

## Inside the Profession

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### Profiles in Leadership, Part II: The 15 Faces of Environmental Health Leadership

**T**he individuals who were most frequently mentioned in the *JEH* leadership survey are a diverse group. (For more on the survey and its methods, see last month's column.) They have worked for federal agencies, for trade associations, for local health departments, and in the private sector. They are ethnically and geographically diverse. They are American born and foreign born, men and women, religious and secular, extroverted and introverted. They are even short and tall.

All of which reflects well on the profession. Environmental health practitioners are interested in substance. They do not traffic in stereotypes, and they are not led by superficial flash.

Despite the diversity, a recurring theme emerged from the interviews with the 15 leaders who are profiled below: environmental health departments need to get out of the inspection rut and work interactively with communities

to study disease patterns and environmental threats. A corollary is that the profession needs to reassert its public health mission and learn to communicate that mission. Another corollary (just as important but perhaps less obvious) is the need to cultivate listening skills. In fact, the conversations returned to that second corollary—the power of listening—with striking regularity.

For the rest of this introduction, *JEH* will highlight one other thing that the 15 people interviewed for this article had in common. That commonality was not a theme but a character trait. It was a trait of the most tangible—and mundane—sort: Their thoughts came through clearly on a cassette tape.

Does this seem like a trivial matter? *JEH* would suggest that the ability to be intelligible over the hiss of a tape and the rumble of a keyboard as a busy reporter transcribes your comments at 70 words a minute or so is actually a fair test of verbal clarity. If you can be

heard under those circumstances, chances are you're still more vivid in person.

So then: Does leadership come down to what mothers, fathers, and grade school teachers have been saying—"Speak up! Enunciate!"—for generations? Yes and no. It is good to speak up and enunciate. But intelligibility on a cassette tape is not only about volume and the pronunciation of consonants. In fact, some of the leaders *JEH* interviewed for this article were rather soft spoken. And there were plenty of dropped Gs that never interfered with intelligibility.

No, the reason the tape machine makes a good indicator is that in less-than-ideal acoustic circumstances, listeners use speech patterns and emphasis to construct meaning. Speakers who overcome interference and background noise do so by giving their sentences expressive shape. To some extent, that kind of expressive clarity can derive from conscious strategies (think, for

instance, of the little pauses that effective speakers sometimes allow before words of special significance). But to a larger extent, expressiveness derives from passion and energy. The voice rises and falls naturally, giving enthusiastic emphasis to important points and key words. When fear, uncertainty, or self-consciousness blocks that energy, the result tends to be monotone speech.

It may be that groups of people look to their leaders to compensate for their characteristic weaknesses. At any rate, a disconcerting number of the practitioners who were interviewed for this series spoke about urgent issues (issues that *JEH* knows they care about) in a monotone or dropped their voices, as if in embarrassment, precisely as they approached a telling word.

One of the key points that came out of this project is that there is a quality of blocked energy in the environmental health profession (see last month's column for a more detailed discussion). Why has this happened to environmental health? It's important to acknowledge that the problem may have many causes. As NEHA Executive Director Nelson Fabian pointed out in the course of his interview for this article, the external conditions under which the profession often operates—lack of political support and its quite tangible corollaries (dreary office quarters, outdated computers, and inadequate equipment, for instance)—can send a dispiriting message.

But *JEH* wonders if certain internal factors might also be at work. In addition to giving good advice like “speak up” and “enunciate,” our cultural authority figures have been known on occasion to send, often subliminally, some less constructive messages. Perhaps environmental health practitioners have a bit too conscientiously internalized these strictures:

- Don't be well spoken—people will think you think you're so great.
- Don't be emphatic—people will want to take you down a peg.
- Don't show off—nobody cares.

And there's some truth in the message: It's a dangerous world! If you choose your words well, some people may feel threatened. If you show excitement, some people may respond with malice and ridicule. It's a risk. That's why leadership does, ultimately, require courage.

So without further ado, *JEH* introduces 15 courageous environmental health leaders.



**Rob Blake,  
M.P.H.,  
R.E.H.S.**

NEHA President Elect Rob Blake is living proof that it is possible to be an influential environmental health leader without being the loudest person in the room. Quiet environmental health professionals might do well to take his example to heart. Nor does he fit that other stereotype—the ruthless Type-A personality who has no personal life and neglects his family—that shy people sometimes conjure in order to persuade themselves that they were never going to be leaders anyway.

That is not to say that Blake does not work hard—and systematically—at everything he does, completing his master's in public health degree at the University of Michigan, for instance, while working full time. But at a couple of key junctures, he took a strategic step backwards in order to learn and grow, both professionally and personally.

His career began in London, England. At the time (the late 1970s), “they had a really super way of bringing people into the profession,” Blake told *JEH*. “You applied for a student internship or student training position and became a trainee environmental health officer. The process was very competitive because the employing authority actually paid your way through college. In return, we had to give at least two years' service on the back end of the degree.” Blake thinks, by the way, that if money could be found to finance something similar in this country, it would help with the workforce development issues now facing the profession. Even if a program sponsored just the last two years of a student's college education, “then you could have a selection process and maybe support folks who had shown a bent toward science and health for the last two years, and then get them out in the field.”

Blake worked as a trainee in the London borough of Croydon during breaks in the school year, gaining increasing responsibility as time went on. By the time he finished his undergraduate degree in 1980, he and a fellow student were almost managing their own districts.

Instead of continuing on in London, however, Blake married an American and moved to Saginaw County, Michigan. There, he had a new world to learn. The vastness of the country was a shock, he said: “I remember on the train [cross-

ing over from Toronto]. I just remember saying to Jo, ‘Where are all the people?’ In Saginaw, the flatness—and the winter was pretty bleak.”

A different landscape meant Blake needed to develop new environmental health skills. He found work as an entry-level sanitarian with Saginaw County, and “I learned a lot of things on the rural side,” he said. “I learned a lot about water wells and septic tanks and some of the rural health issues. Very good experience.”

Later, he worked for Washtenaw County, first doing food safety work, then, in quick succession, coordinating a pollution prevention and community right-to-know program and becoming director of environmental services. And maybe that was too much too fast.

“I jumped from a technician level into a director level,” Blake said, “overworked myself, tried to get too many things going at once. And”—he paused

I was starting to lose my family. I was young; I was naive. I was just over 30 at the time. And I didn't want to lose my family. I was good technically, but I hadn't made that leap into the managerial and leadership aspects, where you trust people to do their things and you can handle the political pressures—and not work 15-hour days. You know, take it all home and stress yourself out at home and not be part of your family.

So after a year as director in Washtenaw County, Blake took a position as an *assistant* director in DeKalb County, Georgia. He worked in that position for three years. In 1999, he became director of environmental health for DeKalb County and has held that position ever since.

*JEH* asked if he had any advice for people who might be struggling with the issue of how fast to advance in their careers. He said, “If I were doing it again, I think I would talk to people ahead of time and try to get more mentoring around that transition from the technical side to the managerial side.... But,” he added, “I'm glad I went through it [the position in Washtenaw County]. Because I learned so much. With the next steps that I made, the next promotions that I went for, I was more prepared, and I was thinking different questions.” He also learned that it was important to trust members of his staff and “give them tasks that make them reach and stretch and grow.”

*JEH* noticed an interesting pattern in Blake's career: Although he took several deliberate steps backwards, he kept getting

promoted. This pattern contradicts much of the conventional wisdom about unforgiving career ladders, about the need for relentless ambition and unyielding aggression. Some quality seems to shine through in Blake, some merit that without a lot of high-volume self-promotion is readily apparent to those around him.

"The interesting thing about Rob," said one of the people *JEH* interviewed for Part I of this series, "is that he doesn't give an opinion until pressed for it. He is too busy asking questions from all the experts he can find. He is a constant learner and therefore must be an expert by now."

Perhaps the key is curiosity. Rob Blake is always *interested*. Everywhere he goes, he takes notes. He is constantly listening to other people, constantly writing down what they say. "I'm just known," he told *JEH*, "for carrying my big old fat Franklin around.... I've been told by presenters that they like to have me in their audience because I look at them, nod my head occasionally, smile, and take lots of notes. Consequently they look back at me more in their presentations and I feel like I'm getting individual tuition."

That practice of listening and culling ideas everywhere he goes has led directly to innovative work in DeKalb County. Blake has expanded the use of student interns; established flex time, telecommuting, and work-from-home days for staff; and implemented the Protocol for Assessing Community Excellence in Environmental Health (PACE-EH).

"Instead of the top-down governmental approach," he said, "we go out in the community and start asking: 'What are the issues that you think are most important to you?'"

As a result, his department has stepped outside its daily routine to take on some unexpected issues. Staff are looking at landfills in south DeKalb County, where the presence of five landfills has created some environmental-justice issues. They also dealt with issues that arose from a proposal to site a crematorium in south DeKalb; residents in a nearby apartment building were concerned about emissions from the bodies that were going to be burned, especially the mercury amalgams that would be emitted.

Was it a problem, *JEH* asked, for the health department to get involved in that kind of issue? A lot of issues that, philosophically speaking, are environmental health issues don't technically fall under health department jurisdiction. What did Blake's department do when it lacked a regulatory platform or the legal standing to get involved?

"We just had to listen," Blake said, "to the community. Because if it is a concern to them, it's a concern." Sometimes serving the community meant connecting people with other agencies. He gave another example:

We had a couple of churches that were complaining about fuel dumps. They could smell fuel in the air. And they thought it was fuel being dumped from planes approaching the airport. So we found out who the people are who deal with that, where the fuel dumps have occurred, when they've occurred....

Over the years, Blake's department has increasingly come to be consulted on issues that fall outside its regulatory mandate: zoning and land use issues, for instance, "so now we're commenting on sidewalks, on school siting, on low-flying aircraft," Blake said. "We're accepted as making valid comments."

He sees himself primarily as an implementer. "I tend to tweak what other people have done. And then I'm fairly strong on the activation end. Once I've got an idea where we're going, then it's 'Okay, move. Action. How do we make that happen.'"

The emphasis on listening does not mean there is anything fuzzy about the way Blake works. He breaks down his goals into component parts and keeps track of them with detailed lists—tasks to be undertaken and tasks accomplished. Perhaps his effectiveness ultimately resides in that simple act of note taking—which allows him to be both open minded and systematic—and the fact that he is always at it:

Frequently I'm stuck in traffic on the way home, and I'm jotting down ideas for the next day. Don't let them slip. I carry a little notebook around in my top pocket. Frequently, I'm out with the family at a ballgame or something, and I just get an idea; I'll jot it down.



**Pat Bohan,  
M.S.E.H.,  
M.S., R.S.**

An examination of Pat Bohan's achievements reveals something about environmental health leaders that should perhaps be more widely known than it is: Leadership (which Bohan defines as "taking people where they haven't been before") often involves blood, sweat, and tears.

Bohan is perhaps best known for his work in establishing the Environmental Health Services Branch (EHSB) at the Centers for Disease Control and Prevention (CDC) and for initiating EHSB's Environmental Public Health Leadership Institute (EPHLI). The work was undertaken because Dick Jackson, then director of CDC's National Center for Environmental Health (NCEH), had noticed an absence of sanitarians at the agency.

In the beginning, he said, "Dr. Joe Hollowell and I worked on that in '97, just the two of us, no budget, no nothing." By the time Bohan left in 2002, EHSB had a budget of \$7 or \$8 million.

Wait. He got a new federal program funded? How did he do that?

"Just putting in extra time and effort. We just made the case. Joe and I went around the country, learned as much as we could about the needs of local departments. During the Clinton Administration," he added, "there was emerging-infectious-disease money. So we got some money through that for food safety-related issues. And then the NCEH director gets some discretionary money for environmental health activities." He paused. "There were probably one or two other ways."

