# Haedi DeAngelis Thelen

*PhD Candidate - Epidemiology*

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## Education

Expected 2026 **PhD Candidate - Epidemiology**, *University of Pennsylvania*, PA

2022 **Doctor of Pharmacy**, *University of New Mexico*, Albuquerque, NM

2015 **Master of Arts, Bioethics**, *Trinity Graduate School*, Deerfield, IL

2015 **Bachelor of Arts, Mathematics**, *Trinity College*, Deerfield, IL

## Research Experience

2022–Current **PhD Student Research**, *Post Doctoral Pharmacoepidemiology Fellow*, Department of Biostatistics and Epidemiology, University of Pennsylvania, Philadelphia, PA

Research Interests: treatment effect heterogeneity, causal inference, drug associated kidney injury
Advisor: Sean Hennessy, PharmD, PhD
Co-Advisor: Todd Miano, PharmD, PhD

- Evaluate trends in NSAID use and treatment effect heterogeneity of NSAID associated acute kidney injury in hospitalized patients using electronic healthcare database records
- Develop risk modeling approaches to obtain individualized estimates of ibuprofen associated acute kidney injury in hospitalized patients using observational data

2019–2022 **Graduate Student Intern**, *Sandia National Laboratories*, Albuquerque, NM

- Worked with computer science, mathematics, and public health experts to model COVID-19 vaccine distribution and allocation scenarios to aid decision makers
- Conceptualized and won a COVID-19 internally funded research project to examine gamma irradiation sterilization of N95 respirators; worked with radiation, aerosol, and material science experts to design experiments, and published in peer reviewed journal
- Trained machine learning models to identify cattle with respiratory syndromes in drone footage to support Global Security internally funded research
- Collaborated with Los Alamos National Lab to analyze Veterans Affairs databases and develop predictive machine learning models for mental health applications

2018–2022 **Laboratory Technician**, *Mercier Infectious Disease Lab*, UNM College of Pharmacy, Albuquerque, NM

- Researched and published on the synergy between vancomycin and piperacillin/tazobactam against methicillin-resistant Staphylococcus aureus
- Designed and executed experiments investigating synergy between cefixime and amoxicillin/clavulanate against ESBL-producing Escherichia coli
- Extracted and analyzed clinical data from patient health records to assess vertical HIV transmission risk among pregnant women with HIV
- Lab responsibilities included experimental design, proposal submission, data analysis, abstract and manuscript drafting, and poster presentations

2021–2022 **Research Rotation**, *TriCore Reference Lab*, Albuquerque, NM

- Developed machine learning model to predict chronic kidney disease progression from a seven-year, longitudinal dataset collected from Southwest United States
- Utilized Pandas and NumPy Python packages for pre-processing data and Microsoft PowerBI's AutoML technology for machine learning ensemble model development
- Continued post rotation efforts focused on improving model and publishing results in a peer-reviewed journal

Summer 2014–Fall 2015 **Undergraduate Research Fellow**, *Santa Fe Institute*, Santa Fe, NM

- Worked with Dr. Benjamin Althouse using computer modeling techniques to design, code, and implement a dynamic transmission model of Bordetella pertussis with numerical solving approaches of ordinary differential equations
- Evaluated cost-effectiveness ethical implications of the different vaccine strategies

## Computer Skills

Python for data analytics and machine learning applications, R, STATA, Mathematica, LaTex, and high-performance computing for large datasets and machine learning

## Teaching Experience

Fall 2024 **Teaching Assistant - Biostatistics for Epidemiology (BSTA 6100)**, *University of Pennsylvania*, Philadelphia, PA

- Collaborated with Dr. Nicholas Seawald to develop course content
- Led a 10-hour pre-class bootcamp, developing and delivering content focused on linear algebra, calculus review, and an introduction to R and R Markdown
- Held weekly office hours to assist student with course material and problem-solving
- Graded assignments, providing detailed feedback to students.

## Publications

1. Haedi Thelen, Hennessy S. Characterizing Treatment Effect Heterogeneity Using Real-World Data. Clinical Pharmacology & Therapeutics. 2025 February. DOI:10.1002/cpt.3627.
2. Dhaubhadel, S, Ganguly, K, Ribeiro, RM, Haedi Thelen, McMahon, BH, et al., High dimensional predictions of suicide risk in 4.2 million US veterans using ensemble transfer learning. Scientific Reports. 2024 January. DOI: 10.1038/s41598-024-51762-9

