

HANNA PHAN, PHARM.D, FCCP, FPPA

Department of Clinical Pharmacy - The University of Michigan College of Pharmacy
Pharmacy Innovations & Partnerships – Pediatric Pulmonology, Cystic Fibrosis
C.S. Mott Children's Hospital - Michigan Medicine
1500 East Medical Center Drive, L2202 UH South
Ann Arbor, MI 48109-5212
Office: (734) 647-1629, Fax: (734) 936-4657
Email: hphan@med.umich.edu

LAST UPDATED: JUNE 2021

CHRONOLOGY OF EDUCATION AND TRAINING

UNDERGRADUATE AND GRADUATE/PROFESSIONAL EDUCATION:

Pre-Pharmacy College of Literature, Science, and Arts The University of Michigan Ann Arbor, Michigan	1997 – 1999
Doctor of Pharmacy (with Distinction) College of Pharmacy The University of Michigan Ann Arbor, Michigan	1999 – 2003

POST-GRADUATE TRAINING:

Postdoctoral Fellowship in Pediatric Pharmacotherapy Fellowship Director: Milap C. Nahata, PharmD, MS, FCCP, FPPA The Ohio State University, College of Pharmacy, Nationwide Children's Research Institute Columbus, Ohio	2006 – 2008
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BOARD CERTIFICATION:

Board Certified Pharmacotherapy Specialist (BCPS) Board of Pharmacy Specialties	2009 – 2016
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PROFESSIONAL DEVELOPMENT:

Focused Investigator Training (FIT) American College of Clinical Pharmacy (ACCP) Research Institute Salt Lake City, Utah	2009
Clinical & Translational Research Graduate Certificate Mel and Zuckerman College of Public Health The University of Arizona Tucson, Arizona	2010 – 2012

Pharmacist Mentorship Program Mentor Training Cystic Fibrosis Foundation	2014
Quality Improvement Training Cystic Fibrosis Foundation and Dartmouth Institute	2015 – 2016
Leadership and Management Certificate Program American College of Clinical Pharmacy (ACCP)	2016 – 2018
Interprofessional Leadership Fellow University of Michigan, Center for Interprofessional Education	2021-2022

PROFESSIONAL LICENSURE AND CERTIFICATIONS:

Michigan – Registered Pharmacist Licensure Controlled Substance License Preceptor License	2003 – Present
CITI Human Research Curriculum (Biomedical and Social Sciences)	2006 – Present
Ohio – Registered Pharmacist Licensure	2007 – Present
Teaching Certificate, The Ohio State University College of Pharmacy	2006 – 2008
Arizona – Registered Pharmacist Licensure	2008 – Present
Basic Life Support for Healthcare Professionals American Heart Association	2008 – Present
Certified Immunization Pharmacist American Pharmacists Association	2010 – Present

CHRONOLOGY OF PROFESSIONAL EXPERIENCE / EMPLOYMENT

ADMINISTRATIVE:

Residency Program Director, Postgraduate Year 2 Pediatric Pharmacy Residency Program Banner University Medical Center – Tucson, Diamond Children’s Tucson, Arizona	11/2009 – 6/2015
<ul style="list-style-type: none"> • Established the 1st pediatric PGY2 residency program in Arizona • Successful full accreditation during tenure as RPD 	
Assistant Department Head Department of Pharmacy Practice and Science The University of Arizona College of Pharmacy Tucson, Arizona	10/2018 –8/2020
<ul style="list-style-type: none"> ▪ Oversee department faculty mentoring program 	

- Point of contact/liaison for clinical practice site supervisors (Banner Health, El Rio Community Health Centers)
- Implemented team-centered process for revision of department metrics based on updated university and college strategic plan, finalized department metrics with department head
- Developed and implement annual department retreat

ACADEMIC:

<p>Assistant Professor (Non-Tenure Eligible) Department of Pharmacy Practice and Science The University of Arizona College of Pharmacy Tucson, Arizona</p>	<p>8/2008 – 6/2016</p>
<p>Faculty, Pharmacy Discipline Pediatric Pulmonary Center (MCHB Funded) The University of Arizona College of Medicine Tucson, Arizona</p>	<p>8/2009 – 8/2020</p>
<p>Assistant Professor (Joint Appointment) Section of Pediatric Pulmonary and Sleep Medicine Department of Pediatrics The University of Arizona College of Medicine Tucson, Arizona</p>	<p>8/2010 – 6/2016</p>
<p>Assistant Scientist (Joint Appointment) Asthma and Airway Disease Research Center (A2DRC) (Formally known as Arizona Respiratory Center) The University of Arizona Tucson, Arizona</p>	<p>5/2015 – 4/2017</p>
<p>Associate Professor Non-Tenure Eligible, 2016-2017; Tenure-Eligible, 2017-2020 Department of Pharmacy Practice and Science The University of Arizona College of Pharmacy Tucson, Arizona</p>	<p>7/2016 – 8/2020</p>
<p>Associate Professor (Joint Appointment) Section of Pediatric Pulmonary and Sleep Medicine Department of Pediatrics The University of Arizona College of Medicine Tucson, Arizona</p>	<p>7/2016 – 8/2020</p>
<p>Associate Research Scientist (Joint Appointment) Asthma and Airway Disease Research Center (A2DRC) The University of Arizona Tucson, Arizona</p>	<p>4/2017 – 8/2020</p>

Clinical Associate Professor (Adjunct Appointment) Department of Clinical Pharmacy The University of Michigan College of pharmacy Ann Arbor, Michigan	8/2018 – 8/2020
Clinical Associate Professor Department of Clinical Pharmacy The University of Michigan – College of Pharmacy Ann Arbor, Michigan	8/2020 – Present
Associate Professor (Designated Campus Colleague, Adjunct) Pharmacy Practice and Science The University of Arizona – College of Pharmacy Tucson, Arizona	9/2020 – Present
Faculty Affiliate, Susan B. Meister Child Health Evaluation and Research (CHEAR) Center Michigan Medicine, Division of General Pediatrics Ann Arbor, Michigan	4/2021 – Present

CLINICAL/PRACTICE:

Staff Pharmacist Southeast Michigan District (Detroit South); Walgreens Co.	7/2003 – 10/2003
Clinical Pharmacist Heartland Home Care and Hospice Livonia, Michigan	10/2003 – 10/2004
Pediatrics/Neonatal ICU Clinical Staff Pharmacist C.S. Mott Children’s Hospital University of Michigan Health System Ann Arbor, Michigan	10/2004 – 6/2006
Clinical Pharmacy Specialist Pediatric Pulmonology and Sleep; Adult Cystic Fibrosis Center Diamond Children’s, Banner University Medical Center – Tucson Tucson, Arizona	8/2008 – 8/2020
Clinical Pharmacist Specialist, Ambulatory Care Pharmacy Innovations & Partnerships Pediatric Cystic Fibrosis Center C.S. Mott Children’s Hospital, Michigan Medicine Ann Arbor, Michigan	8/2020 - Present

CONSULTATIVE:

Consultant, Clinical Specialist Wolters Kluwer, Lexicomp (Pediatric and Neonatal Lexi-Drugs)	2/2018 – Present
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PUBLICATIONS

(*SENIOR AUTHOR)

SCHOLARLY BOOKS:

Benavides S, **Phan H**, Nahata MC (eds). Pediatric Pharmacotherapy Self-Assessment. 1st Edition. Bethesda: American Society of Health-System Pharmacists. 2014. ISBN: 978-1-58528-424-5.

CHAPTERS IN SCHOLARLY BOOKS:

1. Whittington Goldstone L, Kennedy AK, Clark JS, **Phan H***. Developing and evaluating clinical pharmacy services. In Chisholm-Burns MA, Vaillancourt AM, Shepherd M (eds). Pharmacy Management, Leadership, Marketing, and Finance. 2nd ed. Burlington, MA: Jones & Bartlett Learning; 2012: 199-215.
2. Babico MA, **Phan H***. Toxicology. In: Benavides S, Phan H, Nahata MC (eds). Pediatric Self-Assessment. 1st Ed. Bethesda: American Society of Health System Pharmacists. 2014: 23-26.
3. Lashkar MO, **Phan H***. Asthma. In: Benavides S, Phan H, Nahata MC (eds). Pediatric Self-Assessment. 1st Ed. Bethesda: American Society of Health System Pharmacists. 2014: 33-35.
4. Even NM, **Phan H***. Anaphylaxis. In: Benavides S, Phan H, Nahata MC (eds). Pediatric Self-Assessment. 1st Ed. Bethesda: American Society of Health System Pharmacists. 2014: 17-
5. **Phan H**. Respiratory Distress Syndrome and Bronchopulmonary Dysplasia. In: Benavides S, Phan H, Nahata MC (eds). Pediatric Self-Assessment Online Edition. 1st Ed. Bethesda: American Society of Health System Pharmacists. 2014: 40-42.
6. **Phan H**. Cystic Fibrosis. In: Benavides S, Phan H, Nahata MC (eds). Pediatric Self-Assessment. 1st Ed. Bethesda: American Society of Health System Pharmacists. 2014: 36-39.
7. Lopliato AC, **Phan H**, Edwards CJ. Type 1 Diabetes Mellitus: Diabetic Ketoacidosis. In: Katz MD, Matthias KR, Chisholm-Burns MA, (eds). Pharmacotherapy: Principles and Practice Casebook. 4th Ed. New York City: McGraw-Hill. 2016: 189-192. (Note: also authored chapter in 1st (2010), 2nd (2012), and 3rd (2014) Ed)
8. **Phan H**. Asthma. PPA: Pediatric PharmPrep Advanced Guide (book online). 2nd ed (2016), Memphis, TN: Pediatric Pharmacy Association. (Note: also authored chapter in 1st Ed (2015))
9. **Phan H**, Murphy JE. Theophylline. In: Murphy JE (ed). Clinical Pharmacokinetics. 6th Edition. Bethesda: American Society of Health-System Pharmacists. 2017:351-364. (Note: also authored chapter in 5th (2011) Ed)

10. **Phan H**, O'Brien C. Cystic Fibrosis. In Murphy JE, Lee MW (ed). Lenexa: American College of Clinical Pharmacy. 2017; 41-66. Pharmacotherapy Self-Assessment Program (PSAP) 2016-2018: Pulmonary I.
11. **Phan H**, Murphy JE. Theophylline. In: Murphy JE (ed). Clinical Pharmacokinetics. 6th Edition. Bethesda: American Society of Health-System Pharmacists. 2017:351-364. (Note: also authored chapter in 5th (2011) Ed)
12. Nelson LC, **Phan H***. Pediatric Immunizations. In: Katz MD, Matthias KR, Chisholm-Burns MA (eds). Pharmacotherapy: Principles and Practice Study Guide: A Case-Based Care Plan Approach. 5th Ed. New York City: McGraw-Hill. 2019. 2nd (2012), 3rd (2014), and 4th (2016) Ed)
13. Even NM, **Phan H***. Cystic Fibrosis. In: Katz MD, Matthias KR, Chisholm-Burns MA (eds). Pharmacotherapy: Principles and Practice Study Guide: A Case-Based Care Plan Approach. 5th Ed. New York City: McGraw-Hill. 2019. (Note: also authored chapter in 3rd (2014), and 4th (2016) Ed)
14. Mruk AL, **Phan H***. Acute Asthma Exacerbation. In: Katz MD, Matthias KR, Chisholm-Burns MA, (eds). Pharmacotherapy: Principles and Practice Study Guide: A Case-Based Care Plan Approach. 5th Ed. New York City: McGraw-Hill. 2019. (Note: also authored chapter in 4th (2016) Ed)
15. Hobart CB, Daines MO, **Phan H***. Allergic Rhinitis. In: Katz MD, Matthias KR, Chisholm-Burns MA, (eds). Pharmacotherapy: Principles and Practice Study Guide: A Case-Based Care Plan Approach. 5th Ed. New York City: McGraw-Hill. 2019.
16. **Phan H**, Kuhn RJ. Cystic Fibrosis. In: Benavides S , Nahata MC (eds). Pediatric Pharmacotherapy. American College of Clinical Pharmacy. 2nd Ed. Lenexa, KS. 2020: 211-233. (Note: also authored chapter in 1st Ed (2013)).
17. **Phan H**, Nahata MC. Introduction to Pediatrics. In: Benavides S , Nahata MC (eds). Pediatric Pharmacotherapy. American College of Clinical Pharmacy. 2nd Ed. Lenexa, KS. 2020: 3-17. (Note: also authored chapter in 1st (2013: 3-17)).
18. Hobart CB, **Phan H**. Theophylline. In: Murphy JE (ed). Clinical Pharmacokinetics. 7th Edition. Bethesda: American Society of Health-System Pharmacists. 2021; In Press. (Note: also authored chapter in 5th Ed (2011), 6th Ed (2017))
19. **Phan H**, Pai VB, Nahata MC. Pediatrics. In: Chisholm-Burns MA, Wells BG, Schwinghammer TL, et al., (eds). Pharmacotherapy: Principles and Practice. 6th Ed. New York City: McGraw-Hill. 2021; In Press. (Note: also authored chapter in 2nd Ed (2010) and 3rd Ed (2013), 4th Ed (2016), 5th Ed (2018))
20. **Phan H**, Daines MO. Allergic Rhinitis. In: Chisholm-Burns MA, Wells BG, Schwinghammer TL, et al., (eds). Pharmacotherapy: Principles and Practice. 6th Ed. New York City: McGraw-Hill. 2021; In Press. (Note: also authored chapter in 5th Ed (2018))
21. **Phan H**, Daines CL. Cystic Fibrosis. In: Kellerman RD, Rakel D (eds). Conn's Current Therapy 2021. Elsevier. 3rd Ed. Philadelphia, PA. 2022; Under Review. (Note: also authored chapter in 1st Ed 2020, 2nd Ed (2021)).

