Center for Strategic and International Studies

TRANSCRIPT

Event

"Protecting the United States Against Extreme Heat"

DATE

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FEATURING

Representative Mike Lawler (R-NY)
Chair, Congressional Extreme Heat Caucus Chair

Representative Greg Stanton (D-AZ)
Congressional Extreme Heat Caucus

Jane Gilbert
Former Chief Heat Officer, Miami-Dade County; Principal, Resilience Consulting

David Hondula
Director, Heat Response and Mitigation, City of Phoenix, Arizona

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Katherine E. Bliss: Good afternoon and welcome to CSIS. I'm Katherine Bliss, director for immunizations and health systems resilience and senior fellow with the Global Health Policy Center. On behalf of the CSIS Bipartisan Alliance for Global Health Security, it's really my pleasure to introduce this session on protecting the United States against the health effects of extreme heat.

Now last year, in October of 2024 the Bipartisan Alliance established a working group on climate and health, with support from the Welcome Trust and GSK. Now, the original plan was to focus on recommendations for a more coherent U.S. foreign policy at the intersection of climate and health. However, we quickly came to see over several meetings that those three topics together represented a vast area with the potential to go in many different directions. We also saw that there was a broad range of opinion – diverse opinions – about the relative prioritization of the issues.

And as our meetings and discussions unfolded, and as we considered the complex debates over climate-driven health issues, it became clear that extreme heat really stood out as a unifying theme. Many Americans can reliably claim to have direct experience with extreme heat. It's a topic about which states and localities are already taking action. And there is growing recognition that increasing heat is also driving other kinds of extreme events, such as wildfires, hurricanes, and intense flooding. Now, most people here will know that 2024 stands as Earth's hottest year, at least on record. And while 2025 may not surpass that achievement, it's likely to be among the top three hottest years since recordkeeping began in the late 19th century.

Now, the annual heat season in the United States is getting longer, with more days of higher temperature in more places every year. And as we see more intense heat activity in diverse regions of the country, including New England and the Pacific Northwest, the health impacts are becoming more pronounced. We see significant impacts in occupational health, particularly negative outcomes for agricultural workers and others who labor outside.

Extreme heat can have negative impacts on pregnancy, leading to higher rates of miscarriage. Children who play outside can become dehydrated more quickly than adults see visits to the emergency room spike during extreme heat events. The elderly and other populations that are dependent on prescription medicines may be more vulnerable because of those medicines to higher temperatures as well. And asphalt, metal, and other surfaces can become intensely hot during extreme heat events burning people who touch them.

Now, beyond these relatively direct impacts are the more indirect impacts, or compound hazards. Increased exposure to pathogens that thrive in drought or flooding conditions, worsening air pollution, contamination of water supplies, and increased exposure to harmful particulate matter, just to name a few. In responding to population needs and demands, cities, counties, and states have led the way with federal funding, data collection, and expertise supporting and reinforcing locally led programs.

But as the executive branch charts a new path for environmental and health policy, removing data from some federal websites, shifting fund transfers to localities, reducing support for low-income communities to stay cool, and trimming back the capacity of some federal agencies to respond to emergencies, there are many questions about how to maintain, never mind accelerate, efforts to protect people from the negative health impacts of extreme heat. At the same time, it's clear that heat-driven extreme events – whether heat waves or flooding, wildfires and hurricanes – also wreak economic damage and threaten military readiness, underscoring the urgent need for deliberate action in the arenas of economic and national security as well.

So, after several months of deliberations, the working group put together a set of policy options really focused on protecting Americans against extreme heat in the domestic context. And there are three options presented in the copy of the report that those of you here in the room should have, and those of you with us today online should be able to find through the CSIS website. And the title of the report is, Protecting the United States Against the Threat of Extreme Heat. The three options include, one, the launch of a one-year independent, high-level, bipartisan commission to lay out a long-range sustainable vision, really a plan of action, that could be put into place by early 2027.

The establishment of a data consortium, really bringing together states, universities, the private sector, and other businesses, media, and nonprofits to pool data in order to make that available and to be analyzed by people who need it. And, third, strategic action by Congress to ensure essential federal functions that cannot really be fulfilled by any other levels of government, that those stay, can be maintained, and even strengthened. And this could include some elements of data synthesis and integration and especially is relevant for federal emergency management and support.

Now, Steve Morrison, director of the Global Health Policy Center, and I co-chaired this working group. And we are really grateful to the

members of the working group, many of whom are here today and I hope also with us online, but who really generously shared their time and expertise in the development of the report. And we're also very grateful to the researchers who joined us to share their own work, their work product, and their insights to really help us understand the many issues and focus on these three recommendations. We also want to recognize Caitlin Noe, Maclane Speer, Michaela Simoneau, Ashish Jacob, and Ariba Manal from our staff, along with the CSIS streaming and broadcasting staff, both for their support of the larger effort of the working group and the opportunity to have in depth discussions today about the challenge of extreme heat, and proposed solutions.

So now it's my pleasure to introduce two people who have really been at the forefront of rethinking federal responses to extreme heat – Congressman Greg Stanton and Congressman Mike Lawler, the cofounders of the Congressional Extreme Heat Caucus, which formed and formalized earlier this year.

Now, Congressman Greg Stanton is from Arizona and represents the Phoenix area in the House of Representatives. He served as mayor of Phoenix from 2012 to 2018. And while there, really oversaw several initiatives related to improving public transportation, an issue to which he continues to devote a great deal of time as a member of the House Transportation and Infrastructure Committee. Given Phoenix's status as America's hottest city, I think it's fair to say he knows a thing or two about extreme heat.

Congressman Mike Lawler is currently in his second term representing New York's 17th District, which encompasses much of the Hudson River Valley, I think goes all the way up to the northern part of the state as well, correct?

Representative Mike Lawler (R-NY): No, just the lower Hudson Valley.

Dr. Bliss: Lower Hudson Valley, OK.

Rep. Lawler: Jersey to Connecticut border.

Dr. Bliss: Got it. OK. He serves on the House Financial Services Committee and also the Foreign Affairs Committee. And, like Congressman Stanton, Congressman Lawler is very focused on infrastructure and earlier this year introduced the Cool Corridors Act of 2025 to promote investments in tree canopies and shade infrastructure along transit

corridors, sidewalks, bus stops, school zones, and underserved neighborhoods. And I love the sound of that, the cool corridors. Sounds very nice.

So, Congressmen, welcome to CSIS. Thank you for joining us today.

Rep. Lawler: Thank you.

Representative Greg Stanton (D-AZ): Happy to be here.

Dr. Bliss: So, I want to start just with a discussion about the caucus itself. The regions of the country that you represent are quite different in terms of geography, climate, average daily temperatures. And yet you have joined together in this Extreme Heat Caucus. So, I'd first like to ask you just to share a bit about what do you mean when you talk about extreme heat? And what prompted the two of you to come together to form this group, to join? So, I'll start with you, Congressman Stanton.

Rep. Stanton: I'll jump in, sure. It's great. So, I've been working on a lot of extreme heat-related issues. Obviously, representing Phoenix, you would expect that, particularly dealing with FEMA and making sure FEMA better supports extreme heat, and increasing support for the LIHEAP program, the low energy housing energy assistance program, et cetera. And we knew we needed – the only thing gets things done in Congress, as Congressman Lawler knows, he's one of the most bipartisan members of Congress, is to work in a bipartisan way. So, we're searching out others that were interested in the same issues. And we saw he was working on a lot of bills on the same subject. So, our we reached out. And he was – right away he was willing to do it. And we formed a caucus.

And it's grown very quickly. You can imagine a lot of other members are feeling the same way that we can't ignore this issue of this increasing extreme heat and the impacts on our infrastructure or the workforce that we work with. And, you know, he's someone that's willing to take a few risks, probably stepping outside of the comfort zone that a lot of his other colleagues are, to take a real leadership role on looking out for workers and looking out for making sure we take into account extreme heat on the impact on our infrastructure, and keeping our infrastructure as strong as possible.

Dr. Bliss: So extreme heat, Phoenix may be the poster for extreme heat, but you're in New York. So, when you think about extreme heat, what do

you – what do you focus on? And, you know, what prompted you to want to join in this bipartisan effort?

Rep. Lawler: Right. Well, I certainly want to thank Greg for his leadership and willingness to partner on this. I think, you know, as Greg pointed out, in order to really address a lot of the challenges in Congress, a lot of times the focus is on what we disagree on as opposed to what we agree on. But, you know, the caucuses are important to help foster dialogue. You may not be on the relevant committee of jurisdiction, per se, but it's a way to get involved in issues that are relevant to your district, or your community, or your state. And certainly, we have seen, you know, with climate change, a real surge in extreme heat weather.

You know, and, you know, by definition, over 102 degrees Fahrenheit, you know, or sustained over 90 degrees for a period of time. You look at that, that's obviously, you know, more prevalent today than it was, you know, a decade ago, or two decades ago. My grandfather is an environmental engineer. He's one of the foremost experts on cleaning up the Hudson River. And so, you know, certainly I consider myself an environmentalist. I've supported a lot of legislation when I was in the state legislature and here in Congress, especially around PFAS contamination and what we can do to ensure clean water. You know, passed the Environmental Bond Act in New York to invest in resiliency and environmental infrastructure. You know, a lot of the community project funding grants that I've brought back have been focused around water and sewer infrastructure.

But heat is a big component of it. And when you look at, you know, New York, obviously little different topography and weather than Arizona, but the reality is, you know, during the summer months, in particular, I mean, we do get sustained periods of extreme heat. We also have, you know, especially in New York City, dense populations. A lot of times these old apartment buildings, people dealing with the lack of air conditioning units that are – that are working or providing the level of cool air. We have – you know, a lot of our communities or counties, really, provide, you know, cooling areas in the county, in county office buildings, especially when it gets hot so people without a place to go can come, or if we have seniors who are in a situation. So, I think part of it is just, you know, all of our communities are slightly different in what the need is, but it's still a big issue that we have to tackle.