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3. Hernandez, BN, Dilworth, TJ, Kesner, J, Ryan, K, Haedi Thelen, Mercier, RC. MIC discrepancies between parenteral and oral anti-staphylococcal beta-lactams among MSSA. Chemotherapy. 2023 March. DOI: 0.1159/000526630.
4. Klise K, Beyeler W, Erin Acquesta, Haedi Thelen, Makvandi M, and Finley P. Prioritizing vaccination based on analysis of community networks. Applied Network Science. 2022 December. DOI 10.1007/s41109-022-00522-7.
5. Haedi DeAngelis, Dilworth TJ, Mercier RC. Examining the combination of cefixime and amoxicillin/clavulanate against extended-spectrum beta-lactamase (ESBL)-producing Escherichia coli isolates. Chemotherapy. 2022 May. DOI: 10.1159/000524707.
6. Haedi DeAngelis, Grillet A, Nemer M, Wasiolek M, Hanson D, Omana M, Sanchez A, Vehar D, Thelen P. Gamma radiation sterilization of N95 respirators leads to decreased respirator performance. PLOS One. 2021 April. DOI: 10.1371/journal.pone.0248859.
7. Dilworth T, Sanchez DA, Anderson BA, Haedi DeAngelis, Mercier RC. Exploring the role of piperacillin and tazobactam in combination with vancomycin against methicillin-resistant Staphylococcus aureus. Chemotherapy. 2022. DOI: 10.1159/000507241.
8. Haedi DeAngelis, Scarpino SV, and Althouse BM. Modeling the Effects of Priming With the Whole-Cell Bordetella Pertussis Vaccine–Reply. JAMA Pediatrics. 2016. DOI: 10.1001/jamapediatrics.2016.2819.
9. Haedi DeAngelis, Scarpino SV, Fitzpatrick MC, Galvani AP, and Althouse BM. Epidemiological and economic effects of priming with the whole-cell Bordetella pertussis vaccine. JAMA Pediatrics. 2016. DOI: 10.1001/jamapediatrics.2016.0047.

## Professional Presentations

1. Haedi Thelen, Yang, W, Hennessy, S, Cohen, J, Guo, W, Miano TA. 2025. Comparison of Disease Risk Score Methods to Study Treatment Effect Heterogeneity in Real World Data: A Simulation Study. Poster Presentation at DBEI Research Day, University of Pennsylvania, Philadelphia, PA.
2. Haedi Thelen, Yang, W, Miano, TA. 2024. Risk Modeling to Obtain Individualized Estimates of Ibuprofen Associated Acute Kidney Injury in Hospitalized Patients. Poster Presentation at the International Society of Pharmacoepidemiology Annual Meeting, Berlin, Germany.
3. Haedi Thelen, Keele LJ, Miano, TA. 2024. Risk of Acute Kidney Injury in Hospitalized Patients Treated with Short-Courses of Ibuprofen: a Retrospective Cohort Study. Oral Presentation at the International Society of Pharmacoepidemiology Mid-Year Meeting, Orlando, FL.
4. Ali R, Haedi Thelen, Dodd M, Borunda T, Mithiwi A, Koenig M, Argyropylos C. 2021. Evaluating Progression of Chronic Kidney Disease via Lab Data Using Artificial Intelligence. Poster presentation at the American Society of Health Systems Pharmacist Annual Conference, online presentation.
5. Haedi Thelen. 2021. Observational Studies of COVID-19 Vaccines. Presented at 2021 COVAX Scholars UNM Health Sciences Center, Albuquerque, NM.
6. Haedi DeAngelis, Mercier RC. 2019. Examining the Combination of Cefixime and Amoxicillin/Clavulanate Against Extended-Spectrum Beta-Lactamase (ESBL)-Producing Escherichia coli isolates. Poster presentation at American College of Clinical Pharmacy Annual Meeting, New York, NY.
7. Haedi DeAngelis, Scarpino SV, Fitzpatrick MC, Galvani AP, and Althouse BM. 2016. The Economic and Ethical Impact of Utilizing a Priming Dose of Whole-Cell Bordetella pertussis vaccines. Paper presentation at National Bioethics Conference, Deerfield, IL.

## Pharmacy Experience

April 2022 **Advanced Community Pharmacy**, *Indian Health Service*, Albuquerque, NM, Preceptor: Kanh Vu, PharmD
- Presented updated asthma guidelines to clinical team to advocate guideline directed therapy
- Conducted anticoagulation, diabetes medication optimization, and smoking cessation appointments

March 2022 **Internal Medicine**, *University of New Mexico Hospital*, Albuquerque, NM, Preceptor: Ashley Fox, PharmD
- Researched and presented on Alcoholic Hepatitis
- Participated in clinical management of medications for inpatient internal medicine patients

February 2022 **Neonatal Intensive Care Unit**, *University of New Mexico Children's Hospital*, Albuquerque, NM, Preceptor: Eleni Shenk, PharmD
- Researched and presented on the nutrition supplementation in extremely premature neonates
- Participated in clinical management of medications for inpatient neonatal patients

November 2021 **Hematology Oncology**, *University of New Mexico Hospital*, Albuquerque, NM, Preceptor: Abigail Tresize, PharmD
- Researched and presented on the impact of small molecule targeted therapies on cancer outcomes over 20 years
- Participated in clinical management of medications for inpatient hematology oncology patients

