

CONTACT INFORMATION	University of Arkansas for Medical Sciences College of Medicine 4301 W. Markham St, #530 Little Rock, AR 72205-7199	klewis@uams.edu
EDUCATION	Doctor of Philosophy in Mathematics University of Maryland at College Park College Park, MD	2014
	BA in Mathematics, <i>Highest Honors Degree</i> University of California Berkeley Berkeley, CA	2008
ACADEMIC APPOINTMENTS	Assistant Professor Department of Family and Preventive Medicine College of Medicine University of Arkansas for Medical Sciences Little Rock, AR	2020 -- Present
	Assistant Director of Health Policy Research Arkansas Center for Health Improvement University of Arkansas for Medical Sciences Little Rock, AR	2019 -- Present
	Health Policy Microsimulation Architect Arkansas Center for Health Improvement University of Arkansas for Medical Sciences Little Rock, AR	2017 – 2019
	Research Assistant/Teaching Assistant University of Maryland at College Park College Park, MD	2009 – 2013
OTHER POSTIONS AND EMPLOYMENT	Mathematician Office of Debt Management US Department of the Treasury Washington, DC	2015 – 2017
WORKSHOPS WITH SUPPORT	Research Fellow Material Defects Work Shop Institute of Pure and Applied Mathematics University of California, Los Angeles	2012

	<p>Researcher</p> <p>Mathematical Modeling in Industry Workshop University of Calgary</p>	2012
CURRENT GRANT/SUPPORT	<p>CommonWealth Fund (Lewis PI)</p> <p><i>Title:</i> Inequities in Telemedicine Primary Care Access Among Medicaid Adults <i>Role:</i> Principal Investigator This project is focused on assessing systematic bias in telemedicine and office-visit access experienced by Medicaid enrollees during the COVID-19 pandemic.</p>	2021
	<p>CMS (CFDA93.778) and AR State General Revenue (4600034068) (Thompson PI)</p> <p><i>Deliverable C Title:</i> Healthy Active Arkansas Obesity Data Analysis FY 2019, 2020, 2021 <i>Role:</i> Deliverable C Project Leader/Lead Analyst (FY2020, 2021); Senior Analyst (FY2019) <i>Description:</i> In an effort to support cost-containment and health improvement strategies associated with Medicaid reform, this project examines the impact of obesity on children’s health and the associated medical utilization and costs of obesity-related conditions.</p>	2018-2021
	<p>Arkansas Department of Human Services, Division of Child and Family Services (4600045495) (McKelvey PI)</p> <p><i>Title:</i> Arkansas Maternal, Infant and Early Childhood Home Visiting Program Evaluation <i>Role:</i> Co-Investigator (2020-Present) <i>Description:</i> The study evaluates the implementation of services that support families with the ultimate goal of preventing child foster care placement in all Arkansas counties. Funded by the Arkansas Department of Human Services, Division of Child and Family Services.</p>	2019-2024
	<p>United States Department of Health and Human Services’ Health Resources and Services Administration (D89MC23141; D89MC28258; X10MC31128; X10MC32178; X10MC29461)</p> <p><i>Title:</i> Evaluation of the Arkansas Home Visiting Network <i>Role:</i> Co-Investigator (2019-Present) <i>Description:</i> The study evaluates the implementation of home visiting in 29 Arkansas counties using evidence-based home visiting programs (Following Baby Back Home, Healthy Families America, Parents as Teachers, Home Instruction for Parents of Preschool Youngsters).</p>	2019-2024
	<p>University of Arkansas for Medical Science (the Health Challenges of Rural and Underrepresented Populations Pilot Grant) (Whiteside-Mansell PI)</p>	2020-2021

Title: Adverse Childhood Experiences of Rural and Underserved Arkansans: Identification of Risk with Links to Outcomes

Role: Co-Investigator

Description: The goal of this study is increase the understanding of the unique consequences of ACEs for children living in rural locations, while building on our work with a novel screening tool, Family Map Inventories (2006-present) of the home environments of rural, underserved children in Arkansas.

