

### **[00:00:06.990] - EH Nexus Host**

Hello, everyone and thank you for joining today's episode of CDC's EH Nexus Podcast, where we talk about environmental health topics. We are joined by Matt Wolff, Climate and Health Program Manager for the Population Division at the San Francisco Department of Public Health. During this episode, we will be talking about how CDC supports their work in preventing climate effects on health using the BRACE framework. As an overview, CDC's Climate Ready States and Cities Initiative, commonly referred to by its acronym CRSCI, is helping grant recipients from 11 jurisdictions use the BRACE framework. BRACE is an acronym that stands for Building Resilience Against Climate Effects. Health officials use the BRACE framework to develop strategies and programs that help communities prepare for the health effects of climate change. BRACE uses a five step process. Step one is to anticipate climate impacts and assess vulnerabilities. Step two is to make a projection of the disease burden from these impacts and vulnerabilities. Step three is to assess public health interventions that can help reduce this projected disease burden. Step four is to develop and implement a climate and health adaptation plan. And step five, is to evaluate the impact of these efforts and make improvements as needed.

### **[00:01:28.940] - EH Nexus Host**

Through cooperative agreements, CRSCI funded 18 state and local health departments in 2010 and another 11 in 2021. Approximately 57.5 million people are projected to benefit over the course of the five-year grant. Matt, please explain what San Francisco is currently working on as part of this initiative to increase climate resilience and promote positive health outcomes in communities within your jurisdiction.

### **[00:01:56.700] - Matt Wolff**

The San Francisco Climate and Health Program is one of the only two local health departments to receive the funding from the BRACE Climate, Resilience States and Cities Initiative. And we over the last year, the main activity of the San Francisco Climate and Health Program has been to co-manage what we're calling the San Francisco Heat and Air Quality Resilience Project or HAQR, or our shorthand for it is "Hacker". We co-manage HAQR with our Office of Resilience and Capital Planning, which sits in our city administrator's office. And in San Francisco, extreme heat and Air Quality — and specifically, when I say air quality, we're highlighting wildfire smoke — are relatively new hazards. So San Francisco is traditionally a temperate city. We're famously cold in the summers, and we have this regular afternoon bogbank that acts as a natural air conditioning and ventilation. But over the course of the last decade, that's been changing. And we know that the actions to prepare for extreme heat and wildfire smoke are interdisciplinary and that they involve the public, the private, and the community-based agencies that represent or engage or work most closely with the communities most vulnerable to the impacts or plan emergency preparedness or response actions or provide healthcare services, or build, regulate, or maintain housing because we know housing affects heat and air quality, plan or manage open space or green infrastructure.

### **[00:03:27.960] - Matt Wolff**

As you know that there's urban heat islands that get reduced with tree coverage and other green infrastructure or deliver and maintain the services that sustain our workforce. And in San Francisco, and I think it's similar for most cities and counties, our departments and agencies weren't developed with this collaboration in mind. So what HAQR is, is it's a framework to get all of these different folks on the same page to align our objectives, to share research and best practices, and to center a lot of this work that's happening in different agencies and in the community around health and equity. We're across the parliamentary group, and we identify, plan, and implement the strategies necessary to make sure that San Francisco is safer year to year to year as we get more of these extreme heat events and wildfire smoke events.

And the deliverable, the final product of the first step of HAQR is a heat and air quality implementation plan, which we're finally done with and we're releasing this May.

**[00:04:28.940] - EH Nexus Host**

How has this framework helped your jurisdiction make positive impacts within your community? Are there any outstanding outcomes you can share with us?

**[00:04:40.630] - Matt Wolff**

Yeah, absolutely. I think the BRACE framework has driven a lot of the work of the Climate and Health Program. We've been a BRACE grantee now, I think, for nearly a decade. And the first step of the BRACE framework is to forecast climate impacts and assess vulnerability. And the second step is to protect disease burden. And through these first two steps, what we really identified is that extreme heat is a priority in San Francisco. And that doesn't necessarily vibe with the lived experience of a lot of the people who live here and know it as cold, as rainy, as foggy. And understandably, over the last decade or so, a lot of the focus in San Francisco when it comes to climate adaptation has been on sea-level rise. And for good reason, we're a peninsula, we have a lot of coastline. But when you look at the health impact that the BRACE framework tells you to do, heat really emerges as a significant health threat. During a 2017 heatwave, where our temperatures hit record highs, emergency department visits increased by 12%, and 911 calls increased by 51% compared to the same weekend in previous years.

**[00:05:50.800] - Matt Wolff**

And why is that? It's because our homes and our built environment aren't prepared for extreme temperatures. We have the lowest rate of air conditioning ownership out of anywhere in the country. We have urban heat islands, neighborhoods with less trees and green space than other neighborhoods, and our bodies aren't acclimated to heat. So we're still socializing and learning ourselves best practices to respond. So we don't have heat events very often, but when we do, we get walloped. And I think that the BRACE framework has really helped elevate heat and wildfire smoke as particular areas of concern. And it's also been instrumental to getting folks at the table from across these departments to really address this. And they all are looking for the data of what the health impacts are because it helps them design their own programs and services.

