Mold Susceptibility Testing Capability and Training Needs

2026 Survey Report



APHL 75 years

October 2026

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Introduction

The Rise of Fungal and Mold Infections

According to a February 2026 journal article in *Open Forum Infectious Diseases*, there is a rising prevalence of fungal infection in the US. Incorrect diagnoses and inappropriate treatment decisions can worsen patient outcomes and contribute to antimicrobial resistance. Currently, there are only two classes of antifungals that are used to treat invasive infections. It is projected that within the next five years, the number of available treatment classes will increase to four. As additional antifungal drugs become available, selecting the appropriate treatment option will become increasingly important. However, there are less than a dozen public health laboratories (PHLs) that perform susceptibility testing of molds. Antifungal susceptibility testing will play an increasingly important role in guiding clinical care, and PHLs play a role in such testing.

The US Centers for Disease Control and Prevention (CDC) and the Association of Public Health Laboratories (APHL) aim to build capability for antifungal susceptibility testing overall during the next five years, with a particular emphasis on mold susceptibility testing in public health laboratories.

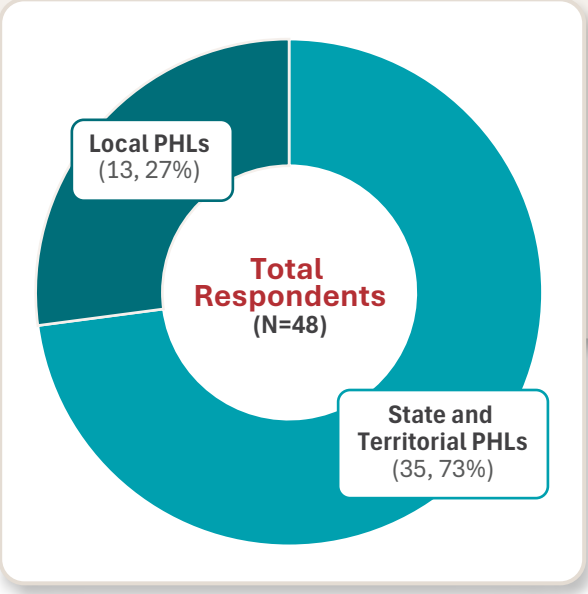
About the Mold Susceptibility Testing Survey

CDC and APHL administered the mold capabilities and training needs survey in the spring of 2026 to local, state and territorial PHLs. This report summarizes the mold testing currently performed in PHLs and highlights the gaps in mold susceptibility testing. We also asked if members would value additional information about and/or are interested in training on mold susceptibility testing. Our report summarizes the barriers that public health laboratories need to overcome to be able to onboard this testing. Our data will be used to inform decisions about developing training opportunities (wet labs and webinars) and allocating future funding to support mold susceptibility testing.

Survey Information

- **Survey Field Date: 04/06/2026 - 05/22/2026**
- **Target Population: 111**
- **Response Rate:**
  - **Overall: (48/111) 43%**
  - **State and Territorial PHLs: (35/56) 63%**
  - **Local PHLs: (13/55) 24%**

Respondent Demographics



Please note that, unless otherwise marked, figures represent data from all 48 respondents, each representing a single public health laboratory.

Summary Findings

Overall Themes

▶ Interest in Expanding Mold Testing

Many laboratories expressed a clear desire to implement or expand mold identification and antifungal susceptibility testing. Expansion was often framed as important for:

- Public health preparedness
- Outbreak response
- Addressing antifungal resistance.

▶ Workforce and Training Gaps

A major recurring issue was the lack of trained personnel. For example, respondents noted that:

- Only one or very few staff are competent in some laboratories
- Some programs were discontinued due to insufficient expertise.

There is a strong demand for:

- CDC-led training opportunities
- Skill-building in microscopy, morphology and antifungal susceptibility testing methods.

▶ Funding and Resource Limitations

Funding was one of the most consistent barriers to testing implementation or expansion. Many laboratories noted that expansion is possible only if funding becomes available. Stable, sustained funding is required to support:

- Staffing
- Equipment
- Test validation
- Program maintenance.

▶ Staffing and Infrastructure Challenges

Laboratories reported significant challenges due to inadequate staffing and infrastructure, including:

- Limited bandwidth and time
- Need for dedicated space and infrastructure
- Difficulty maintaining programs due to low specimen volume.

Because of these challenges, some laboratories are building or rebuilding programs gradually, or waiting for new facilities or expansion opportunities to arise.

