Engineering Public Health

PAUL BRANDT-RAUF
BS ’70, MS ’73, EngScD ’74 CHEMICAL ENGINEERING, MD ’79, MPH ’80, DrPH ’87
DEAN, SCHOOL OF PUBLIC HEALTH
UNIVERSITY OF ILLINOIS AT CHICAGO

Paul Brandt-Rauf is trying to prevent and reduce health problems in the United States—and the rest of the world. The challenges are huge: A third of Earth’s 6 billion inhabitants lack clean water and 45 million Americans go without health insurance.

But engineering can come to the rescue, says Brandt-Rauf, dean since last year of the school of public health at the University of Illinois at Chicago. “Engineers can and should be agents of social justice. Part of that is helping to ensure the health of the public.” There’s a precedent for it. While antibiotics and vaccines improved Americans’ health and longevity, water purification and sewer systems proved even more important. “Engineers were able to re-engineer society in a way that gave us clean water and sanitation,” says Brandt-Rauf. “If you think about why the developing world has such poor health now, it’s because they don’t have clean water and sanitation.”

“We know the engineering solutions, but we haven’t been able to invest in them,” he says. Ninety-five percent of health care dollars go toward treating, rather than preventing, health problems. “Public health suffers from the problem that, when we do our jobs right, nobody notices because nobody gets sick,” says Brandt-Rauf, who oversees 100 faculty and 700 students.

But Brandt-Rauf is trying to prevent disease. The father of five sits on the national board of directors for Engineers Without Borders, which uses engineering to solve public health problems in Third World villages and gives students vital, practical experiencing in solving real-world problems. An advocate of engineers as agents of social justice, he says “engineering is not just a job or career but sort of a ‘calling,’ which entails a high responsibility to society and a duty to give back.”