

Communicating Severe Weather Risk to the Urban Economically Disadvantaged



Low-income urban dwellers rely primarily on local TV news and smartphones to receive routine and severe weather information.



Although 80% of the people surveyed used cell phones for weather information, their access was inconsistent and often unreliable, making phones ineffective as the only source of communication.



In Milwaukee, extreme cold is the most concerning among economically disadvantaged people.



HOUSING FIRST MILWAUKEE

Equal access to severe weather information.

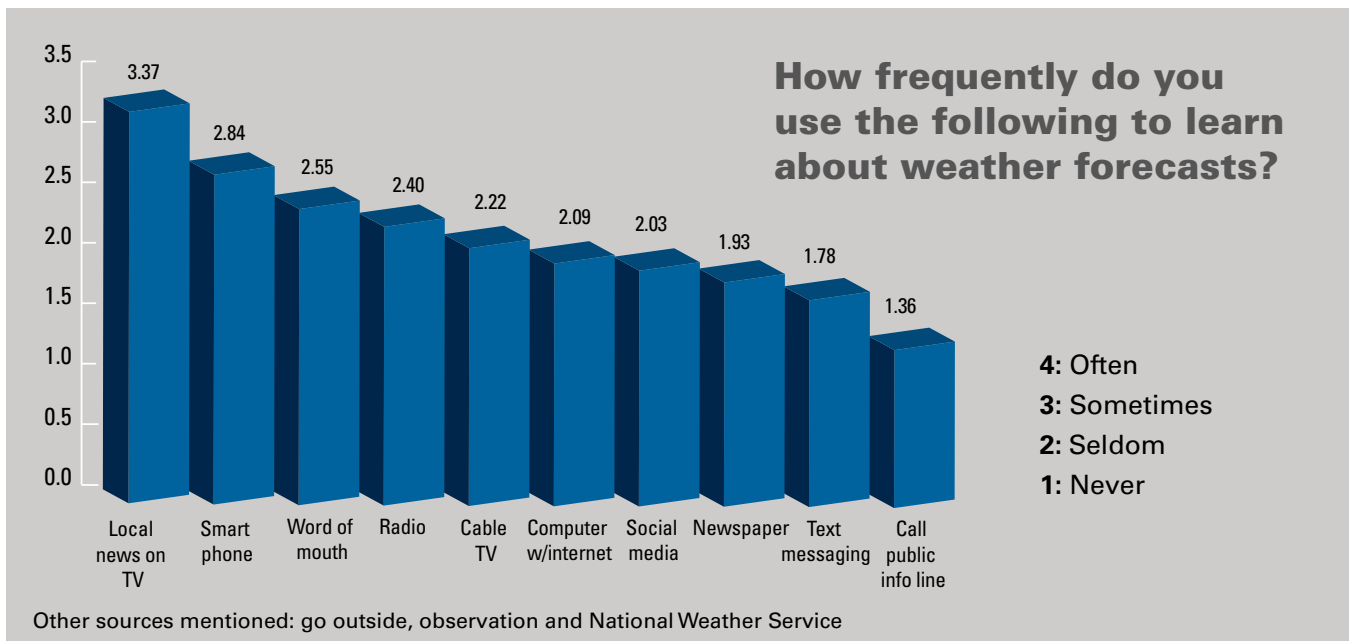
In light of more frequent and extreme weather and climate events, the National Weather Service (NWS) is working to create a Weather Ready Nation (WRN). The purpose of this initiative is to build a nation in which all members of the public are able to receive information to prepare for extreme weather, water and climate events and take action to be more resilient to unexpected high-impact weather events.

Different populations require different communications approaches. The National Oceanic and Atmospheric Administration (NOAA) has identified the need for research to understand how warnings and evacuation orders can be conveyed more effectively across communities with limited resources, which is critical to ensuring all individuals, regardless of socio-cultural and economic factors, can take advance action to protect themselves.

How do people receive weather information?

As part of NOAA's WRN initiative, the NWS partnered with Wisconsin Sea Grant to use social science tools and methods to assess how to effectively communicate risk to socially and economically disadvantaged communities in Wisconsin, which may be less likely to have ready access to critical weather information.

In Wisconsin, extreme cold or heat, flooding and tornadoes all pose increased risks to lower-income individuals who lack technological or financial means to ensure they have access to the most recent, high-quality weather information. If this population does not have access to "new" technology during extreme weather events, it is necessary to develop alternate ways



to deliver high-quality information to them to ensure equal access to weather information.

Methods. Through a series of interviews with community leaders and short face-to-face surveys among low-income individuals at community meal centers in Milwaukee, the research team assessed:

1. Which technology people use to receive weather-related information
2. How specific weather-related events, such as extreme cold or flooding, rank in terms of concern
3. How the NWS may more effectively communicate weather-related forecasts, warnings and evacuations prior to or during high-impact weather events
4. How the NWS might better communicate with economically disadvantaged individuals regarding personal safety actions to take during these events and/or resources that are available to reduce risks

Findings. Of 129 respondents surveyed, 93% were between 30 and 69 years old, 72% were men and most identified as either African American (50%) or Caucasian (39%).

The interviews and surveys showed that current means of communication may not be effective in reaching the most vulnerable low-income individuals in urban areas. While most respondents used cell phones, their accessibility was inconsistent and often unreliable. Instead,

participants relied on TV broadcast meteorologists to receive weather information (*see graph*), and some of the most disadvantaged individuals (e.g., homeless) did not have a reliable, consistent source for severe weather information.

Respondents indicated extreme cold and snow/ice to be the most concerning weather to them, with extreme heat coming in third. During interviews, community leaders informed us that many at-risk individuals were not trained to recognize signs of hypothermia or when shelter was needed.

In response, the project team worked with local governmental and NGOs (e.g., Milwaukee County's Homeless Outreach Team) to develop information to distribute among populations in Milwaukee most vulnerable to severe cold, such as homeless individuals.

Next steps. More outreach and education is needed to facilitate discussions and collaboration between community groups and organizations, local governments, decision-makers and weather-related programs. Further research is also needed on low income populations that are rural or elderly. The research team is working to improve the effectiveness of communication from the NWS about severe weather to low-income communities across Wisconsin and nationally.