

Features

STUDENT INTERNSHIPS WITH UNIONS AND WORKERS: BUILDING THE OCCUPATIONAL HEALTH AND SAFETY MOVEMENT

GAIL BATESON

ABSTRACT

One of the most successful programs to recruit young professionals to the occupational safety and health field was launched more than 35 years ago, in 1976. Created by the Montefiore Medical Center's Department of Social Medicine collaborating with Tony Mazzocchi of the Oil, Chemical and Atomic Workers International Union (OCAW), it placed medical, nursing, and public health students in summer internships with local unions to identify and solve health and safety problems in the workplace. The experience of working with and learning from workers about the complex interactions of political, economic, and scientific-technological issues surrounding workplace conditions inspired many students to enter and stay in our field. Many former interns went on to make important medical and scientific contributions directly linked to their union-based projects. Former interns are now among the leaders within the occupational health and safety community, holding key positions in leading academic institutions and governmental agencies.

Keywords: occupational health internship, OCAW/Montefiore, Mazzocchi, history

This article traces the history of the Oil, Chemical and Atomic Workers International Union (OCAW)–Montefiore Medical Center's Department of Social Medicine program to recruit young professionals into the occupational safety and

health field, and additional OCAW-supervised internships that began in the mid-1970s. It is based largely on a set of interviews conducted with founders of the program, former interns, program staff, and union officers from locals that hosted interns, and also draws on some historical documents and project reports. It concludes with a discussion of how these internship programs helped inspire and inform the creation of the Occupational Health Internship Program (OHIP) in 2003.

THE VISION AND HISTORY BEHIND THE INTERN PROGRAMS

Many long-term activists and current leaders of the occupational safety and health movement trace their inspiration to Tony Mazzocchi, a national figure known for his leadership—which resulted in the passage of legislation in 1969 to create the U.S. Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH)—and his conceptualization of workplace health and safety as an important arena to fight against corporate power and build worker empowerment. He is particularly recognized for his work to frame the concept that workers have an inherent “right to know” about the chemicals and other hazards in their workplace, a concept that has literally gone global.

Mazzocchi was extremely proud of the many prominent leaders in the occupational health field who had passed through the OCAW. In the late 1990s, he decided to capture the stories of the many former interns and document the extent to which their union internship had proved a pivotal event in their career path.

In 2000 he received a grant from NIOSH to conduct these oral histories, and I agreed to help. I had been a summer intern at OCAW’s national headquarters in 1979, and had continued to work for the union off and on over the next two decades. I knew many of the former interns. We worked together on the grant, completing the interviews and the report to NIOSH just months before Tony died in May 2002. Through these interviews, it became clear that while Mazzocchi created the vision for this program, there were also many other people who were instrumental in making his vision a reality. Several are mentioned by name, but this piece of history is by no means complete.

The original idea for the internship program grew out of relationships Mazzocchi built with various scientists beginning in the 1950s around the issue of the nuclear weapons testing program and radioactive fallout. Mazzocchi helped found the Committee Against Nuclear Weapons Testing while serving as president of his local union on Long Island. Through this work, he met environmental scientist Barry Commoner, who was involved with a similar group in St. Louis. By 1965, Mazzocchi had become head of OCAW’s Legislative and Research Office in Washington, D.C. Commoner and other scientists

provided resources for the union to build its campaign for the passage of the Occupational Safety and Health Act (OSHAct) in the late 1960s. Mazzocchi held a series of regional meetings around the nation for workers to testify about hazards they faced on the job. Young scientists including Ellen Silbergeld, Glenn Paulsen, and others were on hand to help answer their questions. Transcripts of these worker testimonies provided crucial evidence in the lobbying efforts by OCAW to pass the OSHAct [1].

Former intern Steven Markowitz, MD, who succeeded Commoner as the director of the Center for the Biology of Natural Systems in New York, commented on Mazzocchi's unique ability to forge alliances between workers and scientists:

He has played this incredible bridging role, sort of an emissary between worlds of science and labor. I can't think of anybody else who does that so effectively. And it's not that he's just the emissary bringing messages; he's as much the creator of those messages. Any number of perfectly obvious needed things that we would never have thought of, he thought of. I credit Tony with creating and pushing right-to-know. It's things like the simple idea of getting medical students to work with unions, getting the NCI [National Cancer Institute] to pay attention to the real-world problems of workers in the industrial sector [2].

For Mazzocchi, the union's need for science interns was straightforward:

All of the workers knew they were being assaulted [by chemicals on the job]. They knew it was bad; their own intuition told them it was bad. But they didn't really know the consequences. I knew we needed this resource arm of science and medicine. I think that alliance between the scientists and the workers was very necessary. The educated science community and the medical community were really ignorant about what went on in the workplace. We brought something to them. They had an opportunity to see things first-hand [3].

