



# Maryland 2024 Heat-Related Illness Surveillance Summary Report

Reporting Period: May 1, 2024, to September 28, 2024

Report Date: November 13, 2024

## EXECUTIVE SUMMARY

The Maryland 2024 heat season occurred from May 1, 2024, to September 28, 2024. Overall, in Maryland, temperatures during the 2024 heat season were consistent with previous seasons, and the average high temperature was 82.6°F. Morbidity and Mortality Weekly Report (MMWR) weeks 25–29 (6/16/24 – 7/20/24) had above-average temperatures between 89–91°F. There was a corresponding increase in heat-related emergency department (ED) and urgent care (UC) chief complaint visits with a total of 788 visits in those weeks. Visits peaked in Week 28 at 199 visits.

There were a total of 1,255 heat-related ED and UC chief complaint visits this heat season, with an average of 56.8 visits per week. These counts represent an increase from the 2023 heat season in which there were a total of 820 visits and an average of 37.2 visits per week. This season, there were also a total of 1,502 emergency medical services (EMS) calls, with an average of 68.2 calls per week. These counts represent an increase from the 2023 heat season in which there were a total of 1,115 EMS calls and an average of 50.3 calls per week. For the 2024 heat season, most of the heat-related illness complaints were in the 65+ age group (283 visits) which is consistent with previous heat seasons.

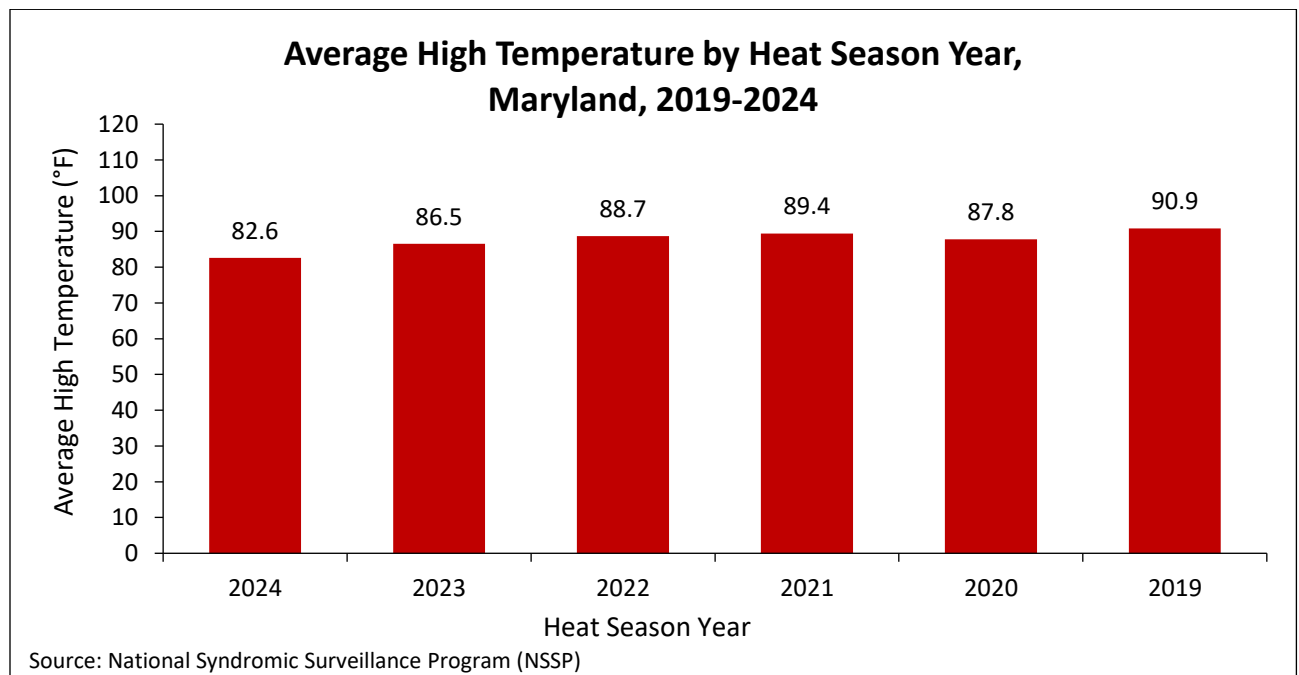
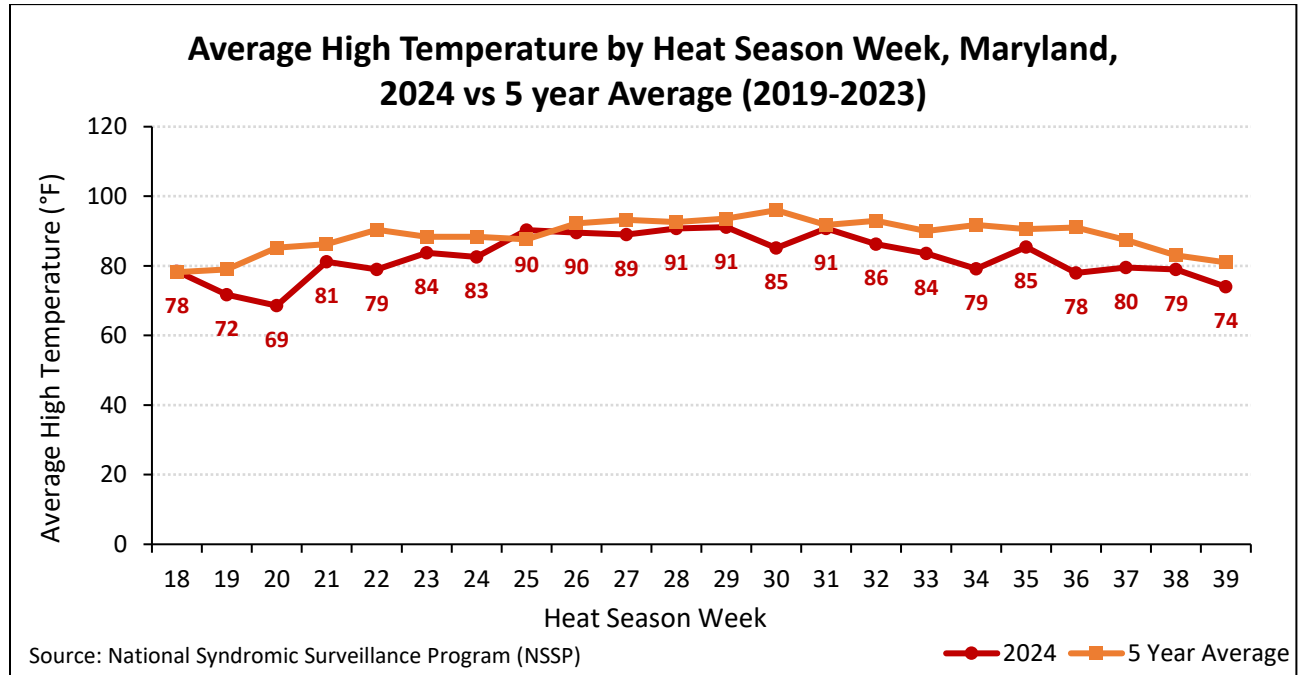
During the 2024 heat season, 26 heat-related deaths were reported. This is a *significant increase* from last year (9 heat-related deaths). Deaths most frequently occurred among the 65–74 (8 deaths) and 75+ (6 deaths) age groups. There were 20 deaths among males and 6 deaths among females. Most heat-related deaths occurred in July (18 deaths, 69.2%), corresponding to the above-average temperatures recorded in MMWR weeks 27–29. 21 (84.6%) of the heat-related deaths reported this season occurred in weeks 25–29.