One kind of funding that EHSB did not get was a budgetary allocation from Congress. "Line-item funding," Bohan said, is a political problem that EHSB is still struggling with.

To illustrate the hard work involved in making new things happen, Bohan cited some of the trainees whom he has mentored through EPHLI.

"To a person, they had to work outside of regular hours—extra hours—to get this done. There was a lot of training, and there were setbacks.... It took a lot of blood, sweat, and tears. It was"—quite simply—"hard."

Blood, sweat, and tears are left surprisingly inexplicit in many discussions of leadership. (That is true not just within the field of environmental health, but in American culture at large.) There is a tendency to gloss over the grubby slog and grind and to perhaps hold up a miraculous result and sing the praises of an amazing hero.

And what's wrong with that? What's wrong with having a few shiny heroes to admire?

The problem is that when the next potential leader comes along and wants to "take people where they haven't been before," the wheel has to be reinvented. He or she has to discover all over again what *effort* means.

"I wonder, too," Bohan said, "if some people don't feel that, well, maybe I'm in this alone. Maybe there's nobody else."

Ah, self-doubt: *Am I crazy to try this?*

Or, as Bohan put it, "Am I just wasting my time?"

He thinks members of the profession would benefit from a compendium of stories that illustrated the extraordinary efforts that went into other people's achievements. Paradoxically, he thinks such stories would serve to encourage future leaders; if more people knew how hard it is to make something new happen, they would be less likely to be discouraged by obstacles.

"A lot of it doesn't just come," he said.

Bohan cites his mother, who was a public health physician, as a formative influence for his work ethic and his interest in public health. Gunar Bohan, originally from Syria, was the first Muslim woman to graduate from the American University of Beirut with an M.D. degree. She met Bohan's father, who was in U.S. Navy intelligence in Beirut during World War II.

"They met—a Christian and a Muslim—" Bohan said, "and they ended up eloping and came to Boston."

She was so good at what she did. She was very in touch with people—spoke four languages—and she was one of those personalities, one of those people who come into a room and brighten it up, very friendly, always remembered people's names. Caring and well read.... So I used to hear about public health a lot when I was growing up. I would hear about everything from health issues to personnel issues.

Although Bohan is now retired from a 26-year career with the U.S. Public Health Service, he is deep into a second career, holding a position as assistant professor of environmental health science at East Central University (ECU) in Oklahoma, doing work under contract with CDC, serving as a mentor for EPHLI, working with the U.S. Environmental Protection Agency (U.S. EPA) on a summer enrichment program for Native American children, and winning a grant to form the Training Center for Native American Healthy Housing at ECU, where he serves as director.

He is also working on his doctorate, a project that has included drafting a set of performance standards for the practice of environmental health at the local level. How does he do it all? Not by magic.

## The Centers for Disease Control and Prevention

The name that came most often to people's lips when *JEH* asked about environmental health leaders was not the name of any one person. It was the Centers for Disease Control and Prevention (CDC). One respondent referred to CDC as "the epicenter of public health leadership." Another sees the agency as one of the few places where people are thinking and working on a national level to promote environmental health. Respondents looked to CDC not just for broadness of perspective, but also for expert research into particular subject areas. And many people mentioned the agency's work on the Environmental Public Health Leadership Institute (EPHLI), which is addressing the leadership crisis in the profession by providing course work and mentoring for practicing environmental health professionals from around the country. (For more information on EPHLI, visit the program's Web site at <http://www.heartlandcenters.slu.edu/ephli/>.)

Respondents also mentioned the names of a number of individuals who work at CDC. Below, *JEH* profiles three of those mentioned as examples of the kind of hardworking people who make up the agency.



**Sharunda Buchanan, Ph.D., M.S.**

Dr. Buchanan traces her interest in public health to something that happened when she was a teenager. One night when her family was finishing dinner, her father suddenly appeared on television. As president of his community civic club, he was carrying a picket sign and talking about the public health consequences of a proposed landfill.

"And I thought," she recalls, "What is this about public health?"

Buchanan also had a deep love of science (here, too, she sees the influence of her father, a junior high principal who also taught math and science). And she wanted to find a way to combine that passion with an interest in helping people. After getting bachelor's and master's degrees in chemistry and a doctorate in biochemistry and toxicology, she began working as an environmental health scientist at the Agency for Toxic Substances and Disease Registry (ATSDR).

"That became my goal—bridging the gap between environmental science and human health. So that's the reason I was so interested in environmental epidemiology."

One of her ambitions was to be accepted into CDC's epidemic intelligence service (EIS), an extremely competitive, epidemiology-based training program. Doctors and Ph.D. scientists from all over the world compete to get into the program, Buchanan told *JEH*.

"To get accepted into EIS really is a feat," she said.

Buchanan entered EIS in 1993. She is particularly proud of the work she did as an EIS officer on heat-wave mortality. "In 1993, I and a couple of other scientists were the first to look at this as an epidemic," she said. "We believe we helped pave the way to looking at heat wave mortality and getting the public to recognize the issue." The work was written up in an article titled "Cardiovascular Mortality: The Hidden Peril of Heat Waves" (Wainright, Buchanan, Mainzer, Parrish, & Sinks, 1999).

She got the assignment in part, she believes, because before getting her degrees in chemistry and toxicology, she had also obtained a license and an associate's degree in mortuary science. "They looked around at CDC for somebody who was able to read death certificates and knew how to talk to medical examiners—and there weren't a whole lot of us. My name came up."

The project was perhaps a perfect example of how public health education can work. Before Buchanan and her colleagues undertook the project, it was not uncommon to hear of morbidity and mortality from children getting left in cars in the heat "and people innocently not knowing that this was not a good thing," she said. Such stories occasionally still crop up, but not nearly as often as they did a decade ago. The improvement in health outcomes is not because the world on the whole is getting any cooler; it's purely a function of public awareness.

From 2001 to 2006, Buchanan served as chief of CDC's Environmental Health Services (EHSB), where she led the development of a major document, *A National Strategy to Revitalize Environmental Public Health Services in the United States* (2003). Environmental health directors all over the country now use this document in shaping their programs. The goals and objectives of the strategy, Buchanan said, "focus on the need to revitalize the entire environmental public health system and the need to do so in a concerted fashion. We need to build capacity, foster research and leadership, develop the

workforce, communicate and market, and develop strategic partnerships.”

What sorts of challenges does revitalization entail? The biggest task, Buchanan thinks, is to systematically increase the capacity of environmental health infrastructure. All other challenges are simply aspects of that imperative: new environmental threats such as SARS, hanta virus, and West Nile virus, for instance, not to mention emergency response.

We need a system that will help enhance an ill-prepared and shrinking workforce, and we need the country to think about adopting a strategic way of doing so, something we can all buy into. We had over 150 partner organizations provide input into this document, and approximately 25 to 30 of them came to the table—came to CDC in Atlanta. This was right after September 11, 2001.

Other issues that should be considered part of the future of environmental health are land use planning—with all its implications for issues like obesity and heart disease—and global warming.

Ah, global warming, *JEH* said. Everybody is worried about it; everybody considers it a quintessential environmental health issue. Nobody seems to know what environmental health practitioners can actually do about it.

“We all have a role,” Buchanan said.

It is important, she believes, to consider global warming under the rubric of preparedness. In light of severe weather patterns in recent years, she thinks it is particularly urgent to be prepared for heat waves, hurricanes, and natural disasters in general:

Emergency preparedness also feeds into land use planning, you know. What happens if you don’t design a particular city right? We can all talk about what might happen. We can learn from Katrina; we can learn from other hurricanes and disasters.

Another project Buchanan has in mind is recruiting retirees to help on the local level. EHSB has been working with retired military professionals to build up a corps of professionals who could perhaps take a few courses to “beef up their training” and then go out and share their expertise with local departments. She would like to see a kind of “environmental health service corps” develop into something along the lines of EIS: “What we got from EIS,” she pointed out, “is common problem-solving methodology.”

EIS has “epidemic intelligence officers.”—EIOs. An environmental health service corps

would have environmental health officers—EHOs.

It’s an idea that goes to the heart of the local-national divide in environmental health. Buchanan told *JEH* that she thinks environmental health is local.

But you can make sure that from a national perspective, the word gets out and trickles down to that local entities, so that they see themselves as a part of a larger effort.... Each one is different, with its own nuances, with its own issues, and we need to be able to recognize that. There are some common trainings, there’s some common vernacular and some common tools that we as a national program can put out there, but hopefully these state and local entities will take those and customize them for their own issues.... It’s like a mirror. We want to work with them to make a difference in their communities. But we also want them to give us feedback as to how we might do that better.

She added that EHSB is working on an “environmental health capacity-building program.” The program is still very small, but the hope is to garner larger support, and its method would be to speak with state and local departments and say “What do you need? How can we support you to build capacity?”

The term “capacity,” she pointed out, is a broad one. Capacity building might mean building infrastructure. It might mean establishing connections between counties or states or between a health department and a local hospital. “Capacity building is a really, really big word,” she said, “and we want to help *them* to help us define it for their particular jurisdiction.”

All these projects were on Buchanan’s plate in April when she spoke with *JEH*. Since then she has been appointed director of the Division of Emergency Environmental Health Services at NCEH (see the biographical notice that appears on page 82 of this month’s *Journal*).

*JEH* wondered how Buchanan does it all. In the first article in this series, lack of time emerged as a major theme among environmental health practitioners at all levels. People were saying, essentially, “I’d like to take on all these important new issues like land use planning and global warming, but I’m in quicksand. I don’t have the staff to do even our most routine mandated tasks.”

Did Buchanan, *JEH* wanted to know, have any advice for them?

“Well I do, she said, “but it might not go over so well! You know, you make time for it—you make time and room for things that you believe are important. Do we not? And that’s just human nature. If we really believe that it’s important, we make time for it.”

For instance, I know how important it is to publish some of the new and innovative methodologies. What I suggest to staff is “Okay, take half a day in the library, at home—do what is necessary to get a particular publication out.” It’s important to get the word out—to disseminate best practices and successful demonstrations. I know there are going to be tradeoffs. So yes, we’ll all gather together and rally around you and take up whatever you needed to complete today and have you complete this—it’s just a matter of rescheduling, reshuffling, and just doing a little bit every day.



**Mark D. Miller,  
M.P.H., R.S.**

Mark Miller, who got his bachelor’s degree in environmental health from East Central University in Oklahoma, attributes the

direction his career has taken to an intervention by one of his professors. Dr. Mickey Rowe had been encouraging his former students to consider careers in the Commissioned Corps of the U.S. Public Health Service (U.S. PHS). So Miller, who was working at the time for a private wastewater treatment operator, looked into it.

U.S. PHS did prove to be a place of opportunity. The corps emphasizes professional growth and sends its officers around the country to work with a variety of agencies and institutions (such as CDC). The officers are expected to advance on a regular basis and to carry the insights they gain from one institution to the next. In Miller’s case, U.S. PHS also furthered his career by sending him in 1992 to the University of Texas to get his master’s degree in public health. (For a history of the Commissioned Corps, as well as information on jobs and applications, visit <http://www.usphs.gov/html/history.html>.)

But in 1988, Miller’s first assignment for the corps was to work with the Indian Health Services in Gallup, New Mexico. “I absolutely loved it,” he told *JEH*—and he worked with the Indian Health Service on various projects in a variety of locations

until 2000, when he was sent to the Agency for Toxic Substances and Disease Registry (ATSDR) for two years.

At ATSDR, his assignment was to work with communities in which Superfund sites were located. He explained risk to community members, explained what was known about a particular hazard or chemical, explained how to avoid exposure, and in general bridged the divide between scientific language and the everyday language of the affected communities.

That must have been an interesting and challenging process.

