

Anne Johnson: Welcome to Environmental Health Chat, a podcast about how the environment affects our health, from the National Institute of Environmental Health Sciences. I'm your Host, Anne Johnson, and today we'll be talking about schools that are built in places with potentially harmful contamination.

I recently spoke by telephone with two experts on this issue. Dr. Phil Brown directs the Community Engagement Corps at the Brown University Superfund Research Program, which is funded by NIEHS. Amelia Rose directs the nonprofit Environmental Justice League of Rhode Island.

When I asked Phil if there are really schools built on hazardous waste sites, here's what he had to say.

Phil Brown: There are lots, yes, 1,100 schools constructed within a half mile radius of known contaminated sites just in five states – California, Massachusetts, Michigan, New Jersey, and New York. I think in a few years we'll look back and say how could we have ever allowed people to build schools on those kinds of sites?

Anne Johnson: He said schools have been built on sites that were once landfills or factories that handled toxic materials. They end up there because cities and school districts are often strapped for cash, and when they need to build a new school they look for the cheapest land around, but putting schools on these sites puts children and teachers in close proximity to some pretty hazardous contaminants.

Phil Brown: If you're in Providence, where things started in 1999 when the City built the elementary middle schools on top of a 25-year-old landfill, that site has lead arsenic, total petroleum hydrocarbons, various VOCs and mercury. At the site of – at Alvarez High School has TCE and PCE and also various metals.

Anne Johnson: These contaminants can linger in the soil or water around a site, but they can also seep into the air by a process called vapor intrusion. Amelia told me how this works.

Amelia Rose: Vapor intrusion is basically a process by which volatile compounds kind of seep-up through groundwater and then through soil and become soil vapor, so when you put a school, for instance, on top of a site like this it creates this potential for these vapors that go up into the school through holes in the foundation, and so that's what causes the potential risk for people to be breathing in these vapors in the indoor air of a school.

Anne Johnson: In addition to being an important public health issue around the country, Amelia said this is also an issue of environmental justice.

Amelia Rose: Practically speaking, more often you'll find these contaminated sites, these former industrial sites, these landfills in communities of color or low income communities, that's well documented. You find more environmental burdens in communities that have less power and less money and less resources. And in Providence all the schools that have been sited on these former

industrial sites have been 98%, 99% students of color, and in low income communities, and we know that this is the case around the country.

Anne Johnson: Phil and Amelia have been working with other researchers and community organizers to bring attention to this issue. Phil told me about some of the outcomes of those efforts.

Phil Brown: Some of our colleagues in the Superfund Research Program are vapor intrusion experts, so they were able to help create new models of vapor intrusion to make clear how dangerous it was. A lot of our work, though, really has been at the engagement level, and we've been I think very successful at being a voice for communities to feel like somebody is concerned, somebody is watching over this. But the biggest thing, of course, is the School Siting Bill that was passed just this year.

Anne Johnson: Amelia explains some of the requirements of that new Law.

Amelia Rose: There's two major things that the School Siting Law does. It prohibits the construction of schools on sites where there is an ongoing potential for vapor intrusion, regardless of whether or not there's engineering solutions to mitigate those vapors. The other thing that the School Siting Bill also does is creates a public involvement process, whenever a school is considered for construction on a different kind of contaminated site, so one that doesn't pose a vapor intrusion threat.

Anne Johnson: I asked Amelia what she would say to parents who might worry that their children could be exposed to contamination at school?

Amelia Rose: Get involved, ask questions, bring these types of issues up to school committees and school boards. In Rhode Island it wasn't just one thing that led to the School Siting Law, it wasn't just advocates advocating and lawyers having a lawsuit, it was a whole host of things that created a climate that led to the passage of this Bill.

And so I think we're building on that momentum across the country so that in the future we see goals where decisions are being made not purely based on how much money is available, but really looking at the health of kids and making sure that we're making all sorts of decisions that improve health rather than creating any kind of hazard.

Anne Johnson: To look-up your area by zip code and see whether contamination might be an issue near you visit scorecard.org.

I want to say thanks, again, to Phil and Amelia for talking to me about their work. Phil Brown is with the Brown University Superfund Research Program. Amelia Rose directs the Environmental Justice League of Rhode Island.

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