respiratory disease for occupants. Known health risks include: the development of asthma; the triggering of asthma attacks; and increased respiratory infections, allergic rhinitis, wheeze, cough, difficulty breathing, and other symptoms. Available evidence suggests that the more extensive, widespread, or severe the water damage, dampness, visible mold, or mold odor, the greater the health risks, and also that children are more sensitive to dampness and mold than adults.[146]

A review at Lawrence Berkeley National Laboratory (LBNL) concluded that building dampness and mold are associated with "30% to 50% increases in a variety of respiratory and asthma-related health outcomes."[147] Related studies found that an estimated 21 percent of current U.S. asthma cases (and an associated $3.5 billion), as well as an estimated 8 to 10 percent of respiratory infections and bronchitis, were attributable to dampness and mold in homes.[148] According to a recent review, most studies of dampness and mold have found that the more severe or extensive the dampness and mold, the greater the increased risks for adverse health effects.[149] A recent review on climate change and indoor environmental quality by LBNL found that, while "even moderate increases in dampness and mold in buildings would be of concern," taking action makes sense regardless of climate change, given the health effects and financial cost related to current mold and dampness.[150]

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[146] Calif. Dept. of Public Health, CDPH Statement on Building Dampness, Mold, and Health (rev. 2016), https://www.cdph.ca.gov/programs/IAQ/Pages/IndoorMold.aspx#DMHStatement. *See also*, World Health Organization, WHO Guidelines for Indoor Air Quality: Dampness and Mould (2009), http://www.who.int/indoorair/publications/7989289041683/en/; M. Mendell, et al., Respiratory and Allergic Health Effects of Dampness, Mold, and Dampness-related Agents: A Review of the Epidemiologic Evidence, Envtl. Health Perspectives, 119:748-756 (2011), http://ehp.niehs.nih.gov/1002410/.

[147] *See* LBNL, Indoor Air Quality Scientific Findings Research Bank: Dampness-Related Health Risks, https://iaqscience.lbl.gov/dampness-risks; W. Fisk, et al., Meta-analyses of the Associations of Respiratory Health Effects with Dampness and Mold in Homes, Indoor Air, 17(4):284-96 (2007).

[148] *See* LBNL, Indoor Air Quality Scientific Findings Research Bank: Dampness-Related Health Risks, https://iaqscience.lbl.gov/dampness-risks; D. Mudarri & W. Fisk, Public Health and Economic Impact of Dampness and Mold, Indoor Air, 17(3):226-35 (2007) (Erratum in: Indoor Air. 2007 Aug;17(4):334), https://www.ncbi.nlm.nih.gov/pubmed/17542835; W. Fisk, et al., Association of Residential Dampness and Mold with Respiratory Tract Infections and Bronchitis: a Meta-analysis, Envtl. Health, 9:72 (2010), https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-9-72.
A study published in 2016 found that "the total annual cost to society attributable to dampness and mold is estimated to be $3.7 (2.3-4.7) billion for allergic rhinitis, $1.9 (1.1-2.3) billion for acute bronchitis, $15.1 (9.4-20.6) billion for asthma morbidity, and $1.7 (0.4-4.5) billion for asthma mortality." D. Mudarri, Valuing the Economic Costs of Allergic Rhinitis, Acute Bronchitis, and Asthma from Exposure to Indoor Dampness and Mold in the US, *J. Envtl. Public Health*, v. 2016 (2016), https://www.hindawi.com/journals/jeph/2016/2386596/.

[149] *See* M. Mendell & K. Kumagai, Observation-based Metrics for Residential Dampness and Mold with Dose-response Relationships to Health: A Review, Indoor Air, (Sept. 24, 2016) (early online), http://onlinelibrary.wiley.com/doi/10.1111/ina.12342/abstract.

[150] W. Fisk, Review of Some Effects of Climate Change on Indoor Environmental Quality and Health and Associated No-Regrets Mitigation Measures at 7-8 (2015), http://bit.ly/2eb1pmy (estimating that a 25% increase in dampness and mold in U.S. buildings can be expected to lead to 1.2 million additional cases of current asthma, with an annual cost of approx. $1 billion, and a 2%-5% increase in common respiratory infections).

Preventing and Remedying Indoor Dampness and Mold Problems. Significant indoor moisture problems are common, but they are not inevitable. Advances in building science have established best practices for controlling moisture in building design, construction, and management, and there are numerous technical guidance documents discussing these practices.[151] Nevertheless, strategies for preventing dampness and mold problems are "well established, although not necessarily widely implemented."[152] The 2004 Institute of Medicine report, *Damp Indoor Spaces and Health*, concluded that "the prevalence and nature of dampness problems suggest that what is known about their causes and prevention is not consistently applied in building design, construction, maintenance, and use."[153]

Recent U.S. EPA moisture control guidance notes two basic elements of moisture control: Preventing water intrusion and condensation in areas of a building that must remain dry; and limiting the areas of a building that are routinely wet because of their use (e.g., bathrooms, spas, kitchens and janitorial closets) and drying them out when they do get wet. The guidance discusses strategies for preventing moisture problems by maintaining key building elements, including site drainage, foundation, walls, roof and ceiling assembly, plumbing, and HVAC system.[154]

Numerous governmental and non-governmental materials provide guidance on remediating mold contamination. California's mold policy statement summarizes the basic steps recommended by public health agencies:

- Identification and correction of the source of water that may allow microbial growth or contribute to other problems;
- Rapid drying or removal of damp materials; and
- Cleaning or removal of mold and moldy materials, as rapidly and safely as possible, to protect the health and well-being of building occupants, especially children.[155]

Public health and building science guidance documents emphasize that laboratory testing is not generally necessary or useful before decisions are made on remediating a mold contamination problem.[156]

Vulnerable Populations. Individuals with respiratory disease and others who are susceptible to respiratory health problems are particularly vulnerable to the impacts of indoor dampness and mold. Currently there are 17.7 million (7.4%) adults and 6.3 million (8.6%) children in the U.S. with asthma.[157] According to the National Institutes of Health, "The rates of hospitalizations and deaths due to asthma are both 3 times higher among African Americans than among whites….[and] compared to white

[151] *See generally* CDC, Mold Cleanup and Remediation, http://www.cdc.gov/mold/cleanup.htm; Institute of Medicine, Climate Change, the Indoor Environment, and Health, *supra*, at 146.
[152] Institute of Medicine, Climate Change, the Indoor Environment, and Health, *supra*, at 146.
[153] Institute of Medicine, Damp Indoor Spaces and Health, *supra*, at 4.
[154] *See* U.S. EPA, Moisture Control Guidance for Building Design, Construction and Maintenance at 1, 87-103, https://www.epa.gov/indoor-air-quality-iaq/moisture-control-guidance-building-design-construction-and-maintenance.
[155] Calif. Dept. of Public Health, CDPH Statement on Building Dampness, Mold, and Health (rev. 2016), https://www.cdph.ca.gov/programs/IAQ/Pages/IndoorMold.aspx#DMHStatement.
[156] *Id*. *See also* U.S. EPA, Mold Testing or Sampling, https://www.epa.gov/mold/mold-testing-or-sampling.
[157] CDC, Most Recent Asthma Data, https://www.cdc.gov/asthma/most_recent_data.htm.

children, asthma prevalence is higher in children who are Puerto Rican (2.4 times), African American (1.6 times), and American Indian/Alaska Native (1.3 times)."[158]

Socio-economic status may also be an important risk factor for mold exposure. Asthma prevalence is higher among those living below the poverty line.[159] A recent study found socio-economic status correlated with mold conditions in homes.[160]

Policy Strategies Discussed in this Chapter. Given the current extent of dampness and mold in existing housing and the potential for these conditions to worsen in many parts of the country due to increased storms, average precipitation, and humidity, it is important for states to make sure they have in place an adequate legal framework for addressing dampness and mold problems on an ongoing basis and following storm events. This chapter looks in depth at two policy strategies that have been pursued by a growing number of states in recent years.

- Regulation of Mold Service Providers. The assessment and remediation of mold-contaminated buildings require adherence to best practices in order to safeguard the health and safety of workers and occupants. After a storm involving heavy precipitation or flooding, it may be especially important to protect consumers against inferior work or fraudulent business practices involving mold assessment and remediation. Having a licensing program or other policy in place *before* the next severe storm is one strategy states have employed to help ensure that mold assessment and cleanup services are performed adequately, safely, and responsibly.

- Regulation of Dampness and Mold in Rental Housing. Approximately one-third of all homes in the U.S. are rental dwellings, and many jurisdictions create and enforce minimum standards governing these properties. Yet addressing dampness and mold in rental housing continues to be a particularly challenging problem not only for landlords and tenants, but also for the housing and health officials called on to assist in individual situations. Renewed focus on strengthening state laws to address dampness and mold is especially important in light of the fact that families living in rental properties make up nearly 60 percent of households living at or below the poverty line, and many will lack the resources needed to ensure the problem is fixed or to find alternate housing.[161]

Other Policy Strategies – New Homes. The policies discussed in the remainder of the chapter focus on preventing and remedying dampness and mold conditions in *existing* homes. In order to prevent problems in the future housing stock, it is also important to strengthen state policies governing

[158] National Institutes of Health-National Heart, Lung, and Blood Institute, Reducing Asthma Disparities, http://www.nhlbi.nih.gov/health-pro/resources/lung/naci/discover/disparities.htm.
[159] CDC, Most Recent Asthma Data, https://www.cdc.gov/asthma/most_recent_data.htm.
[160] *See* T. Reponen, et al., Family and home characteristics correlate with mold in homes, *Environmental Research*, v. 124 at 67-70 (2013), http://www.sciencedirect.com/science/article/pii/S0013935113000832 (analyses finding, "Overall lower socioeconomic position is associated with higher Environmental Relative Moldiness Index").
[161] *See* American Housing Survey, Table Creator (Poverty, Tenure), http://sasweb.ssd.census.gov/ahs/ahstablecreator.html#?s_areas=a0000&s_year=n2013&s_tableName=Table1&s_byGroup1=a10&s_byGroup2=a2&s_filterGroup1=t1&s_filterGroup2=g1.

new homes – e.g., policies addressing siting homes in flood-prone areas or establishing design and construction requirements that make new homes less susceptible to moisture problems. As the Institute of Medicine's 2011 report noted,

> If climatic conditions in a particular area change – for example, if there are more severe or more frequent episodes of intense precipitation – buildings constructed under existing codes and designed to operate under previously existing conditions may fail to perform as designed under the new conditions. That suggests that careful consideration must be given to revising building codes and practices to anticipate future climatic conditions and to taking a coordinated approach to addressing risks.[162]

