

January 7, 2021

Aris Charles Garro, M.D., M.P.H.
Curriculum Vitae

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EDUCATION

Undergraduate	University of Virginia Bachelor of Arts and Sciences, 1997 Major: Chemistry (with a biological specialty) 1993-1997 Honors: Phi Beta Kappa
Medical School	Vanderbilt University School of Medicine Doctor of Medicine, 2001 1997 - 2001
Graduate	Brown University Master of Public Health Degree, 2007 2004 - 2007

POSTGRADUATE TRAINING

Residency	Cincinnati Children's Hospital Medical Center Cincinnati, Ohio Pediatrics Resident (Categorical) 2001 - 2004
Fellowship	Rhode Island Hospital Providence, RI Fellow in Pediatric Emergency Medicine July 2004 to June 2007

POSTGRADUATE HONORS AND AWARDS

Microbes and Defense Society, Vanderbilt's honor society for excellence in immunology, microbiology and virology
Vanderbilt University Medical School
May 1998

Pediatric Resident Teaching Award
Cincinnati Children's Hospital Medical Center
June 2004

Dean's Excellence in Teaching Award
The Warren Alpert Medical School of Brown University
June 2011

National Institutes of Health Loan Repayment Program
National Heart, Lung, and Blood Institute
Supporting: Optimizing Use of Inhaled Corticosteroids after Emergency Department Visits for Children with Uncontrolled Asthma
Initial award in July 2013; Renewed in July 2015; Renewed in July 2017

University Emergency Medicine Foundation / Department of Emergency Medicine Outstanding Physician Award
The Warren Alpert Medical School of Brown University
July 2014

Top New Peer Reviewer
Annals of Emergency Medicine
2018

Selected for the American Board of Emergency Medicine Lifelong Learning and Self-Assessment Reading List for "Managing Peripheral Facial Palsy" (Garro, et al.)
2021

PROFESSIONAL LICENSES AND BOARD CERTIFICATION

Medical License – State of Rhode Island	2004 to present
Pediatric Emergency Medicine	2009 to present
Pediatric Advanced Life Support Certified	2019 renewed

ACADEMIC APPOINTMENTS

Assistant Professor, Teaching Scholar Track	Warren Alpert School of Medicine of Brown University Departments of Pediatrics and Emergency Medicine 2007 to 2015
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Associate Professor, Teaching Scholar Track	Warren Alpert School of Medicine of Brown University Departments of Pediatrics and Emergency Medicine 2015 to present
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HOSPITAL APPOINTMENTS

Pediatric Emergency Medicine Attending Physician	Rhode Island Hospital and Hasbro Children's Hospital Providence, RI 2007 to present
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AREA OF FOCUS LEADERSHIP APPOINTMENTS

Clinical Center Lead Investigator for R01HD062417 (PIs Kuppermann and Glaser) from the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD), 2012 to present

Co-founder of Pedi Lyme Net. This network of pediatric hospitals collects biosamples from children with Lyme disease and Lyme disease-mimics to develop point-of-care diagnostic tests, 2015 to present

Medical Supervisor for the Community Asthma Programs (CAP) state of Rhode Island, 2017 to 2020

Clinical Center Lead Investigator for Pediatric Lyme Disease Stage III Vaccine Trial sponsored by

Valneva (Vienna, Austria), 2021 to present

HOSPITAL COMMITTEES

Scholarship Oversight Committee member and Primary mentor for Luna Sharma, MD, Pediatric Infectious Diseases fellow 2009 - 2011

Second reader for Brown University undergraduate Honors Thesis by:
Tatiana Gellein – 2010
Kara Ramos – 2012
Adam Morganlander – 2013
Nancy Abarca – 2014

Interviewer for Department of Pediatrics residency applicants (ad hoc) 2014 - 2019

Department of Pediatrics Search Committee for Pulmonology division 2016 - 2017

MEMBERSHIP IN SOCIETIES

American Medical Student Association 1997 - 2001
Vice-president of Vanderbilt chapter 1998 - 1999
Delegate to National Convention 1999 and 2000

Rhode Island Public Health Association 2006 to present

American College of Emergency Physicians 2007 - 2014

Society for Academic Emergency Medicine 2008 to present

Academic Pediatric Association 2008 - 2014

Rhode Island Medical Society 2008 to present

Pediatric Emergency Medicine – Clinical Research Consortium (PEM-CRC) on Neonatal Herpes Simplex Virus Infection 2013 to present

Pediatric Academic Societies
Abstract Reviewer 2014 to present
Poster Session Moderator 2016 Conference

Airways Research Group - The IDeA States Pediatric Clinical Trials Network 2016 - 2017

Moderator for Pediatric Emergency Medicine Fellow's Conference 2021

PEER REVIEWED PUBLICATIONS

1. Bond GR, Garro AC, Gilbert DL. Dyskinesias Associated with Atomoxetine in Combination with other Psychoactive Drugs. *Clinical Toxicology*. 2007; 45(2): 182-5.
2. Garro AC, Klein RB. Asthma Management: The Interplay between Pulmonary Function and Quality of Life. *Disease Management and Health Outcomes* 2008; 16: 297-303.
3. Garro AC, Rutman M, Simonsen K, Jaeger J, Chapin K, Lockhart G. Prospective Validation of a

Clinical Prediction Model for Lyme Meningitis in Children; *Pediatrics* 2009; 123: e829-34.

4. Garro AC, Fearon D, Koinis-Mitchell D, McQuaid EL. Does Pre-hospital Telephone Communication with a Clinician result in more appropriate Medication Administration by Parents during Childhood Asthma Exacerbations?; *Journal of Asthma* 2009; 46(9): 916-20.

5. Garro AC, Asnis L, Merchant R, McQuaid E. Frequency of Prescription of Inhaled Corticosteroids to Children with Asthma from US Emergency Departments. *Acad Emerg Med* 2011; 18(7): 767-70.

6. Garro AC, Rutman M, Simonsen K, Jaeger J, Chapin K, Lockhart G. Prevalence of Lyme meningitis in children with aseptic meningitis in a Lyme disease-endemic region. *Pediatr Infect Dis J* 2011; 30:990-2.

7. McQuaid EL, Garro AC, Seifer R, Hammond SK, Borrelli B. Integrating Asthma Education and Smoking Cessation for Parents: Estimating Financial Return on Investment. *Pediatr Pulmonol* 2012; 47(10): 950-5.

