

**PENNSYLVANIA DEPARTMENT OF HEALTH  
2022- PAHAN -675-11-18 - ADV**

**Increased Reports of Mushroom Poisoning Following Consumption of Foraged Mushrooms in Pennsylvania**

<b>DATE:</b>	<b>November 18, 2022</b>
<b>TO:</b>	Health Alert Network
<b>FROM:</b>	Denise A. Johnson, M.D., FACOG, FACHE, Acting Secretary of Health
<b>SUBJECT:</b>	<b>Increased Reports of Mushroom Poisoning Following Consumption of Foraged Mushrooms in Pennsylvania</b>
<b>DISTRIBUTION:</b>	Statewide
<b>LOCATION:</b>	n/a
<b>STREET ADDRESS:</b>	n/a
<b>COUNTY:</b>	n/a
<b>MUNICIPALITY:</b>	n/a
<b>ZIP CODE:</b>	n/a

**This transmission is a “Health Advisory” provides important information for a specific incident or situation; may not require immediate action.**

**HOSPITALS:** PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, INFECTION CONTROL, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL

**EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE

**FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE

**LOCAL HEALTH JURISDICTIONS:** PLEASE DISTRIBUTE AS APPROPRIATE

**PROFESSIONAL ORGANIZATIONS:** PLEASE DISTRIBUTE TO YOUR MEMBERSHIP

**Summary**

- The Pennsylvania Department of Health (DOH) is alerting health care providers to a recent increase in reports of mushroom poisoning received by poison control centers in Pennsylvania.
- Many cases reported consuming wild mushrooms including *Amanita phalloides* and *Amanita bisporigera*.
- Reports of mushroom toxicity can be seasonal in late summer and early fall. An increase in the prevalence of these mushroom species in the environment may be associated with recent rain events and warmer temperatures.
- Health care providers should be aware for the potential for hepatotoxicity due to ingestion of wild mushrooms; in rare cases, it could lead to fatal or fulminant hepatic failure.
- If you have additional questions about this guidance, please contact DOH at 1-877-PA-HEALTH (1-877-724-3258) or your local health department.

**Background**

In October 2022, Pennsylvania Department of Health (DOH) was notified by the Philadelphia Department of Public Health and the Einstein Medical Center in Philadelphia of a recent increase in reports of mushroom poisoning in the southeast region of the state. Additionally, DOH also received an alert from the Children’s Hospital of Philadelphia’s Poison Control Center (CHOP PCC) on a total of 13 cases of

mushroom poisoning with symptom onset between September 4 and September 29, 2022. The majority of these cases reported consuming wild mushrooms foraged from backyards, public parks, woody areas, and other locations in the southeastern region of the state. Six of these cases were female, and five were male. Ages ranged from 3-75 years old. The majority of cases reported unintentional ingestion of these mushroom species. While most cases recovered, one case required a liver transplant and one case died.

A total of 4 cases had information identifying the type of mushroom consumed. Of these, three reported consuming *Amanita phalloides* (common name: death cap) and one reported consuming *Amanita bisporigera* (common name: destroying angel, see Figures 1 and 2 below).

Figure 1. Image of *Amanita phalloides*<sup>i</sup>



Figure 2. Image of *Amanita bisporigera*<sup>ii</sup>



CHOP PCC shared public messaging regarding this increase on October 18<sup>th</sup>. Including the following reports:

- [Mushroom Foraging Warning from the Poison Control Center at Children's Hospital of Philadelphia \(yahoo.com\)](#)
- [CHOP poison control center warns of spike in severe mushroom poisonings, one requiring organ transplant \(inquirer.com\)](#)

In addition, on November 9<sup>th</sup>, staff at DOH explored recent poison control center call data from CHOP PCC and Pittsburgh Poison Control. These data showed a recent increase in reports to these poison control centers that referenced mushroom consumption since August 2022. While national data on mushroom poisoning are limited, previous research found that severe poisonings from the consumption of foraged mushrooms increased from 1999-2016.<sup>iii</sup> These findings highlight the importance of additional public messaging regarding the potential dangers of mushroom poisoning.<sup>iv</sup>

