

► SPOTLIGHT ON EMERGING PROFESSIONALS



Umikka Chopra

My Summer in Nome: A Journey of Environmental Public Health in Rural Alaska

Editor's Note: In pursuit of our mission to build, sustain, and empower an effective environmental health workforce, the National Environmental Health Association (NEHA) is pleased to offer a new column in the *Journal* that shines a spotlight on emerging professionals in the field of environmental public health. Through these columns, we highlight the next generation of professionals in our field and the work they are doing, as well as share their experiences, new perspectives, and passion for our profession.

The conclusions of this column are those of the author(s) and do not necessarily represent the official position of NEHA, the agencies of the authors, or any internship host agency or funder.

In my senior year of high school, I read the book, *What the Eyes Don't See*, by Dr. Mona Hanna-Attisha. This book, part autobiography, focuses on the Flint water crisis and Dr. Hanna-Attisha's early recognition of its effects in pediatric patients. Becoming aware of the fact that our environments directly influence our well-being ignited my passion for environmental health. I also developed a passion for research through my involvement at the University of Washington. To gain further exposure to research and engage in work promoting environmental justice, I applied to the National Environmental Public Health Internship Program (NEPHIP).

During summer 2024, I was given the opportunity to participate in NEPHIP, where I was matched to the Office of Environmental Health (OEH) at Norton Sound Health Corporation in Nome, Alaska. Before the internship, I had never heard of Nome, Alaska. The shift from a large city

to a quiet town of just more than 3,000 people was definitely challenging. From adjusting to the colder weather to worrying about how I might contribute to the environmental health team, I was stressed about my move to say the least. Once I arrived in Nome, however, most of my anxieties were dispelled. My mentor, Alicia Reitz, and the entire OEH department welcomed me with open arms, guiding me through my role as an intern and helping me feel at home in Nome. I participated in many unique experiences with the help of the OEH team including going camping, driving an ATV, and collecting salmon berries on the tundra!

OEH engages in a wide range of initiatives, and I was given the opportunity to assist in several of those activities. The department focuses on clinic safety, solid waste management, vector control, healthy homes, air quality, and harmful algae bloom (HAB) monitoring. The main mission of the hospital



Photo 1. Umikka Chopra provided rabies vaccination during her NEPHIP internship in Nome, Alaska. Photo courtesy of Amber Fernandez.

and OEH is to engage in these activities for the health of Alaska Native populations.

While in Nome I became a certified State of Alaska laboratory analyst by shadowing and helping to process drinking water samples. I also helped deliver bed bug kits in Nome and ship them to surrounding villages. Toward the end of my internship, I planned and participated in a solid waste management training program. Since rural Alaskan landfills are allowed special classifications, I learned a lot about solid waste and recycling practices in rural regions. Finally, I traveled to several villages where we performed landfill assessments, clinic health and safety assessments, rabies vaccinations, and per- and polyfluoroalkyl substances (PFAS) sampling. I became lay vaccinator certified, which allowed me to provide rabies vaccinations to animals in Nome and the surrounding villages (Photo 1).



Photo 2. As part of her internship, Umikka Chopra traveled to surrounding villages to collect water samples and provide other services offered by the Office of Environmental Health at the Norton Sound Health Corporation in Nome, Alaska. Pictured are Alicia Reitz (left) and Umikka Chopra (right) packing the side-by-side ATV for a sampling trip. Photo courtesy of Racheal Lee.



Photo 3. Umikka Chopra participated in drinking water sampling to test for per- and polyfluoroalkyl substances (PFAS) to determine leachate contamination from landfills in Nome, Alaska. Photo courtesy of Alicia Reitz.

A significant part of my internship was village travel where I engaged in the main project of my internship (Photo 2). I assisted OEH in their landfill PFAS sampling project, funded by a grant from the Rural Development program within the U.S. Department of Agriculture. The project was dedicated to examining PFAS contamination in leachate from solid waste disposal sites. We collaborated with tribal environmental program staff and city staff to collect samples from three communities in the region (Photo 3). The goal of the project was to provide a small picture of how PFAS might be transported from the landfill via leachate into spaces used for subsistence. Since a majority of communities in rural Alaska rely on subsistence activities to obtain a majority of their food, the potential of PFAS moving into the environment can disproportionately affect these communities.

Through village travel for the sampling project, I practiced environmental health communication where I explained the premise of our PFAS project and important health considerations. In addition, I gained a deeper appreciation for Alaska Native culture through interactions with residents, from enjoying traditionally dried salmon to admir-

ing intricate ivory artwork. The warm reception we received in each village made this experience especially meaningful.

In addition to engaging with the community, one of my favorite activities during my internship was giving rabies vaccinations to dogs (Photo 1). Providing rabies vaccinations might be one of the most significant interventions that OEH provides for the region. Due to climate change, rabies incidences have become more frequent in Nome and the surrounding villages. Most dogs in the region are outside dogs, which make them much more susceptible to contracting the disease and passing it on to the community. Since I never really had pets growing up and I had never administered any vaccinations before, it was a completely new experience. I had not considered myself a dog person before, but after my internship I have definitely found a love for dogs!

My NEHIP internship culminated in an academic poster that was presented at several symposiums and conferences. Through this incredible opportunity I applied what I learned in the classroom to real-world challenges while making meaningful contributions to environmental health. The hands-on

experience gave me a deeper understanding of the complexities of public health in rural communities and allowed me to understand the disproportionate impacts of environmental hazards on marginalized populations.

Beyond technical skills, the internship strengthened my ability to effectively communicate scientific findings, work collaboratively with diverse teams, and adapt to unfamiliar environments. Thanks to NEHIP, I feel more prepared than ever to take the next steps in my professional journey. These experiences reaffirmed my passion for environmental justice and research and clarified my desire to pursue a career dedicated to addressing health disparities. ❁

About the Author: Umikka Chopra is a 4th year undergraduate student at the University of Washington. She will be graduating in the spring 2025 with a bachelor of science in environmental public health and a minor in classical studies. She plans on continuing researching at the university and would like to work toward a master's degree in genetics.

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