Maryland 2025 Heat-Related Illness Surveillance Summary Report

Reporting Period: April 27, 2025, to October 4, 2025
Report Date: November 19, 2025

EXECUTIVE SUMMARY

The Maryland 2025 heat season occurred from April 27, 2025, to October 4, 2025. Overall, in Maryland, temperatures during the 2025 heat season were consistent with previous seasons with an average high temperature of 87.1°F. Morbidity and Mortality Weekly Report (MMWR) weeks 25–31 (6/15/25 – 8/2/25) had above-average temperatures between 91–97°F. There was a corresponding increase in heat-related emergency department (ED) and urgent care (UC) visits with a total of 1,277 visits in those weeks. Visits peaked in Week 26 with 474 visits.

There were a total of 1,674 heat-related ED and UC visits this heat season, with an average of 75.9 visits per week. This represents a 33.4% increase from the 2024 heat season in which there were a total of 1,255 visits and an average of 56.9 visits per week. Over the course of the heat season, most of the heat-related illness visits were in the 18-44 age group (687 visits) which is consistent with previous heat seasons. Additionally, there were a total of 1,645 heat-related illness emergency medical services (EMS) calls, with an average of 74.3 calls per week. This represents an increase from the 2024 heat season in which there were a total of 1,502 EMS calls and an average of 68.2 calls per week.

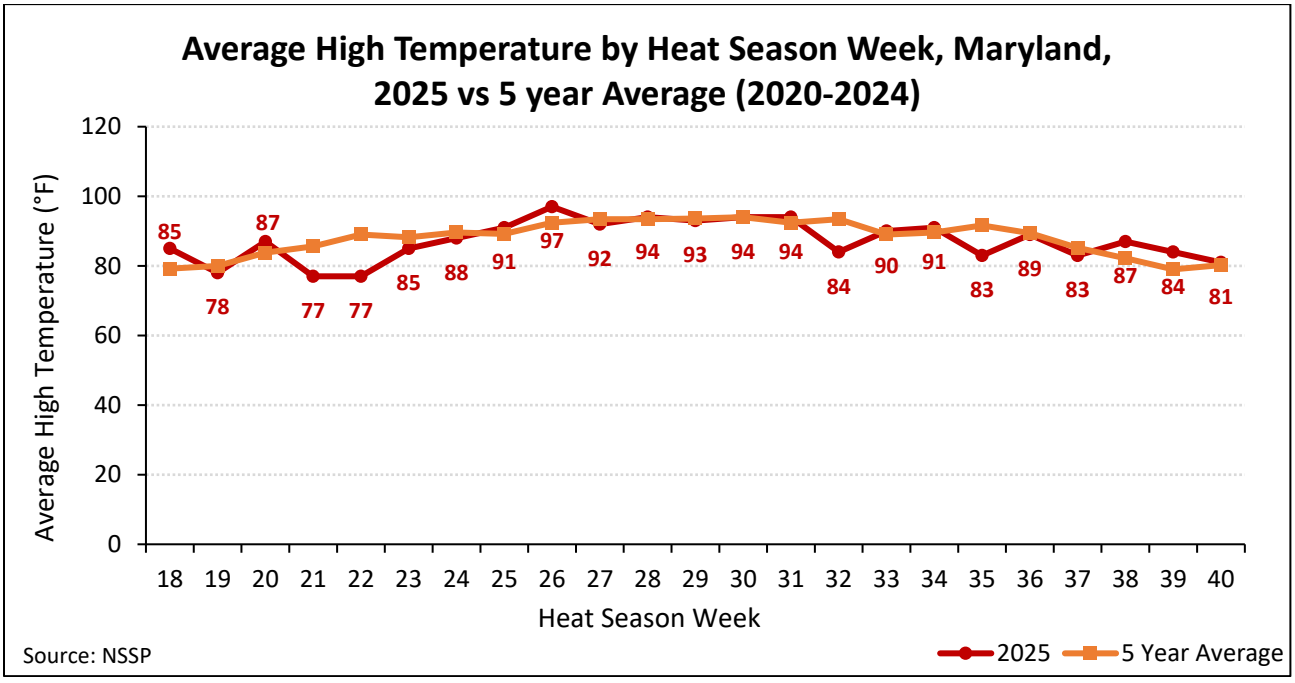
During the 2025 heat season, 34 heat-related deaths were reported. This is a *significant increase* of 25.9% from last year in which 27 heat-related deaths were reported. This year, deaths most frequently occurred among the 75+ (15 deaths, 44.1%) and 65-74 (9 deaths, 26.4%) age groups. There were 25 deaths among males and 9 deaths among females. Most heat-related deaths occurred in late June (19 deaths, 55.9%), corresponding to the above-average temperatures recorded in MMWR weeks 26-27. 30 (88.2%) of the heat-related deaths reported this season occurred in weeks 25–31.

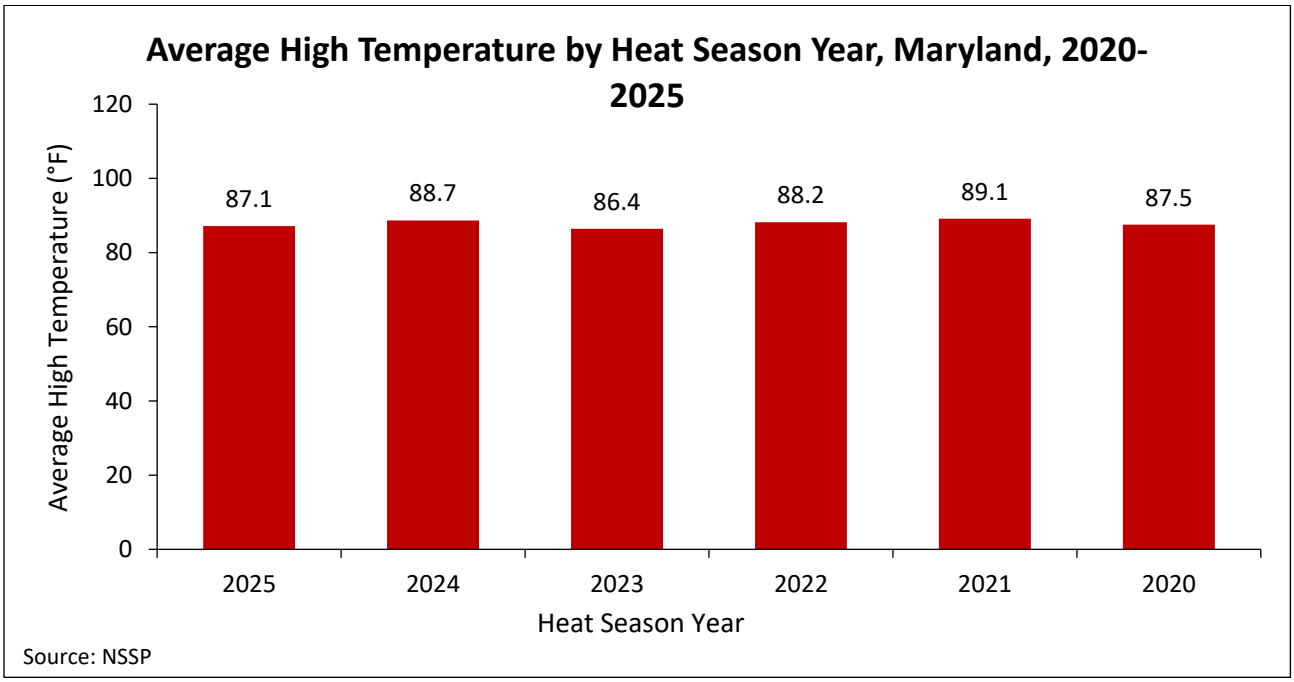
BACKGROUND

The weekly Heat-Related Illness Surveillance Report is disseminated from May through October and focuses on extreme heat conditions, including heat-related illnesses and deaths in Maryland. This report provides a summary and further analysis of the findings from the weekly reports.