REFEREED JOURNAL ARTICLES:

1. Kaakeh Y, **Phan H**, DeSmet B, Pasko DA, Glenn DK, Stevenson JG. Enhanced photoemission spectroscopy for verification of high-risk intravenous medications. *Am J Health Syst Pharm*. 2008; 65(1): 49-54.
2. **Phan H**, Nahata MC. Clinical uses of dexmedetomidine in pediatric patients. *Paediatr Drugs*. 2008; 10(1): 49-69.
3. **Phan H**, Casavant MJ, Crockett S, Lee A, Hall M, Nahata MC. Serotonin syndrome following a single 50 mg dose of sertraline in a child. *Clin Toxicol*. 2008; 14: 1-5.
4. **Phan H**, Moeller M, Nahata MC. Treatment of allergic rhinitis in infants and children: efficacy and safety of second-generation antihistamines and the leukotriene receptor antagonist montelukast. *Drugs*. 2009; 69: 2541-76.
5. **Phan H**, Leder M, Fishley M, Moeller M, Nahata MC. Off-label medication use and adverse drug events in patients in the pediatric emergency department. *Pediatr Emerg Care*. 2010;26(6):424-30.
6. Warholak TL, Queiruga C, Roush R, **Phan H**. Medication error identification rates of pharmacy, medical and, nursing students: A simulation. *Am J Pharm Ed*. 2011;75(2): 1-6.
7. Traylor BR, Wheatley CM, Skrentny TT, Foxx-Lupo WT, **Phan H**, Patanwala AE, Morgan WJ, Daines CL, Sprissler R, Snyder EM. Influence of Genetic Variation of the Beta-2-Adrenergic Receptor on Lung Diffusion in Patients with Cystic Fibrosis. *Pulm Pharmacol Ther*. 2011 Oct;24(5):610-6.
8. Kennedy MJ, **Phan H**, Benavides S, Potts A, Sorensen S. The role of the pediatric pharmacist in personalized medicine and clinical pharmacogenomics for children. *J Pediatr Pharmacol Ther*. 2011;16(2) 118-122.
9. Jasiak KD, **Phan H**, Christich AC, Edwards CJ, Skrepnek GH, Patanwala AE. Induction dose of propofol for pediatric patients undergoing procedural sedation in the emergency department. *Pediatr Emerg Care*. 2012;28: 440-442.
10. **Phan H**, Porter K, Nahata M. Prescribing trends for medications in the treatment of adolescents and young adults with Type 2 diabetes mellitus. *J Man Care Pharm*. 2012 Oct;18(8):607-14.
11. Bhatt-Mehta V, Buck ML, Chung AM, Farrington EA, Hagemann TM, Hoff DS, La Rochelle JM, Pettit RS, **Phan H**, Potts AL, Smith KP, Parrish RH 2nd. Recommendations for Meeting the Pediatric Patient's Need for a Clinical Pharmacist: A Joint Opinion of the Pediatrics Practice and Research Network of the American College of Clinical Pharmacy and the Pediatric Pharmacy Association. **[Dual Journal Publication]** *J Pediatr Pharmacol Ther*. 2012 Jul;17(3):281-91. **AND** *Pharmacother*. 2013 Feb;33(2):243-51.
12. Patanwala AE, Christich AC, Jasiak KD, Edwards CJ, **Phan H**, Snyder EM. Age-related Differences in Propofol Dosing for Procedural Sedation in the Emergency Department. *J Emerg Med*. 2013 Apr 44(4):823-8.

13. Wheatley CM, Morgan WJ, Cassuto NA, Foxx-Lupo WT, Daines CL, Morgan MA, **Phan H**, Snyder EM. Exhaled breath condensate detects baseline reductions in chloride and increases in response to albuterol in cystic fibrosis patients. *Clin Med Insights Circ Respir Pulm Med*. 2013 Dec 10;7:79-90.
14. Mueller EW, Bishop JR, Kanaan AO, Kiser TH, **Phan H**, Yang KY. Research Fellowship Programs as a Pathway for Training Independent Clinical Pharmacy Scientists. *Pharmacotherapy*. 2015 Mar;35(3):e13-9.
15. **Phan H**, Brown MA. Fluticasone Furoate for the Treatment of Childhood Asthma. *Expert Review of Respiratory Medicine*. Invited Review. 2015; 9(4): 391-404.
16. Wheatley CM, Baker SE, Daines CL, **Phan H**, Martinez MG, Morgan WJ, Snyder EM. Influence of the Vibralung Acoustical Percussor on pulmonary function and sputum expectoration in individuals with cystic fibrosis. *Ther Adv Respir Dis*. 2018;12:1-15. Jan-Dec;12:1753466618770997. doi: 10.1177/1753466618770997.
17. **Phan H**. Treatment complexity in cystic fibrosis (CF): An increasing multifaceted challenge. *Pediatr Pulmonol*. 2018;53(9):1174-1176.
18. Stultz JS, Knoederer CA, Manasco KB, Morgan JA, **Phan H**. Identification of factors associated with the desire to participate in a pediatric pharmacy practice-based research network. *J Pediatr Pharmacol Ther*. 2018;23(6): 485-491.
19. Hobart CB, **Phan H***. Pediatric to Adult Health Care Transition (HCT): Current Challenges and Recommended Practices. *Am J Health Sys Pharm*. 2019; 76(19): 1544-1554.
20. Hobart CB, Daines CL, **Phan H***. Developing Future Clinical Pharmacy Leaders in the Interprofessional Care of Children with Special Health Care Needs and Medical Complexity (CSHCN-CMC) in a Pediatric Pulmonary Center. *Children (Basel)*. 2019; 6: 135; <https://doi.org/10.3390/children6120135>
21. Butler SM, Boucher EA, Tobison J, **Phan H***. Medication Use in Schools: Current Status and Best Practices. *J Pediatr Pharmacol Ther*. 2020;25(1):7-24.
22. **Phan H**, Butler SM, Tobison J, Boucher EA. Medication Use in Schools: Pediatric Pharmacy Association (PPA) Position Statement. *J Pediatr Pharmacol Ther*. 2020; 25(2): 163-166.
23. Stranges PM, Jackevicius CA, Anderson SL, Bondi D, Danelich I, Englin EF, Hansen ML, Nys C, Patel RS, **Phan H**, Philbrick AM, Ranger M, Schumacher C, Smithgall S. Role of clinical pharmacists and pharmacy support personnel in transitions of care. *J Am Coll Clin Pharm*. 2020;3:532–545.
24. LaRochelle JM, Smith K, Benavides S, Bobo KS, Chung AM, Farrington E, Kennedy A, Knoppert D, Lee B, Manasco KB, Pettit R, **Phan H**, Potts AL, Sandritter TL, Hagemann T. Evidence demonstrating the pharmacist's direct impact on clinical outcomes in pediatric patients: An Opinion of the Pediatrics Practice and Research Network of the American College of Clinical Pharmacy. *J Am Coll Clin Pharm*. 2020; epub ahead of print: <https://doi.org/10.1002/jac5.1217>

25. Muralidharan P, Mallory EK, Malapit M, **Phan H**, Ledford JG, Hayes D, Mansour HM. Advanced design and development of nanoparticle/microparticle dual-drug combination lactose carrier-free dry powder inhalation aerosols. *RSC Advances*. 2020;10(68):41846-56. doi: 10.1039/D0RA07203F.
26. Muirhead C, Palmrose W, Condren M, Rotolo S, Pettit R, Gill M, **Phan H***. A Clinician Survey of Use Assessment, Documentation, and Education about Cannabis in Persons with Cystic Fibrosis. *Pediatr Pulmonol*. In Press.
27. Simple AJ, Lee, SE, Naureckas ET, Gudis DA, Meyer T, Hempstead SE, Resnick H, Albon S, Barfield W, Downer M, Elson EC, Garnis A, Halderman A, Hamburger L, Helmick M, McCown M, McKinzie C, **Phan H**, Rodriguez K, Rubenstein R, Severin A, Shah G, Shenoy A, Sprouse B, Virgin F, Woodworth BA, Senior BA. Cystic Fibrosis Foundation: Otolaryngology Guidelines. Under Review.
28. Enochs C, Filbrun A, Iwanicki C, Moraniec H, Lehmann J, Siffler J, Daher S, Tapley C, **Phan H**, Raines R, Nasr SZ. Development of an Interdisciplinary Telehealth Care Model in a Pediatric Cystic Fibrosis Center. *Pediatr Pulmonol*. Under Review.

OTHER PUBLICATION (ONLINE, ETC.)

Hobart CB, **Phan H**. "Elexacaftor/Tezacaftor/Ivacaftor (Trikafta): A New Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Modulator." *Pharmacotherapy Updates*. DiPiro, Joseph T. McGraw-Hill, 2020,
<https://accesspharmacy.mhmedical.com/updatesContent.aspx?qbosid=530406>

PUBMED BIBLIOGRAPHY:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/18GHaxZIOxp5m/bibliography/40408544/public/?sort=date&direction=ascending>

WEB OF SCIENCE - AUTHOR SEARCH TERM, CITATION REPORT: Phan, Hanna

AWARDED GRANTS / EXTRAMURAL FUNDING (*trainee supervised by Dr. Phan)

COMPLETED PROJECTS – PRINCIPAL INVESTIGATOR:

Prescribing trends for medications in the treatment of adolescents and young adults with Type 2 diabetes mellitus.

Source/Funding Agency: Takeda Pharmaceutical Company Ltd., Investigator Initiated Grant
Objective: Determine potential prescribing trends of medications in the treatment of adolescents and young adults with Type 2 diabetes using the National Ambulatory Medical Care Survey (NAMCS) from 1996-2005.

Collaborators: Nahata MC (PI), Porter K

Award Amount: \$74,000

Percent Effort: 10% (1.2 calendar months)

Award Period: July 1, 2007 – June 30, 2008

Role: Co-Principal Investigator

Translation of School-Based, Supervised Asthma Therapy into an Internet-Based, Clinician Tool

Source/Funding Agency: Health Resources and Services Administration, Maternal and Child Health Training Grant T76MC04925. University of Arizona, Mel and Zuckerman College of Public Health.

Objective: Develop a web-based tool for use in asthma education of school-aged children.

Collaborators: Gerald LB

Project Amount: \$5,000 (funding for application development)

Percent Effort: N/A

Award Period: May 1, 2011 – April 30, 2012

Role: Principal Investigator

Gender-associated perceived biases of pharmacy faculty

Source/Funding Agency: Seed Grant, The University of Arizona ADVANCE Program

Objective: Determine gender-associated perceived biases amongst Pharmacy Practice Faculty across the U.S. regarding recruitment, mentorship, and career development.

Collaborators: Matthias KR

Project Amount: \$5,500

Percent Effort: N/A (funding for project supplies and travel)

Award Period: July 1, 2011 – June 30, 2012

Role: Principal Investigator

Pharmacist Collaborative Practice in the Management of High-Risk Pediatric Asthma

Source/Funding Agency: New Investigator Grant. American Society of Health-System Pharmacists (ASHP) Research and Education Foundation

Objectives: 1) implement a novel practice model for the management of high-risk asthma patients utilizing collaborative practice within a multidisciplinary team and 2) evaluate patient outcomes using this practice model regarding: a) medication adherence, knowledge about asthma and its management; b) asthma-related clinical outcomes

Collaborators: Brown MA

Project Amount: \$19,967 (over 2 years)

Percent Effort: 1.5% (0.18 calendar months)

Award Period: May 1, 2014 – July 31, 2016

Role: Principal Investigator

Perspectives of Rural and Non-Rural Community Pharmacists in Pediatric Dosing and Recommendations

Source/Funding Agency: The University of Arizona College of Pharmacy Health Disparities Grant, Arizona Area Health Education Center.