▶ Early-stage Development and Reestablishment

Many laboratories' mycology programs are in transitional phases. They are working to:

- Reestablish discontinued mycology programs
- Validate new methods (e.g., MALDI-TOF, antifungal susceptibility testing platforms)
- Slowly expand testing offerings over time.

▶ Need for Standards and Guidance

A specific technical barrier noted was the lack of CLSI guidelines and interpretive criteria for mold susceptibility testing. Laboratories want:

- Clear standards, protocols and best practices
- Guidance in method selection and validation.

▶ Adoption of Advanced Technologies

Some laboratories are already utilizing highly-advanced technology, while others are just starting—or considering starting—to adopt such processes. Despite their current stage of adoption, there is a growing interest in:

- Whole genome sequencing (WGS) for resistance prediction and surveillance
- MALDI-TOF, PCR, sequencing-based identification.

▶ Quality and Method Validation Concerns

Testing method validation and verification processes were reported as key priorities before scaling up fungal testing. Laboratories emphasized:

- Need to choose accurate, reliable testing platforms
- Concerns about test variability and reproducibility (e.g., incubation affecting results).

▶ Reliance on External Support and Collaboration

Several laboratories cited a dependence on:

- Reference laboratories for testing (especially when volume is low)
- CDC guidance and services.

Questions about CDC roles indicate a need for centralized leadership and support.

▶ Emerging Public Health Priorities

There was broad recognition that antifungal resistance is an increasing concern. There was a focus on the following key organisms and issues:

- *Candida auris*
- Azole-resistant *Aspergillus fumigatus*
- Dermatophytes, Blastomyces, Coccidioides.

▶ Variability in Laboratory Capabilities

There were significant differences across laboratories' capabilities, ranging from fully-established reference centers with advanced capabilities to those with minimal or no current capability. This highlights an uneven readiness and capability nationwide.

Conclusions and Next Steps

State, territorial and local public health laboratories recognize the importance of testing for fungal diseases, but are constrained by several factors. These findings highlight an important opportunity for collaboration between APHL and CDC to strengthen national laboratory capability. Next steps will include developing standardized wet and dry laboratory trainings, webinars and technical guidance, while also advocating for dedicated funding to support workforce development, equipment and implementation of antifungal susceptibility testing in public health laboratories.

Survey Response Data

Capabilities

Mold Identification (ID) Testing

Figure 1. Sites Performing Mold ID Testing

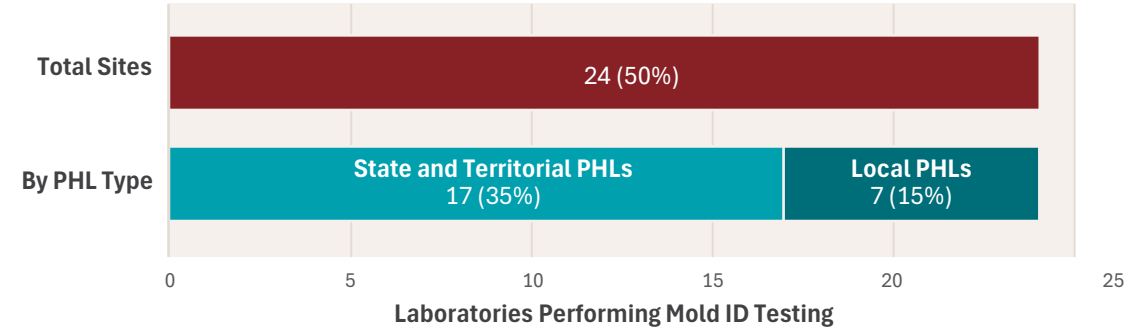
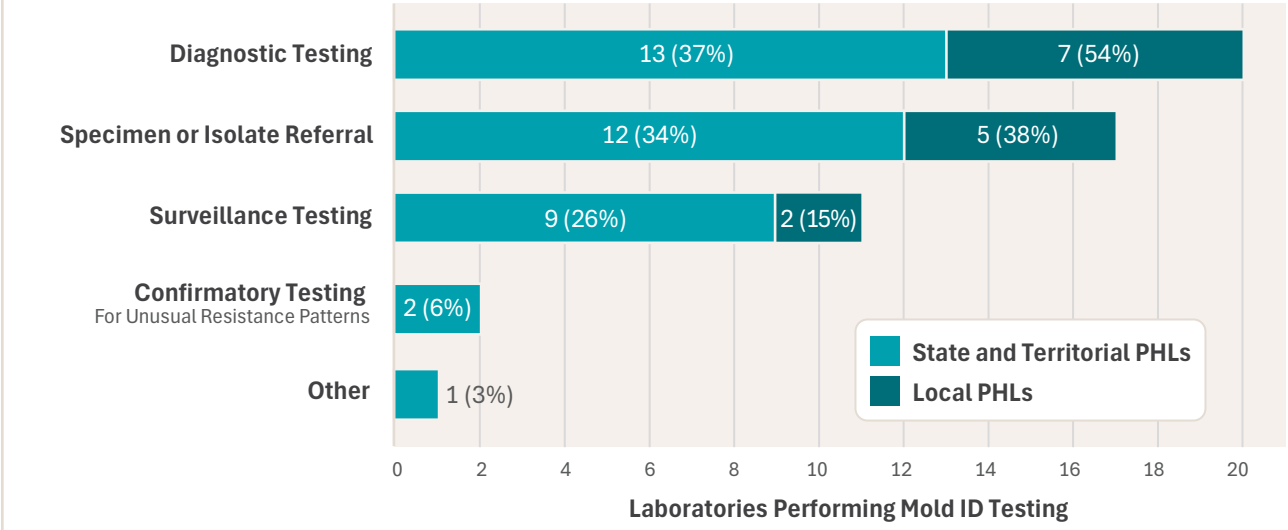