PREVIOUS SUPPORT

Centers for Medicare and Medicaid Services (Thompson PI)

Title: CMS Section 1115 Demonstration Waiver Evaluation for the Health Care Independence Program

2019-2020

Role: Senior Analyst

Description: This funding involves conducting a scientific CMS Section 1115 Demonstration waiver evaluation of the Health Care Independence Program (“Private Option”) Arkansas Works program that includes sophisticated and cutting edge project designs. Lewis assisted on development of research design and creation of analyzable datasets, and was responsible for implementing quasi-experimental designs (propensity score estimation/matching, regression discontinuity) and generalized linear models.

EDUCATIONAL ACTIVITIES

Research Education

Residency Research Coordinator

2021-

Undergraduate Course Teaching

Instructor, Calculus I: Introduction to Calculus, University of Maryland

2014

Teaching Assistant

Calculus III: Multivariable Calculus, University of Maryland

2011

Introduction to Probability, Introduction to Linear Algebra, University of Maryland

2009-2010

Introduction to Linear Algebra, University of California Berkeley

2008

Others

Counselor, PROMIS program, Boston University, MA

2008

Volunteer Tutor, East Bay Conservation Corps, CA

2007

PROFESSIONAL MEMBERSHIPS

CDC/ADH COVID-19 Research Task Force

2021 –Present

AcademyHealth

2017 – 2019

American Mathematical Society

2009 – 2014

COMMUNITY SERVICES

Pulaski Height Methodist Church, Child Learning Center, Board Member

2021--Present

East Bay Conservation Corps, Volunteer Tutor

2007-2008

HONORS AND AWARDS	Graduate Dean's Award (Top 10 Graduates throughout the University), University of Maryland	2013 – 2014
	Gold Medal in Teaching Excellence (Top 5 teaching assistants), University of Maryland	2012
	Monroe H. Martin Graduate Research Fellowship (1 Ph.D in math/physics), University of Maryland	2011
	Graduate Student Summer Research Fellowship, University of Maryland	2011
	Highest Honors Degree, University of California, Berkeley	2008
	Dorothea Klumpke Roberts Prize (Top 5 Graduates), University of California, Berkeley	2008
	Highest Distinction in General Scholarship, University of California, Berkeley	2008
	International Student Scholarships, University of California, Berkeley	2007 –2008
	Dean's List, University of California, Berkeley	2008

PEER REVIEWED
PUBLICATIONS

1. **Lewis, K.**, Goudie A., Wilson C., Taiwo E., Thompson J. (to be submitted to American Journal of Preventive Medicine) Inequities in Telehealth Use Among Low-Income Arkansas Adults Associated with Payer Type
2. Whiteside-Mansell, L., McKelvey L. M., & **Lewis, K.** (*submitted*). Screening for Adverse Childhood Experiences (ACEs) before age 3: Evidence for The Family Map Inventories. *Families, Systems, and Health*
3. McKelvey L., **Lewis K.N.**, Beavers J., Casey P.H., Irby C., Goudie A. (2021). Home-Visiting Support for Low-Birth-Weight Preterm Neonatal Intensive Care Unit Graduates: Examining the Impact of the Following Baby Back Home Intervention. *Pediatrics*
4. Self J., Callison K., Goudie A., **Lewis K.N.**, Thompson, J.W. (2021). Medicaid Expansion and Healthcare Use for Adults Experiencing Homelessness in Arkansas. *HealthAffairs*
5. Goudie A., Martin B., Li C., **Lewis K.N.**, Han X, Kathe N, Wilson J.C., Thompson J.W. (2020). Higher Rates of Preventive Health Care among Commercially Insured Compared to Medicaid: Findings from the Arkansas Health Care Independence 'Private Option' Program. *Medical Care*
6. Schneider, J. P., **Nakamura, K.**, & Margetis, D. (2014). Role of chemical potential in relaxation of faceted crystal structure. *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 89(6). PMID: 25019795.
7. Bläßle, A., Bebart, J., Lifeng, L., **Nakamura, K.**, Nolan, K., Paraschiv, V. (2013). Optical touch sensing: practical bounds for design and performance. *IS&T/SPIE Electronic Imaging*, Vol. 8657.
8. **Nakamura, K.**, & Margetis, D. (2013). Phase-field model for reconstructed stepped surface. *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 88(1). PMID: 23944596.
9. **Nakamura, K.**, & Margetis, D. (2012). Discrete and continuum relaxation dynamics of faceted crystal surface in evaporation models. (SIAM Journal on) Multiscale Modeling & Simulation, Vol. 11(1).
10. Margetis, D., & **Nakamura, K.** (2012). Homogenization of composite vicinal surfaces: Evolution laws in 1+1 dimensions. *Physica D: Nonlinear Phenomena*, 241(14), 1179–1189.