Building codes are a key policymaking opportunity for institutionalizing best practices. The majority of states have adopted residential building codes based on the model International Residential Code (IRC), which includes minimum measures for addressing moisture control – e.g., in provisions governing foundations, walls, and roofs – as well as provisions governing flood resistance.[163] As part of the regular code review process, states (and localities) can incorporate the most recent version of the model code, as well as additional best practices appropriate for their circumstances. For example, following Superstorm Sandy, New York City amended its building code to require the use of mold-resistant gypsum board and cement board in moisture-prone areas of a building; existing buildings undergoing repairs or renovation must also follow these mold protection provisions, even if the project is not otherwise subject to the code.[164]

In addition to revising their building codes, states can establish policies requiring that publicly-funded housing construction projects meet specific design and construction criteria for moisture control that go beyond minimum building codes. These state policies can draw on guidance documents, such as EPA's Indoor airPLUS program, which establishes construction specifications on a wide range of moisture control and other IAQ issues, and the agency's *Moisture Control Guidance for Building Design, Construction and Maintenance*, which explains how to address key moisture control principles.[165]

Regulation of Mold Service Providers: Summary of State Laws and Regulations

A small but growing number of states have established laws or regulations governing mold-related services performed inside residential properties. Such requirements can help protect consumers and workers by ensuring that professional services are performed in accordance with industry standards to protect health and safety. Regulatory requirements can also enhance public confidence in the profession and create a set of common standards for businesses operating within a state.[166]

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[162] Institute of Medicine, Climate Change, the Indoor Environment, and Health, *supra*, at 147.
[163] ICC, Int'l. Res. Code, http://codes.iccsafe.org/app/book/toc/201/I-Codes/2015%20IRC%20HTML/index.html.
[164] New York City Local Law No. 13 (2014); New York City Building Code, §§ 2506.3.
[165] *See* U.S. EPA, Indoor airPLUS Construction Specifications, v. 1, § 1 (rev. Oct. 2015), www.epa.gov/indoorairplus; U.S. EPA, Moisture Control Guidance for Building Design, Construction and Maintenance, https://www.epa.gov/indoor-air-quality-iaq/moisture-control-guidance-building-design-construction-and-maintenance.
[166] *See generally* U.S. Department of Treasury, Council of Economic Advisers, & U.S. Department of Labor, Occupational Licensing: A Framework for Policymakers at 11 (July 2015), http://bit.ly/2eBMqUe.

This section begins with a summary of the key features of occupational licensing regimes in several states. The latter part of the section briefly notes other approaches to the regulation of mold professionals, such as requiring third-party certification and establishing a set of minimum work practices. It is important to keep in mind that this section only addresses regulation of *mold* professionals. In some states, licensing or certification requirements for other professions (e.g., general or home improvement contractors, home inspectors, pest control applicators) may apply to residential mold remediation projects in certain circumstances; where such policies exist, they may provide another avenue for regulating aspects of mold assessment and remediation.[167]

State Occupational Licensing Programs

A direct approach to regulating mold-related services is to require state licensing of mold professionals. This chapter discusses laws establishing licensing programs for mold professionals in five jurisdictions – Florida, Louisiana, New York, Texas, and the District of Columbia. Two additional states – Maryland and Illinois – have laws authorizing regulation of mold professionals, but the laws have not been implemented as of 2016.[168] In Maryland, the Mold Remediation Services Act was enacted in 2008; however, "due to budget constraints, the [Maryland Department of Labor, Licensing, and Regulation] has postponed the implementation of the law indefinitely."[169] In Illinois, the 2007 Mold Remediation Registration Act provides that the state Department of Public Health "*may* adopt rules…to implement a program establishing procedures for parties that provide mold remediation services to register with the State and provide evidence of financial responsibility," but the agency has not yet acted on this authority.[170] Though not discussed here, local jurisdictions in some states may also regulate mold service providers.[171]

Several states have enacted policies regulating mold professional services.

The remainder of this section describes the laws in the five jurisdictions that have established licensing programs. Where the licensing agency has adopted regulations implementing those laws – Florida,

[167] In a few states, the licensing regulations for general construction contractors specify that mold remediation may be included in the types of work performed by such a contractor, but do not establish qualifications or requirements specific to license applicants who intend to perform that type of work. *See, e.g.*, R.I. Admin. Code 2-2-2:2.1. In Tennessee, "mold remediation" is one of the specialty classifications available under the broader Special/Environmental contractor license. Under the law's implementing regulations, applicants for a license issued with this specialty classification are required to provide information about experience, training, and certifications with their initial license application and "keep abreast of all applicable state and federal requirements" as a condition of license renewal. Tn. Code §§ 62-6-102, 62-6-112; Tn. Admin. Code 0680-01-.16 (consisting of Appendix A of Rule 0680-01-.12).

[168] In addition, at least two states have enacted and then repealed laws authorizing mold licensing programs. *See* 2011 Ar. Acts, Act 518, § 1; 2012 Va. Acts, cc. 803 and 835, cl. 56.

[169] Maryland Dep't. of Labor, Licensing, and Regulation, Mold Remediation Services – Home Improvement Commission, https://www.dllr.state.md.us/license/mhic/mhicmoldwork.shtml. *See also* Md. Code Bus. Reg. §§ 8-701—718;

[170] 410 Il. Con. Stat. §§ 105/1 et seq. (emphasis added).

[171] The City of Philadelphia is an example of a local jurisdiction that regulates residential mold service providers. The Philadelphia Health Code prohibits any person from engaging in the business of residential mold inspections unless the person has obtained a license from the Department of Licenses and Inspections. To qualify for a license, an applicant must complete a mold inspection training program that qualifies or certifies mold inspectors. Philadelphia Code § 6-904.

Texas, and the District of Columbia – the regulations are discussed as well.[172] The policies vary in their details, but in general they address several key elements of a licensing regime: scope of practice, applicant qualifications, work practice requirements, and disciplinary standards and penalties.

Scope of Practice. Among the states that require a mold professional license, there is some variation in the types of services and service providers that fall within the scope of regulation. Scope of practice provisions identify the specific practices for which a license is required and limit the practices in which a license holder is permitted to engage.

Defining Assessment and Remediation. The types of services provided by mold professionals can be divided into two broad categories: mold assessment and mold remediation. Florida, New York, Texas, and the District of Columbia all require licenses for both mold assessment and mold remediation. Louisiana requires a license for mold remediation, but does not require or issue a license for mold assessment. There is some variation between states in terms of what practices specifically are authorized in these broad categories.

For instance, in New York, mold assessment is defined simply as "an inspection or assessment of real property that is designed to discover mold, conditions that facilitate mold, [or] indicia of conditions that are likely to facilitate mold."[173] In other states, the definition of mold assessment includes specific activities that may occur in connection with a visual inspection, such as: planning and conducting surveys and taking measurements; collecting samples; conducting laboratory analysis; preparing remediation protocols; and/or performing post-remediation clearance evaluations, among others.[174] In Texas, licensing regulations establish separate license categories to cover different aspects of the practice.[175] In general, mold remediation means the removal, cleaning, sanitizing, demolition, or other treatment of mold or mold-contaminated matter, and there are few differences in how states define the practices covered by a mold remediation license.

Addressing Underlying Causes of Mold Contamination. A key element in addressing a mold contamination problem is correcting the underlying source of moisture. Unless the underlying cause of the problem is rectified, mold remediation will likely provide only a temporary solution. The underlying causes of mold and moisture problems may relate to a variety of building and property conditions, including site drainage, roof and other building envelope leaks, or internal plumbing leaks. Correcting those problems may not require a mold remediation license; however, mold licensing laws can help

[172] Licensing laws in all of five states authorize the licensing agency to adopt rules and regulations; however, regulations have not been adopted in Louisiana or New York as of this writing.
[173] 32 N.Y. Labor Law § 930.
[174] *See, e.g.*, D.C. Mun. Regs. 20-3203.1(a)-(i) (permitting a mold assessment professional to, e.g., record observations, take measurements and collect samples; carry out surveys to determine the extent of mold; prepare assessment reports; develop a mold management plan a nd a mold remediation protocol; and/or evaluate a mold remediation project to verify that indoor mold has been remediated). Indoor mold assessment professionals in the District of Columbia are *required* to provide a mold remediation protocol to the client before a remediation project begins, if indoor mold growth is identified in a mold assessment. *Id.* at 3204.6(c).
[175] 25 Tx. Admin Code 295.311-313, 317. The regulations provide for four categories of assessment licenses: "mold assessment technician," "mold assessment consultant," "mold assessment company," and "mold analysis laboratory."

ensure that the underlying moisture problem is addressed. For example, the Texas licensing regulations require mold assessment consultants to include in a mold remediation protocol "the procedures to be used in determining whether the underlying cause of the mold identified for the project has been remediated so that it is reasonably certain that the mold will not return from that same cause."[176] In New York, the regulation's minimum standards for mold assessment require that the mold remediation plan specify, "when possible, the underlying sources of moisture that may be causing the mold and a recommendation as to the type of contractor who would remedy the source of such moisture."[177]

State licensing laws can help ensure that mold remediation also addresses the underlying moisture problem.