8. Canino G, Garro A, Alvarez MM, Colón-Semidey A, Esteban CA, Fritz GK, Koinis-Mitchell D, Kopel SJ, Ortega AN, Seifer R, McQuaid EL. Factors Associated with Disparities in ED Use among Latino Children with Asthma. *Ann Allergy Asthma Immunol.* 2012; 108(4):266-70.

9. Garro AC, Jandasek B, Fleming J, Turcotte-Benedict F, Rosen R, McQuaid E. Caregiver satisfaction with the asthma diagnostic process in young children: thematic analysis of caregiver focus groups. *J of Asthma* 2012; 49(7):703-11.

10. Pearlman DN, Jackson TL, Gjelsvik A, Viner-Brown S, Garro A. The impact of the 2007–2009 US recession on the health of children with asthma: evidence from the National Child Asthma Call-Back Survey. *Medicine and Health RI* 2012; 95(12):394-6.

11. Jackson TL, Gjelsvik A, Garro A, Pearlman DN. Correlates of smoking during an economic recession among parents of children with asthma. *J of Asthma* 2013; 50(5):457-62.

12. Canares TL, Tucker C, Garro A. Going with the Flow: Respiratory Care in the Pediatric Emergency Department. *R I Med J* 2013; 97:23-6.

13. Wylie, MC, Merritt C, Clark M, Garro A, Rutman M. Imaging head injury in the pediatric emergency department. *Pediatr Emerg Care* 2014; 30(10):680-5.

14. Goldberg E, Laskowski-Kos U, Wu D, Gutierrez J, Okelo S, Bilderback A, Garro AC. The Pediatric Asthma Control and Communication Instrument for the Emergency Department (PACCI-ED) improves physician assessment of asthma morbidity in pediatric emergency department patients. *J of Asthma* 2014 Mar; 51(2):200-8.

15. Canares TL, Brown L, Slotkin R, Garro A. Treating Children at Urgent Care Centers: A Qualitative Study to Determine How Providers Triage Pediatric Patients. *R I Med J* 2014 Jan 5; 98(1):48-53.

16. Choo EK, Ranney ML, Wetle T, Morrow K, Mello MJ, Squires D, Garro A, Tape C, Zlotnick C. Attitudes Toward Computer-Based Interventions for Partner Abuse and Drug Use Among Women in the Emergency Department. *Addict Disord Their Treat* 2015; 14:95-104.

17. Choo E, Ranney M, Maisel Z, Garro A, Morrow K. Qualitative Research in Emergency Care Part I: Research Principles and Common Applications. *Acad Emerg Med*, 2015 Sep; 22(9):1096-102.

18. Ranney M, Choo E, Maisel Z, Garro A, Morrow K. Interview-Based Qualitative Research in Emergency Care, Part II: Data Collection, Analysis and Results Reporting. *Acad Emerg Med*, 2015, 2015 Sep; 22(9):1103-12.

19. Wu D, Hipolito E, Bilderback A, Okelo S, Garro A. Predicting Future Emergency Department Visits

and Hospitalizations for Asthma using the Pediatric Asthma Control and Communication Instrument - Emergency Department Version (PACCI-ED). *J Asthma*. 2016 Jan 22:1-5.

20. Garro A, Chodobski A, Chodobska A, Bialo S, Shan R, Bennett J, Quayle K, Rewers A, Schunk J, Kuppermann N, Glaser N. Circulating matrix metalloproteinases in children with diabetic ketoacidosis. *Pediatr Diabetes*. 2017 Mar;18(2):95-102.

21. Thomson J, Cruz AT, Nigrovic LE, Freedman SB, Garro AC, Ishimine PT, Kulik DM, Uspal NG, Grether-Jones KL, Miller AS, Schnadower D, Shah SS, for the Pediatric Emergency Medicine Collaborative Research Committee (PEM CRC) HSV Study Group. Concomitant Bacterial Meningitis in Infants with Urinary Tract Infection. *Pediatr Infect Dis J*. 2017 Sep;36(9):908-910.

22. Garro A, Koster M, La Rue M, Congdon E, Senanayake A, Cullen N, Burnett K, Nigrovic LE. Would parents consent to a comparative effectiveness trial of oral doxycycline versus intravenous ceftriaxone for the treatment of children with Lyme meningitis? *Pediatr Infect Dis J*. 2018 May;37(5):e140-e142.

23. Garro A, Nigrovic LE. Managing Peripheral Facial Palsy. Invited Expert Clinical Management. *Ann Emerg Med*. 2018 May;71(5):618-624.

24. Koster M, Garro A. Unraveling Diagnostic Uncertainty Surrounding Lyme Disease in Children with Neuropsychiatric Illness. *Child Adolesc Psychiatr Clin N Am*. 2018 Jan;27(1):27-36.

25. Cruz AT, Freedman SB, Kulik DM, Okada PJ, Fleming AH, Mistry RD, Thomson JE, Schnadower D, Arms JL, Mahajan P, Garro AC, Pruitt CM, Balamuth F, Uspal NG, Aronson PL, Lyons TW, Thompson AD, Curtis SJ, Ishimine PT, Schmidt SM, Bradin SA, Grether-Jones KL, Miller AS, Louie J, Shah SS, Nigrovic LE. Herpes Simplex Virus Infection in Infants undergoing meningitis evaluation. *Pediatrics*. 2018 Feb;141(2):e20171688.

26. Nigrovic LE, Bennett J, Balamuth F, Levas MN, Chenard RL, Maulden AB, Garro A for Pedi Lyme Net. Accuracy of clinician suspicion for Lyme disease in pediatric emergency department patients. *Pediatrics*. 2017 Dec;140(6): e20171975.

27. Thomson J, Sucharew H, Cruz AT, Nigrovic LE, Freedman SB, Garro A, Balamuth F, Mistry RD, Arms JL, Ishimine PT, Kulik DM, Neuman MI, Shah SS for the Pediatric Emergency Medicine Collaborative Research Committee (PEM CRC) HSV Study Group. Cerebrospinal Fluid Reference Values for Young Infants Undergoing Lumbar Puncture. *Pediatrics*. 2018 Mar;141(3): e20173405.

28. Dart AH, Michelson KA, Aronson PL, Garro AC, Lee TJ, Glerum K, Nigrovic PA, Kocher M, Bachur RG, Nigrovic LE. Hip synovial fluid cell counts in children from a Lyme disease endemic area. *Pediatrics*, 2018; 141:(5): e20173810.