## BACKGROUND

The weekly [Heat-Related Illness Surveillance Report](#) is disseminated from May through September. The report focuses on extreme heat conditions, including temperature, heat-related illness (e.g., hyperthermia, heat, dehydration, and sunburn), and heat-related deaths in Maryland.

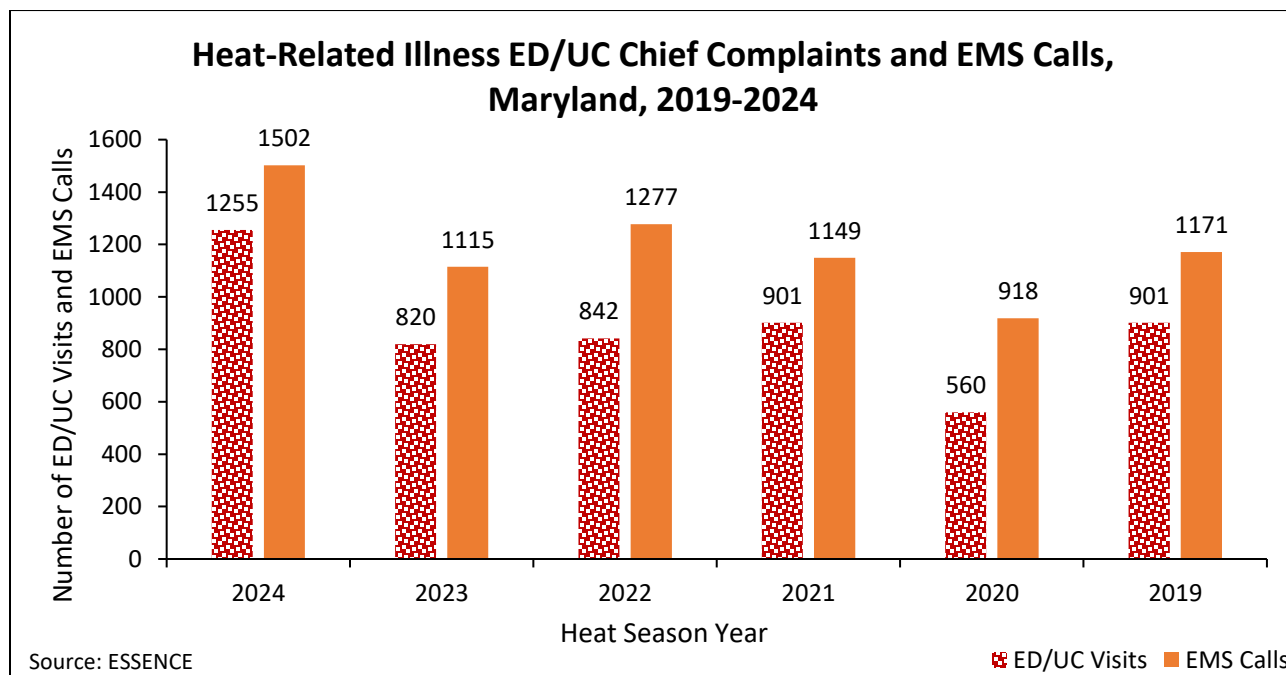
## WEATHER

Overall, the average high temperature for the 2024 heat season (82.6°F) was comparable to the average of the last five seasons (2019–2023). In MMWR weeks 25–29 (6/16/24 – 7/20/24), the average high temperature rose to 90.2°F.

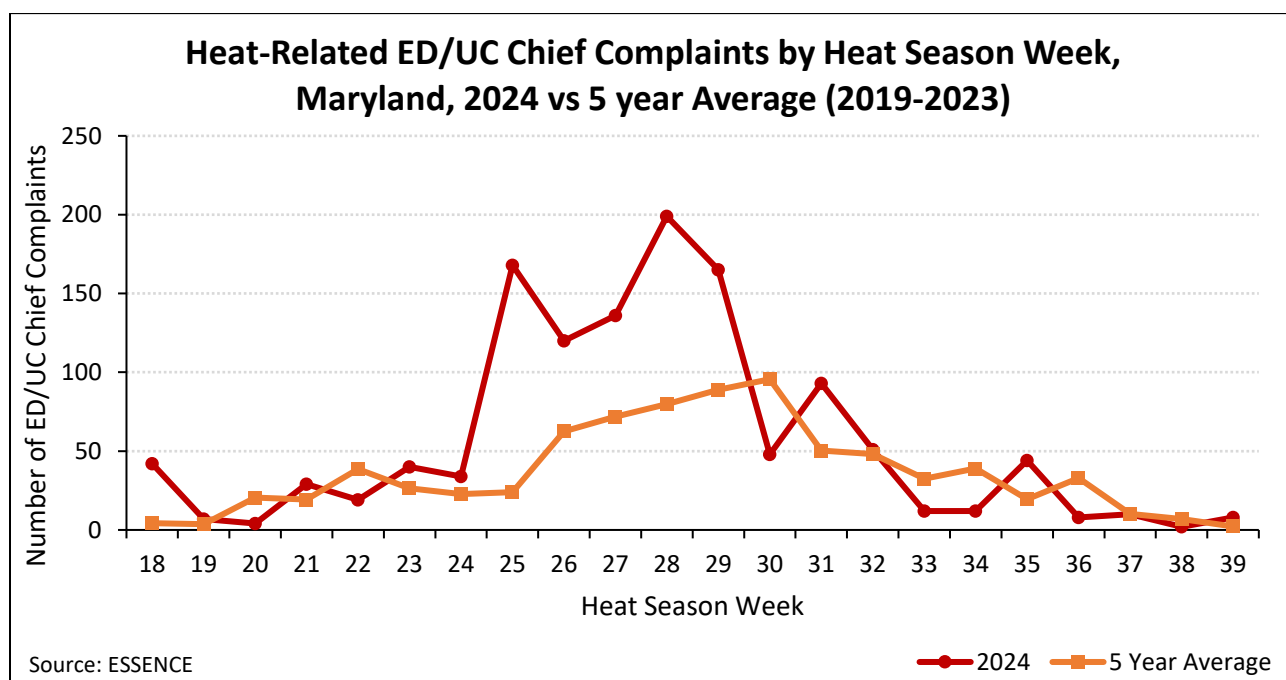


## HEAT-RELATED ILLNESS

This heat season there were a total of 1,255 ED/UC chief complaints. Additionally, there were 1,502 heat-related EMS calls. These are higher than previous years (2019–2023).