Mold Contamination Threshold. It is common for state mold licensing laws to exempt situations involving mold contamination below a minimum square footage threshold. U.S. EPA guidance explains that in most cases involving a moldy area less than 10 square feet, individuals can handle the job by following the agency's Mold Cleanup Tips and Techniques.[178] Laws in Florida, New York, and the District of Columbia set the licensing threshold at 10 square feet of affected indoor area,[179] while Louisiana and Texas set the minimum threshold somewhat higher.[180]

Exclusions and Exemptions. Licensing laws often exempt certain activities, such as routine cleaning, residential real estate or pest control inspections, maintenance or repair of appliances and fixtures, and construction-related work, provided those activities are not undertaken for the purpose of mold assessment or remediation.[181]

Licensing laws and regulations also list certain situations where an individual does not need a license to perform the work. One significant exemption in most state laws is for work performed by a person in a residential property they own or occupy. Florida, Louisiana, and New York provide broad exemptions for

[176] 25 Tx. Admin. Code 295.321.
[177] N.Y. Labor Law § 945.
[178] *See* U.S. EPA Office of Air & Radiation, Doc. No. EPA 402-K-02-003, A Brief Guide to Mold, Moisture, and Your Home at 4 (2012), https://www.epa.gov/sites/production/files/2016-10/documents/moldguide12.pdf. The EPA guide notes, however, that if the mold damage was caused by contaminated water (e.g., sewage), a professional should perform the cleanup work. *Id*. at 5; *see also* Mary Brandt et al., CDC, Mold Prevention Strategies and Possible Health Effects in the Aftermath of Hurricanes and Major Floods (2006), http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5508a1.htm.
[179] Fl. Stat. § 468.8411; N.Y. Labor Law § 930; D.C. Stat. § 8-241.02(a)(1).
[180] Louisiana uses 20 square feet, but only persons who are licensed residential contractors may provide mold assessment or remediation for areas under that threshold. La. Stat. § 37:2185(b)(5). In Texas, a person need not be licensed to perform mold *remediation* in an area in which the mold contamination affects a total surface area of less than 25 contiguous square feet. Tx. Occ. Code § 1958.102(c).
[181] *See, e.g.*, N.Y. Labor Law § 930; D.C. Stat. § 8-241.02(a)(1); La. Stat. § 37:2183; Tx. Occ. Code § 1958.002.

a residential property owner (or the owner's employee/agent[182]) to perform mold assessment and/or mold remediation services on his or her own property.[183] The laws in Florida and Louisiana also allow *tenants* to perform mold assessment and/or mold remediation in properties they lease without having a license.[184] In Texas, subject to certain limitations, the licensing law exempts owners and tenants who are conducting mold assessment on properties they own or lease, including residential owners of properties with fewer than 10 dwelling units.[185]

Such broad exemptions allow landlords to perform mold assessment and/or remediation on property they own, which may leave tenants without adequate recourse if landlords or their agents fail to follow best practices. The District of Columbia addresses this issue by providing an exemption for owners only if the property is *owner-occupied*, and does not provide any exemption for tenants.[186] States with and without mold licensing laws can help ensure effective mold remediation by providing technical guidance to individuals who are not required to obtain a mold assessment or remediation license. (See Text Box.)

Applicant Qualifications**.** An important feature of many professional licensing regimes is a set of criteria applicants must meet in order to qualify for a license. For mold professionals, these criteria typically include minimum age, education, training, and/or experience. Some states require applicants to take and pass a licensing examination before the license may be issued. Other eligibility requirements may include documentation of financial responsibility, moral fitness, or other criteria.

Training Requirements. In addition to minimum standards for age, educational, and/or experience, states generally require license applicants to provide documentation of mold training. The number of required training hours varies by state and, in some states, by license category.[187] In most cases, the training must be in the form of courses approved (if not administered) by the licensing agency. In some states, licensing laws and regulations establish accreditation or approval standards for training providers.[188]

Mold licensing laws and regulations commonly establish a required curriculum or identify specific topics that must be covered in the training. Topics include, but are not limited to, sources of indoor mold and

[182] The provision usually includes a caveat that the exemption does not apply to persons who hold themselves out as mold professionals or engage in the business of performing mold-related services for the public.
[183] Fl. Stat. 468.841; La. Stat. § 37:2185; N.Y. Labor Law § 933.
[184] Fl. Stat. 468.841; La. Stat. § 37:2185.
[185] Tx. Occ. Code § 1958.102. Additionally, a person is exempted if they perform mold assessment or remediation at the same time they are performing improvement or construction work on a one- or two-family dwelling.
[186] D.C. Mun. Regs. 20-3201.4.
[187] In Louisiana and the District of Columbia, initial license applicants must complete 24 hours of training. In Texas, requirements for initial training depend on the licensing category, ranging from 4 hours (remediation workers) to 40 hours (assessment consultants and remediation contractors). La. Stat. § 37:2186; D.C. Mun. Regs. 20-3208.4; 25 Tx. Admin. Code 295.320. New York's Mold Program guidance explains that training requirements are dictated by the activities a licensee intends to perform: mold assessor training is 4 days; mold remediation contractor training is 3 days; and mold abatement worker training is 2 days. N.Y. Dept. of Labor, Required Training Courses to Obtain Mold-Related Licenses, https://labor.ny.gov/workerprotection/safetyhealth/mold/pdf/mold-training-course-guidelines.pdf**.**
[188] Texas regulations, e.g., contain detailed requirements for the accreditation of mold training providers. 25 Tx. Admin. Code 295.318**.** In the District of Columbia, training providers must be approved by the licensing agency, which is directed to "give preference to" providers that meet certain standards of quality. D.C. Mun. Regs. 20-3208.9. *See also* N.Y. Department of Labor, Mold Training Providers: Frequently Asked Questions, https://labor.ny.gov/workerprotection/safetyhealth/mold/frequently-asked-questions-training-providers.shtm**.**

mold-creating conditions; potential health effects from mold exposure; workplace hazards and safety, including use of personal protective equipment; technical and legal considerations, including regulatory requirements; and work practices relevant to the license category.

Providing Mold Remediation Guidance for Individuals Not Required to Obtain a License

The District of Columbia's licensing regulations include a set of "minimum work guidelines and requirements" applicable to *non-licensed* individuals performing mold assessments on areas potentially affected by less than 10 square feet of indoor mold growth. The guidelines require that personal protective equipment be worn if assessment work might disturb indoor mold growth. The guidelines also require that if indoor mold growth or water-damaged materials are identified through visual inspection, remediation must be conducted according to a non-regulatory guidance document developed by the District's Department of Environment for individuals assessing and remediating mold in circumstances that do not require a license – i.e., performing work in a home they own and occupy or performing work on less than 10 square feet of indoor mold in a rental property. D.C. Code 3206; D.C. Mun. Regs. 20-3206.

In Connecticut, where a mold license is not required for mold-related work, state legislation directed the Department of Public Health to publish guidelines establishing voluntary mold abatement protocols, including acceptable methods for performing mold remediation or abatement work. The Department issued its voluntary Guidelines for Mold Abatement Contractors in 2006. Ct. Stat. §19a-111L; Conn. Dept. of Public Health, Connecticut Guidelines for Mold Abatement Contractors (2006), http://www.ct.gov/dph/lib/dph/environmental_health/eoha/pdf/ct_guidelines_for_mold_abatement_contractors_rev032011.pdf.

Local jurisdictions may also issue guidance for non-licensed individuals. For example, after Hurricane Sandy, New York City published detailed instructions for the public on removing mold in a home that has been damaged by flooding. City of New York, Removing Mold: Detailed Instructions, Hurricane Sandy Recovery and Your Health (2014), http://www.nyc.gov/html/doh/em/html/repairs/mold-inst.shtml.

Texas and the District of Columbia are examples of jurisdictions that require accredited training courses to cover topics specified in the licensing regulations.[189] In New York, separate guidance developed by the Department of Labor establishes detailed outlines for training courses.[190] In Louisiana, the law requires mold remediation license applicants to complete not only the training covering mold remediation and basic mold assessment, but also four hours of instruction under Louisiana's Unfair Trade Practices and Consumer Protection Law.[191]

[189] 25 Tx. Admin. Code 295.320; D.C. Mun. Regs. 20-3208.7.
[190] *See* N.Y. Dept. of Labor, Course Outlines for Assessor, Remediator, and Worker, https://labor.ny.gov/workerprotection/safetyhealth/mold/training.shtm.
[191] La. Stat. § 37:2186.

Licensees are generally required to complete some form of continuing education or refresher training in the period between initial licensing and license renewal. For example, in the District of Columbia, where the term of each license is two years, an indoor mold assessment or remediation license holder must complete a four-hour "refresher training" in the two years preceding license renewal. Florida's requirements are more extensive: in the same period, licensees must complete at least 14 hours of "continuing education."[192]

Licensing Examination. The District of Columbia, Florida, and Texas require applicants to demonstrate competency in relevant areas of practice by passing an examination.[193] The law may authorize the licensing agency to administer its own examination and/or allow or require applicants to provide documentation of passing an approved certification examination offered by another entity, such as a nationally-recognized mold assessment and remediation industry organization.[194]

Financial Responsibility. It is common for a state's occupational licensing laws to include requirements related to the applicant's financial responsibility. All five of the jurisdictions reviewed here require applicants to submit documentation of general liability insurance coverage, though the minimum coverage amount varies.[195] In addition to certificates of insurance, a state may require license applicants to submit financial statements to the licensing agency and/or satisfy a minimum net worth requirement.[196]

Application Fees. In all five states, licensing programs collect application and renewal fees, which generally are used to cover administration of the program. In the District of Columbia, fees also are used in part to fund a financial assistance program to help low-income residents obtain professional mold services in their dwellings.[197] (See Text Box).

Reciprocity and Third-Party Certifications. State mold licensing programs may allow applicants to satisfy certain licensing requirements by providing evidence that they have obtained certification or licensure through another body. To the extent that such provisions increase the availability of professional mold services, they may be especially helpful following severe storms when demand for mold services is high.

Reciprocity with Other Jurisdictions. Florida's mold licensing regulations provide a "license by endorsement" option, which is available to individuals licensed to perform the relevant mold-related service in another state. The District of Columbia also accepts a valid license issued by another state, providing that, "Submission of a current, valid license for mold assessment or remediation that is issued by another state, as approved by the Department following the standards established in this

[192] D.C. Mun. Regs. 20-3208.5; Fl. Stat. § 468.8416. *See also* 25 Tx. Admin. Code 295.320; N.Y. Labor Law § 934.
[193] D.C. Mun. Regs. 20-3202.3; Fl. Stat. § 468.8413; Tx. Occ. Code § 1958.105, 25 Tx. Admin. Code 295.305.
[194] *See, e.g.,* Fl. Regs. 61-31.102 ("Any person desiring an initial license by examination as a mold assessor or remediator must pass one of the written examinations approved by the Department for each license type, a list of which may be found at http://www.myfloridalicense.com/dbpr/pro/mold/approved_exams.html.").
[195] Some states require licensees to have general liability insurance coverage of at least $1 million. *See* D.C. Mun. Regs. 20-3207; Fl. Stat. § 468.8421; 25 Tx. Admin. Code 295.309. Another approach is to require $50,000 in liability insurance as well as evidence of workers' compensation insurance coverage under state law. *See* La. Stat. § 37:2186; N.Y. Labor Law § 932.
[196] *See, e.g.*, La. Stat. § 37:2186 (requiring evidence of net worth, a bond, a letter of credit, or other security).
[197] D.C. Mun. Regs. 20-8-241.03, .07.

