

Statewide Key Messages

There were **4,688** heat-related illness (HRI) emergency department (ED) visits (0.22% of total ED visits) in the summer of 2024, with an average weekly rate of **1.9 per 100,000 population**.

- The rate was highest among **males aged 25-44 years at 3.5 per 100,000 population** (Figure 1).
- The rate of HRI ED visits was highest in **Northeastern NC and the Fayetteville Area at 2.6 per 100,000 population** (Figure 2; NC DETECT Regions 1 and 3).
- The most frequent heat related diagnosis code was **heat exhaustion (n =1,650)** (Table 1).
- The rate was highest among the **Black race category at 2.7 per 100,000 population** (Figure 5).
- The rate by ethnicity was highest among **non-Hispanic persons at 1.9 per 100,000 population** (Figure 6).

Figure 2. Average Weekly Rate of Heat-Related Illness Emergency Department Visits per 100,000 Population

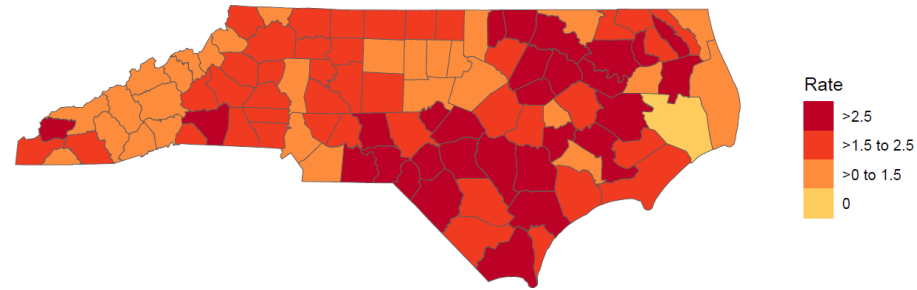


Figure 1. Rate of Heat-Related Illness Emergency Department Visits by Sex and Age

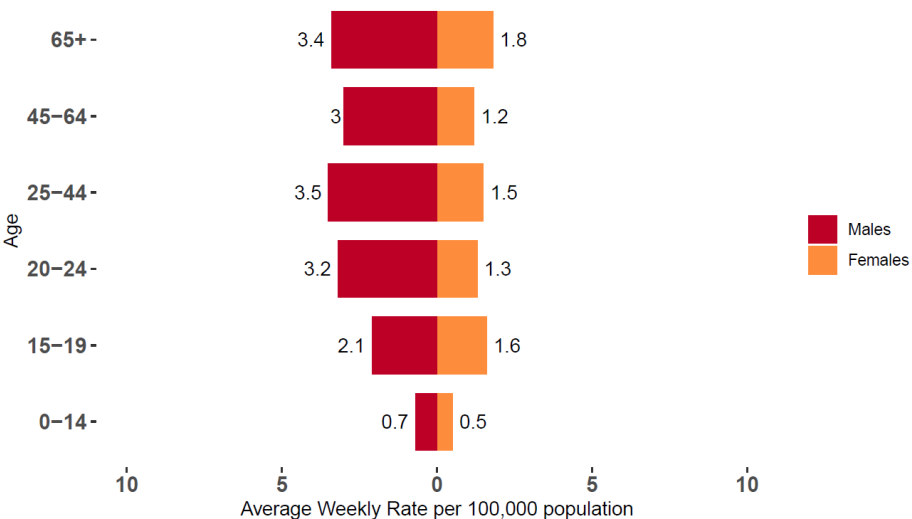


Table 1. Heat-related illness ED visits by severity

Severity [§]	Number (N = 2,873 [‡])	Percent [†]
Heat Cramps	96	3.3
Heat Exhaustion	1650	57.4
Heat Stroke	83	2.9
Heat Syncope	397	13.8
Other Effects	647	22.5

§ Definitions of heat-related illness severity categories:

<https://www.cdc.gov/niosh/topics/heatstress/heatreillness.html>

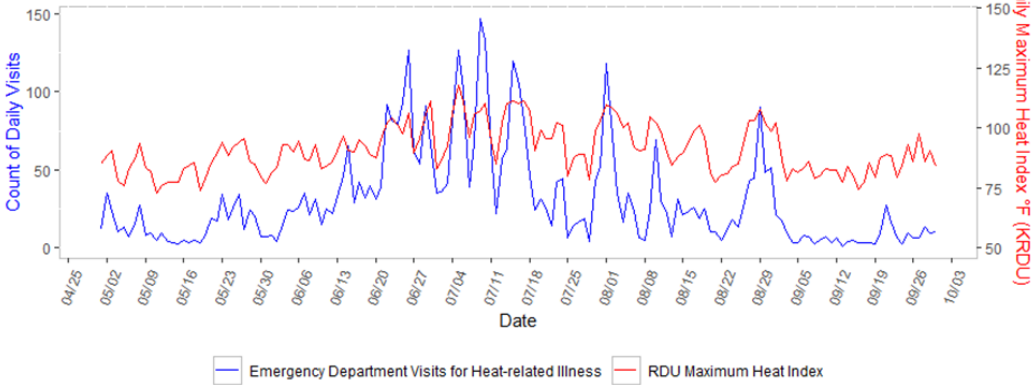
‡ Missing severity data = 1,815

† May not total 100 due to rounding

|| other effects include heat fatigue, heat edema, other effects of heat and light, and other effects unspecified

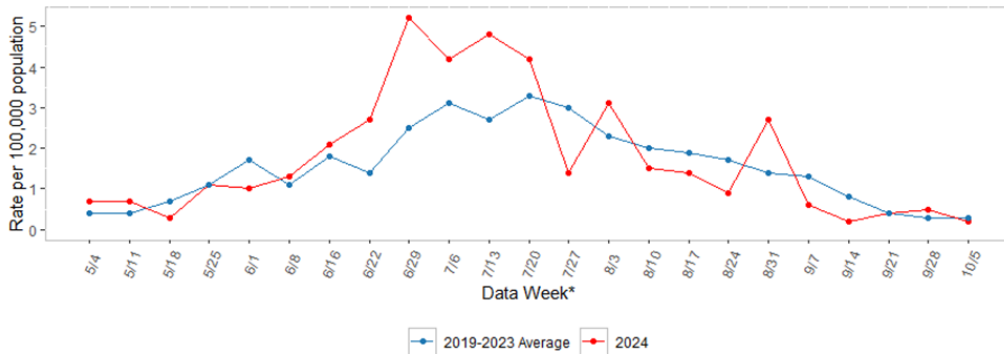
*The 4,688 total HRI ED visits include 387 visits missing county of residence. These 387 visits were excluded from the regional reports.

Figure 3. Emergency Department Visits for Heat-related Illness and Max Heat Index North Carolina Statewide: May 1 - September 30, 2024



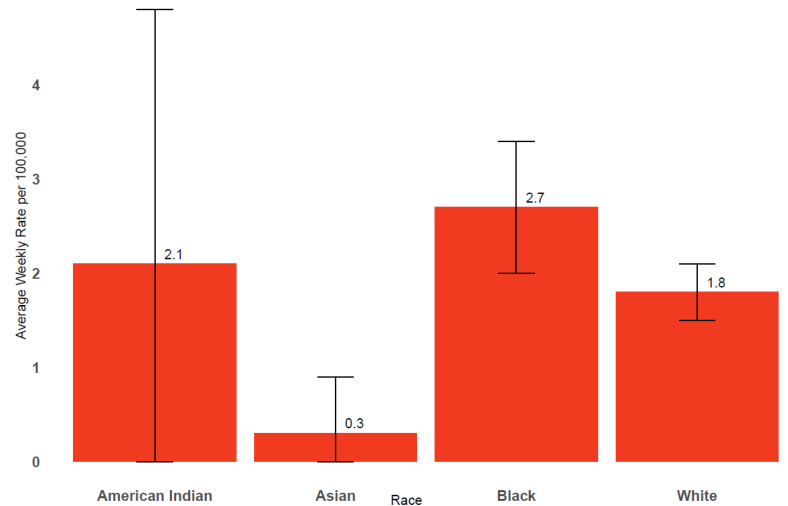
Source: NC DETECT Data and State Climate Office at NC State University

Figure 4. Rate of Emergency Department Visits for Heat-related Illness North Carolina: 2024 Compared to Historical Average



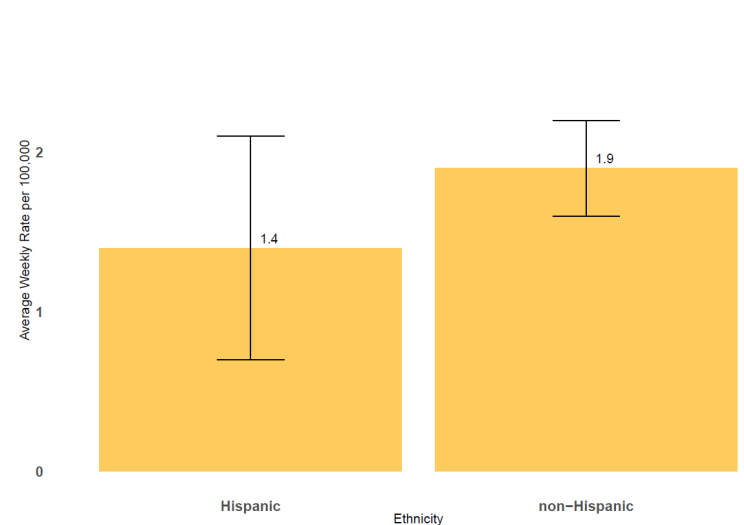
Week ending dates may vary by a few days for earlier years. For data week definitions see <https://ndc.services.cdc.gov/wp-content/uploads/MMWR-Week-Log-2023-2024.pdf>.

Figure 5. Average Weekly Rate of Heat-Related Illness ED Visits by Race per 100,000 Population



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The Pacific Islander race category has been removed due to lack of precision in the rates. The 4,688 total HRI ED visits includes 142 visits that were missing race and are excluded from the rates by race.