WEATHER

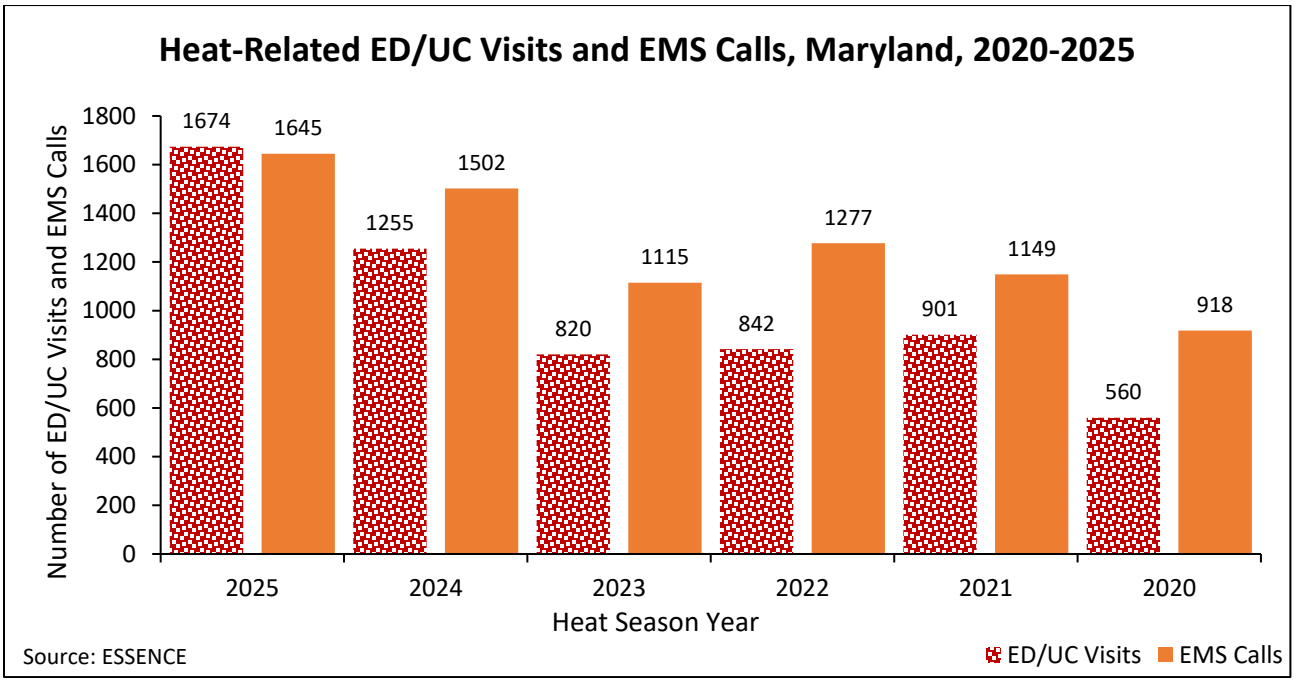
Overall, the average high temperature for the 2025 heat season (87.1°F) was comparable to the average of the last five seasons (2020–2024). In MMWR weeks 25–31 (6/15/25 – 8/2/25), the average high temperature rose to 93.6°F.



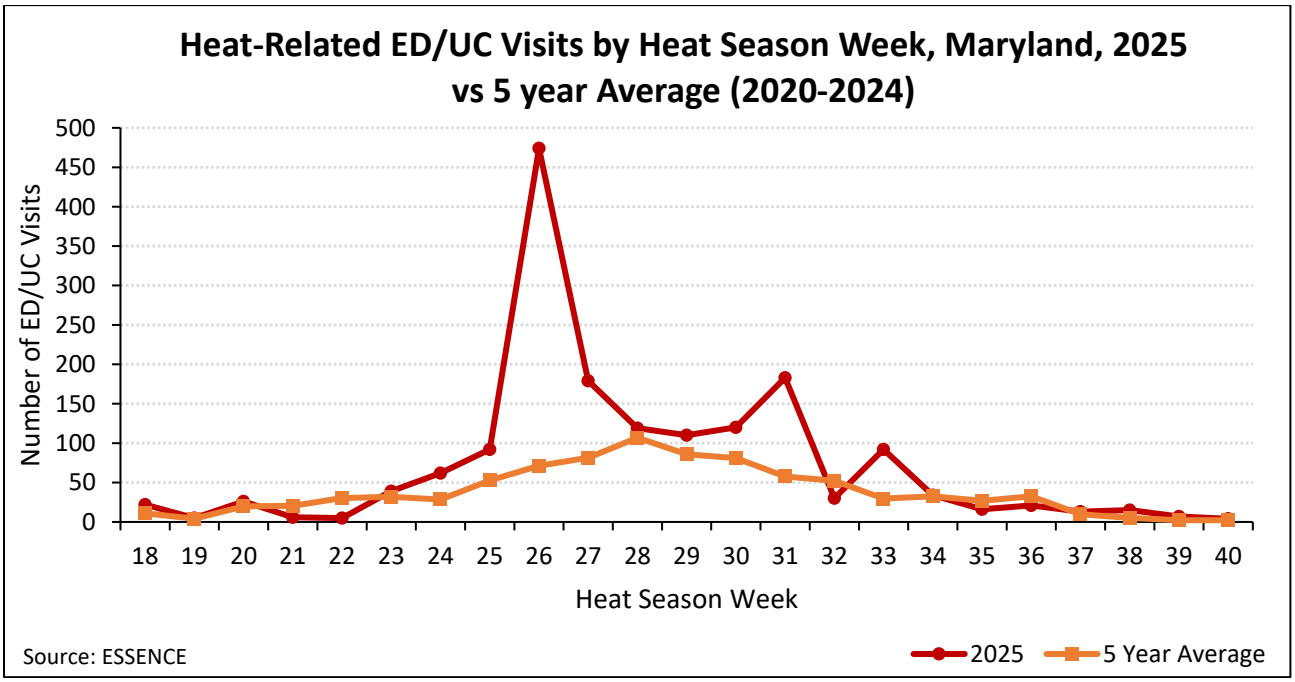


HEAT-RELATED ILLNESS

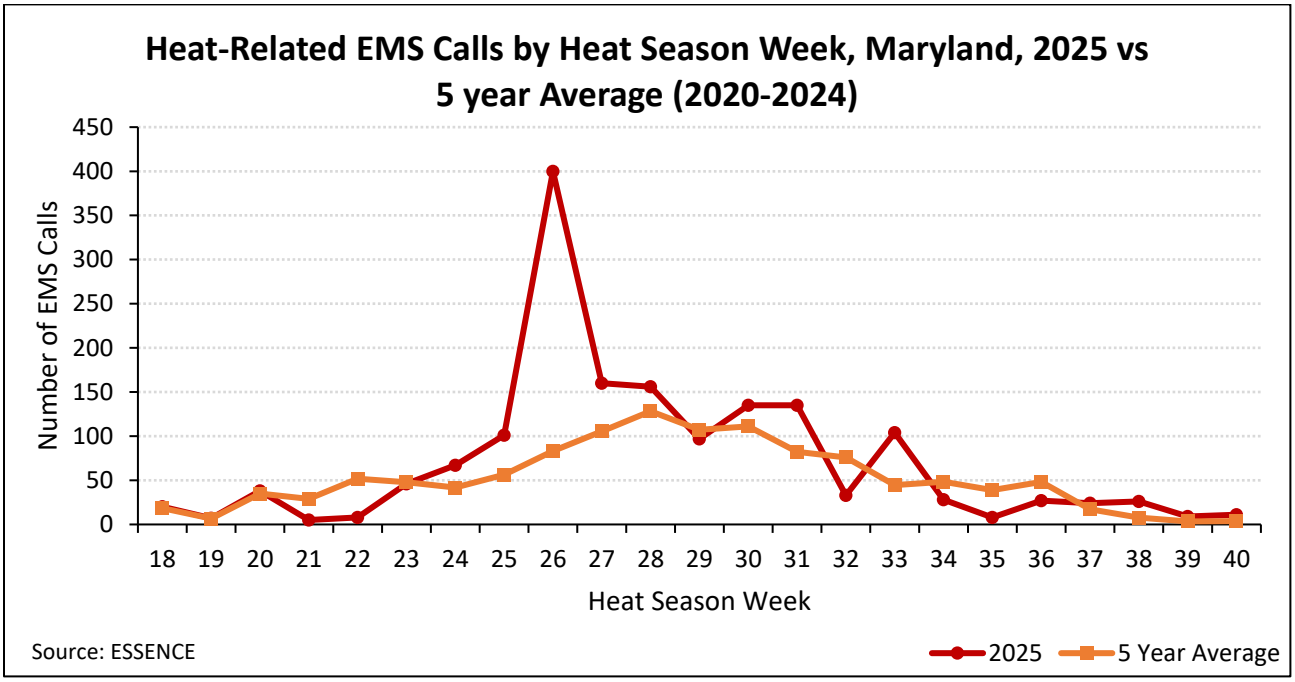
This heat season there were a total of 1,674 heat-related ED/UC visits. Additionally, there were 1,645 heat-related EMS calls. These counts are higher than in previous years (2020–2024).



