

## Careers

# Dr. Loreen Herwaldt on research, writing, sabbaticals, and planks

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### Dr. Loreen Herwaldt reflects on her numerous contributions and recommends sabbaticals and planks

Dr. Loreen Herwaldt graduated from Grinnell College in 1973 and from the University of Wisconsin School of Medicine in 1977. She did a residency in Internal Medicine (1977–1980) and a fellowship in Infectious Diseases (1982–1987) at Washington University in St. Louis. She was an Epidemic Intelligence Service Officer at the Centers for Disease Control and Prevention from 1980 to 1982. She joined the faculty of the University of Iowa Carver College of Medicine (UICCM) in 1987 and is Professor of Internal Medicine at the UICCM and of Epidemiology at the University of Iowa College of Public Health. She was the Hospital Epidemiologist at the University of Iowa Hospitals and Clinics for >20 years. Dr. Herwaldt's research focuses on healthcare-associated infections, particularly *Staphylococcus aureus* infections, surgical site infections, and other adverse outcomes of medical care. She led an AHRQ-funded study to develop and assess preoperative screening for *S. aureus* nasal carriage and decolonization among patients undergoing cardiac operations or hip or knee replacements. Together with an ethnographer and a human factors engineer, she is studying processes of care and how healthcare providers incorporate hand hygiene and personal protective equipment into these processes. She is also interested in the role of narrative medicine and in patient–clinician communication. She published a book entitled *Patient Listening* that presents patients' stories of receiving healthcare. Dr. Herwaldt previously served on the board of directors for the Society for Healthcare Epidemiology of America (SHEA). SHEA has honored her with its Young Investigator Award and with the 2012 Mentor-Scholar Award. Dr. Herwaldt edited the first edition of the textbook *A Practical Handbook for Hospital Epidemiologists* (now called *Practical Healthcare Epidemiology*). She has taught in the SHEA/CDC and the European Society of Clinical Microbiology and Infectious Diseases (ESCMID)/SHEA hospital epidemiology courses.

### Tell us about your training, background, current role in your institution, and how you got there

When I was young, I was not interested in the traditional jobs open to women—nurse, stewardess (yes, that is what flight attendants were called then), and teacher. Instead, I wanted to be a veterinarian. After a few years, I changed my mind and announced

that I was going to be a doctor. My mother responded with “Girls don't do that.” But soon she was saying “Any girl who wants to be a doctor can't get involved with a guy when she is in 12<sup>th</sup> grade.” The next year, it was “. . . when she is a freshman in college.” And so it went during my four years as a chemistry major at Grinnell College and the next four years at the University of Wisconsin School of Medicine. In the end, my mother was very proud that I was the first person on either side of the family to become a physician and when my younger sister announced that she wanted to go to medical school, my mother did not say “girls don't do that”! In fact, my mother became angry when other women complained that their sons were not accepted into medical school because girls were taking their places. Her response was, “Why are the girls graduating at the tops of their classes?”

Dr. Dennis Maki, my favorite professor at the University of Wisconsin School of Medicine, and Dr. Donald Krogstad, the attending who most influenced me during my residency at Barnes Hospital in St. Louis, had both been Epidemic Intelligence Service (EIS) officers. At their encouragement, I applied and was accepted as an EIS officer in the Centers for Disease Control and Prevention's (CDC) Respiratory and Special Pathogens Division. Because the nationwide outbreak of toxic shock syndrome (TSS) began as I arrived at CDC, I was quickly immersed in interviewing cases and controls to identify risk factors for TSS. Subsequently, I investigated outbreaks of *Pseudomonas fluorescens* bloodstream infections related to contaminated platelets, *Vibrio parahaemolyticus* gastroenteritis related to undercooked seafood served on a cruise ship, and Pontiac fever in a Ford plant caused by contaminated cutting fluid. The latter investigation led to the discovery of *Legionella feeleii*.

During my time at CDC, I realized that I wanted to practice in an academic setting. Also, I liked curing infections and wanted to care for whole people and not just focus on specific organ systems. So, it made sense to do an infectious diseases (ID) fellowship. Dr. Gerald Medoff, who was chief of ID at Washington University in St. Louis, invited me to dinner when he was in Atlanta for a meeting. After I told him I was looking into ID fellowship programs, he said “Why don't you come back to Wash U?”

I spent the next five years in St. Louis doing my clinical ID training and doing bench research on tracheal cytotoxin produced by *Bordetella pertussis*. When I began my job search, I sent out many CVs and one reached Dr. Richard Wenzel as he was preparing to move from Virginia to Iowa. He liked my CV and our interaction at a scientific meeting went well. As they say, “The rest is history.”