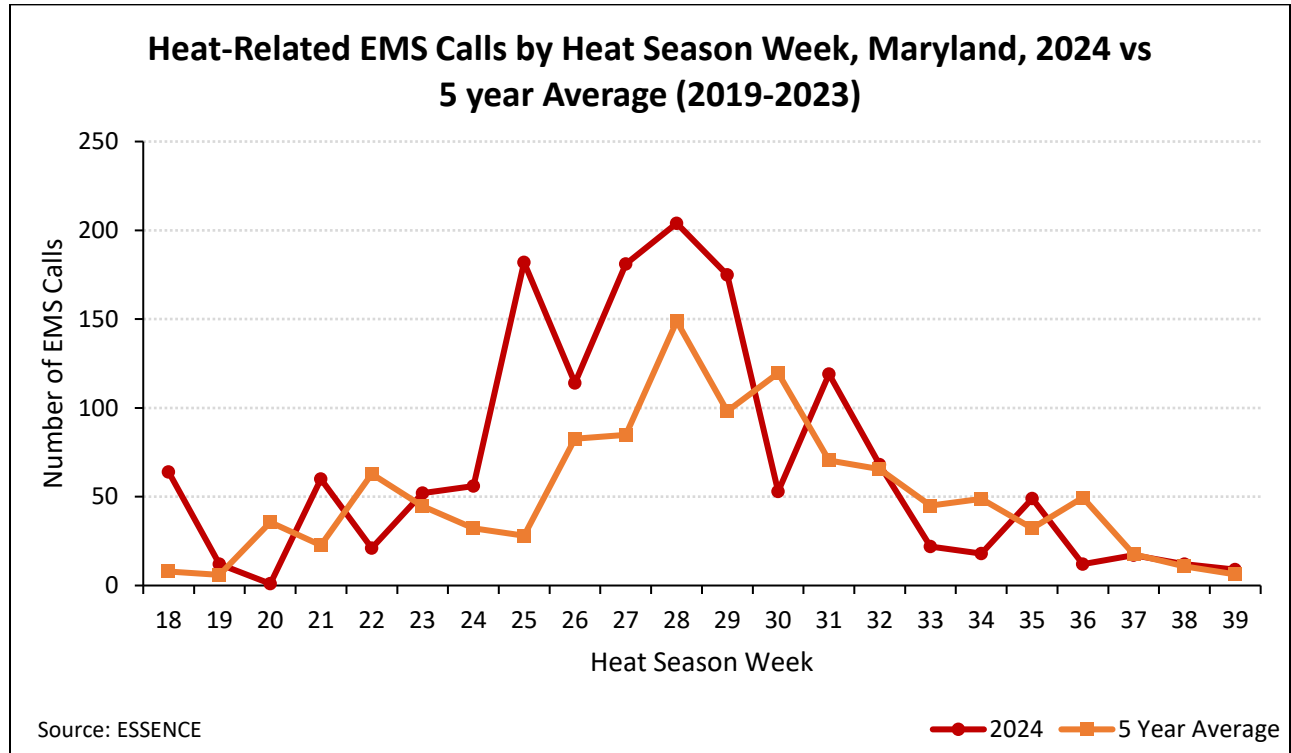


The number of heat-related ED/UC chief complaints for the 2024 season trended slightly higher than the five-year average (2019–2023) and peaked in MMWR weeks 25–29 (6/16/24 – 7/20/24), corresponding to the increase in the average high temperature recorded.

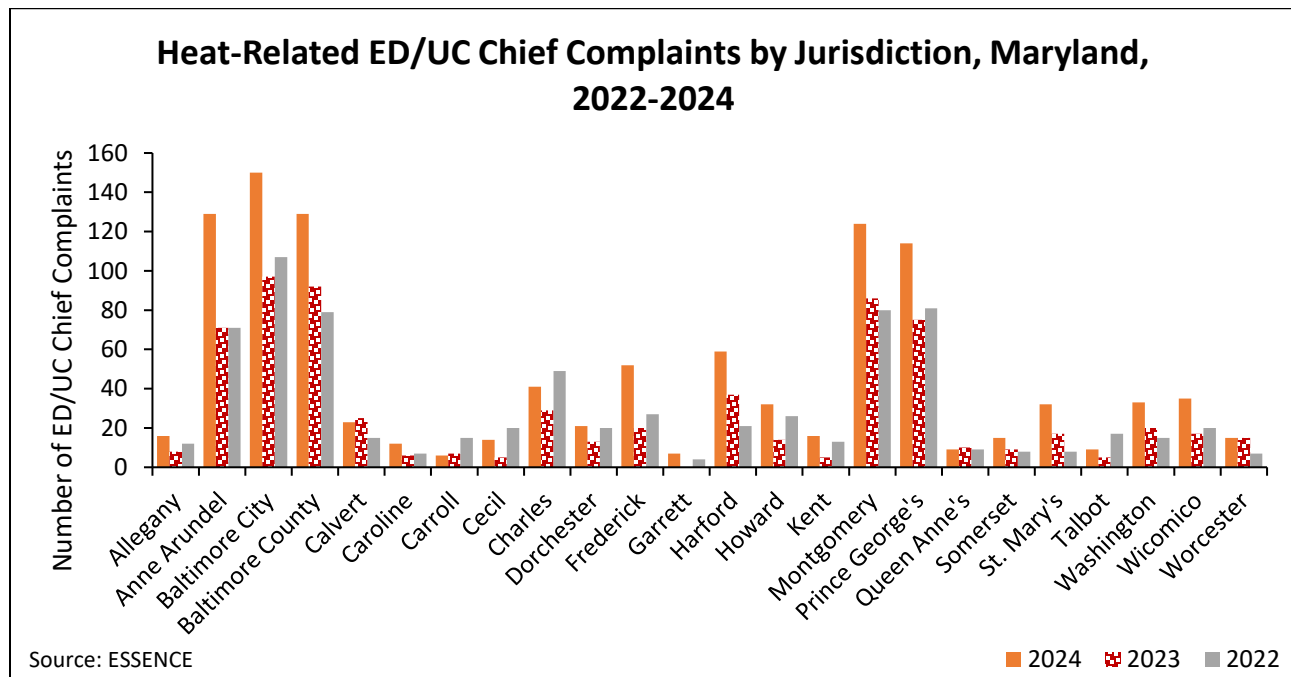


\*Note: ESSENCE chief complaint query for heat-related illness contains the following terms: hyperthermia, heat, dehydration, and sunburn.

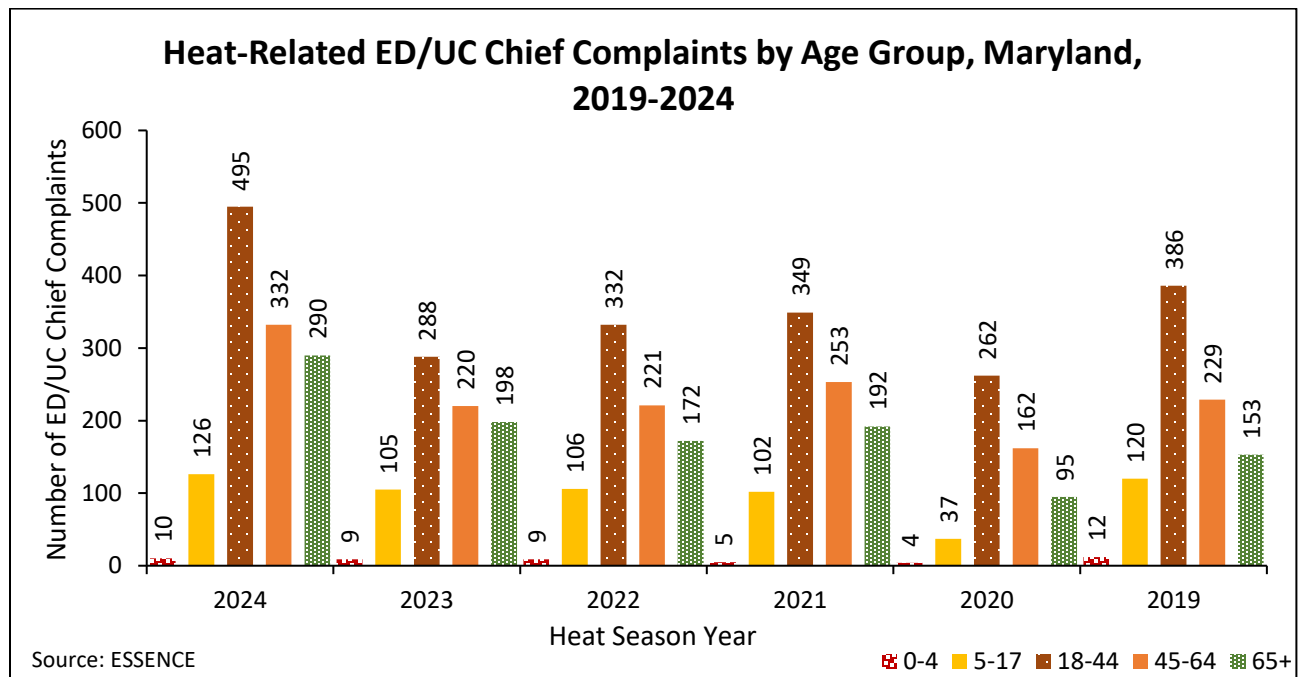
A similar spike in heat-related EMS calls was noted in weeks 25–29 (6/16/24 – 7/20/24).