[regulation], is sufficient for practice as an indoor mold assessment or remediation professional in the District of Columbia."[198]

The District of Columbia Indoor Mold Assessment and Remediation Fund

The District of Columbia Indoor Mold Assessment and Remediation law establishes a special Indoor Mold Assessment and Remediation Fund, to consist of the revenue from fees collected from applicants and licensees. The Fund is used first to administer the licensing program. Where there is money in the Fund in excess of the amount needed for program administration, that money must be used to provide financial assistance grants for certain mold-related services. Such grants may be provided to residential property owners without financial means to comply with the remediation requirements of the law, but they also may be provided directly to low-income D.C. residents for the purpose of having a professional mold assessment conducted in their premises, in the event that the owner of the property fails to comply with the law's requirements.

Source: D.C. Code § 8-241.07

Certification by a Third-Party Organization. Licensing programs might allow mold professionals to satisfy the state's training, examination, and other licensing requirements by submitting proof of certification by a third-party organization approved by the state. For example, in the District of Columbia, the Director of the Department of the Environment is authorized to recognize certification programs of "other states or independent bodies that the Director determines to be sufficient to ensure professional conduct of indoor mold assessment or remediation."[199]

Minimum Industry and Work Practice Standards. A number of governmental and non-governmental guidance documents describe best practices for mold remediation. U.S. EPA's *Mold Remediation in Schools and Commercial Buildings* sets forth best practice guidance for remediation of mold and moisture problems and can serve as a reference for mold and moisture remediators in residential buildings.[200] The Institute of Inspection, Cleaning and Restoration Certification (IICRC) has developed a procedural standard for professional mold remediation "based on reliable remediation and restoration principles," as well as a complementary reference guide to better apply the standard.[201] The New York City Department of Health and Mental Hygiene has developed guidelines for use by building owners, managers, and workers, environmental contractors and consultants, or "anyone concerned about indoor mold growth."[202]

[198] D.C. Mun. Regs. 20-3202.11; D.C. Code § 8-241.03. *See also* Fl. Stat. § 468.8414.
[199] D.C. Code §8-241.03.
[200] *See* U.S. EPA, Mold Remediation in Schools and Commercial Buildings (2008), https://www.epa.gov/sites/production/files/2014-08/documents/moldremediation.pdf.
[201] *See* ANSI/IICRC S520 Mold Remediation, http://www.iicrc.org/standards/iicrc-s520/.
[202] *See* New York City Dept. of Health and Mental Hygiene, Guidelines on Assessment and Remediation of Fungi in Indoor Environments (rev. 2008), https://www1.nyc.gov/assets/doh/downloads/pdf/epi/epi-mold-guidelines.pdf.

Scope of Work Practice Standards. Minimum work practices governing a project's key elements may be set forth directly in state laws or regulations. In Texas and the District of Columbia, the laws require the licensing agency to establish minimum performance standards and work practices for licensees, which are set out accordingly in the licensing regulations. In New York, minimum work standards are included in the statute itself; the law also authorizes the Department of Labor to adopt regulations.[203] Florida and Louisiana do not include work practice standards directly in their licensing laws or regulations.

The work practices included in state mold licensing laws and regulations address five core principles established by the IICRC: health and safety, contaminant control, contaminant removal, contaminant prevention, and project documentation. For mold assessment, the standards generally cover areas including, but not limited to: use and care of personal protective equipment (PPE); sampling and data collection procedures for laboratory analysis; and preparation of a mold remediation protocol. Mold remediation minimum work practice standards address, for example: preparation of a remediation work plan; containment requirements; personal protective equipment; and posting signs to notify occupants and visitors that mold remediation is underway.

Use of Disinfectants, Biocides, and Antimicrobials. The work practice standards in the regulations of New York, Texas, and the District of Columbia also address another important issue: the potential for occupant exposure to disinfectants, biocides, and antimicrobial coatings used in mold remediation. The District of Columbia authorizes mold professionals to use disinfectants, biocides, and antimicrobial coatings "only if their use is specified in a mold remediation protocol, if they are registered by the District of Columbia and the United States Environmental Protection Agency for the intended use, and if the use is consistent with the manufacturer's labeling instructions." The District of Columbia regulation also requires that any "decision by an indoor mold assessment professional to use [a disinfectant, biocide, or antimicrobial coating] shall take into account the potential for occupant sensitivities and possible adverse reactions to chemicals that have the potential to be off-gassed from surfaces coated with such products."[204] The Texas and New York regulations include nearly identical provisions.[205]

Clearance. Licensing laws or regulations also may include standards for post-remediation assessment and clearance to verify that mold has been remediated. For example, in New York, the post-remediation assessment must determine whether the work area is free of visible mold and the work meets clearance criteria specified in the remediation work plan. Post-remediation assessment must, to the extent feasible,

> determine that the underlying cause of the mold has been remediated so that it is reasonably certain that the mold will not return from that remediated area. If it has been determined that the underlying cause of the mold has not been remediated, the mold assessment licensee shall

[203] Tx. Occ. Code § 1958.054, 25 Tx. Admin. Code 295.321, 322; D.C. Code § 8-241.02, D.C. Mun. Regs. 20-3205; N.Y. Labor Law §§ 945, 946.
[204] D.C. Mun. Regs. 20-3205.
[205] 25 Tx. Admin. Code 295.321; N.Y. Labor Law § 945.

make a recommendation to the client as to the type of contractor who could remedy the source of the mold or the moisture causing the mold.[206]

Texas' mold licensing regulations include similar language.[207]

Other Issues Addressed in Work Practice Standards. In the District of Columbia, indoor mold remediation professionals must inquire of the client whether any hazardous materials — including lead-based paint and asbestos — are present in the project area, and follow appropriate work practices if necessary.[208] The Texas regulations include a separate set of work practices specifically for projects involving mold in heating, ventilation, and air conditioning (HVAC) systems.[209]

Documentation, Notice, Reporting, and Recordkeeping. Licensing laws and regulations frequently identify specific documents that licensees are required to prepare, maintain, and/or provide to customers. In a few states, the agreement to perform mold assessment or mold remediation must be in the form of a written contract signed by the parties.[210] Before work begins, it is common to require mold professionals to prepare and provide to the client a written work plan for the project; similarly, licensees may be required to provide each client a written report after a project ends.[211] In Texas, a mold remediator licensee also must provide the property owner with copies of photographs of the scene of the mold remediation taken before and after the project. [212]

Mold licensing laws and regulations include requirements for reporting to the licensing agency. For example, in the District of Columbia, an indoor mold assessment professional must notify the Department of Environment when he or she determines that a property has ten or more square feet of indoor mold growth in an affected area, and an indoor mold remediation professional must notify the Department before a remediation is performed.[213] Some of the licensing regimes also include detailed requirements for recordkeeping.[214]

Conflicts of Interest and Professional Ethics. An important issue addressed by state licensing laws is the potential conflict of interest when a company conducts both assessment and remediation services at the same property or project. In Texas, New York, and Louisiana, this prohibition on providing both types of

[206] N.Y. Labor Law § 947.
[207] 25 Tx. Admin. Code 295.324. *See also* D.C. Mun. Regs. 20-3205 (specifying what must be described in the mold remediation protocol, including a post-remediation assessment).
[208] 20 D.C. Mun. Regs. 20-3204.7. *See also* Tx. Admin. Code 295.312, 315 (establishing responsibility of mold professionals to inquire of the client about presence of hazardous materials in the work area).
[209] *See* 25 Tx. Admin. Code 295.323.
[210] *See* Fl. Stat. § 468.8422; D.C. Mun. Regs. 20-3210.1; Tx. Occ. Code § 1958.156.
[211] *See, e.g.*, N.Y. Labor Law § 935.
[212] Tx. Occ. Code § 1958.156.
[213] D.C. Mun. Regs. 20-3209.1. *See also* Tx. Admin. Code 295.325.
[214] *See, e.g.*, 20 D.C. Mun. Regs. 3210 (requiring mold remediation licensees to maintain various records and documents on-site at a project for its duration, including: a copy of the mold remediation work plan and all mold remediation protocols used in its preparation; the names and license numbers for all individuals working on the project; and any contract related to the project); Tx. Occ. Code § 1958.156 (requiring a mold remediator to maintain a record for each mold remediation for at least three years, containing: (1) photographs taken before and after; (2) the written contract; (3) all invoices issued; and (4) any other material required by the agency).

services is absolute.[215] In Florida, licensees are prohibited from performing or offering to perform any mold remediation if they provided mold assessment on the structure within the last 12 months.[216] The laws and regulations may also prohibit a licensee from having a financial interest that may pose a conflict of interest.[217]

Other ethics provisions address issues such as: keeping clients' information confidential; not performing work while impaired; reporting to the agency about violations of the licensing laws or regulations or other illegal or unethical conduct of another licensee; and providing false, deceptive, or misleading information in advertising to clients or to the agency.[218] In Texas and the District of Columbia, licensees are specifically prohibited from making any representations designed to take advantage of the fears or emotions of the public or customers.[219]

Disciplinary Standards, Penalties, and Enforcement. Mold licensing laws and regulations typically authorize licensing agencies to investigate and enforce violations according to established standards for disciplinary action (e.g., suspension or revocation of a license). State laws may also provide for assessment of administrative fines and/or penalties, injunctive relief, and recovery of enforcement costs.

Other Approaches to Regulation of Mold Professionals

Some states that do not have statewide mold professional licensing regimes have adopted other policies to help protect consumers and establish minimum standards for mold assessment and remediation.

Third-Party Certification Requirement. As an alternative to establishing a program for issuing state licenses, states can require service providers to submit proof that they have obtained certification from a recognized or approved third-party certifying organization. New Hampshire has taken this approach for mold assessment services. In 2015, the state revised its occupations and professions law to require that any person performing residential mold assessment services for remuneration must possess "a valid national third party certification for mold assessment." The statute specifies that a valid "third party certification" means a certification approved by a national nonprofit organization whose programs are accredited by a recognized accrediting body and that certification holders must meet the requirements set by the third-party certification organization in order to be recertified. Any person who offers mold assessment services for a fee but does not comply with the requirement is guilty of a violation (individual) or misdemeanor (business entity).[220]

[215] Tx. Occ. Code § 1958.155; N.Y. Labor Code § 936; La. Stat. § 37:2187.
[216] Fl. Stat. § 468.8419 (prohibition applies unless the licensee is a certified Division I contractor).
[217] *See, e.g.*, Tx. Occ. Code § 1958.155; D.C. Mun. Regs. 20-3204.5.
[218] *See, e.g.,* D.C. Mun. Regs. 20-3204.5; 25 Tx. Admin. Code 295.304**;** Fl. Stat. § 468.842.
[219] 25 Tx. Admin. Code 295.304; D.C. Mun. Regs. 20-3204.5. Other examples from the Code of Ethics set out in the Texas regulation include requirements to "provide only necessary and desired services to a client and not sell unnecessary or unwanted products or services" and "provide mold-related services at costs in keeping with industry standards." *Id*.
[220] N.H. Rev. Stat. § 310-A:189-b. The law provides an exemption for any professional hired for remuneration by a homeowner, in which the primary work contracted for is not mold assessment.