Objective: Compare the perceptions of community pharmacists, in rural and non-rural settings, with regards to recommending, verifying, and providing caregiver education on medication use in the pediatric population. The study is expected to help identify possible avenues to provide additional education or support to pharmacists providing care to infants and children.

Collaborators: Hall-Lipsy (Co-PI), Hu J*, Lin G*

Project Amount: \$2,042

Percent Effort: N/A (funds for subject incentives, email listserv access)

Award Period: August 1, 2016 – July 31, 2017

Role: Principal Investigator

Medication Education in Cystic Fibrosis (CF) Care Centers: Perspectives of Persons with CF, Caregivers of Infants/Children/Adolescents with CF, and CF Healthcare Providers

Source/Funding Agency: The University of Arizona College of Pharmacy Health Disparities Grant, Arizona Area Health Education Center.

Objective: Evaluate current practices and preferences in medication education in CF care centers among adult persons with cystic fibrosis (CF), caregivers of infants/children/adolescents with CF, and specific CF health care providers (pharmacists, providers (e.g., MD, NP, PA), and nurses). The study is expected to help inform the CF community regarding medication education and coproduction of treatment plan development in the management of cystic fibrosis.

Collaborators: Seto D*, Romero-Aleshire J*, Eastep TG*, Bowen A, Sharpe A, Hall-Lipsy E
Project Amount: \$480

Percent Effort: N/A (funds for subject participant gift card raffle)

Award Period: February 2019 – June 2019

Role: Principal Investigator

Complementary Alternative Medicine (CAM), Cannabis, and Therapeutic Diets in Cystic Fibrosis (CF): Perspectives of Persons with CF, Caregivers of Infants/Children/Adolescents with CF, and CF Healthcare Providers

Source/Funding Agency: The University of Arizona College of Pharmacy Health Disparities Grant, Arizona Area Health Education Center.

Objective: Evaluate use and perspectives regarding CAM, cannabis, and therapeutic diets, as part of management of CF, amongst adult persons with cystic fibrosis (CF), caregivers of infants/children/adolescents with CF, and specific CF health care providers (pharmacists, nutritionists, providers (e.g., MD, NP, PA), and nurses). The study is expected to help inform the CF community regarding current use and perceptions about these alternative treatment modalities and how patients/caregivers and clinicians communicate about them as part of CF care.

Collaborators: Lam M*, Bradshaw S, Anderson K*, Bowen A, Sharpe A, Jackson K, Hall-Lipsy E, Anderson K*, Phan H.

Project Amount: \$1,440

Percent Effort: N/A (funds for subject participant gift card raffle)

Award Period: February 2019 – June 2019

Role: Principal Investigator

Expansion of Pharmacy Services in Accredited Adult and Pediatric Cystic Fibrosis (CF) Clinics

Source/Funding Agency: Award for a Pharmacist and/or Technician Grant. Cystic Fibrosis Foundation.

Objective: Implement an updated, outpatient clinical pharmacy practice model, involving an efficient expansion of pharmacist responsibilities paired with the addition of a certified pharmacy technician (CPhT) as part of the CF multidisciplinary care team. Our proposed outpatient clinical pharmacy practice model will enhance, 1) medication cost-effectiveness 2) medication access 3) communication with patients and/or caregivers and coproduction of care, and 4) transition of care between CF clinics, inpatient care, community/primary care practitioners, and payers.

Collaborators: Daines CL (PI)

Project Amount: \$200,880 over 3 years

Percent Effort: 10% (1.2 calendar months)

Award Period: October 31, 2016 – October 31, 2019

Role: Co-Principal Investigator

COMPLETED PROJECTS – CO-INVESTIGATOR OR OTHER ROLE:

Redesigning Inpatient Cystic Fibrosis Care

Source/Funding Agency: *Quality Improvement Project Grant*, Cystic Fibrosis Foundation

Objective: To develop and evaluate changes in the interdisciplinary care of adults and children with cystic fibrosis.

Collaborators: Daines CL (PI), Drake G, McGuire M, Parker M, Settle P, Werchan B

Project Amount: \$50,000 (over 2 years)

Percent Effort: 2% (0.24 calendar months)

Award Period: October 1, 2011 – September 30, 2013

Role: Co/Sub-Investigator

Integrating Pharmacy practice residents and student pharmacists into practice to promote innovative pharmacy services in San Luis

Source/Funding Agency: Training Center Grant, Arizona Area Health Education Centers (AHEC)

Objective: Develop a pharmacy residency program in a rural community with acute care and ambulatory care experiences.

Collaborators: Kennedy AK (PI), Matthias KR

Project Amount: \$615,819 (over 3 years)

Percent Effort: 5% (0.6 calendar months)

Award Period: September 1, 2011 – August 31, 2014

Role: Co-Investigator

Pediatric Pulmonary Center Training Grant

Source/Funding Agency: T72MC00012, Health Resources and Services Administration (HRSA), Maternal Child Health Bureau (MCHB)

Objective: To serve as a regional/national resource center for training and education of leaders in the care of children with chronic pulmonary disorders within the disciplines of medicine, pharmacy, nursing, nutrition, social work and respiratory therapy.

Collaborators: Brown MA Rascon L, Settle P, McGuire M

Project Amount: \$1,693,642 (over 5 years)

Percent Effort: 10% (1.2 calendar months)

Award Period: July 1, 2010 – June 30, 2015

Role: Sub-I, Pharmacy Discipline Faculty

Redesigning clinic workflow to improve outpatient cystic fibrosis care

Source/Funding Agency: *Quality Improvement Project Grant*, Cystic Fibrosis Foundation

Objective: To develop and evaluate changes in the interdisciplinary outpatient care of adults and children with cystic fibrosis.

Collaborators: Daines CL (PI), Drake G, McGuire M, Parker M, Settle P, Werchan B, Campion J, Ojo T.

Project Amount: \$24,000 (over 18 months)

Percent Effort: N/A. Travel support and Dartmouth Quality Improvement Training

Award Period: May 1, 2015 – October 31, 2016

Role: Co/Sub-Investigator

Pharmacokinetics and Tolerability of Telavancin at Differing Dosing Regimens in Cystic Fibrosis Adults Admitted with Acute Pulmonary Exacerbations.

Source/Funding: Harford Hospital; Theravance Pharma

Objective: Determine the multiple-dose pharmacokinetics of intravenous telavancin in adult CF participants with an acute pulmonary exacerbation, including develop a population pharmacokinetic modeling, assess the tolerability of multiple dose telavancin at selected doses, and calculate the probability of pharmacodynamic target attainment.

Collaborators: Kuti JL (Study PI), Pettit R, Cies J, Young D.

Project Amount and Percent Effort: competitive subject enrollment (\$4,651/per subject)

Award Period: May 9, 2018 – March 4, 2019

Role: Site Principal Investigator

Implementation of the Depression and Anxiety Guidelines: Award for A Mental Health Coordinator

Source/Funding Agency: Award for a Mental Health Coordinator. Cystic Fibrosis Foundation.

Objective: To develop a depression and anxiety screening (PHQ-9 and GAD-7) process, with a mental health coordinator (PhD in psychology) as part of evidence-based cystic fibrosis care. As part of this initiative, a novel collaborative practice model with psychology and clinical pharmacy will be provide opportunity for collaborative care with regards to pharmacological treatment of patients with CF.

Collaborators: Daines CL (PI), Bowen AL, McGuire M, Mees L

Project Amount: \$150,000 over 3 years

Percent Effort: 2% (0.24 calendar months)

Award Period: January 1, 2017 – December 31, 2019

Role: Sub-I, Clinical Pharmacy Expert, Research Methodology and Analysis

Success with Therapies Research Consortium CF Center Grant

Source/Funding Agency: Cystic Fibrosis Foundation

Objective: To serve as a selected CF center that participates in the consortium, aimed at research focused on therapy adherence. Participation includes development of consortium infrastructure, consortium study design and implementation, and evaluation of adherence approaches and tools by external entities.

Collaborators: Daines CL (PI)

Project Amount: \$75,000 (over 3 years)

Percent Effort: 5% (0.6 calendar months)

Award Period 1: 2014-2018; Award Period 2: 2018-2020

Role: Co-Principal Investigator

Pediatric Pulmonary Center Training Grant

Source/Funding Agency: T72MC00012, Health Resources and Services Administration (HRSA), Maternal Child Health Bureau (MCHB)

Objective: To serve as a regional/national resource center for training and education of leaders in the care of children with chronic pulmonary disorders within the disciplines of medicine, pharmacy, nursing, nutrition, social work and respiratory therapy.

Collaborators: Brown MA (PI until July 2016), Daines CL (PI from July 2016), Rascon L, Settle P, McGuire M

Project Amount: \$1,693,642 (over 5 years)

Percent Effort: 8% (0.96 calendar months)

Award Period: July 1, 2015 – June 30, 2020, Dr. Phan ended her role 8/30/2020

Role: Sub-I, Pharmacy Discipline Faculty

Feasibility of a Mobile Medication Plan Application in CF Patient Care

Source/Funding Agency: Success with Therapies Research Consortium (STRC) Pilot/Feasibility Award, Cystic Fibrosis Foundation

Objective: This is a pilot, multicenter, prospective, randomized controlled study to evaluate the feasibility of using a web-based, mobile application, as part of CF care, to encourage self-management by reinforcing adherence and education about treatment regimens in patients with CF (ages 12 years and older).

Collaborators: Daines CL (Co-PI)

Project Amount: \$850,000 (over 4 years)

Percent Effort: 25% (3 calendar months)

Award Period: January 1, 2016 – December 31, 2020

Role: Principal Investigator

CURRENT PROJECTS – PRINCIPAL INVESTIGATOR (PI) OR CO-PI:

Success with Therapies Research Consortium CF Center Grant

Source/Funding Agency: Cystic Fibrosis Foundation

Objective: To serve as a selected CF center that participates in the consortium, aimed at research focused on therapy adherence. Participation includes development of consortium infrastructure, consortium study design and implementation, and evaluation of adherence approaches and tools by external entities.

Collaborators: Butcher J, Nasr SZ (PIs)

Project Amount: n/a

Percent Effort: 3%

Award Period: 2020-2023

Role: Co-Investigator

CURRENT PROJECTS – CO-INVESTIGATOR OR OTHER ROLE:

An Asthma Collaboration to Reduce Childhood Asthma Disparities On The Navajo Nation

Source/Funding Agency: 1 U01 HL138689-010 Grant mechanism, National Heart, Lung and Blood Institute (NHLBI), NIH

Objective: The program will bring together 2 previously tested programs, tailored to address needs and requests we heard during an engagement year on the Navajo Nation: a) the Asthma Toolkit Program will provide training in evidence-based asthma care to providers in each IHS service unit; and b) the University of Arizona School Asthma Program will provide asthma education and care coordination through public and private schools. The overall goal is to build knowledge and programs to continue to care for children with asthma, with the Navajo Nation community, including children and their families, community leaders, health care providers and schools, once the intervention has ended.

Collaborators: Gerald LB (Co-PI), Bender BG (Co-PI), King D, Kobernick A, Liu A, Morgan WJ, Nez P, Simmons B, Lowe A, Solomon T.

Project Amount: \$4,598,574 over 6 years

Percent Effort: 10%

Award Period: August 15, 2017 – June 30, 2023

Role: Investigator (NIH, i.e., Co-Investigator)

ADDITIONAL CLINICAL RESEARCH EXPERIENCE

Multicenter Validation of Predictive Sputum Biomarkers in CF

Source/Funding Agency: Mountain West Cystic Fibrosis Consortium

Objective: To discover or confirm specific sputum biomarkers that indicate disease state and predict key clinical events in CF.

Collaborators: Daines CL (Site PI)

Dates: July 2014 – August 2016

Role: Site Co-I

Protocol NBTC02. A Randomized, Double-Blind, Parallel Group, Placebo-Controlled Study Investigating the Optimal Dose Regimen, Efficacy, and Safety of Adding Oral Cysteamine in Adult Patients with Cystic Fibrosis (CF) Being Treated for an Exacerbation of CF-associated Lung Disease

Source/Funding Agency: Cystic Fibrosis Therapeutics Development Network (TDN)

Objective: To determine the optimal dose of cysteamine based on the effect on sputum microbial load in exacerbations of CF-associated lung disease; investigate clinical endpoints (selection of appropriate questionnaires/scales for clinical benefit) for use in phase 3 development of cysteamine.