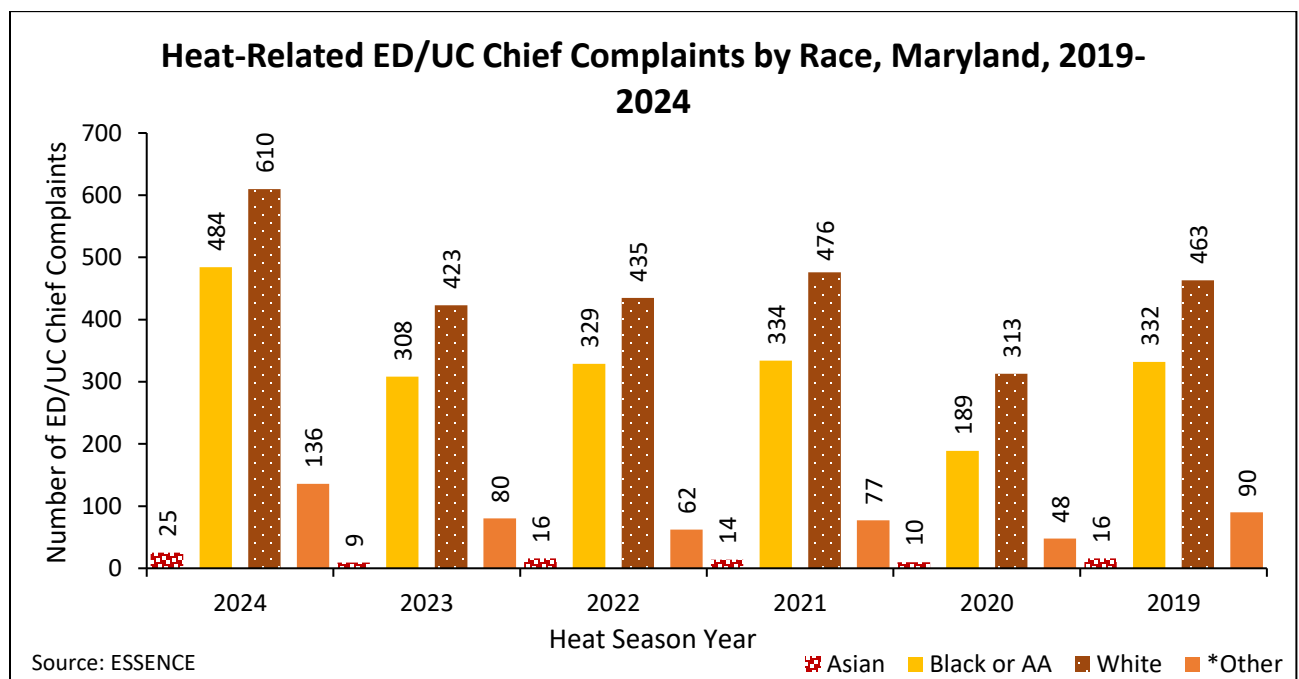
Geographically, heat-related ED/UC chief complaint visits were highest among individuals in Baltimore City, followed by Baltimore County, Anne Arundel County, Montgomery County, and Prince George's County.



In addition, heat-related ED/UC chief complaint visits were highest in the 18–44 age group (495 visits), followed by the 45–64 age group (332 visits). This trend is consistent with previous seasons (2019–2023), during which the 18–44 and 45–64 age groups consistently had the highest number of heat-related ED/UC chief complaint visits.

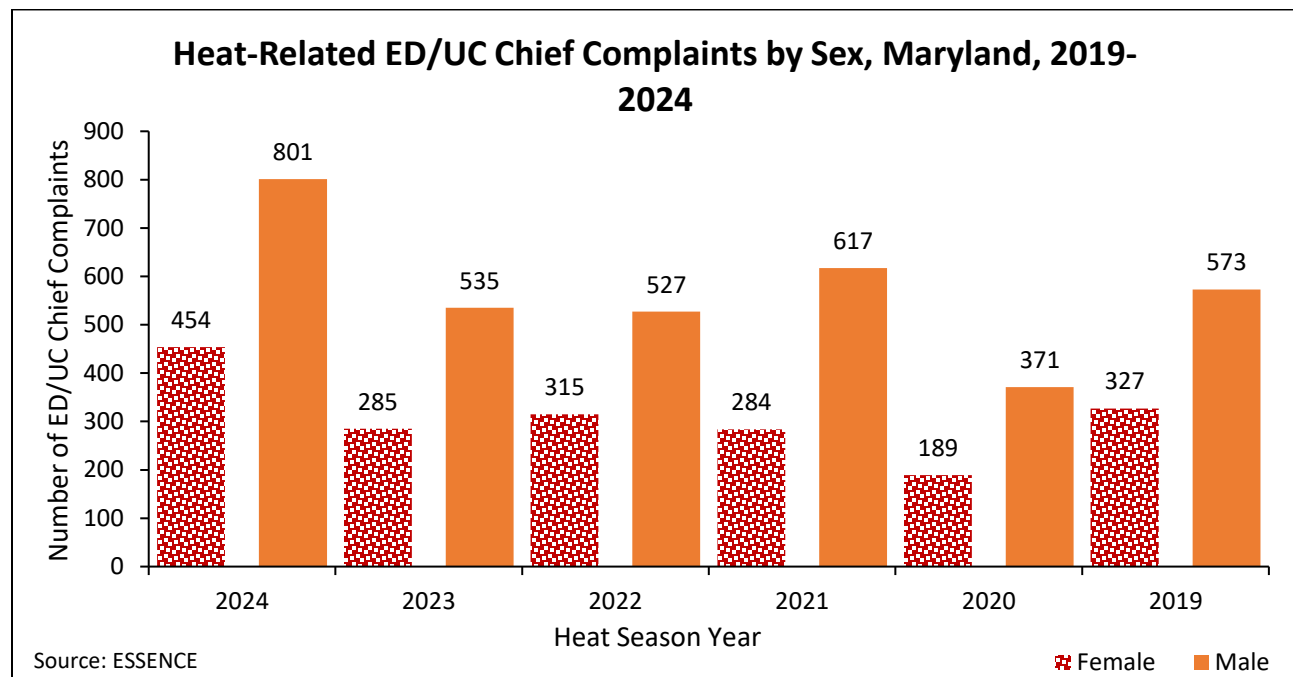


Heat-related ED/UC chief complaint visits were highest among White individuals (610 visits), followed by Black/African American individuals (484 visits). This trend is consistent with previous seasons (2019–2023), during which the White and Black/African American groups consistently had the highest number of heat-related ED/UC chief complaint visits.