29. Abarca N, Garro A, Yiang Y, Pearlman D. Relation between breastfeeding and the prevalence of asthma in young children exposed to adverse childhood experiences: a latent class analysis. *J of Asthma*, 2018 Mar:1-10.

30. Kuppermann N, Ghetti S, Schunk JE, Stoner MJ, Rewers A, McManemy JK, Myers SR, Nigrovic LE, Garro A, Brown KM, Quayle KS, Trainor JL, Tzimenatos L, Bennett JE, DePiero AD, Kwok MY, Perry III CS, Olsen CS, Casper TC, Dean M, Glaser NS, for the Pediatric Emergency Care Applied Research Network (PECARN) DKA FLUID Study. Clinical Trial of Fluid Infusion Rates for Pediatric Diabetic Ketoacidosis. *N Engl J Med* 2018; 378:2275-2287.

31. Balamuth F, Cruz AT, Freedman SB, Ishimine PT, Garro AC, Curtis S, Grether-Jones KL, Miller AS, Uspal NG, Schmidt SM, Shah SS, Nigrovic LE for the Pediatric Emergency Medicine Collaborative Research Committee (PEM CRC) HSV Study Group. Test Characteristics of cerebrospinal fluid Gram stain to identify bacterial meningitis in infants less than 60 days old. *Pediatr Emerg Care*. 2018 Nov.

32. Garro A, Bennett J, Balamuth F, Levas M, Neville D, Branda JC, Maulden AB, Lantos PM, Nigrovic L. Positive Lyme disease two-tier tests are rare in asymptomatic children. *Pediatr Infect Dis J*. 2019 May; 38(5):e105–e107.
33. Maulden AB, Garro AC, Balamuth F, Levas MN, Bennett JE, Neville DN, Branda JA, Nigrovic LE. Two-tier Lyme disease serology test results vary by specific first-tier test. *J Pediatric Infect Dis Soc*. 2020 Apr 30;9(2):128-133.
34. Nigrovic LE, Lipsett SC, Molins CR, Wormser GP, Bennett JE, Garro AC, Levas MN, Balamuth F, Lingampalli N, Robinson WH, Branda JA. Higher C6 enzyme immunoassay index values correlate with a diagnosis of Lyme disease in patients with non-cutaneous manifestations. *Diagn Microbio Infect Dis*. 2019; 94 (2):160-4.
35. Gjelsvik A, Rogers ML, Garro A, Sullivan A, Koinis-Mitchell D, McQuaid EL, Smego R, Vivier PM. Neighborhood risk and pediatric asthma hospital use, Rhode Island, 2005 – 2014. *Prev Chronic Dis*. 2019 May 30;16:E68.
36. Nigrovic LE, Neville DN, Levas MN, Bennett JE, Balamuth F, Garro AC for Pedi Lyme Net. A minority of children with Lyme disease recall a preceding tick bite. *Ticks Tick Borne Dis*. 2019 Apr;10(3):694-696.
37. Aronson PL, Cruz AT, Freedman SB, Balamuth F, Grether-Jones KL, Lyons TW, Fleming AH, Louie J, Mistry RD, Garro AC, Shah SS, Nigrovic LE for the Pediatric Emergency Medicine Clinical Research Network (PEM CRC) Herpes Simplex Virus (HSV) Study Group. Impact of Herpes Simplex Virus Testing on Hospital Length of Stay for Infants ≤ 60 Days Old Undergoing Evaluation for Meningitis. *J Pediatr*. 2017 Oct;189:169-174.e2.
38. Nigrovic LE, Bennett J, Balamuth F, Levas M, Neville D, Branda J, Garro A for Pedi Lyme Net. Diagnostic Performance of C6 Enzyme Immunoassay for Lyme Arthritis in Children. *Pediatrics*; 145(1), Jan 2020:e20190593.
39. Donner JR, Garro AC. Reasons for parental non-adherence with antibiotics for children in an emergency department. *The American Medical Student Research Journal*, in press.
40. Nigrovic LE, Lewander DA, Balamuth F, Neville DN, Levas MN, Bennett JE, Garro AC. The Lyme disease polymerase chain reaction test has low sensitivity. *Vector Borne Zoonotic Dis*. 2020 Apr;20(4):310-313.
41. Lyons TW, Garro AC, Cruz AT, Freedman SB, Okada PJ, Mahajan P, Balamuth F, Thompson AD, Kulik DM, Uspal NG, Arms JL, Nigrovic LE for the Herpes Simplex Virus Study Group of the Pediatric Emergency Medicine Collaborative Research Committee (PEM CRC). Performance of the Modified Boston and Philadelphia Criteria for Invasive Bacterial Infections. *Pediatrics*, *Pediatrics* April 2020, 145 (4):e20193538.
42. Garro, A, Avery RA, Cohn KA, et al. for Pedi Lyme Net. Validation of the Rule of 7's for identifying children at low-risk for Lyme meningitis. *The Pediatric Infectious Disease Journal*, in press.
43. Myers SR, Glaser NS, Trainor JL, Nigrovic LE, Garro A, Tzimenatos L, Quayle KS, Kwok MY, Rewers A, Stoner MJ, Schunk JE, McManemy JK, Brown KM, DePiero AD, Olsen CS, Casper TC, Ghetti S, Kuppermann N.; for the Pediatric Emergency Care Applied Research Network (PECARN) DKA FLUID Study Group. Frequency and Risk Factors of Acute Kidney Injury During Diabetic Ketoacidosis in Children and Association With Neurocognitive Outcomes. *JAMA Netw Open*. 2020;3(12):e2025481.
44. Slingsby B, Moore J, Wing R, Garro A, Brown L. Identifying Barriers to Trainees Addressing Corporal Punishment and Effective Discipline using Simulation and Semi-Structured Debriefing. *Clinical Pediatrics*, in press.

45. Nigrovic LE, Neville DN, Balamuth F, Levas MN, Bennett JE, Kharbanda AB, Thompson AD, Branda JA, Garro AC. Pedi Lyme Net Working Group. Pediatric Lyme Disease Biobank, United States, 2015-2020. *Emerg Infect Dis* 2020;26(12):3099-3101.

46. Ghetti S, Kuppermann N, Rewers A, Myers SR, Schunk JE, Stoner MJ, Garro A, et al. for the Pediatric Emergency Care Applied Research Network (PECARN) DKA FLUID Study Group. Cognitive Function following Diabetic Ketoacidosis in Children with New Onset or Previously Diagnosed Type 1 Diabetes. *Diabetes Care* 2020 Nov; 43(11):2768-2775.

