



# SOWING THE SEEDS OF SAFETY FAR AND WIDE

**Dr. Norbert Wagner reaches out with experienced hands to protect workers around the world.**

By Tina Daniel

If you are a company doctor in Africa, is it enough to treat wounded patients who come to you with preventable workplace injuries?

Norbert Wagner, MD, says “No!” But the problem of educating the workforce about prevention and long-term risks is not covered among the how-to lessons of medical school in low-resource countries.

So, Dr. Wagner, an adjunct assistant professor in the Environmental and Occupational Health Sciences Division in the UIC School of Public Health, developed an online training program in occupational health practice for doctors, nurses, engineers and government employees to address this important shortfall. And, he’s reaching the global community.

The program, now entering its second year, has enrollment from such diverse places as Chile, Costa Rica, Botswana, the Philippines, Mongolia, Afghanistan, Pakistan and Nigeria. It has additionally garnered the respect and support of international agencies and major companies like Johnson & Johnson, GlaxoSmithKline, Hershey’s and Abbott Laboratories.

Mark Cunningham-Hill, MD, director of Global Occupational Health and Productivity in Global Health Services for Johnson & Johnson, said the online program addresses an important knowledge gap. “It uses a virtual and interactive learning platform to deliver high quality specialist training to all parts of the globe, filling a much needed training gap. The students, whether from developed or emerging economies, have benefited from the course by enabling them to implement scientifically sound, ethical and effective occupational health programs in the workplaces they support.”

Wagner’s goal is to fill this training gap in low-resource countries, while bringing the importance of public health and prevention in the workplace to the forefront.

“You have to understand exposure, not disease, so to speak, to be a good doctor,” he said. “Yes, the workers are healthy now, >>>



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Norbert Wagner—Adjunct Assistant Professor, UIC School of Public Health

but if we do not take care of exposure reduction right now, that person will have, for instance, silicosis in 10 or 20 years. We cannot wait until we see something on the clinical side when people get sick, because by then, we are 10, 15 or 20 years too late.”

According to the International Labour Organization, there are some 270 million occupational accidents and 160 million work-related diseases each year throughout the world. An average of 6,000 people die each day as a result of work-related accidents or diseases, totaling more than 2.2 million deaths a year.

“We know that about 15 percent of all health events are work-related,” Wagner said. “You could argue that not taking care of the cause of why people get sick, of 15 percent of your patients, is actually malpractice.”

Natalia Harari is a researcher and industrial production engineer for the NGO, Institute for Development of Production and Work Environment in Ecuador. Harari saw the online program as an opportunity to further her education in a way that was unavailable to her in Ecuador and to also expand her network globally, so that her and her peers might share experiences.

She now communicates risks to workers and takes the lessons she learned from UIC into such diverse environments as banana plantations, sugar cane fields, flower farms, and in industries that include mining, food, metal work, printing and petroleum.

Harari said she has high hopes for the impact this information will have on the individuals, businesses and unions she serves. “In Ecuador, we still have to deal with substances that in other countries have been banned. For example, asbestos, paraquat [one of the most widely used herbicides in the world], or with illnesses that can be prevented like silicosis.”

“Also, much of the interest in occupational health is, in general, superficial, mostly based on the need to comply with weak regulations that are not protecting workers at work, but helping companies establish superficial compliance,” she added. “In this context, to make and expect changes, it is necessary to be well prepared to understand scientific literature, be well informed, and conduct activities based on access to reliable and up-to-date information related to occupational health. That information is difficult to access and expensive in developing countries.”

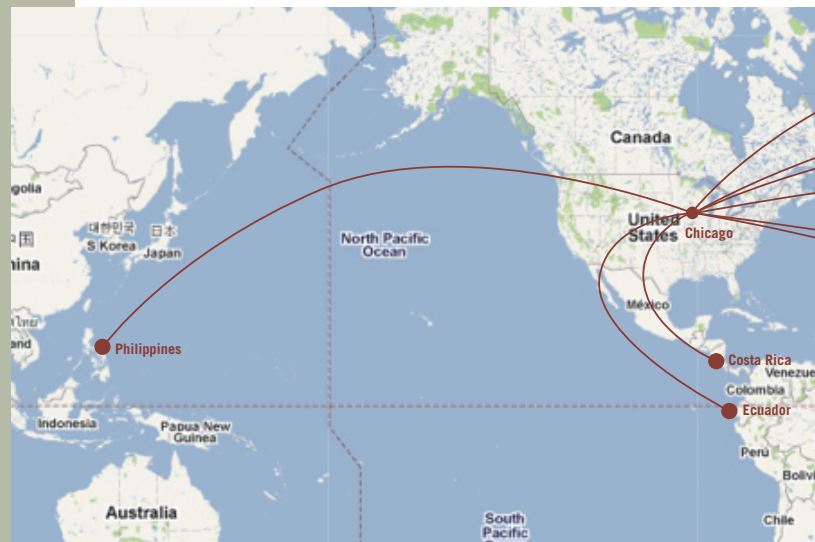
For Olawuwo Samuel Olutunde, the impact of the occupational safety training is already being felt in better emergency planning, as he approaches his position as head of the physiotherapy and rehabilitation department of Our Lady of Apostles’ Hospital in Jos, Nigeria.