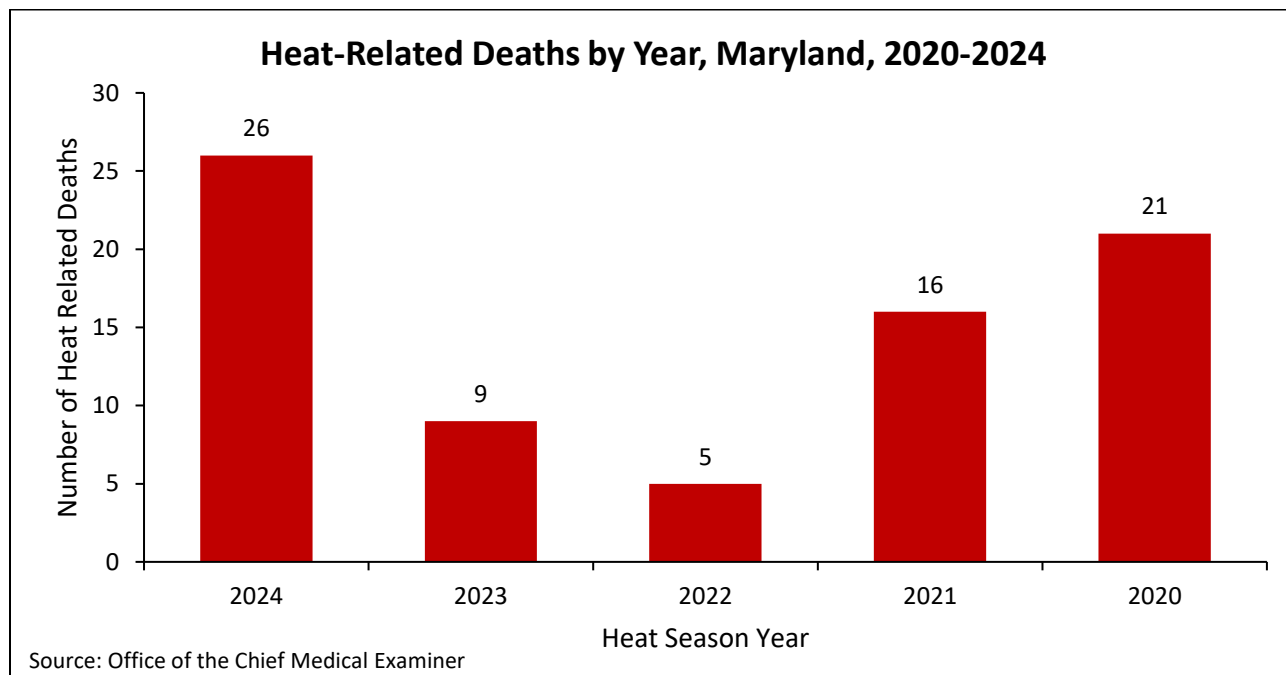
\*Note: Other includes American Indian/Alaskan Native, Native Hawaiian/Other Pacific Islander, Other, and Not Reported

Heat-related visits were also highest among males (801 visits), followed by females (454 visits). This trend remains consistent with previous seasons (2019–2023).