"Yeah, it was," Miller said. "Sometimes people are upset at what's occurred. Sometimes they see the government as a whole, and they're not receptive. You have to work through a lot of issues. You have a lot of issues to overcome."

*JEH* asked if he had any words of advice for other environmental health practitioners facing challenges of that sort. His answer was heartfelt:

I think you have to—although it's impossible—you have to try to put yourself in other people's shoes. How would you feel if it happened in your community? Be understanding. And realize that sometimes when people say things about a particular event or whatever, you can't take it personally. You have to let them express their feelings and work with them to get to the real issues and understand how you can help them.

Miller acknowledged that the learning curve in all this can be fairly steep for someone with a science background. "We tend to talk in science terms," he said, "and we think that the whole world talks the same way—everything is all acronyms and levels of exposure and parts per million."

It's not a matter of "dumbing down" the material—and it's probably not constructive to think of the work in those terms, he said. It's a matter of translating the concepts into a language that is familiar to members of the community. And it's a matter sometimes of anticipating what people aren't going to know as a matter of course about things that might be a matter of course to the scientist. That work can require a significant effort of intellect and imagination.

After two years with ATSDR, Miller came to CDC. He had heard about an opportunity in the Environmental Health Services Branch to work in the field of preparedness, and he had read about EHSB's strategy to revitalize environmental health.

Those two areas of work are mutually reinforcing in Miller's view: "I think there are more and more opportunities, certainly around preparedness, in environmental health."

The field is, he thinks, beginning to catch up with the preparedness trend. Yes, environmental health professionals could still do a better job of defining their role in emergency response,

but I think we are starting to see it now, finally taking root in the states, that the states are really defining what the role of their practitioners is. In Florida, for years, I think that was pretty well established because they got hit [with hurricanes] so regularly. They were going to have to go out and restore food operations, take care of shelters, and help with water and sanitation needs.... And now a lot of states are starting to see incorporation of environmental health roles into disaster response planning.... When environmental health isn't present, you start to get into real issues. You really, right off the bat, have to take care of people's basic needs. If you don't, you're going to get disease outbreaks.

Miller is also working hard these days on workforce development. He has served as a mentor for EPHLI, for new officers in the Commissioned Corps, and for the U.S. PHS Junior Commissioned Officer Training and Extern Program (JRCOSTEP). The latter program is an opportunity for college students to intern with U.S. PHS during breaks in the school year (usually during summer vacation). It can give them an idea of what a career as an environmental health officer in U.S. PHS would be like. (For more information on JRCOSTEP, including application information, visit <http://www.usphs.gov/html/jrcostep.html>.)

Miller is particularly excited about another project: putting together some emergency response training courses and workshops specifically geared toward the role of environmental health practitioners during emergency response. (One of these workshops was given at NEHA's Annual Educational Conference last June.) He believes this program will fill an important gap.

"You see a lot of workshops and curricula on preparedness," he said. "There's things like risk communication, which is good. But there's very little out there that speaks directly to what practitioners *do* in emergency response."

He'd like to create more incident command training specifically oriented to environmental health practitioners. During an emergency

response, he said, "you've got a lot of data inputs that are coming into the emergency operations center. And it takes a talented and experienced practitioner to be able to sort it out and make a decision, weighing all the factors."

At the end of the interview, *JEH* asked Miller about sources of inspiration in his career. His response demonstrated the importance of listening skills to effective leadership:

I'm very blessed, because I was surrounded by people who wanted to see my career grow and flourish—who genuinely believed in me. So I want to pass that on to other people. It makes a world of difference. We need to keep that in mind in our daily work, too. A program will be that much stronger when you can facilitate growth within individuals. When I started in the field, I saw—well, that this could be improved, that could be improved. With younger officers, I think you encourage them to do that. I think what I call it is respectfully challenging the system. And I was lucky. I worked for a lot of people who would listen to your ideas and work with you on them.



**Charles Otto,  
M.P.A., R.S.**

When Charles Otto went to college, he was already interested in environmental issues. He was also interested in the field of medicine.

So when the Auburn University environmental health program was formed in his junior year, he thought: "Boy! That's sort of interesting!" Here was an opportunity to combine his two interests.

He became the first graduate of the program and went on to work at the environmental health department in Mobile, Alabama, the second largest department in the state. While working in Mobile, he also obtained his master's degree, attending school at night.

That must have been a strenuous time.

He laughed. "You know, when you're young, you do things like that."

*JEH* asked if he had any advice for people who might be considering graduate school while working.

"I think it's well worth it," he said, "to go for higher education. And particularly after you've worked a little while.... If you have a little work experience, it helps to make that graduate education a little bit better."

After working for the state health department, Otto joined the Commissioned Corps of the U.S.

Public Health Service in 1987. His first assignment sent him to Washington, D.C., to work in the retail food protection branch of the Food and Drug Administration (FDA). At that time, FDA had just begun work on rewriting the national retail food safety code. Otto said he learned a lot of history—"60 years' worth of history"—because the process involved going through a code that had been in place since the 1930s.

And what had happened in updating the code roughly every 5 to 10 years was they added a few more requirements. Now they were trying to revamp the entire process by going back and looking at every requirement in the code to see if it made sense at the end of the century. We were getting into a lot of research reviews, talking to scientists all over the world about what they were seeing as the challenges to food safety. We were working on applying principles. Maybe we were protecting against 10 different things by having the right principle in place rather than trying to incrementally create 10 different requirements that basically read the same way.

The result was FDA's *Model Food Code*, which was introduced in 1993 and contained a number of new approaches, including the hazard analysis critical control point (HACCP) system. In the 13 years since it first appeared, that code and its updates have increasingly been adopted across the country.

Another project Otto worked on was the FDA Electronic Inspection System, a database system that state and local departments could use to track inspection results. It was adopted by several hundred jurisdictions. The system, though no longer in use, was an early precursor of the many software packages that are now commercially available and that still apply many of the operational principles of the Electronic Inspection System.

Otto undertook one other major project at FDA:

When I got there, I found that they had in their files pretty much all the answers I'd ever needed at state and local about food safety. You know, they had an excellent file system. But that was information I'd really needed to have out there in the front lines when these hard questions came up—and the *why* behind something.

Otto put together something called FDA Prime Connection, a service through which environmental health practitioners across the country—"and actually around the world," he said—could get answers from FDA's files. This was before the World Wide

Web was available; Otto used dial-up bulletin board software.

"We kept user statistics and found that the primary users of this information system were the local environmental health programs in America—instead of the large metro health departments, which probably had more resources. And it was an amazing project," Otto added, "in that we built it for nothing."

To set up FDA Prime Connection, Otto used an old computer, free software, and a telecommunications contract that FDA was not exploiting to its fullest extent.

For this work, Otto was awarded U.S. PHS's Outstanding Service Medal in 1993. FDA Prime Connection became the forerunner of FDA's current Web-based information system.

*JEH* wondered: Had Otto obtained some education in computer technology along the way?

"Uh, it was all pretty much self-taught," he said. "I think I've had two computer courses in my career."

Otto is particularly proud of these achievements because for him they embody a mission every federal environmental health program should have: To support the environmental health services that are delivered on the front line by local environmental health practitioners. "What we've got to do," he said, "is provide them with as much information and as many tools as possible so that they can do the best possible job."

In 1995, Otto got assigned to work with the National Park Service, to implement the Food Code throughout the national park system. From 1998 to 2002, he worked with CDC's cruise ship program, helping to apply the Food Code to food service at sea. In 2002, he came to his present position at EHSB.

*JEH* asked what sorts of challenges he sees in the future of environmental health and how they should be addressed. He had several projects and ideas in the works.

"The current budget crisis," he said, "limits the ability of individuals to get to educational opportunities like the NEHA annual conference—really sort of limiting their ability to get access to the information they need." He is working on bringing back, in new format, the old CDC home study courses. The project, which is still in its early stages, would involve a series of Web-, DVD-, or CD ROM-based modules, each of which would give users a particular competency.

"It would be something that you could sit down and do in the morning while you're waiting for calls to come in or drinking some cof-

fee. You know," he added, "I've heard recently that sometimes agencies cannot even travel out to do inspections because of the cost of fuel and the budget situation. That would be a day you take for training."

EHSB has already funded a demonstration project. More than 30 Web-based courses are now available through Tulane University. (To check them out, visit <http://www.sph.tulane.edu/CAEPH/ept/training.htm>.)

Otto also sees a need for the profession to move into nontraditional areas. He would like to see practitioners still using the classic prevention approaches, but applying them at the community level to issues like smart growth:

It's not something that we have a blueprint for the way we do for our more traditional programs. But there are ways to get involved in community planning, to make sure that the facilities we *are* involved with, such as school construction, are built with walking access—reducing the use of the car, improving the physical activity level.... We could get involved very early on in subdivision development—raise the question with the developers: What are you going to be doing about sidewalks here? Since it's not part of our normal mission, it's a matter of selling the idea.

And that last bit, Otto said, is key; environmental health practitioners need to think of themselves as salespeople in their communities. He added:

It's the same thing as with emergency preparedness. If you never go talk to the leadership in the emergency planning center within your community, environmental health will not be invited at the time of the emergency. So there's a lot of bridge building as part of promoting the message that healthy growth is good for the community.

Otto has his hand in many other projects. When *JEH* called, he was on a brief break from a 14-hour-a-day experiment that is looking at concentrations of trichloramines in air around indoor swimming pools. The work is being undertaken to provide insight into the increasing frequency with which people are getting sick around pools—sometimes without even going into the water.

*JEH* asked Otto what inspires the unflagging hard work he has engaged in throughout his career.

"I can see things being better than the way they are. Always there's something that can be improved," Otto said. He laughed. "So yeah, I work too much. But I think anybody at our level in environmental health does that. It's not unique to Charles."



**Amer El-Ahraf,  
Dr.P.H.,  
R.E.H.S.**

For Amer El-Ahraf, thinking in terms of “the job” is never enough.

“I remember my first call,” he told

*JEH*. It was 1970, and he was working as a sanitarian for the Los Angeles County Department of Health Services. The call was a complaint about flies. When he went out to investigate, he found the man who had lodged the complaint sitting in a rocking chair on his front porch, a man of about 65—“about my age, now,” El-Ahraf said, “but I was a young man at the time”—with the flies swarming all around.

“I said, ‘Mr. Johnson, it looks like we have a problem here.’ And I asked him: ‘What do you think we should do?’”

Asking questions—and so building partnerships with members of the public, drawing on their knowledge—is important to El-Ahraf’s philosophy of environmental health: “The fact that you have the book is not sufficient to solve the problem,” he told *JEH*.

El-Ahraf noticed that the flies were small—not horseflies. He got to chatting and learned that Mr. Johnson was “a backyard ecologist” who was keeping cut grass in his yard, composting it and creating a haven for flies.

“We found the problem in his own backyard,” El-Ahraf said. “And had I not spoken to him, we would have been chasing those flies all over the neighborhood.”

El-Ahraf was about to obtain his Dr.P.H. degree at the University of California Los Angeles (UCLA). Why, then, was he working as an entry-level sanitarian?

“I had a philosophy,” he said, “that things should be different in the way we practiced in the field, the way we framed the field.” But as a teaching assistant at UCLA, he had students who were working in the field, and they often told him, “Dr. El-Ahraf, there is no way you can change anything in the field. Everything is set.”

El-Ahraf refused to believe that. Nor did he want to be an armchair philosopher, “to sit in my university and have my feet off the floor and say the field should do this and that.” Ultimately, his goal was to return to academia. But he had also noticed that among his professors, the most effective teachers were those who had both field experience and academic experience.