Figure 2. Circumstances Under Which PHLs Perform Mold ID Testing (n=24)



"Other" responses included: We are reestablishing our mycotics program and training staff. We are not currently receiving specimens for diagnostic work.

Mold Susceptibility Testing

Figure 3. Sites Performing Mold Susceptibility Testing

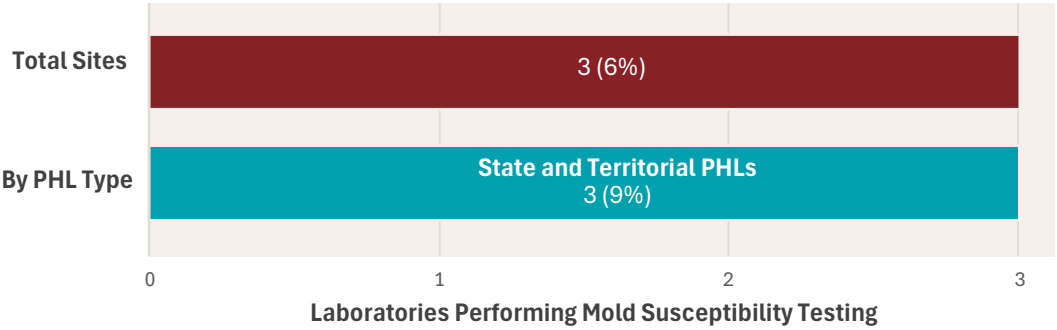
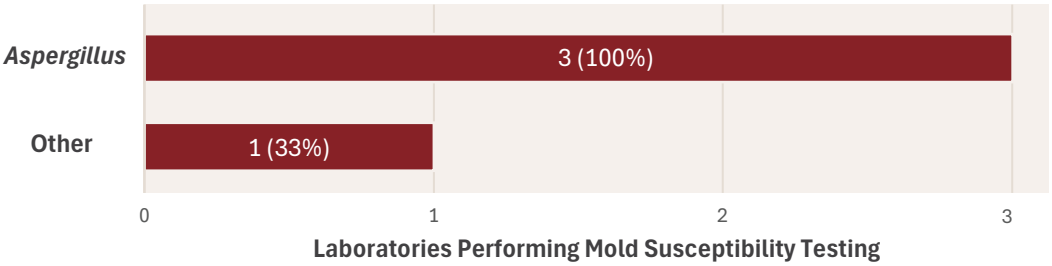
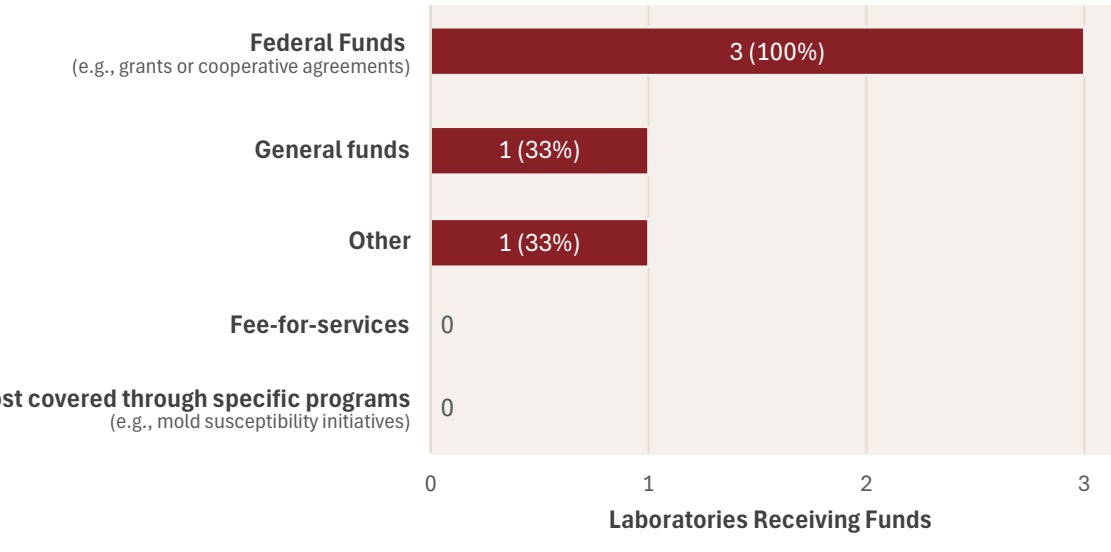


