Among the reverberating issues post-Hurricane Irma created is a particularly disturbing one: multiple deaths at a Florida nursing home. Now under investigation [2], The Rehabilitation Center at Hollywood Hills, having lost air conditioning, became a man-made sweltering environment which proved to be fatal.

This article will explore why those over 65 are especially susceptible to such scorching conditions. Litigating the liability of the Center is outside the scope of what will be discussed.

It has been reported [2] the facility lost a transformer in the storm and alerted officials of Broward county it lost power, but did not immediately request emergency medical services. Ultimately when calls were made, the response necessitated an evacuation of over 150 patients to hospitals and a total of 8 were deceased (3 discovered on site, 5 women and 3 men, ages 70-99).

Since this is now a criminal investigation, more details will follow the initial reports which indicate excessive heat was a major contributing factor. Authorities are not ruling out causes like potential carbon monoxide poisoning from generators and will assess all manners in which efforts were made to cool down the building. It appears the Center had a standby generator and other vital measures in place, but time will tell once a thorough assessment is made what could have been done better for the future and whether they were negligent.

Shifting gears, I will walk through what happens to the body when such extreme surroundings exist and why the elderly are at even more significant risk than the general population.
What happens when the dangers of hot environs exceed protective measures?

Hyperthermia is when the body’s temperature rapidly rises because there is a challenge to its self-regulation, either it can’t get rid of the heat or is producing too much. When it approaches extremes, it is an urgent problem that if untreated can progress to short- and long-term disability even death. Excessive heat and humidity is a common culprit as are medications, often the two compound the problem.

The situation generates a state of significant stress for multiple organ systems. The body normally compensates for exposure to heat through the evaporation of sweat. When the humidity escalates, the body’s ability to cool down this way gets sluggish. The capacity to dissipate heat is impaired and if expeditious fluid repletion and cooling isn't properly implemented, then hazards ensue.

As the body is adversely impacted and vital replenishing is delayed, heat exhaustion to heat stroke can become reality. With the former, light-headedness, fatigue, gastrointestinal distress, cramping and headaches are commonplace. Even the skin can feel cool suggesting the capacity to recover is still intact, but the heart and breathing rates will be more rapid with less strength. Breathing will be quick, but shallow. Without therapeutic intervention, life-threatening heat stroke will evolve. In this phase, people won’t sweat, can be confused with profound headaches, even loss of consciousness. The heart will attempt to pump faster, but as the body temperature climbs multi-organ failure and death are likely without resuscitation.

Tack on to these physiological changes if physical exertion and drugs are added into the mix. Man-made structures can trap heat too, exacerbating the scenario. Protracted heat waves without sufficient cooling measures are very problematic.

Why is the geriatric set so vulnerable?

The biggest threat to their survival is the frequent existence of underlying medical problems, in particular cardiovascular and respiratory ones. The Environmental Protection Agency (EPA) reports of the heat-related deaths recorded since 1999, one-fourth were due to underlying cardiovascular disease as a contributing cause and of those people age 65+ were several times more likely to die than the general population. (1)

Additionally, there is great variability in what someone is used to in terms of temperature. The more extreme the leap from their normal, the more challenging it will be for that person to equilibrate.

Medications are a huge factor. For example, an individual on a diuretic might be more at risk for fluid and electrolyte disturbances. Other drugs can speed up, slow down or impede metabolism and thermoregulation.
As we age, our immunity weakens. Mounting a vigorous response to stress in itself or rebounding from substantial insults can cause health issues like heart attacks or indirectly worsen existing co-morbidities. Diabetics are at great risk. As are those with heart failure. Those with advanced kidney disease, in general, require fluid restricting but in extreme heat their maintenance must be delicately handled by a knowledgeable medical professional. Injuries can occur amidst the chaos of these emergencies complicating the problems.

A nursing home ups the stakes given many could be disabled and immobile. The more isolated, the more at risk. If a person cannot feed or drink by himself let alone ambulate to acquire these items, then that individual requires greater attention. Those with dementia can regress under extreme stress and be especially vulnerable to changes in routine. These situations can make them defiant in complying, increasingly confused or unable to articulate needs—all can delay proper care. Sterile wound care and pressure sores can be tough to manage in such post-hurricane states. Many residents in this type of facility can need complex care on a good day, so imagine what a colossal storm with its collateral damage can do to challenge the most defenseless.

Adequate staffing and resources pose great challenges in even the best of circumstances. Air conditioners can truly save lives under Irma conditions. Their lack in such at risk populations reflect their life saving capability. Under these limited, dangerous situations, the basic health requirements of residents for their respective conditions are likely not met which for the more fragile can be a lethal tipping point. Regular duties of changing bandages or catheters and administering time-sensitive medicines, for example, can get overlooked or the burdens of the conditions can get too high to perform such tasks. Add on to that the extra fluid, cooling needed and these issues can push a patient over the cliff.

In the end…

Hopefully much will be learned from the apparent shortcomings of this center’s preparations so that such a sad, catastrophic outcome can be avoided in the future. Heat-related deaths are preventable, but the appropriate interventions must be readily available with a superior staff well-trained to identify problems and aggressively intercede.

Source(s):

(1) Environmental Protection Agency (EPA), Heat-Related Deaths and Illnesses: click here [3] and here [4].

Centers for Disease Control and Prevention (CDC), Picture of America Report on Heat-Related Illnesses: click here [5].

Note(s):

To read more about heat-related illnesses, see President Jimmy Carter The Latest To Dehydrate From Hot Sun [6] OR Senator Thom Tillis Collapses At Race, Early Media Reports Confusing [7]