Figure 6. Average Weekly Rate of Heat-related Illness ED Visits by Ethnicity per 100,000 Population



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The 4,688 total HRI ED visits includes 29 visits that were missing ethnicity and are excluded from the rates by ethnicity.

Northeastern NC (NC DETECT Region 1) Key Messages

There were **555 HRI ED visits** (0.2% of total ED visits) in the summer of 2024, with an average weekly rate of HRI ED visits of **2.6 per 100,000 population**.

- The rate was highest among **females aged 20-24 years** at **6.6 per 100,000 population** (Figure 1).
- The rate of HRI ED visits was highest in **Bertie County** at **5.4 per 100,000 population** (Figure 2).
- The most frequent heat related diagnosis code was **heat exhaustion (n =180)** (Table 1).
- The maximum heat index ranged from **68.4 to 117.1°F** at Pitt-Greenville Airport (Figure 3).
- There were **56 days** when the minimum temperature did not drop below 70°F.

Figure 2. Average Weekly Rate of Heat-Related Illness Emergency Department Visits per 100,000 Population Northeastern NC (NC DETECT Region 1)

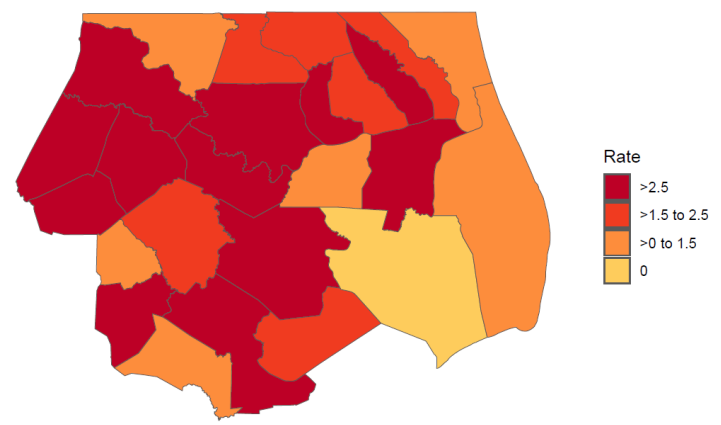


Figure 1. Rate of Heat-Related Illness Emergency Department Visits by Sex and Age Northeastern NC (NC DETECT Region 1)

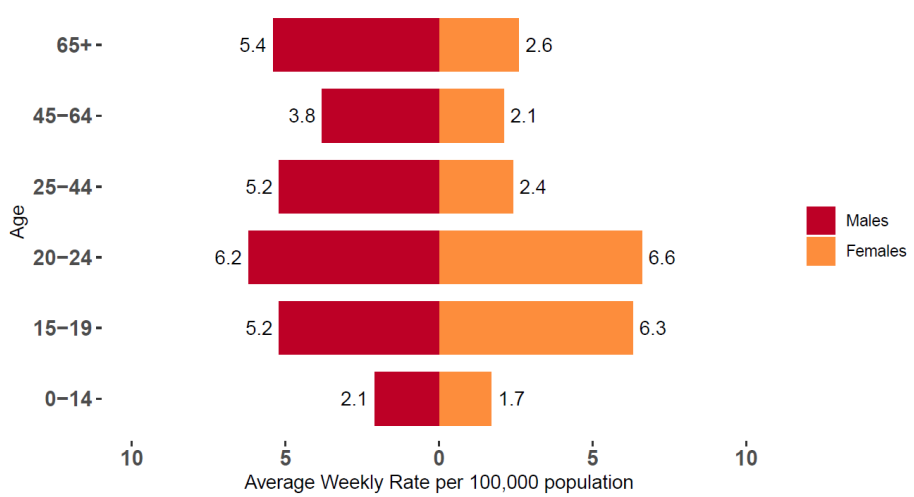
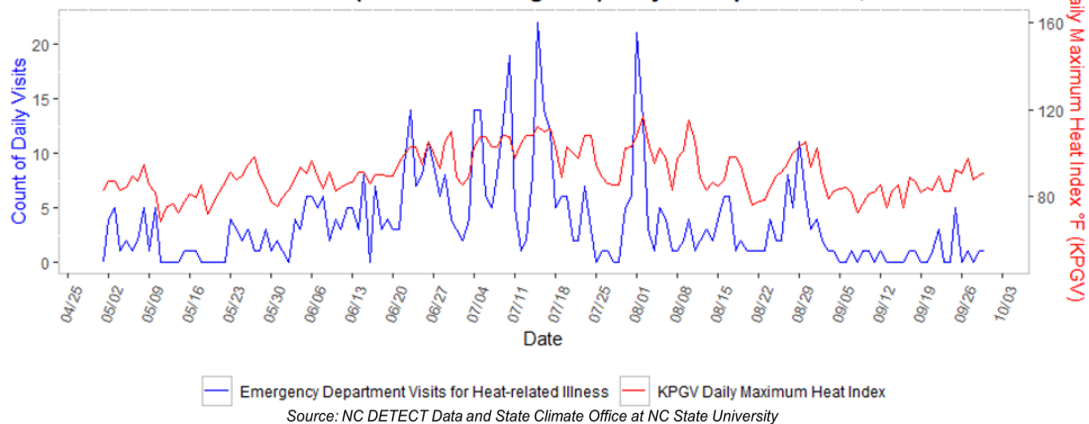


Table 1. Heat-related illness ED visits by severity

Severity [§]	Number (N = 298 [‡])	Percent [†]
Heat Cramps	11	3.7
Heat Exhaustion	180	60.4
Heat Stroke	6	2
Heat Syncope	35	11.7
Other Effects	66	22.1

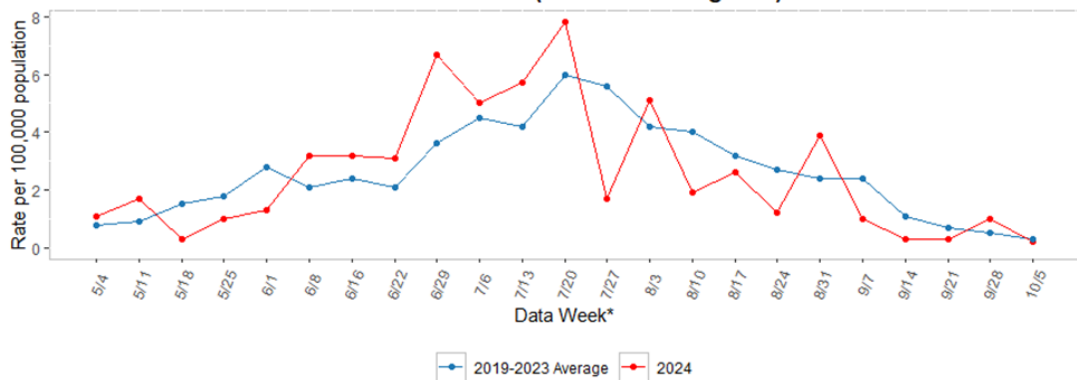
§ Definitions of heat-related illness severity categories: <https://www.cdc.gov/niosh/topics/heatstress/heatrelillness.html>
[‡] Missing severity data = 257
[†] May not total 100 due to rounding
^{||} other effects include heat fatigue, heat edema, other effects of heat and light, and other effects unspecified

Figure 3. Emergency Department Visits for Heat-related Illness and Maximum Heat Index Northeastern NC (NC DETECT Region 1): May 1 - September 30, 2024



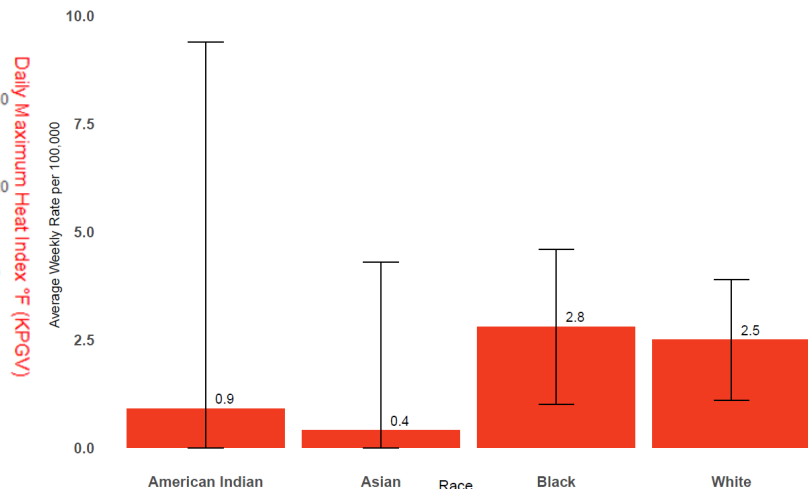
Source: NC DETECT Data and State Climate Office at NC State University

Figure 4. Rate of Emergency Department Visits for Heat-related Illness Northeastern NC (NC DETECT Region 1)



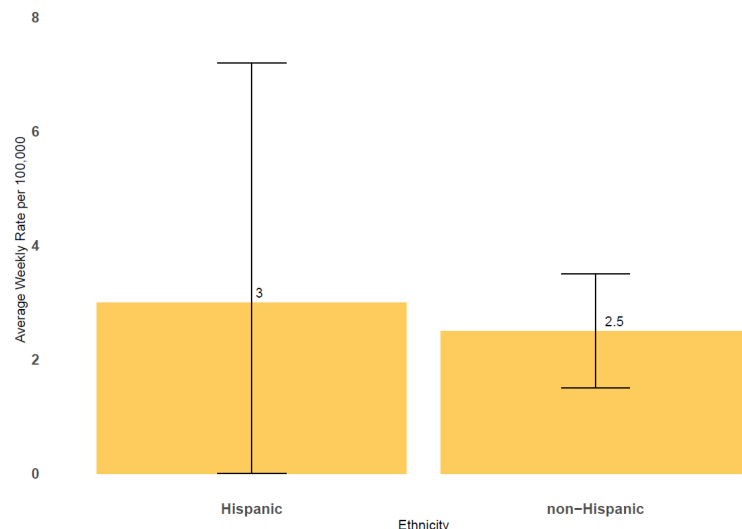
Week ending dates may vary by a few days for earlier years. For data week definitions see <https://ndc.services.cdc.gov/wp-content/uploads/MMWR-Week-Log-2023-2024.pdf>.