47. Rewers A, Kuppermann, ND, Stoner MJ, Garro A, Quayle K, Bennett JE, Myers S, McManemy JK, Nigrovic LE, Trainor JL, Tzimenatos L, Kwok M, Olsen CS, Casper TC, Ghetti S, Glaser N and the Pediatric Emergency Care Applied Research Network (PECARN) FLUID Study Group. Effects of Fluid Rehydration Strategy on Correction of Acidosis and Electrolyte Abnormalities in Children with Diabetic Ketoacidosis. *Diabetes* 2019 Jun;68 (Supplement 1).

BOOKS AND CHAPTERS

Garro AC, Chun T. Trauma Emergencies, Book Chapter in Practical Guide to the Care of the Pediatric Patient. Alario A - author, Elsevier - 2007

Garro AC, Linakis J. Umbilical Vessel Catheterization Book Chapter in Textbook of Pediatric Emergency Procedures, King & Henritig - editors, Lippincott Williams & Wilkins – 2007

Garro AC. Lyme Disease. First Consult online reference. Updated February 2012.

Koster M, Garro A. Lyme Disease in the Differential Diagnosis of Children Presenting with Psychiatric Issues. Book Chapter in Management of Pediatric Medical Illnesses: Clinical Updates and Treatment Considerations for the Child and Adolescent Psychiatrist. Willis – author, Elsevier – 2017.

THESES AND DISSERTATIONS

Garro AC. “Management of asthma exacerbations in the home: Analysis of current guidelines, barriers to implementation and potential solutions”. Thesis May 2007; Submitted in partial fulfillment of the requirements for the degree of Master of Public Health in the division of Biology and Medicine at Brown University.

PUBLICATIONS SUBMITTED

Garro, Papandonatos, Hipolito, LaRue, Congdon, McQuaid. *Randomized Controlled Trial of a computerized educational intervention in an emergency department to improve adherence with inhaled corticosteroids for children with asthma.*

Garro, Papandonatos, Hipolito, LaRue, Congdon, McQuaid. *Randomized Controlled Trial of inhaled steroid prescriptions at discharge from the emergency department for children with uncontrolled asthma.*

Grant, Neville, Levas, Balamuth, Garro, Bennett, Thompson, Kharbanda, Lyons, Nigrovic. *Children with knee monoarthritis at low risk for septic arthritis in a Lyme endemic area.*

Glaser, Stoner, Garro, Kwok, Myers, Rewers, Brown, Trainor, Quayle, McManemy, DePiero, Nigrovic, Tzimenatos, Schunk, Olsen, Casper, Ghetti, Kuppermann for the Pediatric Emergency Care Applied Research Network (PECARN) DKA FLUID Study Group. *Factors Influencing Changes in Serum Sodium Concentration During Treatment of Diabetic Ketoacidosis in Children and Associations with Changes in Mental Status.*

Neville, Alexander, Bennett, Balamuth, Garro, Levas, Kharbanda, Lewander, Dart, Nigrovic. Antibiotic treatment for Lyme meningitis. *Electrocardiogram findings of carditis in children undergoing Lyme disease evaluation in the emergency department.*

Roelf, Garro, Monuteaux, Nigrovic. *Antibiotic Treatment for Lyme Meningitis.*

Cruz, Nigrovic, Xie, Mahajan, Thomson, Okada, Uspal, Mistry, Garro, Schnadower, Kulik, Curtis, Miller, Fleming, Lyons, Balamuth, Arms, Louie, Aronson, Thompson, Ishimine, Schmidt, Pruitt, Shah, Grether-Jones, Bradin, Freedman on behalf of the HSV Study Group of the Pediatric Emergency Medicine Collaborative Research Committee. *A Multicenter Retrospective Nested Case-Control Study to Identify Predictors of Invasive Herpes Simplex Virus Infection in Young Infants.*

Nigrovic, Neville, Levas, Balamuth, Bennett, Kharbanda, Garro for Pedi Lyme Net. *Lyme disease serology in children with a history of previous Lyme disease.*

ABSTRACTS

1. Bond GR, Garro AC, Gilbert DL. Dyskinesias Associated with Atomoxetine in Combination with other Psychoactive Drugs. *Clinical Toxicology*. 2007; 45(2): 182-5.
 - Presented at the North American Congress of Clinical Toxicology 2004
2. Garro AC, Children with Severe Traumatic Brain Injury Transported to a Pediatric Trauma Center Compared to Community Hospital Emergency Departments,
 - Poster Presentation at the Pediatric Academic Societies' Annual Meeting 2006
3. Garro AC, Simonsen K, Rutman MR, Lockhart G, Yeager J. Lyme Disease as a cause of aseptic meningitis in children in a Lyme-endemic region.
 - Poster Presentation at the Society of Academic Emergency Medicine conference 2007
 - Poster Presentation at Pediatric Academic Societies conference 2007
4. Garro AC, Rutman MR, Simonsen K, Yeager J, Lockhart G. Prospective Validation of a Clinical Prediction Model for the Prediction of Lyme Meningitis in Children.
 - Poster presentation at Infectious Diseases Society of America National Meeting 2008
5. Garro AC, Asnis L, Merchant R, McQuaid EL. Emergency Department Prescriptions for Long-term Inhaled Corticosteroids for Children with Asthma: Are We Following Recommendations?
 - Poster presentation at American College of Emergency Physicians Research Forum 2009
 - Poster presentation at the 17th Annual Hospital Research Celebration hosted by Lifespan 2009
6. Yoon JJ, Garro AC. Young Children with Wheezing are a Prime Target for Public Health Interventions in the Pediatric Emergency Department.
 - Poster presentation at the 17th Annual Hospital Research Celebration hosted by Lifespan 2009
7. Seifer R, Garro A, McQuaid EL, Kopel S, Canino G, Fritz GK. Variability in pulmonary function and symptom perception in children with asthma: how many days of sampling is required?
 - Platform Presentation at the 2009 International Society for the Advancement of Respiratory Psychophysiology Annual Meeting
8. McQuaid EL, Garro A, Seifer R, Esteban C, Kopel S, Koinis-Mitchell D, Canino G, Fritz G. Clinician, Parent, and Child Ratings of Asthma Severity and Pulmonary Function Variability.
 - Platform Presentation at the 2009 International Society for the Advancement of Respiratory Psychophysiology Annual Meeting
9. Garro A, Canino G, Fritz G, Klein R, Koinis-Mitchell D, Kopel S, McQuaid EL, Seifer R. Factors associated with Disparities in Emergency Department use among Latino Children with Asthma.