11. **Nakamura, K.** (2014). Evolution of crystal surfaces: Modeling and analysis, Ph.D Thesis.
12. Margetis, D., & **Nakamura, K.** (2011). From crystal steps to continuum laws: behavior near large facets in one dimension. *Physica D Nonlinear Phenomena*, 240(13), 1100--1110.

STUDY AND POLICY
REPORTS

1. Goudie, A., **Lewis, K.**, & Thompson, J.W. (2021). Arkansas child obesity growth patterns and evaluations of preschool interventions on obesity in kindergarten. Arkansas Center for Health Improvement. Little Rock, AR.
2. University of Arkansas for Medical Science and Arkansas Center for Health Improvement. Arkansas Maternal, Infant and Early Childhood Home Visiting Program Evaluation of a Promising Practice: Following Baby Back Home. Submitted to Health Resources and Services Administration, December 2020.
3. **Lewis K.**, Goudie A., Kahn R., Li J., Porter A., Zohoori N., Thompson J.W. (2020). COVID-19 comorbid conditions associated with severe outcomes in Arkansas. *Journal of the Arkansas Medical Society*, November 2021.
4. Arkansas Center for Health Improvement, Arkansas Medicaid. Profiling Arkansas Child Obesity Growth Patterns, Risk Factors, and Health Outcomes. Arkansas Center for Health Improvement, June 2020.
5. University of Arkansas for Medical Science and Arkansas Center for Health Improvement. Arkansas Maternal, Infant and Early Childhood Home Visiting Program Evaluation of a Promising Practice: Following Baby Back Home. Submitted to Health Resources and Services Administration, December 2019.
6. Arkansas Center for Health Improvement. Champions for Health Pilot Project: Morrilton Intermediate School. Little Rock, AR: Arkansas Center for Health Improvement, August 2019.
7. Arkansas Center for Health Improvement and Arkansas Medicaid. Comorbid Conditions and Costs Associated with Childhood Obesity in Arkansas. Little Rock, AR: Arkansas Center for Health Improvement and Arkansas Medicaid, June 2019.
8. Arkansas Center for Health Improvement. Arkansas Health Care Independence Program ("Private Option") Section 1115 Demonstration Waiver Final Report. Little Rock, AR: Arkansas Center for Health Improvement, June 2018.
9. **Nakamura, K.**, & Zhang, A. (2015). Technical Note on MC Curve Construction, US Treasury White Paper.

INVITED ORAL
PRESENTATIONS

1. McKelvey, L., Greenwood, T., **Lewis, KN.**, & Thompson, JW. Arkansas Medicaid Expansion: Future Opportunity & Evidence to Improve Child Health. Arkansas Department of Health Grand Round, May 2020.
2. **Lewis KN.** Reconstructing BMI Growth Curves Using Arkansas Child Population Referent Group, Center for Childhood Obesity Prevention External Advisory Committee Retreat, August 2019
3. **Lewis KN.** Determining the Strength of the Obesogenic Environment, Machine Learning Panel, AcademyHealth Annual Research Meeting, Washington D.C., June 2019
4. **Lewis KN.** Term Structure Models and Incorporating Views, Annual Joint G7 Debt Management Meeting, Ministry of Finance, London, UK, November 2016
5. **Nakamura, K.** Homogenization of Heterogeneous Crystal Surfaces in 1 + 1 Dimensions. AMS Annual Joint Mathematics Meeting, Baltimore MD, Jan 2014.