Collaborators: Daines CL (Site PI)

Dates: January 2017 – February 2020

Role: Site Sub-I

Protocol CFFC-OB-11. A Long-Term Prospective Observational Safety Study of the Incidence of and Risk Factors for Fibrosing Colonopathy in US Patients with Cystic Fibrosis Treated with Pancreatic Enzyme Replacement Therapy: A Harmonized Protocol Across Sponsors

Source/Funding Agency: Cystic Fibrosis Therapeutics Development Network (TDN)

Objective: To evaluate the incidence of Fibrosing Colonopathy (FC) in CF patients receiving PERT and to assess potential risk factors for FC.

Collaborators: Daines CL (Site PI)

Dates: January 2017 – July 2022, Dr. Phan ended her role 8/30/2020 due to change of institution

Role: Site Sub-I

EFC14153 - A randomized, double-blind, placebo-controlled, parallel group study to evaluate the efficacy and safety of dupilumab in children 6 to <12 years of age with uncontrolled persistent asthma.

Source/Funding Agency: Sanofi and Regeneron Pharmaceuticals, Inc.

Objective: To evaluate the efficacy of dupilumab in children 6 to <12 years of age with uncontrolled persistent asthma.

Collaborators: Daines M (Site PI)

Dates: March 2017- April 2018

Role: Recruiter

Protocol STOP2-IP-15. Standardized Treatment of Pulmonary Exacerbations II (STOP2)

Source/Funding Agency: Cystic Fibrosis Therapeutics Development Network (TDN)

Objective: To evaluate the efficacy and safety of differing durations of IV antibiotic treatment for CF pulmonary exacerbations.

Collaborators: Daines CL (Site PI)

Dates: April 2017 – February 2020

Role: Site Sub-I

Development of Standardized Measures of Barriers to Treatment Adherence: Field Testing and Psychometric Validation

Source/Funding Agency: Success with Therapies Research Consortium (STRC) Pilot/Feasibility Award, Cystic Fibrosis Foundation

Objective: The study objectives are to validate two newly developed measures: 1.) Barriers to Adherence Screener (BAS) assesses individual and systems-level barriers to aid in triaging patients into appropriate interventions and 2.) Adherence Barriers Questionnaires (ABQ) evaluates barriers related to Cystic Fibrosis treatments addressable by behavioral interventions (e.g., problem solving).

Collaborators: Daines CL (Site PI)

Dates: June 2017 – May 2018

Role: Site Sub-I

MEDIA

“New student organization, PediaCATS, founded.” By The University of Arizona College of Pharmacy Communications, The University of Arizona College of Pharmacy Website - <http://www.pharmacy.arizona.edu/stories/bulletin/new-student-organization-pediaccats-founded>. March 2010.

“Unusual device may aid cystic fibrosis patients.” By The University of Arizona College of Pharmacy Communications, The University of Arizona College of Pharmacy Website - <http://www.pharmacy.arizona.edu/features/alumni-donors/unusual-device-may-aid-cystic-fibrosis-patients>. October 2011.

“SMART Research: Designing a Meaningful (and Feasible) Study.” Pediatric Pharmacy Association (PPA) Research Bootcamp Webinar Series.

“Making lives better for kids with asthma.” By the University of Arizona College of Pharmacy Communications, The University of Arizona College of Pharmacy Website - <http://www.pharmacy.arizona.edu/features/faculty-staff/making-lives-better-kids-asthma>. February 2015.

“Tips for Long-Term Management of Cystic Fibrosis.” By Gina Shaw from *Pharmacy Practice News*. <http://www.pharmacypracticenews.com/Clinical/Article/12-15/Tips-for-Long-Term-Management-of-Cystic-Fibrosis/34504>. December 2015.

“Students, alumni land residency programs.” By the University of Arizona College of Pharmacy Communications, University of Arizona College of Pharmacy Website - <http://www.pharmacy.arizona.edu/stories/bulletin/students-alumni-land-residency-programs>. March 2016.

“Study: Majority of parents give children wrong dosage of medicine.” Tucson News Now. <http://www.tucsonnewsnow.com/story/33166313/study-majority-of-parents-give-children-wrong-dosage-of-medicine>. September 2016.

“Medication Use in Schools and The Role of Pharmacists.” Arizona Pharmacy Association CE Webinar. November 2017.

Students, alumni land residency programs. By the University of Arizona College of Pharmacy Communications, University of Arizona College of Pharmacy Website - <http://www.pharmacy.arizona.edu/news/2016/students-alumni-land-residency-programs>. February 2018.

UA Collaborative Research Project: Managing Asthma in Youth on the Navajo Nation By the University of Arizona College of Pharmacy Communications, University of Arizona College of Pharmacy Website - <http://www.pharmacy.arizona.edu/news/2018/ua-collaborative-research-project-managing-asthma-youth-navajo-nation>. April 2018.

A Pediatric Pharmacist's Approach to Safer Medication Practices. Pharmacy Practice News. <https://www.pharmacypracticenews.com/Clinical/Article/12-18/Serious-DDIs-Pose-a-Threat-To-Most-Vulnerable-Patients/53575>. December 2018.

Let's Talk About It: Complementary and Alternative Medicines and Supplements. Cystic Fibrosis Foundation Community Blog. <https://www.cff.org/CF-Community-Blog/Posts/2019/Lets-Talk-About-It-Complementary-and-Alternative-Medicines-and-Supplements/> March 2019.

PRESENTATIONS

(*SUBMITTED PRESENTATION, **INVITED PRESENTATIONS)

POSTER AND PLATFORM PRESENTATIONS – WITH PEER-REVIEWED, PUBLISHED ABSTRACTS:

1. Cassuto NA, Wheatley CM, Foxx-Lupo WT, Patanwala A, **Phan H**, Molina O, Daines CL, Morgan WJ, Snyder EM. Alveolar-capillary membrane conductance and pulmonary capillary blood volume during exercise in patients with cystic fibrosis. *Pediatr Pulmonol. Supplement 32, 2009:388.**
2. Cassuto NA, Wheatley CM, Foxx-Lupo WT, Patanwala A, **Phan H**, Molina O, Daines CL, Morgan WJ, Snyder EM. Influence of an inhaled β -agonist on exhaled Na⁺, K⁺, and Cl⁻ in humans. *Pediatr Pulmonol. Supplement 32, 2009:79.**
3. Traylor BR, Skrentny T, Foxx-Lupo WT, Wheatley CM, Cassuto NA, **Phan H**, Daines CL, Morgan WJ, and Snyder EM. Influence of an Inhaled B-agonist on Alveolar-Capillary Membrane Conductance and Oxygen Saturation in Patients with Cystic Fibrosis. *Am J Respir Crit Care Med 181;2010:A1827.**
4. **Phan H**. Hepatotoxicity, other adverse effects and CF drug therapy: risk versus benefit. *Pediatr Pulmonol. 2010; 33: 206-208.***
5. Wheatley CM, **Phan H**, Wong EC, Foxx-Lupo WT, Morgan M, Cassuto NA, Morgan WJ, Daines, CL, Snyder EM. Contribution of DLCO and DLNO measures at rest and peak exercise in explaining variability in changes in outpatient therapy secondary to acute exacerbations in CF. *Pediatr Pulmonol. Supplement 33, 2010:371.**
6. Wheatley CM, **Phan H**, Morgan M, Wong EC, Cassuto NA, Foxx-Lupo WT, Daines CL, Morgan WJ, Snyder EM. Pharmacogenetics of the alpha subunit of the epithelial Na⁺

channel on exhaled Na⁺ in response to albuterol in CF. *Pediatr Pulmonol. Supplement 33, 2010: 287.**

7. Wheatley CM, Cassuto NA, Foxx-Lupo WT, **Phan H**, Molina O, Daines CL, Morgan WJ, Snyder EM. Influence of an Inhaled Beta-Agonist on Exhaled Na⁺, K⁺, and Cl⁻ in Patients with Cystic Fibrosis. *Am J Respir Crit Care Med 181;2010:A1839.**
8. Herko KK, Gutherie BT, **Phan H**, Wheatley CW, Foxx-Lupo WT, Morgan MA, Daines CL, Morgan WJ, Snyder EM. Genetic Variation of the Beta-2 Adrenergic Receptor and the Bronchodilatory Response to Albuterol in Patients with Cystic Fibrosis. *Pediatr Pulmonol. 2011 Oct;46 Suppl 34:273.**
9. Daines CL, **Phan H**, McGuire M, Parker M, Settle P, Werchan B, Drake G. Impact of a dedicated respiratory care team on inpatient pulmonary outcomes. *Pediatr Pulmonol. 2013 Sept; 48 Suppl 36:392.**
10. Daines CL, Drake G, McGuire M, Parker M, Settle P, Werchan B, **Phan H**. Redesigning inpatient cystic fibrosis care. *Pediatr Pulmonol. 2013 Sept; 48 Suppl 36:392.**
11. Wheatley CM, Baker SE, Daines CL, **Phan H**, Morgan WJ, Snyder EM. Influence of the vibralong device on Pulmonary function and sputum expectoration in patients with cystic fibrosis. *Pediatr Pulmonol. 2013 Sept;48 Suppl 36:357.**
12. Weddle P, Warholak TL, **Phan, H**. Pediatric Education Diagnosis Survey (PEDS): Analyzing Pediatric Education within PharmD Program in the US. *Pharmacotherapy. 2013;33(10): E197-198.**
13. **Phan H**, Babico M, George A, Foxx-Lupo WT, Drake RT, Kleifgen B, Daines CL. Pharmacist impact on inpatient drug therapy as part of the interdisciplinary cystic fibrosis team. *Pharmacotherapy. 2015; 35 (11): E225-226.**
14. **Phan H**, Cruz V, Drake G, McGuire M, Werchan B, Settle P, Werchan A, Champion J, Daines CL. Redesigning clinic workflow to improve outpatient cystic fibrosis care. *Pediatr Pulmonol. 2016; Oct:45 Suppl: 474.***
15. Malapit M, Mallory EK, Muraalidharan P, **Phan H**, Hayes Jr. D, Mansour HM. In vitro aerodynamic analysis of co-spray dried fluticasone propionate (FPP) and salmeterol xinafoate (SX) dry powder inhalation aerosols with lactose-alternative excipient. *Am J Respir Crit Care Med 2017; 195: A6271.**
16. Miller TW, Limke K, Robertson R, Cash C, **Phan H**. Evaluation of Medication-Related Risk Factors and Pediatric Hospital Readmissions. *Pharmacother. 2017; 37(12): E198-199.**
17. Hu J, Lin G, Hall-Lipsy H, **Phan H**. Perspectives of rural and non-rural Arizona community pharmacists on pediatric dosing and recommendations. *Pharmacother. 2017; 37(12): E199.**
18. Bowen AM, McGuire M, Mees L, Davidson R, Celaya T, Faqeer Z, Lopez, DJ, Nguyen, C, Ojo T, Daines CL, **Phan H**. Coproduction in the development and implementation of a behavioral health screening program in a CF care center. *Pediatr Pulmonol. 2017;52 Suppl 47:387.**