- Poster presentation at the 2010 American Thoracic Society International Conference.
- 10. Garro AC, Fearon D, Koinis-Mitchell D, McQuaid EL. Does Pre-hospital Telephone Communication with a Clinician result in more appropriate Medication Administration by Parents during Childhood Asthma Exacerbations?
 - Poster presentation at the 2010 American Thoracic Society International Conference.
- 11. Sharma L, Garro AC, Dennehy P. Is Cerebrospinal Fluid Lyme Testing Helpful in Children with Lyme Meningitis in the North American Setting?
 - Poster presentation at the 2010 Infectious Disease Society of America national meeting 2010
- 12. McQuaid EL, Garro AC, Siefer R, Hammond SK, Borrelli B. Integrating asthma educations and smoking cessation for parents: estimating financial return on investment.
 - Presentation at the National Conference in Child Health Psychology 2011
- 13. Garro AC, Rutman MR, Simonsen K, Yeager J, Chapin, K, Lockhart G. Prevalence of Lyme Meningitis in Children presenting with Undifferentiated Aseptic Meningitis in a Lyme-Disease Endemic Region.
 - Poster presentation at Pediatric Academic Societies National Meeting 2011
- 14. Jandasek B, McQuaid EL, Rosen R, Garro AC, Quach B. Managing asthma and the family-provider relationship during the adolescent transition.
 - Platform presentation at International Society for the Advancement of Respiratory Psychophysiology National Meeting 2011
- 15. Goldberg E, Laskowski U, Wu D, Gutierrez J, Bilderback A, Okelo S, Garro A. Can The Pediatric Asthma Control And Communication Instrument (PACCI) Be Used In The ED To Improve Clinicians' Assessment Of Asthma Control?
 - Lightning oral presentation at the New England Regional Society of Academic Emergency Medicine Meeting 2012
 - Poster presentation at the Society of Academic Emergency Medicine conference 2012
- 16. Fleming J, Garro AC, Jandasek B, Turcotte-Benedict F, Rosen R, McQuaid EL. Caregiver Satisfaction with the Asthma Diagnostic Process in Young Children: Thematic Analysis of Caregiver Focus Groups.
 - Poster presentation at the Pediatric Academic Societies' conference 2012
- 17. Laskowski U, Goldberg E, Wu D, Gutierrez J, Bilderback A, Garro A, Okelo S. Using the Pediatric Asthma Control and Communication Instrument (PACCI) To Compare Objective and Subjective Parent Perceptions of Asthma Morbidity in Emergency Department and Ambulatory Settings.
 - Poster presentation at the Pediatric Academic Societies' conference 2012
- 18. Wu D, Garro AC. Barriers in US Emergency Healthcare: Disconnects in Patient and Physician Partnership Expectations.
 - Poster presentation at the Brown University Public Health Program Research Day 2012
- 19. Jackson T, Gelsevick A, Garro A, Pearlman D. Is parental mental health associated with worse asthma morbidity in children with asthma than living with a parent who smokes?
 - Oral presentation at the American Public Health Association Meeting 2012
- 20. Wylie M, Merritt C, Garro A, Rutman M. Imaging Head Injury in the Pediatric Emergency Department.
 - Poster presentation at the Pediatric Academic Societies' conference 2013
- 21. Canares T, Brown L, Slotkin R, Garro A. Treating Children at Urgent Care Centers: A qualitative study to determine how providers triage pediatric patients.
 - Poster presentation at the Pediatric Academic Societies' conference 2014
 - Oral presentation at Brown Emergency Medicine Research Symposium 2014

22. Garro A, Chodobski A, Chodobska J, Bialo S, Bennett J, Quayle K, Rewers A, Schunk J, Kuppermann N, Glaser N. Diabetic Ketoacidosis Results in Elevation of Plasma Levels of Matrix Metalloproteinase-9 in Children with Type 1 Diabetes.
- Platform presentation at the Pediatric Academic Societies' conference 2014
23. Bialo S, Garro A, Chodobski A, Chodobska J, Bennett J, Quayle K, Rewers A, Schunk J, Kuppermann N, Glaser N. Plasma Matrix Metalloproteinase-9 (MMP-9) Levels in Children with Diabetic Ketoacidosis: Correlation with Proinflammatory Mediators and Illness Severity.
- Poster presentation at the Pediatric Academic Societies' conference 2014
24. Gennis A, Wu D, Hipolito E, Bargteil M, Dziok A, Kelley A, Sette M, McQuaid E, Garro A. Factors Determining Corticosteroid Adherence after de Novo Prescriptions in Children with Asthma.
- Poster presentation at the Public Health Research Day at Brown University School of Public Health 2014
25. Canares T, Garro A, Beucher M, Brown L. Characteristics of Children Referred from Urgent Care Centers to a Pediatric Emergency Department.
- Poster presentation at the Society for Pediatric Urgent Care Inaugural Meeting 2015
26. Thomson J, Cruz A, Nigrovic L, Freedman S, Garro A, Ishimine P, Kulik D, Uspal N, Grether-Jones K, Miller A, Shah SS, for the Pediatric Emergency Medicine Collaborative Research Committee (PEM-CRC) HSV Study Group. "Concomitant Bacterial Meningitis in Infants with Urinary Tract Infection."
- Poster presentation at the Pediatric Academic Societies' conference 2016
27. Cruz A, Freedman S, Kulik D, Fleming A, Thomson J, Schnadower D, Garro A, Pruitt C, Balamuth F, Aronson P, Uspal N, Lyons T, Ishimine P, Bradin S, Grether-Jones K, Miller A, Louie L, Shah S, Nigrovic L, for the PEM-CRC HSV Study Group. "HSV in infants <= 60 days presenting for emergency department evaluation."
- Platform presentation at the Pediatric Academic Societies' conference 2016
28. Nigrovic L, Bennett J, Balamuth F, Levas M, Garro A. "Accuracy of clinician suspicion for identifying Lyme disease in children presenting to emergency departments in Lyme disease endemic areas."
- Poster presentation at the Pediatric Academic Societies' conference 2017
29. Kuppermann N, Ghetti S, Schunk J, Stoner M, Rewers A, McManemy J, Myers S, Nigrovic L, Garro A, Brown K, Quayle K, Trainor J, Bennett J, DePiero A, Tzimenatos L, Kwok M, Dean JM, Olsen C, Casper TC, Glaser N. "Effects of Fluid Infusion Rate and Sodium Content on Acute and Long-term Neurological Outcomes of Pediatric Diabetic Ketoacidosis (DKA): The Pediatric Emergency Care Applied Research Network (PECARN) Fluid Therapies Under Investigation in DKA (PECARN FLUID) Trial."
- Platform presentation at the Pediatric Academic Societies' conference 2017
30. Gjelsvik A, Rogers M, Garro A, Smego R, Koinis-Mitchell D, McQuaid E, Vivier P. "Neighborhood risks and pediatric asthma hospital use."
- Poster presentation at the Pediatric Academic Societies' conference 2017
31. Nigrovic L, Bennett J, Balamuth F, Levas M, Neville D, Chenard R, Maulden A, Garro A. Quantitative C6 enzyme linked immunoassay index value predicts a positive supplemental Lyme disease immunoblot.
- Poster presentation at the 2nd annual Lyme disease in the Era of Precision Medicine Conference 2017
32. Donner J, Garro A. Reasons for parental non-adherence with antibiotics for children in an emergency department.
- Poster presentation at AMA conference 2017
33. Nigrovic L, Bennett J, Balamuth F, Levas M, Neville D, Branda J, Maulden A, Garro A. C6 enzyme