He had one more reason: He had come to UCLA as an international student (from Cairo) and having decided to stay in this country,

I thought: Now I understand American life at the university, ... but it behooves me, if I want to serve my new country well, to know it well.... So I have to walk the streets, I have to visit people in their homes, I have to go to the churches, I have to sit at the board of supervisors meetings.

He took complaints like Mr. Johnson’s not as irritants but as an opening onto the community. Every time he got a complaint he went and met someone and said: Thank you for complaining.

“And of course, people looked at me and said *really?*” El-Ahraf laughed. “But I meant it. The fact that you complained meant that you were interested in public health.”

El-Ahraf’s assignment—to the Compton Health District—was considered a tough one, especially since he arrived only a few years after the Watts Riots of 1965, which took place in the area. His colleagues didn’t understand why he was happy to receive this assignment. “But my approach,” El-Ahraf said, “has been always: We deal with the issues where they are. And challenges are not bad for the profession.” For two years, he worked collaboratively with block clubs and community centers, schools and churches, and other government entities to clean up the area and address residents’ public health concerns.

These days, the concept of partnership is established enough to receive almost constant lip service—and sometimes to be put into practice to very good effect. At the time, however, El-Ahraf was anticipating the profession by something like a quarter of a century.

After two years, he returned to academia. Here, too, he was at the forefront of new trends. He received a federal grant, for instance, to develop a generic model for a health administration/planning degree. “At the time,” he pointed out, “people trained on the graduate level either as health administrators or health planners.” There was not a lot of understanding between the two groups. The planners tended to underestimate administrative difficulties, and the administrators tended to say of the planners: “These guys are dreamers. These are nice plans, but I can’t implement them”—and dismiss them out of hand.” El-Ahraf’s solution was to “develop a professional who is an administrator *and* a planner.”

The program was implemented at three California State University campuses: San Bernardino, Chico, and Northridge (Health Administration/Planning Program, 1982).

At San Bernardino, El-Ahraf navigated interdepartmental politics to set up a new academic program and design a curriculum in health sciences and human ecology. He has also taught at the University of California—Irvine and California State University—Dominguez Hills. Along the way he has served as NEHA president (1980–1981); has been recognized with awards, including the Mangold Award and the Snyder Award; and has published widely on environmental health issues. His most recent work has been on the health effects associated with global warming (El-Ahraf, 2006, 2004).

After becoming department chair at San Bernardino, he continued to return each summer to work in the county health department; throughout his career he has been committed to linking theory with practice.

El-Ahraf has something of an artist’s intensity of engagement and curiosity about the world; every new encounter is grist for the mill. *JEH* was not surprised to learn that he is also a poet. When asked, he said he did think his interest in poetry helped him see things differently: “Poetry is part of a vision of human nature,” he said. “It tends not to be limited by the regular boundaries. So you think on a bigger horizon, I guess.”



**Nelson  
Fabian, M.S.**

“I’ve gone through periods when I thought Nelson Fabian was the devil,” Joe Beck of Eastern Kentucky University told *JEH*, “and

I’m at the point now where I think he’s a saint.”

Another way of saying this might be to say that Fabian is not only intensely technical in his approach to environmental health, but also surprisingly spiritual.

“When I thought he was the devil, it was his absolute focus on the bottom line, the financial survival of the organization [NEHA],” Beck said. “And in all honesty, I think he’s done wonders consolidating the financial realities.... And I think that he’s been strategic, I think he’s been incredibly methodical about it, and I think he’s gotten there.” The result has been the transformation of NEHA into what Beck

describes as “a maneuverable instrument.” But the notion that Fabian cares only about “the bottom line,” he said, “turns out to be a very, very poor analysis.”

Fabian himself told *JEH* that he considers “being a part of the growth and development” of NEHA to be his greatest professional achievement. If people think of him as an environmental health leader, he told *JEH*, they do so primarily because he is identified with NEHA and NEHA “has achieved that standing.” He, too, pointed out the distance that NEHA has come. “I mean, we were almost out of business in 1983. We were told we were *going* out of business. And look at us now.”

For Fabian, the key to recognition is quality: I follow a very simple formula. And I indoctrinate the staff in this from the time I interview them to the time I do performance appraisals, and in hallway conversations. And it’s nothing more than this: If you produce quality, you get credibility. Credibility draws people to you. If you draw people to you, you get growth and strength. And with growth and strength, you acquire an ability to wield influence. Indeed, NEHA is being invited to give its opinions on issues as never before. Where are the requests coming from? From CDC, from U.S. EPA, from legislators and regulators. Even from members of the public.

“We used to bruise our knuckles knocking on doors trying to get people to open them so that we could talk to them,” Fabian said. “Today, we have more requests for our opinions than we even have the capacity to respond to.”

Fabian’s vision for NEHA also involves an organization that is “always on the balls of its feet,” ready to take advantage of any opportunity that arises. “We have thrown the book away on strategic planning,” he said:

This world goes so fast, it’s breathtaking. And with each passing day and year, it goes faster. It’s preposterous to think that we can predict the future and then orient the organization to hit these five-year goals, these three-year goals. God, I hope no one’s got a 10-year goal out there. In classical strategic planning, what you risk is *hitting* your target, as bizarre as that might sound, only to discover that it’s now irrelevant.

Instead of setting targets, NEHA’s approach is to make sure “we have the right people on the bus.... If you have the right people, who understand that the world changes really, really, fast, then they can adapt—day by day, if neces-

sary. We’re a very opportunistic organization, and I’m proud of that.”

Now there is something counterintuitive in all this, not just because strategic planning has long been a sacred cow, but also because “opportunistic” is so often used as a term of opprobrium. It is sometimes assumed that opportunists lack passion, principles, and interest in the big picture. Fabian embodies the refutation of that notion.

“He speaks with real passion,” observed Mark McMillan of the Colorado Department of Public Health and Environment. “And he brings a philosophical bent to environmental health.”

In fact, in addition to receiving two hard-science degrees (a bachelor’s degree in systems engineering from Oakland University and a master’s degree in management engineering from Wayne State University), Fabian has done extensive coursework in philosophy and comparative religion. He sees these apparently disparate interests as part of a larger whole: “an interest in the big picture.” He also traces his interest in social issues to the times in which he attended college, when he was surrounded by students engaged with issues like the Vietnam War and the Great Society.

On the one hand, “I was in chemistry laboratories until 11 o’clock on Friday nights,” Fabian said. “Boy, what a great social life, huh?” And on the other hand: “I didn’t ever want to go into an isolated work environment where all I had was my slide ruler or my computer, and no opportunity to engage social issues.” So he began to steer his academic work in directions that allowed him both to delve into technical fields and to be involved in social issues. That led to an interest in environmental issues, “a technological field that had huge social relevance.”

When he graduated in the top 10 percent of his class, some dazzling job opportunities opened up: Fabian found himself being flown to Baltimore to interview with Westinghouse, being flown to Minneapolis to interview with Honeywell.

“But I just didn’t want to use my know-how to design missile systems. That wasn’t my idea of a fulfilling job, you know?”

And so, Fabian took his first job out of college—as a stock boy in a toy store. That job did not last long; he soon obtained a position with the Southeast Michigan Council of Governments. It was, he said, a “*wonderful* job,” in which the focus was on analysis of environmental impacts of proposed plans: How would it affect the environment if trans-

portation systems were built in a given direction? How would population growth then develop? What would be the implications of a wetlands area becoming populated? There was an environmental health component to this work, but the focus, Fabian said, was primarily ecological.

The health implications of environmental issues became clear to him in the wake of a couple of incidents that occurred in the early 1970s in Michigan, where he was living at the time. The first incident involved the poisoning of cattle with polybrominated biphenyls. The state health department was quoted on the front pages of newspapers saying that it was not a good idea to eat beef. The second incident was a warning to pregnant women to limit fish consumption because of contamination with DDT and pesticides.

You know, I’m going, “Holy smokes! For thousands of years, people have eaten beef! What in the world have we done?” Suddenly we were messing up our environment in such a way that we couldn’t carry on with these fundamental ways of living. And so that led to a particular interest in the health side of ecology. I’d always been interested in systems and the big picture, but with those two headlines, I was not only captivated by the systems issues, but I was also beginning to understand how environmental imbalances were actually affecting human health.

Since then, Fabian has been passionate about environmental health. His dedication has been recognized with a number of awards, including the Snyder Award. Here, one might say, is a profession that perfectly meshes the technical and the spiritual, a perfect fit.

And yet—and yet. He also expressed some frustration. Like the other leaders interviewed for this article, Fabian sees a profession that is “quite frankly struggling.”

Why does he think that is?

“The work we do is fascinating. We’re not trying to figure out how to come up with a new polish to make a refrigerator shinier,” he said. “This is really fascinating stuff that literally has life and death implications.” But “somehow we don’t excite others about this like we should. There’s a disconnect between the importance of the work we do, the nature of the work we do, and the passion we show for it.”

He thinks the profession should be in search of some new metaphors for itself. Environmental health is used to calling itself “the invisible profession,” even describing its practitioners as “gray collar,” he told *JEH*.

Gray collar! Talk about disheartening! “If we continue to use those metaphors,” he said, “we reinforce the very problem that we’re complaining about.”

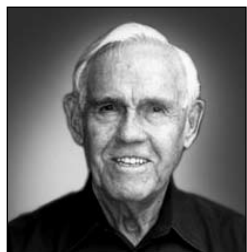
Fabian has been trying out the term “chewing-gum profession.”

We go out, we’re trying to figure out a problem, and more often than not, we’re pulling a stick of gum out of our mouth and plugging a hole and getting a problem fixed. Now, that’s not particularly elegant in the way of a solution. But we get the job done. We get the job done with lean resources and not a lot of support, political support included. We figure out a way, as we’re listening to five different sides of story, to get a job done.... And the problems we fix contribute significantly to environmental health and quality of life issues for the people we serve.

“I’m not sure,” he admitted, “that I’m quite ready to rent out the marquis of the Paramount Theater and say, ‘Environmental Health, the Chewing Gum Profession!’” He’s open to suggestions for other metaphors. But he does believe environmental health is at a crossroads. An increased national interest in emergency preparedness, arising out of terrorism concerns, the country’s experience with Hurricane Katrina, and emerging disease threats like pandemic flu constitute “a phenomenal opportunity for our profession to become more involved and more visible.”

He added, “I hate to sound manipulative or like I have lower motives, but you know, if this is the way the world is going, let’s make the most of it. And take advantage of this opportunity to connect us better with other segments of our communities.”

NEHA—that opportunistic organization—is currently on a mission “to guide our profession into a heightened state of readiness: preparedness for pandemic flu in particular and emergency response in general.” Even if a flu pandemic does not occur, Fabian pointed out, environmental health will still be doing the country an enormous service by “ingraining the idea of preparedness into the American value system.”



**Larry Gordon, M.P.H., M.S.**

The name Larry Gordon was often the first one on people’s lips when *JEH* asked members of the profession whom they saw as leaders. Again and again, respondents cited the prestige of

his accomplishments—a point that seemed especially important to members of a profession whose greatest strength generally is not self-promotion.

Gordon, one might say, is the celebrity personality of environmental health.

Here is an environmental health professional who has been president of the American Public Health Association (1980–1981); who testified before the Presidential Committee on Executive Reorganization about the creation of the U.S. Environmental Protection Agency; who has several times testified before Congress; who has won numerous awards, including the Snyder Award and the Mangold Award; and who has more than 240 publications to his name. He founded the New Mexico Scientific Laboratory System in 1973 and the New Mexico Environmental Improvement Agency (now the New Mexico Department of the Environment) in 1976, as well as the Albuquerque-Bernalillo County Environmental Health department in 1957—to name just a few highlights from a 56-year career.

Several respondents to the *JEH* survey cited Gordon as the only nationally recognized “public intellectual” the profession has.