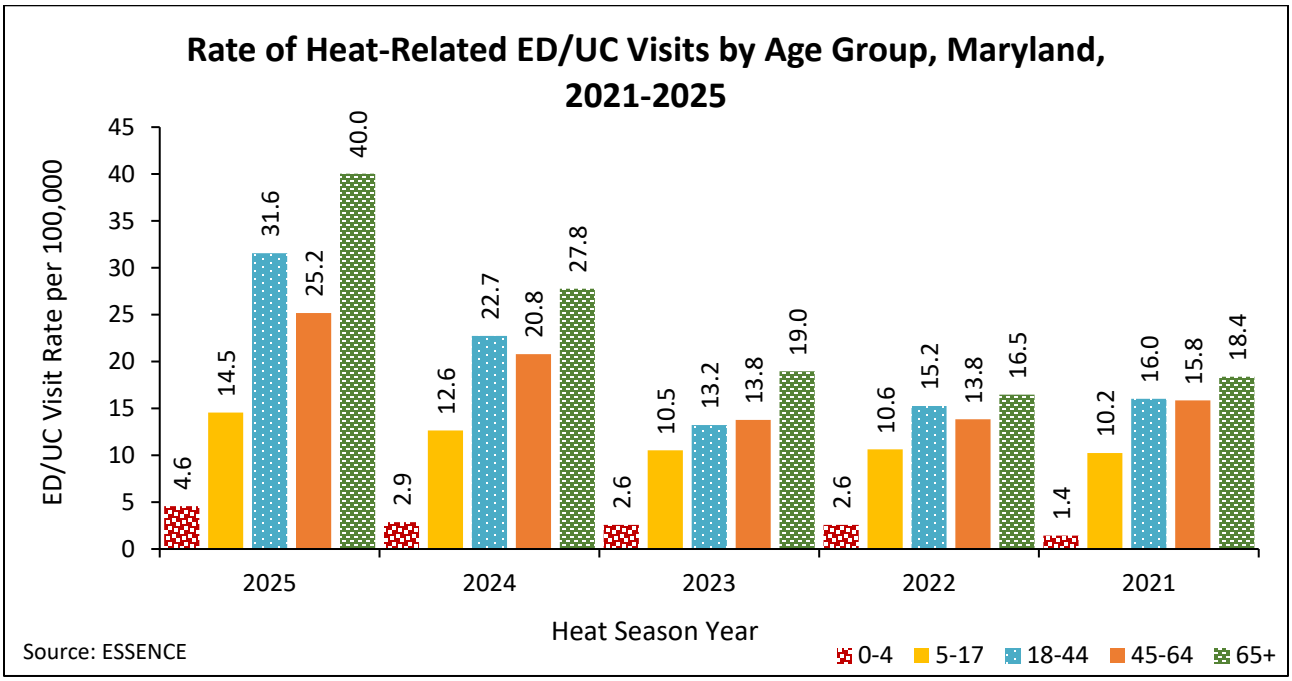
The number of heat-related ED/UC visits for the 2025 season trended higher than the five-year average (2020–2024) and peaked in MMWR weeks 25–31 (6/15/25 – 8/2/25), corresponding with the increase in the average high temperature recorded.



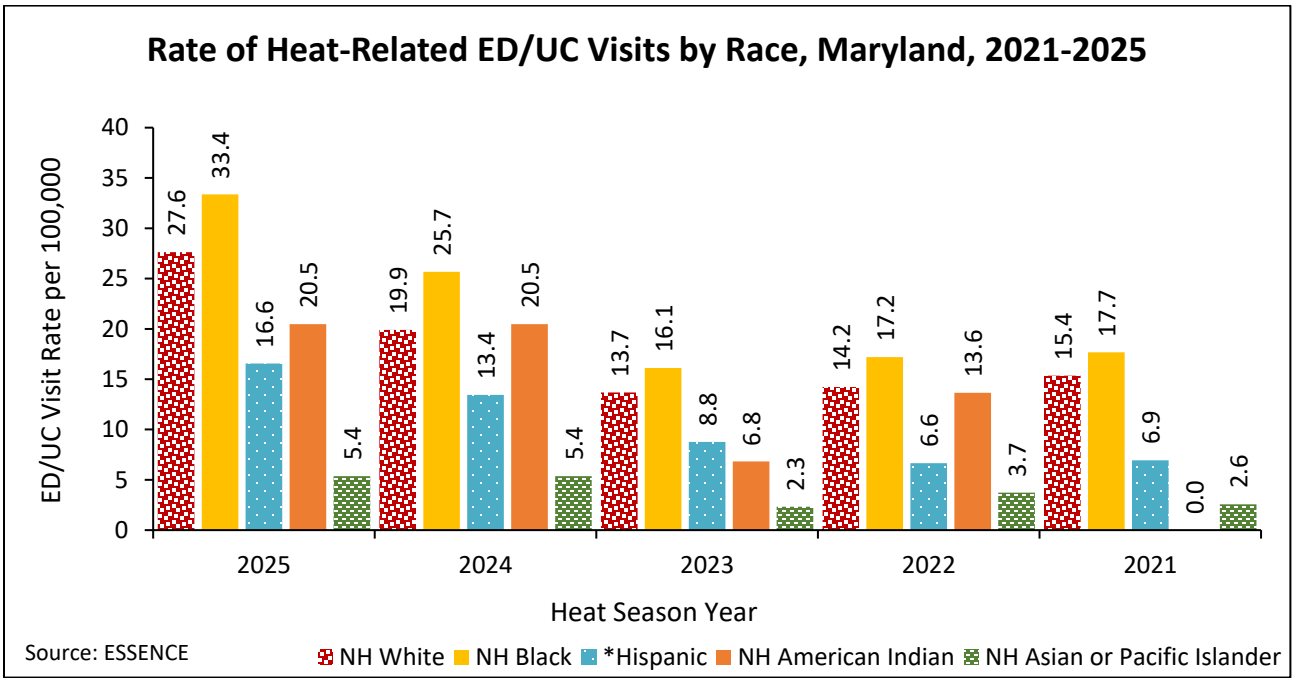
A similar spike in heat-related EMS calls was noted in weeks 25–31 (6/15/25 – 8/2/25).



In addition, heat-related ED/UC visit rates were highest among adults aged 65+ (40.0 per 100,000), followed by those aged 18–44 (31.6 per 100,000). This trend is consistent with previous seasons (2021–2024), during which the 65+ and 18-44 age groups consistently had the highest rates of heat-related ED/UC visits.

