

## CLIMATE CHANGE: A HEALTH CRISIS CALL TO ACTION



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“Climate change is the biggest global health threat of the 21st century,” according to a 2009 Lancet report. Unfortunately, this call to action is slow to catch the attention of healthcare professionals. The American Medical Association and American Academy of Pediatrics have both made recent statements that health is inextricably linked to climate change, and that clinicians need to understand this relationship to better recognize and anticipate climate-associated health effects and advocate for health-protective public policy.

While the effects of a warming planet are felt by all, the impact is more profound on children, minority populations, the elderly, the homeless, those that are socially isolated, and those with disabilities and chronic diseases including mental illness. The World Health Organization estimates that 88 percent of the diseases and deaths tied to climate change in the world now occur in children who are younger than 5 years old. They suffer disproportionately from climate-sensitive diseases and are exposed longer to the damaging health effects posed by climate change. As emergency room doctors, you will be on the frontlines of providing care for those harmed by the effects of climate change today and in the years and decades to come.

Sea level rise is already affecting our low-lying coastal regions, like Miami and the Gulf Coast, which will only get worse in the coming decades. NOAA projects a sea level rise of 4.1 to 6.6 feet by 2100, with a two-foot rise as early as 2048 and three-foot rise by 2063. More than two-thirds of Florida’s 20 million residents live in coastal counties. To understand more about the health impacts of climate change, visit: <http://www.psr.org/environment-and-health/climate-change/>. Post-traumatic stress disorders, anxiety and depression are common following disasters — often a major part of the health burden. Increased rates of substance abuse and interpersonal violence, especially intimate partner violence against women, have been observed following weather-related disasters; events likely to show up in the emergency department.

Climate-related increases in ozone and pollution in the atmosphere is worsening respiratory and cardiovascular problems, allergies, and asthma exacerbations. Increasing temperatures lead to earlier and longer pollen season. According to the CDC, asthma rates are increasing every year in the United States.

Extreme heat is the leading cause of environmental deaths in the United States, killing more people than hurricanes, lightning, tornadoes and floods. Predictive modeling studies estimate that future summer heat-related mortality will increase several-fold in the United States by 2050 with the elderly, infants, outdoor laborers, homeless and socially isolated populations at higher risk. According to the American Academy of Pediatrics, studies show that high school athletes and infants younger than 1 year old are at an increased risk of heat-related illness and death. The 1995 massive heat wave in Chicago killed about 700 people, and the 2003 European heat wave killed between 45,000-70,000 people and created a host of stressors — anxiety and depression — in those that survived.

Warmer temperatures also are expanding the regions where vector-borne diseases occur — like Lyme disease, Dengue fever, West Nile virus and now Zika virus — causing devastating and life-long disabilities in newborn babies. Waterborne diseases, like Giardia, Cryptosporidium, noroviruses and enteroviruses, are expected to worsen with continued warming. We’re already seeing an increase in, once rare, amoebic meningoencephalitis due to *Naegleria fowleri* infections.

Children born this year will be 33 years old in 2050 and 83 years old in 2100; these may be your children and grandchildren. How will Florida and our world look then? “How will the probable rise in temperature (3.6 to 7.2 degrees,), rising sea levels, and the increasing likelihood of extreme weather affect the course of their lives and the lives of their children?” asks a recent journal article published by The Future of Children, a joint project between Princeton University and the Brookings Institution. This is uncharted territory, so no one really knows.

I think about those same questions, and I feel a responsibility to get educated on the science of climate change and how it is effecting my patients’ health and their future. It compels me to roll up my sleeves to work for change, and I hope you will join me. Even though scientists say we are too late to stop the Earth’s warming, we do still have a chance to slow the warming process and create a more sustainable and livable planet for those that follow us.

A 2015 Lancet article states that “tackling climate change could be the greatest global health opportunity of the 21<sup>st</sup> century.” We must advocate for changes in our communities right now, including: measures like energy-efficient design, more green space, cleaner and improved public transportation, safer areas to walk and bicycle, renewable energy (like solar and wind), and climate resilience policies in our communities.