As a result of these early collaborations, Mazzocchi began to hire summer interns to work out of OCAW's Washington office in the late 1960s. Students typically were referred by one of Mazzocchi's colleagues or had heard about OCAW and contacted him directly. Steve Wodka, who worked on many of the early landmark OSHA cases for OCAW, had originally applied to work for Ralph Nader in the summer of 1969. Impressed with Wodka's work in California with the United Farm Workers Union, Nader referred him to Mazzocchi. Wodka, in turn, introduced Mazzocchi to two friends from college, Rick Engler and Steve Mooser, both of whom had interned for OCAW and stayed in the field, making numerous contributions. The first medical intern for OCAW, Jim Keogh, simply showed up in OCAW's D.C. office and volunteered his services during his occupational medicine elective. The local hospital covered his salary for six months and OCAW picked up his travel expenses. It was Keogh's pioneering

work in illuminating a link between heart attacks and nitroglycerin exposure at an OCAW-represented munitions plant that convinced Mazzocchi of the unique services medical students could provide to workers [3].

Several of the early interns came from Harvard's School of Public Health, thanks to Dr. David Wegman. Wegman invited Mazzocchi many times to be a guest speaker in various courses, where students first heard about workplace health issues from a labor perspective. Wegman recalled, "He was always a delight to have because he shook up the students by telling them how the world really worked" [4].

It was through Wegman that Mazzocchi met Pysner Edelsack and Ernie Drucker at Montefiore's Department of Social Medicine and began the collaborative effort that evolved into the summer intern program. By the mid-1970s, Wegman had become one of the leaders in the still nascent modern field of occupational medicine.¹ Edelsack, a faculty member at Montefiore, called on him for assistance in developing an occupational medicine curriculum for the training of primary care physicians. Wegman recruited Mazzocchi, and soon the two were a standard team speaking to medical students at Montefiore: Wegman described the medical and scientific issues while Mazzocchi talked about the social and political context of work. Students were taught to take occupational histories and sent on a series of plant tours arranged via Mazzocchi's union contacts.

The collaboration with Montefiore worked so well that by the summer of 1976, Montefiore and OCAW sponsored its first team of medical students from Albert Einstein College of Medicine (with which Montefiore was affiliated as a teaching hospital) to investigate the health and safety hazards at a large pharmaceutical plant. Their report's title is taken from a statement made by the plants' management, intending to downplay the workers' concerns: *Merck is Not a Candy Factory*.

The students interviewed workers, investigated their complaints, and discovered many problems, including widespread asbestos exposure, symptoms of mercury exposure, and exposure to welding fumes and noise. One by one, the team methodically debunked management's explanations for elevated liver enzyme levels, which had been attributed not to work exposures but to alcoholism, diabetes, a virus, and, finally, a new concept of "high averages" among the working population. The project and report became the prototype for future internships [5].

By the second summer, Montefiore had hired staff to coordinate and supervise the program, under the direction of Ernie Drucker, the faculty member who

¹ Wegman also deserves credit for encouraging several students to explore internships with the union and providing post-internship mentoring to cement their interest in occupational health.

headed the Division of Community Health that hosted the program. The expanded program necessitated hiring a recent college graduate, David Michaels, to help run the day-to-day operations [6]. Michaels ran the internship program for the next several years, with assistance from other staff at Montefiore and the Albert Einstein Medical School.

The first few teams of Montefiore interns worked with OCAW locals. Soon, the program grew to include placements with other unions, including the International Chemical Workers Union (ICWU), the American Federation of State, County and Municipal Employees (AFSCME) District Council 37, District 65 of the United Auto Workers, the Furniture Workers Union, the Paperworkers Union, and others.

GOALS OF THE INTERN PROGRAM

The Montefiore program, designed originally for medical students and later expanded to include students in other disciplines, echoed Mazzocchi's concept of a learning exchange between workers and emerging health professionals. The formal goal of the program was to promote "... disease prevention through health hazards investigations and worker education. In this manner the students are of service to the union while learning about the realities of work and health in America and acquiring skills and knowledge that will be useful in their future practices" [7]. Michaels, who supervised the program at Montefiore, gave a more pragmatic definition:

We thought it was a very useful process to teach us would-be health professionals about the realities of the workplace, and enable us to hone our skills in researching toxic chemicals and looking into the hazards and understanding them, while at the same time being of assistance to people who could then teach us the other half of the equation [6].