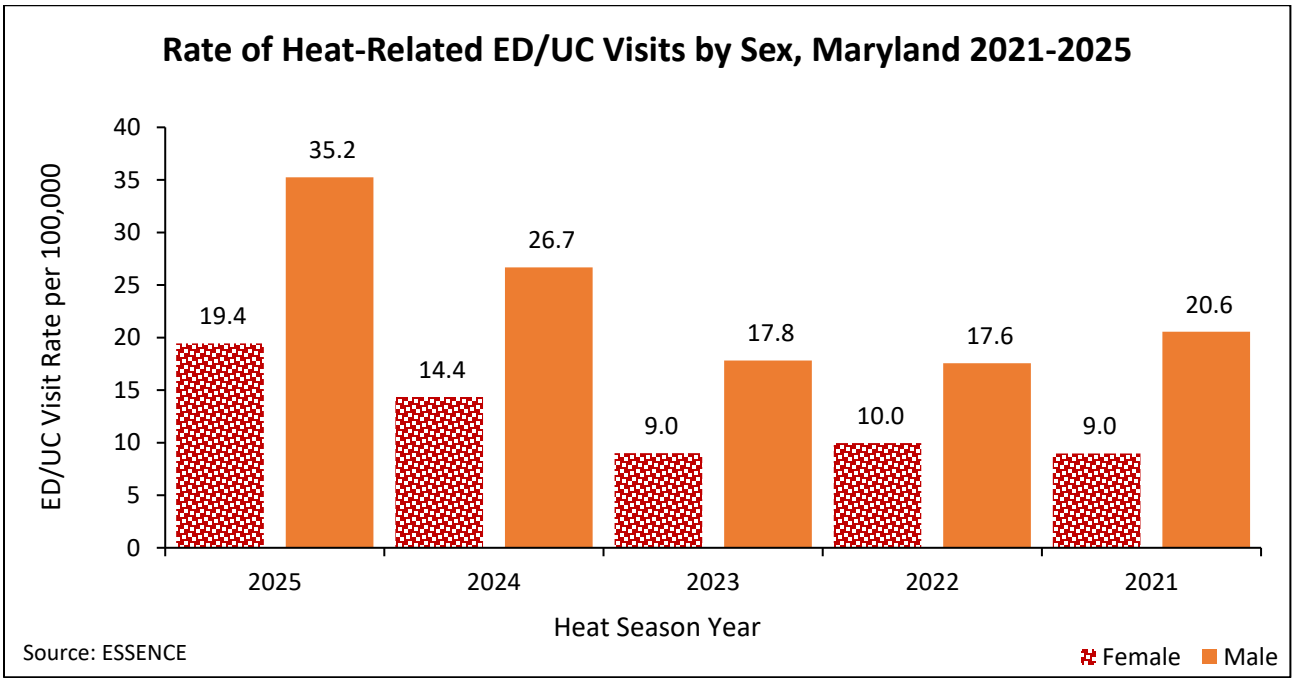


Heat-related ED/UC visit rates were highest among NH Black individuals (33.4 per 100,000), followed by NH White individuals (27.6 per 100,000). This trend is consistent with previous seasons (2021–2024), during which NH White and NH Black individuals consistently had the highest rate of heat-related ED/UC visits.

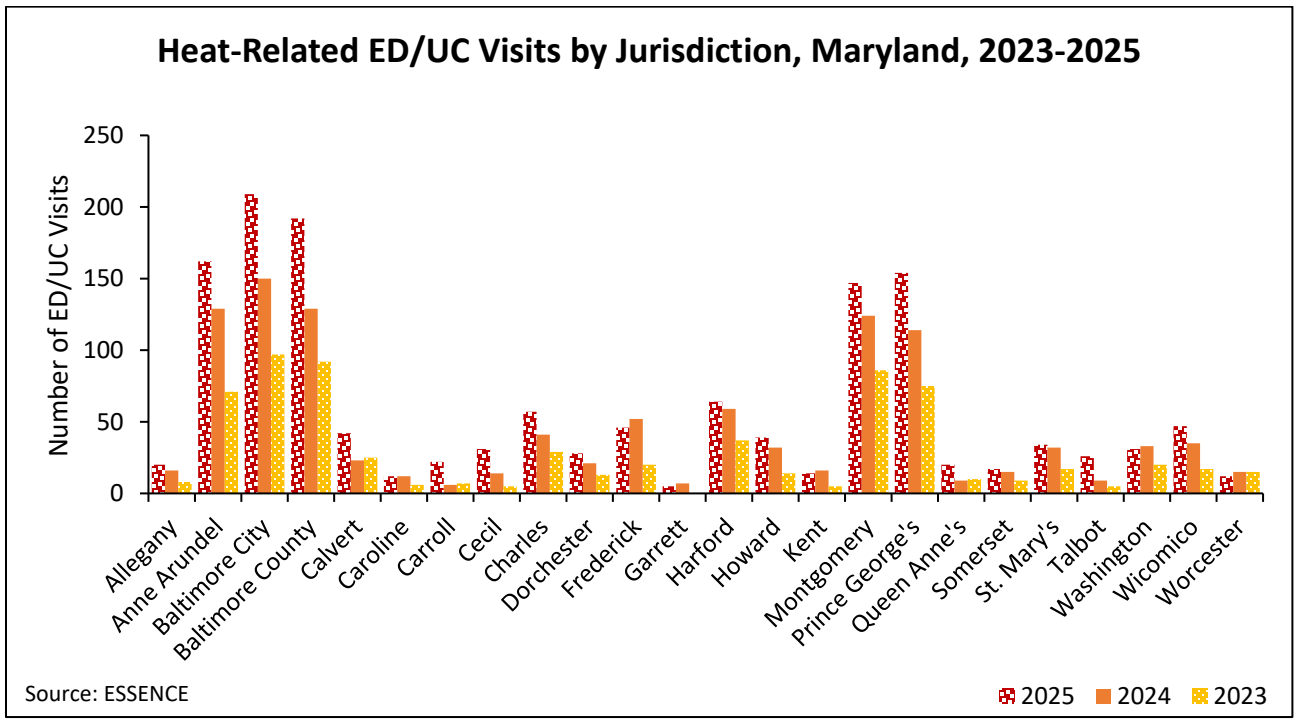


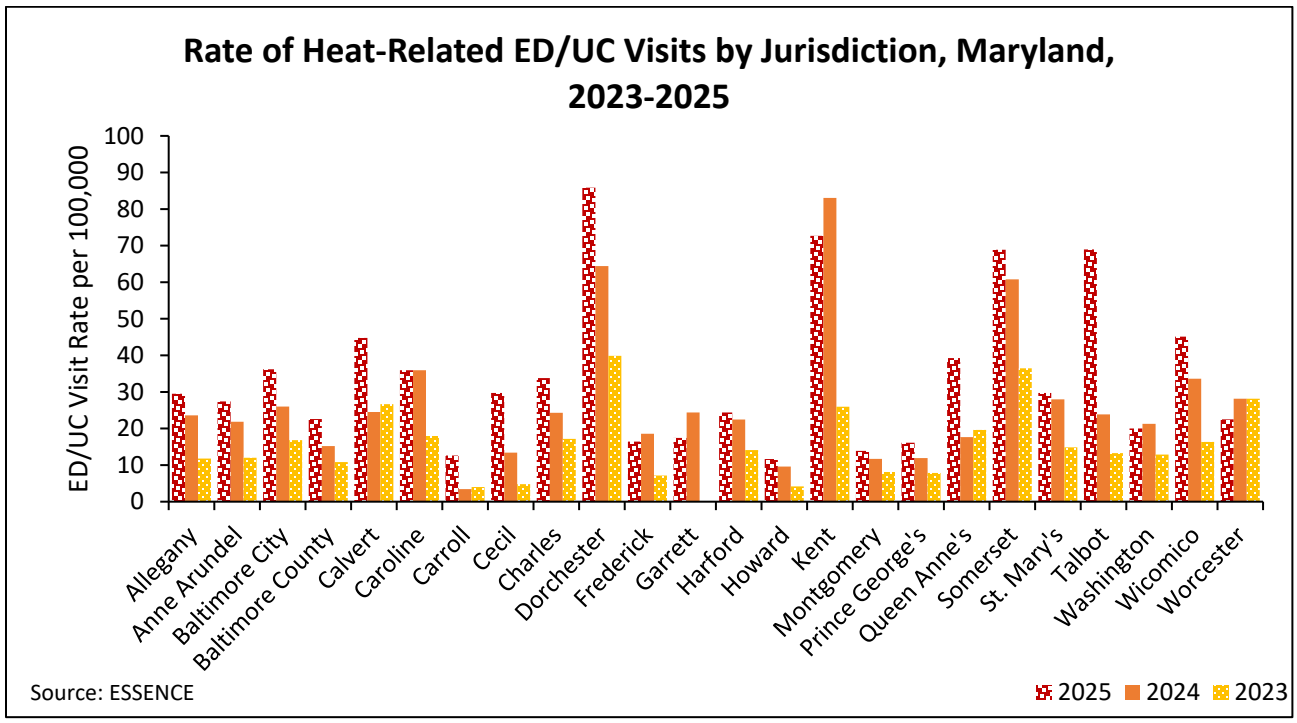
*Hispanic individuals can be of any race

Heat-related ED/UC visit rates were also highest among males (35.2 per 100,000), followed by females (19.4 per 100,000). This trend remains consistent with previous seasons (2021–2024).