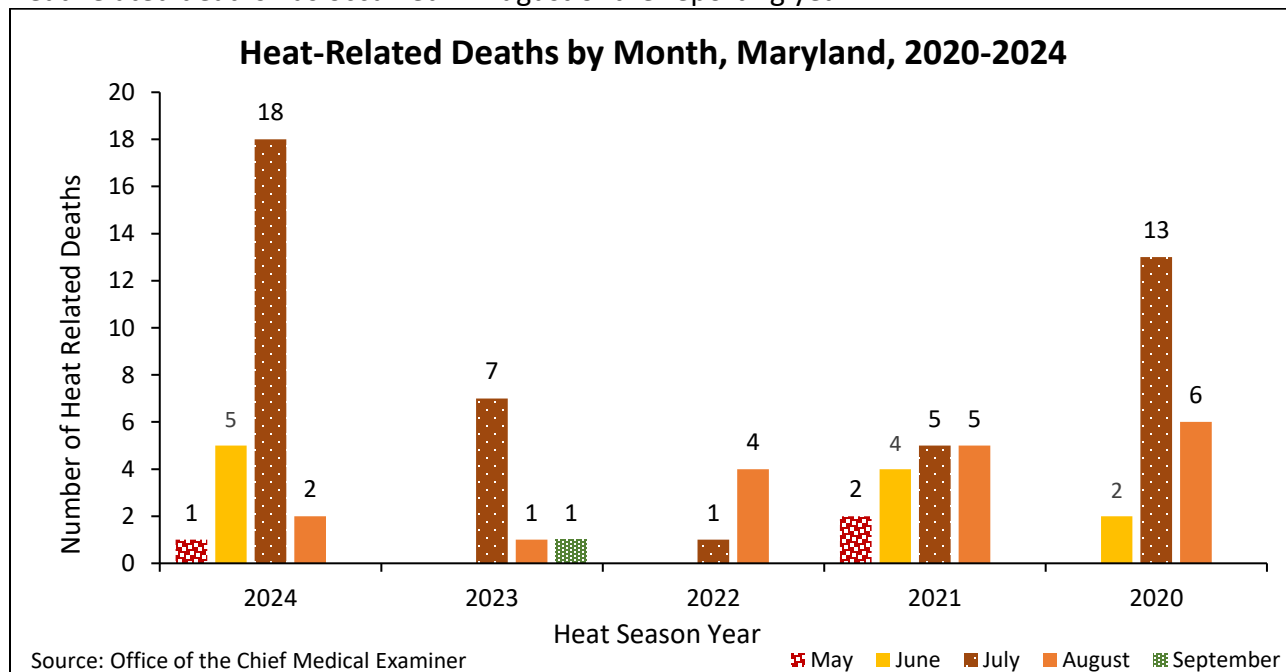


## HEAT-RELATED DEATHS

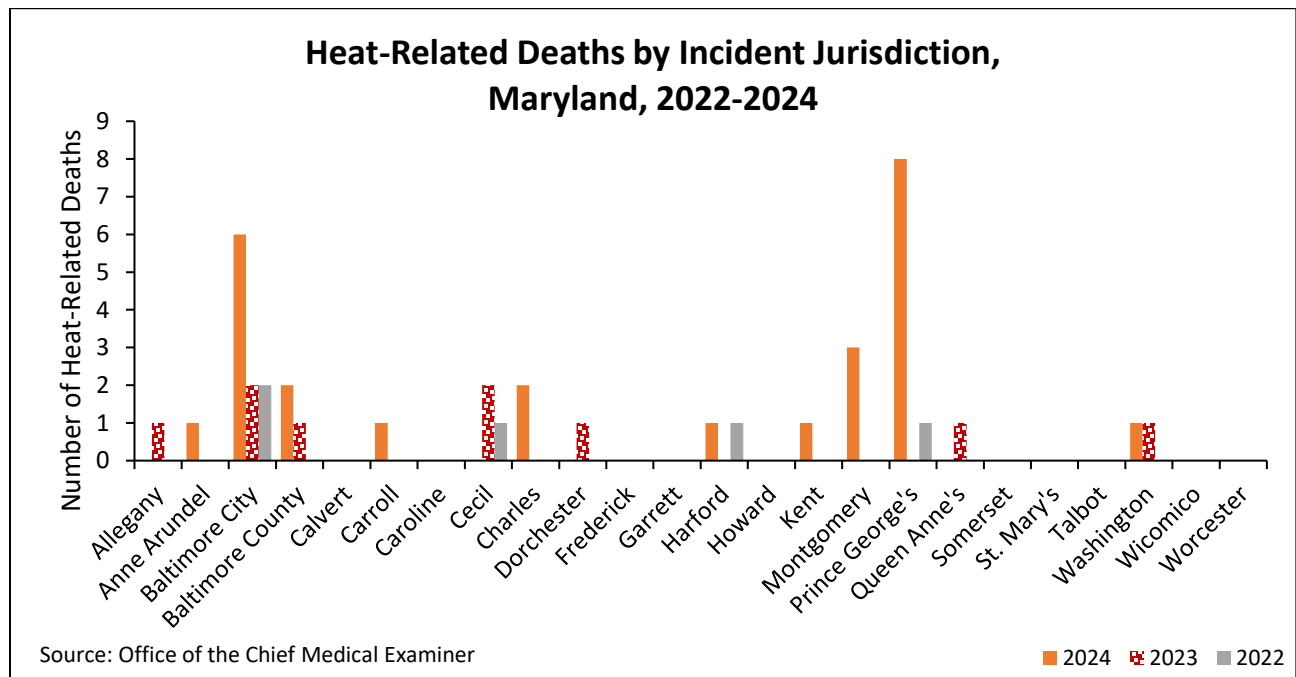
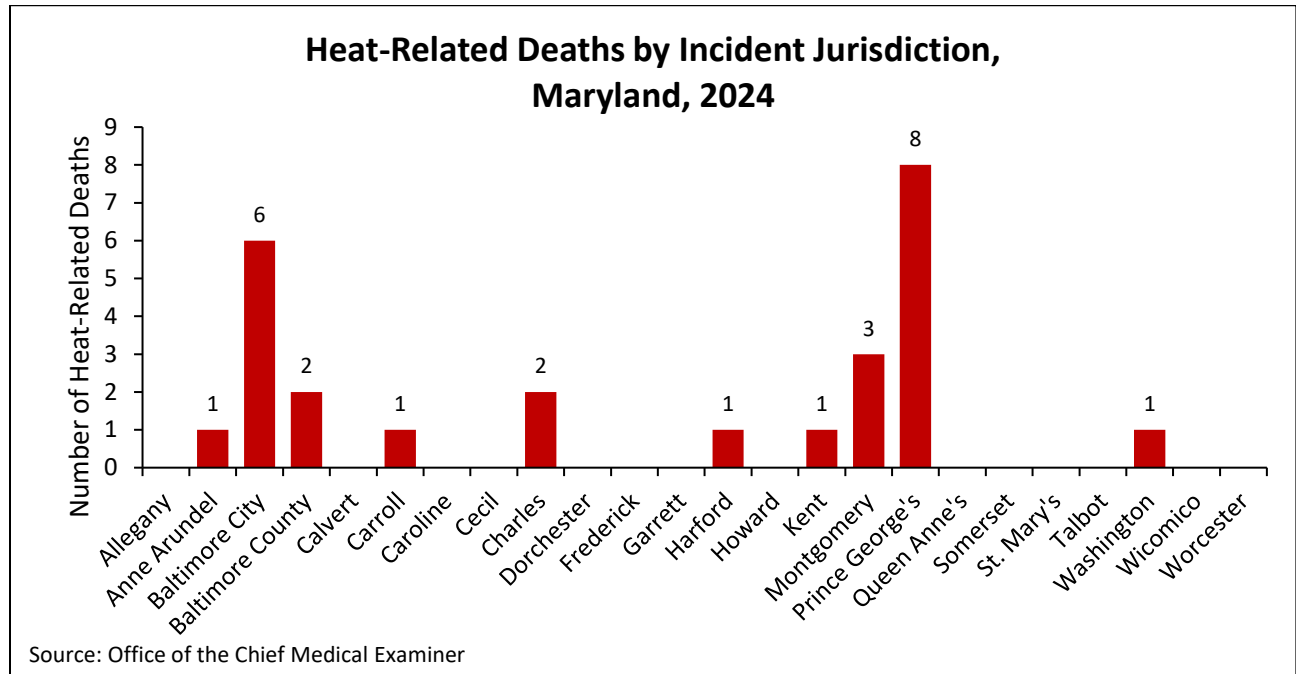
Heat-related deaths are reported by the Office of the Chief Medical Examiner (OCME) and do not include deaths not evaluated by the OCME. Heat-related deaths are those for which the OCME has indicated 'hyperthermia' as a cause of death or a contributing factor. There were 26 heat-related deaths reported by the OCME in Maryland during the 2024 heat season, which is significantly higher than in previous seasons (2020-2023).



During the 2024 heat season, the largest number of deaths occurred in July (18 deaths). In the 2023 heat season, most deaths also occurred in July (7 deaths). Historically, the largest number of heat-related deaths has occurred in August of the reporting year.

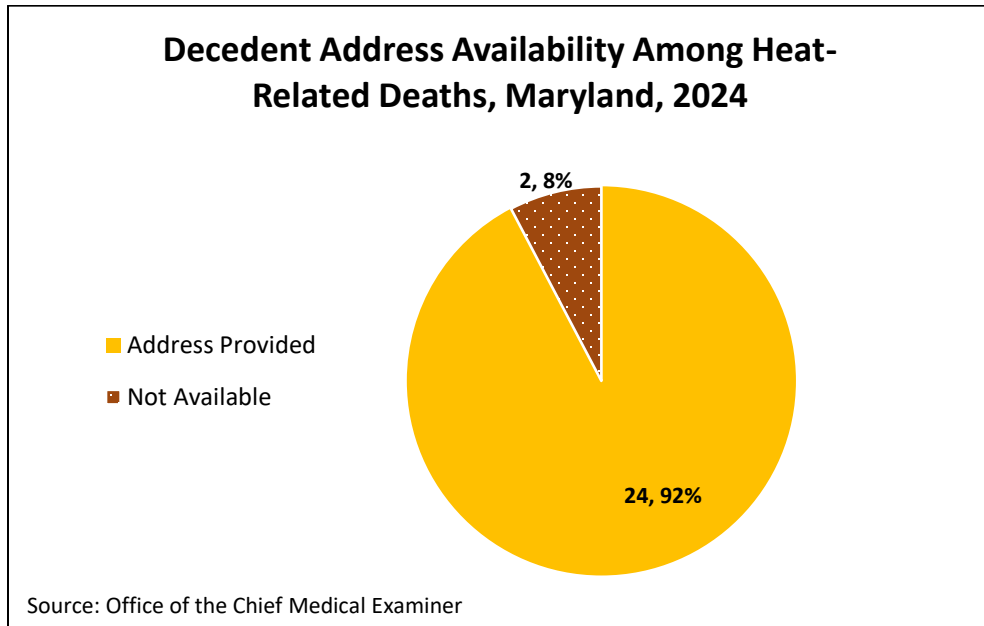


Geographically, the highest number of reported deaths occurred in Prince George’s County, followed by Baltimore City and Montgomery County. In previous heat seasons (2022–2023), the highest number of deaths were reported in Baltimore City and Cecil County.

