

Alumna Profile

Cynthia L. Sears, MD '77: A Life's Work Inspired by Service Overseas

In spring 1979, Cynthia Sears found herself in a Cambodian refugee camp triaging 35 vomiting, dehydrated children. The patients, all from a camp orphanage, had been fed contaminated food, and with the help of two nurses, it was up to Sears to care for them — not to mention the dozens of other refugees with infectious diseases occupying her residency group's make-shift emergency ward. "It was experiences like that that made me realize I wanted to pursue a career in infectious diseases over GI medicine," she says.

Growing up in Pottstown, Pa., Sears thought she would follow in the footsteps of her mother and become a nurse. But her father encouraged her to dream bigger and become a doctor. So as a junior in high school, Sears applied for the five-year joint undergraduate and medical degree program through Penn State and JMC. She interviewed for the program her senior year, was accepted, and went off to Happy Valley and eventually, Philadelphia.

But toward the end of her internal medicine residency and fellowship at Cornell Medical Center (now Weill), Sears remained undecided if she should apply for a fellowship in infectious disease or GI medicine. Around the same time, her residency group was given the opportunity by the International Rescue Committee to run an emergency room in a Cambodian refugee camp. So she went to the camp in Thailand.

"I saw an astonishing array of infectious disease, including diarrheal illnesses and childhood illnesses," says Sears. "Because of the policies of Pol Pot, there was limited

immunity to common childhood illnesses built up in the population. When the refugees were crowded in the camp, there were outbreaks of childhood diseases and more — measles, mumps, rubella, chicken pox, meningitis and cholera. I was in the middle of it."

She came back to the United States and completed one year of the internal medicine fellowship at Cornell, then applied for infectious disease fellowships. While waiting for acceptance, Sears went to Memorial Sloan-Kettering to study with Donald Armstrong, MD, her attending at the refugee camp and head of infectious diseases at Sloan-Kettering. At that point, it was 1981, and HIV had hit New York City. "That was an amazing year," she recalls. "I had a remarkable experience watching this epidemic unfold and manifest as opportunistic infections."

After her year at Sloan-Kettering, Sears completed her infectious disease fellowship at the University of Virginia. By then, she had decided to train to become an enteric pathogen expert — a process she says is ongoing.

Having worked at Johns Hopkins University School of Medicine for the past 25 years, Sears, a professor of medicine in infectious diseases and gastroenterology, is now studying a bacterium called enterotoxigenic *Bacteroides fragilis* (ETBF). She was originally examining how toxins made by bacteria might contribute to diarrheal disease. But in working with ETBF, her team learned that it linked to an oncologic pathway. They tested the hypothesis that ETBF may induce tumors in the colon,

and those experiments proved positive. "In research you end up with a few moments, a few experiments, over the course of your career that really make you rock back on your heels and think more deeply," she says. This was one of them.

Now her team is working to understand the mechanisms that cause bacteria to be oncogenic in the colon and how the microbiome contributes to the pathogenesis of colon cancer — a task that will be her life's work. "I've considered taking on a leadership position, but I think I am going to work away at this question of how bacteria may influence colon cancer," she says. "I hope we can come up with a new approach to prevent a disease that is extremely common."

In her spare time, Sears is involved with Moveable Feast, a Baltimore-based nonprofit with a mission to provide nutritious food at no cost to low-income individuals with life-threatening diseases, particularly HIV and cancer. Besides sitting on the board of directors of Moveable Feast and volunteering to deliver food, Sears participates in Fierce Chicks Rock, a bike team that completes an annual 140-mile ride called Ride for the Feast to raise funds for Moveable Feast.

But whether she's working with Moveable Feast or in the lab at Hopkins, Sears remembers the refugee camp and the career clarity it provided her. "There are times when I realize I am really enjoying my job because aspects remind me of the refugee camp," she says. "Those five months made a big impact."

— Elizabeth Seasholtz