**[00:06:40.410] - EH Nexus Host**

What do you consider to be some of the key benefits that come from these efforts supported by CDC?

**[00:06:45.470] - Matt Wolff**

I think the biggest benefit that comes from CDC support is that BRACE funding really protects my time to work on climate change. I think it's really important that public health is at the table for climate change work in general, and especially at the local level. Local health departments act as the first point of contact to many of the most impacted communities through regular healthcare services, emergency preparedness and response actions, direct service programs, and outreach and activity. We know the folks that are going to be the most impacted when the temperature gets too hot or the air gets too smoky. Local health departments, we have hospitalization and emergency department data. We know social determinants of health data, so we can really measure and project health burden and target resources towards these most vulnerable communities. We have environmental health programs that can create and enforce habitability standards. We can oversee remediation and address vectors and promote healthy homes and weatherization in ways that a lot of

other agencies can really take advantage of. Local health departments can develop outreach and engagement strategies with deep ties to community-based organizations. And we can center interdisciplinary actions on health and equity, and we can identify health co-benefits associated with many different programs and policies.

**[00:08:05.790] - Matt Wolff**

But as a profession, public health isn't always that good at having the capacity to be at that table, to do those things, at making this sort of long, sustained engagement. And what you hear from colleagues over and over again is that everybody knows the importance of public health to be active in this space. But we get pulled in so many other different directions, whether it's COVID-19 or MPOX or whatever working on addiction or displacement. And I believe that climate change represents one of the greatest health threats in the aggregate. But any one point in time, climate change might represent the third or fourth or fifth most urgent health-related action. So how do you make space for that? And we know you can't really center health and equity if you're only paying attention to climate change immediately before or during a heatwave. It has to be constant and ongoing with sustained engagement. So how do you make the space for climate when there's all these other competing priorities. And this dedicated funding and branding it as a climate and health program really allows the place for this work to happen. And I would also say that the second thing that this BRACE funding really does is that with the BRACE funding, there is an increasingly large cohort of folks that are working in this space.

**[00:09:21.300] - Matt Wolff**

This is a new field, and we learned so much from our colleagues at other cities and states and the actions that they're implementing, and from the CDC team that are largely the experts on how to use health data and surveillance data to really drive a lot of this work.

**[00:09:39.990] - EH Nexus Host**

Tell us about your next steps, priorities, and short, long-term goals.

**[00:09:44.450] - Matt Wolff**

Sure. So like I said before, we're working on this HAQR plan, which is really a planning effort to understand what our priorities are as a city when it comes to heat and air quality. And we've done the easy part. We spent nearly two years building our community of practice. We have work groups, and we had four work groups, one on green infrastructure, one on weatherization of buildings, one on emergency response, and one on community readiness. And we ended up with this heat and air quality implementation plan, which identifies 35 strategies across a range of programs and disciplines. So we have this really broad framework for how do we approach heat and air quality resilience as a city. But now we're at the hard part, which is how do we implement those strategies? And these strategies are everything from how do we better do wellness checks and how do we better involve our community-based organizations in emergency preparedness and response, all the way to how do we use data to better sight street trees in heat islands. And what we need to do is find capacity for these strategies in all of the existing departments and agencies and make sure that HAQR, as a group is tracking whether these strategies are progressing and whether they're effective through evaluation.

**[00:11:07.380] - Matt Wolff**

So over the next year, as HAQR transitions from this planning space to an implementation space, our work is really going to focus on providing technical assistance to these projects that are happening in these different agencies. And what does

that technical assistance look like? It could look like tracking state and federal funding opportunities and connecting them to the appropriate folks, data analysis and making sure that all of these actions are data-driven and correspond to the communities with the greatest need, sharing best practices and connecting our implementing agencies with experts, evaluation, outreach, and communication. Some of the work that we're starting on right now, led by our Department of Public Works— is to use urban heat island and temperature data with health data from previous health events and from asthma rate data to prioritize certain neighborhoods for tree planning. And then we have another project led by our Human Services Agency to come up with a standardized wellness check plan for folks who are going to be sheltering in place during heat events, which is most of the people in San Francisco. Longer term, we're going to look into how we could better utilize our electronic medical record to identify the drivers of these health impacts.

**[00:12:19.570] - Matt Wolff**

Are they happening in multi-unit buildings, large apartment buildings, single-family homes? How we could better target emergency preparedness and response messaging to folks who suffer the greatest health impact? And I would love to do more real public health-focused work and account for all the ways that climate change is impacting our health department and plan agency by agency how we can adapt to that change. I think there's a lot of space for this work to grow, but what HAQR really did was create the same table where all this work can happen at.

**[00:12:49.170] - EH Nexus Host**

Thank you, Mr. Matt Wolff, Climate and Health Program Manager for the Population Health Division at the San Francisco Department of Public Health for joining us today and sharing this wonderful information with us. And thank you all for listening to today's episode of the EH Nexus Podcast. Stay tuned for our upcoming episodes where we will continue to dive into all things environmental health.