

571.926.1693

alpicka@hotmail.com

11706 Blue Smoke Trl,
Reston, VA 20191

Amy Nelson, PhD, MPH

Epidemiologist

Profile

A well-traveled PhD epidemiologist with 18 years of experience in curriculum development, field epidemiology methods, epidemiologic study design, and research. Focused on capacity development, partner collaboration, working in a global context, and a nerd for infectious disease and context and vector-borne disease epidemiology.

Education

Ph.D., University of North Carolina, May 2004

Epidemiology, Infectious Disease

Dissertation: *pfmdr1 Molecular Markers and Anti-malarial Resistance in Southeast Asia*

MPH, University of Michigan, April 1999

Epidemiology, International Health, Full tuition scholarship

Thesis: *A Study of Malaria Knowledge in Communities Near Iquitos, Peru*

B.S. Colorado State University, December 1996

Biochemistry Major, Chemistry Minor

Magna cum Laude

Assistant Professor

Fall 2023-present

Epidemiology Program, University of Delaware, Newark DE (Remote)

- . Develop and teach courses covering infectious disease and applied epidemiology content, including introductory Epidemiology Methods (EPID 605), Infectious Disease Epidemiology Methods (EPID 620), Integrative Learning Experience (EPID 699)
- . Work with Program faculty and staff to structure materials for CEPH accreditation

Experience

Clinical / Medical Writer

April 2022-July 2023

DynaMed/EBSCO Information Services, Ipswich MA (Remote)

- . Succinctly summarized comprehensive, epidemiologic and clinical information on a wide variety of infectious disease topics.
 - . Evaluated quality and relevance of the body of evidence for topic-specific trials and epidemiologic studies and determine clinical relevance.
 - . Worked with a team of clinicians and evidence-based medicine specialists to provide rigorously evaluated and clearly written clinical guidance .
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Adjunct Faculty

Spring 2019- Spring 2023

*University of North Carolina at Chapel Hill (2019, 2020, 2022)**University of Delaware (2020 - present)*

. Taught/developed online courses, capacitated students to identify and solve epidemiologic problems, created a welcoming online learning environment.

Public Health Specialist

Mar-Jun 2021

CDC South Africa Office, Pretoria South Africa

- . Monitored and reported on weekly COVID cases in South Africa for the office director.
- . Advised South Africa's National Department of Health (NDOH) team on designing and executing a study on COVID mortality in hospitals. Stepped in to collect data in remote areas of South Africa to ease NDOH staffing shortfalls.
- . Mentored African FETP residents on presenting research study results.

Global Health Epidemiologist

2015-2019

RTI International, NC (Remote)

- . As part of a team, researched and developed grant proposals for epidemiologic investigations.
- . Mentored colleagues through writing scientific manuscripts.
- . Was a consultant to RTI during April-Oct, 2015, working on CDC training for Ebola responders in Guinea.

Example Project: *Multisectoral Surveillance of Antimicrobial Resistance in Nepal (2016-2017)*—Project Director. Won internal R&D funding to build partnerships in Nepal. Working through partnerships, we designed and conducted specimen collection from poultry, farms, and retail poultry products for Salmonella testing and antimicrobial susceptibility testing.

Consulting Epidemiologist and Curriculum Developer

2014

World Health Organization, Geneva, Switzerland (Remote)

- . Created H1N1 influenza training series for public health laboratorians to reflect updated WHO pandemic influenza guidelines.
- . As an independent consultant, managed four staff in my country of residence (Nepal) for translation into Spanish and recording of materials for online use.
- . Virtual Course: Intensified National SARI Surveillance Training is available through PAHO virtual campus.

Epidemiologist and Curriculum Developer

2004-2013

National Center for Public Health Preparedness at the University of North Carolina at Chapel Hill Gillings School of Global Public Health (Remote)

- . Served as the key team member to create, standardize, deliver, and revise epidemiologic and infectious-disease related content in training curricula and courses, including training staff members on best practices.
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- . Co-developed and taught online courses in UNC's field Epidemiology Certificate Program, including *Methods in Infectious Disease Epidemiology*, *Field Epidemiology*, and *Global Public Health*.
- . Wrote several issues of UNC's *Focus on Field Epidemiology* newsletter, as well as short online courses, which aimed to provide practical, hands-on training to local health departments.
- . Coordinated SMEs and content development staff to create the 2007 WHO Rapid Response to Avian Influenza training for front line public health workers, which was translated and rolled out globally. Managed monthly global conference calls and oversaw all content.
- . Managed relationships and communications with outside project partners including CDC, WHO, and PAHO.
- . Wrote abstracts and manuscripts, delivered trainings in English, and presented at conferences as needed.