19. Repholz A, Matthias KR, Sivinski J, Lew D, Tien Q, Daines, CL, **Phan H**. Extended infusion of beta-lactams in the treatment of acute pulmonary exacerbations in cystic fibrosis: a pilot evaluation of safety and efficacy outcomes. *Pediatr Pulmonol*. 2017;52 Suppl 47:504.*
20. **Phan H**, Hobart C, Tongchinsub PP, Daines MO. Combination omalizumab and mepolizumab in an adolescent with severe persistent allergic asthma. *American Journal of Respiratory and Critical Care Medicine* 2018;197:A5577.*
21. **Phan H**, Sawicki GS, Quittner AL, Daines CL, Nasr SZ, Butcher JL, Psoter K, Riekert KA. Medication beliefs among adolescent and adult patients prescribed cystic fibrosis transmembrane protein regulator (CFTR) modulators. *Pediatr Pulmonol*. 2018;53: 425.*
22. **Phan H**. Considerations in the safety and efficacy of dietary supplements intended to promote lung health. *Pediatr Pulmonol*. 2018; 53: 65-66.**
23. Deshpande D, **Phan H**, M. Borgstrom R. Miller, Brown MA. Caregiver knowledge as a predictor of length of stay in children hospitalized with asthma exacerbations [Abstract]. *Ann Allergy Asthma Immunol*, 2018 Nov; 121(5), supplement, S9.*
24. Lowe AA, Gerald JK, Black S, Begay J, **Phan H**, Bender B, Gerald LB. Caregiver Reported Asthma Outcomes of School-Age Navajo Children in Tuba City, Arizona. *Am J Respir Crit Care Med*. 2019; 199:A4071.*
25. Lam M, Bradshaw S, Seto D, Sharpe A, Jackson K, Hall-Lipsy E, Bowen A, **Phan H**. Use And Perspectives of Complementary Alternative Medicine in the Cystic Fibrosis Community. *Pediatr Pulmonol*. 2019; 54(2): 376.*
26. Seto D, Romero-Aleshire J, Eastep T, Bowen A, Sharpe A, Hall-Lipsy E, **Phan H**. Medication Education in Cystic Fibrosis (CF) Care: Perspectives Of Key Stakeholders in the CF Community. *Pediatr Pulmonol*. 2019; 54(2): 379-380.*
27. Murihead C, Palmrose Q, Condren M, Rotlolo SM, Pettit RS, Gill M, **Phan H**. Survey: Evaluation, Documentation, and Education about Cannabis Use in Cystic Fibrosis. *Pediatr Pulmonol*. 2019; 54(2):379.*
28. **Phan H**, Aina B, Liu AH, Kobernick A, Bryson D, Lowe AA, Gerald LB, Bender BG. Pharmacists' Contributions in A Community Asthma Program In Navajo Nation, NNR-16.247. *Am J Respir Crit Care Med* 2020;201:A4280
29. Frederick, CA, Dunn KM, Green A, Hall S, Lindwall J, Maggs J, Moffett K, **Phan H**, Prickett M, Saavedra MT, Oates GR. Perspectives of The CF Community on Research Ideas Related to Self-Management and Adherence. *Pediatr Pulmonol*. 2020; 55(S2): 271.
30. **Phan H**, Daines CL, Woo T, Goodman, A, Sawicki GS, Riekert KA. Design And Validation Of The CF Medication Questionnaire (CF-MQ). *Pediatr Pulmonol*. 2020; 55(S2): 264.

POSTER PRESENTATIONS – NON-ABSTRACTED:

1. **Phan H**, Pai VB, Stephens, JS, Puthoff T, Nahata MC. Safety and efficacy of inhaled aminoglycoside in mechanically ventilated premature infants for the treatment of

symptomatic Gram-negative bacilli tracheitis. Poster Presentation. ACCP Annual Meeting. Denver, Colorado. October 2007.*

2. **Phan H**, Pai VB, Mehta B, Rescheke K, McDowell M, Cable G, Nahata MC. Basic pharmacotherapy knowledge of child care providers on general pediatric health care, asthma, and diabetes mellitus: A pilot study. Poster Presentation. ASHP Midyear Clinical Meeting. Las Vegas, Nevada. December 2007.*
3. **Phan H**, Griffith J, Casavant MJ, Nahata MC, Baker SD. Evaluation of zolpidem exposures in the pediatric population. Original Research Poster Presentation. North American Congress of Clinical Toxicology (NACCT) Annual Meeting, Toronto, Ontario, Canada, September 2008.*
4. **Phan H**, Porter K, Nahata M. Prescribing trends for medications in the treatment of adolescents and young adults with Type 2 diabetes mellitus. Academy Managed Care Pharmacy (ACMP) Educational Meeting. San Antonio, TX. October 2009.*
5. **Phan H**, Matthias KR. Gender-Associated Perceptions of Pharmacy Practice Faculty. Original Research Poster Presentation. American Association of Colleges of Pharmacy, Annual Meeting, Chicago, IL, July 2013.*
6. Smith AV, Matthias KR, **Phan H**. Evaluating treatment options for NAP1 versus non-NAP1 strains of Clostridium difficile infection among pediatric patients at an academic hospital. Pediatric Pharmacy Association (PPA) Annual Conference. Indianapolis, Indiana. May 2013.*
7. Cooley JH, Bhattacharjee S, **Phan H**. Career Preparation for PharmD Students: From Job Networking to Enhancing Interviewing Skills. AACP School Poster Presentation. AACP Annual Meeting. Anaheim, CA. July 2016.*
8. **Phan H**, Brown MA. Pharmacist collaborative practice in the management of high-risk pediatric asthma. Professional Poster Presentation, Evaluative Study. American Society of Health-System Pharmacists Midyear Clinical Meeting. Las Vegas, NV. December 2016.*
<http://www.ashp.org/menu/Events/Conferences/Abstract-Archives>
9. Cooley JH, Cameron CK, Bhattacharjee S, **Phan H**. Helping PharmD Students Develop Self-Awareness: A Longitudinal Approach. AACP School Poster Presentation. AACP Annual Meeting. Nashville, TN. July 2017.*

INTERNATIONAL PRESENTATIONS (LECTURES/PLATFORMS):

1. "Drug Toxicity in Cystic Fibrosis (CF): Hepatotoxicity, Other Adverse Effects, and CF Drug Therapy: Risk versus Benefit." Symposium Session. North American Cystic Fibrosis Conference. Baltimore, Maryland. October 2010.**
2. "What & Why in Drug Therapy: An International Approach." North American Cystic Fibrosis Conference. Orlando, Florida. October 2011.**

3. "Cystic Fibrosis Drug Therapy for the Non-Pharmacist – Issues and Answers." Short Course Lecture. Presented at the Annual North American Cystic Fibrosis Conference. Orlando, Florida. October 2012.**
4. "Pediatric Pharmacotherapy." India Association of Colleges of Pharmacy Annual Meeting. Hyderabad, India. October 2013.**
5. "PharmD Curriculum and the Path to Clinical Pharmacy Practice in U.S." Visiting Professor Lecture to Faculty and Students. Malla Reddy College of Pharmacy. Hyderabad, India. October 2013.**
6. "Cystic Fibrosis (CF) Collaborative Research – Path to a Future Practice Research Based Network for CF Pharmacists." North American Cystic Fibrosis Conference. Baltimore, MD. October 2013.**
7. "The CF Pharmacist Practice Based Research Network (PBRN)." North American Cystic Fibrosis Conference. Atlanta, Georgia. October 2014.**
8. "The CF Pharmacist Practice Based Research Network (PBRN): Updates and Brainstorming." North American Cystic Fibrosis Conference. Phoenix, Arizona. October 2015.**
9. "Easier Said Than Done: Adherence." Clinical Controversies in CF Care, Pharmacist Discipline Session. Session Chair and Speaker. Pharmacist Discipline Session. North American Cystic Fibrosis Conference. Phoenix, Arizona. October 2015.**
10. "To Take or Not to Take: A Practical Approach to Adherence." Roundtable Session Leader. Annual North American Cystic Fibrosis Conference. Orlando, FL. October 2016.**
11. "The CF Pharmacist Practice-Based Research Network: 2015-16 Updates & New Study Ideas." Session Chair and Speaker. Pharmacist Discipline Session. North American Cystic Fibrosis Conference. Orlando, FL. October 2016.**
12. "Redesigning Clinic Workflow to Improve Outpatient Cystic Fibrosis Care." Invited Platform, Workshop Session. North American Cystic Fibrosis Conference. Orlando, FL. October 2016.**
13. "The CF Pharmacist Practice-Based Research Network: 2017 Updates & New Study Ideas." Session Chair and Speaker. Pharmacist Discipline Session. North American Cystic Fibrosis Conference. Indianapolis, IN. November 2017.**
14. "Sustaining Daily Care." Clinical Roundtable. North American Cystic Fibrosis Conference. Indianapolis, IN. November 2017.**
15. "Coproduction in the development and implementation of a behavioral health screening program in a CF care center." Invited Platform, Workshop Session. North American Cystic Fibrosis Conference. Indianapolis, IN. November 2017.**
16. "Gastroesophageal Reflux in CF." Advanced Pharmacology for the CF Provider. Short course leader and faculty. North American Cystic Fibrosis Conference. Denver, CO. October 2018.**

17. “Controversial Practices: Helpful or Harmful.” Invited Symposium Speaker. North American Cystic Fibrosis Conference. Denver, CO. October 2018.**
18. “Pharmacogenomic Principles of Cystic Fibrosis and Interstitial Pulmonary Fibrosis” American College of Clinical Pharmacy (ACCP) Global Conference. Seattle, WA. October 2018.**
19. “Not Your Cookie Cutter Case: Complex Case Scenarios in Advanced CF Pharmacotherapy.” Short course leader and faculty. North American Cystic Fibrosis Conference. Nashville, TN. October 2019.**
20. “Caring for CF Patients Across the Continuum” Discipline Session Speaker. North American Cystic Fibrosis Conference. Nashville, TN. November 2019.**

NATIONAL PRESENTATIONS (LECTURES/PLATFORMS):

1. “Cultural Considerations in Clinical Practice.” Annual Pediatric Pharmacy Association (PPA) Meeting. Memphis, Tennessee. March 2011.**
2. “Pediatrics and Geriatrics: Integration or Specialization in the Curriculum?” American Association of Colleges of Pharmacy Annual Meeting. San Antonio, Texas. July 2011.**
3. “Drug Dosing in Critically Ill Obese Pediatric Patients.” American Society of Health-System Pharmacists (ASHP) Summer Meeting. Baltimore, Maryland. June 2012.**
4. “Late Breakers: Pediatrics – D is for Deficiency in the PICU.” American College of Clinical Pharmacy (ACCP) Annual Meeting. Hollywood, Florida. October 2012.**
5. “Pediatrics: Little Patients, Big Rewards.” Student Session. Pediatric Pharmacy Association (PPA) Annual Conference. Indianapolis, Indiana. May 2013.**
6. “Drug Dosing in Obese Pediatric Patients.” American Society of Health-System Pharmacists (ASHP) Summer Meeting. Minneapolis, Minnesota. June 2013.**
7. “Transitioning from PGY2 Resident to PGY2 Preceptor.” American Society of Health-System Pharmacists (ASHP) Summer Meeting. Minneapolis, Minnesota. June 2013.**
8. “Little Patients, Big Dilemmas: Updates in Pediatrics.” American College of Clinical Pharmacy (ACCP) Annual Meeting. Albuquerque, New Mexico. October 2013.
(MODERATOR)
9. “Off-Label Use in the Health System: Focus on Pediatrics.” American Pharmacists Association (APhA) Annual Meeting. Orlando, Florida. March 2014.**
10. “Patient Safety In Special Populations: A Focus on Drug Dosing in Obesity – Pediatrics.” American Society of Health-System Pharmacists (ASHP) Midyear Clinical Meeting. Anaheim, California. December 2014.**
11. “Pediatric Pulmonology.” Presented at the 2105 Fall Pediatric Pharmacy Association (PPA) Meeting, Board Certification Board Preparation Course. Houston, Texas. September 2015.**

12. "Take Good Care: Managing Children's Medications." American Pharmacists Association (APhA) Annual Meeting. Baltimore, MD. March 2016.**
13. MCHB Pediatric Pulmonary Center (PPC) Update: The University of Arizona PPC. MCHB Pediatric Pulmonary Center Annual Meeting. Bethesda, MD. March 2016.*
14. "Best Practices for Pharmacists When Caring for Pediatric Patients." American Pharmacists Association (APhA) Annual Meeting. Baltimore, MD. March 2017.**
15. "To Inhale or Not to Inhale: Insights into Aerosolized Medications in the Pediatric Population." American College of Clinical Pharmacy Annual Meeting. Phoenix, AZ. October 2017.**
16. "Do it for the Kids: Off-Label and Specialty Medication Management in Pediatrics." American Pharmacists Association (APhA) Annual Meeting. Nashville, TN. March 2018.**
17. "Myths and Truths of Medication Use in Children." American Pharmacists Association (APhA) Annual Meeting. Seattle, WA. March 2019.**
18. "How Pharmacists Can Support Safe Medication Use in Schools." American Pharmacists Association (APhA) Annual Meeting. Washington DC. March 2020.**

REGIONAL, STATE, AND LOCAL PRESENTATIONS (LECTURES/PLATFORMS):

