



[00:00:00.000] - EH Nexus Host

Hello everyone, and welcome to today's episode of the Centers for Disease Control and Prevention's Environmental Health Nexus podcast, where we discuss important topics in environmental health.

[00:00:21.640] - EH Nexus Host

Today, we're joined by Dr. Francisco Tomei-Torres, an environmental health scientist with the Environmental Medicine and Health Systems Intervention Section at the Agency for Toxic Substances and Disease Registry. Dr. Tomei-Torres has a wealth of experience, and we're excited to hear his insights on the connection between quality health care and environmental justice.

[00:00:45.160] - Dr. Francisco A. Tomei-Torres

Thank you for having me.

[00:00:46.700] - EH Nexus Host

Dr. Tomei-Torres, could you start by sharing a bit about your academic background and what led you into this field?

[00:00:53.390] - EH Nexus Host

By all means, I am a college graduate in biology from the University of Puerto Rico, Mayagüez. I have a master's degree in interdisciplinary science, math and civil engineering from MIT, and a master's and PhD engineering degrees from Harvard, in the areas of water resources and water pollution control. But my actual expertise is in environmental microbiology, how microbes transform substances potentially toxic to the humans.

[00:01:24.210] - EH Nexus Host

Your academic background is remarkable. Could you share how your journey led you to join the Agency for Toxic Substances and Disease Registry, better known as ATSDR? Yes.

[00:01:35.470] - Dr. Francisco A. Tomei-Torres

Almost 25 years ago, I joined ATSDR as a Minority Health Program Specialist. My duties included those of program manager for environmental justice. I came to the position with excellent credentials on the treatment of hazardous substances, environmental policy, and to some extent, risk communication. This last term is defined as how to allay fears when the concern is high and the trust is low. I had never dealt with minority communities disproportionately impacted by environmental contamination. Although having been born in the middle of a sugarcane fields in Puerto Rico, to a family of peasant origins, I felt a natural connection to communities poor in economic resources.

[00:02:23.940] - EH Nexus Host

It sounds like your role with ATSDR presented to you a unique perspective on environmental justice. Can you share how you became familiar with environmental justice issues and give us examples from the communities where you worked?

[00:02:37.700] - Dr. Francisco A. Tomei-Torres

Yes. Two classical examples. I acquired practical knowledge of environmental justice the hard way, by being assigned to address health concerns in specific communities impacted by environmental contamination. Two communities brought me up to speed rather quickly. Mossville, Louisiana, an African-American community located amid petrochemical plants, and the second one, Corpus Christi, Texas, a community pockmarked with landfills in the periphery of petrochemical plants. Mossville created in me conscience on the divide that exist between rich and poor communities, quite often white and black, respectively. While the Mossville

residents were expressing concerns about exposure to dioxins and chlorinated compounds and the illnesses that it can generate, the surrounding Mossville white communities showed little concern.

[00:03:33.430] - Dr. Francisco A. Tomei-Torres

At Mossville, I witnessed raw sewage in the streets. The community had no sewers. I also observed half the community on one side of tracks being bought by one of the chemical plants while no effort was made to acquire the other side. Years later, another chemical plant purchased most of what was left of Mossville. But most disturbingly, I heard an outside expert argue that while the levels of contaminants in the residence of Mossville were high, they were typical of the concentrations found in African-Americans, the implication being that there was no need for action.

[00:04:12.680] - Dr. Francisco A. Tomei-Torres

I was the one who initiated the Corpus Christi case by accident. Shortly after I arrived at the ATSDR in October of '99, I received an email on my personal Internet account from a Corpus Christi resident inquiring about methane being the cause of breast cancer. He lived in a neighborhood pockmarked with landfills that emitted methane gas, and his sister had passed away because of breast cancer.

[00:04:42.640] - Dr. Francisco A. Tomei-Torres

He found me not knowing that I was in charge of environmental justice issues at the ATSDR. He had performed a search on the Internet dealing with methane and cancer and found my web page. And he did so because I had worked at the MIT Cancer Research Center doing my master's degree studies. And my PhD thesis at Harvard dealt with in part, with methane in production by bacteria. I have to point out that methane is a natural gas, and it is not known to be a carcinogen.

[00:05:14.110] - Dr. Francisco A. Tomei-Torres

The community is also border by petrochemical facilities. Following a visit to the community and discussions with residents, the focus of concerns turned to petrochemical facilities. ATSDR assessed risks from petrochemical emissions and found no cause-effect issues.

[00:05:33.860] - Dr. Francisco A. Tomei-Torres

However, the community activist caught one of the facilities in violation of EPA regulations, took it to court, and obtained a criminal conviction against the polluter. Despite the criminal conviction, the community did not receive any monetary reparations. Sad.