Mazzocchi recalled the basic pitch he made to public health and medical students when speaking on campuses throughout the nation. "I'm a workers' advocate. I'm biased. I'm not here to give you an objective picture. I'm here to give you a picture of how workers see this problem. If you don't believe me, and you shouldn't, then you've got to be skeptical about what you're hearing from the industry and me. Come see for yourself" [8]. "All we're saying is, speak to us. Consult with us. Give us equal access to the skills that exist" [3].

Some in the audience expressed skepticism of Mazzocchi's characterization of industry indifference and cover-up, including many who were beginning work in the newly formed NIOSH. One such skeptic was Dr. Bill Johnson, who, days after hearing Mazzocchi speak at Harvard, discovered asbestos documents in NIOSH file cabinets that confirmed Mazzocchi's charge that industry had suppressed key evidence of worker exposure and disease [9].

To other students, Mazzocchi's description of the dilemmas workers face in trying to protect both their health and their jobs resonated with their own world view, even if they hadn't yet articulated it. Margaret Quinn, an MPH student at Harvard in the late 1970s, recalled the day she first heard Mazzocchi speak:

Harvard was a pretty grueling experience, very competitive. And there were huge social class differences between the professors and myself. I had come from a background where I had done factory work to help save money for school and contribute to my family. One day, instead of some stuffy professor—usually a white male in a bow tie or with a beard—Tony Mazzocchi was standing in my class, talking about worker health and safety and the role of labor unions. He described what it was like for workers on the job and how difficult and dangerous a situation it was for them even to complain, because of the power struggles that went on. Workers were afraid that they would lose their jobs. They didn't have the technical information sometimes to assess whether something was a real hazard. Or they would say there was a hazard and would not be believed by their employers, and so they had to endure these conditions. These are things that I had experienced in a lot of my previous jobs, too. And even though I [was] being trained in this field, I had never heard anyone talk about this before. He didn't mince words; he was telling it as it was. It was so powerful. I was absolutely blown away. I went down to the front of the amphitheater afterwards, after all of the people filed out, and said to him, "This is what I want to do" [10].

Students at UC Berkeley, University of Cincinnati, and other campuses reported similar responses after first hearing a talk by Mazzocchi.

"Our Summer Intern Program Will Change Your Life"

This pledge would have been an apt slogan for the OCAW-Montefiore summer intern program. Several current leaders of the occupational health and safety field reflected on how their experiences more than 20 years ago changed their career path and life. The following are typical comments: "I ended up going into the field of occupational medicine precisely because of that summer. It determined the choice of my career" [11] and "It had a huge impact on my whole career. It really set me on a course for the next 20 years that I would never have been on" [12].

Dr. Steve Markowitz explained further:

Politically minded medical students, such as myself, had several options about what we could do to combine public health and social medicine along with clinical medicine. Several of us who had been through these summer intern programs decided to pursue occupational health; it was *unquestionably* as a result of exposure to these kinds of programs, with direct contact with workers and unions. . . . It was irreplaceable [2].

David Wegman, MD, who was responsible for recruiting many Harvard students to internships with OCAW and worked with Mazzocchi over the years, commented: “I wish [Tony Mazzocchi] would start giving out degrees because that would be the first parchment that I would put up on my wall. I’m another OCAW graduate, and I think it’s the most important graduation that I’ve gone through” [13].

The benefits of this summer program were many. Student interns from medicine, nursing, and industrial hygiene learned and applied new skills. They worked to discover clues linking chemical exposures and disease. They provided important services to working people, participating in negotiations for medical surveillance programs, industrial hygiene monitoring, and new health and safety contract language. After the summer, they took their experience with them to new jobs, influencing their colleagues and the institutions where they were employed. They helped establish worker clinics and Coalitions for Occupational Safety and Health (COSHs) in many cities and created new curricula for occupational medicine and health courses at their universities. Some of the current occupational medicine residency programs in the United States are directed by former interns.

Initial Attraction to the Program

What first attracted the students to the OCAW/Montefiore summer program? How did the internships help cement their interest in pursuing a career in the occupational health and safety field? Here are just a few comments.

The ability to combine medicine, prevention, and politics

It was really the application of the idea that health was determined by non-health-care factors—by the environmental and living conditions of people. Here was this field with some problems. It was transparent that they were created by fully preventable sets of circumstances. That is to say, we can identify the problems of the workplace and we can do something about them. Then we can fully prevent disease. So the appeal to me was in translating these ideas that I previously had into reality through very concrete problems [2].