Figure 5. Average Weekly Rate of Heat-Related Illness ED Visits by Race per 100,000 Population Northeastern NC (NC DETECT Region 1)



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The Pacific Islander race category has been removed due to lack of precision in the rates.

Figure 6. Average Weekly Rate of Heat-related Illness ED Visits by Ethnicity per 100,000 Population Northeastern NC (NC DETECT Region 1)



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates.

Southeastern NC (NC DETECT Region 2) Key Messages

There were **391** HRI ED visits (0.3% of total ED visits) in the summer of 2024, with an average weekly rate of HRI ED visits of **2.1 per 100,000 population**.

- The rate was highest among **males aged 25-44 years** at **5.2 HRI ED visits per 100,000 population** (Figure 1).
- The rate of HRI ED visits was highest in **Pender County** at **3.6 per 100,000 population** (Figure 2).
- The most frequent heat related diagnosis code was **heat exhaustion (n =127)** (Table 1).
- The maximum heat index ranged from **69.5 to 111.4°F** at Wilmington International Airport (Figure 3).
- There were **76 days** when the minimum temperature did not drop below 70°F.

Figure 2. Average Weekly Rate of Heat-Related Illness Emergency Department Visits per 100,000 Population Southeastern NC (NC DETECT Region 2)

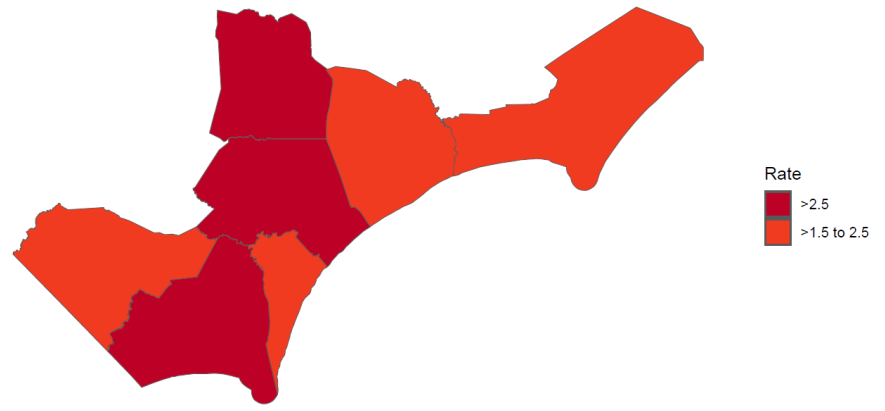


Figure 1. Rate of Heat-Related Illness Emergency Department Visits by Sex and Age Southeastern NC (NC DETECT Region 2)



Table 1. Heat-related illness ED visits by severity

Severity [§]	Number (N = 225 [‡])	Percent [†]
Heat Cramps	8	3.6
Heat Exhaustion	127	56.4
Heat Stroke	6	2.7
Heat Syncope	26	11.6
Other Effects	58	25.8

§ Definitions of heat-related illness severity categories: <https://www.cdc.gov/niosh/topics/heatstress/heatrelillness.html>
[‡] Missing severity data = 166
[†] May not total 100 due to rounding
^{||} other effects include heat fatigue, heat edema, other effects of heat and light, and other effects unspecified

Figure 3. Emergency Department Visits for Heat-related Illness and Maximum Heat Index Southeastern NC (NC DETECT Region 2): May 1 - September 30, 2024

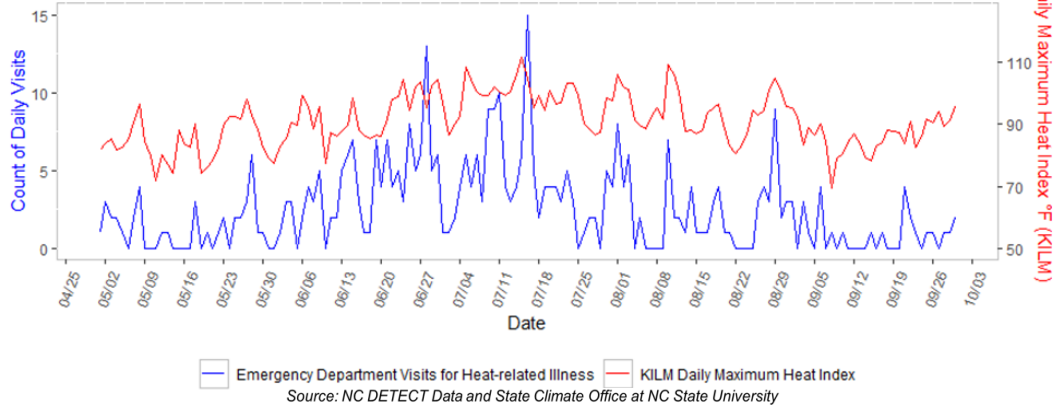


Figure 4. Rate of Emergency Department Visits for Heat-related Illness Southeastern NC (NC DETECT Region 2)

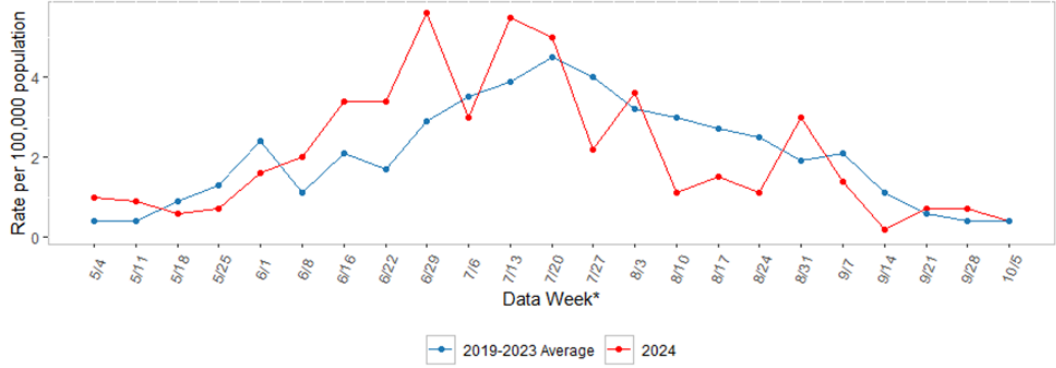
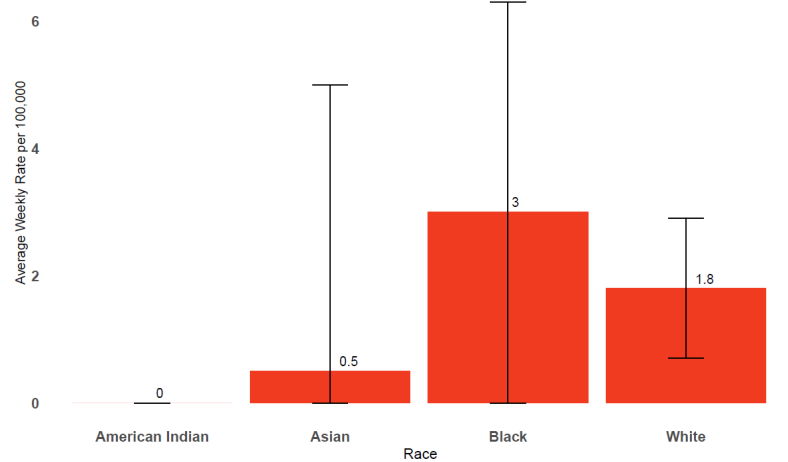
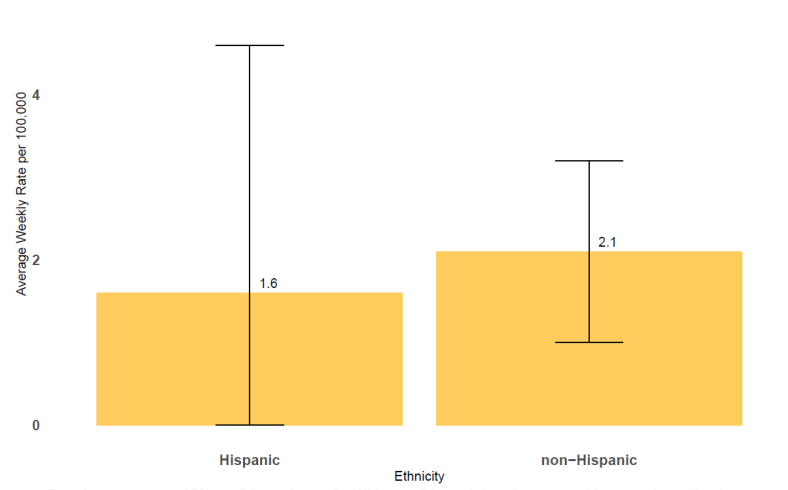


Figure 5. Average Weekly Rate of Heat-Related Illness ED Visits by Race per 100,000 Population Southeastern NC (NC DETECT Region 2)



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The Pacific Islander race category has been removed due to lack of precision in the rates.

Figure 6. Average Weekly Rate of Heat-related Illness ED Visits by Ethnicity per 100,000 Population Southeastern NC (NC DETECT Region 2)



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates.

Fayetteville Area (NC DETECT Region 3) Key Messages

There were **795** HRI ED visits (0.3% of total ED visits) in the summer of 2024, with an average weekly rate of HRI ED visits of **2.6 per 100,000 population**.