Dr. Bliss: And so, you've mentioned that the group has grown since founding earlier this year. And could you say a bit about the caucus's goals and really your agenda, kind of over the next, you know, couple of years?

Rep. Stanton: OK. Well, first off, the caucus has grown. So, there's a lot more interest among members on making extreme heat and the issue extreme heat a higher profile issue inside of our caucus. There really was no natural area for people interested in dealing with this issue anywhere to go. So, the caucus has become a home for them. And so that's – I think that's the main purpose of it, is to raise awareness. But there are bills that we're working on. I mentioned earlier that Congressman Lawler has been a real leader in making sure that we have bills that support workers, employees that work in this extreme heat, make sure they have the safest working condition possible. That is an incredibly important thing that we have to take into consideration, the health impacts of so many of the people who work out in the heat every single day. You imagine in Phoenix, Arizona, it can be brutal in that regard and have lifetime negative impacts on an individual's health.

Infrastructure. That's another issue. We need to better take into account the impacts of extreme heat in Arizona, New York, and all across the country, because it's getting worse not better. It has an impact on our electrical grid system, and our bridges, and our roads, and our aviation systems as well. So, it's a critically important issue in that regard. In my community, I mean, it's devastating. The last few summers, we have had over 600 people die directly related to heat. Not all unhoused individuals. It's a tragedy when anyone dies. Every heat death is preventable. It's a tragedy when anyone passes away as a result of heat-related conditions.

But it is shocking to know that in my community many seniors in particular, who live in a house but for various reasons, either – for financial reasons, may not be able to have the air conditioning at the level they want. And they don't turn their air conditioning on. They don't have at a certain level. They don't realize the impact that that takes on your body. In addition, we talk about extreme heat in terms of the high temperatures, but the other issue in Arizona is the low temperature at night doesn't go down enough so people's bodies aren't able to have a cooling off period. That has devastating impacts.

So as the people in this room know, and as CSIS knows, the amount of people who are hurt or die because of extreme heat is more than any other natural disaster, floods or hurricanes or the kind of the ones that capture the headlines. It's a slow-moving natural disaster, but it's a natural disaster, nonetheless. And so that's why I'm also pushing that FEMA take into account extreme heat as a natural disaster, just

like any other one. And we need to reorient our thinking and treat extreme heat as a natural disaster and adopt policies accordingly.

Rep. Lawler: I think Greg's absolutely right about that. You know, it is a major challenge across the country. You know, certainly, and I will say, the dry heat of Arizona, I don't know how you folks do that. (Laughter.) You know, the humidity up in the Northeast is enough for me. (Laughter.) But the – you know, when you look at – you know, my wife is from Eastern Europe. She didn't grow up with air conditioning. There's no such thing. And, you know, so a lot of – you can see in Europe in particular, you know, very high death rates from extreme heat, in part because they don't use air conditioning in the way that we do.

And so, you know, despite the fact that many people may not have access to an air conditioner in the U.S., it's a lot more prevalent than other parts of the world, certainly. And so, you know, I think part of this is, a, to Greg's point, raising awareness, getting people more engaged on what we can do legislatively, what we can do working with the administration, including FEMA and other agencies, to address immediate needs to deal with bouts of extreme heat. But obviously also, long-term, how do we combat the issue of climate change and the rising temperature of the planet to really avoid longer bouts of extreme heat all around the country and around the globe?

So that's – you know, I think there's a kind of more urgent, immediate need when we deal with these cases, and what resources government can bring to bear, and what legislation we can support to do so. But longer term, how we deal with this from an infrastructure standpoint and an investment standpoint?

Rep. Stanton: The climate change that Congress Lawler mentioned, I mean, in Arizona we're getting hammered. Not only extreme heat, but also the number of and increased intensity of forest fires in northern Arizona, and drought. We've been over 23 years of a drought in Arizona. And there's a direct line between climate change, increased forest fires, extreme heat, and the drought that we've been dealing with, which directly impacts our ability to grow and have economic development that we need because we need water to be able to grow in population and grow in industry. And we're the state that has the largest increase in semiconductor manufacturing, such an incredibly important industry for the future of our country, particularly military. That's directly at risk because of this drought issue. So, there are severe implications. And we have to really roll up our sleeves and get serious about it.

Rep. Lawler: By the way, to that point, on – you know, you look at nuclear and, you know, how temperatures can impact the water in terms of cooling. And you see that in Europe a lot, especially because they've relied more heavily on nuclear. But I think, you know, when you – when you look at, you know, certainly the western part of the country, where wildfires are a major problem, droughts are a major problem, you know, these extreme heat temperatures and more prevalence of it certainly leads to other unintended and more disastrous, in some respects, natural disasters. Which, you know, we saw last – earlier this year in California in the Pacific Palisades. I was out there a few months ago. And to drive through the devastation out there, it's tremendous to just see an entire community wiped out, you know? And so certainly wildfire is something that we have to contend with.

Dr. Bliss: (Coughs.) Excuse me. Excuse me. Gosh. You've both mentioned the important role that the federal government can play in emergency response and also in coordination. But it's clear that states and localities are where the brunt of the experience is taking shape. You both also – (coughs) – excuse me – mentioned the importance of industries. You talked about semiconductors, certainly the artificial intelligence, you know, building that capacity. The nuclear industries. You know, really depending on accessible water and also infrastructure for cooling. So could you say a little bit – I mean, maybe, Congressman, I'll start with – you in terms of the kinds of partnerships that are necessary. I mean, on the one hand, there's just bringing together federal, state, and local governments and municipalities, but then, you know, also there's bringing in universities, and research entities in the private sector. What does it take to make all of that work together?

Rep. Lawler: Yeah. Well, I think with any major issue that you're trying to combat, it requires public-private partnership. The government obviously can bring to bear a lot of resources, financially and in terms of agencies and departments and the work that gets done by our federal, state, and local workforce within our municipal, and state, and federal governments. But you need that partnership with our research institutions. You know, Lamont-Doherty is located in my district, part of Columbia University. They do a lot of research over the years on the environment, on climate change, on, you know, the geology of our region and across the globe. They get a lot of funding from the federal government in support of their research. Some of it is classified research. But it is – you know, it's institutions like that that play a vital role in helping inform, you know, our agencies and departments, and ultimately Congress, of the type of legislation we need.

But to the point you made, then you also have, really, our municipal partners that, you know, bear the brunt of a lot of this. And they're the ones that have to implement a lot. And so, you know, when there's a crisis on the ground, you know, especially on an issue like extreme heat, you know, when you have these heat warnings, and it's the municipalities that have to step up and make sure that there is shelter for folks, that there is a response, that our local hospitals are, you know, engaged. So, there's a lot of layers here that have to be integrated. But I think all of it is vital. And it's also why, you know, as we work through kind of the budget challenges, you know, it's vital to make sure that we are strategically funding these programs and these investments long term, because if we don't it's just – the issue is going to compound, and it's going to get worse.

Rep. Stanton: Well, we so far have had a wonderfully bipartisan conversation. I do want to say, though, one quick – (laughter) – one frustration from the administration is that, you know, I feel FEMA is a very important agency. In fact, I've got a bill in partnership with another bipartisan member, Chairman Sam Graves – he's the chair of the T&I committee, Transportation Committee – to actually make the FEMA director a Cabinet position. So instead of, you know, deemphasizing FEMA, or even eliminating FEMA, instead do the opposite, making it even at a higher-level position, I'm really proud of him for taking that position.

But one particular grant program I think is so essential is the BRIC program, which is the program that incentivizes communities, cities, states, regions, to work together on disaster planning, including extreme heat planning. And once you bring those people together, using the force of the federal government, or the carrot, I guess you say, of the federal government, to bring people together, they come with a lot of ideas. They compare ideas. They share resources. And I've seen that magic work in my own community. So, we really need to reinforce and refund, if you will, the BRIC program, because it really does great things in communities in terms of mitigation planning. And when a disaster does happen, they have a plan in place on how to deal with it, so they're not making it up as they go along. So, you can see I feel it's a really, a really important program.

However, I did read your report. And it's a good report. It obviously focuses on my city as one of the test cases. But a lot of the recommendations say, hey, go, look to the academic world for ideas, forming commissions, et cetera. And we should do that. But Congress can't do that as a substitute for immediate action. I mean, we know this is an issue right now. And we don't need another academic study to tell us that. We know that workers are impacted, their health is impacted right now. And there's no reason we can't pass common

sense support for workers. I even got a letter going to the head of the World Cup, because the World Cup is coming to our region, and asking them to be cognizant of, like, the time you start the games, so when it's cooler not when maybe the best time for TV ratings. But actually, take into account the impact for players, et cetera.

And it's a model. I mean, obviously the World Cup is so famous, and we want to show the example that all employers should take into account work times. In Phoenix, I mean, you should be able to start work really early in the morning when morning when it's cooler, and not at the heat of the day. That's a commonsense idea. Getting more support for that LIHEAP program, which helps in the winter in the East Coast and certainly helps a lot in the summer in the West Coast. We know that that's something that we need to reinforce. So, the list goes on and on. So, I like your report. I like the ideas in there. I certainly support them. But I don't want to have them be used as a way to kind of buy time or delay taking action.

Rep. Lawler: Just to kind of echo a few things Representative Stanton said. LIHEAP, for instance, to me, is a critical program. And I've pushed back against –

Dr. Bliss: Just for our audience, in case people don't know, it's the Low-Income Housing Assistance – OK.

Rep. Lawler: Low Income –

Rep. Stanton: Housing energy –

Dr. Bliss: OK.

Rep. Lawler: But the objective is, you know, in extreme temperatures, to be able to support and provide assistance to low-income families to make sure that they can get air conditioning when necessary or help with heating. Obviously, in a state like New York during the winter we do get very cold temperatures, especially up near the Canadian border and near Lake Ontario and Lake Erie, especially with the lake effect snows that – snowstorms that come through.