6. **Nakamura, K.** Influence of Microscopic Structures on Facet Motion, Material Defect Seminar Series, University of Michigan, July 2013
7. **Nakamura, K.** Stepped Surfaces: Remnants of Discrete Dynamics at a Facet in the Continuum Limit, Material Defect Seminar Series, IPAM, November 2012
8. **Nakamura, K.** Remnants of Discrete Dynamics at a Facet in the Continuum Limit, Applied PDE RIT, University of Maryland, October 2012
9. **Nakamura, K.** Proper Viscosity Solutions of Second-Order Equations, Informal Seminar, University of Tokyo, October 2012

ORAL PRESENTATIONS

1. Whiteside-Mansell, L., McKelvey L. M., & **Lewis, K.** Using the Family Map Inventories to Individualize a Response to Adverse Childhood Experiences (ACEs). Paper symposium presented to the 2021 SRCD Biennial Meeting April, 2021.
2. Goudie A, **Lewis K**, Martin B, Wilson, C., Thompson J. Does Type of New Health Coverage Impact Mortality? Findings from the Arkansas "Private Option" Medicaid Expansion Program. AcademyHealth Annual Research Meeting, Virtual, July 2020
3. **Lewis KN.** Reconstructing BMI Growth Curves Using Arkansas Child Population Referent Group, University of Arkansas for Medical Science Biostatistics Seminar, February 2020
4. Goudie A, Martin B, Kathe N, Li C, Moore G, **Lewis K**, Thompson J. Higher Rates of Preventive Health Care Among Premium Assistance Commercial, Compared to Medicaid Insured: Findings from the Arkansas Health Care Independence Program "Private Option." AcademyHealth Annual Research Meeting, Seattle WA, June 2018
5. **Nakamura, K.** Some Classical and Modern Methods for Free Boundary Problems, Student PDE Seminar, University of Maryland, September 2012
6. **Nakamura, K.** Optical Touch Sensing: Analytic and Computational Aspects, Final Presentation for MMIW, University of Calgary, July 2012
7. **Nakamura, K.** Homogenization of Heterogeneous Materials, Applied PDE RIT, University of Maryland, November 2011
8. **Nakamura, K.** Steps and facets in model of evaporation-condensation, Non-Equilibrium Interface and Surface Dynamics RIT, University of Maryland, October 2011
9. **Nakamura, K.** Evolution of Crystal Surface: Boundary Conditions and Decay Estimates, Preliminary Oral Exam, University of Maryland, December 2010
10. **Nakamura, K.** How Do You Write Boundary Conditions At Crystal Facets?, Non-Equilibrium Interface and Surface Dynamics RIT, University of Maryland, December 2010
11. **Nakamura, K.** Evolution of Crystal Surface: Boundary Conditions and Decay Estimates, Applied PDE RIT, University of Maryland, November 2010
12. **Nakamura, K.** Equivalent Constructions of Non-commutative Tori, Student Analysis Seminar, University of Maryland, October 2009

FIRST AUTHOR POSTER PRESENTATIONS

1. **Lewis KN**, Goudie A, Thompson JW. Classification of Arkansas Hospitals by Pre- and Post-Medicaid Expansion Profit Margin Trends Using a Sequential Process Growth Mixture Model. Accepted to present at Modern Modeling Methods Conference, Storrs CT, June 2020.
2. **Lewis KN**, Money K, Goudie A, Poe D, Thompson JW. Health Data Collection, Linkage, and Validation without Personally Identifiable Information. Presented at International Conference on Health Policy Statistics, San Diego CA, January 2020.

3. **Lewis KN**, Goudie A, Wilson JC, Thompson JW. Secondary Economic Effects of Medicaid Expansion in Arkansas. Presented at AcademyHealth Annual Research Meeting, Washington DC, June 2019.
4. **Lewis KN**, Goudie A, Thompson JW. Estimation of Arkansas Childhood Type 2 Diabetes Mellitus Rates. Presented at AcademyHealth Annual Research Meeting, Washington DC, June 2019.
5. **Lewis KN**, Goudie A, Thompson JW. Probabilistic Validation of Data Linkage in Large Datasets without a Gold Standard. Presented at AcademyHealth Annual Research Meeting, Washington DC, June 2019.
6. **Lewis KN**, Money K, Goudie A, Poe D, Thompson JW. Using APCD Unique IDs for Data Linkage, Claims Data for Population Health, Linkage and Data Enhancement. Oral Presentation at National Association of Health Data Organization Annual Meeting, October 2018
7. **Lewis KN**, Goudie A, Li C, Han X, Martin B, Thompson JW. Methodological Approach for the Evaluation of the Arkansas Health Care Independence Program. Presented at AcademyHealth Annual Research Meeting, Washington DC, June 2018.