Bob Harrison, a student on the pharmaceutical project the first summer, had not yet met Mazzocchi; just the description of the program was enough:

I was looking for something that could combine preventive health with patient care. I went into medicine in part to combine my interest in politics and history with patient care. It was really just serendipity that Pysner bumped into me in a hallway and told me about the program. The idea of going out to see a workplace seemed incredibly appealing: to talk to workers and find out what their concerns were—it just seemed like a perfect fit for my overall interests [11].

Harrison stayed in the field and played a crucial role in creating the new OHIP program 10 years ago; he has since served as its sole or co-principal investigator.

It grounded me in what occupational health was

I can tell you frankly that after the time I spent in the summer program at Montefiore that I knew this is what I wanted to do. It really grounded me in what the substance of occupational health was. If you define it strictly from a medical school curriculum, you think that occupational health is a set of specific diseases that have certain clinical manifestations and have a certain epidemiological profile, as opposed to really understanding and getting some experience grounded in the *workplace*, where you see all kinds of other factors or influences play a role. You see the culture of workers, the labor-management relations, the strains that people have in their workplace, the incentives and disincentives to do things or not do things [2].

It set my career on a different course

[The internship] influenced me greatly. It gave me a perspective that I really couldn't have gotten elsewhere and something that I've brought with me to all of the work I have done including the projects I'm working on right now. . . . The further we get into our profession, a lot of the discourse happens manager-to-manager and often the workers are left out—often not intentionally, but as part of the class culture. I just think that getting that experience so early in my career set me on a different course [10].

It had the feel of a movement. I felt valued and useful

Back then there really was an occupational safety and health movement. . . . It was one of the interesting areas that was cutting-edge and political and you worked with workers and unions and it was community-based. It was exciting and you wanted to be a part of it because there were other neat people doing it. It had the feel of a movement. Tony [Mazzocchi] inspired people and really made people feel like what they had to offer was valued and useful [14].

SUMMER INTERN LOGISTICS AND FUNDING

Each summer, a set of interns came to Montefiore for an orientation course. Topics ranged from an overview of occupational carcinogens and reproductive toxins to an overview of how OSHA and the regulatory agencies functioned. Small workshops gave the interns opportunities to try out new skills, such as interviewing workers who were recruited from OCAW locals in the area. During the summer, both Montefiore staff and a local union representative supervised the team of interns.

Funding for the project evolved over time. Often the students would arrange to get paid by their university program. It was more difficult to raise funds to support the ongoing staff at Montefiore to design, recruit, and supervise the intern program. Initial funds from Montefiore were later augmented by a combination of government and private grants, usually providing only short-term funding. Later, both OSHA and NIOSH grants provided some additional support.

One of the key elements contributing to the success of the intern program was the level of supervision provided by Montefiore's designated academic mentors. They met with local unions to identify potential projects and worked with the people supervising the students on the union side. They developed protocols for the projects and model outlines for final reports. They served as liaisons with the unions and interns and provided a resource center to assist the interns' investigations. Keeping in touch with the students was not as easy as one would imagine in today's world of computers and email. In a few cases the students lived in hotels or workers' homes. Where there was no local union hall, they met in local restaurants or taverns to conduct worker interviews. Getting access to the limited scientific literature in the occupational health field was often a challenge.

The staff also provided follow-up with students during the academic year to help maintain their level of interest in occupational health. Some arranged to work on projects with the renowned asbestos expert, Dr. Irving Selikoff, who had met Mazzocchi at OSHA hearings in Washington [15]. Other interns continued to work on union-based projects in their spare time or volunteered in workers' clinics or COSH groups.

TYPICAL STUDENT PROJECTS: BASED ON LISTENING TO WORKERS

The students worked with their assigned local union for six to eight weeks over the summer. Local unions were selected based on their ability to provide leadership and supervision to the students. Given that most were in the high-hazard oil and chemical industries, there was no shortage of problems to address once the interns began.

One medical intern explained that local union officers would begin by telling them about a problem that they didn't know how to solve. "Then we would start. I would take a history by talking to several people in the plant. Even if I couldn't get into the plant, they could tell me everything. They knew the work" [16].

Another physician who interned with the union concurred.

It's kind of like a differential diagnosis. You go into a plant and you talk to the workers and you take a history. You take a medical history, basically, and you find out what the symptoms are, how many workers are affected, and try to narrow down which system or systems of the body might be affected. And then you take an exposure history. What is in the plant? Could it possibly be related to the symptoms? And then you develop a differential diagnosis.

You eliminate certain things as not being causally related and, by that process, you come down to a couple of things it might be. And then you take steps to figure out if one or both things could be related to the symptoms that people are experiencing [17].