immunoassay for the initial management of children presenting to the emergency department with acute arthritis.

- Platform presentation at the Pediatric Academic Societies' conference 2018

34. Nigrovic L, Maulden A, Balamuth F, Levas M, Bennett J, Neville D, Branda J, Garro A. Two-tier Lyme disease test results vary by first tier test.

- Platform presentation at the 15th International Conference on Lyme Borreliosis and Other Tick-Borne Diseases 2018

35. Garro A, Bennett J, Balamuth F, Levas M, Neville D, Branda JC, Maulden AB, Lantos PM, Nigrovic L. Positive Lyme disease two-tier tests are rare in asymptomatic children.

- Platform presentation at the 15th International Conference on Lyme Borreliosis and Other Tick-Borne Diseases 2018

36. Edwards JE, Tourangeau J, Congdon EA, Frackiewicz L, Hipolito ER, Garro A. randomized controlled trial of a point-of-care computerized intervention to improve family knowledge of environmental triggers for children with asthma,

- Poster presentation at AAP Conference 2018

37. Aronson PL, Cruz AT, Freedman SB, Balamuth F, Grether-Jones KL, Lyons TW, Fleming AF, Louie J, Mistry RD, Garro AC, Shah SS, Nigrovic LE. Impact of Herpes Simplex Virus Testing on Hospital Length of Stay for Infants ≤ 60 Days Old Undergoing Evaluation for Meningitis

- Poster presentation at PAS Conference 2019

38. Neville DN, Bennett JE, Balamuth F, Garro AC, Levas MN, Alexander M, Nigrovic LE for Pedi Lyme Net. The clinical impact of an electrocardiogram in the emergency department evaluation of children being evaluated for Lyme disease

- Poster presentation at PAS Conference 2019

39. Trainor, Glaser, Tzimenatos, Stoner, Brown, McManemy, Schunk, Quayle, Nigrovic, Garro, Rewers, Myers, Bennett, Quok, Olsen, Casper, Ghetti, Kuppermann. Clinical and Laboratory Predictors of Dehydration Severity in Children with Diabetic Ketoacidosis

- Oral presentation at AAP Virtual Conference 2020

40. Myers, Glaser, Trainor, Nigrovic, Garro, Tzimenatos, Quayle, Kwok, Rewers, Stoner, Schunk, McManemy, Brown, DePiero, Olsen, Casper, Ghetti, Kuppermann. Frequency, Risk Factors and Associations of Acute Kidney Injury During Diabetic Ketoacidosis in Children

- Oral presentation at AAP Virtual Conference 2020

INVITED PRESENTATIONS

LOCAL

"Guide to Medical Literature reviews"

SCRUBS undergraduate course (INTR 0001) at Brown University, April 15, 2010, 12 students

"Guide to Medical Presentations"

SCRUBS undergraduate course (INTR 0001) at Brown University, April 22, 2010, 12 students

"Introduction to Pediatric Emergency Medicine"

SCRUBS undergraduate course (INTR 0001) at Brown University, April 22, 2010, 12 students

"Epidemiology of Asthma: Pathophysiology, Clinical Management, and Treatment Paradigms"
Epidemiology of Chronic Disease Course (PHP 2210) for Brown University Department of Community Health, 2011, 2012, and 2014, 20 students

“Allergic Disease in the Emergency Department”
Understanding Allergy and Immunology (Biol 3715R) graduate level course at Brown University,
September 2011, March 2012, 12 students

“Introduction to Clinical Inquiry”
Introduction to Conducting Clinical Research (INTR 0001) undergraduate course at Brown University,
February 2012, February 2013, 20 students

“Qualitative and Mixed Methods seminar series”
Panel discussant for post-doctoral trainees and junior faculty in the Brown University Department of
Behavioral Health, February 2012

“Pediatric Respiratory Emergencies for EMS providers”
CME Lecture for EMS for Children Education Series at Brown University, October 2013

“Introduction to Pediatric Emergency Medicine”
Core Clerkship Elective for third year medical students at Brown University, December 2015, 2016 and
2017, 15 students

“Introduction to Qualitative Research”
Brown University Graduate Medical Education Responsibility in Research Lecture series, January 2017
and December 2017

“Epidemiology of Lyme disease”
Epidemiology and Control of Infectious Diseases (PHP 1854) at the Brown School of Public Health, 40
MPH and undergraduate students

REGIONAL

“Clinical Decision Rule for Obtaining Knee Radiographs”
Edward L. Pratt Lectures on Resident Research, Cincinnati Children’s Hospital Medical Center
May 2003

“An Evidence Based Approach to the Child less than 36 months with Fever”
Lecture - pediatric residents at Journal Club Meeting
Mecklenberg Gardens
Cincinnati, OH
November 2003

“Adherence with NHLBI Guidelines for the Treatment of Pediatric Asthma Exacerbations in the Home”
invited speaker at semi-annual meeting of Rhode Island Department of Health Medical Advisory
Committee in Providence, RI, May 2007