Figure 4. Pathogenic Molds for Which PHLs are Performing Mold Susceptibility (n=3, select all)



"Other" responses included: *C. auris*; Dermatophytes (T*richophyton indotineae, T. mentagrophytes* VII); and any other molds requested; We are at the beginning of a project testing yeast and mold from patients with fungal keratitis.

Figure 5. Laboratory Funding Streams for Mold Susceptibility Testing (n=3, select all)



"Other" response included: We have a grant for supplies for this work.

Figure 6. Methods Used to Perform Mold Susceptibility Testing (n=3)

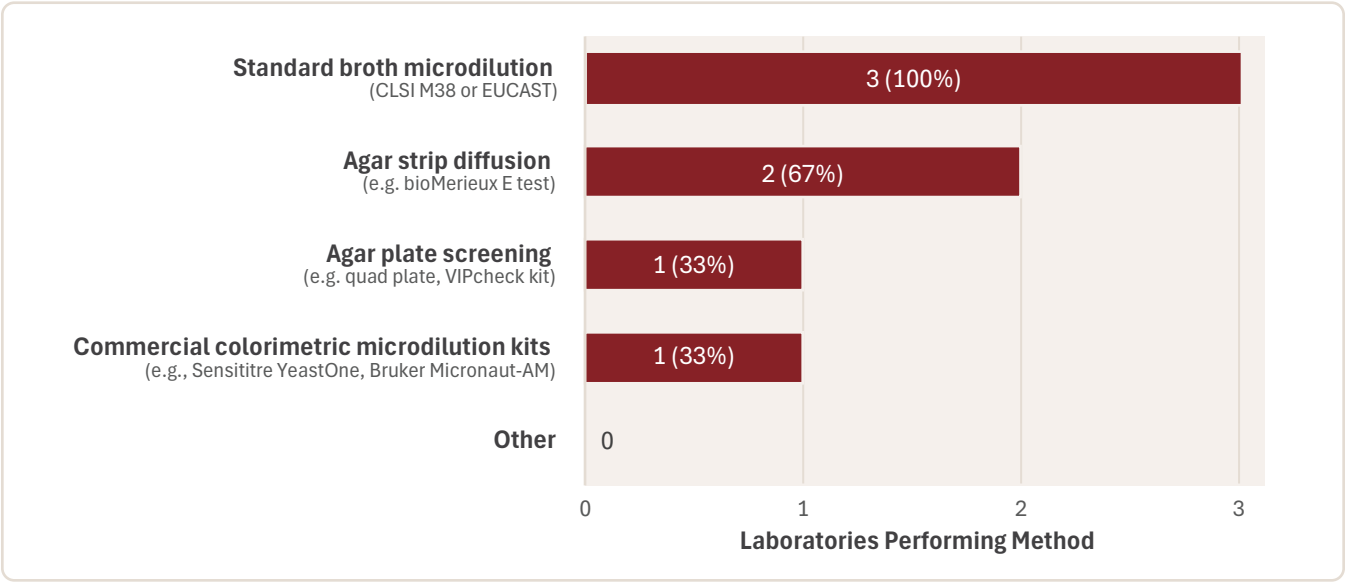


Figure 7. Combined Years of Experience Laboratory Staff Have Performing Mold Susceptibility Testing (n=3)