And what is a public intellectual? For environmental health practitioners, the term seems to mean someone “who is thinking several years out,” someone with “predictive abilities,” and above all someone who is willing to challenge basic assumptions of the profession. Often respondents said that they disagreed with some of Gordon’s positions but still found that, as one put it, “every time I read something he writes, it changes the way I look at the issue forever.”

An example of the way he challenges assumptions might be Gordon’s response to a question *JEH* asked of all the leaders interviewed for this article: “Where do you see the profession heading from here?”

The field of environmental health and protection is not a profession, and it is misleading to continue the pretense. It is an effort engaged in by a varied assortment of disciplines and professions within a broad array of organizations. The field of environmental health and protection is profoundly multidisciplinary as well as interdisciplinary. Environmental health and protection practitioners may be classified as either environmental health or protection professionals [i.e., if they have been educated in “environmental health” or “environmental protection” per se] or professionals in environmental health and

protection [if they have been educated in some other discipline such as chemistry or biology]. Environmental health and protection is a field in which to practice one’s profession.

He sees opportunities for people to practice in this field “not only at local health departments, but also at state environmental protection agencies, pollution control departments, the federal Department of Energy, the Department of Defense, and the Indian Health Service, as well as local planning agencies.” The key is to embrace the whole field of practice regardless of “organizational and mental barriers” and be willing to move around among agencies.

A too-narrow focus has gotten environmental health in trouble before, he pointed out. By lagging behind public consciousness, the field runs the risk of making itself irrelevant:

The public and public policy leaders know that pollution kills fish, limits visibility, creates foul stench, ruins lakes and rivers, degrades recreational areas, and endangers plant and animal life. Environmental health practitioners must develop the capacity to embrace ecological issues as precursors to health problems.... Failure to embrace ecological components has been among the reasons many environmental health responsibilities have been assigned to agencies other than health departments.

There is an ominous allusion in this analysis to the period of the late 1960s and early 1970s, when the reluctance of public health agencies to deal with issues of pollution, then the most prominent threats to human health, led to the loss of those responsibilities and the formation of environmental protection agencies in which human health concerns were not the primary mandate. Many in environmental health consider this development to have been detrimental not just to health departments but to the interests of public health itself.

Gordon sees a similar drama unfolding in the present:

Except for the voices of a few leaders, environmental health input is noticeably absent in the current debates over such global issues as ozone depletion, global warming, population pressures, global toxification, desertification, and deforestation, all of which pose threats to human health and world ecology. Environmental health leaders need to be prepared to be

constructively involved in the planning to counter such global threats to our delicate ecological system.

"Many environmental health practitioners," he added, "need to lift themselves out of their conventional mindsets. They are available, they want to serve, but they do not have clear concepts of ensuring accomplishment and recognition."

By way of example, he cited the problem of global warming. In July of 2005, he said, he posted a message on the Web site of the National Conference of Local Environmental Health Administrators, in which he pointed out that a report from 1992 on the future of environmental health had identified global warming as an environmental health problem. He proposed that NCLEHA appoint a global-warming committee and develop a guide that would spell out actions that could be taken on the local level with respect to global-warming prevention. Perhaps NCLEHA could even approach the National Center for Environmental Health and the U.S. Environmental Protection Agency for funding to help with this project.

"Okay," he told *JEH*. "That was July 24, 2005. Guess how many answers I got. Zero."

Gordon acknowledged that he did not seriously believe NCEH or U.S. EPA would fund such a project. But, he said, he did think it probable that "if five or six of the younger, more scientifically oriented, up-to-date members could get together, they could come up with some good ideas."

It's worth pausing here to note that many of the environmental health practitioners *JEH* interviewed for this series did mention global warming as an issue they were concerned about. But they lacked the time, the resources, and the regulatory authority to address it.

When *JEH* asked Gordon about this dilemma, his response was swift and bitter:

They say they don't have the right regulatory platform. Of course they don't! It needs to be developed. That's called leadership.

That means, above all, working with law makers to get the platform:

Nobody was asking for a New Mexico Air Quality Act. I wanted it. No one was asking for a New Mexico Environmental Improvement Agency. I wanted it. No one was asking for the New Mexico Scientific Laboratory System. I wanted it.... All these various laws that I've gotten passed—the New Mexico Water Quality Act, the Air Quality Act, the New Mexico Occupational Safety and Health Act.

The creation of all these "regulatory platforms" involved persuading political officials. It involved "drafting, promoting, and testifying." Or, as Gordon put it, "I never took polls.... A lot of these steps were very controversial.... There was no public sentiment regarding these innovations. You just do these things and hope for public and political support."

This is risk taking of the most basic sort. Gordon added, "I lost a lot of [battles] too! I had some awfully good ideas that never went anywhere."

A risk is only truly a risk when there's no guarantee of recognition and success. Perhaps the most courageous aspect of Gordon's leadership has been a willingness to undertake projects under these circumstances.



**Chuck Higgins, M.S., R.E.H.S.**

CAPT Chuck Higgins of the U.S. Public Health Service is perhaps best known as the person who brought into being the Wyoming Food, Drug and Cosmetic Safety Act of 2000, which completely rewrote the state's food safety laws (Higgins & Leis, 2001). Higgins himself considers that project, which he completed on a U.S. PHS assignment for FDA, to represent his best, most ambitious work.

"We decided to be brave," he told *JEH*, "and completely rewrite the code—to propose repealing all 14 of the old statutes and replacing them with a single farm-to-table law."

*JEH* wondered what the initial reaction to that proposal was.

"Oh, everybody freaked out." He laughed. "Yeah, the governor included: 'What?!'"

One reason Higgins was able to overcome the fears of politicians was that he had already done a lot of groundwork and had spoken with key players—like the restaurant association—about "doing something big."

A workgroup was formed, consisting of industry groups, consumer groups, state agencies, and local health departments. Under Higgins' leadership, the group decided, from the beginning of what turned out to be a two-year process, to make all its decisions by consensus. "We never voted on anything," he said. "Once you vote on something, you have a minority report. I didn't want to go to the legislature at the end and have a squabble."

To *JEH*, it sounded like an arduous task, to get consensus among people representing such different interests.

"It took some chatting," he acknowledged—then laughed.

We'd get to a point, and somebody who just wouldn't like something. And we would just talk. I mean, I would stand up there facilitating and talk about what is it that you can't live with. And what is there that you don't like but you could live with? Questions that were sort of open-ended. That caused them to actually pinpoint their opposition to something. And it frequently brought up statements that allowed the rest of the group to find common ground. I think that's what it's all about. You've really got to try to listen to what it is that people are agreeing about. And then use that to make the next statement. And just sort of spiral into consensus.

"Oh, what a political arm twister he was!" said Bob Harrington of the Casper-Natrona County Health Department, who participated in the process.

People who have encountered Higgins in other contexts also attest to his energy. According to David Ludwig of Maricopa County Environmental Health, who knows Higgins' work as an FDA trainer and teacher: "He'll get up in front of an audience, jump on a table, and make people sit up and take notice."

Higgins thinks some subtler qualities are also required for successful facilitation of a project like the Wyoming one: "Whoever is organizing it needs to be really sincere. People are very perceptive, I think, as animals. And they know when there's a hidden agenda."

The Wyoming statute contained a number of potentially controversial innovations. It required, for instance, that the state health department and the state agriculture department collaborate. ("In most states they fight," Higgins observed.) Inspection duties became the purview of the agriculture department, freeing the health department to focus on outbreak investigation and disease surveillance. Each year the health department is required to collect information about disease transmission and pass that information onto the agriculture department. In turn, the agriculture department is required to report back to health on what was done to address hazards.

Harrington noted that the law included the first-ever provision in Wyoming for summary closure of an establishment on the say-so of an inspector. Industry representa-

tives agreed because they got, in exchange, a commitment to standardized training and certification of inspectors.

When the group took its results to the legislature, “We were able to stand up literally linking arms and say, ‘Okay, everybody involved here agrees that this is a good thing,’” Harrington said.

“I think there were something like just six votes against the statute,” Higgins said. “It passed overwhelmingly.”

Before his stint in Wyoming, Higgins had worked for FDA’s state training branch, giving a weeklong course every month in a different state. He traveled for six months, learning about health departments and food programs all over the country.

“It was an opportunity to soak up and steal wantonly from all sorts of ideas,” he told *JEH*.

He also noticed some trends, the most significant of which was “people becoming truly uncomfortable with a narrow compliance role,” a trend that had been building for some time:

I mean in Denver one time, they [the government], in reclassifying positions, put the inspector in with the tree trimmers.... Things like that had happened across the country, and I think people who worked in environmental health were getting more and more dissatisfied with the low pay, the poor response from their political masters.

Higgins thinks it is basically a matter of historical accident that the profession got mired in a “technician’s role” and a “narrow compliance approach.” He sees this accident as the root of the problems environmental health has been having with everything from wages to bad publicity to indifferent politicians: “Everything we do sounds like a technician. That’s not good for us. And it gives a low outcome ratio for the dollars put into it,” he said.

From Wyoming, he went to work at CDC, helping start up EHSB. “And that’s where we together came up with this systems approach idea,” he said.

Seeing food operations as a dynamic system allowed him to see that food safety is “driven by forces” he never would have thought about if he’d been focused exclusively on compliance. He cited an example from his current tenure with the National Park Service—a restaurant in the park system whose cooking-temperature problems arose out of a lack of communication between the day shift and the evening shift:

They had scallops at dinner that were being cooked to anywhere between 70° and

180°. And what we discovered was that the day shift was supposed to thaw the scallops, which they did, and the evening shift used them for dinner. Well, they would use up the thawed ones and then use frozen ones. The frozen ones were not getting cooked adequately on the inside because they looked the same on the outside. And the evening shift never communicated back to the day shift that they didn’t have enough product thawed out. So the day shift just kept thawing the same amount all the time. It was a real simple fix.

He added that his agency had been doing inspections for years without catching this problem, which came to light only when environmental health people began to talk to the restaurant staff about the kitchen operations as a system—“which by the way, the kitchen people really like,” he said. “They see that instantly.”

We went in and asked questions like: “Okay, this is really dynamic, so I want to know something about the dynamics of it. Like what’s your biggest challenge.” And they’ll talk about this evening dinner at Old Faithful Lodge or Old Faithful Inn, and it is just slammed; it is just crazy. And so then, I’ll ask them follow-up questions: “Okay, let’s take that meal. And think about what within that are your greatest challenges.” One of the things they mentioned was the inconsistency of food temperatures and occasionally getting complaints from customers. And that’s how you bring it out. And then you start exploring it.

*JEH* pointed out that many local departments would *like* to adopt these more sophisticated approaches to public health, but barely have time to accomplish the cursory inspections that are now mandated.

“Yeah,” he commented. “We don’t have time to sharpen the saw because we have too many trees to cut down.”

He sees it as a question of prioritizing: “Our profession has forever had a problem with prioritization. Let’s take at a city somewhere. They’ve got, you know, thousands of places to look at—and how many of those places have been that way for 30 years? From a heavy, realistic prioritization, which has to be carefully done and carefully communicated, you can gain time to do the other more important things.”

Perhaps you can even gain money. When Higgins started at the National Park Service

two years ago, he told *JEH*, the program wasn’t in bad shape. But neither did it have a high profile in the agency, and it was “languishing, budgetwise.” So he began implanting the notion that environmental health professionals are high-end consultants and not inspectors. “And our agency director now is so proud of us,” he said. “She brags to other agencies about us. They have proposed a substantial increase in our base budget for next year.”

At a time when budget increases are seen as something out of science fiction, the agency director is proposing a \$400,000 increase to Higgins’ \$1.6 million budget.

“I think it’s proof that this approach—and communicating this approach—works better than the old way,” Higgins said.