October 2021 **Clinical Trials Research, Cooperative Studies Program**, *Veterans Affairs, Office of Research and Development*, Albuquerque, NM, Preceptor: Alexa Goldberg, PharmD, MS
- Improved knowledge regarding clinical trial design, ethics in clinical trials, and statistical methods
- Researched and presented on machine learning enabled healthcare technology using clinical trials

September 2021 **Infectious Disease**, *University of New Mexico Hospital*, Albuquerque, NM, Preceptor: Renee Mercier, PharmD
- Assessed the value of new medications in the role of HIV management
- Rounded with infectious disease consult team, recommended treatment regimens, and monitored patient progress
- Presented complex patient cases and microbiology results to state-wide ECHO conferences

August 2021 **Advanced Hospital Pharmacy**, *Lovelace Westside Hospital*, Albuquerque, NM, Preceptor: Stephanie Herrera, PharmD

- Rounded with the medical team and made recommendations for inpatient medication treatment
- Evaluated patient pharmacokinetic laboratory parameters and adverse effects for warfarin, vancomycin, and remdesivir to inform therapeutic drug monitoring
- Participated in supply chain management

## Work Experience

2019–2020 **Pharmacy Tutor**, *UNM College of Pharmacy*, Albuquerque, NM

- Tutored pharmacy students weekly in their coursework
- Guided students to develop study skills and test preparation strategies

2016–2019 **Walgreens Specialty Pharmacy Intern/Technician**, *Lovelace Medical Center*, Albuquerque, NM

- Delivered and facilitate pharmacist consultation of discharge medications to the patient's bedside in the hospital
- Assisted in management of specialty medication cases

2015–2016 **Graduate Assistant-Instructor**, *New Mexico State University*, Las Cruces, NM

- Instructor for College Algebra and Calculus Labs
- Worked with other instructors to develop content for homework and exams
- Led study sessions for students to build skills and prepare for tests

## Leadership Roles

2023–Present **Elected Educational and Academic Lead and Co-Chair**, *Student Council of the International Society of Pharmacoepidemiology*

- Develop first annual student research challenge inviting students to submit research proposals and compete for prizes and recognition
- Collaborate with society fellows to host pharmacoepidemiology seminars on a quarterly basis

2018–2022 **Elected President of PharmD Class of 2022**, *UNM College of Pharmacy*, Albuquerque, NM

- Elected by classmates to lead the executive team and class in initiatives to foster community, professional development, and service opportunities
- Led an executive team to set and collect dues from members, plan events, and fundraise for class gifts, graduation regalia, and a celebration upon graduation
- Represented the class of 2022 to the student pharmacists council before the dean of the college and other leadership

2020–2021 **Elected President Student Pharmacist Council**, *UNM College of Pharmacy*, Albuquerque, NM

- Led planning efforts for the Community Outreach Day 2020; worked with other leaders to coordinate COVID-safe community service activities in NM for over 200 students, such as flu shot clinics, COVID education, and food donation
- Created a website to move all student outreach training online
- Led an executive team to organize and streamline all activities put on by the 15 separate student organizations at the college of pharmacy
- Disseminated information and regulations related to fundraising and event planning
- Maintained a calendar of events for the college

## Awards and Accomplishments

2024 **Travel Grant**, *ISPE Annual Meeting*, Berlin, Germany

2024 **Travel Grant**, *ISPE Midyear Meeting*, Orlando, FL

2019 **First Place Team-Clinical Research Challenge**, *UNM College of Pharmacy*, Albuquerque, NM

- Competed with a team of two other students to win the American College of Clinical Pharmacy's local competition
- Advanced to final round of national competitions and placed among top seven teams in the country

2018–2022 **Dean's Honor Role**, *UNM College of Pharmacy*, Albuquerque, NM

2018–2022 **Academic Scholarship Award**, *UNM College of Pharmacy*, Albuquerque, NM
Awarded to pharmacy students for outstanding academic achievements
$3,000 award, received annually

2019 **William C. Fiedler Scholarship**, *UNM College of Pharmacy*, Albuquerque, NM
Awarded to pharmacy students for academic achievement and community service
$1,000 award

2018 **Ghattas Family Scholarship**, *UNM College of Pharmacy*, Albuquerque, NM
Given to pharmacy students for academic achievement and community service
$1,000 award

## Licenses

New Mexico Pharmacy License RP00009814 2022–Present

Pennsylvania Pharmacy License RP457276 2022–Present

## Professional Memberships and Service

International Society of Pharmacoepidemology (ISPE) 2022–Present

Society for Epidemiologic Research 2022–Present

American Pharmacists Society 2021–Present

## Community Service

2018–2021 **Pharmacy Community Service**, Albuquerque, NM

- Administer COVID-19 vaccines
- Immunize patients at flu shot clinics
- Assess geriatric patients for fall risk and cognitive function, recommend appropriate follow-up measures including assistive devices and further screening