“Out of Control: Barriers to asthma management in our highest risk patients”. Grand Rounds for the
Department of Pediatrics at Brown University and Rhode Island Hospital in Providence, RI, December
2013

NATIONAL

“Managing Burns and Smoke Inhalation in Pediatric Patients”
Invited Lecture - Chairman’s Rounds at Cincinnati Children’s Hospital Medical Center, February 2004

“Managing Burns and Smoke Inhalation in Pediatric Patients”

Invited Lecture at Dartmouth-Hitchcock Medical Center in Hanover, VT, March 2008

"Pondering Pleocytosis: An evidence-based approach to diagnosing Lyme meningitis"
Grand Rounds for the Department of Pediatrics and Emergency Medicine at Dartmouth-Hitchcock Medical Center in Hanover, VT, January 2013

"Looking beyond Fellowship: Staying involved in Pediatric Emergency Medicine research"
Invited lecture at the New England Regional Pediatric Emergency Medicine Fellows Conference at Yale University Medical School, January 2013

INTERNATIONAL

"Acute Management of Seizures"
Invited Lecture - Angkor Hospital for Children in Siem Reap, Cambodia, January 2006

"Dysrhythmias"
Invited Lecture - Angkor Hospital for Children in Siem Reap, Cambodia, January 2006

"Managing Burns and Smoke Inhalation in Pediatric Patients"
Invited Lecture - Angkor Hospital for Children in Siem Reap, Cambodia, January 2006

REVIEWER / EDITORIAL ACTIVITIES

Peer Reviewer for the Journal of Academic Pediatrics	2009 to present
Peer Reviewer for Pediatrics	2011 to present
Peer Reviewer for Pediatric Infectious Disease Journal	2011 to present
Peer Reviewer for Journal of Pediatric and Adolescent Medicine	2011 to present
Peer Reviewer for Pediatric Emergency Care	2015 to present
Peer Reviewer for Annals of Emergency Medicine	2017 to present

Reviewer for comprehensive clinician educational modules on Lyme disease for the CDC 2020

GRANTS

1. Diagnosing Asthma in Young Children: Parents' Perceptions of Barriers. University Emergency Medicine Foundation Junior Faculty Research Development Grant (PI Garro), \$31,478 FY 2009-2011, role: Principal Investigator
2. Rhode Island Department of Health Asthma Control Program: Addressing Asthma from a Public Health Perspective, Rhode Island Department of Health CAP Contract: Emergency Department Diversion Project (PI: Klein / McQuaid) 2011 to present, \$70,000 FY 2011 - 2014, role: Co-investigator
3. Improving Pediatric Resuscitation: A Simulation Program for the Community ED. Agency for Health Research and Quality R18 (PI Brown), 2011 - 2014, \$243,101 (all years), role: Consultant
4. Optimizing Use of Inhaled Corticosteroids after Emergency Department Visits for Children with Uncontrolled Asthma. American Lung Association / Chest Foundation Grants Program (PI Garro) 2012 -

2015, \$76,980 (all years), role: Principal Investigator

5. New England Asthma Innovations Collaborative. Center for Medicaid & Medicare Services / Health Resources in Action, Health Care Initiative Challenge Award (PI: Chacker), 2012 to 2015, \$4,040,657 (all years), role: Co-investigator

6. Fluid Therapy and Cerebral Injury in Pediatric Diabetic Ketoacidosis. NICHD U01HD062417 (PIs: Kupperman/Glaser), 2011 - 2016, \$600,784 FY 2012 - present, Role: Clinical Center Investigator

7. Vital Signs: A Quality Improvement Project to Improve Patient Outcomes and Reduce Return Visits in the Pediatric ED. Lifespan Risk Management Grant (PI: Jacobs), FY 2012 - 2013, \$17,893 FY 2012, role: Co-investigator

8. Proinflammatory Biomarkers as Predictors of Delayed Recovery in Pediatric Concussion. Lifespan Development Grant (PI: Merritt), 2012, \$26,759 FY 2012 - 2013, role: Co-investigator

9. Novel diagnostics for children with Lyme disease. Boston Children's Hospital development grant (PI: Nigrovic), 2014, \$50,000 FY 2014 – 2016, role: Co-investigator

10. Emergency Department to Improve Pediatric Asthma Medicine Adherence. NICHD R21HD082621 (PI: Garro) 2015 - present \$442,750 FY 2015-2016, role: Principal Investigator

11. Pediatric Lyme Biorepository. Bay Area Lyme Foundation (PI: Nigrovic) 2016 to present \$200,000 FY 2016-2017, role: Co-investigator

12. Computerized Intervention to Improve Knowledge of Environmental Asthma Triggers. University Emergency Medicine Foundation Faculty Development Awards Program: Seed Grant Application 2016 - 2018 \$975, role: Principal Investigator

13. Childhood Asthma Research Innovation Program. Hassenfeld Child Health Innovation Institute initiative (PIs: McQuaid / Koinis-Mitchell) 2016 to 2022 \$2,000,000 total, role: Co-investigator

14. Rhode Island Asthma Integrated Response Program (RI-AIR). NHLBI U01 (PIs: McQuaid, Koinis-Mitchell). 2017 to 2022 \$5,500,000 total, role: Co-investigator

15. Pediatric Lyme meningitis treatment trial: outcome assessment and CSF biobank. Advance Clinical and Translational Research Center Resubmission Grant (PI: Garro). 2017 to 2018 \$20,000 total, role: Principal Investigator

16. Peer-Administered Asthma Self-Management Intervention in Urban Middle Schools. NIMHD R01 (PIs: Koinis-Mitchell, Canino). 2017-2022 \$3,156,287 total, role: Co-investigator

17. Metabolic Biosignatures of Lyme Disease in Human Urine. Department of Defense office of the Congressionally Directed Medical Researcher Programs TB170146 (PIs: Belisle, Garro, Nigrovic). 2018-2021, role: Co- Principal Investigator

18. Novel diagnostics for children with Lyme disease. Global Lyme Alliance (PI: Nigrovic), \$90,000 FY 2018 - 2022, Role: Co-investigator

19. Trial of Oral Doxycycline for the Treatment of Childhood Lyme Meningitis 1R34AI134558-01 (PI: Garro), \$261,693 2018-19, Role: Principal Investigator

20. Disparities in Sleep, Asthma, and the Sleep Context in Urban Children R01HL142058-01A1 (PIs: Koinis-Mitchell / Carskadon), \$592,183 per year (04/01/19 – 03/31/24); Role: Co-investigator