Required Work Practice Standards for Mold Remediators. Kentucky has enacted a law requiring "mold remediation companies" (entities that perform mold remediation for compensation) to follow minimum standards established by the state.[221] The law establishes that the minimum standards, to be adopted by the Department of Law, must be based on the five general principles of mold remediation created by the Institute of Inspection, Cleaning and Restoration Certification: safety and health; project documentation; contaminant control; contaminant removal; and contamination prevention.

The law's implementing regulation establishes requirements to address each of these principles. Among the areas covered are: training, education, and experience; provision of a mold assessment and remediation plan, as well as a post-remediation report; and work practice standards.[222] Pursuant to the regulation, mold remediators must provide a copy of the most recent edition of U.S. EPA's *A Brief Guide to Mold, Moisture, and Your Home,* as well as a copy the state's *Read This About Mold Before You Sign A Contract* (Form MRC-1), and *Read This About Indoor Environmental Professionals Before You Sign A Contract* (Form MRC-2). Additionally, if a company has not identified or cannot determine the source of moisture or measures to remedy and manage the moisture, the customer must sign a copy of the state's *Notice of Moisture Problem* (Form MRC-3) prior to contracting for remediation services.[223]

States without mold licensing laws can adopt other policies to protect consumers and advance best practices.

While the law does not delegate oversight or administration of these professional standards to any state agency or program, it provides that the standards may be enforced by the state Attorney General in a civil action.[224]

Standards for Mold Remediation in Rental Property. As discussed further in the next part of this chapter, Virginia's landlord-tenant law requires landlords to respond promptly to tenant notifications of mold on the property and provides that where a mold condition materially affects the health or safety of a tenant, the tenant may be required to temporarily vacate the premises while the landlord performs "mold remediation in accordance with professional standards." The law specifies that mold remediation in accordance with professional standards means,

> "mold remediation of that portion of the dwelling unit or premises affected by mold, or any personal property of the tenant affected by mold, performed consistent with guidance documents published by the United States Environmental Protection Agency, the U.S. Department of Housing and Urban Development, the American Conference of Governmental Industrial Hygienists (the Bioaerosols Manual), Standard Reference Guides of the Institute of

[221] Ky Rev. Stat. § 367.83805.
[222] Ky. Rev. Stat. § 367.83805, 40 Ky. Admin. Rules 2:330.
[223] *Id*.
[224] Ky. Rev. Stat. § 367.83807. *See generally* Kentucky Office of the Attorney General, Mold Remediation, http://ag.ky.gov/family/consumerprotection/mold/Pages/default.aspx.

Inspection, Cleaning and Restoration for Water Damage Restoration and Professional Mold Remediation, or any protocol for mold remediation prepared by an industrial hygienist consistent with said guidance documents."[225]

Conflict of Interest Provisions. In at least two states – Oklahoma and Maine – laws restrict a person from performing both mold assessment and mold remediation services at the same property. In Maine, the state commerce and trade law provides, "A person may not provide both mold assessment and remediation services on a building project unless the person has provided to the owner of the building or the owner's agent a signed disclosure statement regarding the potential for conflict of interest in providing both mold assessment and remediation services."[226] Oklahoma law provides that any person or entity that inspects houses for mold may not also render services for removing the mold, unless the total cost of both inspection and removal is $200 or less.[227]

Summary

Mold and dampness are common problems currently and may become more prevalent due to increased average precipitation and more frequent heavy storms in many parts of the country. Several states have put in place mold licensing programs to ensure that professional mold assessment and remediation activities are carried out adequately, safely, and responsibly. The policies reviewed here differ in some respects, but most address several key elements of a licensing framework – scope of work subject to licensing; minimum training, experience, examination, and other requirements for obtaining a license; mandatory work practice standards; consumer protection provisions such as conflict of interest and financial responsibility; and enforcement.

Key issues for consideration by jurisdictions developing policies to regulate the provision of mold assessment or remediation services include:

- Third-Party Certification. Given the existence of multiple national, third-party certifiers, state licensing laws might authorize the regulating agency to establish a list of approved certifications that would be accepted to satisfy some of the minimum requirements for obtaining the state license. This approach would allow state agencies to determine which certifications meet state standards and to revise that list as certification programs evolve. States that do not pursue a licensing regime could require mold service providers to submit proof of a valid third-party certification in order to provide services in the state; such a policy involves a lesser degree of state oversight, but may nonetheless require allocation of agency resources for administration of the requirement.

- Rental Properties. Given the different legal and economic considerations governing rental housing, states should consider limiting landlords' exemption from mold licensing requirements. For example, states could limit exemptions for property owners to those owners who occupy

[225] Va. Code § 55-248.18:2.
[226] Me. Rev. Stat. t. 10, § 1480.
[227] Ok. Stat., t. 15 § 765.4.

their properties. States could also establish remediation guidelines that must be followed by landlords who are not required to obtain a license; in order to strengthen enforceability, such requirements could be incorporated into the state's landlord-tenant laws as well.

- Addressing the Underlying Causes of Mold Contamination. It is important for mold licensing programs to include provisions to help ensure that the underlying causes of mold contamination are addressed in a home remediated by a licensed professional. For example, laws and regulations could include provisions that require mold assessors to identify potential underlying causes and that require mold assessment, remediation, and clearance reports to incorporate information on the nature and status of the underlying moisture problems.

- Providing Information and Training on Mold Remediation. Because many states do not have mold licensing laws and all existing mold licensing laws exempt some individuals from regulations, states can help advance public health and safety by providing information and training on proper mold remediation practices. This information would be especially useful following severe storms, when demand for mold professional services may exceed capacity, leading homeowners and tenants to take action on their own. Following Superstorm Sandy, several federal agencies collaborated to develop the *Homeowner's and Renter's Guide to Mold Cleanup After Disasters*.[228] The state of New Jersey also developed a guide for New Jersey residents on understanding mold investigations and remediation, including tips for hiring a consultant and checklists for what to expect from inspection and remediation services.[229]

Dampness and Mold in Rental Housing: Summary of State Laws and Regulations

State laws establishing property maintenance requirements for rental housing can be an important vehicle for preventing housing conditions that lead to mold and dampness and for ensuring adequate remediation of mold, moisture, and dampness problems.[230] There are two main types of state laws and regulations that incorporate minimum habitability standards for rental properties and that can serve as vehicles for addressing dampness and mold.[231]

- Housing Codes. Housing codes, which may also be referred to as property maintenance or sanitary codes, are the primary regulatory vehicle for establishing minimum conditions that must be maintained in rental housing.[232] Indeed, most state and local governments that have addressed dampness and mold in rental housing explicitly have done so through their housing

[228] *See* Hurricane Sandy Rebuilding Task Force – Indoor Environmental Pollutants Work Group, Homeowner's and Renter's Guide to Mold Cleanup After Disasters (2015), http://www.cdc.gov/mold/cleanup.htm (available in English and Spanish).
[229] *See* N.J. Dept. of Health, Mold: Guidelines for New Jersey Residents (2013), http://www.state.nj.us/humanservices/home/Mold%20Guidelines.pdf.
[230] *See* Fisk, *supra*, at 73 ("Improved maintenance of building envelopes can…reduce dampness problems, for example replacing roofs before they leak and fixing leaks quickly after they are detected.).
[231] Federal regulations add another set of standards for federally subsidized housing. For example, HUD's housing quality standards set forth the minimum health and safety criteria for the rental dwellings subsidized through the agency's Housing Choice Voucher program. *See* 24 CFR Part 982.
[232] In some states, these codes apply to owner-occupied housing as well as rental properties.

codes. Housing codes are enforced *publicly* by government agencies, typically housing or health authorities. The codes often include authority for conducting inspections, issuing citations, and pursuing administrative, civil and criminal enforcement actions in the event of noncompliance.

Many, but not all, local jurisdictions in the U.S. are covered by a state or local housing code. At least a quarter of all states have promulgated state-wide housing codes. State housing codes may give localities the authority to promulgate their own codes, provided the provisions in the local code are at least as stringent as those in the state code. In states without state-wide housing codes, many localities have adopted their own codes.

- Landlord-Tenant Laws. Nearly all states have enacted laws that govern certain aspects of the landlord-tenant relationship. These laws set forth the rights and responsibilities of landlords and tenants and are enforced *privately* by the parties. They cover an array of issues – from security deposits and prohibited lease terms to legal remedies in the event of noncompliance with the law. They also typically include general provisions requiring landlords to maintain the premises in habitable condition; in contrast to housing codes, however, they normally do not set forth detailed housing standards. Many state landlord-tenant laws follow closely a model law, the 1972 Uniform Residential Landlord and Tenant Act (URLTA).[233] At least one state – Virginia – has incorporated responsibilities for mold remediation into its landlord-tenant law.

Housing codes and landlord-tenant laws are key policy vehicles for addressing dampness and mold in rental housing.

Other types of state laws are also used to address mold and dampness problems in rental housing. For example, public health laws often establish nuisance authority that can be used by state or local health officials to require remediation of housing conditions that pose a threat to health and safety. Such provisions are usually framed broadly and could be enforced in cases of severe mold contamination.[234] In general, nuisance laws offer the state or local government recourse as a last resort, rather than serving as a routine mechanism for addressing housing violations.

Programs that fund or finance housing repairs and renovations are another opportunity for state policy to can facilitate remediation of mold and dampness problems in rental housing.[235] In addition to

[233] *See* Uniform Law Commission, Uniform Residential Landlord and Tenant Act (URLTA) (1972), http://bit.ly/29VRa1a. As of 2012, 22 states had adopted statutes based on the URLTA. *See* Uniform Law Commission, Reporter's Memo – Warranty of Habitability (2012), http://www.uniformlaws.org/Committee.aspx?title=Residential%20Landlord%20and%20Tenant%20Act.

[234] San Francisco is an example of a local jurisdiction whose nuisance law explicitly includes in the definition of a nuisance, "Any visible or otherwise demonstrable mold or mildew in the interiors of any buildings or facilities." 11 San Fran. Health Code § 581.