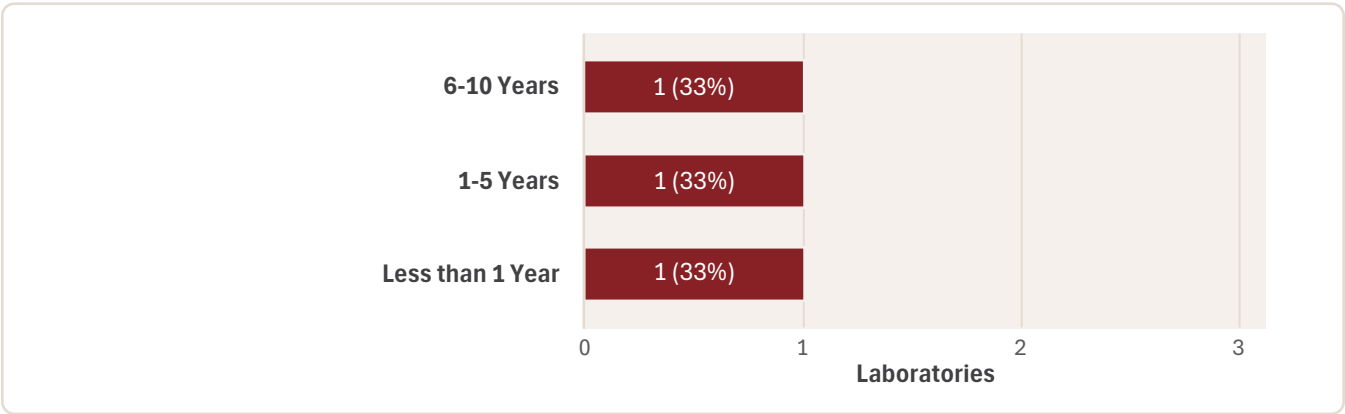
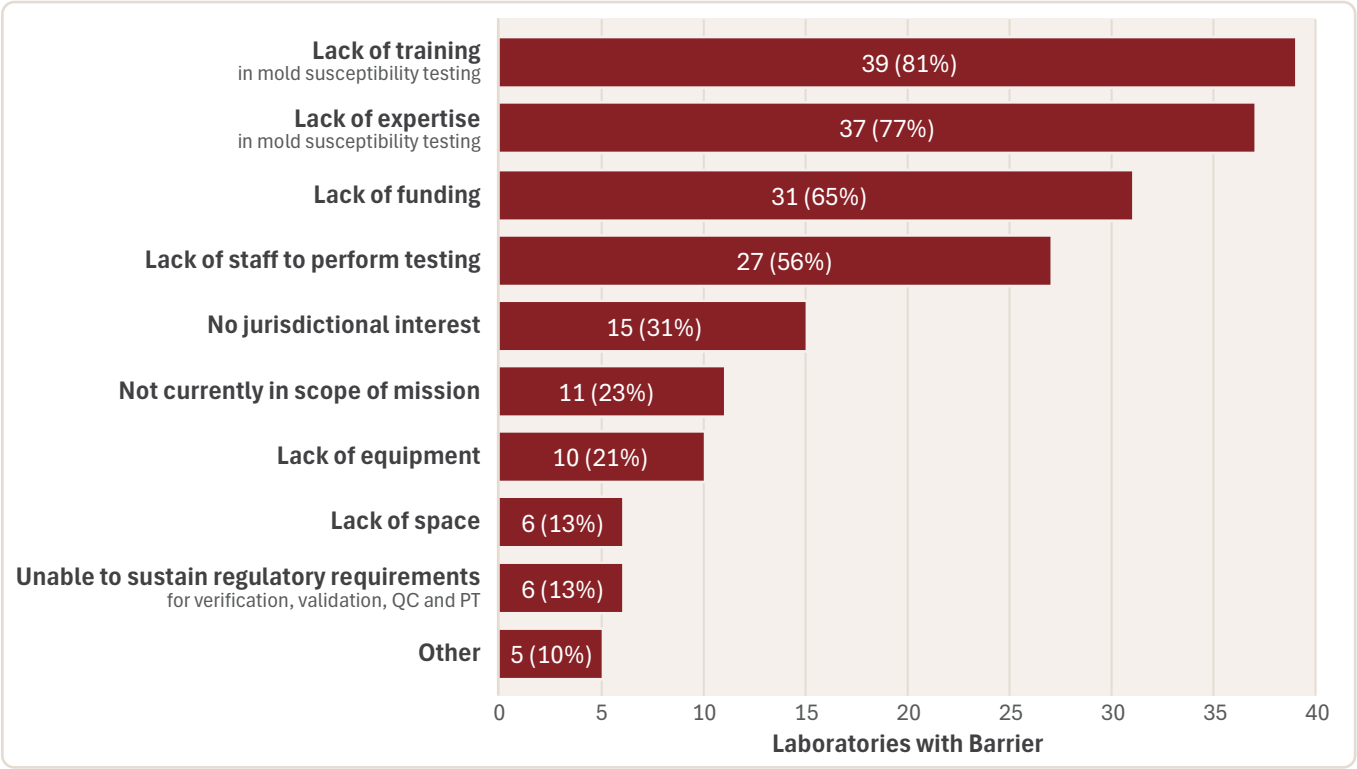