1. "Behavior Issues in Children: Major Depressive Disorder and ADHD." Presented at the Annual Southwest Clinical Pharmacy Seminar. Tucson, Arizona. February 2009.**
2. "Pediatric Seizures 101 - Clinical Pearls for the Non-Pediatric Pharmacist." Presented at the Arizona Pharmacy Alliance, Health-System Academy Conference. Phoenix, Arizona. April 2010.**
3. "Pharmacotherapy Management of Allergic Bronchopulmonary Aspergillosis." Presented to Physician Faculty, Residents, and Fellows. Arizona Respiratory Center, The University of Arizona College of Medicine. Tucson, Arizona. June 2010.**
4. "Medications in School." Annual Arizona School Healthcare Conference. Phoenix, Arizona. September 2011.**
5. "Medication Adherence." Presented to physicians, nurses, social workers, and pharmacists. The University of Arizona Pediatric Pulmonary Center. Tucson, Arizona. January 2012.**
6. "Controversies about Medications and Asthma: From Literature to Practice." Presented at the Annual Southwest Clinical Pharmacy Seminar. Tucson, Arizona. March 2012.**
7. "Discovering Tomorrow." Keynote Address, 2012 Lotus Laureate Graduation Convocation. Asian Pacific American Student Affairs, The University of Arizona. Tucson, Arizona. May 2012.**
8. "Cystic Fibrosis Drug Therapy 101." Presented to physicians, nurses, social workers, and pharmacists. The University of Arizona Pediatric Pulmonary Center. Tucson, Arizona. June 2012.**
9. "Updates in Acute Care and Outpatient Therapy in Pediatric Patients." Presented at the Arizona Pharmacists Association Annual Meeting. Tucson, Arizona. June 2013.**

10. "Cystic Fibrosis Drug Therapy: A Review." Presented to physicians, nurses, social workers, and pharmacists. The University of Arizona Pediatric Pulmonary Center. Tucson, Arizona. September 2013.**
11. "Cystic Fibrosis: Drug Therapy Dilemmas and Interdisciplinary Solutions." Grand Rounds at Phoenix Children's Hospital. August 2013.**
12. "Medication Adherence in Pediatric Patients." Grand Rounds at Phoenix Children's Hospital. August 2013.**
13. "Medication Use in School: Clinical & Legal Issues." Annual Arizona School Healthcare Conference. Tucson, Arizona. February 2014.**
14. "A Breath of Fresh Air: Updates in Pediatric Asthma and Bronchiolitis." Presented at the Annual Southwest Clinical Pharmacy Seminar. Tucson, Arizona. March 2014.**
15. "Medication Use in the School Setting." Presented at the Annual Region XI School Healthcare Training Event, San Diego, California. June 2014.**
16. "Side Effects of Inhaled Corticosteroids: Should We Worry?" Presented at the Annual Arizona School Healthcare Conference. Phoenix, Arizona. February 2015.**
17. "Pharmacotherapy Therapy Through the Lifespan I: Very Young and School-Aged Children." (9th Annual Arizona Asthma & Allergy Clinical Conference. Mesa, Arizona. October 2015.**
18. "Medications in the School Setting." Annual Arizona School Healthcare Conference. Tucson, Arizona. January 2016.**
19. "Asthma Pharmacotherapy in Very Young and School-Aged Children." 49th Annual Southwest Clinical Pharmacy Seminar. Tucson, AZ. February 2016.**
20. "Alternative treatment options for pediatric seizure disorders." California School Nurse Association Conference. San Jose, CA. April 2016.**
21. "Asthma management in the school setting." Sunnyside School District. Tucson, AZ. August 2016.
22. "The new kids on the block for pharmacists: biologics in management of asthma." Arizona Asthma Coalition Conference. Pharmacist Track Session. Phoenix, AZ. October 2016.**
23. "What's new on the horizon for management of asthma? An update on biologics in management of asthma." Clinical Track Session (MD/DO/NP/PA). Arizona Asthma Coalition Conference. Phoenix, AZ. October 2016.**
24. "The role of interprofessional teams in managing asthma & allergy: a panel discussion." Arizona Asthma Coalition Conference. Phoenix, AZ. October 2016.**
25. "Medication Use in Schools." Sunnyside School District. Tucson, AZ. March 2017.**
26. "Navigating the Muddy Waters of Drug Interactions in CF Drug Therapy." Mountain West Cystic Fibrosis Conference. Birmingham, Alabama. March 2017.**

27. "Asthma management in the school setting." Amphi School District. Tucson, AZ. April 2017.**
28. "Partnerships with Patients and Families: Coproduction of Asthma Management." Arizona Asthma Coalition Conference. Phoenix, AZ. October 2017.**
29. "Medication Use in Schools: An Update on the Stock Inhaler Program." Annual Arizona School Healthcare Conference. Tucson, Arizona. January 2018.**
30. "Easier Said Than Done: Easier Said than Done - Adherence: Evidenced Based Approaches and Future Directions." Arizona Asthma Coalition Conference. Phoenix, AZ. October 2019.**

HONORS AND AWARDS

- 2007 **Honorary Mention**, President's Salute for Teaching, Undergraduate Programs
The Ohio State College of Pharmacy, College of Pharmacy
- 2009 **Co-Recipient**, Pharmacy Practice Literature Award
ASHP Research and Education Foundation
Kaakeh Y, Phan H, DeSmet B, Pasko DA, Glenn DK, Stevenson JG. Enhanced photoemission spectroscopy for verification of high-risk intravenous medications. Am J Health Syst Pharm. 2008; 65(1):49-54.
- 2012 **Recipient**, Spirit of PPA Award
Pediatric Pharmacy Association (PPA)
- 2012 **Recipient**, Exemplary Patient Care Award
Arizona Pharmacists Association
- 2014 **Recognition for Service**, Research Committee
Pediatric Pharmacy Association (PPA)
- 2015 **Recipient**, Presidential Citation Award
Pediatric Pharmacy Association (PPA)
- 2015 Nominee, Clinical Sciences Educator of the Year
2016 The University of Arizona College of Pharmacy
- 2015 Nominee, Theodore G. Tong Distinguished Leadership and Service Award
The University of Arizona College of Pharmacy
- 2016 **Recipient**, Theodore G. Tong Distinguished Leadership and Service Award
The University of Arizona College of Pharmacy
- 2016 **Fellow (FCCP)**, American College of Clinical Pharmacy (ACCP)
- 2018 **Fellow (FPPA)**, Pediatric Pharmacy Association (PPA)

- 2019 **Recipient**, ACCP Pediatric Practice and Research Network Achievement Award 2019| Recognizes one full ACCP and member of the Pediatric PRN (≥ 10 years) annually who:
- Demonstrated leadership in pediatric pharmacy
 - Sustained a high level of contribution related to practice, education, research, service, and/or advocacy in pediatric pharmacy
 - Has maintained a high level of active service and contributions within ACCP and the Pediatric PRN.

DIDACTIC TEACHING

THE UNIVERSITY OF ARIZONA, COLLEGE OF PHARMACY:

- 2021 – Present **P730 PharmD Seminar** (mentor 2, 4th year PharmD students/year)
P719-739 PharmD Investigations (mentor 1-2, PharmD students/year)
P602 Therapeutics II
 Topics: Asthma, COPD
P620 Pharmacotherapeutics
 Topics: Asthma, COPD, Allergic Rhinitis
- 2019 – 2020 **PCOL 310 Drug Approval: The 3 Billion Dollar Bet**
 Topic: Clinical Trials – Perspectives of a Clinician and Investigator
- 2016 – 2020 **PhPr 875a Pathophysiology and Therapeutics I (Lecturer)**
 Topics: Acute Otitis Media, Pharyngitis, Sinusitis, Pediatric
 Community Acquired Pneumonia, Cystic fibrosis (acute
 exacerbation), Bronchiolitis, Croup, Pertussis
- 2015 – 2019 **PhPr 814 (section 001), Preventive Health (Lecturer and Course Co-
Coordinator)**
 Topics: Immunizations, Adult Prevention/Screenings, and
 Maternal/Child Health
- 2014 – 2019 **PhPr 828 Pharmacy Health Disparities in the U.S. (Lecturer)**
 Topics: Maternal & Child Health: Impact of Life Course on Health
- 2009 – 2019 **PhPr 814 (section 002/003), Preventive Health (Course Coordinator &
Lecturer)**
 Topics: Immunizations, Pediatric Preventive Care
- PhPr 875a, Pathophysiology and Therapeutics I (Case discussion
Facilitator)**
- PhPr 805b, Introduction to Pharmacy Practice (Lecturer)**
 Topics: Pediatric Pharmacy Practice
- PhPr 811, Advanced Patient Care (Lecturer)**
 Topics: Asthma

- 2010 – 2019 **PhPr 875b Pathophysiology and Therapeutics II (Lecturer)**
Topics: Pediatrics 101, Drugs and Lactation, Infant Nutrition/Formulas, Autism, Common Pediatric Infectious Diseases, Accidental Exposures, Congenital Heart Disease, Conjunctivitis, Asthma, Enuresis, Cystic Fibrosis (chronic care), Nephrotic Syndrome, Neonatal Sepsis
- 2009 – 2011 **PhPr 812, Nonprescription Medications and Devices (Lecturer)**
Topics: Pediatrics and Self-Care/OTC
- PhPr 887, Individualized Medicine: Applied Pharmacogenetics for Pharmacy Students (Lecturer)**
Topics: Cystic Fibrosis and Asthma
- PhPr 845, Medication Use and the US Health Care System (Lecturer)**
Topics: Pediatrics in the Health-Care System
- PhPr 822, Pharmacology and Pharmaceutical Chemistry (Case Discussion Facilitator)**
- 2008 – 2010 **PhPr 801a, Introductory Pharmacy Practice Experience (Facilitator)**
PhPr 875c Pathophysiology and Therapeutics II (Lecturer, Pediatrics Module Coordinator, and Case Discussion Facilitator)
Topics: Introduction to Pediatrics, Cystic Fibrosis, Common Pediatric Respiratory Illnesses, Acute Otitis Media, Accidental Exposures, Patent Ductus Arteriosus, Neonatal Sepsis

THE UNIVERSITY OF ARIZONA, SCHOOL OF SOCIOLOGY :

- 2016 **CHS 306, Inter-Professional Care**
Topics: Beyond the Pharmacy Counter (Clinical Pharmacy 101)

THE UNIVERSITY OF ARIZONA, COLLEGE OF MEDICINE:

- 2008 – 2020 **MED 821, Life Course (Lecturer)**
Topics: Introduction to Pediatric Pharmacology

THE OHIO STATE UNIVERSITY, COLLEGE OF PHARMACY:

- 2006 – 2008 **PH 734D, Clinical Pharmacokinetics, Recitation facilitator**
- PH 781, Pathophysiology and Therapeutics V (Lecturer and case discussion facilitator)**
Topic(s): Endocarditis, Meningitis
- PH 782, Pathophysiology and Therapeutics VI (Lecturer and case discussion facilitator)**
Topic(s): Cystic Fibrosis

PH 715, Pediatric Pharmacotherapy

Topic(s): Major Depressive Disorder in Children/Adolescents,
Pediatric Immunizations

PH 617, Introduction to Research (Lecturer)

Topic(s): Challenges in Pediatric Research

CLINICAL & RESEARCH TEACHING

THE UNIVERSITY OF ARIZONA - COLLEGE OF PHARMACY, PHARMD PROGRAM:

2008 – 2020 **Preceptor, Advanced Pharmacy Practice Experience (APPE) –**
Pediatrics Elective; Pediatric Ambulatory Care/Academia Elective

BANNER UMC-TUCSON PHARMACY RESIDENCY PROGRAMS:

2008 – 2020 **Mentor, Pharmacy Resident Scholars in Teaching and Learning Program (PRSTL)**

- Serve as a mentor for residents as part of a teaching certificate program
- Review teaching materials, lecture practice sessions
- Meet regularly to discuss teaching assignments, progress in teaching and precepting

Preceptor, PGY2 Pediatrics

- Required Learning Experience(s): Pediatric Pulmonary, Teaching, Research Project, Ambulatory Care, Committee Service/Leadership
- Elective Learning Experience(s): Academia

Preceptor, PGY1 Pharmacy Practice

- Elective Learning Experience(s): Pediatric Pulmonary, Academia

Preceptor, PGY2 Infectious Diseases

- Elective Learning Experience(s): Pulmonary w/Emphasis in Cystic Fibrosis

THE UNIVERSITY OF ARIZONA, COLLEGE OF MEDICINE:

2008 – 2020 **Faculty, Pediatric Pulmonary Medicine Fellowship Program**

- Dima Ezmigna, MBBS (2009-2012)
- Anunya Hiranrattana, MD (2012 - 2015)
- Ali Asseri, MD (2016-2018)
- Nasim Khattab, MD (2016 - 2019)
- Lauren Benton, MD (2019-2021)

2008 – 2020

Faculty, Pediatric Medicine Residency Program

- Pediatric Pulmonary Clerkship (elective, Co-preceptor with attending physicians)
- Pediatric Pharmacotherapy Clerkship (elective, Primary Preceptor)
- Resident Teaching Series In-service, annually
 - CF Pharmacotherapy
 - Pharmacokinetics in Pediatrics
 - Pediatric Community Acquired Pneumonia
- Resident Journal Club Mentor