But, you know, I've pushed back against efforts to cut that program because it is vital for so many Americans. As it relates to FEMA, you know, FEMA is a vital agency. And it is necessary. And like any government bureaucracy we should always be looking to make reforms. We should always be looking to see what is working, and what is not. Too often we say we want to do that and then don't actually do it because the bureaucracy is just too big. But I think

FEMA is an agency that is necessary. It needs reforms. Even, you know, one of our colleagues, Jared Moskowitz, from Florida, who was the emergency management director in Florida working for Governor DeSantis, he has said it needs reforms. But it needs to exist.

And I think, to Greg's point, it should be treated in an elevated way. It is something that impacts everybody, whether you're talking about extreme heat, whether you're talking about flooding, whether you're talking about hurricanes, tornadoes, wildfires. We saw in Texas earlier this year with those biblical floods. I mean, it was – it was horrifying to see these little children killed at a sleepaway camp. You know, last year, obviously, right before the election in North Carolina. Every community is facing different challenges related to natural disasters. And I think the government has to adapt to these changes. They're more frequent.

I think one of the things we have to also evaluate, though, in looking at that, is Congress can't just continually have to pass an emergency funding to pay for a natural disaster. We have to be more proactive in how we address this. I think one of the things we need to look at is how insurance is dealt with across the country. Not just the National Flood Insurance Program, but there's natural disasters everywhere. And people are continually being impacted. Communities are being impacted. I think that's something we have to evaluate as to how the insurance system nationwide is dealing with that.

Because if it's just reliant on Congress to come pass $100 billion emergency relief package every year for whatever the disaster is, that's not solving the problem. And I think we have to look at this a little bit more holistically, about how we also tackle infrastructure proactively, to address resiliency when it comes to some of these issues.

Rep. Stanton: Yeah. The FEMA is an opportunity to really show bipartisanship. In addition to uplifting the program and making the FEMA director a Cabinet position, and not kind of lost in the Homeland Security Department, but in addition the bill that we're working on has permitting reform, which is a real opportunity for Republicans and Democrats. And where – I mean, it is unacceptable the delays that we've seen after major natural disasters and getting short-term housing or temporary housing in there because of some of the permitting issues. I mean, if there's one area where we can actually show proof of case, if you will, for permitting reform, it's through helping communities help their community faster by not having to deal with all of that and be able to get that help to people more swiftly. And that's why I think there's growing bipartisan support for

uplifting FEMA but also reforming it to work better for people in need.

Dr. Bliss: So, you've both mentioned different pieces of legislation that you've introduced, or which are, you know, kind of pending. Obviously, a number of people have joined the caucus and are really excited about the opportunities to work in a bipartisan way. But you've also both, I think, mentioned some resistance or, you know, not everybody has joined the caucus. There's still some people who haven't joined yet, and that kind of thing.

Rep. Stanton: Not yet. (Laughs.)

Dr. Bliss: So, I wanted to ask you to say a little bit about the topics, or the themes, or, like, where you – where you find resistance to the ideas, especially, you know, because extreme heat, it does seem to be a unifying theme. And yet there are clearly differences of opinion, maybe about how you go about addressing it.

Rep. Lawler: So, I would say – I haven't seen, you know, pushback against the Extreme Heat Caucus. I think part of it in Congress is there's so many caucuses about so many different topics. And part of it's just, you know, the bandwidth that each member has. And Greg and I have both prioritized this as an issue that we believe is very important, and so, you know, we're building support, we're building consensus. But I think a big part of it sometimes is viewing how you address some of the environmental issues and how you address energy, and sometimes how those intersect, right? I was, at one point in my career, representing natural gas companies in New York.

And, you know, you can go through the stats and look and say, OK, well, over the last 20 years natural gas has helped reduce carbon emissions 60 percent greater than renewables. Why? Because it helped us get off coal. And so, the question is, how do you bridge some of the energy issues while dealing with some of the environmental issues? And I think sometimes in our politics we allow them to get conflated in a way that kind of puts people at odds about, you know, whether – OK, we want to pursue renewable energies. I have solar panels on my house. You know, I believe in solar. I believe in wind. I believe in hydro. Right now, coming through my district is a hydro transmission line down the Hudson River, you know, bringing, you know, hydro power from Canada all the way down to New York City.

So, there's ways to tackle these issues. I believe nuclear is part of the solution. I do believe natural gas is part of it. But it's how we go about

the energy issues, coupled with really building the – going after the infrastructure issues on resiliency, on water, sewer infrastructure, combating PFAS contamination is an area, like I said earlier, where I've been very focused on, open space preservation. There's a lot of things that I think we can do. Oftentimes I think the politics of these issues is really where there's kind of the push and pull because people conflate all of it, instead of trying to tackle, you know, both in a responsible way.

Rep. Stanton: I think a little bit of it is also, you know, whether climate change causes or some other cause, but, you know, it gets caught up in the climate change conversation. Both of us believe in climate change, but not all members do. But they want their economy to be strong as possible. They want the best workforce that they can. They want the infrastructure to be maintained well as long as possible. So, we have to make sure that the caucus is really about supporting the American economy and supporting the American people, not – it's not a debate about causes of climate change. And when you focus in that regard, you get less resistance.

In my – to be honest, in my city there's a lot of skepticism. You know, Phoenix, Arizona. It's in the desert. It's beautiful during the winter, but summers are really hot. And, you know, some people say, well, why are you – why is this an issue now? Phoenix has always been hot, you know? What's different now? I grew up and it was really hot. And we have to explain to them the facts, which is it's hotter during the extreme heat, and the temperatures don't go down at night like they used to. And that is a fundamental difference than even Phoenix, Arizona a decade or two decades ago. So, we're dealing with a difference in kind. And we have to take into account about how we adopt policies.

You mentioned the role of cities and mayors. I mean, our community, and Mayor Gallego in Phoenix, my successor as mayor there, she's doing a great job. Think just basic things like making sure you have shade at bus stops, because if you have to wait 15 minutes for a bus, not that long, but in the extreme heat that is going to dissuade anybody from using public transportation. Just, you know, making sure that people who are unhoused during those moments of extreme heat, there are places to go where there are cooling centers, where you work with local churches or even businesses that welcome individuals that need a break from that heat, to come inside and get a drink of water and be able to relax for a few minutes. It's not only a nice gesture, that can be life saving for some people. So, organizing that, that's all done at the local level.

Dr. Bliss: So, it sounds like economic issues, the challenges that infrastructure is facing, whether it's new industries or older, like, roads and bridges, water systems as you pointed out, those are bridges, if you will, kind of across the divide. As you think about some of the issues that people are going to be most likely to be able to get behind to move forward in the next period, is it really around some of the infrastructure? Or is it these kind of more, like LIHEAP and some of these other programs that are providing kind of practical solutions for people on the ground?

Rep. Stanton: OK, the issue of infrastructure, investment in infrastructure, investing in the right kind of infrastructure, that will last longer, I mean, that is not only very bipartisan, the American people support it. They may not like spending on other things, but when it comes to infrastructure, making their commute shorter, making that trip across the river a little easier with a good bridge, that's the kind of investment the American people support. And now we need to explain to them that we have to build it differently to take into account the impact of extreme heat and the impact on that infrastructure. That's something that is widely supported and people understand, and certainly it's a totally bipartisan thing. So, I would argue that may be it. And, of course, you know, so many people, either they themselves or a loved one, works in an outdoor environment. And they see the health impacts. So just giving basic worker protection, that's such a commonsense thing that people could really rally around as well.

Rep. Lawler: Yeah. I think it's both. I mean, I think the infrastructure is critical. And, you know, as we spend – you know, and I think next year the Transportation Committee is, you know, looking to get the surface transportation bill done and, you know, the highway bill. I think we want to make sure, if we're spending billions upon billions in dollars of taxpayer money, that we're investing wisely for the future and that we're addressing, you know, issues pertaining to weather, or climate, and making sure that we're not just spending something and then all of a sudden, you know, there's a – there's a problem, because we didn't adequately prepare.

And that ties to the research, and working in public-private partnership, and making sure that we are taking these things into account and actually learning and improving and fixing. And then, of course, you know, the immediate, short-term needs that you have when you have individuals who may need LIHEAP support or other public assistance, you know, or access to facilities, you know, in a surge of extreme weather. You know, but I also – you know, one of the

things I think is – you've seen over time – you know, canopies over bus stations, obviously, is a good one.

But even, you know, playgrounds, where, you know, our kids are playing, especially during the summer when they're out of school and they want to go, you know, with their friends, or, you know, they're at a park. You know, today, not only are the playgrounds more equipped for those with special needs and all-purpose, but you have canopies as part of – as part of it, in part because people are out during the middle of – the hottest point of the day, and they're playing. And you want them to be able to utilize while staying safe and as cool as possible. So, it's just – you know, as we're doing things, we want to make sure that we're addressing the quality of life in addition to, obviously, cost.

Dr. Bliss: So, it sounds like you're saying, you know, on the one hand, protect existing investments that taxpayers have already paid for. You know, kind of maintain those and keep those going. But also invest wisely in future investments that can take these issues into account.

Rep. Stanton: That's what the people expect, for sure.

Dr. Bliss: So, you mentioned the working group report that, you know, we have – we have three recommendations that came out of the group discussions. You know, one, to establish a bipartisan commission really to look at potential solutions over, you know, the next year or so. A second to really kind of build a data consortium, kind of recognizing that some of the federal-level data is fragmented, or some of it's gone, and, you know, really to look at how universities, the private sector, nonprofit groups, and others can pool data and make that available for analysis for other groups. And then, third, you know, really strengthen some of those core federal responsibilities that just can't be undertaken by states and localities around coordination and provision of support.

You've talked a bit about some of the potential reforms to FEMA. You know, making sure that FEMA can address extreme heat, which, you know, hasn't always, you know, been extremely clear. You know, ensuring that funds can get out to communities. But, you know, what are – what are your thoughts on, you know, the potential of a commission, some of the data consolidation, and other issues around FEMA? What would you recommend, you know, as we kind of think about how to move this report kind of to the next step and move it forward, what would your thoughts be?