[235] As noted in Chapter 2, federal programs that help fund repairs and rehabilitation to affordable housing include HUD's 230k Rehab Mortgage Insurance Program (http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/203k/203k--df) and Home Investment Partnership Program (http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/affordablehousing/programs/home/), and the

including IAQ-related measures in program regulations, state can develop program guidance documents to ensure funded projects will address mold and dampness. In developing such guidance, states can consult guidance documents such as the U.S. Department of Housing and Urban Development's Green Building Retrofit Checklist, created to "promote and encourage the use of energy efficiency and green building practices by helping communities to seamlessly incorporate these practices into their residential improvement programs." Among other mold and IAQ items, the checklist includes: "Inspect the interior and exterior of the building for evidence of moisture problems. Document the extent and location of the problems, and implement the proposed repairs according to the Moisture section of the EPA Healthy Indoor Environment Protocols for Home Energy Upgrades."[236]

This section provides an overview of the types of provisions in existing housing codes and landlord-tenant laws that address mold, dampness, and underlying moisture problems. The term "housing code" is used generally to include housing, property maintenance, and sanitary codes that establish minimum standards for rental properties and are enforced by public agencies.

Housing Codes

The following summary is based on a review of housing codes in 13 states and the District of Columbia. These are not necessarily the only states that have such laws and regulations. And, as noted above, many local jurisdictions have their own housing codes which may include provisions governing mold, moisture, and dampness.

Of the states reviewed here, a handful – Illinois, Maryland, New York, and Rhode Island[237] – have adopted a state-wide property maintenance code based largely on the International Property Maintenance Code (IPMC), a model code published by the International Code Council.[238] Relevant provisions of the IPMC are described below to reflect the minimum standards in those states. The other states reviewed here – California, Connecticut, Delaware, Massachusetts, Michigan, New Hampshire, New Jersey, Tennessee, and Vermont – have developed their own housing codes, and examples from those codes are provided below.[239] The District of Columbia has enacted both a property maintenance code and a separate housing code.[240]

Department of Agriculture's Section 504 Home Repair program (http://www.rd.usda.gov/programs-services/single-family-housing-repair-loans-grants).

[236] U.S. Dept. of Housing & Urban Dev't. (HUD), Green Building Retrofit Checklist and Guidance, https://www.hudexchange.info/resource/3684/guidance-on-the-cpd-green-building-checklist/.

[237] *See* 23 Il. Admin. Code 180.60; Code Md. Regs. 05.02.03.03; 19 N.Y. Admin. Regs. 1226.1; R.I. Regs. t. 10, rule 6. Additional states have adopted the IPMC as the standard that local jurisdictions must use, but only if the locality chooses to adopt a housing maintenance code. *See, e.g.*, Ga. Code § 8-2-20; S.C. Stat. § 6-9-60; S.D. Stat. § 11-10-11. *See also* W.V. Code St. R. 87-4-4 (4.1.e) (adopting the IPMC but with the proviso that it "may be rejected at the option of the local jurisdiction").

[238] Int'l. Code Council, International Property Maintenance Code (2015), http://bit.ly/29QY06o. The IPMC is updated every three years. This summary describes provisions in the most recent (2015) version. Though some states have adopted older versions of the code, those versions do not differ significantly in terms of the provisions discussed here.

[239] *See* Ca. H&S Code § 17910–17998.3; Ct. Stat. § 47a-50--67; 31 De. Code t. 31, § 4101 et seq.; 105 Code Ma. Regs. 410.001–.990; Mi. Code § 125.401–.543; N.H. Stat. § 48–a:1–:15; N.J. Admin. Code 5:28-1.1–.13; Tn. Code § 68-111-101—108; Vt. Admin. Code 12–5–25:1.0–:11. Some of these codes are limited in their applicability or implementation. *See, e.g.,* N.H. Rev. Stat. § 48-A:14 (applies only in the absence of a local code); Mi. Stat. § 125.401 (applies only to localities with a population of at least

Housing Code Enforcement as a Climate Change Adaptation Strategy: Massachusetts

Many state climate planning documents acknowledge increased building dampness and mold as potential consequences of climate change. Massachusetts is unusual in addressing housing code enforcement explicitly as a climate adaptation strategy. Among the long-term strategies for addressing IAQ issues, the 2011 Massachusetts Climate Change Adaptation report recommended the following as especially applicable to vulnerable populations:

> *Continue using the State Sanitary Code (105 CMR 410.000: Minimum Standards of Fitness for Human Habitation, State Sanitary Code, Chapter II) to protect tenants, and require property owners take action to remediate water-damaged building materials, including mold contaminated materials. Resources to assist the DPH and local boards of health to enhance this activity should be considered (VP).*

Source: Mass. Exec. Office of Envtl. Affairs and Adaptation Advisory Committee, Climate Change Adaptation Report at 80-82 (2011), http://www.mass.gov/eea/docs/eea/energy/cca/eea-climate-adaptation-report.pdf.

These codes often include general standards that can be applied to address mold and dampness problems – e.g., requiring landlords to maintain the premises (and in some cases specific components of the premises) in good repair and in a safe and sanitary condition.[241] The codes may also include basic requirements for tenants to maintain their units in a sanitary and safe condition.[242] Following are examples of housing code provisions that address more specifically the landlord's duty to prevent and fix dampness and mold problems.

Mold and Chronic Dampness. While the IPMC does not address mold or chronic dampness explicitly, several state housing codes include such provisions. These codes reflect a variety of approaches to framing requirements for property owners.

- California's housing law includes "dampness of habitable rooms" in a list of conditions that render a building "substandard" to the extent that the condition "endangers the life, limb, health, property, safety, or welfare of the public or the occupants." In 2015, the law was amended to add the following condition to this list: "Visible mold growth, as determined by a health officer or a code enforcement officer…excluding the presence of mold that is minor and found on surfaces that can accumulate moisture as part of their properly functioning and intended use."[243]

10,000 or, in the case of one and two-family dwellings, to cities with a population of 100,000 or more); Tn. Code § 68-111-108 (complaint and inspection provisions do not apply to tenants who pay their rent monthly or for a term greater than monthly).

[240] D.C. Mun. Regs. 12-101A, 14- 300–899.

[241] The IPMC, e.g., states, "A person shall not…permit another person to occupy premises that are not in a sanitary and safe condition…." IPMC § 301.2. *See also, e.g*., D.C. Mun. Regs. 14-400.3; 31 De. Code § 4112(3*);* N.J. Admin. Code 5:10-6.1.

[242] The IPMC states, "Occupants of a dwelling unit….are responsible for keeping in a clean, sanitary and safe condition that part of the dwelling unit…which they occupy and control." IPMC § 301.2. *See also, e.g.,* 31 De. Code § 4120, 105 Code Ma. Regs. 410.352.

[243] Ca. Health & Safety §17920.3.

- In 2014, the District of Columbia amended its environmental (air quality) law to add mold remediation and disclosure requirements, enforceable through the District's housing code.[244] Within seven days of receiving a tenant complaint, a landlord must inspect for mold and must remediate the condition within 30 days of the inspection. The law is notable for requiring that the work be conducted by a professional certified and licensed by the District if it is above a certain area threshold.[245] Even below the threshold, landlords who are not licensed must conduct the remediation in accordance with general guidelines issued by the District.[246]

  In addition to these provisions, the District's housing code provides that "the floors and interior wall surfaces of residential buildings shall be maintained reasonably free of dampness. In any habitable room where any wall or floor surface is damp, that condition shall be corrected, and the wall or floor shall be maintained in a corrected condition."[247]

- In Massachusetts, the state sanitary code governing all dwelling units, including leased units, broadly requires dwelling owners to maintain structural elements (including foundation, floors, walls, doors, windows, ceilings, and roofs) in good repair and "free from chronic dampness."[248] The code defines chronic dampness as "the regular and/or periodic appearance of moisture, water, mold or fungi."[249] The code also addresses mold and moisture in basements by prohibiting use or habitation of a room if more than half of its floor-to-ceiling height is below grade and is subject to chronic dampness.

- Similarly, Vermont's Rental Housing Health Code requires that "[e]very dwelling, dwelling unit, rooming house or rooming unit shall be maintained to be free from the regular or periodic appearance of standing water or excessive moisture which may result in visible mold growth."[250]

- Pursuant to New Jersey's Multiple Dwellings Code, "Basements, cellars and crawl spaces are to be free of moisture resulting from liquid penetration from the exterior and shall be provided with ventilation as required herein to prevent accumulations of moisture and dampness."[251]

[244] D.C. Code § 8-241.04.
[245] D.C. Code § 8-241.03; D.C. Mun. Regs. 20- 3200 et seq. The threshold requiring a licensed professional is a "total surface area of…ten square feet (10 ft.^{2}) of indoor mold growth in an affected area." D.C. Mun. Regs. 20- 3201.2.
[246] The District Department of Energy & Environment has adopted regulations setting forth guidelines for mold assessment by non-licensed individuals. D.C. Mun. Regs. 20- 3206. The agency has published on its web site a guidance document on mold remediation for non-licensed individuals. D.C. DOEE, Guidance for Non-Licensees (2016), http://doee.dc.gov/moldlicensureregs ("Mold Licensure – Guidance Document").
[247] D.C. Mun. Regs. 14- 706.5-.6.
[248] 105 Code Ma. Regs. 410.500.
[249] 105 Code Ma. Regs. 410.020.
[250] Vt. Admin. Code 12-5-25:10.0. The code also prohibits the use of vaporizers or humidifiers by occupants or owners "in such ways that cause an elevated relative humidity (above 60%), promoting the growth of microorganisms and visible mold." Vt. Admin. Code 12-5-25:8.0.
[251] N.J. Admin. Code 5:10–8.1. The code applies to buildings with three or more units. N.J. Admin. Code 5:10-2.2.

- In Michigan, rooms in occupied basements must be "well drained and dry," and the floor must be "water-proof and damp-proof."[252]

In addition to provisions addressing mold explicitly, some state housing codes require more generally that interior surfaces and components be kept clean. For example, New Jersey's Multiple Dwellings Code provides, "Floors, walls, ceilings and other exposed surfaces shall be kept clean, free from visible foreign matter, sanitary and well-maintained at all times."[253]

Weathertightness. In addition to the above provisions addressing dampness, a common element of housing codes is the requirement that the premises be maintained in weathertight condition. Such requirements can be applied to prevent and address water incursion into a home from the outside, which can lead to mold and dampness problems. The requirement may apply generally or to specific structural elements. The IPMC requires exterior walls to be maintained in weatherproof condition, and also provides, "Roof drainage shall be adequate to prevent dampness or deterioration in the walls or interior portion of the structure."[254] Individual state housing codes include variations on this theme.

