

Testimony of Paul Biddinger MD, FACEP to the United States Congress

House of Representatives' Committee on Ways and Means

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Chairman Neal and distinguished members of the Committee, my name is Paul Biddinger and I serve as the Chief Preparedness and Continuity Officer for Mass General Brigham, an integrated healthcare system in New England with 16 member institutions and home to the two largest teaching hospitals of Harvard Medical School.

I would like to express my sincere thanks for the opportunity to join you today and speak about the rising and often underappreciated challenges that climate change is posing to our country's health care infrastructure and to our ability to provide safe and necessary patient care during and after disaster events.

In the past 2 decades, we have seen numerous examples of climate-related events causing failures or near-failures in the health care system. Multiple hospitals in New Orleans required evacuation after Hurricane Katrina when their electrical systems failed because of flooding. The loss of life associated with those evacuations has been well described. 7 years later, multiple hospitals in New York City again required emergency evacuation because of flooding. However, it is important to note that, although those hospitals responded to the lessons of Katrina by building flood barriers around their emergency electrical equipment, their worst-case scenario projections were less severe than the floods they actually experienced. The flood waters overtopped the barriers and the power still failed. This summer, multiple healthcare facilities in Kentucky have required evacuation due to record-setting rainfall, and just this month, a 731-bed hospital in California was left without any power for 4 hours after loss of municipal power from days of triple digit temperatures and failures of the hospital emergency generators.

What we are learning from these events and others is that past histories of flooding, heat, severe storms and others do not accurately predict the magnitude, frequency and consequences of the future threats we are now coming to face. Our healthcare system is clearly vulnerable, but many people, often including leaders of the healthcare entities themselves, do not appreciate the degree of this vulnerability.

In response to some of the events I have just mentioned, my own hospital system undertook an effort to look at how climate change is threatening our buildings and operations beginning in 2013. We worked with climate scientists and engineers to obtain detailed projections of the risks of climate-related hazards for more than 30 hospital and healthcare buildings across our system. Our project looked at possible events within the coming 15 years to help us identify necessary mitigation strategies such as purchasing flood barriers or upgrading selected systems, as well as events in the coming 50 years, to ensure that any new buildings we construct are sufficiently resilient in the future to allow us to have confidence on our ability to provide care to our patients

and communities even in the worst of disasters. In most cases, the necessary standards of resilience we now require for our future buildings significantly exceed what is required by current building codes.

I believe we urgently need to make changes in current practices to improve the resilience of the health care system, and to better ensure that our hospitals will be able to care for all of us during future disasters and emergencies.

First, I believe that hospitals require access to better data that describes the specific impacts of climate change in detail in their area. It can be extremely difficult for hospitals to find accurate information about the changing climate-related hazards that affects them. My system self-funded our analyses, but this is not possible for many other systems. Governmental agencies such as NOAA and others could be asked to provide hyperlocal data projections on the consequences of climate change to hospitals and share this data with their governmental partners supporting healthcare emergency preparedness such as the Administration for Strategic Preparedness and Response (ASPR), FEMA, and others.

Second, CMS Emergency Preparedness rule should require hospitals to utilize the best available data on climate change projections. Hospitals are currently required to analyze their risks under the CMS rule but are allowed to use historical data that may give them false reassurance. Because of the rapidly changing nature of the threats we face, our risk assessments must be forward-looking and data driven.

Third, guidance around building codes for healthcare must consider climate change projections so we do not build future vulnerability into such a critical part of our national infrastructure. New construction and major renovations must consider predictable vulnerabilities over the predicted lifespan of their buildings.

Fourth, since the costs of mitigation in the near term can be substantial, governmental emergency planning guidance should specifically promote community collaboration to protect health care systems against these threats. Activities should include collaborative planning for power generation and use during periods of extreme load, for mitigation against common flooding risks, and others.

I am extremely grateful for the opportunity to join you all today. I would be very happy to answer any questions you may have.