Rep. Stanton: Well, looking to experts, you know, academic experts and professionals in the field, both at the city, municipal, at the county level as well, that work in disaster preparedness and response, getting them on a commission probably a good idea. Of course, that's a good idea. And we should move forward with. But data is actually really important. And, you know, making sure that we have an appropriately funded National Weather Service at NOAA so that we can accurately get information upon which to make these policy decisions, obviously, it's important, not only for this issue but also for farmers and so many other industries rely on that critically important information.

It's been pretty disheartening to see the cutbacks in it. And I think it's resources that just simply cannot be replaced by the private sector. It is a critically important and core government duty to make sure that accurate information like that is given not just to policymakers, but the community as a whole. So, I know that's one of the recommendations as well, is to make sure that we have resources for the National Weather Service and Oceanic Administration as well.

Rep. Lawler: So, I think certainly, you know, anytime you can get a group of experts who can offer sound policy proposals, or helping better inform lawmakers about the specifics of what can and should be done to address these issues, that's always a helpful step forward. I think certainly, as Greg alluded to, the data is critical. Hard to make decisions if you don't actually have accurate data. And certainly, you know, when making decisions pertaining to climate change and extreme weather, it's all the more important. So I think, you know, being able to consolidate that data, as you're talking about, kind of pulled together from all the different sources, and have a more centrally located database, that really can, you know, provide the appropriate data to both the researchers and to, you know, the public officials, is critical.

But I think to a point Greg was making earlier, I mean, we know this is an issue. It's not so much that it needs more studies or more roundtable discussions. It needs action. And I think part of it is really identifying – and that's a big part of why we did the caucus – to help identify what is actual legislation that we can act on? What is a way to address the problems in the federal bureaucracy so that we can make sure that FEMA is appropriately equipped to handle this? Or who can FEMA partner with? You know, does the Red Cross have a role at some point? Are there ways to work with local partners on the ground to better equip people to deal with these issues? And that's – I think that's a big part of it, is really just, like, getting to the point of action. We can all talk in circles about these issues, but I think getting

to a place where we actually put forth, you know, bills – it doesn't have to be, you know, a 500-page bill. Sometimes you just get a very simple fix, and you keep building on that. And I think that's really the point of the caucus.

Dr. Bliss: Well, you've both spoken about the importance of connecting the thought to the action, right – like, moving forward. You've established this caucus, really to take practical steps. Both of you have emphasized the importance of protecting existing investments in infrastructure and really considering future investments, you know, with an eye to, you know, making, the most of new technologies and new approaches to protect people. You said quite a bit about the importance of reforming FEMA and having, you know, the kind of emergency funds on hand – or, not even – I think you said not even, like, waiting until the emergency to allocate money but having a fund in advance to really, you know, have that ready to go as soon as there are challenges. We talked about insurance and, you know, of course, the value of partnerships at many levels.

We're getting close to the end of our time, so I just wanted to ask each of you to kind of say a bit about what's next for the caucus and to offer some final reflections before we close.

Rep. Lawler: I appreciate the opportunity to join all of you and thank CSIS for helping pull this together. And I want to thank my colleague, Greg Stanton, for his leadership, his partnership. He's been a great ally in this endeavor and others, and done a great job working across the aisle to try and tackle a myriad of issues impacting both his state and the country. So, appreciate that, Greg.

I think the – you know, to me, part of it is continuing to grow the caucus. You know, especially when you start out it's not always easy to get people interested. But in this case, we have been able to. And, again, I think part of it because this is an issue that impacts everybody. This isn't a Republican issue or a Democrat issue. This impacts communities all across the country, and in more frequent, you know, ways than in the past. And so, I think, from my vantage point, it's continuing to build out the membership, raise more awareness both in terms of doing events like this, doing press conferences, introducing legislation. You know, when we announced the caucus, we got a lot of attention off of it, which doesn't always happen when you introduce a caucus.

But I think people understand the importance of this issue. And, as Greg said, this isn't about disputing climate change. It's not about arguing over the causes of it. It's about trying to address a particular,

you know, outcome from climate change, which is that we have more extreme weather. And how do we – how do we deal with that? And so, you know, legislatively I think part of it is identifying what are some concrete legislative actions that we can take, what are things that we can work with the administration to do? You know, even if it is reversing their decision on cutting funding on something. How do we, you know, better, make sure that we're addressing this issue? So, to me, this is a continuing process. And we'll keep working through it.

Dr. Bliss: Wonderful. Thank you.

Rep. Stanton: Not too much to add, other than to say that, you know, bipartisanship is actually alive and well in Congress. You don't see it a lot, but behind the scenes it's actually happening. I mean, in addition to Mike Lawler being a great bipartisan member of Congress, I'm ranked as one of the most bipartisan members. And the people who have joined the caucus tend to be of that nature. The more serious lawmakers that want to get things done, willing to reach across the aisle, understand that's how you get things done, not by becoming famous on TV and bashing or whatever but actually working together in a real serious way. And that's why I have hope for this caucus, because of the nature of the people that have chosen to join on, a bipartisan group, serious lawmakers, ready to get to work and get things done.

And that's how we come up with the kind of bills that will actually get through the system. And may not even need to be voted on, we can do one of the suspension bills or go through the process, because there's so much bipartisan support for it, showing positive momentum. And I think we're heading in the right direction. And it's a serious issue. Obviously, in Phoenix it's often a matter of life and death for so many people, too many people. But it's a commonsense issue also for helping our workforce, helping infrastructure, helping to develop our community. And that's why I think we're going to be successful with it.

Dr. Bliss: Well, Congressman Lawler, Congressman Stanton, thank you very much for joining us today on the occasion of the launch of this Report on Protecting the United States Against Extreme Heat, I was going to say extreme health, but we don't want to protect the U.S. against extreme health. What we're looking for is extreme health. But, no, thank you for your leadership and for sharing some of the goals and, you know, agenda of the caucus, and really talking through some of the practical steps that you and your colleagues are trying to take and that we can take up as we continue deliberations through the Bipartisan Alliance on Global Health Security and through other

areas as well. So please join me in thanking the representatives. (Applause.)

So, I think we will take a short break to replace the water and the panel, and then we will move into our next discussion. (Laughter.)

(Break.)

J. Stephen Morrison: Hi, David. Everyone, we're about to get started on our second panel. We just had a terrific conversation that Katherine Bliss held with Congressman Lawler and Congressman Stanton. I'm not going to repeat or summarize here what was said, but this is meant to be a successor, complementary conversation that brings in some remarkable people with exceptional expertise in this area. And we're going to start in a moment. I'm going to introduce them, then we're going to start here at the outset about their own personal stories.

I'm going to begin with Jane Gilbert. Jane is the former Miami-Dade County chief heat officer. She served in that position under Mayor Daniella Levine Cava, who we were just talking about. She and I were classmates in college. And a few years ago, when there was a reunion and she had been in that position of the mayor of Miami-Dade County, there was a panel that was organized of several – three or four classmates, all of whom focused on disasters. And she was there. And she said, well, disasters are 75 percent of my work. And I must say, the impression that she brought across was of someone with just a fierce focus on getting things done, and a clear, very dramatic, charismatic, forceful focus on these issues, including heat – extreme heat. So, you're very lucky, Jane.

Jane Gilbert: I couldn't have been luckier, really. The most impressive public leader I have been in contact with, hands down. And I'm not just saying that. She is studied up, committed, kept us all on our toes. And it was across the board in terms of the work of the county.

Dr. Morrison: Thank you. Prior to that, you served as the city of Miami chief resilience officer for four years and now running your own consultancy, resilience consultancy.

We're joined online, David Hondula, director of heat response and mitigation in the city of Phoenix. Great to have you with us, David. You began that job four years ago, little over four years ago, as the inaugural person in that position and as a professor at Arizona State University since 2016. Our third speaker is Umair Shah, founder of Rickshaw Health, a consultancy. He served during COVID as the secretary of health for the state of Washington. We had the pleasure

during COVID of coming out and doing some activities together that were very dramatic, actually. I think it was the first kind of coming out, convening around people comfortable coming together to talk about what had happened. And you very kindly joined. And it was a very dramatic moment. Prior to that, Umair was the director for Harris County Public Health in Texas, Houston. And we interacted there too. We came and visited with you in Houston.

Umair Shah: We did. We keep interacting.

Dr. Morrison: You were the president of the national association NACCHO. And two decades, an emergency physician for the veteran's agency.

And so, these are three people with just remarkable histories, remarkable dedication and impacts. I want to start by asking you, David, to tell us a little bit about your own personal story. How did you come into this role, in combating extreme heat? And what that experience taught you, what the takeaway experience has been, how has it changed you? I want to convey a little bit about the personal stories of all of our speakers before we dive into a discussion of the recommendations. Over to you, David.

David Hondula: Well, thanks so much, Steve. And thanks for the accommodations to make it possible to join virtually. And good afternoon, everyone, from sunny Phoenix. I think we're close to 90 today, a beautiful time of the year for us.

I've always been interested in the weather and climate. I think I've shared with Steve before, I vividly remember having my parents' VHS camcorder out documenting flooding where I grew up in New Jersey as an eight- or nine-year-old. And what an interesting journey it's been into this role in the heat office in the city of Phoenix. I think my story is a version of a be careful what you wish for story. My academic research at the University of Virginia and then at ASU was first focused on understanding the health effects of extreme heat, looking at mortality and morbidity data, and trying to understand geographic patterns and outcomes and drivers of those patterns. It transitioned then to identifying solutions and trying to understand what types of solutions might have been working to address those challenges.