- The rate was highest among **males aged 45-64 years at 6 per 100,000 population** (Figure 1).
- The rate of HRI ED visits was highest in **Richmond County at 5.1 per 100,000 population** (Figure 2).
- The most frequent heat related diagnosis code was **heat exhaustion (n =253)** (Table 1).
- The maximum heat index ranged from **72.1 to 111.4°F** at Fayetteville Regional Airport (Figure 3).
- There were **67 days** when the minimum temperature did not drop below 70°F.

Figure 2. Average Weekly Rate of Heat-Related Illness Emergency Department Visits per 100,000 Population Fayetteville Area (NC DETECT Region 3)

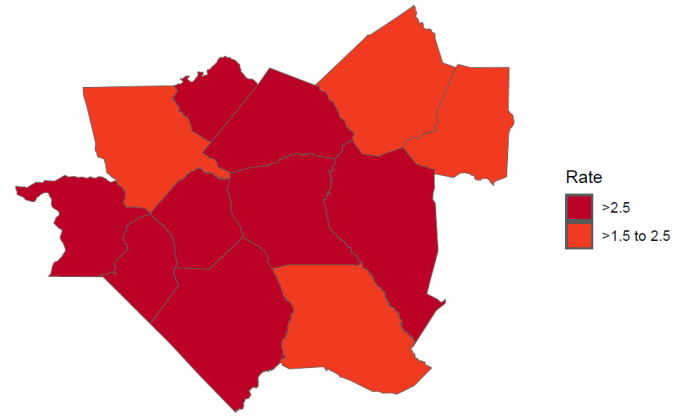


Figure 1. Rate of Heat-Related Illness Emergency Department Visits by Sex and Age Fayetteville Area (NC DETECT Region 3)

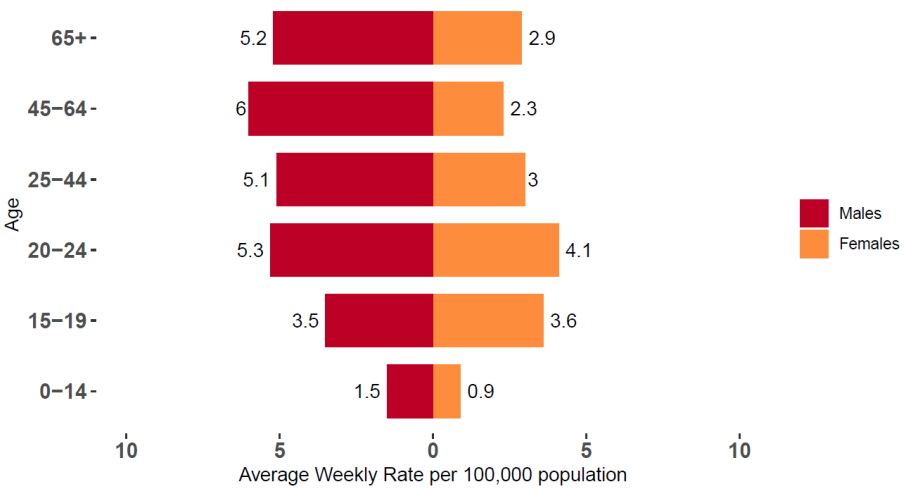


Table 1. Heat-related illness ED visits by severity

Severity [§]	Number (N = 466 [‡])	Percent [†]
Heat Cramps	14	3
Heat Exhaustion	253	54.3
Heat Stroke	17	3.6
Heat Syncope	61	13.1
Other Effects	121	26

§ Definitions of heat-related illness severity categories:

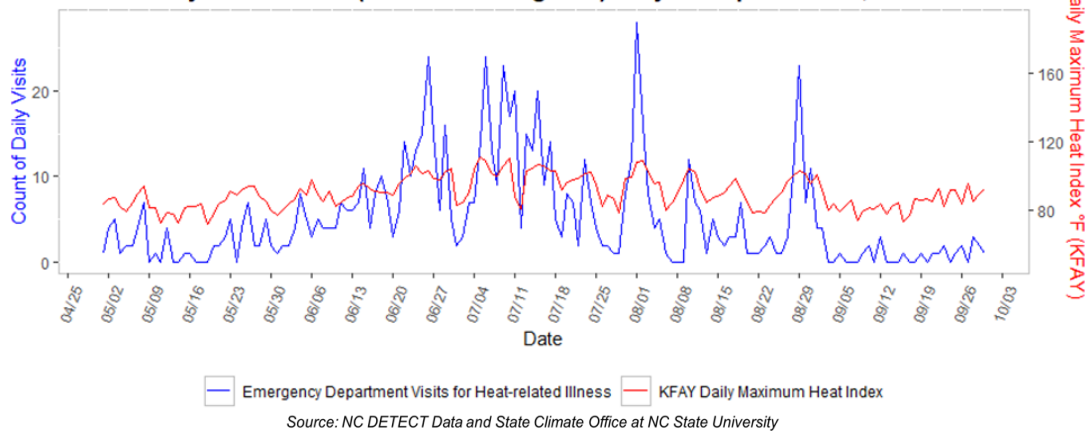
<https://www.cdc.gov/niosh/topics/heatstress/heatrelillness.html>

‡ Missing severity data = 329

† May not total 100 due to rounding

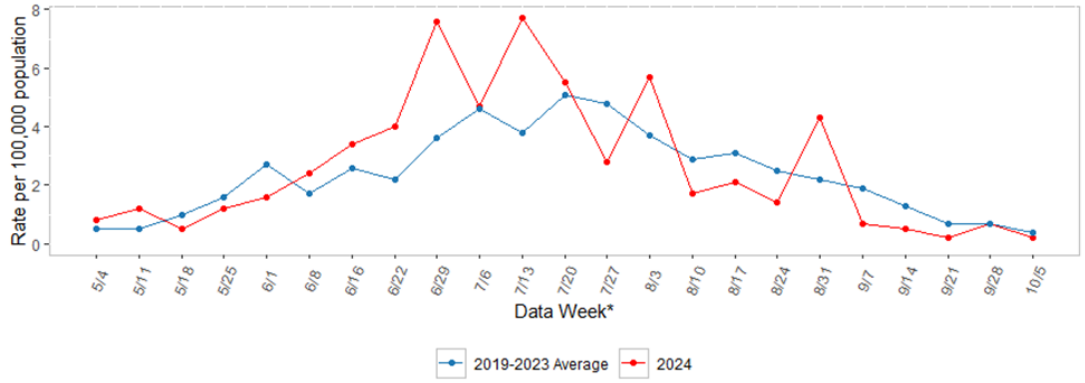
|| other effects include heat fatigue, heat edema, other effects of heat and light, and other effects unspecified

Figure 3. Emergency Department Visits for Heat-related Illness and Maximum Heat Index Fayetteville Area (NC DETECT Region 3): May 1 - September 30, 2024



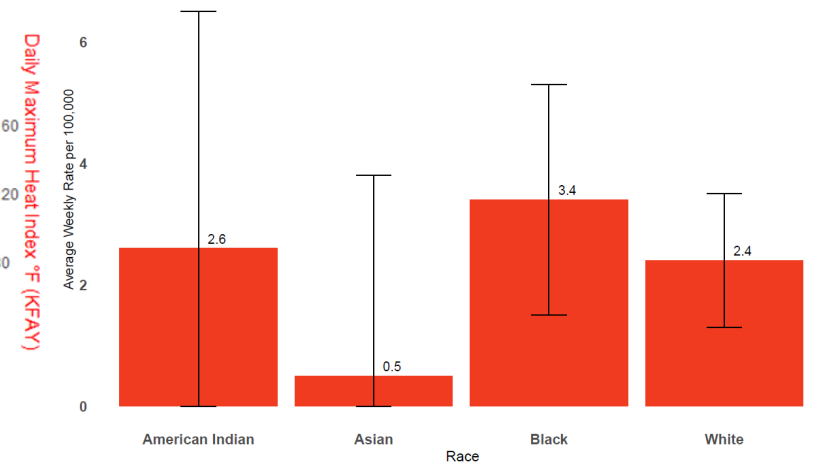
Source: NC DETECT Data and State Climate Office at NC State University

Figure 4. Rate of Emergency Department Visits for Heat-related Illness Fayetteville Area (NC DETECT Region 3)



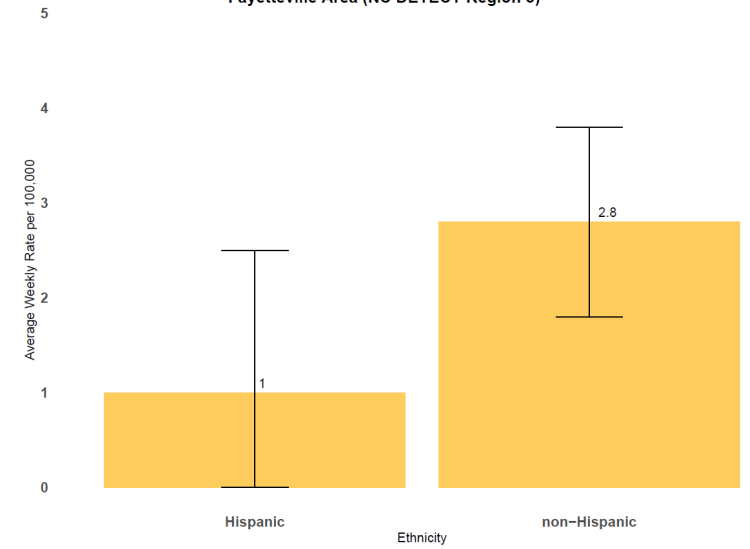
Week ending dates may vary by a few days for earlier years. For data week definitions see <https://ndc.services.cdc.gov/wp-content/uploads/MMWR-Week-Log-2023-2024.pdf>.

Figure 5. Average Weekly Rate of Heat-Related Illness ED Visits by Race per 100,000 Population Fayetteville Area (NC DETECT Region 3)



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The Pacific Islander race category has been removed due to lack of precision in the rates.