“This is a mission hospital, where most of the workers agreed to serve humanity without minding what their take-home looks like,” Olutunde said. “Yet, most are working under great hazardous conditions with high risk to their health.”

“I had earlier organized a seminar to the hospital attendants on the use of wheel chairs, when I observed staff are found with various degrees of musculoskeletal injuries, either to themselves or



(Above) Dr. Norbert Wagner, right, works on the frontlines of a hydroelectric plant in the mountains of Muzaffarabad, Pakistan, where he was hired as a health and safety auditor in 2005. Serving nearly 3,000 employees, who worked between three construction sites in the plant, Wagner examined the effectiveness of emergency preparedness plans for rescue, treatment and evacuation. (Below) A young woman works in the field of a brick manufacturing company in Chennai, India.





the patients while carrying out their duty,” he explained. “Most staff here retire early due to one injury or the other, which should have been prevented, and the hazard allowance is a peanut, with increase in sick leave and absence from duty.”

As Olutunde takes his training from UIC SPH outside of his hospital and into the local community, he finds that many patient complaints are also related to their workplace environment.

“The entire population we serve has been affected with incessant civil unrest and crises,” he said. “And the workload is high on the hospital staff, so this further stresses the staff. No clear-cut protocol or training in emergency preparedness is in place to handle this. The question is, how do I acquire the knowledge and plan for this essential aspect of health promotion?”

While Olutunde found the UIC course work to be the answer, Wagner said the hospital doctor from Nigeria represents the type of student and community that will benefit most from the online training program.



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Steven Lacey— Director, Industrial Hygiene and Occupational Safety Programs, UIC Illinois Education and Research Center

“We try to teach practical and immediately applicable skills,” Wagner said. “How do I recognize and reduce hazardous exposures? What kind of examination is necessary to detect early damage? What does the doctor or the nurse in the company need to know to contribute to emergency preparedness? What are the principles of food and water safety in the company?”

Some of the topics covered in the program, which consists of one 10-week course plus two eight-week courses that can also be taken separately, include toxicology, exposure assessment, exposure reduction or risk control, medical surveillance and emergency preparedness.

Several scholarships are given for the \$7,100 course sequence, and Wagner said more sponsorship opportunities exist for corporations and individuals who appreciate the value of the training.

“The company doctors or nurses who are stationed on an oil field in the middle of the Sahara; they only have a satellite-linked Internet access, but they cannot attend school,” Wagner said. “We really try to reach out to these kinds of people.”

The success of the program is in part attributable to the diverse experience and skills that Wagner brings to the table. He has worked on the topic of international global health and occupational health in developing countries since the 1980s.

He’s previously studied medicine, international relations and development policy. He has worked as a company doctor in Germany, practiced internal and emergency medicine, and has had flight surgeon training as well as tropical medicine training. This unique and accomplished professional journey offered Wagner particular insight on the problems facing practitioners around the world.

But the seeds of the course were truly sown between 2002 and 2006 when Wagner moved from Germany to India.

“I went to India to teach occupational health and to build a program there,” he said. “When I moved to the U.S. in 2006, I wanted to expand what I did in India, working with global companies, with a global audience. Companies there hire good, qualified doctors and nurses, but very often, there is no training in occupational health and safety available.”

Wagner’s ability to speak multiple languages has also been instrumental to the global reach and impact of these courses, because students, while expected to have a command of English to absorb course materials, may turn in assignments in several languages including French, Spanish and German.

But the program will not be resting on its laurels. Wagner is already in collaboration with the University of Cairo to reach the Arab world, and he hopes to expand the course work to embrace occupational safety and industrial hygiene, making it additionally valuable to engineers and safety officers.

UIC SPH Assistant Professor Steven Lacey, who is director of the industrial hygiene and occupational safety programs at the Illinois Education and Research Center, sees a real need.

“There is a tremendous need for occupational health and safety training in less-developed countries,” Dr. Lacey said. “In much of the world, industrial hygiene and safety professionals simply do not exist, and occupational health services, at best, are limited to physicians or other health care providers who treat workers after an injury or illness has occurred. With improved industrial hygiene and safety training in these regions, we could advance efforts in prevention, rather than treatment and rehabilitation.”

“In the U.S., training of modern occupational health and safety professionals occurs at our universities, like our graduate training program at UIC’s NIOSH-funded [National Institute for Occupational Safety and Health] Illinois ERC [Education and Research Center],” Lacey added. “This is not the education model in most of the world. If we could reach even related professions in less-developed countries, like engineers, business managers or health department employees, we could begin to bolster worker health protection at a global scale.” **H**