PHARMACY TRAINEES

(RPD = Residency Program Director)

PHARMACY RESIDENTS:

2019 - 2020 Collin Strunk, PharmD (PGY2 Project Advisor)
2018 – 2019 Melanie Lam, PharmD (PGY2 Project Advisor)
2017 – 2018 Catherine Hobart, PharmD (PGY2 Project Advisor)
2015 – 2016 Richard Haftmann, PharmD (PGY2 Project Advisor)
Ashley Repholz, PharmD (PGY1 Project Advisor)
2014 – 2015 Alex Lopilato, PharmD (PGY2 Pediatric RPD, Project Advisor)
Tara Warren, PharmD (PGY2 Pediatric RPD, Project Advisor)
Richard Haftmann, PharmD (PGY1 Project Advisor)
2013 – 2014 Mary Babico, PharmD (PGY2 Pediatric RPD, Project Advisor)
2012 – 2013 Anita Nayar, PharmD (PGY2 Pediatric RPD, Project Advisor)
Manar Lashkar, PharmD (PGY2 Pediatric RPD, Project Advisor)
Mary Babico, PharmD (PGY1 Project Advisor)
William T. Foxx-Lupo, PharmD (PGY1 Project Advisor)
Amanda Peck PharmD (PGY1 Project Advisor)
2011 – 2012 Allison George, PharmD (PGY2 Pediatric RPD, Project Advisor)
Manar Lashkar, PharmD (PGY1 Project Advisor)
2010 – 2011 Nicole Even, PharmD (PGY2 Pediatric RPD, preceptor, Project Advisor)
Allison George, PharmD (PGY1 Project Advisor)
2009 – 2010 Karalea Jasiak, PharmD, BCPS (PGY1 Project Advisor)
2008 – 2009 Julie Alford, PharmD (PGY1 Project Advisor)

GRADUATE STUDENTS:

2008 – 2013 Courtney Wheatley, PhD (Graduate Dissertation Committee Member)

MCHB TRAINING GRANT SUPPORTED, PPC TRAINEES:

(Key: Maternal Child Health Bureau (MCHB), Pediatric Pulmonary Center (PPC), Long Term Trainee (LT), Advanced Medium Term (AMT), Medium Term Trainee (MT))

2019 – 2020 Elizabeth Vuong, PharmD Candidate (LT)
Kathryn McCulley, PharmD Candidate (LT)
2019 – 2020 Collin Strunk, PharmD (AMT)
2018 – 2020 Kalia Anderson, PharmD Candidate (LT)
2018 – 2019 Melanie Lam, PharmD (AMT), Stephanie Bradshaw, MS Nutrition Candidate (LT)
2017 – 2019 Tyler Eastep, PharmD Candidate (LT)

2017 – 2018 Catherine Hobart, PharmD (LT)
 2016 – 2017 Ashley Repholz, PharmD (MT)
 2015 – 2016 Richard Haftmann, PharmD (AMT)
 2014 – 2015 Alex Lopilato, PharmD (MT)
 Tara Warren, PharmD (MT)
 2013 – 2014 Mary Babico, PharmD (MT)
 2012 – 2013 Anita Nayar, PharmD (MT)
 2011 – 2012 Allison George, PharmD (MT)
 2010 – 2011 Nicole Even, PharmD (MT)

CLINICAL SERVICE DEVELOPMENT AND IMPLEMENTATION

Inpatient Clinical Pharmacy Service, Pediatric Pulmonary 2008 – 2020

Banner University Medical Center-Tucson, Diamond Children's
 Developed clinical pharmacy services and serves as clinical pharmacy specialist as part of the Section of Pediatric Pulmonology and Sleep. Services include patient care rounds, antimicrobial management and pharmacokinetic services, acute care plan development (i.e., therapy selection/dosing, laboratory monitoring, etc.), Discharge therapy consults and patient/caregiver education.

Ambulatory Care Pharmacy, Cystic Fibrosis Clinics 2009 – 2020

Banner University Medical Center-Tucson, Tucson Cystic Fibrosis (CF) Clinic
 Developed clinical pharmacy services and serves as clinical pharmacy specialist as part of the interdisciplinary patient care team in the CF Foundation-Accredited CF Center for both adults and pediatric patients. Services include chronic care management (drug selection/dosing, laboratory monitoring, etc.), adherence assessment/intervention, medication reconciliation, drug information, patient/caregiver education, and outpatient exacerbation management (including medication selection/dosing, laboratory monitoring, etc.). *Recognized by the CF Foundation as one of the first CF Foundation Pharmacist Mentoring Program Sites in 2015.*

Ambulatory Care Pharmacy, General Pediatric Asthma Clinic 2009 – 2020

Banner University Medical Center-Tucson, Pediatric Pulmonary Center
 Developed clinical pharmacy services and serves as clinical pharmacy specialist as part of the Pediatric Pulmonology Asthma Clinics. Services include medication management (chronic disease management including medication selection/dosing, laboratory monitoring, etc.) and adherence assessment and intervention, medication reconciliation, drug information, and patient/caregiver education.

Inpatient Clinical Pharmacy Consult Service, Adult Pulmonary/CF 2012 – 2020

Banner University Medical Center-Tucson, Diamond Children's
 Developed clinical pharmacy services and serves as clinical pharmacy specialist as part of the Adult CF Inpatient Service. Services include patient care rounds, antimicrobial management and pharmacokinetic services, acute care plan development (i.e., therapy selection/dosing, laboratory monitoring, etc.), discharge therapy consults, and patient/caregiver education.

Ambulatory Care Pharmacy, Pediatric Severe Asthma Clinic 2014 – 2020

Banner University Medical Center-Tucson, Pediatric Pulmonary Center.
 Developed clinical pharmacy services and serves as clinical pharmacy specialist, with a pediatric allergist, social worker, and home care nurse for children at high-risk for asthma-related

complications based on asthma severity classification or hospitalization events (e.g., admission to the intensive care unit). Different from the general asthma clinic, this clinic allocates additional dedicated time for asthma education, medication management, and home assessment with our home care RN. *Clinic establishment and outcomes evaluation supported by an ASHP New Investigator Grant (2014-2016).*

Role of a Pharmacy Technician in Cystic Fibrosis and Asthma Clinic 2016 – 2020

Banner University Medical Center-Tucson, Pediatric Pulmonary Center.

Obtained competitive funding to support pilot of pharmacy technician role in cystic fibrosis clinics (2016-2019 Cycle for CFF Expanding Outpatient Clinical Pharmacy Services Grant), with supplemental support from Banner Specialty Pharmacy. Role expanded to include pediatric asthma and support other medication access in the section of pediatric pulmonology.

Demonstrated value through achieved metrics, resulting in clinic nursing/support staff budget to include coverage of this continued position.

Ambulatory Care Pharmacy, Pediatric Cystic Fibrosis Center 2020 - Present

C.S. Mott Children's Hospital, Michigan Medicine

Contributed to the development of clinical pharmacy services and serves as clinical pharmacy specialist as part of the interdisciplinary patient care team in the CF Foundation-Accredited Pediatric CF Center. Services include chronic care management (drug selection/dosing, laboratory monitoring, etc.), adherence assessment/intervention, medication reconciliation, drug information, patient/caregiver education, and outpatient exacerbation management (including medication selection/dosing, laboratory monitoring, etc.).

CLINICAL POST-GRADUATE TRAINING PROGRAM DEVELOPMENT:

Postgraduate Year 2 (PGY-2) Pediatric Pharmacy Residency Program 2009

Banner University Medical Center-Tucson, Diamond Children's

Developed and lead one of the first PGY-2 Pediatric Pharmacy Residency programs in the Southwest/West. Residents provide clinical pharmacy services to a variety of settings including pediatric intensive care unit, neonatal intensive care unit, general pediatric medicine/surgery unit, hematology/oncology unit, pediatric pulmonary consult service, pediatric infectious diseases consult service, weekend clinical coverage, as well as clinical pharmacy service in Cystic Fibrosis (pediatric and adult) and Pediatric Asthma Clinics. Accredited by the American Society of Health-System Pharmacists in 2010 (continued). Served as Residency Program Director from 2009 to 2015.

CONTRIBUTIONS TO INSTITUTIONAL CLINICAL PROTOCOLS/GUIDELINES/POLICIES:

Banner University Medical Center, Tucson, Arizona

- 2010 Inpatient Use of Inhaled Tobramycin in Patients with Cystic Fibrosis
- 2012 Use of Extended Infusion Beta Lactams in Patients with Cystic Fibrosis
- 2013 Aminoglycoside Therapeutic Drug Monitoring in Patients with Cystic Fibrosis
- 2013 Vancomycin Therapeutic Drug Monitoring Using Area Under the Curve (AUC) in Patients with Cystic Fibrosis
- 2014 High Dose Ibuprofen in Patients with Cystic Fibrosis: Candidate Screening, Dosing, and Monitoring
- 2014 Inpatient Use of Dornase alfa in Patients with Cystic Fibrosis
- 2015 Pediatric Empiric Antimicrobial Card/Guide

- 2015 CFTR Modulators in Patients with Cystic Fibrosis: Candidate Screening, Dosing, and Monitoring
- 2016 Pancreatic Enzymes in Patients with Cystic Fibrosis
- 2016 Pharmacokinetic and Renal Dosing in Pediatric Patients
- 2017 Clinic Intake form and Care Plan form for EMR downtime
- 2017 Pre-Clinic Visit Forms, Pharmacy Technician: medication history review, questions for care team members, reminders for clinic
- 2018 Cystic Fibrosis Pulmonary Exacerbation Scoring Form
- 2019 CFTR Modulators in Patients with Cystic Fibrosis: Candidate Screening, Dosing, and Monitoring – Update
- 2020 Telemedicine Clinic Interprofessional Logistics – Pediatric and Adult CF Clinics

C.S. Mott Children’s Hospital, Michigan Medicine

- 2020 PharmD Clinic Visit Algorithms
- 2020 CF Medication Complexity Score (CF-MCS)

CLINICAL IN-SERVICES, INTERPROFESSIONAL EDUCATION:

Asthma Treatment – Medications and Inhaler Devices: Updates. Presented to Faculty, Section of Pediatric Pulmonology, and Sleep. Annually 2008-2020.

Cystic Fibrosis Drug Therapy: Updates. Presented to Faculty, Section of Pediatric Pulmonology, and Sleep. Annually 2008-2020.

Cystic Fibrosis Drug Therapy: Pediatric Nursing Considerations in Inpatient Care. Presented to Nursing Staff. Banner University Medical Center-Tucson, Diamond Children’s. Annually 2008-2020.

Cystic Fibrosis Drug Therapy: Adult Nursing Considerations in Inpatient Care. Presented to Nursing Staff. Banner University Medical Center-Tucson, Diamond Children’s. Annually 2008-2020.

Cystic Fibrosis Acute Exacerbation Management. Presented to attending physicians and medical residents within the Department of Medicine. Banner University Medical Center-Tucson. Annually 2008-2020.

Pediatric Asthma Patient Care Processes. Presented to medical residents. Banner University Medical Center-Tucson, Diamond Children’s. Annually 2008-2020.