The Lancet report challenges us by saying that “health professionals have an essential role in the achievement of planetary health; working across sectors to integrate policies that advance health and environmental sustainability, tackling health inequalities, reducing the environmental impacts of health systems, and increasing the resilience of health systems and populations to environmental change.” The threats are great, and the time to act is short, but by amplifying our voices as trusted health professionals, we can help turn the tide for a healthier and more peaceful world.

For more information, visit PSR Florida’s website: <http://www.psrflorida.org/>, or email Dr. Ringenberg at [ring46@me.com](mailto:ring46@me.com).

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## UCF/HCA EMERGENCY MEDICINE RESIDENCY PROGRAM ATTENDS THE 58<sup>TH</sup> PRESIDENTIAL INAUGURATION

Article by Drs. Adam Benzing, PGY-1, and Bethany Ballinger, UCF HCA GME Consortium Emergency Medicine Residency Program of Greater Orlando Program Director



The clinical team from UCF/HCA Emergency Medicine Residency Program that attended the 58<sup>th</sup> presidential inauguration.

Over the past few decades, event medicine has become an increasingly recognized subcategory within the broad scope of emergency medicine practice. The complexities of our legal and healthcare systems, demographics of an aging population, and security concerns have all contributed to the integration of medical support and contingency planning as pre-requisite for large public gatherings.

January 20, 2017 marked the 58<sup>th</sup> presidential inauguration, and the UCF/HCA Emergency Medicine Residency Program had the unique privilege of sending a team to the nation’s capital to provide medical support.

Drs. Bethany Ballinger (PD), Jose Rubero (APD), Adam Benzing (PGY1), Amninder Singh (PGY1) and Amanda Webb (PGY1) made up our clinical team, and Michelle Stevenson (Residency Coordinator) provided patient tracking.

A presidential inauguration has unique considerations for medical and support planning that include:

- **Security:** One factor of particular relevance is security. All personnel providing support required security background checks months in advance, and layers of security and screening on the day of that create significant logistical issues for patient transportation and provision of medical care.
- **Multi-Agency and Jurisdictions:** Resources mobilized were both local and federal, drawn from all over the country. Numerous federal agencies and assets working side by side with local government and personnel. The scale of resources deployed in support of the inauguration made the event a truly unique experience, while also creating significant logistical and planning hurdles.
- **Size and Demographics:** Presidential inaugurations draw large crowds anticipated in the hundreds of thousands, if not millions. While this inauguration did not meet the scale of previous years, any gathering of such magnitude has the potential for significant strain on local EMS systems. Likewise, demographics of any event must be considered during planning, with inauguration crowds often trending toward older demographics.
- **Weather:** The inauguration is an outdoor event on the National Mall in January. The realities of both weather and security result in large numbers of people standing for long hours in cold weather with strict security screening that inhibits their ability to easily access shelter and resources.

Our team was invited to support the event through the D.C. Department of Health and worked side by side with the George Washington University Medical Reserve Corps to staff a central referral station. The medical support model used for the event involved multiple ALS-capable medical aid stations located across the mall, with two higher-level treatment and triage stations established to receive patients requiring higher levels of care or for those requiring further assessment before disposition.

In contrast to previous years when EMS transportation was conducted directly from each medical aid station, the purpose of this new model was to reduce the burden of unnecessary transports on the EMS system by providing more centralized and definitive care.

Although we were fortunate not to experience any significant burden in terms of acuity or volume, the opportunity to participate in an event of this scale and magnitude was truly a unique experience — a highlight of which was meeting and working beside personnel from virtually every military branch and law enforcement and disaster response agencies.

The UCF/HCA EM Residency Program would like to extend our gratitude to the D.C. Department of Health for inviting us to participate in such a truly unique opportunity.



Photo taken by the UCF/HCA Emergency Medicine Residency Program at the 58<sup>th</sup> presidential inauguration ceremony in Washington D.C.