- Vermont's Rental Housing Health Code requires that owners provide and maintain the structural elements of a dwelling to be weathertight, watertight, and in good repair.[255]

- Delaware's Housing Code requires, "Every exterior wall shall be free of…any other condition which might admit rain or dampness to the interior portions of the walls or to the occupied spaces of the building."[256]

- Under Michigan's housing code, "The roof shall be so maintained as not to leak and the rain water shall be drained and conveyed therefrom…so as to avoid dampness in the walls and ceilings and insanitary conditions."[257]

- New Jersey's Multiple Dwellings Code states, " All exterior walls, roofs, windows, window frames, doors, door frames, skylights, foundations and other parts of the structure shall be maintained as to keep water from entering the structure, to prevent excessive drafts or heat loss during cold or inclement weather and to provide a barrier against infestation."[258]

- According to Tennessee's regulations, "Every foundation, roof and exterior wall, door, skylight, and window shall be reasonably weathertight, watertight, and dampfree, and shall be kept in sound condition and good repair."[259]

[252] Mi. Code § 125.468.
[253] N.J. Admin. Code 5:10–8.2.
[254] IPMC §§ 304.6, .7.
[255] Vt. Admin. Code 12-5-25:10.0.
[256] De. Code t. 31, § 4113(e). *See also* 105 Code Ma. Regs. 410.501 (structural elements must be watertight and weathertight, and elements are considered weathertight only if "all cracks and spaces are caulked or filled in as to prevent infiltration of exterior air or moisture").
[257] Mi. Code § 125.471. *See also, e.g.,* D.C. Mun. Regs. 14-702.1; N.H. Rev. Stat § 48-A:14; N.J. Admin. Code 5:28–1.10 (d); De. Code t. 31, § 4113(f).
[258] N.J. Admin. Code 5:10–7.4.
[259] Tn. Admin. Code 1200-01-02-.05.

Local Housing Codes

Though only a minority of states have adopted mandatory statewide housing codes, many counties, cities, and towns around the country have established and enforce housing codes applicable to rental properties within their jurisdictions. Similar to the state policies discussed in this chapter, local housing codes include a variety of provisions related to mold and dampness. For example, in Hillsborough County, Florida, the interiors of all buildings and facilities "shall be kept free of any visible or otherwise demonstrable growth of mold or mildew." In Seattle, "Every foundation, roof, exterior wall, door, skylight, window, and all building components shall be reasonably weathertight, watertight, damp-free and rodentproof, and shall be kept in a safe, sound and sanitary condition and in good repair." Atlanta is an example of a local housing code that addresses dampness of basements: "No basement shall be used as a habitable room or dwelling unit unless….the floor and walls are impervious to leakage of underground and surface run-off water and are adequately protected against dampness."

Sources: Hillsborough County Mun. Code § 8-115; Seattle Mun. Code § 22.206.080; Atlanta Housing Code of 1987, Art. I, § 24(d).

Housing codes also usually include general provisions addressing internal leaks – e.g., requiring plumbing systems to be maintained leak-free and in good repair, and bathroom surfaces to be non-absorbent.[260]

Other Provisions. Housing codes may include a number of other requirements related to moisture control. For example, the IPMC contains a provision requiring grading around a structure to be maintained in such a way as to ensure that water drains from the facility and does not accumulate.[261] State code requirements for adequate ventilation, including ventilation in bathrooms and kitchens, are also important for preventing moisture problems. Vermont's housing code states, "Every bath, toilet or shower room shall be ventilated by direct access with the external air either by window, airshaft or ventilation fan. If a ventilation fan is used, it shall be vented directly to the exterior of the building and be of sufficient size to prevent the buildup of moisture."[262]

Landlord-Tenant Laws

As noted earlier, the rights and responsibilities set forth in state landlord-tenant laws are enforced privately by the parties to a lease. Most of these laws require landlords to comply with applicable state and local housing codes, thereby incorporating any dampness- and mold-related provisions contained in those codes. Landlord-tenant laws themselves also typically include provisions addressing the landlord's and tenant's duty to maintain the property in habitable condition. While relatively few of these landlord-tenant provisions address mold and dampness conditions explicitly, a notable exception is the state of Virginia, which has amended its landlord-tenant law to establish specific requirements for

[260] *See* IPMC §§ 504.1, 503.4; *see also, e.g.,* 105 Code Ma. Regs. 410.351.
[261] IPMC § 302.2.
[262] Vt. Admin. Code 12-5-25:8.0.

landlords to remediate mold contamination. Though not discussed in this report, landlord-tenant laws also may come into play in determining landlord and tenant responsibilities under the lease in the event a rental dwelling is rendered uninhabitable by old or other conditions following a storm.

General Habitability and Good Repair Standards. The Uniform Residential Landlord Tenant Act of 1972, which serves as a model for around half of all state landlord-tenant laws, addresses the landlord's responsibility to maintain the premises by requiring compliance with applicable building and housing codes and by requiring the landlord to "make all repairs and do whatever is necessary to put and keep the premises in a fit and habitable condition…keep all common areas of the premises in a clean and safe condition….and maintain in good and safe working order and condition all …plumbing…and other facilities and appliances…."[263] As described below, in 2015 the URLTA was amended significantly to add specific provisions relevant to dampness and mold.

Some state landlord-tenant laws include additional detail in describing the general habitability and good repair requirement. For example, Oregon's law requires floors, walls, and ceilings to be kept in good repair and states that "a dwelling unit shall be considered uninhabitable if it substantially lacks….Buildings, grounds and appurtenances…[that are] clean, sanitary and free from all accumulations of debris, filth, rubbish, garbage, rodents and vermin…"[264] A few states link the maintenance requirement to conditions that pose a threat to health. For example, Maryland's landlord-tenant law "provides a remedy and imposes an obligation upon landlords to repair and eliminate….any condition which presents a health or fire hazard to the dwelling unit."[265] Wisconsin's landlord-tenant law includes a provision authorizing the tenant to vacate the premises if they become "untenantable" because of damage by water or any other violation materially affecting the tenant's health or safety and the landlord fails to promptly repair or eliminate the hazard.[266]

Weathertightness. In some states, the landlord's duty to provide a habitable dwelling specifically includes weathertightness. In Colorado, for example, a dwelling is deemed uninhabitable if it substantially lacks "[w]aterproofing and weather protection of roof and exterior walls maintained in good working order, including unbroken windows and doors."[267] In Nevada, a dwelling unit is not habitable if it "substantially lacks…[e]ffective waterproofing and weather protection of the roof and exterior walls, including windows and doors."[268] North Carolina's law is more specific, requiring landlords to remedy any "imminently dangerous" condition, defined to include: "Excessive standing water, sewage, or flooding problems caused by plumbing leaks or inadequate drainage that contribute to mosquito infestation or mold."[269]

[263] URLTA § 2.104.
[264] Or. Rev. Stat. t. 10, § 90.320; *see also, e.g.,* Fl. Stat. § 83.51.
[265] Md. Code Ann., Real Property § 8-211. *See also, e.g.,* Tx. Prop. Code Ann. § 92.052; Id. Code § 6-320; De. Code t. 25, § 5305; Me. Stat. t. 14 § 6026.
[266] Wi. Stat. § 704.07.
[267] Co. Rev. Stat. § 38-12-505.
[268] Nv. Rev. Stat. § 118A.290. *See also, e.g.,* Or. Rev. Stat. § 90.320; Ca. Civ. Code § 1941.1; Id. Code § 6-320.
[269] N.C. Gen. Stat. § 42-42.

Tenant Notification. Many states require disclosure of dampness, mold, and moisture conditions during sale or transfer of residential real estate. (See Text Box.) While those property condition disclosure laws typically do not apply to the lease transaction, at least three states – Georgia, Washington, and Virginia – have landlord-tenant laws that require landlords to provide information related to mold, moisture, and dampness problems. Washington's law requires landlords to:

> Provide tenants with information provided or approved by the department of health about the health hazards associated with exposure to indoor mold. Information may be provided in written format individually to each tenant, or may be posted in a visible, public location at the dwelling unit property. The information must detail how tenants can control mold growth in their dwelling units to minimize the health risks associated with indoor mold. Landlords may obtain the information from the department's web site or, if requested by the landlord, the department must mail the information to the landlord in a printed format….The information must be provided by the landlord to new tenants at the time the lease or rental agreement is signed.[270]

In Georgia, landlords must "notify the prospective tenant in writing of the property's propensity of flooding if flooding has damaged any portion of the living space covered by the lease…at least three times during the five-year period immediately preceding the date of the lease."[271] Virginia's landlord-tenant law, discussed below, requires that landlords disclose "whether there is any visible evidence of mold in areas readily accessible within the interior of the dwelling unit" as part of the mandatory written move-in inspection report.[272]

[270] Rev. Code Wa. § 59.18.060
[271] Ga. Code § 44-7-20.
[272] Va. Stat. § 55-248.11:2. If the report indicates there is mold, the tenant may choose to terminate the tenancy or to take possession; in the latter case, the landlord must remediate the mold. If the report indicates there is no visible mold and the tenant does not object in writing within five days, the law creates a rebuttable presumption that no mold existed at the time of the move-in inspection.

Addressing Dampness and Mold in the Real Estate Transaction

The purchase and sale of a home is a key opportunity for addressing potential health and safety problems, since the parties are already negotiating and financing various aspects of the transaction that may involve repairs and improvements to the property. Laws or regulations mandating property condition disclosures during the residential real estate transaction can help encourage correction of chronic moisture problems that may eventually lead to dampness and mold contamination. This may be especially important for conditions or issues that have occurred in the past but may not be readily apparent during the transaction.

A majority of states have laws or regulations mandating property condition disclosures when a home is sold. The Environmental Law Institute reviewed those policies and found that nearly all require disclosure of one or more of the following types of conditions relating to mold, moisture, or dampness:

- *Mold*: Several states require disclosure of the presence of mold, and some require disclosure of any mold inspections or mold remediation of the property.
- *Basement Dampness:* Nearly half of all state disclosure laws require disclosure of dampness or water intrusion involving the basement.
- *Water or Moisture Damage*: Several states require disclosure of any damage that has occurred on the property as a result of water, moisture, or flooding problems.
- *Other Defects*: A majority of states with disclosure laws require disclosure of defects in a building's plumbing, sump pump, grading/drainage, and/or roof, which can contribute to the later development of dampness and mold problems.