Consulting Epidemiologist and Curriculum Developer

Apr-Jun 2012

World Health Organization: Somalia Country Office, Nairobi, Kenya

- . Developed and piloted training for country-level staff participating in Somalia's Communicable Disease Surveillance and Response system, and for outbreak investigation and response.
- . Advised local staff on content and interpretation for the Somalia Weekly Health Update newsletter.

Other Positions

Before 2004

- . Northrup Grumman Mission Systems – health analyst Deployment Health Support (2004).
- . National Cancer Institute – epidemiology program specialist (1999-2001)

Book Chapters

Nelson, A. L., Stehr-Green, J. K., Stehr-Green, P. A., & MacDonald, P. D. M. (2012). Is a potential outbreak real? In P. D. M. MacDonald, *Methods in field epidemiology*, first ed. (pp. 55-76). Burlington, MA: Jones & Bartlett Learning.

Stehr-Green, J. K., Stehr-Green, P. A., & **Nelson, A. L.** (2012). Hypothesis-testing interviews. In P. D. M. MacDonald, *Methods in field epidemiology*, first ed. (pp. 157-179). Burlington, MA: Jones & Bartlett Learning.

Nelson, A. L., & Davis, M. K. (2012). Data analysis. In P. D. M. MacDonald, *Methods in field epidemiology*, first ed. (pp. 181-207). Burlington, MA: Jones & Bartlett Learning.

Stehr-Green, J. K., Stehr-Green, P. A., **Nelson, A. L.**, Bradley, L. N., & Rice, D. B. (2012). The public health laboratory's role in field epidemiology and outbreak investigation. In P. D. M. MacDonald, *Methods in field epidemiology*, first ed. (pp. 223-242). Burlington, MA: Jones & Bartlett Learning.

Peer-Reviewed Journal Articles

Publications and Conferences

Nelson, A., Manandhar, S., Ruzante, J. et al. Antimicrobial drug resistant non-typhoidal *Salmonella enterica* in commercial poultry value chain in Chitwan, Nepal. *One Health Outlook* 2, 18 (2020). <https://doi.org/10.1186/s42522-020-00025-4> (accepted).

Grimes, K.E.L., Ngoyi, B.F., Stolka, K.B., Hemingway-Foday, J.J., Lubula, L, Mossoko, M, Dimandja, A.O., MacDonald, P.D.M., **Nelson, A**, Rhea, S., Ilunga, B.K. Contextual, Social and Epidemiological Characteristics of the Ebola Virus Disease Outbreak in Likati Health Zone, Democratic Republic of the Congo, 2017. (2020). *Frontiers in Public Health*. doi: 10.3389/fpubh.2020.00349

Nelson, A. L., Bradley, L., & Macdonald, P. D. (2018). Designing an Interactive Field Epidemiology Case Study Training for Public Health Practitioners. *Frontiers in Public Health*, 6. doi:10.3389/fpubh.2018.00275

Macdonald, P. D., Torok, M. R., Salyers, M., Wolf, L., & **Nelson, A. L.** (2007). Practices Around Acute Diarrheal Illness Diagnosis, Counseling, and Reporting: Laboratory and Health-Care Practitioners in North Carolina, 2004. *Foodborne Pathogens and Disease*, 4(3), 359-365. doi:10.1089/fpd.2007.0016

MacDonald, P. D. M., Torok, M. R., Maillard, J., Salyers, M., Wolf, L. A., & **Nelson, A. L.** (2007). Knowledge and practice of foodborne disease clinical specimen testing and reporting in North Carolina. *NC Medical Journal*, 68(5), 305-311.