Figure 8. Reasons Laboratories Are Not Performing Mold Susceptibility Testing (n=45, select all)



"Other" responses included: Low volume of specimens received; unable to justify bringing on the testing at this time; Unsure; Fungal ID/testing requests are referred to a different lab in the region; Decreased volume and lack of funding to support; Jurisdictional interest is unknown as we have not previously surveyed our clinical partners on this need; Other projects are higher priority at this time.

Figure 9. Laboratories Interested in Building or Expanding Mold Susceptibility Testing Capability

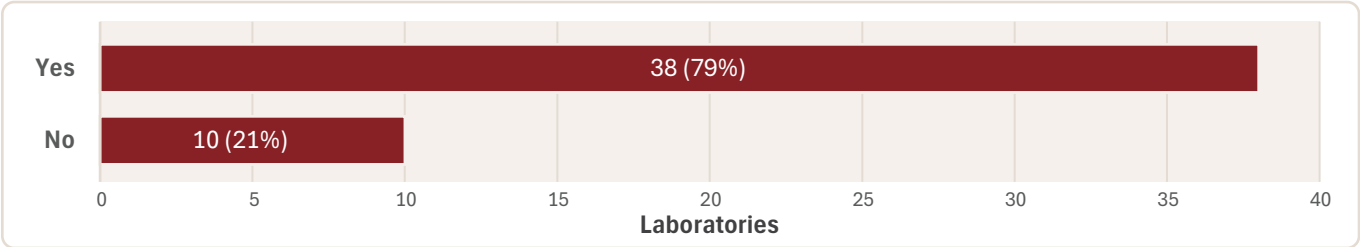
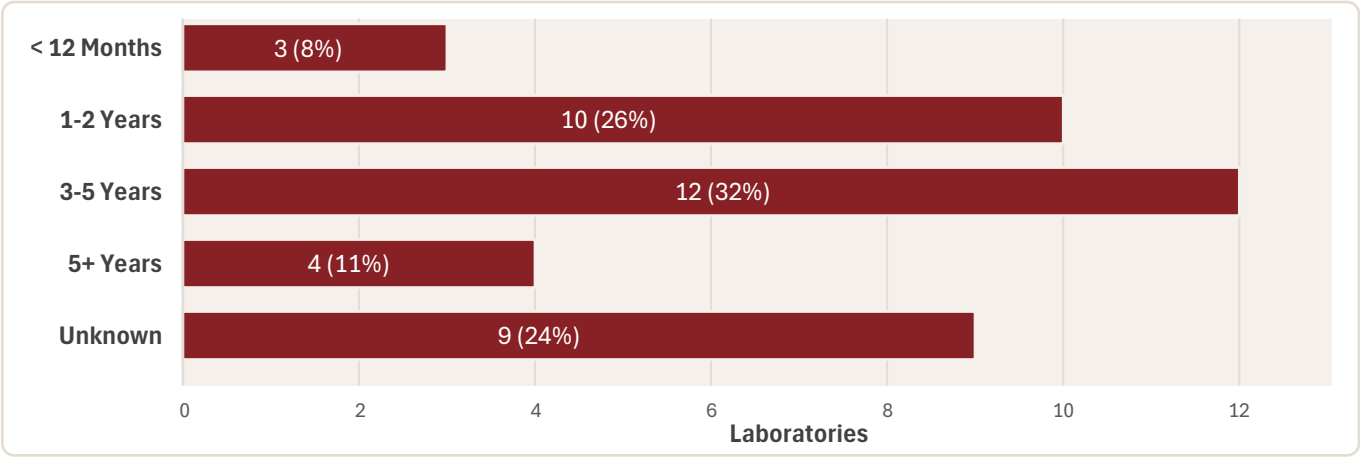