Reports of mushroom toxicity may follow a seasonal pattern with most published cases of mushroom poisoning being reported in late summer and early fall. These seasonal patterns are likely driven by increases in rainfall and warm temperatures which provide favorable conditions for the growth of certain wild mushroom species, although mushrooms can be foraged year-round.<sup>v,vi</sup> According to existing research, the majority of instances of mushroom poisoning are unintentional and result from misidentification of mushroom species during foraging.<sup>vii</sup> Additionally, children may be at greater risk of accidental ingestion of wild mushrooms species.<sup>viii</sup>

Healthcare providers should be aware of the risk of illness after consuming wild mushrooms that may have been misidentified. While symptoms may differ across species of mushroom consumed, common symptoms include gastrointestinal symptoms, fatigue, dizziness, loss of consciousness, and liver intoxication.<sup>ix</sup> If mushroom poisoning is suspected, healthcare providers should attempt to gather information on recent mushroom consumption, a description of the mushroom consumed, and ask if there is any remaining mushroom in order to prevent further consumption. Healthcare providers should contact their local poison control center (1-800-222-1222) for reporting and assistance with these cases.

Any questions or concerns should be directed to the local health department or Pennsylvania Department of Health (DOH) at (877-PA-HEALTH).

Categories of Health Alert messages:

**Health Alert:** conveys the highest level of importance; warrants immediate action or attention.

**Health Advisory:** provides important information for a specific incident or situation; may not require immediate action.

**Health Update:** provides updated information regarding an incident or situation; unlikely to require immediate action.

This information is current as of November 18, 2022 but may be modified in the future.
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<sup>i</sup> Santi, L., Maggioli, C., Mastroberto, M., Tufoni, M., Napoli, L., & Caraceni, P. (2012). Acute liver failure caused by Amanita phalloides poisoning. *International journal of hepatology*, 2012.

<sup>ii</sup> Stein, C. M., Wu, P. E., Scott, J. A., & Weinerman, A. S. (2015). Fulminant hepatic failure following ingestion of wild mushrooms. *CMAJ*, 187(11), 822-824.

<sup>iii</sup> Diaz, J. H. (2005). Evolving global epidemiology, syndromic classification, general management, and prevention of unknown mushroom poisonings. *Critical care medicine*, 33(2), 419-426.

<sup>iv</sup> Gold, J. A., Kiernan, E., Yeh, M., Jackson, B. R., & Benedict, K. (2021). Health Care Utilization and Outcomes Associated with Accidental Poisonous Mushroom Ingestions—United States, 2016–2018. *Morbidity and Mortality Weekly Report*, 70(10), 337.

<sup>v</sup> Schenk-Jaeger, K.M.; Rauber-Lüthy, C.; Bodmer, M.; Kupferschmidt, H.; Kullak-Ublick, G.A.; Ceschi, A. Mushroom poisoning: A study on circumstances of exposure and patterns of toxicity. *Eur. J. Int. Med.* 2012, 23, e85–e91.

<sup>vi</sup> Keller, S. A., Klukowska-Rötzler, J., Schenk-Jaeger, K. M., Kupferschmidt, H., Exadaktylos, A. K., Lehmann, B., & Liakoni, E. (2018). Mushroom poisoning—A 17 year retrospective study at a level I University Emergency Department in Switzerland. *International journal of environmental research and public health*, 15(12), 2855.

<sup>vii</sup> Brandenburg, W. E., & Ward, K. J. (2018). Mushroom poisoning epidemiology in the United States. *Mycologia*, 110(4), 637-641.

<sup>viii</sup> Hall, A. H., Spoerke, D. G., & Rumack, B. H. (1987). Mushroom poisoning: identification, diagnosis, and treatment. *Pediatrics in review*, 8(10), 291-298.

<sup>ix</sup> Eren, S. H., Demirel, Y., Ugurlu, S., Korkmaz, I., Aktas, C., & Güven, F. M. K. (2010). Mushroom poisoning: retrospective analysis of 294 cases. *Clinics*, 65(5), 491-496