

# It's Giving Pneumonia; Exploring the Prevalence and Distribution of Endemic Fungal Diseases, Arkansas, 2012-2022

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The views expressed in this poster are not necessarily those of the Arkansas Department of Health. There are no conflicts of interest to disclose.

## Background

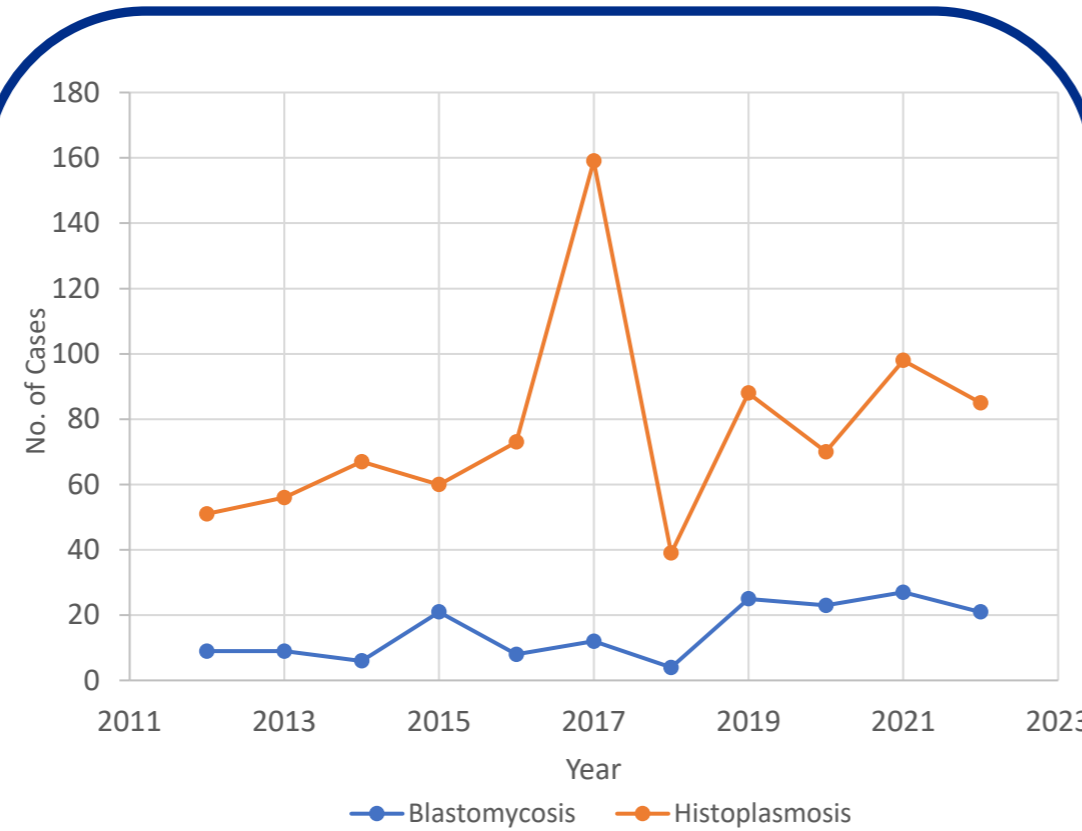
Histoplasmosis and blastomycosis are reported to the Arkansas Department of Health (ADH), but epidemiologic data has not been analyzed. We identify and describe high-risk groups and how the COVID-19 pandemic affected reporting for histoplasmosis and blastomycosis. We aim to identify trends in case counts to influence educational outreach efforts.

## Methods

- Retrospective study that analyzed cases from 2012-2022 captured in the National Electronic Disease Surveillance System (NEDSS) Base System (NBS).
- 2017-2019 case counts were compared to 2020-2022 to determine the effect of the COVID-19 pandemic on case occurrence and reporting.
- Two-sample t-tests assuming equal variances were used to identify significant annual case reporting changes.