Sometimes problems were uncovered totally by chance, as one physician recalled: “I was just sitting around talking to a group of workers, and one worker mentioned the fact that he had had a lot of problems with urination since he started to work in the chemical building. So then a couple of other workers said that, gee, they had the same problem” [18]. The students learned to design and use medical and work history surveys and use the emerging scientific literature on chemicals and workplace exposures. Although they didn’t do medical screenings, in some cases they arranged for the work force to be screened, such as at an American Cyanamid plant in New Jersey where there were reported cases of bladder cancer and known bladder carcinogens in the plant.

Some of the investigations actually resulted in new connections being made between exposure and disease or more full-scale investigation by NIOSH. For example, union leaders from a large chemical plant reported that many of their members were complaining about having chest pains and were worried about possible heart disease. The medical intern researched the chemicals used in the plant and identified carbon disulfide as a possible causal agent. The intern then worked with a cardiologist to design a questionnaire, which was administered to the local union members, along with some non-invasive screening tests. The intern later published her study in the *British Journal of Industrial Medicine* [19]. NIOSH later published a report, confirming the excess rate of heart disease.

By listening to workers, students learned about the real world of work. One intern summarized the top two lessons the interns learned during their summer.

One, the best way to learn is to just get out there and do it. And believe me, I was flying by the seat of my pants a lot of times, but that’s really the best way to learn things. And the other important point is the necessity, the absolute necessity, of listening to workers if you’re going to make some assessment of what the health hazards are [18].

Seeing the workplace was another key component.

I think that access to the workplace was absolutely key to the experience. I don’t even think it would be possible to link some theoretical classroom experience or even what you learn in a union hall unless you are in the plant. A picture is worth a thousand words [11].

While much of this article is drawn from interviews conducted in 2001-2002, it also includes comments made by interns during a conference in 1979 co-sponsored by Montefiore and OCAW. At that time, the interns had been working for the union for the past few months, and the lessons were fresh in their minds. Below are some of the lessons they recalled as important.

Learning about Fear

My first visit to a plant was during the summer before my senior year of medical school. What I learned in this visit was, first of all, fear. . . . With chemicals dripping down from all of those pipes overhead—and I had images of acids burning through me and benzene soaking through my skin—you do learn fear, and you begin to try and imagine what it would be like to go, day after day, into situations like this, or with the constant hazards of explosions and fires, as there are in oil refineries. Over time, this becomes translated from fear into a healthy respect for the damage which these workplaces can and do wreak on the health of workers.

It's one thing to read about these things. It's quite another to experience them, and I'm sure there's a great difference between experiencing it, knowing you'll never have to go back there again, and knowing that's where you're going to spend a good part of your life [20].

Learning about the Social and Economic Relations of Work

It's not just the workplace as a physical location. It's the social relations that occur there. It's important to have access to the union and to the employers, management personnel, to see how they act, what their constraints are. I think most of our problems in occupational health can only be solved—not from the base of a health care system, but from the base of the labor system, the economic system, starting with identifying what the really critical problems are. What are the opportunities for changing the conditions whereby people become sick? Particularly for doctors, as well as other health personnel who are just thoroughly colored by the culture and science and knowledge of medical school, it is crucial to understand the workplace setting. Understand what people do there and can't do, what they know and don't know. This awareness is crucial to be effective in occupational health [2].

Importance of Careful Research

Even though I might have [known] this on an intellectual or book-smart basis before, but now in terms of experience, is that physicians, even national experts based in reputable academic centers, can be blatantly corrupt and cruelly indifferent to the effect of their positions on the health and lives of workers. As a result, I learned the importance of doing careful research and knowing what you are talking about, that good politics is not a substitute for sound medical knowledge [20].

Balancing Research and Organizing

One intern met with a group of workers, discussed a problem to be investigated, and scheduled a follow-up meeting. When he arrived three weeks later, he was the only one who showed up. "I spent the whole three weeks in the library

looking up those chemicals. I didn't go back and talk to any of those people. I didn't go and talk to other workers. I should have done more organizing and not just research."

His supervisor commented, "People have to learn that it's a two-way street, that a lot of times the professionals who go into the situation think that their only job is to develop information, and that they don't have to keep talking to people. And it's a painful lesson to learn" [20].

Another intern commented,

To me, this is the power of what the summer internships can do. There are real people who get sick. They need help not getting sick, preferably. Or they need help figuring out what's going on so that steps can be taken if they do get sick. It has to come down to a very real level, and that's one thing the internship can do. Policy and research are not sufficient if they only stay in the abstract [16].