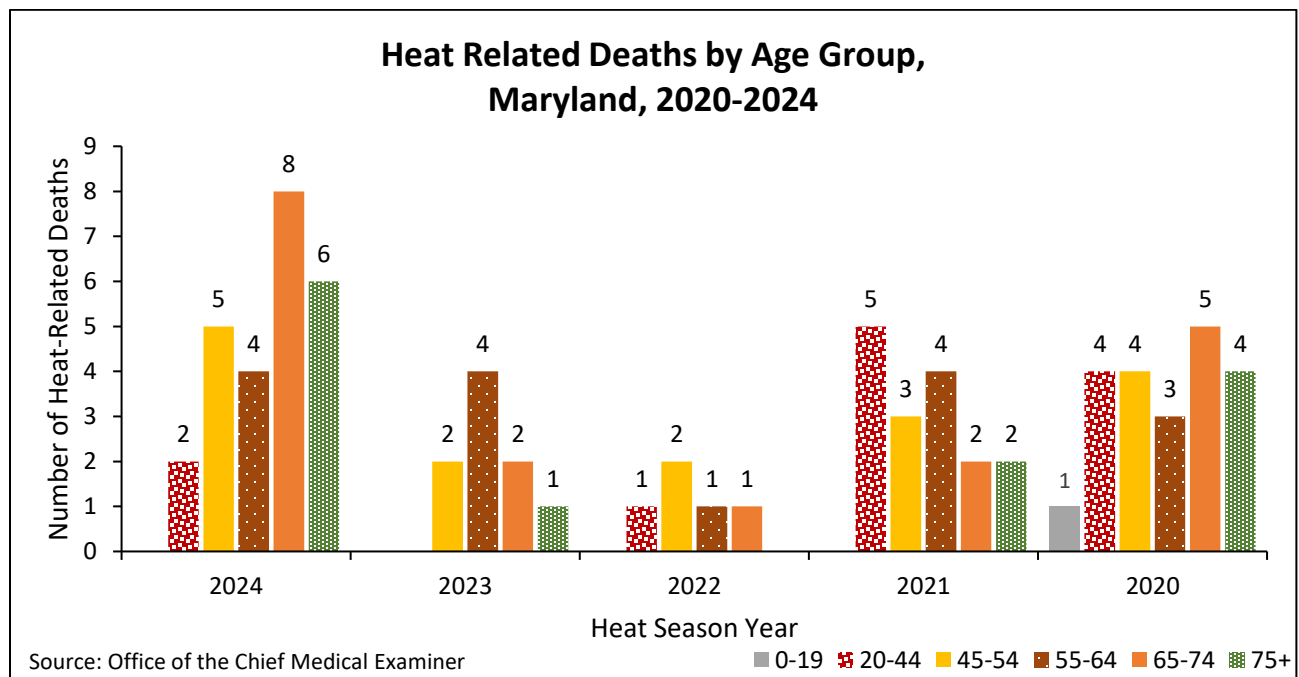




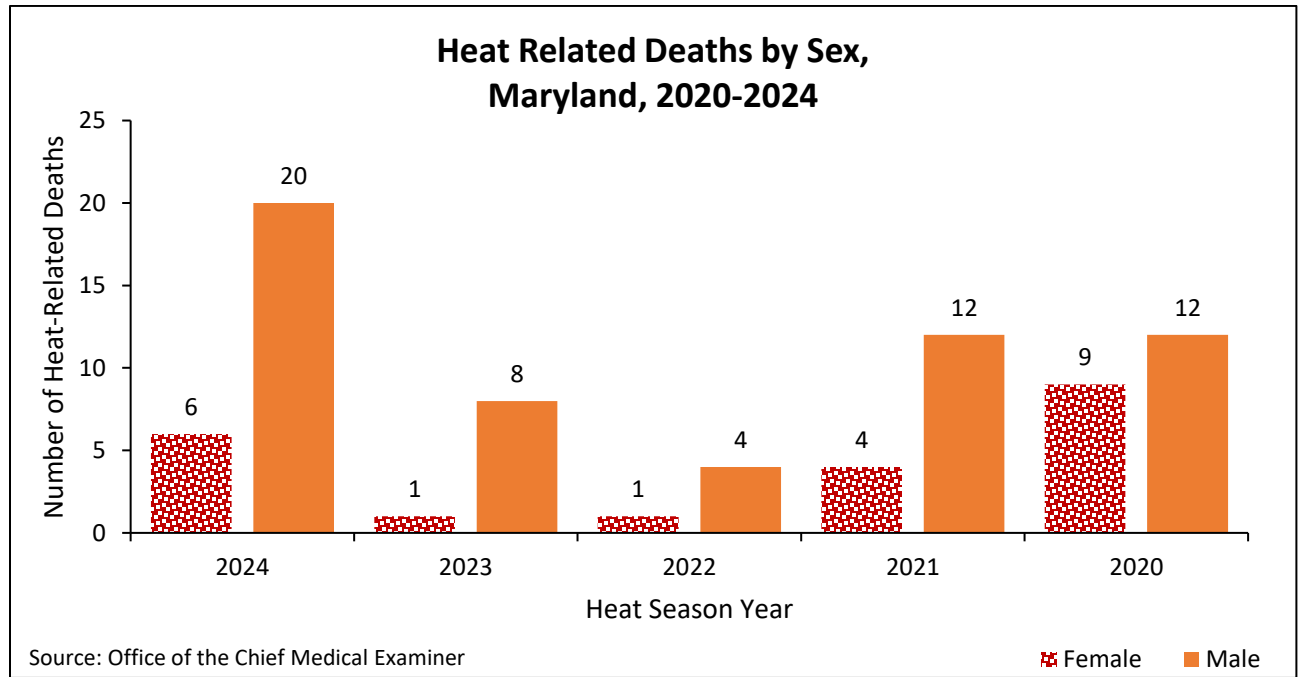
Of the 26 heat-related deaths for the 2024 season, a residential address was available for 24 cases (92%). In 2 cases (8%), a residential address was not available.



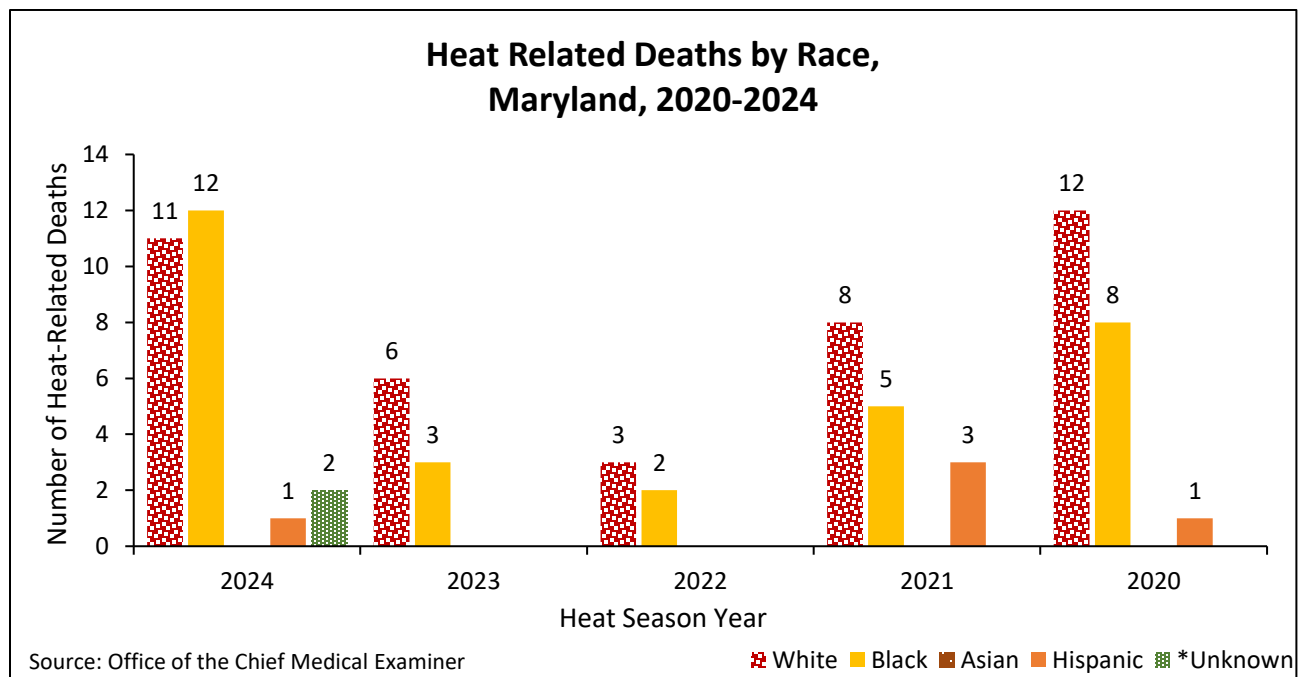
For the 2024 heat season, the most deaths were recorded among individuals in the 65–74 age group (8 deaths) and the 75+ age group (6 deaths), which differs from prior years, except for 2020.



