

Podcast Transcript: Partnerships to Advance Research Translation

[Theme music]

Ashley Ahearn (AA): You're listening to Environmental Health Chat – a show from the National Institute of Environmental Health Sciences that explores the connections between our health and our world.

I'm Ashley Ahearn.

Today we're bringing you a conversation between two leaders in research translation. Dr. Molly Kile is an environmental epidemiologist and professor in the College of Health at Oregon State University. She's a co-lead on the Be Well Intervention, which is funded by the NIEHS, to reduce exposure to arsenic and other contaminants in private well water in rural communities in Oregon.

And for this conversation we also wanted to bring in Dr. Allison Myers. She's the associate dean for extension and engagement at the Oregon State University College of Health.

So, what do we mean by research translation? It's a term many are perhaps familiar with, but in a nutshell, it's the process of transforming scientific knowledge into actionable strategies that can improve public health.

Molly and Allison are connected through what's known as the ASPIRE Center at Oregon State University. ASPIRE stands for Advancing Science Practice, Programming, and Policy Research Translation for Children's Environmental Health.

The ASPIRE Center is one of seven centers across the U.S. that are funded by the NIEHS to advance translation of children's environmental health research. I asked Molly to start us off by telling us about ASPIRE and how the center works.

Molly Kile (MK): We specialize in building relationships with trusted people and organizations in our community. And then we work with those folks to translate information that we know about children's environmental health and information that we know about how you can control environmental hazards in those spaces. And we work together to create accurate, actionable, age appropriate, and accessible action. So, we're pretty flexible. We don't necessarily have one particular scientific topic that we're trying to promote. We are trying to use our actions and our resources and university-community partnerships to really shape people's knowledge, attitudes, and behaviors towards environmental hazards that impact children's health and well-being, and then we seek out opportunities to embed those actions into programs, policies, and practices.

It is all about the people first, and then we find the science that matches their needs. We are trying to get the information out of the libraries and into the hands of the people that need it, and then also help them learn what to do with it. And often they teach us what to do with it.

AA: Yeah, I bet. So, let's bring Allison in here. Allison, can you tell me, what is the cooperative extension system?

Allison Myers (AM): Sure, the cooperative extension system is embedded in the land-grant university system. A lot of folks aren't aware of land-grant universities. There are 112 of them in the United States, and the original mission back in 1862, was to teach agriculture and military tactics and mechanic arts in the home. So, the beauty of the land-grant system is that it began to make college education accessible to

folks who weren't wealthy or male. We also continue to reckon with the history that the 1862 Morrill Act gave land – tribal land – to states so they could sell that land and create the university. So that is woven really into the fabric of who we are at land-grants and in cooperative extension, to make sure we're of service and that we acknowledge our current day tribal partners, build on strengths, and really contribute to the health and well-being of our entire state and the people we serve. Cooperative extension came about with the Smith Lever Act of 1914 and that original purpose was to make the knowledge that we generate in the university accessible to the community. So cooperative extension is about bringing the expertise of the land-grant university to the community and bringing the expertise of the community back into the university, and there's a cooperative extension service in every state.

AA: That is so cool. Can you tell me, Molly, how did you get connected with Allison?

MK: When I first came to OSU, I was very much involved in doing arsenic and drinking water research on maternal child health building cohorts in Bangladesh, and it had gotten to the point where it's like, okay, we know arsenic is bad, and I can keep doing research to show how it's bad, or I could really try to find partnerships to do something about it, because there is a lot of arsenic in the groundwater here in the United States. So, I started looking for partnerships that could help me get out into the community for that. And that is where I stumbled into cooperative extension here at Oregon State University, because there are folks there that run small farm programs. Well, small farms have wells – those are my people – that's who I need to reach. So, I kind of just started knocking on doors and meeting people and finding shared missions, and Allison was one of those doors that I knocked on.

AM: And Molly has been one of our faculty champions for extension the entire time I've been at OSU, and I've been so appreciative of that, because I think too often cooperative extension is a best kept secret. Folks do see it as being maybe all agriculture or all 4H and yet, we have this very robust health program here at OSU, and one that we're really eager to build, particularly as we respond to what communities are telling us they want and need from their land-grant university.

AA: I'd like to learn a little bit more here from Molly about your work with arsenic and wells. This was a passion of yours, this research area, and then you got connected with the extension program. And then what happened?

MK: Yeah, I did my graduate training and then started my research scientist career at Harvard School of Public Health, working on projects that were examining the biomedical effects of arsenic in groundwater. And so, we had established birth cohorts in Bangladesh, and we were working with Dhaka Community Hospital Trust, which was an amazing partner on all of those research projects. And I would say I actually learned community-engaged research practices from them, because Dhaka Community Hospital Trust really held our feet to the fire of 'if you're going to come here and research and interact with our community members, we will help you, but you have to make sure that you are leaving information in the community, that you're not one of these extraction scientists.' And that definitely has informed how I approach a lot of my science, because I am a very applied person by nature.

So, when I came here to OSU, 11-12 years ago now, I realized I was now working in a land-grant university. And land-grant universities have an equal commitment to teaching, research, service, and outreach. And so, it did force me to think, okay, how do I take what I know about arsenic and epigenetics and the biomedical knowledge and the dose response, and how do I turn this into something that is actually useful for my community? And so that was when I was like, well it's arsenic country here, there are a lot of

people on well water, and they are rural communities. How do I start to make inroads into those communities and try to do it to scale?