And it was just starting to turn a corner into understanding what the institutional landscape was like, what the governance landscape was like, and our teams and others were starting to describe a governance gap that existed for heat, right about the same time that our mayor announced in 2021 that we'd be creating a heat office at the City of

Phoenix. I never envisioned working in local government. Not sure exactly Jane's version of this story, but it wasn't a job I could have dreamt of having because it was a job that didn't exist. And sure enough, I found myself in that role four years later. And it's been a fantastic and inspiring and educational adventure. And we'll get into more of the details later.

But I think two lessons, Steve, to your question. One, I feel like every day I see validation of the concept that there was this governance gap and that we need explicit attention and investment to address it. And we even heard some of this discussion from the congressman in the previous session, this idea of no natural home for the extreme heat conversation. Even to this day, I'll have city employees come in and meet with our office who say I've had this idea that I think could really help our community provide more shade, help people get access to cooling. And I haven't known what to do with that idea. And having a dedicated team in person to receive and work on those ideas, I think, has been very important here.

And then second, and certainly look forward to getting into more details about this as the discussion goes on, I feel like I've really learned that the magic for moving forward on extreme heat is in the minutia, on all of the process details within the big bureaucracy of our local government here, fifth-largest city in the country. When we think, for example, about implementing a cool corridor, Congressman Lawler's legislation was referenced, what are all of the pieces and steps and players that need to come to the table to work together to implement a comprehensive solution like that? I've really gained a tremendous appreciation for, and understanding – starting to understand where the levers are in the system that we need to pull or change or maybe snap off and break and reassemble in a different way, to move forward on some of these really important investments.

Dr. Morrison: Thank you, David. Jane, tell us a bit more about your personal evolution.

Ms. Gilbert: Yeah. Well, like Dave, I didn't go to school thinking I'd become a chief heat officer someday – (laughs) – or even a chief resilience officer. I have been very passionate, though, throughout my career, about both environmental issues and urban community development. And, really, both of these roles have really allowed me to come into it. I came into the chief resilience officer role after many years in nonprofit and corporate social responsibility work. Local government was new.

I think, to Dave's point, having someone singularly focused on the health and economic implications of extreme heat, now and into the future, and really looking at it, not only across governments within a local jurisdiction, but with external partners, and how do you – how do you address – whether it's the healthcare sector, utilities, or housing, or infrastructure, emergency response, how do we bring heat into that conversation has been extremely valuable, and a really rewarding experience. I did have the benefit – both of us have the benefit of having worked with leaders that are truly committed to this issue, elected leaders.

I think some of the things that I've learned is that it does take – extreme heat is not – you know, we weren't – Dave and I weren't the first people, first cities to work on extreme heat. There were people. But they were embedded in a planning department, or an emergency response department, and not looking holistically. And I think the first thing is, is that it does take that looking across departments, that partnership in departments, but also externally with private sector, with university partners, nonprofit partners, to address a solution. And, at all levels of government, to work – to Dave's point – to really understand the levers. What are the levers at the state or the federal government that we need to pull to really address this, because we can't do it at the local level.

So that's one. And raising public awareness and building quick response, that's been easier to do. The longer-term and more – and longer-term impactful things are some of the things that the congressmen were talking about – infrastructure design and retrofitting, housing retrofitting and policies, building codes, things like that, that we need to push forward to really shift how resilient we are to these changing conditions. And to design infrastructure, not just for today's conditions, but you hope that infrastructure will be able to withstand the conditions 40 years from now. And so, to design it with that in mind.

Dr. Morrison: Thank you. Umair, tell us a bit about your story.

Dr. Shah: Yeah.

Dr. Morrison: Texas, Washington state, heat followed you.

Dr. Shah: Apparently. (Laughter.) I was told when I went up to Seattle that there wasn't heat up there, and, you know, you leave it behind in Texas. And then we had a heat dome, and, you know, 100-plus degrees for seven, eight, nine days. And then it repeated the next year. And I thought, wait a minute, this is becoming a pattern. So, my story

is, let me – let me give just a couple of tidbits, and then – and then, hopefully I can sew them together. So one is, as a physician of clinical care, I was a chief medical officer over two federally qualified health centers in Southeast Texas. And that allowed me to see every day what was the challenge in our patient population around extreme heat. And then, fast forward, I became very much into acute care medicine and emergency medicine and was a(n) ED physician at the VA hospital at Texas Medical Center, where our veterans, unfortunately, were oftentimes with poorer housing conditions and social challenges.

And guess what? Heat in Houston is a real thing. And so, there were so many examples – and I'm sure the two of you, David and Jane, also have these examples of so many people who were, you know, just minding their own business, doing their everyday thing. And all of a sudden there was an emergency that that pushed them into the ED setting, where we had to then take care of them. And that was challenging in so many respects. But it also provided me with an incredible amount of insight into how does it impact the individual, the end user, the patient, the community member, on a daily basis. And unfortunately, Houston has a long summer. And it goes – it starts early and it ends late. And that meant that regardless, and David just mentioned that it's, you know, almost 80 in Maricopa. You know, I'm sure very similar in in Texas we're still having temperatures that are at that, right here in the middle of November, right? So, we would take our Thanksgiving turkey and sometimes you would actually grill it on the outside grill. I mean, that's what living in Texas was like.

We at – so the other tidbit was around Harris County. So, at the health agency we really recognize the importance of not just that individual, but the individual being part of a population, and really thinking about public health. And what were the strategies that we needed to take? So, we created a position for a resilience officer.

Ms. Gilbert: Marissa. (Laughs.)

Dr. Shah: Yeah. And we recognize the importance of learning from others. So Maricopa, for example, I want to give a shoutout, because whenever you think about Houston, Harris County, we were always thinking about Maricopa County, because it was in a red state – not heat wise, but politically – and also recognizing that it was a large population going through a lot of the challenges that we had as well in Southeast Texas.

In addition to that, there were many opportunities for us to be thinking about who the partners were. And you talked about the

partnerships, and some of the partners were obviously in government. So, city of Houston and the other surrounding counties, really thinking about what is it that we can do together? Because it couldn't be one agency, and it couldn't just be one jurisdiction. It had to be all of us together, because otherwise you would – in a very selfish way, you would be burdened – so this is not the right thing to say – you would be burdened by everybody coming to you if your surrounding partners didn't have a plan as well. So, you wanted to make sure everybody was playing it together in the appropriate way. But also recognizing the fact that we had to do some things that were specifically for Houston, Harris County. Harris County being the third-largest county in the U.S., spread over the size of Rhode Island. So, a very large mass of people.

So, in the middle emergency response, and hurricanes, and everything else, and COVID the first year. And I was minding my own business when Governor Inslee asked me to join his Cabinet in the state of Washington in December of 2020. And that's where the story goes back to, thinking that I was responding to COVID, there were waterfalls there. Gosh, it's going to be, you know, water and rain and all sorts of things, which there is. But, gosh, all of a sudden, summer happened. And in fact, I remember this one story where our real estate agent told my wife, look, you don't need to get a home with air conditioning. It's the Pacific Northwest. We don't have triple-digit or extreme heat issues. And guess what? A month or two later, bam. For 10 days we had 100-plus degrees. Fast forward to that happening over and over, but also wildfires that were related to extreme heat. So, all sorts of other issues that really challenged us in the Pacific Northwest.

So, what I've learned from that, just to sew it together, is that clinical as well as the public health and population health, the extremes are always where we get challenged. But those are the extreme weather events that absolutely impact human beings. And we have to be thinking – as well as our furry friends – but we have to be really thinking about how do we bring those pieces together so that we are appropriately responding to – planning for, responding to, certainly recovering from, because the whole name of the game is resilience, and how do we build resilience for our communities?

Dr. Morrison: Thank you, Umair. You're here this week because of the American Public Health Association meetings, is that right?

Dr. Shah: I am. I am.

Dr. Morrison: So, we have in our city here this week 10,000 public health officials.

Dr. Shah: Eleven thousand five hundred and fifty, apparently. (Laughter.)

Dr. Morrison: And they are talking a lot about public – Georges Benjamin gave a very dramatic opening statement that was widely reported, about how he's laying down the gauntlet as against MAHA, and there's this big debate going on. How much are you hearing about these issues that we're talking about here today at the APHA meetings?

Dr. Shah: Well, today I was fortunate to be asked by Dr. Benjamin, as well as the leadership at APHA, to be on a panel around extreme weather events and how does that impact emergencies. So that was what one of the plenaries this morning. And that was an opportunity – and I think, Jane, that's where you knew that I was in town – that was an opportunity to really highlight the challenges that we have. And I guess what I would say is not as much outside of that, right?

I mean, you have pockets like the Texas jurisdictions, or the Florida jurisdictions, the Arizona jurisdictions, maybe Southern California, are really the ones that are leading the way in terms of talking about this. But I would say that this is really impacting, with the changing climate, all of us. And so, whether you're in a New York, or whether you're in a Michigan, or whether you're in an Oregon, you have to be thinking about this because, unfortunately, the climate is changing. And we have to be ready for that.

The other thing that I made mention – and, you know, you had – you had asked me about this – so I did start my own consulting, Rickshaw Health. So, I've got my rickshaw here. (Laughter.) So, I'll just make sure I have that. And the reason I bring that up is that I stepped down in January. And I started this consulting with the notion that one of the reasons that I stepped down was because I actually felt that in government, that we had stopped being able to work across the aisle. And the red-blue politics was becoming so divisive that I felt that coming out of government that I was going to be able to do more to bring people together. And that has been the last eight months of my journey with what I've been doing, is the ability to be able to articulate why we need to work together in an all-of-us manner. And, you know, you'd be surprised that Texas and Washington have a lot of similarities, even though, on a political map, they couldn't be more different when it comes to colors.

Dr. Morrison: Thank you. We're going to open up for questions and remarks from the audience at about quarter of. And please – there's a microphone

over here. Please queue up. We really would like to hear from our audience.