Keep Realistic Expectations— Change Comes Slowly

In every local union situation, there is a structure to deal with health and safety problems, and if we come in from the outside and do something about health and safety, we can only do as much as that local structure is willing to do. And if we're not happy with that, we shouldn't be there [21].

Often the initial findings from the interns' investigations resulted in OCAW filing requests with NIOSH for a full Health Hazard Evaluation (HHE). HHEs are investigations initiated by requests from either employer or employee representatives to determine whether health problems that were being experienced in the workplace are work-related.[22] OCAW was responsible for requesting so many of the initial HHEs with NIOSH in the early 1970s that the agency later gave the union a small grant to go back and evaluate the effectiveness of this program through interviews with affected local unions. (This evaluation became a summer project for a pair of interns working out of OCAW's D.C. office.)

Many former interns, with newly acquired field experience, later found positions with NIOSH and universities under contract to NIOSH to conduct HHEs. As one former intern recalled, "I think it was because of my connection to OCAW that I knew there were a lot of problems out there. I was in touch with one of the doctors at OCAW at that time, and he referred me to some locals. He told me of one plant where the workers were experiencing problems with impotency" [10]. She went on to lead the investigation from Harvard University for NIOSH and uncovered one of the first cases of low-level chemical exposure acting as an environmental estrogen among male workers.

The Politics of Occupational Health in Corporate America

The interns also learned about the political realities of work and how difficult it is to bring about change. In the investigation into the high rate of impotency mentioned above, the company was so resistant to outside interference, even from a federal agency, that it threatened to use funds equivalent to NIOSH's entire annual budget to fight the study. It flew in the lead investigator's former statistics professor from Harvard for a meeting at the Alabama plant to intimidate her regarding the design of the study. It took many years of persistence before NIOSH could complete the investigation [10].

BENEFITS OF INTERNS TO WORKERS AND THEIR UNIONS

While some projects had more tangible results than others, all fulfilled the primary goal of providing an inspiring educational experience to the students. Several interns remarked that while they felt that the learning process was a two-way street, they actually learned more from the union than they felt they were able to give back—at least at the end of a summer.

Some union leaders concurred with this assessment:

I think it was more of an inspiration thing for our guys to have the students there. They probably enhanced our understanding to a degree of industrial disease, but I think they were learning from us more than we were learning from them, quite frankly. It was a rewarding experience in that we were getting a new generation of industrial doctors to have a better understanding of the workplace. There was stuff they learned from being there that they couldn't have possibly learned from the classroom [23].

But he then went on to praise the skills of the physicians who returned to work for the union after completing their training. One was Dr. Christine Oliver, who returned to work full-time for the union under grants from OSHA and the National Cancer Institute (NCI). Dr. Oliver was certified as a NIOSH "B" Reader, one of a few hundred doctors nationwide trained to read X-rays for signs of asbestos-related and other industrial lung disease. The local union president recounts, "She was tremendously helpful. The fact of her being a NIOSH "B" reader was critical, actually, because we had had a [company-run] multi-phasic screening program going on in the plant for some time." The screening program identified 35 percent of the participants—insulators, pipefitters, and general maintenance workers—as having early signs of asbestos-related disease. "And as a result, a great many people were able to get compensation."

The interns gave the union leadership important leverage when negotiating health and safety agreements with the companies. As one former local union president recalled,

Having [Dr.] Mark Nelson in the negotiations was *hugely, hugely* important for us [in negotiating a program for asbestos removal] because then we had our own expert sitting at the table and it made it much more difficult for them to trot out their experts and refute it. While we, as union officers, might have a fair amount of knowledge about the issue, we were still barely high school graduates and just did not carry the weight with the company. So it really gave us quite a boost then. Plus it educated the leadership of the union. It was really the start of some of the *activism* we had around health and safety [24].

These two quotes best illustrate the success of Mazzocchi's vision: giving workers direct access to doctors and occupational health scientists to investigate and often confirm their suspicion builds workers' power.

Often the full-time union physicians made major scientific discoveries based on the work of earlier interns. One example of this was at the Goodyear plant in Niagara Falls, where the medical intern investigated a possible excess of bladder cancer and heart disease. Reviewing the list of chemicals, she noted that ortho-toluidine could be a possible bladder carcinogen. Mazzocchi's assistant at the time, Steve Wodka, is now an attorney practicing occupational disease compensation. He remarked, "I've done a lot of discovery work and found out that the manufacturers like DuPont had a wealth of information all along that ortho-toluidine was a potential human carcinogen and failed to provide adequate warning" [25].

