Call PEHSUs for questions on pediatric environmental health issues
by Alyson Sulaski Wyckoff, Associate Editor

While concerns over lead levels in Flint, Mich., dominate the news, lead poisoning long has been the No. 1 query to Pediatric Environmental Health Specialty Units (PEHSUs) across the country.

The PEHSUs are a network of centers offering education, consultation and referral on environmental health issues impacting children and pregnant women. Health care professionals and community members can call their regional PEHSU (www.pehsu.net) for technical assistance at no charge. Based in academic medical centers at 12 sites, 10 in officially designated federal regions, the PEHSUs also tap faculty experts in their institutions as needed.

In 2014, the Academy began serving as the National Program-East office, overseeing PEHSUs in Regions 1-5. The American College of Medical Toxicology (ACMT) was named as the West office, supporting Regions 6-10.

Experts in the PEHSUs represent pediatrics, occupational medicine, toxicology and obstetrics-gynecology. The units are funded by the Agency for Toxic Substances and Disease Registry (ATSDR) of the Centers for Disease Control and Prevention and the Environmental Protection Agency.

Strong public health approach

Dr. Lowry Mold in schools and homes, arsenic in rice, mercury in skin creams and formaldehyde in flooring are among numerous topics that have been raised. Others are air quality and contaminants in fish and waterways, said Jennifer A. Lowry, M.D., FACMT, FAAP, chair of the AAP Council on Environmental Health (COEH) Executive Committee and director of PEHSU Region 7.

Regional issues also surface. Eight to 10 years ago, calls started coming in to the mid-Atlantic PEHSU about potential health threats from fracking, said Jerome A. Paulson, M.D., FAAP, medical director of the National Program-East office and past COEH chair.

Dr. Paulson, who ran the Region 3 unit for 15 years, noted they often work...
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with city, county and state health units while trying to resolve both individual and population concerns. A familiar topic is lead in Section 8 housing.

"There are significant environmental justice issues in many of these situations we deal with," Dr. Paulson said. "In general in the U.S. and around the world, minority populations are more exposed to environmental hazards."

The PEHSUs take a strong public health approach, he said.

"Like other physicians, we sometimes need to extrapolate … to make the best conclusions we can about what we may not know," Dr. Paulson added. This may require being cautious when it comes to recommending limits on children's exposures.

Specialized guidance

Dr. Amler

An urgent need for pediatric guidance on environmental medicine drove the development of PEHSUs in the late 1990s after a couple of toxic chemical spills exposed large numbers of children. At the time, Robert W. Amler, M.D., M.B.A., FAAP, was medical director of ATSDR. He helped enlist pediatric environmental experts in several medical centers around the country, along with AAP leaders including the AAP Washington office.

"In each case, we had champions specific experts who not only were top-flight pediatricians, but (individuals who) already understood the implications of environmental exposures because they had worked in that field over many years," Dr. Amler said.

The medical evaluation of individuals with chemical exposures typically was performed by occupational health specialists with backgrounds in internal medicine and minimal exposure to kids, Dr. Amler said.

"How are you going to do an exam on a 9-month-old when you've not had pediatric training?" he asked.

The PEHSU organizers determined expertise was needed not only from pediatrics, but also occupational medicine and toxicology, and most experts were based in academic medical centers. With the support of key groups and individuals, they appealed to Congress for funding for the first few sites. Soon after they opened, the centers started to get referrals from pediatricians throughout the regions.

"I think what made the difference was the support of the professional societies, especially AAP," Dr. Amler said. "Children are not just small adults. That's the mantra we carried to Congress."

They had another mantra: You can't make a diagnosis you don't think of.

With the advent of the PEHSUs, pediatricians were being encouraged to take good exposure histories and to step back and ask what else might be causing certain illnesses, to "think about the whole environment of the patient," Dr. Amler said.
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Funding eventually was received for additional centers. The Association of Occupational and Environmental Clinics advised on where the sites should be located to take advantage of the presence of occupational medicine physicians.

Families, no matter where they lived, had access to specialized guidance, Dr. Amler said.

"It was almost organic in the way that it grew," he recalled. "It was an effort that snowballed just beautifully."

Behind the scenes: PEHSU consults on Flint water crisis

In September 2014, before the country was tuned in to the Flint water saga, Nicholas C. Newman, D.O., M.S., FAAP, of Pediatric Environmental Health Specialty Unit (PEHSU) Region 5, received an urgent text message from Mona Hanna-Attisha, M.D., M.P.H., FAAP.

One of the heroes who helped expose the increase in Flint children's lead poisoning rates, Dr. Hanna-Attisha sought assistance from Dr. Newman, a University of Cincinnati lead expert who continues to advise on the crisis.

"She had been working up in Flint for a while to get people to pay attention to this problem," said Dr. Newman. "She called me when they were at a point where they were going to go forward with more (results)."

Questions revolved around what could be done to mitigate the problem and what knowledge already existed.

"It was a lot of technical assistance, which is what the PEHSUs are supposed to do," said Dr. Newman. "Anybody can call us, and we do our best to try and apply evidence to these environmental issues."

Resources

- Pediatric Environmental Health Specialty Units
- "Pediatric Environmental Health" (Green Book) from the AAP Council on Environmental Health