States can augment these disclosure provisions by requiring sellers to provide pamphlets or other written materials that inform prospective buyers about the health effects of exposure to dampness and mold and about resources for obtaining additional information.

Duty to Address Mold/Dampness: Virginia. Virginia's Residential Landlord-Tenant Act (VRLTA) includes several provisions that address mold and dampness explicitly, including a duty to maintain and repair the premises and a requirement for tenant relocation in the event of mold contamination. The requirements apply to most rental properties, with certain exemptions.[273] Key provisions include:

- Duty to Maintain. Under the VRLTA, landlords must "[m]aintain the premises in such a condition as to prevent the accumulation of moisture and the growth of mold…." The law also directs tenants to use reasonable efforts to maintain the dwelling so as to prevent moisture and mold and to "promptly notify the landlord of any moisture accumulation that occurs or of any visible evidence of mold discovered by the tenant."[274]

[273] For example, single-family rental homes are exempt unless the owner owns multiple single-family rental homes. Va. Stat. § 55-248.5. Rental properties exempted from the VRLTA are governed by separate provisions in state law, which include certain mold/dampness requirements. *See* Va. Stat. § 55-225.3--.9.
[274] Va. Stat. §§ 55-248.13, 55-248.16.

- Duty to Repair. The Act's mold provisions require landlords to "promptly respond to any notices from a tenant." The landlord must "promptly remediate the mold conditions…and reinspect the dwelling unit to confirm that there is no longer visible evidence of mold."[275]

- Repair Standards. The VRLTA is notable for including a remediation standard in its landlord-tenant law. The VRLTA requires that landlords remediate mold conditions "in the portion of the dwelling unit or premises affected by mold, or any personal property of the tenant affected by mold…consistent with guidance documents published by the [U.S. EPA], the United States Department of Housing and Urban Development, the American Conference of Governmental Industrial Hygienists (the Bioaerosols Manual), Standard Reference Guides of the Institute of Inspection, Cleaning and Restoration for Water Damage Restoration and Professional Mold Remediation, or any protocol for mold remediation prepared by an industrial hygienist consistent with said guidance documents." The landlord is responsible for the costs of remediation unless the mold contamination is the result of the tenant's failure to comply with the tenant's duty to maintain. [276]

- Tenant Relocation. Virginia's law is also unusual in addressing tenant relocation in the context of mold and dampness problems. The law authorizes a landlord to relocate a tenant for up to 30 days during mold remediation where a mold condition "materially affects the health and safety" of occupants. Relocation must be provided at the landlord's cost, to a comparable dwelling unit or hotel room.[277]

Summary

Preventing and remedying mold and dampness problems in rental housing pose considerable challenges for landlords, tenants, and government housing and health agencies. States can build on the policy approaches discussed in this chapter to help create a sound framework for addressing these problems now and in a changing climate. Toward this end, policy makers should focus on two key areas: strengthening property maintenance standards and ensuring effective implementation of those standards.

Strengthening Standards. Many state and local **housing codes** already have provisions that can be used to address dampness and mold conditions. Nevertheless, strengthening and clarifying the language used in housing codes can encourage better housing maintenance practices and facilitate more effective enforcement by housing agencies. For example, while many codes include requirements for maintaining clean and sanitary surfaces and structural elements, code officials may be reluctant to use those general requirements to address mold and dampness. In such cases, policymakers can add explicit code language requiring premises to be maintained free of mold and/or persistent moisture and dampness.

[275] Va. Stat. § 55-248.13.
[276] Va. Stat. §§ 55.248-13, 8.01-226.12.
[277] Va. Stat. § 55-248.18.

One challenge in implementing explicit requirements relating to mold and dampness is ensuring consistency in identifying and enforcing violations. California's prohibition on "visible mold" seeks to address this issue by defining the term to exclude minor mold contamination and mold found on surfaces that accumulate moisture as part of their proper functioning. Massachusetts defines "chronic dampness" as the "regular and/or periodic appearance of moisture, water, mold or fungi."

Even where housing codes include explicit prohibitions on mold contamination and chronic dampness and moisture, another challenge is for property owners and housing code officials to determine when a violation has been corrected – that is, what constitutes proper mold remediation and effective repair of underlying sources of water intrusion or persistent dampness. It is important that landlords understand the correct way to address mold and dampness problems. The District of Columbia addresses this issue by not only requiring mold remediation, but also establishing required mold remediation standards and work practices. State laws requiring licensing or certification of mold professionals can be an important complement to rental housing standards.

A model healthy housing standard developed in 2014 by the National Center for Healthy Housing and the American Public Health Association includes provisions aimed at ensuring that mold and dampness problems are properly remediated.[278] In addition to requirements that structural elements have "no signs of visible mold growth or chronic or persistent excessive dampness or moisture," the National Healthy Housing Standard requires that "the underlying cause of excessive dampness or moisture, or moldy or earthy odor shall be investigated and corrected."[279] Section 6.1.5 of the Standard includes language specifying how this is to be accomplished:

- Building material that is discolored or deteriorated by mold or mildew or causes a moldy or earthy odor shall be cleaned, dried, and repaired.
- Removal and repair of moldy material shall be conducted in accordance with New York City's *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*, the Institute of Inspection, Cleaning and Restoration Certification's *IICRC S520 Standard and Reference Guide for Professional Mold Remediation*, or the EPA guidelines for *Mold Remediation in Schools and Commercial Buildings*.

Another reason it is important to include mold and dampness provisions in housing codes is that most state **landlord-tenant laws** require landlords to comply with the minimum standards of state and local housing codes, thereby establishing private remedies for tenants in the event of violations. Virginia's landlord-tenant law is unique in establishing detailed mold remediation and notification requirements and requiring remediation in accordance with best practice standards referenced in the law.

The recently developed Revised Uniform Residential Landlord and Tenant Act of 2015 (RURLTA) provides another model for incorporating mold provisions directly into a state landlord-tenant law. Commentary

[278] *See* Nat'l. Center for Healthy Housing and Amer. Public Health Assoc., National Healthy Housing Standard (2014), http://www.nchh.org/Policy/NationalHealthyHousingStandard.aspx.
[279] *Id*. at § 6.1. This section of the Standard also includes several "stretch" provisions on moisture control related to building materials and ventilation.

to the RURLTA states, "Because many jurisdictions do not have building, housing, or health codes applicable to rental housing, it is appropriate that this statute incorporate minimum standards of maintenance."[280] Under the RURLTA, landlords have a nonwaivable duty to ensure, among other things, that the premises "have effective *waterproofing and weather protection* of the roof and exterior walls, including windows and doors" and "have reasonable measures in place…to prevent exposure to unsafe levels of radon, lead paint, asbestos, toxic *mold,* and other hazardous substances…."[281]

Implementation. The extent to which minimum standards included in state (and local) housing codes are used to address mold and dampness problems depends largely on the government programs set up to implement the law. Though tenants in most states have legal recourse in the event of violations of minimum standards, they face significant obstacles to using the law to remedy serious conditions, including a lack of legal representation, information about the legal system, and alternative housing options. Alongside development of standards, states and localities should consider allocating resources for and carrying out programs to strengthen enforcement and implementation of those standards.[282]

Enforcement of **housing codes** is typically a local function. States can support local enforcement by providing training for housing code inspectors to facilitate greater effectiveness and consistency in the application of state and local housing codes. Training is important not only where laws explicitly address mold and dampness, but also where they contain more general provisions that can be *applied* to ensure that mold contamination is remedied and the underlying causes fixed. State policymakers should also consider options for providing financial and technical support to local initiatives that focus on dampness and mold in rental housing.

Many tenants face significant obstacles in enforcing laws addressing mold and other substandard conditions

State **landlord-tenant laws**, in addition to including requirements for addressing mold contamination and chronic dampness, might also establish procedural provisions to facilitate private enforcement of habitability requirements. Such provisions could include: requiring landlords to provide information to tenants about past mold and dampness conditions and remediation activities; providing for reimbursement of the cost of mold assessments if tenants demonstrate a violation in court; and establishing the right of tenants to terminate their tenancies.

Many states have developed written materials and/or webpages to provide tenants information on state law and how to use legal remedies, and some have developed written materials specifically

[280] Uniform Law Commission, Revised Uniform Residential Landlord and Tenant Act of 2015 (RURLTA) with Prefatory Comments at 28, http://www.uniformlaws.org/Act.aspx?title=Residential%20Landlord%20and%20Tenant%20Act%202015.
[281] RURLTA § 302(a) (emphasis added).
[282] For information on how several local jurisdictions have implemented their housing codes to address IAQ issues, see Envtl. Law Inst., Improving Indoor Air Quality in Rental Dwellings: A Review of Policies in Five U.S. Localities (2003), http://www.eli.org/research-report/improving-indoor-air-quality-rental-dwellings-review-policies-five-us-localities.

addressing dampness and mold in rental housing.[283] State courts can also help tenants navigate the legal system by establishing specialized housing courts or forms for filing cases. In the District of Columbia, "the Housing Conditions Calendar allows tenants to sue landlords for D.C. Housing Code violations on an expedited basis. Cases on the Housing Condition Calendar will have the first hearing scheduled less than a month after the suit is filed."[284] A court-created form that tenants can use to initiate the case provides a checklist of potential housing violations, including mold/mildew, plumbing leaks, inadequate ventilation, and clogged gutters.[285]

[283] *See, e.g.,* Minnesota Dept. of Health, Mold in Rental Housing, http://www.health.state.mn.us/divs/eh/indoorair/mold/renters.html; Washington State Dept. of Health, Renters, Landlords, and Mold, http://www.doh.wa.gov/YouandYourFamily/HealthyHome/Contaminants/Mold/RentersLandlordsandMold; Attorney General of Texas, Tenant Rights, https://www.texasattorneygeneral.gov/cpd/tenant-rights.

[284] District of Columbia Courts, Housing Conditions Calendar, http://www.dccourts.gov/internet/public/aud_civil/housingconditionscal.jsf.

[285] *See* Superior Court of the District of Columbia, Civil Div.-Civil Actions Branch, Verified Complaint to Enforce Housing Regulations, http://www.dccourts.gov/internet/documents/HCC_HousingCodeComplaint.pdf.

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Environmental Law Institute

1730 M Street NW, Suite 700

Washington, D.C. 20036

Telephone: (202) 939-3800

Fax: (202) 939-3868

www.eli.org