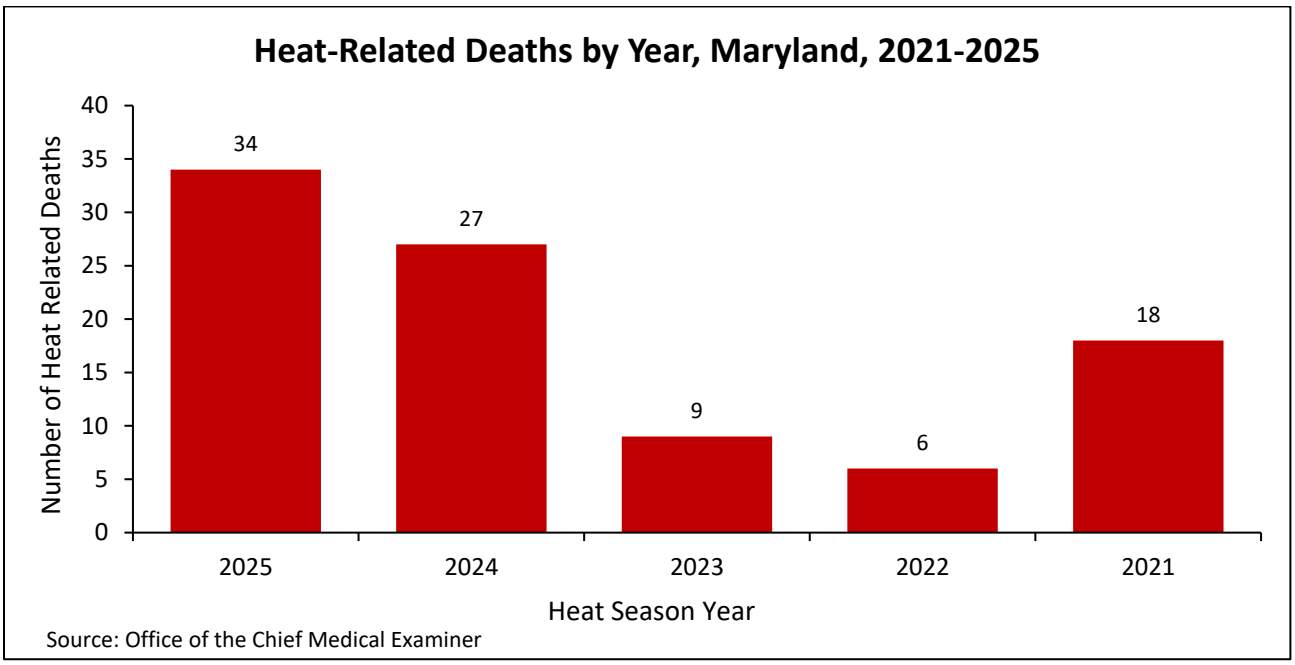
Geographically, heat-related ED/UC visit counts were highest among individuals residing in Baltimore City, followed by Baltimore County, Anne Arundel County, Prince George's County, and Montgomery County. However, when accounting for population size, the highest visit rates were observed among residents of Dorchester (85.9 per 100,000), Kent (72.7 per 100,000), Talbot (69.0 per 100,000), and Somerset (68.9 per 100,000) counties.



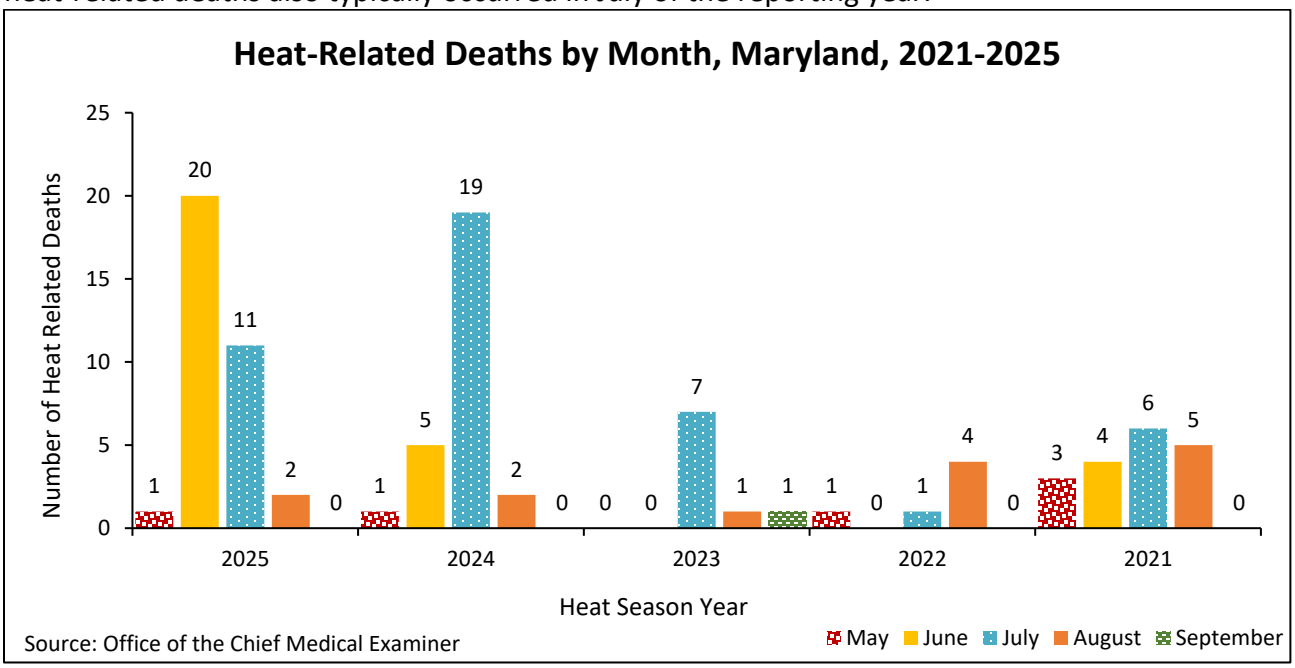


HEAT-RELATED DEATHS

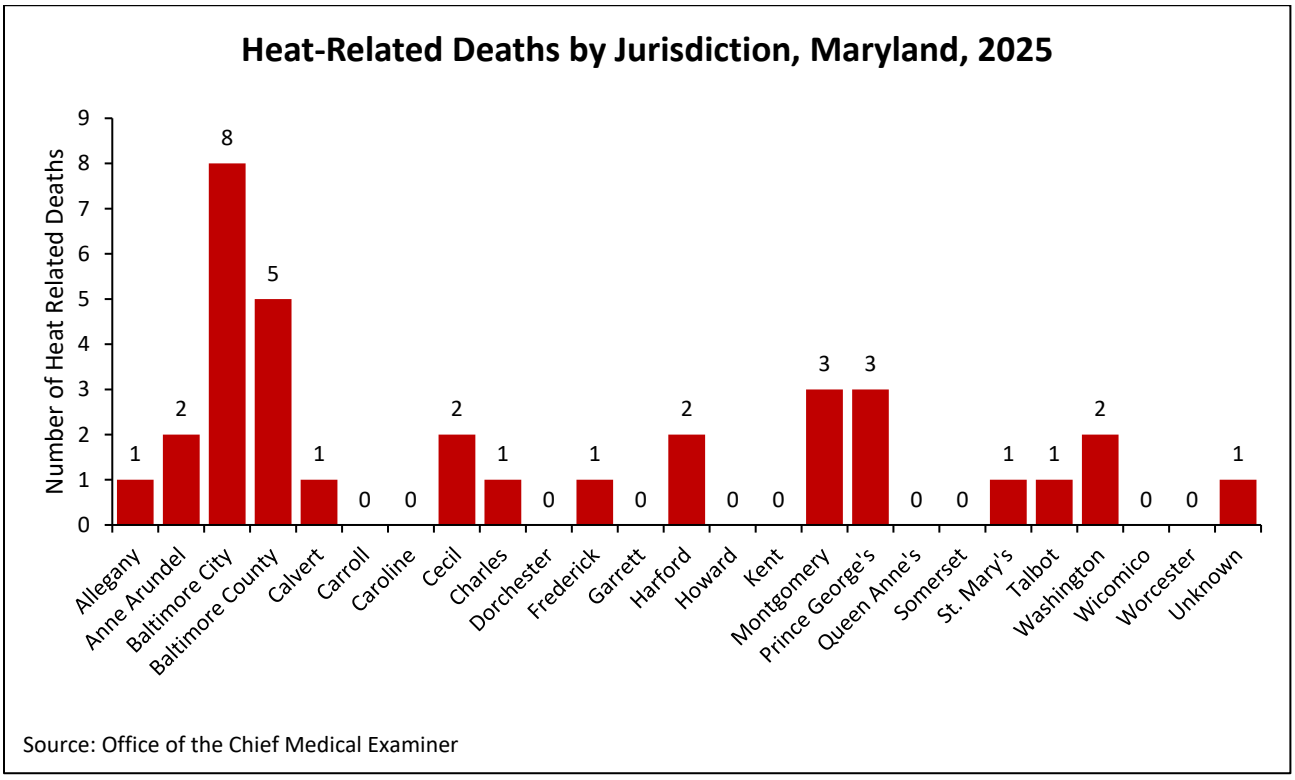
Heat-related deaths are reported by the Office of the Chief Medical Examiner (OCME) and are defined as those for which OCME has indicated hyperthermia as a cause of death. There were 34 heat-related deaths reported by the OCME in Maryland during the 2025 heat season, which is significantly higher than in previous years (2021-2024).