Years later, Steve Markowitz, MD, applied this knowledge to another plant, where workers suspected an excess of bladder cancer. He documented the cases and helped them file a request with NIOSH for an HHE. "We ended up publishing in the journal of the NCI [National Cancer Institute] in 1991 a study of this plant showing that the workers who had been there for at least 10 years in the department that had been working with this particular chemical, ortho-toluidine, that they had a 27-fold increased risk of bladder cancer, which was undoubtedly occupational, due to this exposure" [26]. He continued,

And it was exactly the kind of thing Tony (Mazzocchi) talks about, which is: there is this hidden, very real knowledge that people in the plant have, that when transformed and documented through science, illuminates the problems. And that knowledge originates in what these guys know and talk about. But unless it escapes that world, a whole set of things can't happen. Of course, Tony is the genius who, among other things, has bridged that world. And this was a perfect example of that [2].

NEXT STEPS: TOWARD A NEW NATIONAL SUMMER INTERNSHIP PROGRAM

The political climate changed drastically in the 1980s under the Reagan administration as did the politics within OCAW. Reagan's firing of 11,000 striking members of the Professional Air Traffic Controllers Organization

(PATCO) in 1981 epitomized the anti-union climate; funding for unions from the OSHA New Directions worker training grant program plummeted; the OCAW Health and Safety Department was reorganized; and resources for both the OCAW and Montefiore internship programs declined [27, pp. 402, 403, 435].

But the need to recruit a new generation of OSH professionals was clear by 2000, and interviews with the former OCAW/Montefiore interns helped shaped the guiding principles of a revived internship program. The program took shape in 2003 with intern placements the following summer, two years after the oral history project was completed. Informally dubbed “the University of Mazzocchi,” it was later named the Occupational Health Internship Program, or OHIP. Like many new initiatives in our field, the idea was born as the result of a casual conversation in the hallway during the annual meeting of the American Public Health Association (APHA), in fall 2001. It was followed by an outpouring of support from a group of dedicated volunteers drawn from the original intern program.

Chuck Levenstein, the founding editor of *New Solutions*, mentioned to me the need to recruit the next generation of health and safety activists among the medical and scientific community. I told him that I was conducting oral histories with former interns and had been thinking about working to create an intern program based in California, where many former interns were then associated with OSH programs within the 10-campus University of California system. Chuck encouraged me to think nationally and offered to use some funds he had available to convene a meeting to discuss it further. Two meetings in 2002 with many former interns, program founders, and “Friends of Tony” showed that interest was strong and that people felt a strong desire to “pay it forward” by offering to do what was needed to get a new intern program started. Bob Harrison offered to help raise funds to launch the project, which provided the funding for me to devote time to develop the program, website, and process to select students and projects. He also offered to be the lead mentor and supervisor for summer projects based in the San Francisco Bay Area. Dave Kotelchuck from Hunter College, who had worked with Tony in many capacities, offered to provide similar services in the New York area. These became the sites for our first OHIP summer. Kathy Kirkland of the Association of Occupational and Environmental Clinics (AOEC) stepped forward and offered to be the fiscal agent with nonprofit status for OHIP, a relationship that continues to this day. Robin Baker, the Director of the Labor Occupational Health Program (LOHP) at the time, offered to administer the initial seed funding to plan OHIP until the AOEC could take over.

We wanted to preserve the best elements of the original internship program: focusing on field-based research and designing projects in a way that would ensure students talked to workers and observed working conditions. But we also recognized the need to address the reality of the declining number of workers represented by unions and the rise of worker centers and other new

structures that supported the concerns of the expanding low-wage and immigrant worker population. We also wanted the interns to address a new set of workplace hazards that included musculoskeletal injuries, work stress linked to the pace of work and lack of job control, as well as underlying fear of retaliation among immigrants. Shifting employment relations and the expansion of contract work, temp work, and multiple layers of employers presented new challenges.

We recognized the need to increase diversity within our field, particularly to effectively engage with the growing immigrant workforce, many of whom were monolingual and non-English-speaking. An important clue on how to achieve this came from discussions with the UC Berkeley's Labor Summer program. The staff shared with me reports on the demographics of their recent interns, who included both undergraduates and graduate-level students. These reports showed that there was significantly greater diversity among the undergraduates; limiting our program to graduate students would likely limit diversity. Yet the original interns were almost exclusively medical and graduate-level students. This made sense at the time, since they had a higher level of technical skills to offer and were already committed to working in this field.

We reasoned that if we designed the OHIP program to include undergraduates, it could have two important benefits: we would be more likely to recruit interns with the language and cultural skills needed to effectively engage with groups of immigrant workers; and we would be exposing the interns to the possibility of graduate study in occupational health. We decided to assign pairs of students to each project, with at least one graduate-level student. The graduate student would also mentor the undergraduate intern. Over time, we would increase the diversity within our field. And the new OHIP program has helped advance this goal.