Each of you plays a really vitally important role. I mean, the fact that you were empowered by the political leadership that you were working for to take on these responsibilities, it may have felt like a bit of a burden or an excessive burden, but there was a lot put on your shoulders. (Background noise.) (Laughter.) There was a lot put on your shoulders. And you were really charged with beginning to innovate in new ways, and to change the politics, and the processes, and the consciousness, and come up with very – you were charged with coming up with very pragmatic and concrete things. This was not abstract. This was real. And I think that we're beginning to see, four, five years later, the fruits of all of this.

Now we have some – we have some core recommendations in this report. And we'll start with the – in a moment, with a focus on the federal functions that we suggest are essential and need to be strengthened. But in each of these – in each of these proposals, to make them an operational reality is going to require a combination of sustained leadership, cutting across political lines, financing, political and media savvy, a way to document better data and better documentation of those interventions that really work, because I think there's a natural – as we move into this field, there's a natural skepticism around what are you getting from this? And you've got city council members, or you've got county officials, county judges, and others wanting to know, and demanding a lot.

But this moment may – we may be at a moment of acute political polarization, but what we've been hearing from the two congressmen and from you is that this is an area that lends itself to bipartisanship. You exited because you felt that might have been winnowing in where you were, but we're not hearing that story from the municipal level. And we're hearing that there's a certain ripeness for action here, that a moment has arrived here. And so, let's – with that in mind, let's talk about the – begin with the recommendation that we need to not lose sight of the essential federal functions. We focus on FEMA. We heard a lot about FEMA, unprompted, from Congressman Stanton and Lawler. That really hit me over the head. Scientific agencies – NOAA, NASA, USDA, USGS. And, of course, the emergency assistance program, the LIHEAP program.

So, let's start with what kind of – have we gotten it right? Have we identified what the essential federal functions are? And how do we move that agenda forward? FEMA has been subject at different times over its decades-long history to periods of reevaluation, periods of

stumble, periods of reform. It's not a fixed entity in the sense that – people can come back and argue times have changed, it needs to now have the authorities and have the mandate to really move in this way. David, over to you. What do you have to say about that particular recommendation? Did we get it right? And how do you move it forward?

Dr. Hondula: I think it would be hard to claim we've got it right, right now. I think we're still in the early stages of the growth curve here. And perhaps it's just one indicator. We've had just a couple of national heat convenings brought together by the federal government. And if we were to look across other hazards, other environmental challenges, we have decades of collaboration and national meetings that we're building upon. So, I think we're still in the infancy. We've, of course, been paying very close attention to the FEMA conversation.

And I'd encourage us all to spend some time with a recent report out from the Government Accountability Office. It was commissioned by Congress to examine the intersection of FEMA and heat. They reached a number of important recommendations to which FEMA pushed back on one. One of the challenges that I perceived from our work in Phoenix is that some of the tools in the FEMA toolbox are very much focused on infrastructure costs, and cost-benefit analysis around infrastructure. And what we need a lot of to address our heat challenges are related to human services and human resources. So how do we factor that into our thinking?

Also take just a moment, Steve, if I may, to highlight on the – highlight on the academic component of the federal agencies. I found it very frustrating for a decade-plus to understand how heat fits into some of the calls for proposals, requests for proposals. And that ambiguity, if it exists at the RFP stage, certainly propagates forward into what is funded and how successful it is. And I wonder if there's not an opportunity ahead of us to think about more paired funding, that matches research investment with physical investment on the scale that cities are receiving. I think our academic community has a great appetite to support and study and evaluate interventions, but I don't see the funding streams coupled.

When we're working as a city to bring in money for a bridge, there's not an obvious parallel on the academic side to study. And I think there's some tension and friction there that can be worked through. And maybe the commission idea that we'll talk about, or some other core convening entities, can help us think through how heat fits in and how heat can span across different types of funding streams from the federal level that are so important.

Dr. Morrison: Jane, your thoughts on the essential federal functions and how we should prioritize?

Ms. Gilbert: Yeah. So, you know, FEMA is definitely one of them. And making sure heat is a hazard that is integrated in whatever work FEMA does. I think FEMA needs reform. We all know that. And, you know, in Miami, I think, you know, we have chronic high heat, but some of the episodic things are the compound risk of if we have an extended and widespread power outage, whether it's from a hurricane or some human failure or disruption. That we saw in Hurricane Irma in 2017. We lost 12 people in the county just north of us. The state then implemented a law requiring all nursing homes and assisted living facilities to have the backup generator power and fuel on site to keep a room cool. And they've done a good job of following up on that and enforcing that.

We know there are a lot more people at risk. And there are ways that the federal government can incentivize our states to have laws like that, to have building codes that make sure our housing stock has minimum cooling standards and has efficient cooling. And so, I think there are ways that – Congressman Stanton mentioned the BRIC funding, which is the building resilient something communities. (Laughs.) I forget the – infrastructure in communities. And it's proactive, preventative investments in our infrastructure to make sure that, in addition to making sure – or, in a recovery, that you're building back better in terms of wind and flood and fire resilience, that you're thinking about affordable cooling and energy resilience.

And I think we need to think more holistically about these hazards. Some places, like Phoenix and Miami, may have more chronic high heat. Seattle area more of an episodic, that can be really dangerous in its own way. I wanted to say, I do think this is hitting and communities are working on these issues nationwide. I'm now working, through the Climate Resilience Center at the Atlantic Council, coaching 10 communities across the U.S. on heat action planning and resilience. And it's King County, Hennepin County in Minnesota, Minneapolis, St Paul.

Dr. Morrison: So, the demand is there?

Ms. Gilbert: Lincoln, Nebraska, Erie County, New York. I mean, it's – Honolulu. So, it's all over. And Laredo, Texas. So small, large, it's rural, it's urban. I think we do have the ability to attract a widespread amount of

support for this. It's not located in just blue cities or South cities. It's really a universal issue that people are supporting.

And some of the solutions offer many co-benefits. And I think that's another piece that we need to speak to. But, to Dave's point, I think a lot of it we don't have good backup data on all the benefits from the investments – whether it's housing retrofits or it's cool corridors. We don't have all – so having that university support, with those investments, does make a lot of sense.

Dr. Morrison: Thank you. Umair.

Dr. Shah: Yeah. I think what I would say is that federal agencies play such an important role. And we know that there is an incredible amount of shifting that's happening right now. When we look at those federal – those very federal agencies that state local governments have relied on for the decades. And I think the challenge that we have is that we know that there is reform that's needed, that there are efficiencies that are needed. But at the same time, we also recognize that emergencies are lurking around the corner. You know, it's not a matter of if. It's a matter of when. And so, you can't wait for an agency to complete the process while you also have to recognize that today there may be that urgency where you have to respond.

And that's then the burden gets on state and locals and communities to be able to then do that when you don't have the agencies ready to be able to take that on. The other piece of it is that those agencies support state and locals. And so, if you do make cuts there, you are, in essence, cutting state and locals. And you're impacting the very – not just community members, I would make the argument, the constituents – the very constituents who are relying on those services, those activities that are in the mix.

And then the last thing is that when – you know, when the cavalry, you think is coming, and the cavalry isn't coming, then you have to really have the resilience that's being built at that markedly local level, and the hyper local level, whether it's community, again, local, regional, or state. And you have to recognize the importance of that. And so, we have to be thinking about this as a – and this is a problem in America, that we don't have a system. But we have to think of it as a system regardless, because federal, state, again, regional, local, and community, all must work together. And any gaps in that is when you start to have challenges with the individuals that you have to respond on behalf of.

Dr. Morrison: Well, these functions that we're talking about – whether it's FEMA, the scientific agencies –

Ms. Gilbert: LIHEAP.

Dr. Morrison: LIHEAP.

Ms. Gilbert: I did – I feel like I didn't address it, but it's – I'm very concerned. We have continued funding, but no staff to distribute the funds. (Laughs.) And very concerned about – LIHEAP, the Low-Income Home Energy Assistance Program, was originally created to keep people safe in the winter. And it's now also supporting communities to keep them safe – thermally safe in the summer. We run out of funding in July and August. And it doesn't mean that communities are safe in July and August. We're hot through October. So – and it's not enough. It's we know that 35 million people don't even have access to AC at their home. And according to the Center for Disease Control, 69 percent of heat-related deaths in this country happen in the home. And most of those are seniors.

And so, we – and some of them are people who have access to cooling, but they can't afford it. So, we need to look at, yes, LIHEAP, and, you know, most essentially make sure that that funding continues and works. But add flexibility to be able to install efficient cooling systems and retrofit homes to make sure those utility costs – I mean, utility costs are going up for all sorts of reasons – but make sure that's more affordable.

Dr. Shah: There is one thing I just want to add to that. Is that, we think of community as a very homogeneous term, right? It's our community. There are many communities within a community. And so, the most vulnerable are the ones where you have the most challenge, right, in the middle of an emergency, because they are the ones who don't have the resources. They can't get out of dodge. You can't just say, oh, get on a flight and I'm just going to – it's hot, I'm going to go get into a hotel, or a motel, or what have you. And so that's where we have to really think about how do we stratify to those who may have the most need when it comes to those urgent issues.

Dr. Morrison: I would think that as the reality and the consciousness around extreme heat and extreme heat-related weather rises, and as we see a weakening of some of these critical federal functions, that governors and mayors and county judges all across the country are going to be very concerned, because they know that their mission, and they are going to be judged by their success in achieving their mission, relies on those. David, what is your response to that? I mean, it just seems

to me that we're going to see more activism and more mobilization coming from those leadership at the governor, mayor, county level in this period.

Dr. Hondula: Yeah. I agree. And I think, to some extent, we've been living in that reality already because we have not had an extensive, clear, explicit, federally coordinated program on heat already. So, in some ways, I think the pump is primed for continued innovation and growth. And at those other levels of government and other sectors, we are already innovating, and collaborating, and thinking ahead and trying to seed ideas into the federal government. We see examples of this, for example, in the recent report from the Federation of American Scientists, trying to craft what an extreme heat policy agenda might look like at the federal level.