**Sarah Kotchian, Ph.D., M.P.H., Ed.M.**

For Sarah Kotchian, leadership means being bold enough to imagine a different world than the one we live in.

Her own history has been one of bold achievement, including a mid-career switch from the humanities to the sciences, an accumulation of high-profile awards ranging from the *Glamour Magazine* Outstanding Young Working Woman Award (1986) to the Mangold Award for Outstanding Contribution to the Environmental Health Profession (1990). Under her leadership, the Albuquerque Environmental Health Department also won the Crumbine Award for Excellence in Food Protection in 1989. In addition, she has published extensively and given many talks on the practical and philosophical challenges facing the profession.

“I think the environmental health field is full of innovative and creative people,” she told *JEH*.

We just need to encourage them to imagine the world the way they want it. Some of the best creative thinking comes about when you say, for instance, “What if we were to imagine a world without risk?” And most people would say, “That’s impossible. We all have to accept some risk.” But let’s pretend that we could design something where at least the risk would be minimal. Well, what would it take to get there?

She thinks local environmental health practitioners should read widely—not just in scientific journals, but also in the national newspapers “to understand what’s happening globally and how it might affect what you’re doing in your town.”

As an example of thinking boldly, she mentioned engagement with the issue of the built environment—an issue that a number of environmental health leaders are thinking about these days. More broadly, environmental health professionals need to engage in whatever the ethical and social issues are in their communities and in the world at large. “And sometimes we’re afraid of that,” she said.

How would environmental health practitioners go about engaging those issues, for which they don’t necessarily have a regulatory platform?

Kotchian had two suggestions. The first is to participate—perhaps just as a citizen with expertise to offer—in community groups. In New Mexico, Kotchian has, for instance, worked on the Governor’s Blue Ribbon Water Task Force. She was a co-founder of the Rio Grande/Rio Bravo Basin Coalition and a co-founder of the Albuquerque/Bernalillo County Asthma Coalition—to name just a couple of the many community entities in which she has participated.

The second suggestion is that environmental health professionals “need to move more toward the policy and advocacy side of things” *as part of their work*.

During her 19 years at the Albuquerque Environmental Health Department, 14 of which she spent as director of the agency, “we got a few pieces of legislation through,” she said. Other proposals didn’t pass, either because the timing wasn’t right or the need for the legislation wasn’t “effectively sold.”

In other words, you don’t succeed at everything you try.

“Exactly,” she said. “But you need to try. It begins with the leaders and the people in the agency. It’s not somebody else who will do it for them. You have to say, ‘Why are these conditions still existing here?’ And you have to take the long view.”

The Albuquerque department worked for five years to pass what Kotchian characterized as “a very forward-looking groundwater protection plan.” The technical staff did a lot of background work—“hydrogeology and mapping and multiple meetings all over the community.” A lot of work was done in collaboration with the Bernalillo County Environmental Health Department, with other agencies, with neighborhoods, and with stakeholder groups such as developers and homebuilders.

Kotchian acknowledged that many environmental health departments have to work within legal constraints: They are not allowed to introduce their own bills. They have to work through a city council, a county commission, or a board of health. Nevertheless, they need to be thinking about what policy changes are needed in the interest of disease and injury prevention—and “constantly communicating, educating, and advocating for the important role environmental health is playing in the economic well-being of the community,” she added.

In other words, the work of an environmental health department should go far beyond “regulating and citing and writing up violations”:

We are a public health field. Regulation is just one of our tools. In fact, it *can* be one of the minor ones if we work on prevention and building consensus. Partnering with players we don’t normally think about and being active in our own communities and knowing who the other leaders are in other spheres. In banking and the United Way and the chamber of commerce—economic development.

*JEH*, noting the energy and passion in Kotchian’s voice as she discussed these matters, asked about her sources of inspiration.

“I would probably say my religious faith is one,” she said, “because it keeps me thinking. ‘Well, it’s not about me. It’s about the short time we have and what needs to be addressed.’”

She also attributes some of her broad perspective on the field to a relatively unusual educational background: Her undergraduate degree was in American literature, and after getting a master’s in education, she started her career as a teacher and counselor. She thinks her training in English and psychology became a special strength when she later entered the field of environmental health.

Finally, Kotchian named Larry Gordon (profiled above) as a source of inspiration; he was both her boss and a mentor at the Albuquerque Department of Environmental Health when she began there and encouraged her to pursue a master’s degree in public health.

“He was truly a teacher and a mentor, and he took a lot of pride in doing that for lots of people,” she told *JEH*. That model has influenced her own interest in the process of mentoring, about which she has done a great deal of thinking.

“One of the roles of a mentor is that you see something in people that they may not envision yet for themselves,” she said. So mentor-

ing requires a light touch and sharp powers of observation:

It’s not a heavy-handed thing. It’s something that you do in your interactions with people. You seek to find out what their goals are, and you can suggest things and refer them to opportunities and nominate them for committees and that sort of thing, where you think they will get exposures that will broaden their perspective and maybe lead to some leadership opportunities for them. And I’ve kept in mind the idea of suggesting a future that they might not yet be able to see... Still, they have to want to do it; it has to be a fit for them.

One of the ways Kotchian puts this philosophy into action is through her work with the Environmental Public Health Leadership Institute (discussed above in the CDC section of this article), for which she serves as a mentor.

In addition, she serves as associate director of the Institute of Public Health at the University of New Mexico. The focus of the institute is “to help the medical school become more engaged in public health issues in the state,” which is a poor state and often 49th or 50th in health outcome indicators.

The common thread in her current activities is encouraging future public health leaders to be bold in their visions and courageous in what they set out to do.

“Because life is short,” she said.



**John Marcello**

Well known for his qualities as a speaker, John Marcello radiates conviction and passion and, in the face of excuses (like low pay) for mediocrity, can be confrontational. “Some people—he scares them,” one environmental health director told *JEH*. “He will challenge up.”

Marcello, who has worked as a regional food specialist for FDA’s nine-state Pacific Region since 1997, brings to the profession a special awareness of communication issues, especially in their spoken dimension. That interest goes back to his first job: As a teenager, he worked for his parents, who owned a fine-dining restaurant.

“I did back-of-the-house—I did all the grunt work, actually. Bussed the tables. I got to park

the cars, as a valet. Neat job. I was a dishwasher. I did some of the book work.”

Marcello was deeply influenced by the joy his parents got from interacting with their customers. “It’s a hospitality business,” he pointed out. “You love people.”

He believes his experience as a frontline employee also gave him special insight into the business side of the food service business. It’s an entrepreneurial culture in which food safety is an important component, he said. “But when we deliver information from the regulatory side, it isn’t always in the best format for them to receive.”

Marcello is excited about a study from the Oregon Department of Health, which argues that if regulatory inspections are to become more effective, the regulatory side needs to recognize that it has a different “communications culture” than the industry does (Beegle, 2004). The industry has an “oral-communication culture,” Marcello said. “They get much of their information by word of mouth, by example, because it is such a fast-paced industry.” The regulatory side, by contrast, has become a print culture: “We go to college. We read books. We read the newspaper. We put things in written documents like codes. Pamphlets.”

Marcello had an opportunity to apply this philosophy when, after working in the DuPage County Health Department for 15 years, he was recruited by the National Restaurant Association (NRA) as manager of technical education. In that position, he worked cooperatively with FDA (Chuck Higgins, profiled above, was his partner from FDA) on food safety education. The team brought regulatory and industry food safety professionals into the same classroom to be trained together, and the workshops blended hazard analysis critical control point (HACCP) principles with a practical operational approach. Marcello talked about “active managerial control” (a term that resonated with the industry side), and Higgins talked about “street HACCP” (a term that spoke to the regulatory side). In 1996, FDA and NRA jointly received a Hammer Award for this work from Vice President Gore.

“I’ll tell you,” Marcello said, the person who walks into an establishment with a mindset that says, “I’ve got to develop an inspection approach that clearly communicates priorities”—what’s important and what’s expected—that person’s going to be far more successful than the person who’s simply going to go in

and do observation, document, and hand the operator a report.

The clear communication of priorities is important on the program level as well, he said. Too often, program objectives get defined in terms of quantity: number of inspections, follow-ups, and complaints. Priorities should be defined in terms of the ultimate goal: reducing the occurrence of risk factors.

*JEH* mentioned that in interviews for this series, quite a few environmental health practitioners—everyone from field staff to department directors—were already speaking of themselves as educators and consultants, and were focusing on risk factors rather than “floors, walls, and ceilings.” Did Marcello think the profession as a whole might already be moving in the direction he was advocating?

“Yes, I do,” he said. “And in the major jurisdictions, probably many of the leaders that you’ve spoken to have gone there. The problem is that environmental health programs are being asked to do way too much given the resources they have available.” As a result, it can be difficult to train new staff in this way of thinking.

“Does that mean our regulatory programs are doing a poor job?” Marcello asked. “It does not mean that.” But local food safety programs are in charge of regulating an industry of extraordinary diversity, size, and complexity. The food service industry, he pointed out, is the largest private employer in the country.

Yet again, it comes down to communication. The profession needs to clearly communicate the cost-benefit realities to consumers of public health services—that is, to politicians and the public:

What I mean by that is that many of our legislatures and boards of health think public health is relatively under control.... In fact, if you listen to what we say when it comes to food—“We have the safest food supply in the world”—you’re bound to think, “How the heck can we have a problem?” And if we don’t have a problem with food protection in this country, your program is not going to get more resources to conduct that food program. You’re going to be told you need to do more with less. What we need to do is show them the cost side of the equation. And the cost side is the occurrence of risk factors in your community.

“And,” he said, “a lot of environmental health people don’t like to talk about that.”

And yes, he added, that side of the equation is a little out of control—in every community,

he said. “You’re in denial if you’re not going to say that is happening. Everybody knows it’s happening.”

FDA, he told *JEH*, has found a 40 percent out-of-compliance rate for things like personal hygiene, handwashing, no bare-hand contact, time-temperature issues, and prevention of cross-contamination.

“A 40 percent out-of-compliance rate!”

Marcello admits that it can be difficult to come up with real numbers for illnesses caused by these conditions. But it is feasible to collect data on the occurrence of risk factors. Departments need to collect this information, compile it, and present it in an accessible format to the people making budget decisions.

His program in FDA is trying to help local departments hone their effectiveness in communications with something called the FDA Voluntary National Retail Food Regulatory Program Standards. This project, in which more than 200 departments are enrolled, involves a program self-assessment in nine areas ranging from staff training to quality assurance to industry community relations. (Readers can find more information on the program standards at [www.foodprotect.org/doc/ProgramStandards2005v2.doc](http://www.foodprotect.org/doc/ProgramStandards2005v2.doc).) The main goal is to help jurisdictions that are feeling overwhelmed by their workload to identify gaps and prioritize them.

“So if somebody came up to you today and said, ‘If you could do one thing to improve your food program today, what would it be?’, you could tell them what it would be.”



**Bob Powitz,  
Ph.D.,  
M.P.H., R.S.**

Environmental health practitioners interviewed for this series said they were inspired by Bob

Powitz because his career illustrates the possibility of life outside the health department. “He’s made a success of himself doing something a little different,” Sue Hibberd of the Minnesota Department of Health told *JEH*, “being out there on his own as a consultant.”

Respondents also mentioned being intrigued by his specialty—he is known as a “forensic sanitarian”—an area of expertise that Powitz himself invented. In fact, Powitz’s career as a whole has been an example of invention and independence.

What is a forensic sanitarian?

"I provide environmental health support to the legal industry," he explained. The work involves giving expert testimony about environmental health issues, primarily on three topics: conditions in correctional institutions, what Powitz calls "foodborne misadventures" (infections or intoxications in connection with any type of commercial establishment), and voluntary standards (because of his longtime involvement with both NSF and UL). He testifies on behalf of both plaintiffs and defendants.