[00:05:57.080] - EH Nexus Host

Those sound like intense experiences. For our listeners, could you put environmental justice into perspective and explain the focus of the executive orders on this topic?

[00:06:07.690] - Dr. Francisco A. Tomei-Torres

Yes. Environmental justice communities express health concerns dealing with exposure to environmental hazards. These concerns often involve, besides exposure to acute high concentrations of hazardous substances, chronic exposures to low concentrations. Because of the uncertainty and lack of data in trying to address these concerns, comprehensive public health actions are needed.

[00:06:32.890] - Dr. Francisco A. Tomei-Torres

Such investigations were outlined in the 1994 White House Executive Order entitled, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations", Executive Order 12898. In addition to requiring community consultation prior to agency actions, the order focused on carrying out public health activities in low-income and minority populations.

[00:07:00.540] - Dr. Francisco A. Tomei-Torres

The order specifically asks federal agencies whenever practical and appropriate, to conduct epidemiological and clinical studies. And this also indicated that workers should also be included. These studies should identify multiple and cumulative exposures to environmental hazards. The order also calls for studies on subsistence consumption of fish and wildlife. The executive order is not a law. It is a White House directive. Only Congress can issue legislation. The EO is a call by the President of the United States to federal agencies to implement existing laws in communities disproportionately impacted by environmental pollution. A recent executive order, back in December 2023, EO 14096, was issued to clarify how federal agencies should implement environmental justice. Interestingly enough, it adds migrant farm workers as a target population.

[00:08:17.000] - EH Nexus Host

It's clear that these efforts are essential. But what do you see as missing in the current approach to environmental justice?

[00:08:26.670] - Dr. Francisco A. Tomei-Torres

Succinctly, access to health care. The EO is a call to survey, assess, and prevent the impact of environmental exposure to toxic chemicals. But, words like doctor, medicine, and healthcare do not appear in the original executive order nor on its latest update. The implied solution is stopping exposure to toxic substances, but no directive is issued on what to do when the residents of a community are ill because of the exposure. The communities need access to what the EO does not mention: quality healthcare.

[00:09:10.090] - Dr. Francisco A. Tomei-Torres

What is missing? A coordinated federal and state agency response. Almost 25 years ago, when I was program manager for environmental justice at ATSD, agency personnel were usually only accompanied by EPA personnel and local public health and mental health officials. Other federal agencies that could address access to healthcare, including medical insurance, did not attend. I do not recall any other federal agencies concerted efforts to improve the overall state of the impacted community, with one exception that I will mention afterwards. We need forward-looking agencies that can improve the overall environment of the community.

[00:09:54.680] - Dr. Francisco A. Tomei-Torres

A larger number of agencies should come together at an EJ site to do the following: one, establish HRSA Health Centers with personnel trained in environmental health.

[00:10:09.810] - Dr. Francisco A. Tomei-Torres

Two, promote medical insurance via the Affordable Care Act, better known as Obamacare, and also Medicare and Medicaid.

[00:10:20.350] - Dr. Francisco A. Tomei-Torres

Three, carry out health fairs.

[00:10:24.720] - Dr. Francisco A. Tomei-Torres

Four, carry out vaccination campaigns.

[00:10:28.980] - Dr. Francisco A. Tomei-Torres

Five, promote preventive and screening services by Medicare and Medicaid. These are free.

[00:10:37.800] - Dr. Francisco A. Tomei-Torres

Promote urban renewal, transportation, housing, cleanup, etc.

[00:10:44.090] - Dr. Francisco A. Tomei-Torres

Seven, use the EPA Brownfields program to assess, safely clean up, and sustainably reuse contaminated properties.

[00:10:52.460] - Dr. Francisco A. Tomei-Torres

And finally, eight, improve local schools and job training programs.

[00:10:58.620] - EH Nexus Host

Dr. Tomei-Torres, to end on a positive note, could you share a success story that shows what's possible when these efforts come together?

[00:11:08.340] - EH Nexus Host

Yes. The Arkwright community in Spartanburg, South Carolina, a national model of environmental justice and community revitalization success. This community started as a typical EJ site. Healthcare facilities, urban renewal, and the waste site clean up were eventually accomplished, thanks in large part to community efforts and the leadership of Harold Mitchell, executive director of ReGenesis, of course, in collaboration with government agencies and unelected officials. EJ is achievable. All it takes is collaboration among all vested parties. Thank you.

[00:11:51.970] - EH Nexus Host

Thank you, Dr. Francisco Tomei-Torres, for joining us and sharing your experiences and insights today. And thank you to our listeners for tuning into this episode of the EH Nexus podcast. Stay with us for upcoming episodes as we continue to explore essential topics in environmental health.