Macdonald, P. D., **Nelson, A. L.**, Hightow-Weidman, L., & Leone, P. A. (2007). Disease Intervention Specialists as a Resource in a Public Health Emergency. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*, 5(3), 239-248. doi:10.1089/bsp.2007.0019

Nelson, A. L., Miller, R. S., Sriwichai, S., Buathong, N., Purfield, A., Uthaimongkol, N., . . . Wongsrichanalai, C. (2005). *pfm*dr1 genotyping and in-vivo mefloquine resistance on the Thai-Myanmar border. *The American Journal of Tropical Medicine and Hygiene*, 72(5), 586-592. doi:10.4269/ajtmh.2005.72.586

Purfield, A., **Nelson, A.**, Laoboonchai, A., Congpuong, K., McDaniel, P., Miller, R. S., et al. (2004). A new method for detection of *pfm*dr1 mutations in *Plasmodium falciparum* DNA using real-time PCR. *Malaria Journal*, 3(1), 9.

Pickard, A. L.*, McDaniel, P., Miller, R. S., Uthaimongkol, N., Buathong, N., Murray, C. K., et al. (2004). A study of febrile illnesses on the Thai-Myanmar border: Predictive factors of rickettsioses. *Southeast Asian Journal of Tropical Medicine and Public Health*, 35(3), 657-663.

Pickard, A. L., Chen, C. J., Diehl, S. R., Liu, M. Y., Cheng, Y. J., Hsu, W. L., et al. (2004). Epstein-Barr virus seroreactivity among unaffected individuals within high-risk nasopharyngeal carcinoma families in Taiwan. *International Journal of Cancer*, 111(1), 117-123.

Pickard, A. L., Wongsrichanalai, C., Purfield, A., Kamwendo, D., Emery, K., Zalewski, C., et al. (2003). Antimalarial resistance in Southeast Asia and genetic polymorphisms in *pfm*dr1. *Antimicrobial Agents and Chemotherapy*, 47(8), 2418-2423.

Wongsrichanalai, C., Murray, C. K., Gray, M., Miller, R. S., McDaniel, P., Liao, W. J., **Pickard, A. L.**, & Magill, A. J. (2003). Co-infection with malaria and leptospirosis. *American Journal of Tropical Medicine and Hygiene*, *68*(5), 583-585.

Ittarat, W., **Pickard, A. L.**, Rattanasinganchan, P., Wilairatana, P., Looareesuwan, S., Emery, K., et al. (2003). Recrudescence in falciparum patients treated with artemisinin derivatives is dependent on parasite burden not on parasite factors. *American Journal of Tropical Medicine and Hygiene*, *8*, 147-152.

Pickard, A. L., Gridley, G., Mellekjær, L., Johansen, C., Kofoed-Enevoldsen, A., Cantor, K. P., Brinton, L. A.. (2002). Hyperparathyroidism and subsequent cancer risk in Denmark. *Cancer*, *95*(8), 1611-1617.

Wongsrichanalai, C., **Pickard, A. L.**, Wernsdorfer, W. H., & Meshnick, S. R. (2002). Epidemiology of drug resistant malaria. *The Lancet Infectious Disease*, *2*, 209-218.

*Maiden name

Presentations, Posters and News

Nelson, A., Dulal, S., Dhakal, B., Gyawali, A., Shrestha, S., Rhea, S., Dixit, S. (2018, February). *Detection of Salmonella enterica antibiotic resistance genes in retail poultry and the environment in Nepal*. RTI Innovation Showcase.

Nelson, A., Dixit, S. "Late Mover" (One Health and Antimicrobial Resistance in Nepal). *My Republica*. April 8, 2017. <https://myrepublica.nagariknetwork.com/news/late-mover/>

Nelson, A., Steele, C., Espinosa, S., Suarez-Rangel, G., Díaz-Artiga, A., Lopez, A., et al. (2010, November). *Pilot testing distance-based training products among Central American FETP trainees*. APHA annual meeting.

Nelson, A., Horney, J., Michalove, J., & Mott, J. (2010, November). *Implementation of guidelines-based train-the-trainer workshops for Russia and Eastern European nations*. APHA annual meeting.

Alexander, L. K., Bradley, L. M., MacDonald, P. D. M., & Nelson, A. (2010, November). *Piloting of an e-learning readiness assessment tool for public health professionals in countries with limited resources*. Poster presented at APHA annual meeting.

Alexander, L. C., Nelson, A., Michalove, J., Mott, J., & Horney, J. (2009, November). *Developing an online course for international public health practitioners using Lectora*. APHA annual meeting.

Alexander, L. K., Irwin, D., Nelson, A., Yeatts, K., & Horney, J. (2009, November). *Enhancing interaction in a graduate level online certificate program in field epidemiology using wikis, blogs and web conferencing*. APHA annual meeting.