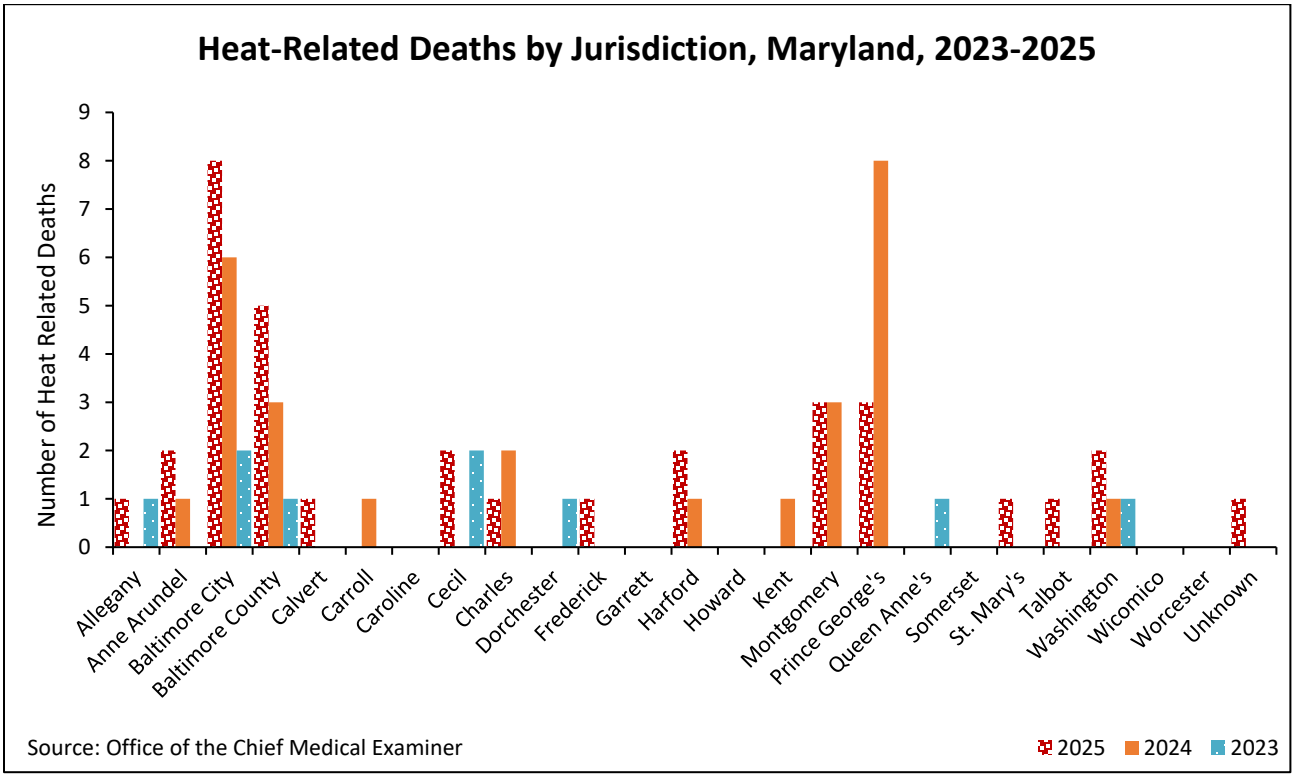
During the 2025 heat season, most deaths occurred in June (20 deaths, 59%), corresponding with the extreme temperatures seen at the end of the month (MMWR weeks 26-27). In the 2024 heat season, most deaths occurred in July (19 deaths, 70%). In previous years, the highest number of heat-related deaths also typically occurred in July of the reporting year.



Geographically, the highest number of reported deaths occurred in Baltimore City, followed by Baltimore County, and Montgomery and Prince George's County. In previous years (2023–2024), the highest number of deaths were reported in Prince George's County and Baltimore City.