Figure 6. Average Weekly Rate of Heat-related Illness ED Visits by Ethnicity per 100,000 Population Fayetteville Area (NC DETECT Region 3)



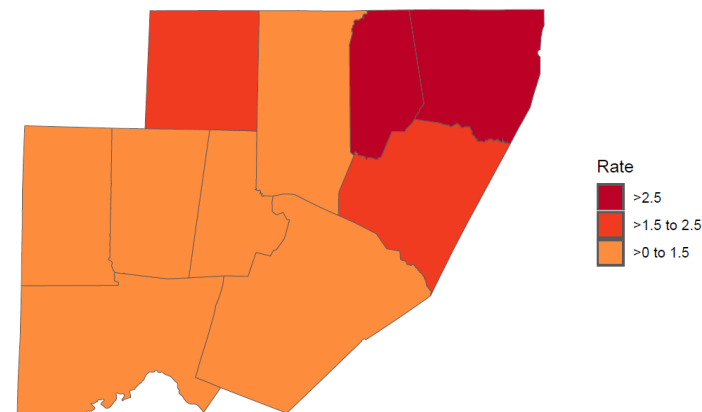
Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates.

RTP Area (NC DETECT Region 4) Key Messages

There were **630** HRI ED visits (0.2% of total ED visits) in the summer of 2024, with an average weekly rate of HRI ED visits of **1.3 per 100,000 population**.

- The rate was highest among **males aged 20-24 years at 4.8 per 100,000 population** (Figure 1).
- The rate of HRI ED visits was highest in **Warren County at 3 per 100,000 population** (Figure 2).
- The most frequent heat related diagnosis code was **heat exhaustion (n =236)** (Table 1).
- The maximum heat index ranged from **69.8 to 117.8°F** at Raleigh-Durham International Airport (Figure 3).
- There were **68 days** when the minimum temperature did not drop below 70°F.

Figure 2. Average Weekly Rate of Heat-Related Illness Emergency Department Visits per 100,000 Population RTP Area (NC DETECT Region 4)



Rate

- >2.5
- >1.5 to 2.5
- >0 to 1.5

Figure 1. Rate of Heat-Related Illness Emergency Department Visits by Sex and Age RTP Area (NC DETECT Region 4)

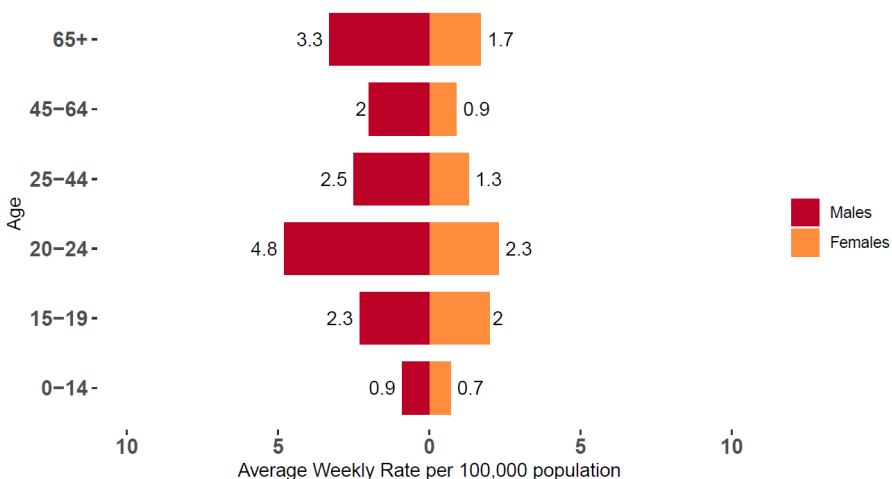


Table 1. Heat-related illness ED visits by severity

Severity [§]	Number (N = 414 [‡])	Percent [†]
Heat Cramps	21	5.1
Heat Exhaustion	236	57
Heat Stroke	7	1.7
Heat Syncope	77	18.6
Other Effects	73	17.6

§ Definitions of heat-related illness severity categories:

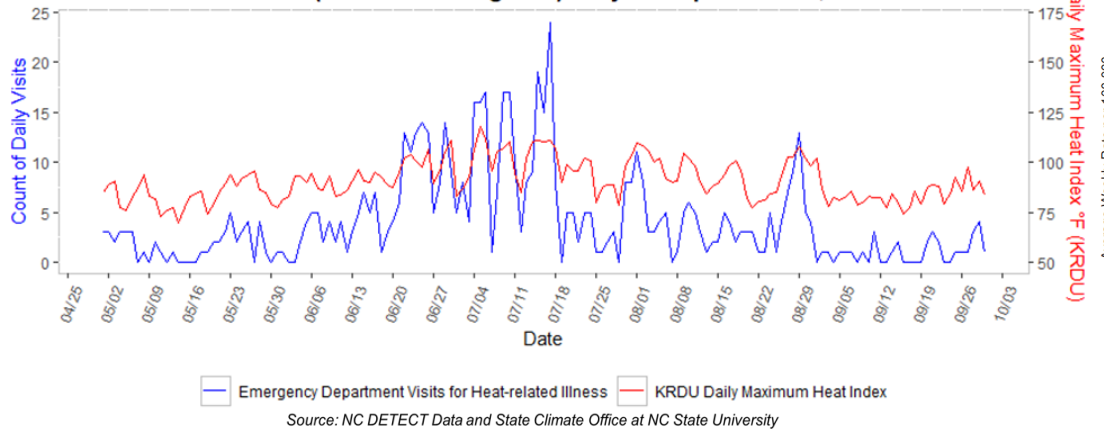
<https://www.cdc.gov/niosh/topics/heatstress/heatreillness.html>

‡ Missing severity data = 216

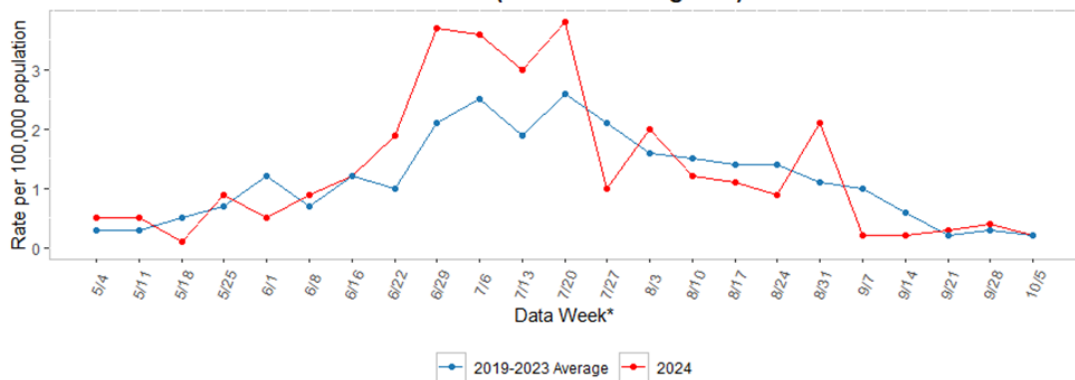
† May not total 100 due to rounding

|| other effects include heat fatigue, heat edema, other effects of heat and light, and other effects unspecified

**Figure 3. Emergency Department Visits for Heat-related Illness and Maximum Heat Index
RTP Area (NC DETECT Region 4): May 1 - September 30, 2024**

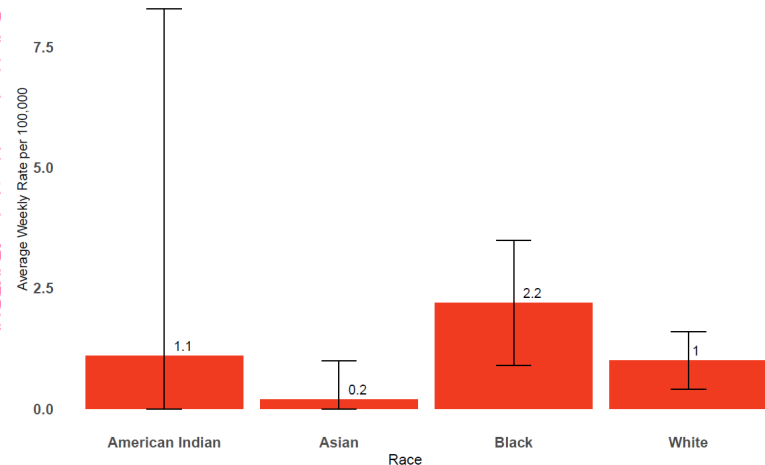


**Figure 4. Rate of Emergency Department Visits for Heat-related Illness
RTP Area (NC DETECT Region 4)**



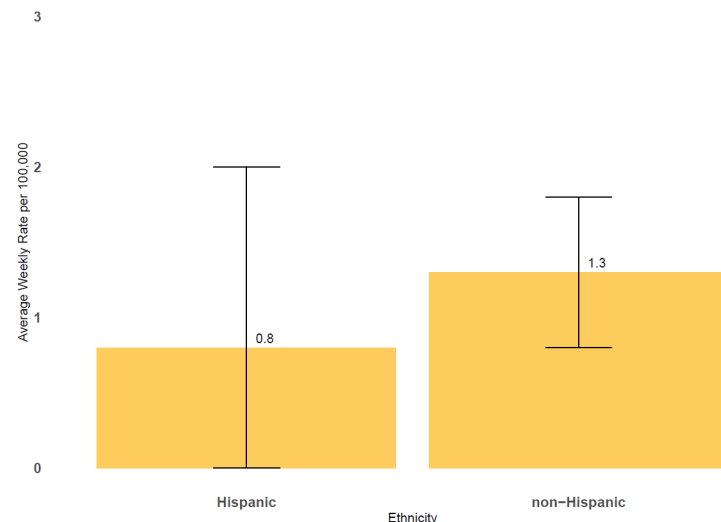
Week ending dates may vary by a few days for earlier years. For data week definitions see <https://ndc.services.cdc.gov/wp-content/uploads/MMWR-Week-Log-2023-2024.pdf>.