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**You've conducted multi-center research and have received grant funding to study multiple important topics in infection prevention. You've remained active in research throughout your career. Which have been your favorite projects and why?**

Dr. Michael Pfaller helped me establish research projects on the molecular epidemiology of *Staphylococcus aureus* and coagulase-negative staphylococci and Dr. Wenzel provided opportunities for me to do epidemiologic studies on healthcare-associated infections. I also worked with Dr. Charles Cox, a basic microbiologist, on iron metabolism by *S. aureus*. In fact, my first federal grant was a VA Merit Review on this topic. My epidemiologic research was going better than my bench research. So, when Dr. Wenzel offered me the recently vacated associate hospital epidemiologist position, I closed my lab and focused on my epidemiological research.

I applied for a CDC Prevention Epicenter cooperative agreement when they were first introduced. My proposal was eventually funded and this funding allowed Dr. Daniel Diekema and me to create Emerging Infections and the Epidemiology of Iowa Organisms or EIEIO, a prospective, statewide, longitudinal surveillance system for antimicrobial resistance, to help monitor for the emergence of resistant organisms. Although we did not receive Epicenter funding for two cycles, I had funding from CDC and AHRQ that carried me through this period. In 2014, CDC received extra money for Ebola preparedness in the US. Eli Perencevich (PI) and I assembled a team to address infection prevention issues important for preventing spread of emerging viral and bacterial pathogens. I led our efforts during the most recent cycle, which funded a total of seven projects for five investigators. Epicenter funding and other grants from CDC and AHRQ have given me the opportunity to answer questions and address problems I encountered in my work as a hospital epidemiologist. The funding also allowed me to collaborate with other healthcare epidemiologists and to mentor ID fellows, post-doctoral fellows, and other faculty members.

These projects provided opportunities to work with experts in other disciplines and to train energetic and talented young people. I am quite partial to our current ethnographic and human factors engineering investigations into healthcare providers' interactions with personal protective equipment (PPE), PPE design issues and malfunctions, and healthcare providers' hand hygiene practices and PPE use during complete care sequences. I'm excited about these projects because we are delving into the details of patient care processes and looking for ways to integrate infection prevention measures into these processes without increasing healthcare providers' workloads. I'm passionate about the POTENT study, a stepped wedge clinical trial of intranasal povidone iodine to prevent *S. aureus* surgical site infection (SSI) in persons with high-risk lower extremity fractures because little has been done to prevent SSIs among these patients and these infections can have devastating consequences. My ethnographic study of women's experiences during their breast cancer diagnostic period is also special to me because it allows me to continue exploring how patients' stories can help us improve healthcare.

**You're very involved in teaching medical students, public health students, and post-graduate trainees in medicine and infectious diseases. How has this enriched your career and what do you get out of this experience? In your opinion, what is the best way to get young people engaged with infection prevention and public health?**

Mentoring graduate students, ID fellows, and post-doctoral fellows has enriched my career by enabling me to do studies that I wouldn't have been able to do on my own. My mentees brought

their skills, knowledge, and energy to our research projects and I have guided them through the process of designing and conducting epidemiological investigations. I also spend a lot of time helping them learn to write abstracts and papers because clear communication is essential in infection prevention and public health. In addition, these skills can help those who want academic careers write successful grants, publish papers in good journals, and gain recognition as excellent speakers and teachers.

Teaching and mentoring have also enriched my career and life through the relationships my mentees and I have developed and the pleasure I experience when they go on to successful careers as infection preventionists, healthcare epidemiologists, microbiologists, public health professionals, infectious disease clinicians, ethnographers, human factors engineers, biostatisticians, and big data analysts who address gaps in our knowledge and practice. I really enjoy hearing from and seeing my former mentees who now work across the US and the world.

I don't think there is one best way to engage young people with infection prevention, hospital epidemiology, and public health. Likely SARS-CoV-2 has turned many away from these fields as they witnessed the burnout, harassment, and disrespect experienced by experts in these fields. On the other hand, others may welcome the challenges of working in these fields under the shadow of COVID-19. I try to model enthusiasm for this work and to help trainees understand its importance. My aim is to expose them to the breadth of opportunities in this field, and to help them contribute meaningfully to addressing the gaps in our knowledge and practice.