That being said, as the Congressmen alluded to before, I think there are some functions that will only exist successfully at the federal level. It gives me – I get goose bumps every day when I look at the weather forecast on the National Weather Service webpage and there is a banner that has to clarify that this service, this essential public service, is continuing during a time of government shutdown. And I'm very confident in the city of Phoenix we are not going to stand up a national weather forecast model if the federal backbone goes away there. And I imagine more significant versions of that same experience play out across so many programs and agencies and sectors right now.

Dr. Morrison: David, we're – I'm going to shift now. We're proposing a data consortium be formed. And I think the impetus behind that is that there's a lot of expertise emerging across the country in different places, in industry, private sector, at universities, within state offices. And there is a greater awareness of what the data gaps are. And there is an urgency to act, as we heard from the congressmen here. And so why not try to band together in an initial consortium to try and improve the quality, the speed of collection, and the comprehensiveness of the data needed to really make the case and make the best decisions? Your thoughts on that, David?

Dr. Hondula: As an academic I feel like my default answer has to be one of high enthusiasm for this particular idea. (Laughter.) But I can – I can see the benefits. And this was a topic that was really front of mind for many of us in the room who convened just a couple weeks ago in Jacksonville, Florida. Folks from sustainability and resilience offices and the insurance sector were participating, convening from the Ten Across Network, a network of communities across the Interstate 10 corridor, close to the geography represented on the panel today. And

we talked a lot about the costs of extreme heat and trying to understand those and think about a national framework when we can consistently think about, report, and interpret those costs, the bearers of those costs, and what can be done to mitigate and transfer risks associated with those costs.

There are some good case studies out there right now. And I can think back in the academic literature maybe a decade or two of one-off studies trying to document costs of extreme heat. But I don't – and I'd love for my colleagues to correct me here – I don't think we have a consistent framework for understanding what even the types of costs are, let alone filling in the numbers and understanding who holds and bears those costs. Which would be critical, as you alluded to, Steve, to making a stronger case for action. I think bringing dollars into the conversation, understanding where those dollars are missing and how they could be flowing differently, would really bring a lot more actors into the table with a different field of action, if you will.

Dr. Morrison: Now, the congressmen were a little cautionary about the idea of a data consortium around a commission and suggesting that if we're not careful this could delay, this could turn an urgent need to act into a more delayed study. I see these differently. I see these proposals as meeting an urgent need and accelerating the response. In other words, having a data consortium, if it's successful and carried out effectively, would greatly armor those who are struggling with this. And that a commission would elevate at a national level the visibility. It would forge higher-level bipartisan drive around this. And it would help set priorities and set a strategy or a vision, because there is no strategy. There is no unified or coherent national strategy at the moment. And there's these pockets of bipartisanship, and the House caucus is one area where there's promise there, but it needs to be scaled. Jane, your thoughts?

Ms. Gilbert: Yeah. So, I do think that both the data consortium and the Commission can be very helpful for stirring action in short term. But I think we have to be very clear about the directive to both of those. You know, start with the data consortium. There is a lot of data out there, but there's also a lot of missing gaps, even on understanding the full health impacts of heat, and who's most exposed, whether it's at home or at work or kids in summer camps, whatever it is. And – or at the World Cup – future World Cup games. (Laughs.) So that's one. But certainly, understanding how different interventions can reduce costs and generate other benefits, and really quantifying that. Because, you know, money talks.

And really understanding the economic case for some of these solutions, I think, has got to be a directive of that data consortium, so that we can arm decision makers with tools to – with strength to pass that building code, to make – to reform FEMA and do the things that need to be done. Like, we really need to direct them to where – it's not just research for research's sake. This is research for making the case –

Dr. Morrison: In a coherent and powerful way.

Ms. Gilbert: In a coherent and powerful way. And same with the commission. I think the commission should be time-bound and directed.

Dr. Morrison: One year.

Ms. Gilbert: One year. And, you know, we want to understand what are the essential things federal government needs to do, how does it work with outside sectors, whether it's the private sector or state and local governments. And where we see some of the priorities of action that they should be focused on. And that commission needs to make sure they are very transparent in their process, and that they engage the various key stakeholders and actors that could be part of the solution. Whether it's a utility or the healthcare sector, we need to make sure those players are fully on board with the solutions, because they're going to be more cost effective if we – if we –

Dr. Morrison: I'm going to ask Umair one question. David, did you have a point you want to make?

Dr. Hondula: Yeah. I'd really just love to plus-one and piggyback on Jane's comment there on scope. I found one of the hard parts of this job is the multidimensional, intersectional nature of heat. It seems like almost every city department and program and function touches heat in some way. So, when we're thinking about tasking a commission or framing a data consortium, I think there's some thought to be done about setting the boundaries of what that really means across this full solution set, from primary care providers to tree planting and smart irrigation timers, right? It's so big, it feels like, in some ways, that I wonder if – I go back and forth every day think about specificity versus a general work on heat.

Dr. Morrison: Thank you. Now, Umair, the public health field, has some lessons, good and bad, about commissions and about data consortiums. On the data consortium, you know, Mike Osterholm out of University of Minnesota, when there was controversy emerging around our vaccine policy-setting mechanisms, the ACIP committee at CDC as

Secretary Kennedy came in, he jumped forward. He found a single donor. He based it at the University of Minnesota. He rallied the medical associations. He rallied state public health officials. He went in rocket speed. By the end of July, had fielded scientific briefs on COVID, on RSV, and on flu, for making determinations.

And he demonstrated something that, to me, was remarkable, that that kind of ingenuity, and goodwill, and energy could bring forward data that was very high quality and very usable to a number of different consumers. So that's partly what gives me a little bit of enthusiasm around the data consortium idea. On the commission idea, as we all know, you were pulled into all of the – and we were as well – all these deliberations led by Philip Zelikow around let's stand up a commission. It went on for two and a half years. And it ended sadly. I mean, it ended with the issuance of a very good book, but it failed in getting the – in getting the kind of high-level bipartisan agreement to move it forward. And it was too closely hinged to cooperation and blessing from Congress. How do we translate those experiences into this question around extreme heat? And I want to urge anyone who'd like to pose some questions or comments, please come on up.

Dr. Shah: Yeah. I think one of the challenges – I mean, that commission, I mean, you know, when we – when we think about COVID, in reflecting on it I almost wonder if we collectively, as a nation, it was a too-soon moment for us to reflect back. That, you know, there's almost a collective mental health break that all of us needed to take, given what has transpired. And so, I wonder if that's a unique experience that maybe we shouldn't –

Dr. Morrison: Don't draw the wrong conclusions.

Dr. Shah: Yeah, don't draw all the conclusions. But one thing that I do want to talk about from the data standpoint, and I made this point this morning as well and it was a theme throughout the American Public Health Association, APHA, meeting, was this notion about numbers and metrics and indicators and data are necessary but not sufficient. And we've got to do a markedly better job of telling the story of our communities – what's happening on the ground, how it's impacting communities, how it's impacting individuals, how it's impacting neighborhoods. And that storytelling is driven by data, but it doesn't stop with just the data. And I think we've got to really do a markedly better job of that quantitative and qualitative threading together, because that is what's going to really, for many, drive action. And I think we need to really be very markedly intentional about that.

Dr. Morrison: Thank you.

Dr. Shah: Yeah.

Dr. Morrison: Josh. I think we have two Joshes coming up here. Josh Glasser.

Q: Is this on? Can you hear me, OK? Very good. Josh Caucus here. So, I'm Josh Glasser. I was a part of the committee.

I was reflecting during the last couple hours about the issue of cost of living. Voters have made very clear this is their top issue. Thinking about heat as an issue that impacts utility costs, it impacts food costs, it impacts healthcare costs, impacts municipal costs, impacts housing costs. This seems to be ready-made for a cost-of-living frame. Would you say that your municipal leaders and your communities understand that linkage or not? And how would you go about addressing that?

Dr. Morrison: David, you want to start off on that?

Dr. Hondula: Yeah, certainly. I mean, I'll say, it has come up as we've been in early-stage exploration of potential additional policies related to infrastructure and building stock, in that I think the audiences and stakeholders we've talked to thus far see the benefits. They see potential energy bill savings at the residential level, et cetera. But also, are tremendously concerned about upfront costs and any threats in our community, and likely the others from my colleagues, around housing affordability in general, recognizing the pinch that that sector is in. So, I think there is an appreciation that that argument can be made, and there are – we've taken steps in that direction. But also, some headwinds – and maybe this ties into the conversation before about where we transfer the risks and costs to make that whole ecosystem work.

Dr. Morrison: Jane.

Ms. Gilbert: Utility costs are very front and center in our community in Miami-Dade County. The rates have gone up. And, you know, keeping your home cool for the four, five, six months that we have to. And when you have repeated days of the heat index reaching 105, a small home can have utility bills of $400, $500 in a month. And people can't afford it. And we know that one in six households are behind in their utility bills. So, I do think – I do think, to your point, Josh, that it absolutely can fit into the affordability, cost-of-living question, and how do we address that. And the good thing is that a lot of the solutions are local jobs too.

Dr. Shah: I was just going to add; it's certainly on the minds of people. And, you know, when it's on the minds of people, community members, that is – again, back to the narrative – that's what helps drive action. And so, you know, whether – and I think there's some variation. I think there are going to be some municipalities where it is front and center, it's the topic of the day, it continues to be, it's a sustained issue. And there are others where it's not. And I do believe that is something that we have to be really mindful of. Yet, people and the affordability, and how that's impacting homes and homeowners – and I don't mean homeowners, but – you know, dwellers of whatever the property is that they're in, I think it's the impact of that that we have to really be thinking about. So that's where the action is driven, is through those narratives. That's a great question.

Dr. Morrison: One of the points we make in the report is that, you know, we're in an economy right now where economic growth is, to a very significant degree, being driven by investments in AI and in data centers. We've got massive explosion just nearby in Northern Virginia. Arizona has. I mean –

Dr. Shah: Washington.