**Figure 5. Average Weekly Rate of Heat-Related Illness ED Visits by Race per 100,000 Population
RTP Area (NC DETECT Region 4)**



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The Pacific Islander race category has been removed due to lack of precision in the rates.

**Figure 6. Average Weekly Rate of Heat-related Illness ED Visits by Ethnicity per 100,000 Population
RTP Area (NC DETECT Region 4)**



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates.

Triad Area (NC DETECT Region 5) Key Messages

There were **697** HRI ED visits (0.2% of total ED visits) in the summer of 2024, with an average weekly rate of HRI ED visits of **1.7 per 100,000 population**.

- The rate was highest among **males aged 20-24 years** at **5.8 per 100,000 population** (Figure 1).
- The rate of HRI ED visits was highest in **Montgomery County** at **2.9 per 100,000 population** (Figure 2).
- The most frequent heat related diagnosis code was **heat exhaustion (n =265)** (Table 1).
- The maximum heat index ranged from **67.4 to 104.1°F** at Smith Reynolds Airport (Figure 3).
- There were **53 days** when the minimum temperature did not drop below 70°F.

Figure 2. Average Weekly Rate of Heat-Related Illness Emergency Department Visits per 100,000 Population Triad Area (NC DETECT Region 5)

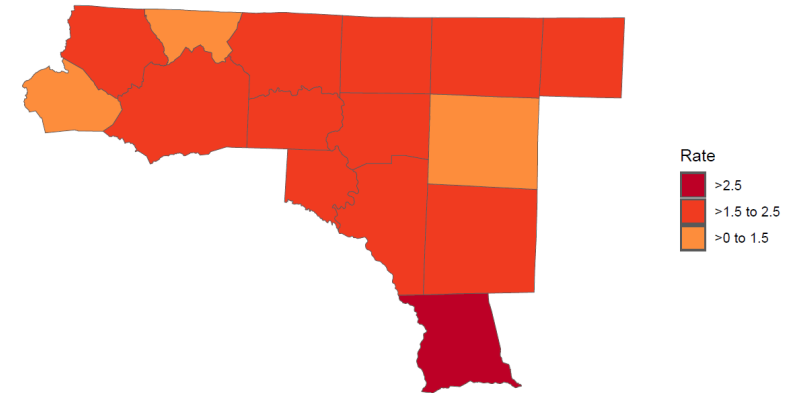


Figure 1. Rate of Heat-Related Illness Emergency Department Visits by Sex and Age Triad Area (NC DETECT Region 5)



Table 1. Heat-related illness ED visits by severity

Severity [§]	Number (N = 440 [‡])	Percent [†]
Heat Cramps	10	2.3
Heat Exhaustion	265	60.2
Heat Stroke	16	3.6
Heat Syncope	59	13.4
Other Effects	90	20.5

§ Definitions of heat-related illness severity categories:

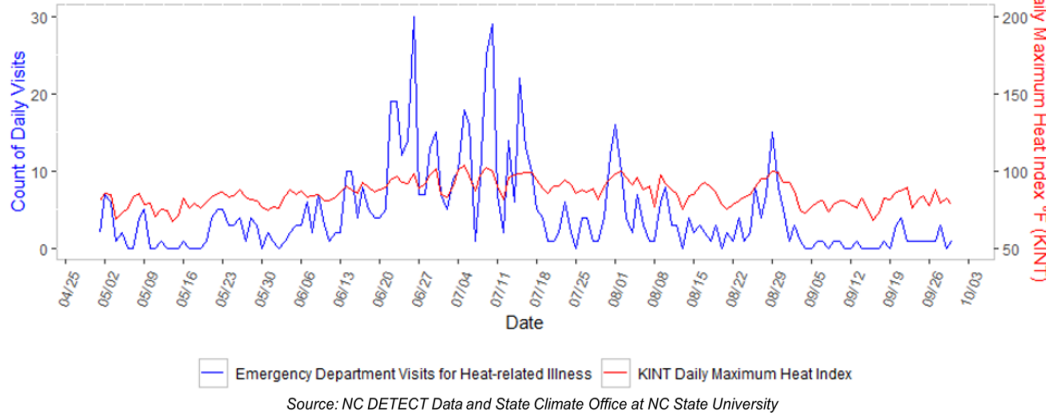
<https://www.cdc.gov/niosh/topics/heatstress/heatrelillness.html>

‡ Missing severity data = 257

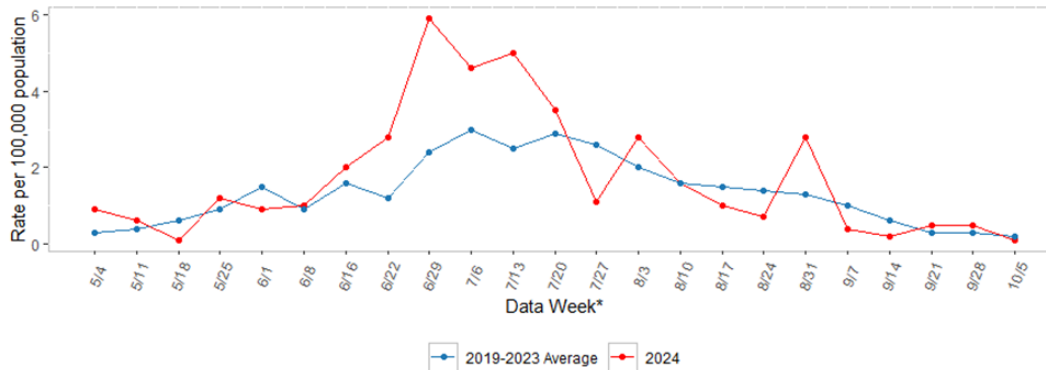
† May not total 100 due to rounding

|| other effects include heat fatigue, heat edema, other effects of heat and light, and other effects unspecified

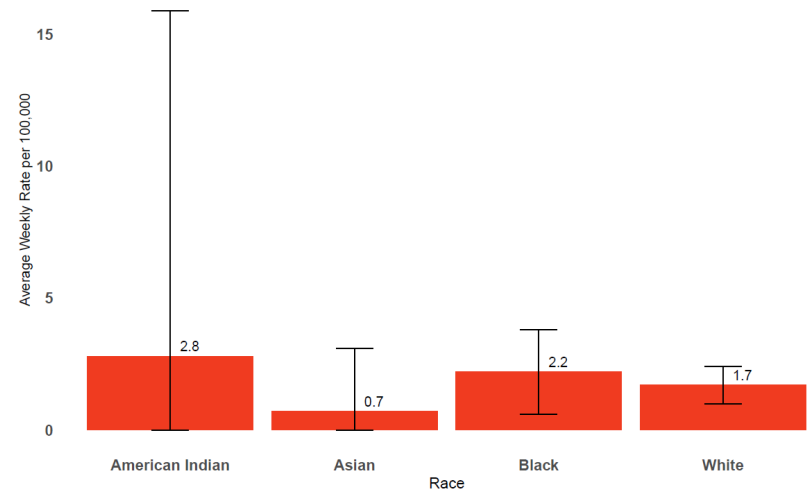
**Figure 3. Emergency Department Visits for Heat-related Illness and Maximum Heat Index
Triad Area (NC DETECT Region 5): May 1 - September 30, 2024**



**Figure 4. Rate of Emergency Department Visits for Heat-related Illness
Triad Area (NC DETECT Region 5)**

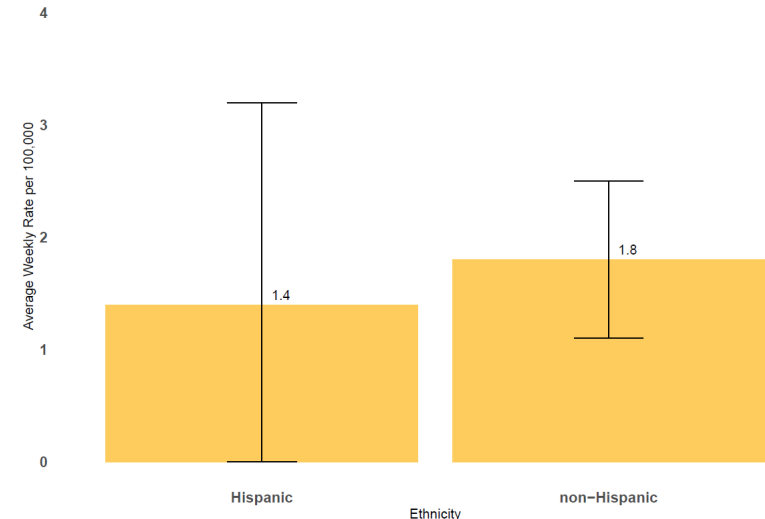


**Figure 5. Average Weekly Rate of Heat-Related Illness ED Visits by Race per 100,000 Population
Triad Area (NC DETECT Region 5)**



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The Pacific Islander race category has been removed due to lack of precision in the rates.

**Figure 6. Average Weekly Rate of Heat-related Illness ED Visits by Ethnicity per 100,000 Population
Triad Area (NC DETECT Region 5)**



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates.

Western NC (NC DETECT Region 6) Key Messages

There were **280** HRI ED visits (0.1% of total ED visits) in the summer of 2024, with an average weekly rate of HRI ED visits of **1.2 per 100,000 population**.

- The rate was highest among **males aged 20-24 years at 5.5 per 100,000 population**. (Figure 1).
- The rate of HRI ED visits was highest in **Graham County at 3.8 per 100,000 population** (Figure 2).
- The most frequent heat related diagnosis code was **heat exhaustion (n =115)** (Table 1).
- The maximum heat index ranged from **63.6 to 98°F** at The NC ECONet weather station in Mills River (Figure 3).
- There were **2 days** when the minimum temperature did not drop below 70°F.