Powitz pointed out that the non-health-department world of environmental health is actually larger, in terms of numbers of sanitarians, than the regulatory side. "They work in the food industry, in the clean-rooms industry, in the pharmaceutical industry, in the medical-device industry," he said. He sees tremendous potential for growth in the field as a whole. Standards development, for instance, is "a golden opportunity" for individual sanitarians since standards are needed to facilitate the increasing sale of products from country to country. Sanitarians can also work for third-party providers of food safety monitoring. Many retail food establishments are hiring third parties to do oversight as a way of coping with liability issues.

"But let's take it one step further," he said.

These trends strike Powitz as potentially helpful to health departments themselves. "The problem today for the regulatory community is the workload. Sanitarians have a workload, because of cutbacks after cutbacks, that far exceeds their ability to fulfill it. So inspections in many jurisdictions are cursory." The answer, he believes, may be to contract out inspections. The health department could let someone else worry about inspections and paperwork, and "actually do health," he said. The daily work of the department would become consultative. Staff would be freed up to do epidemiology, to work with the community on reducing injury and disease.

"Epidemiology, just basic epidemiology, is absolutely golden for our profession," he said. Health departments could increase the work they do with swimming pools, playscapes, and schools. They could counsel seniors in their homes after a fall on how to make the home safe. They could follow up on housing conditions that might have contributed to a child's accidental ingestion of a toxin. They could work with parents to make their houses safe for children.

He thinks this approach might also help with staff retention:

A lot of kids are discouraged when they get into public health because they don't do anything but inspect. And then it's only one thing, whether it's the lead program, radon, restaurants, or septic tanks. If that was all I had to do, I don't know whether I would have stayed in the regulatory community very long.

Other opportunities include emerging pathogens and what Powitz called "restorative public health"—making sure that environmental health conditions don't degenerate after a disaster and working to restore those conditions to pre-disaster levels.

"With the emphasis on bird flu and noroviruses, ... people are looking to our profession to provide some guidance. So we may see a resurgence in our needs on the regulatory front," he said.

*JEH* observed that this approach—shedding inspection responsibilities—makes an interesting answer to the frequently voiced complaint that there's no time to take on a more proactive role in health protection, that just keeping up with mandated activities is more than most departments have the staff or budget for. Powitz's solution does assume, though, that third-party contractors could do inspections as cheaply, reliably, and effectively as the public sector now does.

"Towns have their own road departments," he pointed out. "Yet they hire a contractor to do the paving. Those models exist extensively."

What's holding environmental health back, he thinks, "is simply the fear of being the first to make that decision and change the paradigm for preventive environmental health. You know darn well that the first oops that comes along, your boss will be there, the commissioners will be there—the whole thing."

He added, "We *really* need to rethink a lot of what we do. And how we do it."

Later in the interview, he put it even more starkly: "I don't want to see the profession die an ignoble death."

It is a profession to which he has given 40 years of his life. Powitz "never wanted to be a fireman." In fact, he is one of the few people interviewed for this series who chose the profession at an early age—after meeting "one of the last of the uniformed sanitarians" when he was a teenager. The result was a determined pursuit of environmental health credentials.

After college, his first job was as a sanitarian for the state of New Jersey. But "when you fall in love with a profession," he told *JEH*, "you want to do everything you possibly can in it. So what I eventually did was overeducate myself."

Powitz obtained a master's in public health degree from the University of Minnesota, then returned to New Jersey to start a health department in a small community. Then he went back to Minnesota and obtained a doctorate. That program gave him, among other things, some writing and critical-thinking skills that he considers "absolutely invaluable" to his work.

Writing is one of Powitz's passions; he has the rare ability to translate research literature into practical applications. The result, to the benefit of environmental health practitioners around the country, has been a series of columns addressing practical issues in the profession. Many respondents in *JEH's* survey knew Powitz from the Tools for Environmental Health column he wrote for the *Journal* for many years. He also writes columns for *American Jails Magazine* and *Food Safety Magazine* that "basically apply the policy or show how to use something in a practical way," he said.

Powitz did postdoctoral work at NEHA, then worked for years in academia, serving as environmental health and safety director at Wayne State University. He considers his work at Wayne State to be perhaps his greatest achievement: He built the department and helped it grow, and also helped establish a master's program in hazardous material management.

After a stint as biological safety officer on Plum Island for the U.S. Department of Agriculture, Powitz founded his own practice, R.W. Powitz & Associates, in 1987.

Over the years, he has also served on a number of standards committees for NSF and UL. He has been honored with numerous awards, including the Snyder Award, the Davis Calvin Wagner Sanitarian Award from the American Academy of Sanitarians (AAS), and the Harry R.H. Nicholas Award from the New Jersey Environmental Health Association. AAS also named him its first "laureate diplomate."

Ultimately, though, Powitz said that the most important biographical fact about him is simply that he is a sanitarian:

That is my profession. So everybody knows who I am and what I am. It's one of those things I absolutely insist on, because the word "sanitarian" is the title of our profession. What we call ourselves, you know, in terms of positions [i.e., job titles], is different. So. My biography is: I'm a sanitarian.

## Public Health—Seattle & King County, Washington

“When we are looking for what some key players out there are doing, we have a tendency to click on the Seattle & King County Web site,” said Cindy Weckwerth, program manager of Washington County Public Health & Environment in Stillwater, Minnesota. Weckwerth doesn’t personally know anybody in the Seattle & King County department, but like a number of other people interviewed for this series, she sees that department as one of a handful that tend to be “out ahead of the curve” (another was Maricopa County Environmental Health in Phoenix, Arizona). Several people also mentioned by name two people who have been instrumental in making the Seattle & King County Environmental Health Services Division a place of innovation: its present and former directors, Ngozi Oleru and Carl Osaki.



**Ngozi Oleru,  
M.S., Ph.D.**

Ngozi Oleru was on her way to medical school—had already been accepted—when she stopped and thought about it:

If she became a medical doctor, she would have to deal with health issues one patient at a time.

“And I wanted to save the world,” she told *JEH*. “I didn’t have time to do it one person at a time.”

That thought was the impetus for more than a quarter century of work in environmental health. She sees public health—and environmental health in particular—as the most efficient way to touch the most lives. All issues of health and human welfare ultimately are rooted in issues of the human environment, she said. “And I’m not just talking about the physical environment.”

So after getting an undergraduate degree in premed biology from Chestnut Hill College in Pennsylvania, Oleru got her master’s degree in environmental health from the University of Massachusetts Amherst and a doctorate in public health with a concentration in environmental health from the University of Oklahoma.

“My passion,” she added, “was and is tropical public health because I’m originally from Nigeria. And I was going to go back and practice there.”

After finishing her studies, Oleru did return to Nigeria for a time, where she served as a university lecturer and worked at the Ministry of Health. Eventually, for personal reasons, she returned to this country, where she worked at the Massachusetts Department of Environmental Protection, then at the Massachusetts Department of Public Health as chief of toxicology, and then in Boston as director of the Office of Environmental Health. After doing a brief stint with U.S. EPA Region 1 as environmental justice coordinator, she was hired to her current position as director of environmental health at Seattle & King County.

Oleru believes that her background and her experiences in Nigeria give her special insight into the importance of environmental health. Looking at health through the lens of those experiences “really points out the importance of prevention,” she told *JEH*. “Prevention and sanitation”:

And it highlights the things that we’ve done in this country that people kind of take for granted.... You know, things like the Clean Water Act or taking lead out of gasoline. ... People do not have those things [in Nigeria]. They do not have it. And they’re living with the consequences of not having it. There is no systematic supply of clean water. There is no systematic supply or method for disposal of waste; there is no systematic preventive population-based practice. It’s a very reactive system.

When people in this country are inclined to take environmental health for granted, in other words, it might be worth reminding them of conditions elsewhere in the world.

Oleru also thinks her background is “part of the reason I’m able to look at environmental health from a broader perspective than maybe some others do.” In particular, it gives her a visceral sense of environmental health as a public health undertaking as opposed to a regulatory undertaking. She sees this perspective (which many of the leaders profiled in this article have arrived at in various ways) as essential to the welfare of the profession:

You know, in a lot of jurisdictions, environmental health divisions are not even in public health. And in a lot of jurisdictions, environmental health is being practiced—or supported, or both—as a permit and inspection function. And as far as I’m concerned, that’s just the death of us. Because very soon, they can find somebody in the building department

who can give those permits out and do that inspection.

Her own department is almost entirely fee supported at this point. One of her projects for the near future is to try to “dig ourselves out of that.” And the way forward, she believes, “is to present what we do more in light of public health practice.” This is a case that it is important to make both to colleagues within public health departments and to lawmakers.

For this reason, Oleru sees issues related to the built environment as an important area for the profession. “And this is where I really do have a bone to pick with my colleagues in environmental health,” she said.

We were not at the table when things were being planned. To me, that is primary prevention 101. And because we were not at the table when those plans were made, when the zoning code was written, we’re reacting to the other side. People are grabbing onto obesity and overweight, and true, that’s a big problem. But there are also air quality impacts that we’re talking about. There are water quality impacts.... Even if you just looked at the built environment in and of itself, you’re talking about paved surfaces, which reduces filtering ability, and how that affects surface-water quality—whether it’s the water that you’re drinking or the things that live in the water, which are eating the toxics, which you in turn are eating. It is that kind of cycle. There are also food security and food access impacts connected to land use and the built environment.

The people who are experiencing the greatest health impacts, for instance, tend to be the people in whose communities it is hardest to access nutritious food. “You know, you come to certain neighborhoods, and there are no grocery stores,” she pointed out. “And they [the residents] don’t have the transportation means—especially because we have designed our communities around cars—to get the nutritious food, so they end up frequenting convenience stores.” This kind of cycle, she said, goes on and on.

So a few years ago, Oleru started an initiative for Seattle & King County on land use planning and the built environment. Her department has established close working relationships with community planners, regionally and within the city and the county. The point is to make sure

that health concerns are incorporated into the design when transportation or land use plans are being developed. A report on this initiative has been posted on NEHA's Web site (Roof, 2006).

Of course, anything that touches on development issues can become intensely political—and it can therefore be difficult to make progress. *JEH* asked Oleru how she deals with this aspect of the issue.

The most effective way to approach the problem, she believes, is from a nonregulatory point of view. That means showing the planning agency that “we’re not bringing you more work. What we bring to the table is going to facilitate what you do.” And it means showing developers that “we are value added.” Initially, for instance, people thought that smart growth and green building were going to cost more. Then they found out that taking these measures actually improves the marketability of the development.

“It’s going to take some education,” she admitted. “Which is why we can’t do it right out the door. We can’t do it from a regulatory perspective. We have to do a lot of education up front.”

Getting involved in built-environment issues is just one way to broaden the horizons of the profession. The larger point, Oleru thinks, is that environmental health needs to reassert its public health mission. Environmental health practitioners have gotten used to being thought about in a certain way, she said—and not a good way.

“I have had experiences where colleagues from other branches of public health say, ‘Oh yeah, the *sanitarians*,’ as if it was a dirty word,” she said. “We need to reclaim our place.”



**Carl Osaki,  
M.S.P.H., R.S.**

As chief of the division from 1993 to 1999, Carl Osaki helped establish the philosophy of proactive community engagement that

characterizes environmental health practice at Public Health–Seattle & King County. He traces his interest in that approach to a number of sources, not the least of which was a strenuous first week on the job.

“The first week that I was director of environmental health,” he said, “I was hit with something called the Jack in the Box outbreak—you know: *E. coli* O157:H7?”

*That* outbreak.

Also that same week, a violent wind storm struck the Seattle area. The resulting power outage lasted for three days.