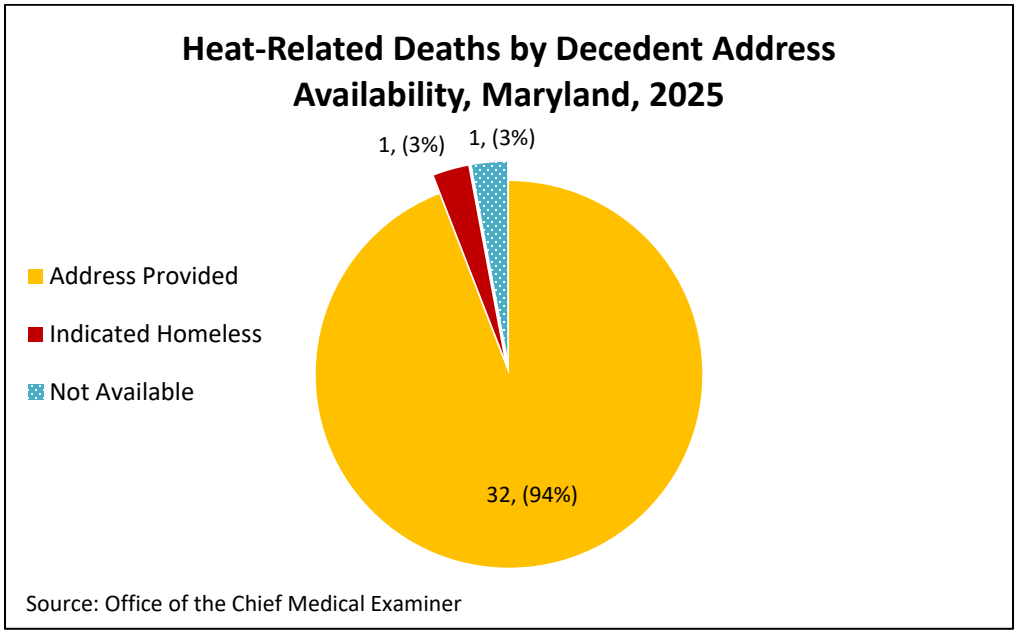


Source: Office of the Chief Medical Examiner

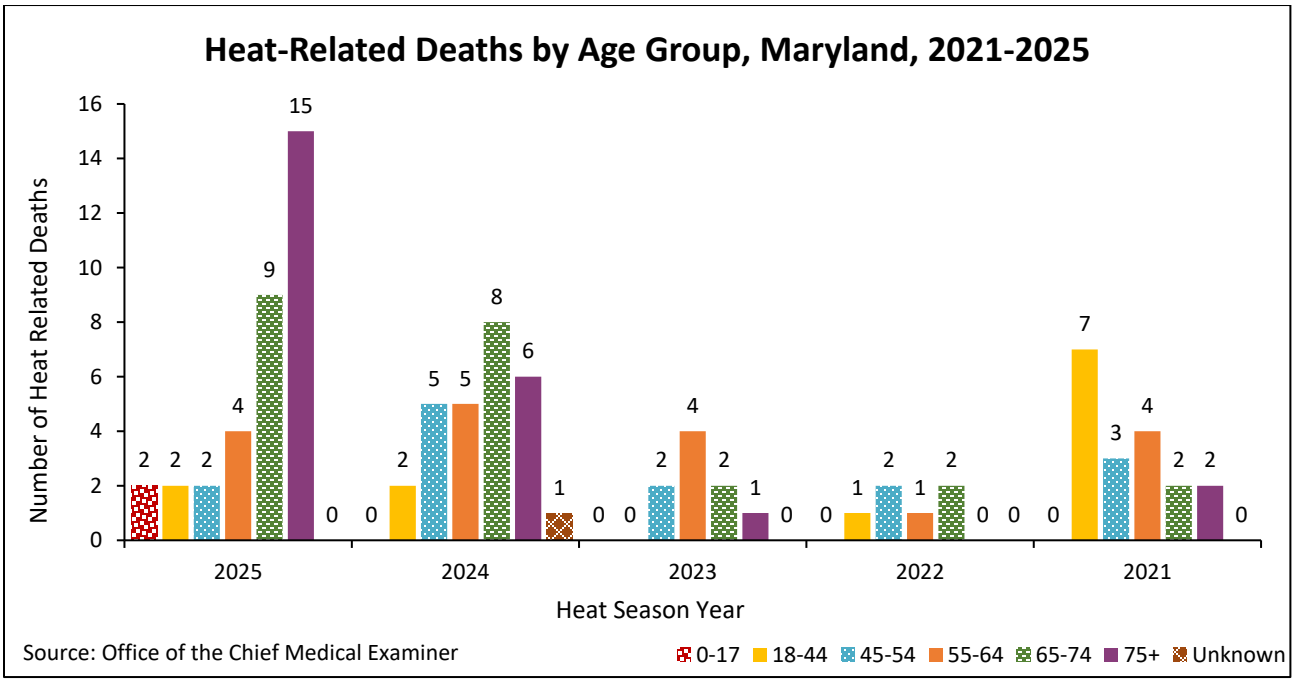


Source: Office of the Chief Medical Examiner

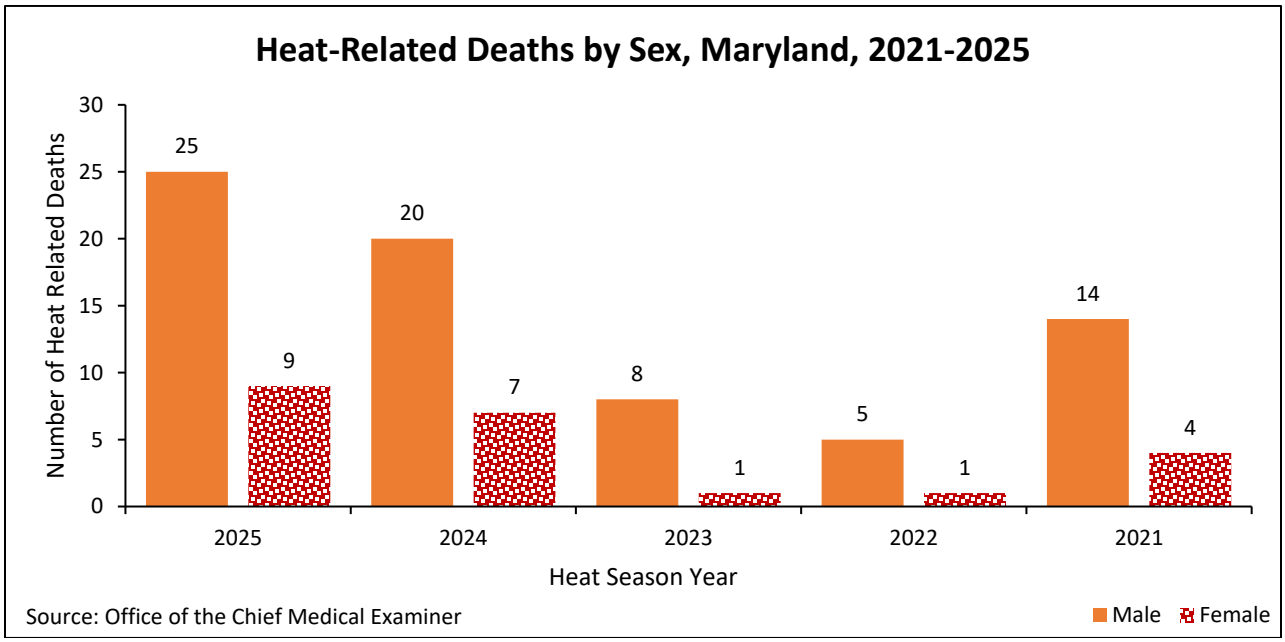
Of the 34 heat-related deaths reported during the 2025 season, residential addresses were available for 32 decedents (94%). One individual (3%) was indicated as experiencing homelessness, and in one case (3%) a residential address was not available.



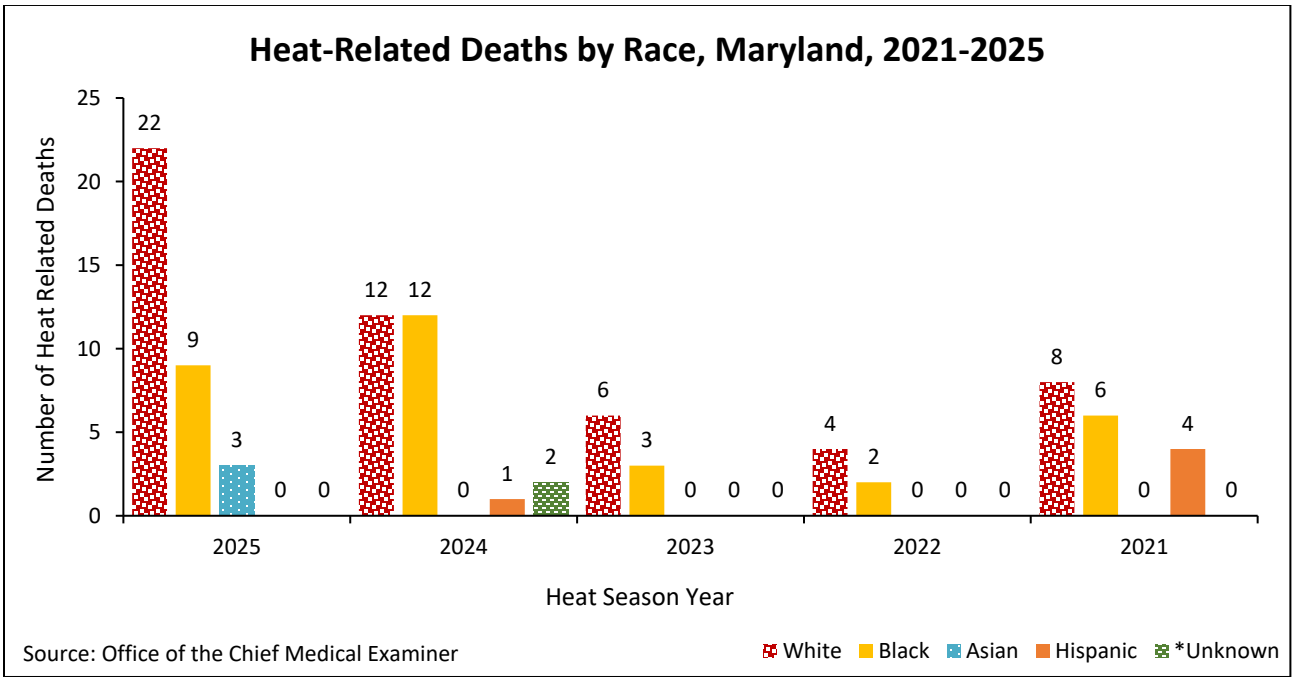
During the 2025 heat season, the highest number of deaths were recorded among individuals in the 75+ age group (15 deaths, 44%) and the 65-74 age group (9 deaths, 26%), indicating a shift from patterns observed in previous years (2021-2024).



Most of the deaths reported in the 2025 heat season were among males (25 deaths, 74%), a trend that is consistent with previous years.