**You've mentored and/or influenced many who became leaders in healthcare epidemiology and infectious diseases, like Dan Diekema, Trish Perl, Marin Schweizer, Didier Pittet, and others. What is the key to being a good mentor and cultivating long-lasting mentor/mentee relationships?**

I think an important key to being a good mentor is understanding your mentees' goals, strengths, and weaknesses and then helping them reach their goals by providing opportunities to learn needed skills, gain knowledge and experience, and to meet experts in the field who can also help them reach their goals. A good mentor is available and invested in their mentees' projects and at the same time gives them freedom to learn by doing and by solving problems. A good mentor also gives their mentees formative feedback, sets a good personal and professional example, is compassionate, and is willing to showcase their mentees' achievements and be their champion.

**During your sabbatical, you published a book of found poems drawn from patient experiences and interviews, Patient Listening: A Doctor's Guide: Herwaldt, Loreen: 9781587296529: Amazon.com: Books**

**Have you always loved poetry and literature? How did you cultivate this passion despite a busy career in academic medicine? How have these projects deepened the impact you've made in medicine? What advice do you have for others who'd similarly like to pursue nontraditional passion projects?**

I have always enjoyed reading and I find stories more engaging and easier to remember than algorithms and lists. But I never imagined I would edit a textbook and create a book of found poems. Because I was frustrated with my ability to edit my own writing and that of colleagues and trainees, I took a colleague's advice and participated in a four-part workshop on the "Paramedic" method for improving scientific writing. The skills I learned helped me quickly diagnose and treat problematic prose in my papers and grants and those of

others. Around that time, I was on the SHEA board and after a meeting, I found myself organizing and then editing the first edition of what is now entitled *Practical Handbook for Healthcare Epidemiologists*.

Iowa City, a UNESCO City of the Arts, is home to the famed Iowa Writer's Workshop, which is highly selective, and the Summer Writers' Workshop, which is open to anyone who enjoys writing and wants to improve. During multiple summers, I enjoyed taking workshops on writing personal essays. These workshops also helped me make my professional writing more graceful.

During this period, a book cover photo of Amish women's dresses hanging on a clothesline attracted my attention as I walked through a campus bookstore. The book's title *Out of this World: A Journey of Healing* intrigued me, so I bought it. This serendipitous encounter with a book introduced me to illness narratives and led to my sabbatical. During 1999 and 2000, I interviewed writers about their experiences of receiving healthcare for illnesses, injuries, or disabilities and then spent 5 months at the Collegeville Institute at St. John's University in Minnesota diving into narratives of illness, the philosophy of medicine, and poetry. I initially planned to do qualitative analysis of the interview transcripts to identify themes and common experiences. But one night I decided on a lark to try a writing exercise I learned while taking an Iowa Summer Writing Festival workshop. I chose a story one of the writers shared about getting her hip replaced. I took away unnecessary words and arranged the rest of the words like a poem on the page. I liked the results. So, I tried it again with a story about an encounter she had with a plastic surgeon. The next day, I gave a typical research seminar about my sabbatical project. To conclude the session, I read the "poems." When I finished reading, the attendees sat in stunned silence, indicating that the condensed

stories from the patients' perspective had a power and intensity that traditional patient histories did not. Eight years later, the University of Iowa Press published my book, *Patient Listening: A Doctor's Guide*, which included found poems created from stories 24 authors shared with me about receiving health care, an introductory essay, and a teacher's guide.

Interviewing the authors and creating the found poems was intense, invigorating, and challenging. I felt like I was a student in patient language immersion school. The experience changed the way I interact with patients and their family members. Also, I was delighted that this work was incorporated into the University of Iowa's curriculum for first- and third-year medical students. Given my experience, I would encourage others to take sabbaticals because they enrich your life and your work.

**Finally, which non-medical books, essays, podcasts, or other leisure activities are you consuming currently that you'd recommend to Antimicrobial Stewardship and Hospital Epidemiology (ASHE) readers?**

I recently enjoyed re-reading C.S. Lewis' space trilogy. I listen to the Bible Project's podcasts and I am taking their seminary-level classes on the Hebrew scriptures. I use what I learn to deepen my spiritual life and to teach others at my church. At home, I knit, cook, bake, and make jam. My husband, Marc Abbott, and I enjoy gardening and traveling together. Our recent vacation in Paris and Lyon inspired me to step out of my rut of always making a simple oat soda bread with gluten-free flour and start using a cookbook—*Gluten-Free Artisan Bread in Five Minutes a Day*—that a friend gave me several years ago. Now I can enjoy one of my favorite treats—fougasse. Reformer Pilates is my newest outside activity. If only, SHEA sponsored a "plank off" to see who could stay in a plank the longest!