“So,” Osaki said with typical understatement, “I was asked to be interviewed.”

He decided not to play “duck and cover” with the media, but instead to handle the situation with as much openness as possible and to use the outbreak as an opportunity to educate people, with a particular focus on high-risk groups like children.

“Actually, the children became some of our best spokespersons for instructing parents on how to properly cook hamburgers and so forth,” he told *JEH*. The health department got flyers into the school to educate children, and the children passed the information onto their parents. Another key aspect of the division’s approach was “to be as compassionate as possible with people who were actually sick”—a dimension of outbreak response that health departments are often in danger of neglecting.

In the aftermath of all this intense activity, Osaki said, it dawned on him that his department had in fact been very good at reacting to the incidents as they occurred, but that it had not yet figured out how to be proactive in recognizing hazards before they reached outbreak stage. More focus was needed, in other words, on public health monitoring and surveillance.

So Osaki promoted a shift in philosophy that had some concrete implications. For instance:

Where we had been going out and inspecting food service establishments I think three times a year, we decided to do away with one of the inspections and call that an educational visit. Just throw away the inspection sheet. But it would still count as an actual visit. So there were two actual inspections and then one visit in which we would go out and say, “We’re here to work with you or your workers on questions you have, and there’s no threat of demerits or sanctions.”

It sounds simple, but implementing the idea required the making efforts that were essentially political in nature and therefore complex—efforts of listening and persuading. The department worked closely with the local restaurant association on the program, as well as with the board of health, which was initially skeptical. Because the board of health wanted accountability, Osaki’s department kept records that showed inspection scores improving as time went on.

“I think my job there as director of environmental health was basically to set the vision and the direction that I wanted the environmental policy to go. And I wanted it to be proactive as opposed to reactive,” he told *JEH*. “That was one part of the job.”

Another part was to make sure that his staff had the resources to realize the vision. Here again, the undertaking entailed working extensively with people *outside* of environmental health. Especially in times of decreasing budgets, it was important to find creative ways of achieving any given environmental health goal. One way, he said, was

to create some partnerships with other agencies and develop economies of scale with some responsibility sharing. For example, we issue a food worker card; people have to take a 30-minute class, and then they take a little examination to see whether they understand the food service principles. The health department used to actually administer that test. But we felt that we could partner with a state restaurant association in doing that work—and create efficiency and create partnerships that might serve us down the road.

At Seattle & King County, Osaki also emphasized the importance of incorporating community values, expectations, perceptions, and priorities to policy development. When the department received an environmental-justice grant, for instance, he decided to “take advantage of an existing environmental justice coalition that was here in our area to train our staff.” The department actually gave the coalition most of the grant money to do the specified work in the community, “but in return, our staff got a better understanding of how community involvement occurs.”

Osaki’s first week on the job was one source of his commitment to these principles. But there were others. He had been in ROTC in college. Because he’d majored in environmental health, he ended up in the medical service corps in the preventive-medicine section. This was in 1966. Osaki was, he told *JEH*, one of the first military sanitarians to be trained in what was called a “military occupation specialty.” He got stationed in Germany, where he got experience both in traditional environmental health programs like food and in housing and industrial-hygiene activities.

“Right before I got out of the military, in Germany on Thanksgiving Day,” he said, “they had a major foodborne outbreak. And so I had the

opportunity to investigate that. And I just got really turned on by that.”

Another insight arising out of Osaki's training in the military was that “it was a different kind of a structure in which to work. It was really command and control.” He discovered with interest that the approach did not work as well in a civilian setting. So after three years as a sanitarian for Seattle & King County, he went to graduate school at the University of Washington, where he wrote a thesis on organizational behavior and organizational psychology. He received his master's degree in 1973, becoming the first recipient of a graduate degree in environmental health from that institution.

“In getting that degree, I learned an awful lot about how to work within and outside of organizations,” he told *JEH*. One especially important insight that he gained from his studies was that the needs of an organization and the needs of individuals who work for the organizations can often be in conflict. Part of his approach as manager became “to make sure people felt good about what they did and to try to actualize their potential as much as possible.”

After returning, Osaki continued to apply these principles. (“When I retired, I retired from the job and not from the cause,” he told *JEH*). He has served on the Washington State Board of Health and teaches in the Department of Environmental Health at the University of Washington. In 1994, with support from a CDC/EHSB grant under the aegis of CDC's National Strategy to Revitalize Public Health Services, he developed a CD-ROM called *Essential Services of Environmental Health* designed for use by local health departments in training their environmental health staff. EHSB distributed the CD-ROM to health departments around the country (and copies can be requested from the Web site of the Northwest Center for Public Health Practice at <http://www.nwcp.org/training/courses/essential-services-of-environmental-health>).

Osaki was a member of the National Association of City and County Health Officials (NACCHO) workgroup that developed the Protocol for Assessing Community Excellence in Environmental Health (PACE-EH). He has also been teaching for the Environmental Public Health Leadership Institute (for more on this project, see the section on CDC above), a project that he sees as critical to the future of the profession. “It just simply has to be continued,” he said.

He would also like to see more CD-ROM and Web-based training tools developed; tools of this sort are particularly useful because many departments lack the funds to send people to conferences or other venues where continuing education and professional training typically occur. He sees an important role for academia in this undertaking.

The academic community is beginning to understand that there is a gap between practice and research, Osaki added. He thinks that “there may be some opportunities for practice professionals to provide feedback. Academia is really trying to learn a little more about practice.” How can practitioners who want academics to look into a given issue make themselves heard? Osaki suggested they go to the Web site of CDC's National Center for Environmental Health (<http://www.cdc.gov/nceh/ehs/CapacityBuilding/>) and look up the closest Regional Academic Environmental Public Health Center—there are five—and make a request to the center.

Another project he'd like to undertake is to put together a compendium of success stories, which, in addition to “data-driven explanations,” he sees as crucial to communicating with local boards of health as well as students coming into the field. What he has in mind is not “stories about how a sanitarian ran into a beehive or fell into a septic tank or something like that,” but “anecdotes—short and poignant, no more than a page long—about how environmental health has actually made a difference.”

Osaki told *JEH* that he sees real dedication among his colleagues to making a difference in people's lives. Nevertheless, he expressed some of the same urgency about the state of the profession expressed by others profiled here. He sees a reluctance to change, especially, he said among those in positions of responsibility. Particularly problematic is a tendency to see all the reasons why one *can't* do something instead of thinking about how one could. It is taking the profession too long to change, he told *JEH*, too long to “make things happen.” As an example, he cited the need to explain what environmental health is and to communicate that message to people in a way that makes sense.

“We've been talking about that ever since I came into the profession,” he pointed out. That is, the profession has been “talking about it” for 40 years, because Osaki started in 1966. “We need to get on with it.”



**Peter Thornton, M.P.H., D.A.A.S., R.S.**

Practitioners across the country look to the department Thornton runs in Volusia County, Florida,

as a model for forward-thinking solutions to everyday problems. One practitioner told *JEH* that when he wants to know what's happening on the cutting edge of environmental health practice, he asks, “What is Thornton saying now?”

And what is Thornton saying now?

The gist is urgency. The gist is *Wake up!*

Even in these times when one disaster seems to be following fast on another, Thornton sees the environmental health profession suffering from complacency, not just on the part of practitioners, but also on the part its masters—administrators, city councils, lawmakers, and ultimately the general public.

“I think we all know, unfortunately, that some kind of catastrophic event is going to happen before proper funding comes through. If we don't have that catastrophic event, then some of environmental health could be in big trouble.”

For one thing, the cuts to general-revenue funds keep coming. For another, there's no obvious reason—at least no reason readily apparent to politicians and the public—that an onsite sewage inspection, for instance, has to be conducted by a health department employee. Most of the work focuses on details of construction and design, Thornton pointed out: “Elevation of drainfield above a water table and those kinds of things. And anybody could do that, as long as it's in the code. So what's to stop it from going from a health department to a building department? They already have inspectors.”

The best answer to that question—that someone who understands public health should be making sure that regulation and enforcement correspond to health outcomes—is hard to make when the profession continues to measure its staff performance according to number of inspections completed.

At the same time, Thornton believes the profession is facing a period of extraordinary public health challenges. Not only are new diseases emerging, but decades of complacency have made it possible for old ones to re-emerge. “Add on terrorism and add on the emergency management skills that are needed now.... You

go from West Nile virus to SARS to monkeypox to ricin to tsunamis, hurricanes, and wildfires. All these things are outside the realm of day-to-day environmental health activity.”

And yet he sees environmental health practitioners by and large hewing to their routines, measuring success by quotas, and “ignoring those other things that are going on, which they could surely have an effect on.”

Wake up, wake up!

Thornton was one of a couple environmental health leaders interviewed for this article who see a real possibility that the profession could fade out of existence in coming years unless it breaks out of its routines. *JEH* asked him *how* it can break out.

If you’re going to become known for being a very good health department, it’s not going to be because you inspect the hell out of a septic tank [although he emphasized that of course one needs to do that well]. It’s going to be because you’ve prevented disease. And you constantly look for ways of preventing disease.... You start looking at population—and that’s something that environmental health does *not* do very well. We don’t study population. We don’t study demographics. We don’t study disease in populations. We put checkmarks when a disease is reported, and we don’t look at the people behind those numbers at all. Maybe because that would be hard to do.

Thornton also suggested adjusting environmental health work on its ultimate purpose—protecting public health—could free up all kinds of passion among staff, and help them shed a defeatism and fatalism that he sees as dangerously prevalent in the field. He does this with his own staff:

For one, they’re not necessarily tied to quotas. I constantly, constantly have to get them to stop worrying about that because somebody required that it be put in their performance standards.... I tell them that if they didn’t do any of those things, nobody would know the difference. It wouldn’t make *any* difference. So stop doing that and start concentrating on what you can do that’s creative: community based instead of establishment based. Things that make a difference.... And I’m constantly reminding people: The final measure of you when you’re done with your career will not be what you could have done with a better system; it will be what

you did do in spite of the system....

The people who become leaders are the ones who do something in spite of the system.

Another way to ensure a future for environmental health is to interest today’s children in the field. Thornton’s department has been working with elementary school children. Staff interviewed the children about how they liked to learn, and—not surprisingly—the answer was that they like computers; they like games. “We saw that kids were at the arcade playing video games,” Thornton said, “and they were saying words like ‘transforming megalotron.’ So we figured, ‘Okay, if they can learn those words, they can learn *Escherichia coli*—if we make it a game.’”

The upshot of this project was an interactive multimedia training program focused on West Nile virus and mosquito control (Volusia County Health Department–Environmental Health, n.d.). The program has been received enthusiastically in classrooms.

“Elementary school teachers are great,” Thornton said. He painted a picture of a profession that is alive with interest in the natural world and eager to share that excitement with children. “I mean, they bring butterflies in and they’re hatching them in the classroom. And they take the children outside and show them where the butterflies live.”

So the project led to another discovery—the extent to which elementary school teachers can be allies. “If people will take the time to go search them [the teachers] out,” he said, “they’ll get that kind of cooperation.”

The Graphic Design Team in Thornton’s department has also produced computer-based training for onsite sewage disposal and swimming pool maintenance. He is also widely known as well for introducing handheld computers and GIS into daily use among his staff.

In addition to running a program that serves as an inspiration to other departments across the country, Thornton has contributed to environmental health on a national level, serving as NEHA president in 1996–1997 and as chair of the National Conference of Local Environmental Health Administrators from 1993 to 1995. In 1998, President Clinton appointed him to serve on the National Drinking Water Advisory Council. He writes and speaks frequently to professional audiences and in 2004 won the Walter F. Snyder Award for Achievement in Attaining Environmental Quality. 🐾

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