Figure 2. Average Weekly Rate of Heat-Related Illness Emergency Department Visits per 100,000 Population Western NC (NC DETECT Region 6)

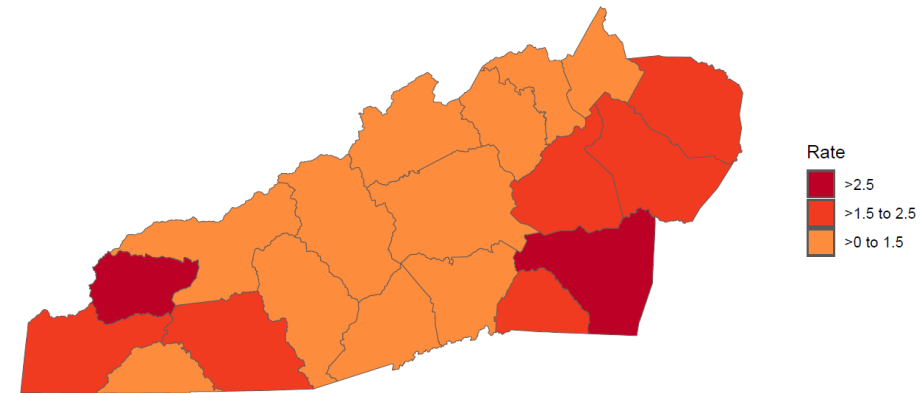


Figure 1. Rate of Heat-Related Illness Emergency Department Visits by Sex and Age Western NC (NC DETECT Region 6)

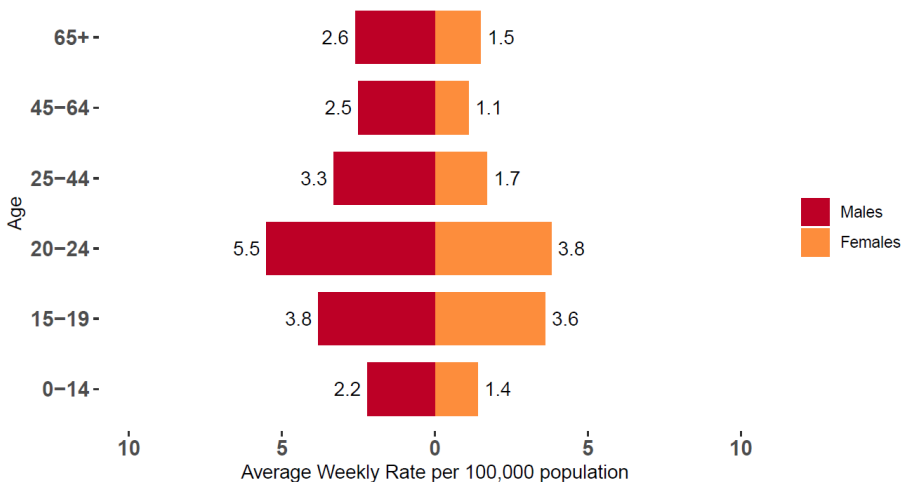


Table 1. Heat-related illness ED visits by severity

Severity [§]	Number (N = 159 [‡])	Percent [†]
Heat Cramps	2	1.3
Heat Exhaustion	115	72.3
Heat Stroke	8	5
Heat Syncope	16	10.1
Other Effects	18	11.3

§ Definitions of heat-related illness severity categories:

<https://www.cdc.gov/niosh/topics/heatstress/heatrelillness.html>

‡ Missing severity data = 121

† May not total 100 due to rounding

|| other effects include heat fatigue, heat edema, other effects of heat and light, and other effects unspecified

Figure 3. Emergency Department Visits for Heat-related Illness and Maximum Heat Index Western NC (NC DETECT Region 6): May 1 - September 30, 2024

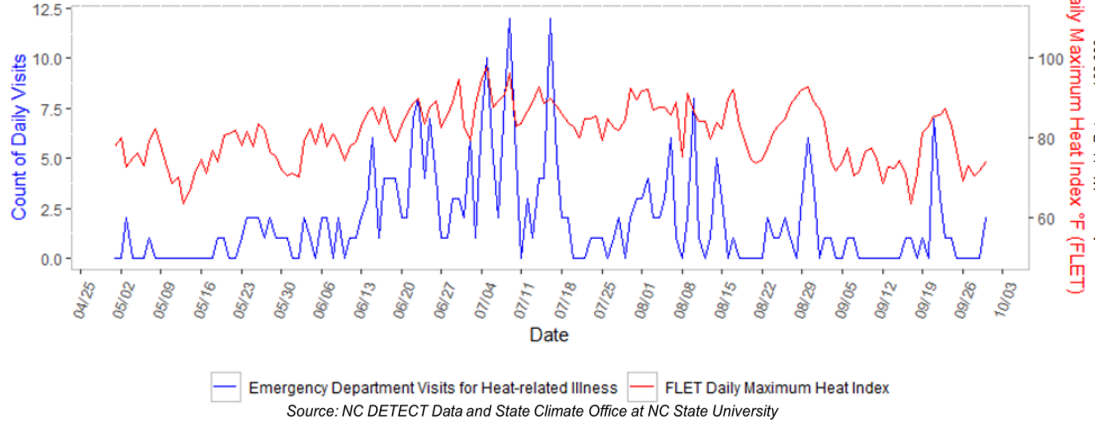


Figure 4. Rate of Emergency Department Visits for Heat-related Illness Western NC (NC DETECT Region 6)

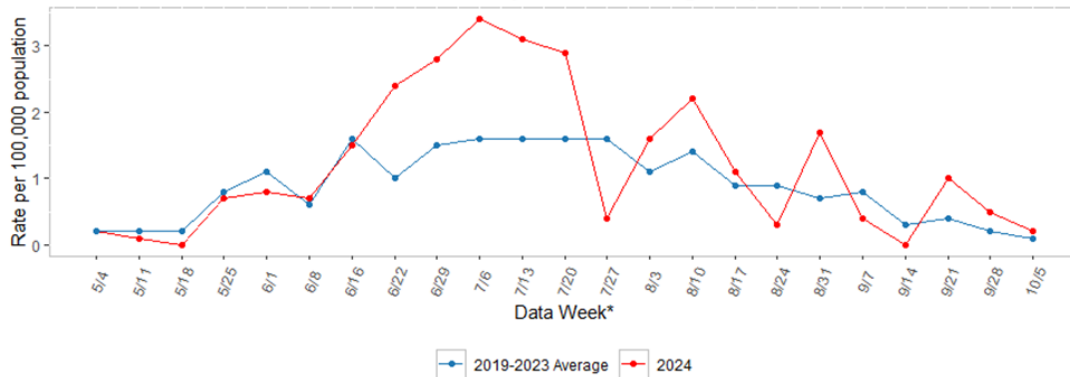
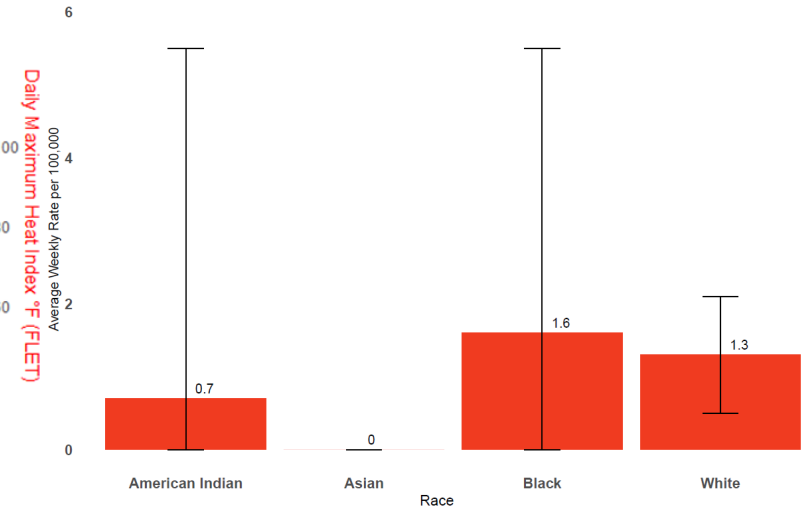
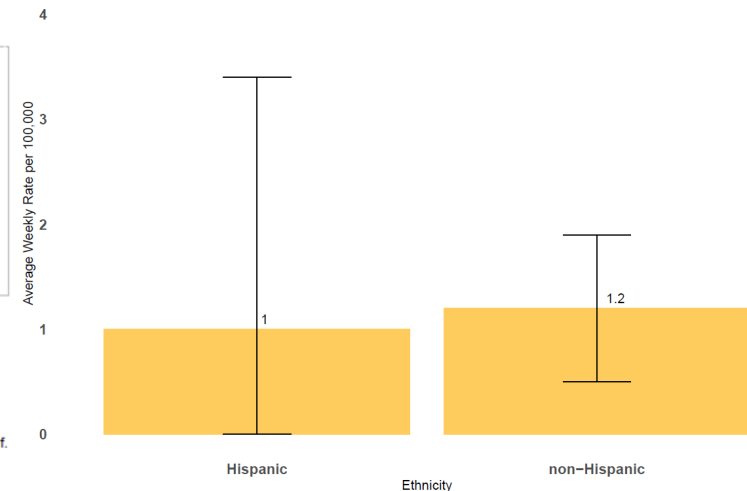


Figure 5. Average Weekly Rate of Heat-related Illness ED Visits by Race per 100,000 Population Western NC (NC DETECT Region 6)



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The Pacific Islander race category has been removed due to lack of precision in the rates.

Figure 6. Average Weekly Rate of Heat-related Illness ED Visits by Ethnicity per 100,000 Population Western NC (NC DETECT Region 6)



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates.

Charlotte Area (NC DETECT Region 7) Key Messages

There were **953** HRI ED visits (0.2% of total ED visits) in the summer of 2024, with an average weekly rate of HRI ED visits of **1.6 per 100,000 population**.