That is where I found Chrissy Lucas, who is over in extension, and she runs small farm programs, and she is fabulous. And she was very comfortable working and talking about, you know, the mechanics of wells, and how you protect wells – things that I didn't know because I was focused on the contaminant part – but she was uncomfortable, or, didn't really understand the health impacts, or how you can blend these two things together into a message. And so, she and I were like, well, we've got to figure out a way to work together. And then we found Veronica Irving, who's over in health promotion, health behavior. She's all about behavioral interventions. And the three of us got together, and that's where we cooked up the idea of the Be Well Intervention, which was about trying to increase well water testing and stewardship practices amongst well owners that have a contaminant in their well, because there's tons of research out there that shows that programs will increase testing of well water, but research also shows that people who have a contaminant in their well don't necessarily do anything about it. And so, the exposure is real. How do we help motivate those people to overcome those obstacles in order to address the hazard that is in their well water? And that's really where my collaboration with extension was born.

AA: So would you describe that? How did it work? I want to picture it, did you go out in the community with your colleagues? What was the intervention?

MK: Yes, I do spend time out in the community, but not nearly as much time as my friends in extension do, because they are living in the communities. So, what we did was we realized that there was no material out there that included information about why we're worried about it for health. Why should I test it? How do I test it? And then what was really lacking was, if you find a problem, what do you do about it? And so, we spent some time workshopping, using focus groups of well owners, to really create what we call decision-making materials that include information about why it's important and what you can do about it. And we published those guides through the extension catalog. And they became very popular.

And then we used that information to test a new intervention, a new program to try to promote well water stewardship in communities. And this was what was funded by NIEHS, where we recruited a cohort of several thousand well owners in Oregon, we tested their water to try to find those that had a hazard. And we were focusing on arsenic, nitrate, or lead, and then if you had a chemical contaminant in your well water we randomized you into an RCT where one arm got the usual care, which is, you know, here's the usual domestic well water safety information provided by government organizations, and then the other one was our decision-making material and an extension officer who is going to help you navigate your way through it. So, I kind of think of it as the usual care versus a buddy system.

And we're in the process of finishing the follow up on that so I don't have the final results yet, but what I can tell you so far is that the Be Well Intervention, which uses cooperative extension, is helping shift well users' attitudes towards water treatment. It's boosting their confidence in treating their water if it is necessary. We're seeing that participants are reporting a feeling of being more capable and empowered to find information that they need and that's accurate. We are seeing that people who have had a problem in their well are actually doing something about it, and they are selecting appropriate treatment systems. Also, you know, money always is considered a barrier to this, but after they had been informed of actual treatment options that are low cost and effective, well owners were feeling less concerned about the cost of treatment or the impact of that on their home price, and so it really increased their motivation to take action.

And to me, that is the heart of research translation. And that was where I really learned the value of the extension, and our participants are seeing that too. They really value the extension agent's guidance, and they appreciate the comprehensive materials that covered hazards, testing, and treatment options.

AA: For other researchers or scientists who might hear this podcast and think I would really like to try to do this. What are some pieces of advice you would give to a researcher who wants to partner with an extension program?

MK: I think environmental health science is a natural fit with extension, because so many of their programs are about natural resource protection and education, and it's really geared towards helping people implement the best scientific process. There is going to be no door that sells well water testing. It's thinking about where those wells are. So, it's looking into the small farms program. It's, you know, one of our partners in extension is in the forestry sector, but these are the communities that have the hazard. So, I think you just going have to take the labels off of things and look for the natural fits of where people are and then make friends.

AA: Allison, a question for you. What advice would you give to scientists who hear this podcast and think this sounds amazing, I would love to find a way to partner with a university's cooperative extension.

AM: Sure, there's a little bit of Googling and some phone calling that you'll need to do and that will help get you started. Very often, at every land-grant in every state, there's something called a program extension leader, whether it's for ag or forestry or health, you'll find that person. You might also find someone called a regional director, who can speak to an entire geographic region if that's interesting to you. There is an extension office in every county in the United States, usually. Most counties in the United States have an extension office, a physical space where you can drive up and park and walk in and meet an office manager or someone at a front desk who can start the conversation. The one thing I would say is that extension faculty and staff are ready to partner, particularly when they're acknowledged and honored for their expertise. Our values involve equity and partnership, real, authentic, shared power. And so, I would say, if that's interesting to you, by all means, come join us, and we look forward to a partnership.

AA: Molly, is there anything that you want to add about research through the extension program to our conversation today?

MK: Partnering with extension has been incredibly valuable, because they really provide the local knowledge of their area. They're a non-partisan group. They're trusted in the community. So, they really give us, as scientists that live more in a university setting, the real-world insights that we needed in order to translate the science into the community. They were very helpful in figuring out what would work, and also very helpful in saying that won't work. So, one of the things that I really appreciated about working with extension, and continue to appreciate and want to lean into even more, is really figuring out how to find those partnerships so that we can extend the reach of children's environmental health research into households that normally don't get involved in that work, or get ignored, or aren't the participants in our study. So, they wouldn't benefit from report back science, but they would benefit from the actual information. So, it's about getting creative.

AA: I love that. Molly Kile, Allison Myers, thank you both so much for joining us today.

MK: Thank you. It was fun.

AM: Thank you.

[Music fades up]

AA: I'm Ashley Ahearn. Thanks for listening to Environmental Health Chat.