Dr. Morrison: And Washington. And that growth in demand for electric power is far outstripping the ability of this sector to expand its capabilities, right? I mean, our power sector does not expand rapidly, and – or cheaply. And so, we're in an era, it seems to me, where rates are going to go up. And seeing this expression in the New York City and the in the New Jersey race and in the Virginia gubernatorial race, I think, was a – was a clear – a very clear and powerful signal of how this is emerging as a – as a big and enduring political challenge. And it cuts right into what we're talking about here.

Josh Rosenthal.

Q: Yes. Also, Josh, unrelated. Josh Rosenthal. I'm formerly of the NIH. And now I'm at Georgetown.

I wanted to underline this question that several of you raised about what the data represents, or more to the case of evidence. You know, there's – if we do not evaluate interventions we waste a huge amount of money on investments in FEMA, for example. So, FEMA has come up several times. The congressmen in particular have pointed it out. But the NIH's investment in health and extreme weather, which is continuing but in danger right now, the CDC's investment in the

BRACE program with climate health has been really important. Is that going to survive? The Department of Energy put enormous investments into understanding where efficiencies can be gained. NSF has also been doing work on emergency response and surveillance systems.

Those are all in danger right now. So, I want to underline that, but also consider whether there are opportunities to do some of the evaluation of those interventions at a local level with less costly, federally supported sources. Because a lot of it is getting people together to consider, why aren't cooling centers better utilized? Why don't people leave their homes when there are floods? How do you best alert people to the need to seal off the air sources of their houses during a wildfire setting? So just thinking about how to do that efficiently at a local level if the federal sources are less robust than they have been historically.

Dr. Morrison: Thank you, Josh. Let's take a last comment or question and then we'll come back to our speakers.

Q: Sure. Thanks. I'm Andrew Schroeder. I'm with Direct Relief nonprofit organization. I was also a member of the committee.

And I wanted to pick up on your point about artificial intelligence and the role of the technology industry, because I think it threads through a lot of the report in a way that maybe we could even pull together better. So, you mentioned the sort of dramatic expansion of infrastructure in the form of data centers, which is the single-largest driver of new energy consumption in the country. But the tech industry actually plays a broader role in all of the things that we've mentioned here. So, we mentioned the data work. I mean, probably the single largest expansion in the weather forecasting capacity comes from institutions like Google, DeepMind and that have put tremendous resources into prediction modeling for weather and for climate systems, that extends to data consortiums like Overture Maps Foundation, which is building infrastructure data that is open and available, that's a consortium of multiple tech companies.

But, you know, they also require significant controls. You know, the data center issue is probably the signature one. And that's largely not come from government. It's come from social movements that have held tech companies accountable for how they situate resources and how, you know, we understand what it means to add that level of new infrastructure. So as you sort of, like, look at what David was describing as, like, a whole-of-society kind of approach here, how do you then think about all of the myriad ways that the tech industry has

to be engaged in these processes, almost as much as the government, in order for what you're talking about to succeed?

Dr. Morrison: Thank you. Thank you, Andrew. David, I'm going to turn to you. Answer whichever pieces of this you're comfortable answering. We'll come back to Umair and Jane, and then we'll close with a couple of – a lightning round of questions. To you.

Dr. Hondula: Yeah. I do really appreciate, from the previous comment, these points on evaluation and thinking about how we can do a better job of pairing evaluation and projects at the local level. I'm thinking about student capstone projects, and master's theses, and some of these resource pools that are out there that are somewhat low or no cost to engage with for cities. That certainly has my wheels thinking. So, thank you for that comment.

I mean, one of the – one of the intersections with the tech industry that I'm interested in is the continued use of 3-D models, digital twins, microclimate models to support our planning and development processes. I have this dream that someday when a redevelopment or a development proposal comes forward we can feed it into the heat optimizer software, and it will spit out for us immediate return of, you know, let's reconfigure this way, use this material over here, add this vegetation over here, change the slope this way, and the net heat impacts, whatever that might mean on the community, will be net zero or positive or negative. I'm not sure how to think about it yet. But that's one of the ways we were thinking about tech sector engagement in the heat office in Phoenix.

Dr. Morrison: Umair. (Laughter.) Jane.

Ms. Gilbert: I so appreciate the question. I think – and, Dave, your vision has been my vision as well. And I think without engaging companies like Google DeepMind, but also there's others out there that are not the big guys that are experimenting with AI, but also – but they need that government partnership to fully leverage it. And I think that is so – it could be so powerful in a positive way. We know we've talked about the data center negative impacts on our grid, but I do think that that's where this – you know, if you're able to get a consortium together, if we're able to get a commission together, both need to engage that sector fully, because it is a tool that cannot be ignored.

Dr. Shah: I was just going to add that, you know, the Coalition for Health at IHI is up and running. And what's interesting is they're looking at responsible AI. And one of the – one of the issues that I haven't heard is it does that – you know, they're talking about all the different

challenges and opportunities. And one of the things we will take back to try to see is how are they looking at this notion of responsible AI in terms of the environmental challenges. I know companies are thinking about it. I know that.

And from the Pacific Northwest experience, what I will say is that we were very innovative when it came to the partners and going out to a lot of those very companies that were in our backyard during the pandemic but recognizing that a lot of our sister agencies across the country were not. And they used to look at us as what's your secret sauce? And what we said to them very quickly was, don't just think about the private sector as a negative – in the sense that, yes, you may need to have guardrails, and, yes, they may be looking at trying to sell something potentially not necessarily to you, but to someone else.

But there's another side of the private sector, which is to be a thought partner. And I think where we get lost in public sector very quickly is that we forget the thought partnership piece. And if you can leverage that, there is so much of an opportunity of public-private, academic and community, partnership that needs to come together. So, I think it's a great question, but one that we need to wrestle with in public sector. Because if we don't, and we simply say we're not going to be part of the, we're not going to be at the table. The table is being set right now, as we speak. And we've got to be there in order to be able to have those opportunities. And there was one other question. I can't for the life of me remember what it was. Josh?

Ms. Gilbert: Around the local examples?

Dr. Morrison: Rosenthal.

Dr. Shah: Oh, the one question – I wanted to make this quick comment. The reason why the federal or the state roles are so important is that you don't have consistency when you leave it to just the jurisdictions. So, whatever I did was fantastic from a one-agency standpoint. But if your partners across the jurisdiction are not doing the same thing, again, you start to have inconsistencies. And it makes it very confusing to the community member because they see two different health agencies doing it differently. And that's where the prodding from the federal government helped significantly. I'm not saying it's the only way. I'm not saying there aren't examples of success. I'm not saying you can't do it locally, because I do believe emergencies are local in nature. But it is something that we have to really be thinking about.

Dr. Morrison: David.

Dr. Hondula: I'm so glad you said that. And maybe, as my final comment, just to give us all a sense of where we are and how much work there is still to do on heat and the role that consistency can play, it's probably fair to say that Jane and I are amongst the people who are most familiar with heat health data in our communities in the country. Don't mean to be boastful about that. It's just a state of our jobs. And I'm not sure that we can actually compare our numbers to each other as two of the most knowledgeable people on this in the country, about heat deaths or heat illnesses. And if we are apples and oranges at that baseline level of understanding, when we move forward into programs and impact and cost benefit, I think there's so much growth that's possible.

Dr. Morrison: Do you agree with that, Jane?

Ms. Gilbert: I couldn't agree more. Yeah, no, absolutely. We met with Maricopa County's medical examiner to try to get better at our way of documenting, but it's a whole process of educating healthcare practitioners, and emergency responders, and whatnot. And we don't have clear guidance. Healthcare Without Harm is starting to do some of this work on giving consistent guidance to the healthcare industry on how to document heat-related morbidity, heat-related deaths. And I couldn't applaud that more. Those are the kind of private sector partners that – or nonprofit partners that I think we should be bringing into this conversation to advance that. We definitely need to be having more consistent.

Dr. Morrison: Let's close by asking each of you just to tell us what gives you the greatest optimism and hope right now? Umair, I'm going to put you on the spot.

Dr. Shah: Yeah. I was going to pull up – pick up the rickshaw.

Dr. Morrison: The rickshaw.

Dr. Shah: The rickshaw, yeah. I think what gives me hope is that two different ecosystems, supposedly red state, supposedly blue state, and I will tell you that what gives me hope is that there is so much commonality of themes, regardless of that political context. And there is markedly more that brings us together and unites us than what tears us apart. And we've got to be able to figure out a way to bring those entities together that can really work on that. So that's the optimism that I have.

Dr. Morrison: Thank you. Thank you. Jane.

Ms. Gilbert: You know, when I was appointed chief heat officer in Miami-Dade County, many people said, why do we need a heat officer? It's always been hot in Miami. And there was a lot of skepticism. No one has that skepticism anymore. And I mentioned earlier that I've had the benefit of working with these 10 very different communities across the U.S., all pretty committed to working and doing great work and collectively advancing the community of practice. And I think that – and bringing in outside experts to help coach them. And I think that kind of collaborative spirit, that level of commitment that I'm seeing, to your point, red and blue areas, rural, urban areas, that gives me hope.

Dr. Morrison: Thank you. David, you get the last word today.

Dr. Hondula: Similar theme. And thank you again, Steve and CSIS, for bringing us all together for what I think has been a great, great dialogue. I'm optimistic because I've seen what I perceive to be a very rapid change in stance, attitude, and organizational response to heat, even in a big institution like the city of Phoenix. We have public comments from two to three years ago when emergency managers in our region would stand up and express confusion as to why they were part of a meeting about extreme heat, because it didn't fit into their job. This summer and last summer, emergency management was the point department at the city of Phoenix for critical components of our heat response program. Things are changing very rapidly with great leadership from our mayor and city council, and certainly a strong voice from the community here.

Dr. Morrison: Well, thank all of you for your leadership and vision, and coming with us today to share all those insights. Please join me in thanking our speakers. (Applause.) We're adjourned.

(END)