PROFESSIONAL SERVICE

NATIONAL/INTERNATIONAL PROFESSIONAL SERVICE:

Leadership

Faculty Delegate, Alternate
American Association of Colleges of Pharmacy (AACP) 2011

Chair Travel Award Committee, Pediatric Practice & Research Network American College of Clinical Pharmacy (ACCP)	2011 – 2015
Chair-Elect (2011-12) / Chair (2012-13) Pediatric Practice & Research Network (Pediatric PRN) American College of Clinical Pharmacy (ACCP)	2011 – 2013
Representative, Banner University Medical Center-Tucson UHC Pediatric Committee	2012 – 2015
Appointed Member Postgraduate Fellowship Training Program Review Committee American College of Clinical Pharmacy (ACCP)	2012 – 2018
Chair-Elect (2012-13)/Chair (2013-14) Research Committee Pediatric Pharmacy Association (PPA)	2012 – 2014
Secretary (2-year elected term) Pediatric Special Interest Group (SIG) American Association of Colleges of Pharmacy (AACCP)	2013 – 2015
SCCP Faculty Liaison, The University of Arizona American College of Clinical Pharmacy (ACCP)	2013 – 2020
<ul style="list-style-type: none"> • Faculty Coach/Advisor, ACCP Clinical Pharmacy Challenge <ul style="list-style-type: none"> • Conduct student screening and team selection • Coordinate faculty/preceptor review sessions • 2017 - Top 16 (Nationally) • 2019 - Semifinalist (Nationally) • Faculty Coach/Advisor, ACCP Clinical Research Challenge (2016 – 2020) <ul style="list-style-type: none"> • 2016 - 2nd place (Nationally) • 2017 – Top 20 • 2018 – Finalist 	
Co-Chair CF Pharmacist Practice Based Research Network Cystic Fibrosis Foundation Pharmacist Discipline Workgroup	2013 – 2019
Director-at-Large, Board Member (3-year elected term) Pediatric Pharmacy Association (PPA) Organization Representative, PPA Specialty Framework Advisory Committee Board of Pharmacy Specialties (BPS)	2014 – 2017 2014
Co-Chair Board Certified Pediatric Pharmacotherapy Specialist (BCPPS) Recertification Program Pediatric Pharmacy Association (PPA)	2014 – 2018

Co-Chair Partnership Working Group Success with Therapies Research Consortium, Cystic Fibrosis Foundation	2014 – 2015
Co-Chair Measurements Working Group Success with Therapies Research Consortium, Cystic Fibrosis Foundation	2015 – 2017
Center Representative, UA Pediatric Pulmonary Center Cultural Sensitivity Committee MCHB Pediatric Pulmonary Centers	2010 – 2014
Mentor, CF Pharmacist Mentoring Program Cystic Fibrosis Foundation Apprentices: 2015 - Kalen Manasco, PharmD (U of Georgia) 2016 - Joe Sartor, PharmD (U of Texas, Tyler) 2017 - Katie Tu, PharmD (Children's of Orange County) 2018 - Joshua Wang, PharmD (U of Southern California, Keck) 2019 - Mary Alice Gajo, PharmD (Children's of Los Angeles)	2015 – Present
Center Representative, UA Pediatric Pulmonary Center Sleep Ad Hoc Committee MCHB Pediatric Pulmonary Centers	2015 – 2018
Chair-Elect (2015-16)/Chair (2016-17) Research Committee, Pediatric Practice & Research Network American College of Clinical Pharmacy (ACCP)	2015 – 2017
Appointed Pharmacist Member (3-year term) Education Committee Cystic Fibrosis Foundation	2016 –2019
Center Representative, UA Pediatric Pulmonary Center Advocacy Committee MCHB Pediatric Pulmonary Centers	2017
Appointed Member Presentations and Publications Committee Success with Therapies Research Consortium, Cystic Fibrosis Foundation	2018 – Present
Appointed Member Community Input Project Workgroup Success with Therapies Research Consortium, Cystic Fibrosis Foundation	2018 –2020
President-Elect Pediatric Pharmacy Association (PPA)	2018 – 2019
Appointed Member, Clinical Practice Affairs Committee B American College of Clinical Pharmacy (ACCP)	2018 – 2019

President Pediatric Pharmacy Association (PPA)	2019 – 2020
Immediate Past President Pediatric Pharmacy Association (PPA)	2020 – 2021
Co-Chair, Publications and Presentations Committee Success with Therapies Research Consortium, Cystic Fibrosis Foundation	2020 – 2021
Appointed Member, Ensuring Albuterol Access in Schools: From Policy to Implementation, Policy Statement Working Group American Thoracic Society (ATS)	2020 – Present
<ul style="list-style-type: none"> • Implementation Committee • Policy Committee 	

Professional Membership

American Society of Health-System Pharmacists (ASHP) Full Member	2002 – 2018, 2020
American College of Clinical Pharmacy (ACCP) Full Member	2006 – Present
<ul style="list-style-type: none"> • ACCP Pediatrics Practice and Research Network • ACCP Infectious Diseases Practice and Research Network • ACCP Education and Training Practice and Research Network • ACCP Clinical Pharmacy Challenge Item Writer (2012-2015, 2017) • CV Reviewer • Resident/Student Mentor • Abstract Reviewer, Annual Meeting 	
Pediatric Pharmacy Association (PPA)	2006 – Present
<ul style="list-style-type: none"> • Research Committee, Advocacy Committee • Nominations Committee (2018-2019, 2020-2021 (Chair)) 	
Rho Chi Academic Honor Society	2007 – Present
<ul style="list-style-type: none"> • Postgraduate Member, The Ohio State University (2007-2017) • Faculty Member, The University of Arizona (2017 – 2020) • Faculty Member, The University of Michigan (2020-Present) 	
American Association of Colleges of Pharmacy (AACP) Full Member	2009 – Present
American Thoracic Society (ATS) Full Member	2014 – Present
American Academy of Pediatrics (AAP) Affiliate Member	2015 – Present
<ul style="list-style-type: none"> • Section of Pediatric Pulmonology & Sleep Medicine (SOPPSM) 	
Association of Teachers of Maternal and Child Health (ATMCH) Faculty/Staff-Academic MCH Training Program Member	2015 – 2020

American Pharmacists Association (APhA) Full Member	2015 – Present
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Scholarly Book/Chapter/Guideline Reviewer

ACCP Flip Cards, Pharmacotherapy	2014
ACCP Critical Care Pharmacotherapy	2015
National Association of School Nurses (NASN) Medication Administration Clinical Practice Guidelines for the School Setting	2021

Editorial Board Appointment

Journal of Pediatric Pharmacology and Therapeutics (JPPT)	2019 – 2022
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Peer-Review Journal Referee

American Journal of Health-System Pharmacy (AJHP)	2008 – Present
Journal of Pediatric Pharmacology and Therapeutics (JPPT)	2008 – Present
Annals of Pharmacotherapy	2008 – Present
Journal of American Pharmacists Association (JAPhA)	2009 – Present
Clinical Therapeutics	2011 – Present
Pharmacotherapy	2012 – Present
Critical Care Nurse	2014 – Present
Expert Reviews in Respiratory Medicine	2016 – Present
Pediatric Pulmonology	2016 – Present
Clinical Medicine Insights: Pediatrics	2016 – Present
Cochrane Collaboration Reviews, Airways Group	2016 – Present
Currents in Pharmacy Teaching and Learning	2017 – Present
Pediatric Allergy, Immunology, and Pulmonology	2018 – Present

Scientific Abstract Reviewer

ACCP/ESCP International Congress Meeting	2009
ASHP Summer and Midyear Meetings	2009 – 2012
PPA Annual Spring Conference	2009 – Present
ACCP Virtual Poster Symposium	2017
ACCP Annual Meeting	2017
NACFC, Education	2016 - Present

Data Safety Monitoring Board, Advisory Board Appointments, and Other Related Service

Appointed Member, Data Safety Monitoring Board (DSMB) Cystic Fibrosis Foundation (CFF)	2015 – Present
Disease Education Advisory Board Vertex Pharmaceuticals Incorporated	2016
Pharmacist Advisory Board Vertex Pharmaceuticals Incorporated	2018, 2019

Medical Affairs Advisory Board 2018
 Gilead Sciences Inc.

National Institutes of Health (NIH) Related Service

Co-Chair, Pulmonary Workgroup 2011 – 2012
 Best Pharmaceuticals for Children Act (BPCA)
 Priority List of Needs in Pediatric Therapeutics, Obstetric and Pediatric Pharmacology
 Branch, Eunice Kennedy Shriver National Institute of Child Health and Human
 Development (NICHD) at the National Institutes of Health (NIH)

Reviewer 2011 – 2014
 Best Pharmaceuticals for Children Act (BPCA) Priority List
 Eunice Kennedy Shriver NICHD at NIH

Reviewer 2014
 Small Business Innovation Research (SIBR) Phase II Proposals
 National Institutes of Health (NIH), National Institutes of Drug Abuse (NIDA)

Reviewer 2019
 Best Pharmaceuticals for Children Act (BPCA) Priority List
 Eunice Kennedy Shriver NICHD at NIH

Other Professional Service

Training Instructor for University of Arizona CF Center 2016, 2017
 MSL Training on Cystic Fibrosis
 Vertex Pharmaceuticals Inc.

Exam Item Writer, Pediatrics 2014
 Board Certification in Pediatric Pharmacotherapy Specialty (BCPPS)
 Board of Pharmacy Specialties (BPS)

Co-Lead for University of Arizona CF Center Site 2016
 MedGap Pilot, Cystic Fibrosis Foundation

Reviewer, Pharmacist RFA Grants 2016
 Cystic Fibrosis Foundation

Medical Affairs, Consultant 2017
 Vertex Pharmaceuticals Incorporated

Commercial Advisory Panel, Consultant 2018 - 2019
 Vertex Pharmaceuticals Incorporated

LOCAL/STATE PROFESSIONAL SERVICE:

Leadership

- | | |
|---|-----------------------|
| <p><i>Pharmacy Lead</i>
Cystic Fibrosis Continuous Quality Improvement Committee
Banner University Medical Center</p> <ul style="list-style-type: none"> • Contributed to preparation and achievement of renewal of Center Accreditation by the Cystic Fibrosis Foundation | <p>2010 – 2020</p> |
| <p><i>Pharmacy Lead</i>
Pediatric Asthma Committee
Banner University Medical Center</p> <ul style="list-style-type: none"> • Contributed to preparation and achievement and maintenance of Gold Seal Certification in Pediatric Asthma by the Joint Commission | <p>2010 – 2020</p> |
| <p><i>Member, Board of Directors</i>
Arizona Asthma Coalition (AAC)</p> | <p>2017 – 2020</p> |
| <p><i>Vice Chair, Board of Directors</i>
Arizona Asthma Coalition (AAC)</p> | <p>2017 – 2020</p> |
| <p><i>Pharmacy Lead</i>
Pediatric Cystic Fibrosis Quality Improvement Core Team
C.S. Mott Children’s Hospital, Michigan Medicine</p> <ul style="list-style-type: none"> • CF Foundation Learning Network, Telemedicine • Pharmacy Services – PharmD and CPhT practice model | <p>2020 – Present</p> |

Professional Membership

- | | |
|--|-----------------------|
| <p>Arizona Pharmacists Association, Full Member</p> | <p>2008 – 2020</p> |
| <p>Arizona Asthma Coalition (AAC), Full Member</p> | <p>2016 – 2020</p> |
| <p>Michigan Pharmacists Association, Full Member</p> | <p>2021 – Present</p> |

Arizona Health Science Center – The University of Arizona:

- | | |
|---|-------------|
| <p>Member, Dean Search Committee, College of Pharmacy</p> | <p>2016</p> |
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College of Pharmacy Committees – The University of Arizona:

- | | |
|--|--------------------|
| <p>Member, Department Head Search Committee</p> | <p>2011 – 2012</p> |
| <p>Member, Admissions Committee</p> | <p>2012 – 2016</p> |
| <p>Member, Readmissions Committee</p> | <p>2015 – 2020</p> |
| <p>Chair, Faculty TRS Percent Effort Committee</p> | <p>2016 – 2017</p> |
| <p>Member, Assessment Committee</p> | <p>2016 – 2018</p> |
| <p>Member, Innovations Committee</p> | <p>2016 – 2018</p> |
| <p>Member, Student Success Seminar Programming Committee</p> | <p>2017 – 2018</p> |
| <p>Chair, Professionalism Committee</p> | <p>2018 – 2020</p> |
| <p>Member, Practice Innovation Taskforce</p> | <p>2019</p> |

Departmental Committees – Pharmacy Practice and Science – The University of Arizona
College of Pharmacy:

Member, Faculty Search Committee	2009 – 2013, 2016
Chair, Residency-Fellowship Preparation Program Committee	2010 – 2019
Ad-Hoc Member, Faculty Status Committee	2012 – 2013
Member, Peer Review Committee	2013 – 2015

Other Faculty Contributions College of Pharmacy – The University of Arizona

Faculty Advisor – PediaCATS, PPA Student Chapter	2010 – 2020
Faculty Advisor – SCCP, ACCP Student Chapter	2016 – 2020

Other Committees – Banner University Medical Center-Tucson (BUMC-T):

Member, BUMC-T Residency Programs Advisory Committee	2009 – 2015
Member, Medication Use Subcommittee	2010 – 2013
Member, Pharmacy Quality Improvement Committee	2010 – 2013
Chair, PGY2 Pediatric Pharmacy Residency Committee	2010 – 2015
Member, Pediatric Asthma and Bronchiolitis Committee	2018 – 2020

Community Service/Outreach

Health Fair Preceptor, Asthma Screenings/Education The University of Arizona College of Pharmacy	2008 – 2019
Mentor for Undergraduate/Graduate Students Asian American Faculty, Staff and Alumni Association (AAFSAA) The University of Arizona	2009 – 2014
Pharmacist Committee Member Healthy Children, Daycare Providers Pima County Health Department, American Academy of Pediatrics (AAP)	2010 – 2012