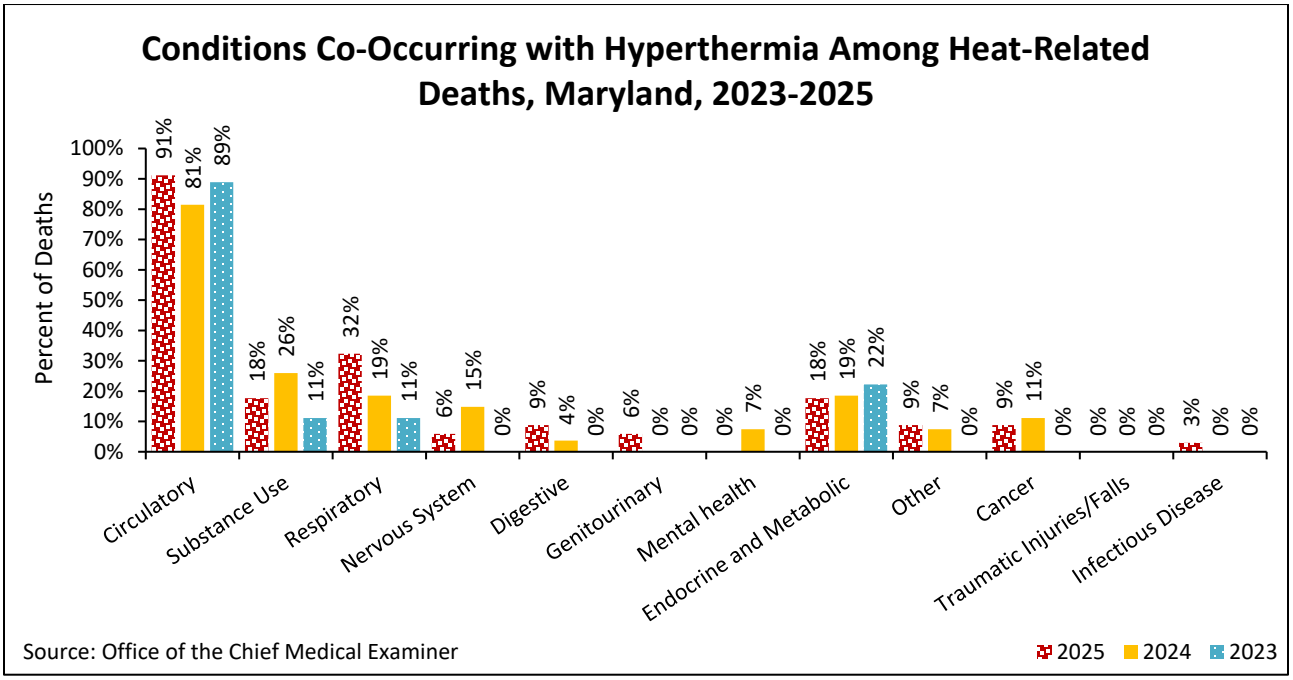


In the 2025 heat season, most reported deaths occurred among White individuals (22 deaths, 65%), followed by Black individuals (9 deaths, 26%). This trend is consistent with previous years (2021–2024).



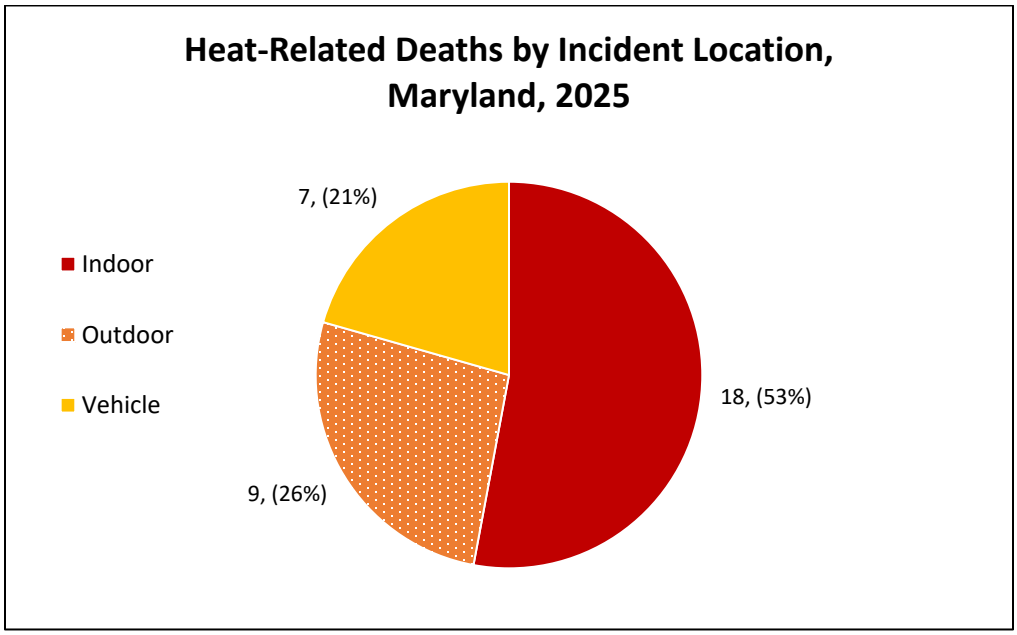
*Note: Unknown signifies that the race for the individual was not reported

This season, 91% of decedents were reported to have cardiovascular conditions co-occurring with hyperthermia at the time of death. Additionally, 32% had respiratory conditions, 18% had substance use conditions, and 18% had endocrine and metabolic conditions co-occurring with hyperthermia at the time of death.



**Note: A decedent may have had more than one co-occurring condition; therefore, percentages may not total 100%.*

Of the 34 heat-related deaths this season, 18 deaths (53%) occurred indoors, while 9 deaths (26%) occurred outdoors, and 7 deaths (21%) occurred in vehicles.



Note: **Indoor locations are areas protected from exposure to weather. **Outdoor** locations are exposed to weather. **Vehicle** locations include cars and mobile homes.*

DISCUSSION

Certain populations are at higher risk for heat-related illness and death due to physiological, environmental, or social factors that limit their ability to manage heat exposure or access cooling sources. Older adults, particularly those aged 65 years and older, are especially vulnerable due to chronic medical conditions or the use of medications that can inhibit the body's ability to respond to heat. People with chronic health conditions such as cardiovascular disease, respiratory illnesses, or diabetes may experience worsening symptoms during periods of extreme heat. In addition, individuals taking certain medications, including diuretics, antihypertensives, or psychotropics, may be more sensitive to heat due to altered fluid balance or impaired sweating mechanisms. Individuals who live alone or lack access to cooling sources are also at increased risk, as isolation and inadequate access to cooling sources may increase the risk of heat-related illness or death.

Tailored outreach and public health messaging with local resources and strategies to prevent heat-related illness and death should be directed toward individuals with chronic conditions, adults aged 65 and older, and people who live or work outdoors. Messaging should emphasize the importance of seeking air-conditioned environments, staying hydrated, refraining from outdoor activities during peak sun exposure hours, and recognizing the early signs of heat stress, such as dizziness, heavy sweating, and confusion. Additionally, messaging should also encourage community members to check on elderly neighbors, friends, and relatives, to ensure they have the appropriate resources and support during extreme heat events.

REFERENCES

Data Sources

Temperature Data: Temperature data is captured by the National Syndromic Surveillance Program (NSSP).

Heat-Related Illness Data: Emergency department and urgent care (ED/UC) visits and emergency medical services (EMS) calls for heat-related illness are from the Maryland Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE). ESSENCE is a web-based syndromic surveillance system that integrates multiple data sources to rapidly identify disease outbreaks and unusual patterns of illness.

ED/UC visits for heat-related illness were identified using the Heat-Related Illness v2 syndrome definition, which includes terms such as hyperthermia, heat, dehydration, and sunburn. This syndrome definition aims to capture all emergency department and urgent care visits with chief complaints or discharge diagnoses relating to heat-related illness symptoms. The chief complaint is a free-text field capturing the patient's primary reason for seeking medical care. The discharge diagnosis is a coded field representing the provider's clinical impression of the patient's visit using standardized values outlined by the International Classification of Diseases (ICD) 10th Revision and SNOMED Clinical Terms (CT) code sets. This definition was developed by the National Syndromic Surveillance Community of Practice (NSSP CoP) using a definition previously developed by the

Council of State and Territorial Epidemiologists (CSTE).

EMS calls for heat-related illness were identified using an EMS heat-related illness query developed by the Maryland Institute for Emergency Medical Services Systems (MIEMSS). This definition is used to query EMS pre-hospital care reports in which the EMS provider selected hyperthermia as a primary or secondary impression of the patient's condition. The provider's impression is based solely on observed signs and symptoms, rather than on diagnostic testing.

Heat-Related Death Data: Heat-related deaths are reported by the Maryland Office of the Chief Medical Examiner (OCME). Included in this report are deaths occurring in Maryland during the Maryland Heat Season, for which the cause of death was hyperthermia, the manner of death was accidental or undetermined, and OCME examined the body and/or medical records and issued a death certificate.

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

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

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