- The rate was highest among **males aged 65+ years at 3.3 HRI ED visits per 100,000 population** (Figure 1).
- The rate of HRI ED visits was highest in **Anson County at 3.5 per 100,000 population** (Figure 2).
- The most frequent heat related diagnosis code was **heat exhaustion (n =322)** (Table 1).
- The maximum heat index ranged from **70.3 to 106.3°F** at Charlotte/Douglas International Airport (Figure 3).
- There were **73 days** when the minimum temperature did not drop below 70°F.

Figure 2. Average Weekly Rate of Heat-Related Illness Emergency Department Visits per 100,000 Population Charlotte Area (NC DETECT Region 7)

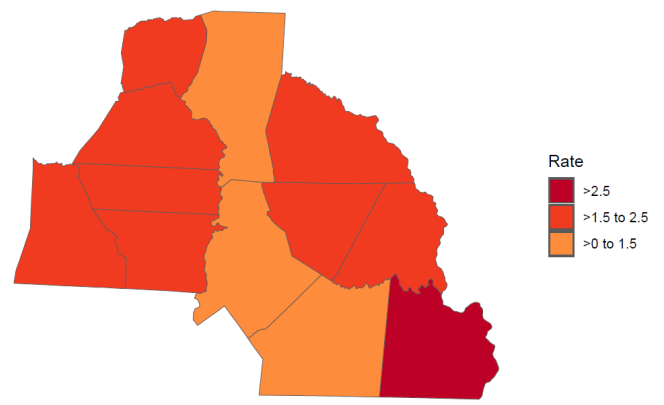


Figure 1. Rate of Heat-Related Illness Emergency Department Visits by Sex and Age Charlotte Area (NC DETECT Region 7)



Table 1. Heat-related illness ED visits by severity

Severity [§]	Number (N = 604 [‡])	Percent [†]
Heat Cramps	19	3.1
Heat Exhaustion	322	53.3
Heat Stroke	13	2.2
Heat Syncope	85	14.1
Other Effects	165	27.3

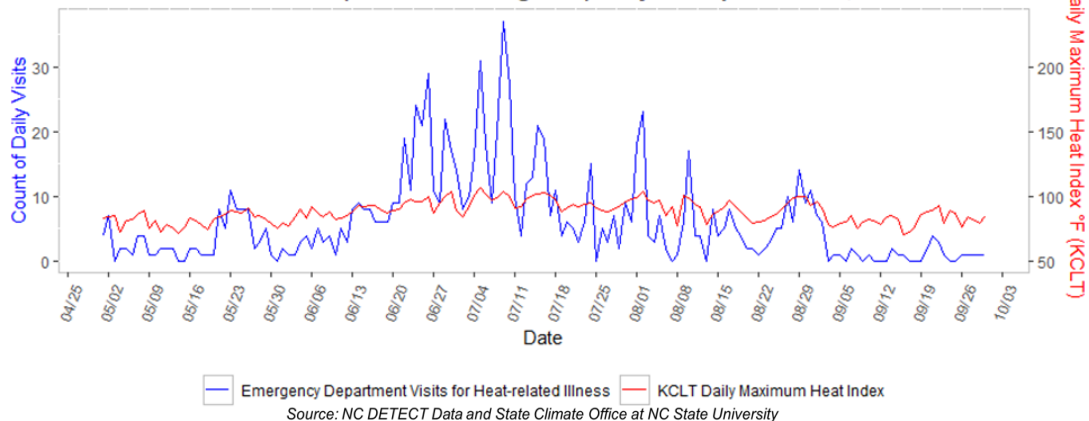
§ Definitions of heat-related illness severity categories:
<https://www.cdc.gov/niosh/topics/heatstress/heatrelillness.html>

‡ Missing severity data = 349

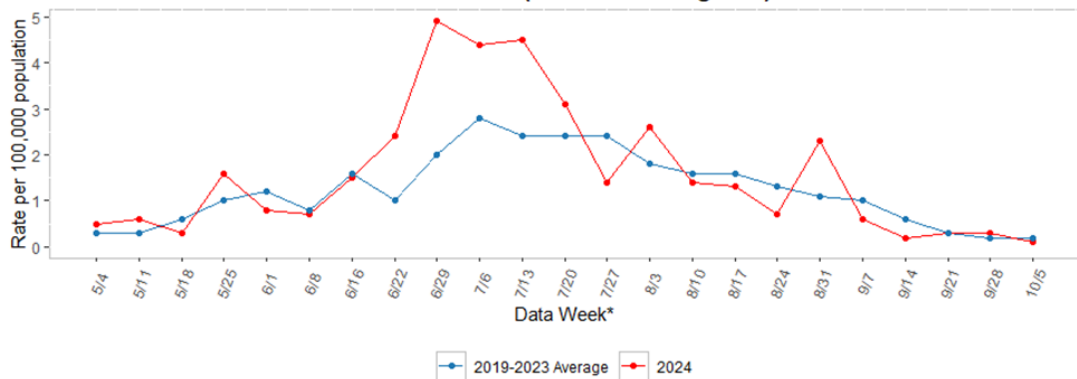
† May not total 100 due to rounding

|| other effects include heat fatigue, heat edema, other effects of heat and light, and other effects unspecified

**Figure 3. Emergency Department Visits for Heat-related Illness and Maximum Heat Index
Charlotte Area (NC DETECT Region 7): May 1 - September 30, 2024**

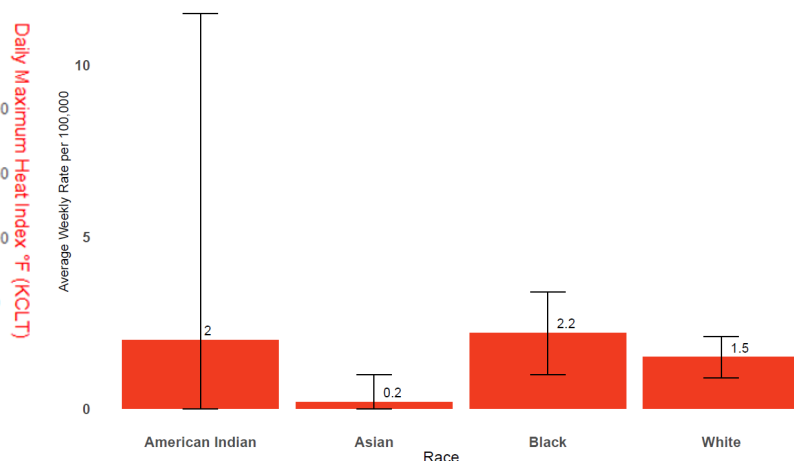


**Figure 4. Rate of Emergency Department Visits for Heat-related Illness
Charlotte Area (NC DETECT Region 7)**



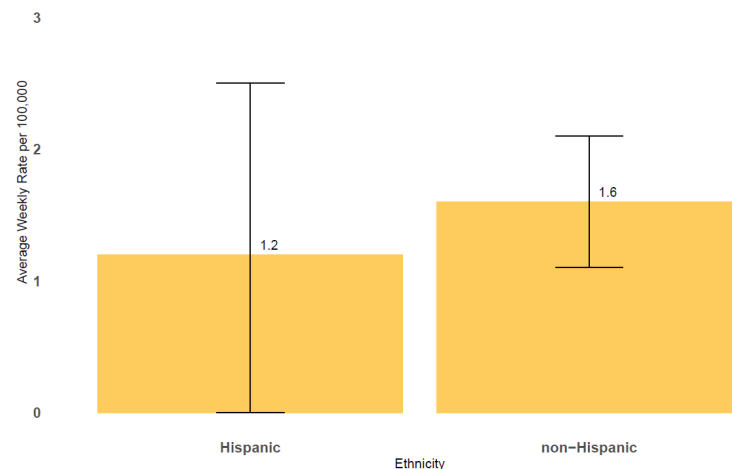
Week ending dates may vary by a few days for earlier years. For data week definitions see <https://ndc.services.cdc.gov/wp-content/uploads/MMWR-Week-Log-2023-2024.pdf>.

**Figure 5. Average Weekly Rate of Heat-related Illness ED Visits by Race per 100,000 Population
Charlotte Area (NC DETECT Region 7)**



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates. The Pacific Islander race category has been removed due to lack of precision in the rates.

**Figure 6. Average Weekly Rate of Heat-related Illness ED Visits by Ethnicity per 100,000 Population
Charlotte Area (NC DETECT Region 7)**



Error bars represent 95% confidence intervals. Wider confidence intervals represent less precise estimates.

About the data

The heat-related illness data in the report is from NC DETECT. NC DETECT is a statewide public health syndromic surveillance system, funded by the NC Division of Public Health (NC DPH) Federal Public Health Emergency Preparedness Grant and managed through collaboration between NC DPH and the UNC-CH Department of Emergency Medicine's Carolina Center for Health Informatics. The NC DETECT Data Oversight Committee is not responsible for the scientific validity or accuracy of methodology, results, statistical analyses, or conclusions presented.

Climate data

The maximum heat index and minimum temperature data in this report are from the North Carolina State Climate Office. One weather station from each NC DETECT region was selected to represent the climate data for each region. The weather station locations and their corresponding regions are as follows:

Pitt-Greenville Airport (PGV) – Northeastern (NC DETECT Region 1), Wilmington International Airport (ILM) – Southeastern (NC DETECT Region 2), Fayetteville Regional Airport (FAY) – Fayetteville Area (NC DETECT Region 3), Raleigh-Durham International Airport (RDU) – RTP Area (NC DETECT Region 4), Smith Reynolds Airport (INT) – Triad Area (NC DETECT Region 5), NC ECONet weather station in Mills River (FLET) – Western Area (NC DETECT Region 6), Charlotte/Douglas International Airport (CLT) – Charlotte Area (NC DETECT Region 7).

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The data in this report is summarized by NC DETECT Region.

