Questions & Answers: CDC and NOAA's Launch of the Nation's First Health-Based Heat Forecast and Clinical Guidance

What is the Heat and Health Initiative?

The Heat and Health Initiative is an initiative aimed at protecting American's health from the harms heat exposure. CDC, in partnership with the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) developed three resources, which combined give proactive actions people can take to protect themselves: stay cool; stay hydrated; know the symptoms.

- **The HeatRisk Forecast Tool**, developed by both CDC and NOAA, provides a seven-day heat forecast nationwide that tells you when temperatures may reach levels that could harm your health. A first of its kind health-based heat forecast that integrates health and temperature data.

- **CDC's HeatRisk Dashboard**, a consumer-friendly product, integrates the HeatRisk Forecast Tool data with other information, including details on local air quality, to inform the public on how best to protect themselves when outdoor temperatures are high and could impact their health.

- **CDC clinical guidance** was developed to help clinicians keep at-risk individuals such as children with asthma, pregnant women, and people with cardiovascular disease, safe when temperatures rise. Even though heat can impact anyone's physical and mental health, children with asthma, pregnant women, and people with cardiovascular disease, among other groups, may be more sensitive. The guidance is the first nationally available information for healthcare and public health professionals to protect the population, including those more sensitive to heat, from the impact of heat on their health.

Why did CDC and NOAA develop the Heat and Health Initiative tools?

The Heat and Health Initiative was developed in response to the increasing health risks posed by heat exposure. According to CDC data, more than two thirds of all Americans were under heat alerts at some point in 2023.

Heat events are becoming more frequent and intense and during the first six months of 2023 alone, extreme weather events led to $25 billion in damages and included the impacts from increased and prolonged temperatures. Additionally, a recent CDC publication found that

during the 2023 warm-season months (May–September), rates of emergency department visits for heat-related illness substantially increased across several U.S. regions compared with previous years, especially among males and adults aged 18–64 years.

Trends indicate that heat-related illness will continue to be a significant public health concern as heat events will result in longer, hotter, and more frequent episodes. The Heat and Health Initiative can help millions of Americans protect themselves and their families from heat exposure.

Who is the primary audience for the Heat and Health Initiative tools?

− The primary audience for CDC's HeatRisk Dashboard general public, including people who are more sensitive to the impact of heat on health, such as people with cardiovascular disease, pregnant women, and children with asthma.

− The primary audience for the CDC clinical guidance is healthcare professionals. They will use the HeatRisk Forecast Tool and the clinical guidance to help their patients take actions to protect themselves heat before and during the heat season.

How was the CDC/NOAA HeatRisk Forecast Tool and CDC's HeatRisk Dashboard developed?

Since 2016, CDC has worked with NOAA's National Weather Service to expand the functionality of their Heat Alert System, using modeling and local epidemiologic data to identify and communicate potential health impacts at varying temperatures. The HeatRisk Forecast Tool has been piloted in the Western United States. In addition to the expanded functionality, NOAA is also expanding their system to provide coverage for the entire country.

CDC's HeatRisk Dashboard is further supported by EPA's AIR NOW, which provides information on local air quality. The Air Quality Index (AQI) currently tracks the presence of pollutants in the air, such as ozone and fine particulate matter. It does NOT track pollen counts.

How can clinicians use the new clinical guidance?

Heat-related deaths and illnesses are preventable, and CDC recommends that clinicians talk to their patients about protecting themselves from hot days. Specifically, CDC recommends clinicians:

− Review risk factors that may make heat more dangerous for their patients where they live, learn, work, and play.
− Educate their patients on how to protect themselves on hot days, including teaching patients how to use the HeatRisk Dashboard and helping patients develop a Heat Action Plan.

- Educate patients on appropriate hydration during hot days.
- Educate patients on how to protect themselves from poor air quality, how to use the Air Quality Index (AQI), and how to improve indoor air quality when indoors.
- Review medications that may interact with heat and make a medication plan for hot days.

Why does the clinical guidance focus on children with asthma, pregnant women and people with cardiovascular disease?

While all people are at risk for the impacts of heat on health, CDC is focusing on specific populations whose underlying health conditions increase their risk of health harm from heat and poor air quality.

- For children with asthma, heat can provoke asthma symptoms, especially because warmer temperatures can worsen air quality. Breathing polluted air can trigger asthma attacks. In addition, humidity and dehydration can worsen lung function and can contribute to more severe asthma symptoms.
- For pregnant women, exposure to heat can increase the risk of high blood pressure disorders during pregnancy. Heat exposure in any trimester can also lead to adverse pregnancy outcomes, including preterm birth and stillbirth (and, to a lesser degree, low birth weight).
- For people with cardiovascular disease, heat and heat stress may worsen heart failure and may lead to events such as heart attacks and stroke. The combination of heat and humidity can increase hospitalizations related to cardiovascular disease.