Most of the deaths reported in the 2024 heat season were among males (20 deaths), a trend that is consistent with previous years.

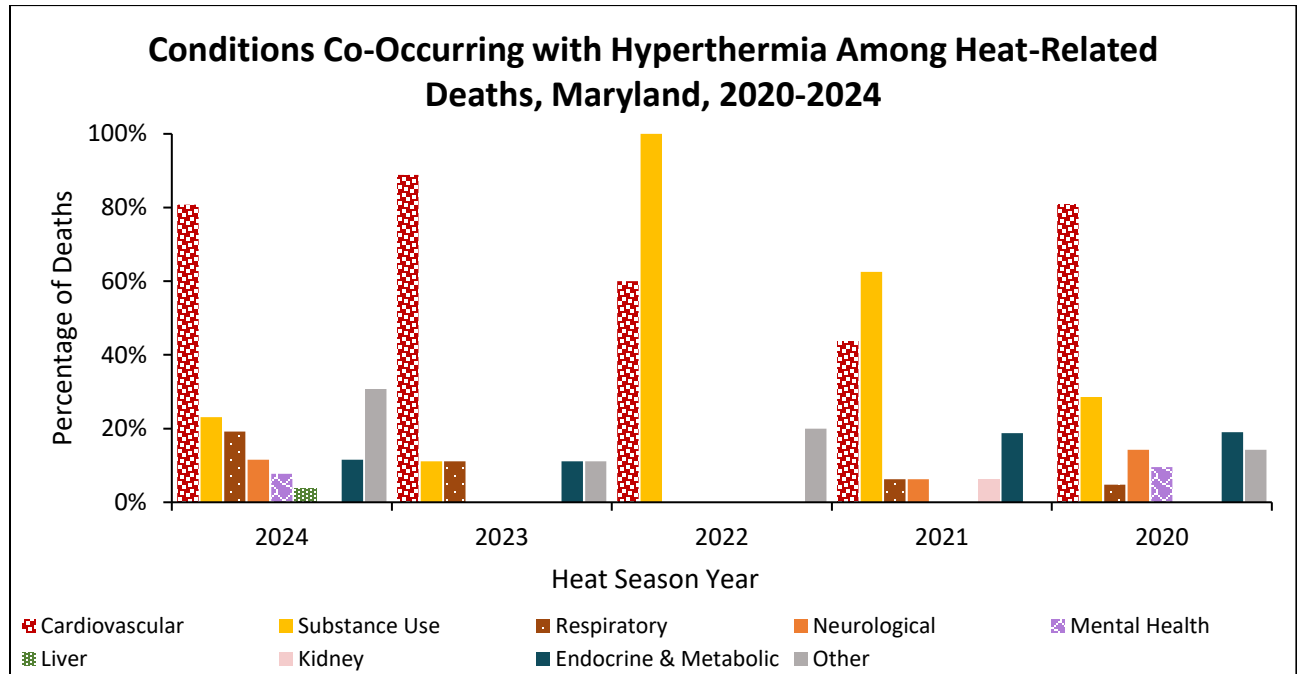


In the 2024 heat season, most reported deaths occurred among the Black/African American population (12 deaths) and the White population (11 deaths). This trend is consistent with previous years (2020–2023).



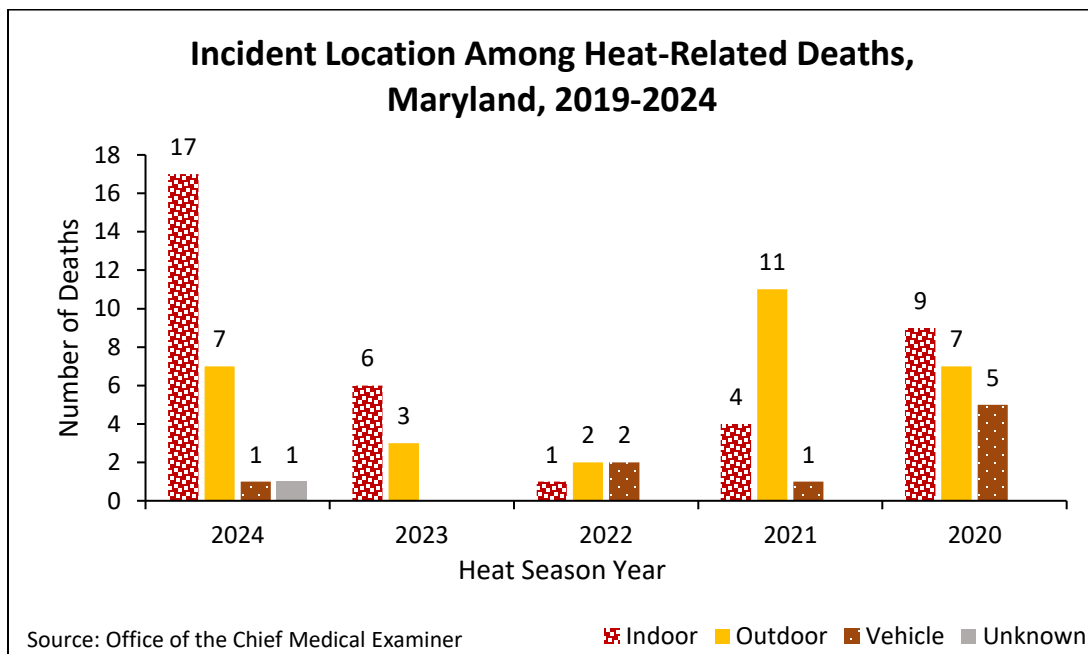
\*Note: Unknown signifies that the race was not provided

This season, 81% of decedents were reported to have cardiovascular conditions co-occurring with hyperthermia at the time of death. Additionally, 23% of decedents were reported to have substance use co-occurring with hyperthermia at the time of death. This trend has also been observed in previous years, with cardiovascular conditions and substance use consistently identified as the most prevalent factors.



\*Note: A death may have had more than one co-occurring condition, thus the percentages will not equal 100%.

Of the 26 heat-related deaths this season, 17 cases (65%) occurred indoors, while 7 cases (27%) occurred outdoors.



\*Note: **Indoor** locations are areas protected from exposure to weather. **Outdoor** locations are exposed to weather. **Unknown** is no information was provided.

## REFERENCES

### ESSENCE

The Maryland Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) program is an electronic biosurveillance system that uses non-traditional data sources to quickly identify disease outbreaks and other patterns of illness.

### Data Sources

MDH analyzes chief complaints and discharge diagnoses of ED and UC visits to identify and monitor issues of public health concern across Maryland. The chief complaint is a free-text field capturing the patient's primary reason for seeking medical care as interpreted by the ED registration staff. The discharge diagnosis is a coded field that uses standardized values outlined by the International Classification of Diseases (ICD) 10th Revision and SNOMED Clinical Terms (CT) code sets.

### Case Definitions

ED and UC visits for heat-related illness were identified based on the [Heat-Related Illness v2 Query](#) based on a previous query developed by the Council of State and Territorial Epidemiologists (CSTE) using Chief Complaint and Discharge Diagnosis.

### Social Media and Contact Information

For more information about extreme heat and emergency preparedness, follow the Office of Preparedness and Response on [Twitter](#) and [Facebook](#).

For media inquiries, please contact the Office of Communications: [410-767-6490](tel:410-767-6490)

For more information on preparedness, visit the MDH Office of Preparedness and Response website: <https://preparedness.health.maryland.gov>

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