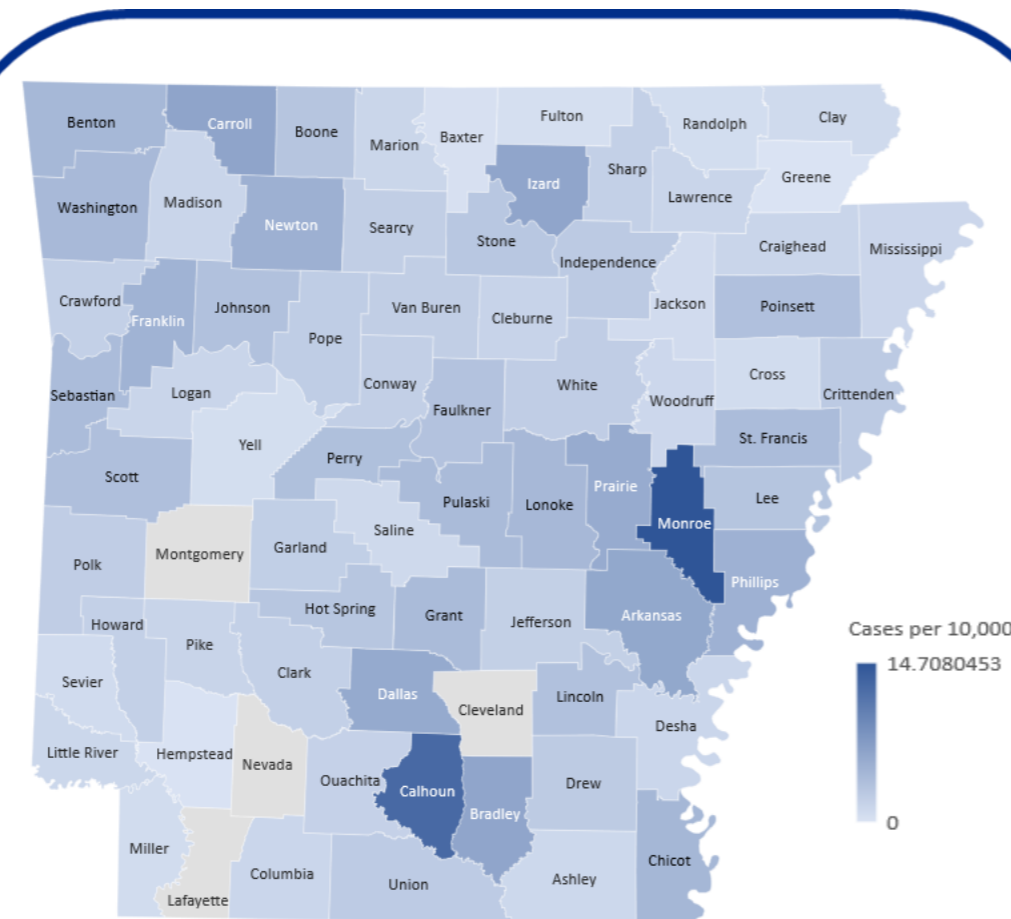
## Results

**Figure 1. Total Number of Cases for Histoplasmosis and Blastomycosis in Arkansas, 2012-2022**



Arkansas had a 23% increase from 2012-2022 with an annual average increase of 5% (Fig. 1)

**Figure 2. Prevalence of Histoplasmosis and Blastomycosis per 10,000, Arkansas 2012-2022**



Monroe and Calhoun counties had the highest rates of histoplasmosis and blastomycosis cases from 2012 to 2022 (Fig. 2)

**Table 1. Demographic Information for Histoplasmosis and Blastomycosis Cases in Arkansas, 2012-2022**

Total Cases	Histoplasmosis (n= 846)	Blastomycosis (n= 165)
<b>Sex</b>	<b>n (%)</b>	<b>n (%)</b>
Male	<b>508 (60.2)</b>	<b>113 (68.5)</b>
Female	336 (39.8)	52 (31.5)
<b>Age (Years)</b>		
<5	6 (<1.0)	1 (<1.0)
5 to 19	117 (13.8)	18 (10.9)
20 to 39	187 (22.1)	39 (23.9)
40 to 64	<b>309 (36.5)</b>	<b>70 (42.4)</b>
65 to 79	183 (21.5)	32 (19.4)
80+	42 (4.7)	5 (3.0)
<b>Median Age (Range)</b>		
	51 (1-88)	51 (2-87)
<b>Race</b>	<b>n=594</b>	<b>n=121</b>
White	<b>448 (75.4)</b>	<b>92 (55.8)</b>
Black or African American	128 (21.5)	26 (15.8)
Asian	12 (2.0)	1 (<1.0)
Native Hawaiian/Pacific Islander	4 (<1)	2 (1.7)
Native American	2 (<1.0)	0
Missing/Unknown	252	44
<b>Ethnicity</b>	<b>n=613</b>	<b>n=114</b>
Hispanic or Latino	32 (5.2)	8 (7.0)
Not Hispanic or Latino	<b>581 (94.8)</b>	<b>106 (93)</b>
Missing/Unknown	233	51
<b>Hospitalized</b>	<b>n=333</b>	<b>n=89</b>
Yes	224 (20.4)	<b>69 (77.5)</b>
Average Length of Stay (Days)	7.8	8.1
Missing/Unknown	513	76
<b>Died</b>	34 (4.0)	13 (14.6)
<b>Case Status</b>		
Confirmed	377 (44.6)	<b>100 (60.6)</b>
Probable	<b>436 (55.4)</b>	65 (39.4)

Bolded values indicate largest category in each group.

- No significant impact of the COVID-19 pandemic on case reporting/occurrence for histoplasmosis and blastomycosis (p-value = 0.8).
- For histoplasmosis, cases decreased by 10.5% (p-value = 0.7) from pre-pandemic years (2017-2019) to the pandemic years (2020-2022).
- For blastomycosis, cases increased 73.2% (p-value = 0.1) from pre-pandemic years to pandemic years.

## Conclusions

- Endemic fungal diseases are increasing annually.
- The COVID-19 pandemic did not significantly impact reporting for histoplasmosis and blastomycosis.
- Results will guide outreach and communication efforts for counties with a high prevalence of disease
- Future efforts will include ongoing surveillance efforts to identify exposures and burden of disease

## Limitations

- Small sample size for blastomycosis compared to other reporting states, limiting generalizability.
- In 2017, there was a CSTE case definition change for histoplasmosis, cases were not counted on the same criteria.

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