Figure 10. Timeframe for On-boarding Mold Susceptibility Testing (n=38)



Opportunities

Figure 11. Interest in Attending a CDC-led Mold Susceptibility Training

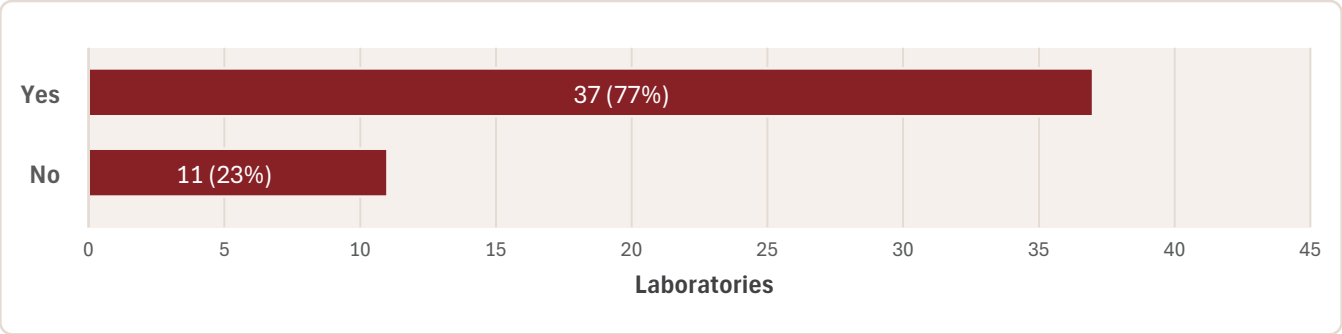
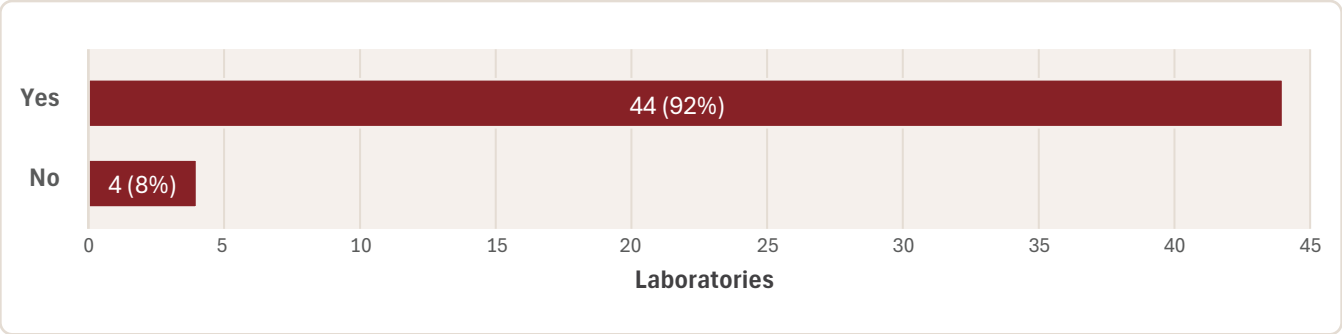


Figure 12. Interest in Attending a CDC-led Mold Susceptibility Webinar



Association of Public Health Laboratories

The Association of Public Health Laboratories (APHL) works to strengthen laboratory systems serving the public's health in the US and globally. APHL's member laboratories protect the public's health by monitoring and detecting infectious and foodborne diseases, environmental contaminants, terrorist agents, genetic disorders in newborns and other health threats.

7700 Wisconsin Avenue, Suite 1000 Bethesda, MD 20814 | 240.485.2745 | aphl.org

This project was 100% funded with federal funds from a federal program of $270,000. This publication was supported by Cooperative Agreement #NU47CD000001-02-00 from the US Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.

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