GRANTS REVIEWER

NIH / NHLBI (ad hoc committee)

2016

PROJECTS (Past and Current)

Investigator in Children's Asthma Research Program, Brown University and Hasbro Children's Hospital, April 2008 to present

Project HARP (Home Asthma Response Plan), steering committee member. Collaboration between the CDC, Rhode Island DOH and Hasbro Children's Hospital to develop a home-based education intervention for children with asthma, 2010 to present

Director for Providence College Research Internship program, 2015 - 2018

Investigator for Asthma core research in the Hassenfeld Children's Health Institute, 2016 to present

Collaborator with the RI Public Health Academic Center focus on asthma control, 2016 to present

COMMUNITY ENGAGEMENT/VOLUNTEER ACTIVITIES

Hasbro Children's Hospital Asthma Camp Medical Coordinator

2017 to 2020

UNIVERSITY TEACHING ROLES

Instructor for Independent Study at Brown University (Biol 1960), spring 2009. Mentored Jihoon Yoon, a Program in Liberal Medical Education (PLME) student at Brown University in his independent study project entitled "Young Children with Wheezing are a Prime Target for Public Health Interventions in the Pediatric Emergency Department", **Student presented as a poster at the Lifespan / Brown University 17th Annual Hospital Research Celebration**

Co-director for SCRUBS: Clinical Research Course (INTR 0001), Spring 2010, 12 students. This course brought undergraduate students interested in a career in medicine into the hospital setting to directly assist with on-going clinical research protocols. My responsibilities included sponsoring the course, giving several didactic lectures, training students about research protocols, and supervising students in their research roles

Co-director for Epidemiology and Biostatistics (Biol 3662 and Biol 3664) at the Warren Alpert Medical School of Brown University, 2010 to 2016, 100 students. This is the introductory epidemiology and biostatistics course taught to first and second year medical students. As co-director I was responsible for the course curriculum, arranging lecturers, arranging small group leaders, and providing one of the course lectures

HOSPITAL TEACHING ROLES

Associate Professor of Pediatrics and Emergency Medicine
Warren Alpert School of Medicine, Brown University
July 2007 to Present
Clinical Preceptor in Pediatric Emergency Department

Instructor for National Youth Leadership Forum and Care New England Programs at Rhode Island Simulation Center

August 2007, July 2008 and July 2009

MENTORING ROLES

Mentor for Summer Research Assistantship program at Brown University, 2008. Mentored Jihoon Yoon, a Program in Liberal Medical Education (PLME) student at Brown University in a project entitled "Use of Oral Ondansetron for Pediatric Gastroenteritis: Effects on Relevant ED Outcomes"

Physician Mentor for Doctoring Course at Warren Alpert School of Medicine of Brown University, 2010 to 2016 (6 longitudinal medical students)

Mentor for Summer Research Assistantship program at Brown University, 2011. Mentored Julia Gutierrez, a Program in Liberal Medical Education (PLME) student at Brown University in a project entitled "Validation of the Spanish version of the Pediatric Asthma Control and Communication Instrument". **She published 2 abstracts**

Primary thesis mentor for Dominic Wu, a Brown University premedical and medical student (class of 2016) 2011 to present, on his honors thesis entitled "Barriers in Emergency Healthcare: Disconnects of Patient and Physician Partnership Expectations"; Dominic published **one first author manuscript, was a co-author on a second manuscript and on 4 abstracts (one first author)**

Primary thesis Advisor for Erin Gosekamp, a Brown University Master of Public Health Student 2012 to 2013, on her thesis entitled "Assessment of Pediatric Patient use of Urgent Care Facilities"

Primary Thesis Advisor for Jessica Hoffen, a Brown University MD-ScM 2019 to present on her thesis entitled "Addressing Asthma Morbidity and Mortality in School-age Children through School-Based State Policy"

Mentor for Angelina Gennis, a Brown University Master of Public Health Student 2012 to 2013 on her Field Experience; **she published one abstract**

Mentor for Summer Research Assistantship program at Warren Alpert Medical School of Brown University, 2016. Mentored Julia Donner, a first year medical student in a project entitled "Improving Pediatric Antibiotic Adherence in the Emergency Department". She published **2 abstracts, and one first author manuscript**

Mentor for Scholarly Concentration program at Warren Alpert Medical School of Brown University, 2016 to 2019. Mentored Julie Edwards, a medical student in a project entitled "Computer Intervention to Improve Family Knowledge of Environmental Triggers for Children with Asthma". She published **one abstract**

Mentor for medical student at Warren Alpert Medical School of Brown University, 2016 to 2019. Mentored Carolina Galindo in conjunction with mentors in the Brown Department of Biomedical Engineering and the Rhode Island School of Design, on a project entitled "AIR in Pediatric Asthma (Adjuncts to Incentivize: Research in Pediatric Asthma)". She published **one abstract**

Mentor for Summer Research Assistantship program at Warren Alpert Medical School of Brown University, 2017. Mentored Kimberly Glerum, a first year medical student in a project entitled "Toward understanding caregivers' knowledge and beliefs surrounding infant pacifier use in relation to safe sleep practice guidelines". She was a **co-author on one manuscript**

Mentor for Pediatric Fellow Research. Mentored Bonnie McKenzie, MD in research project entitled "Traumatic Brain Injury and Attention Deficit/Hyperactivity Disorder in Children: A Study of Children Aged 2 to 17 Years in the United States, 2007"

Mentor for Pediatric Resident Research. Mentored Frances Turcotte-Benedict, MD in research project entitled "Diagnosing Asthma in Young Children: Parents' Perceptions of Barriers 2009-2010". She published **two abstracts**

Mentor for Emergency Medicine Resident Research. Mentored Elizabeth Goldberg, MD in research project entitled "Adaptation of the Pediatric Asthma Control & Communication Instrument (PACCI) for use in the emergency department". She published **one first author manuscript and two abstracts**

Mentor for Pediatric Resident Research. Mentored Ursula Laskowski-Kos, MD in research project entitled "Adaptation of the Pediatric Asthma Control & Communication Instrument (PACCI) for use in the emergency department". She published **two abstracts**

Mentor for Pediatric Fellow Research. Mentored Therese Canares, MD in research project entitled "Assessment of Pediatric Patient use of Urgent Care Facilities". She published **two first author manuscripts and two abstracts**