Designing a program that also sought to increase diversity helped position OHIP later to receive sustained funding. "Increasing diversity among the health professions" became a major public health goal by NIOSH and several private foundations by year three of OHIP. OHIP is now the only non-university-based program to receive a NIOSH Training Program Grant.

Tony Mazzocchi's efforts to bring scientists to meetings of OCAW locals to explain the consequences of various chemical exposures spawned an occupational health internship program. That program connected medical and science students with workers, mostly in industrial unions—helping the workers learn how to investigate and communicate about hazardous chemical exposures and their related health and safety risks. It also helped the students learn about health and safety from the perspective of workers and unions. A generation of influential public health and medical leaders rose from the program. The original program ended, but in 2000 an effort to adapt the model to the new U.S. economy came together and in the summer of 2004 the first new set of students conducting occupational health summer internships were out in the field. The summer of 2013 marks the tenth anniversary of this new program,

which promises to be as successful as the first and holds the promise of helping to establish new forms of mobilization for workers' rights and health and safety.

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AUTHOR'S BIOGRAPHY

GAIL BATESON is Executive Director of Worksafe, a statewide advocacy organization that is part of the National COSH network. She has worked for various unions, labor support organizations and government agencies on workplace health and safety issues over the last 30 years. Inspired initially by an internship with the Oil, Chemical and Atomic Workers Union (OCAW), she spearheaded the creation of the Occupational Health Internship Program (OHIP), which she led from 2004 to 2009 while also working in the Occupational Health Branch of the California Department of Public Health. She has a M.S. degree from the Energy and Resources Program at University of California at Berkeley. Her address is gbateson@worksafe.org.

NOTES

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2. Steven Markowitz (Director of the Center for the Biology of Natural Systems at Queens College, City University of New York), personal communication, December 2001.
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4. David Wegman (Professor Emeritus, former Dean of the School of Health and Environment and founding Chair of the Department of Work Environment at the University of Massachusetts Lowell), personal communication, January 2002.
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6. David Michaels (Assistant Secretary of Labor for the Occupational Safety and Health Administration; Professor at the George Washington University, School of Health and Health Services; Former Assistant Secretary of Energy for the Environment, Safety and Health), personal communication, November 2001.

7. Recruitment poster, Montefiore Medical Center's Program in Occupational Health, 1980.
8. Tony Mazzocchi, Humanities and Occupational Health Broadening the Education of Physicians [conference transcript, pp. 90-91], 1979.
9. Dr. Bill Johnson reported to work in Cincinnati right after hearing Mazzocchi speak. There, he discovered file cabinets full of air monitoring results at asbestos factories, including the Pittsburgh Corning plant in Tyler, Texas, where the workers were represented by the OCAW. Mazzocchi recalls, "Five days later, I get a call from this guy, Bill Johnson, a captain (U.S. Public Health Service) who had been at the course and he told me, 'Hey, I was skeptical about what you were talking about. But I just got here' and goes on to tell Tony about the asbestos document he found. Johnson recounts his story in Paul Brodeur's classic 1974 book, *Expendable Americans* (p. 35): "And when I started digging through the files myself . . . it was plain as day that there was an incredibly serious health problem down there (at the Tyler plant)." When advised by his boss at NIOSH to contact Pittsburgh Corning's medical consultant, "he told me there wasn't much of a health problem at the Tyler plant because the place was so dusty that people didn't stay around there long enough to get sick" (Paul Brodeur, *Expendable Americans* (Viking Press, 1974), p. 35 and interview with Tony Mazzocchi, March 2002).
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12. Linda Rudolph (Former Deputy Director, California Department of Public Health Center for Chronic Disease Prevention and Health Promotion), personal communication, May 23, 2003.
13. David Wegman, "The Humanities and Occupational Health: Broadening the Education of Physicians" [conference transcript, pp. 272-279], 1979.
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15. OCAW began its long collaboration with Selikoff when he happened to sit next to Mazzocchi and a team of workers testifying on the establishment of the Occupational Safety and Health Act. After hearing Selikoff speak, the workers turned to Mazzocchi and told him that asbestos was widely used in the refineries. Mazzocchi followed up with a phone call to Selikoff (Tony Mazzocchi, personal communication, March 2002).
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25. Steve Wodka (former assistant to Mazzocchi in the OCAW Citizenship-Legislative Office), personal communication, November 2001.
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Direct reprint requests to:

Gail Bateson
29 Ardmore Road
Kensington, CA 94707
e-mail: batesong@gmail.com