DIAN LUO

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EDUCATION

University of Wisconsin-Madison, UW-Madison School of Medicine and Public Health, Madison, WI
Doctor of Philosophy in Population Health (Minor in Statistics) **Sep 2020-Except Dec 2025**
Dissertation: *Health Care Equity of Post-acute Care in Inpatient Rehabilitation Facilities: Comparison Between Traditional Medicare and Medicare Advantage*
Committee members: *Dr. Ying (Jessica) Cao (Chair), Dr. Mariétou Ouayogodé, Dr. John Mullahy, Dr. Marguerite Burns, Dr. Wan-chin Kuo*

Emory University, Rollins School of Public Health, Atlanta, GA
Master of Public Health in Health Policy and Management **Aug 2018-May 2020**

Southwest University, Chongqing, China
Bachelor of Arts in Economics **Sep 2014-Jun 2018**

Selected Statistic Course:
Mathematical Statistics, Survival Analysis Theory and Methods, Advanced Regression Methods for Population Health, Advanced SAS Programming, Advanced R Programming, Python Programming in Healthcare, Regression Methods for Population Health

Selected Epidemiology Course:
Epidemiology Methods, Advanced Epidemiology: Causal Inference in Epidemiologic Studies

Selected Health Economics Course:
Introduction to Health Services Research, Health Economics, Cost Effective Analysis in Health and Healthcare, Measuring Health Outcomes, Applied Econometric Analysis, Machine Learning in Applied Economic Analysis

PUBLICATION

Luo, D., Kuo, Wc (2024). Great leap forward famine exposure and urban-rural migration convolute the modern prevalence of diabetes in China. J Health Popul Nutr 43, 109. https://doi.org/10.1186/s41043-024-00596-2.

Luo, D., Ouayogodé, M. H., Mullahy, J., & Cao, Y. (2024). Regional Variation in Length of Stay for Stroke Inpatient Rehabilitation in Traditional Medicare and Medicare Advantage. Health Affairs Scholar, qxae089.

Cao, Y. J., & **Luo, D.** (2023). Post-Acute Care in Inpatient Rehabilitation Facilities Between Traditional Medicare and Medicare Advantage Plans Before and During the COVID-19 Pandemic. Journal of the American Medical Directors Association, 24(6), 868-875.

Green, T. L., Vu, H., Swan, L. E., **Luo, D.**, Hickman, E., Plaisime, M., & Hagiwara, N. (2023). Implicit and explicit racial prejudice among medical professionals: updated estimates from a population-based study. The Lancet Regional Health–Americas, 21.

Luo, D. (2022). Regional variation in healthcare usage for Medicare beneficiaries: a cross-sectional study based on the health and retirement study. BMJ open, 12(8), e061375.

Luo, D., Deng, J., & Becker, E. R. (2021). Urban-rural differences in healthcare utilization among beneficiaries in China's new cooperative medical scheme. BMC Public Health, 21(1), 1-13.

Leng, Y., **Luo, D.**, Liu, L., Ma, Y., & Deng, J. (2021). Research on the economic risk of diseases in middle-aged and elderly patients with diabetes—evidence from China. Journal of Public Health, 29, 1001-1011.

PRESENTATION

Kuo, W. C., Lally, B., **Luo, D.**, & Brown, R., Where We Work Correlates with Whether We Receive Cardiorespiratory Preventive Care Services. Poster Presentation at American Heart Association, Scientific Sessions, Chicago, IL, November 2024.

Luo, D., Cao, Y., Regional Variation of Length of Stay for Inpatient Rehabilitation Services Among Stroke Patients Before and During the COVID-19 Pandemic: Comparison Between US Traditional Medicare and Medicare Advantage. Poster Presentation at Academy Health, Annual Research Meeting (ARM), Seattle, WA. June 2023.

Luo, D., Post-Acute Care in Inpatient Rehabilitation Facilities Between Traditional Medicare and Medicare Advantage Plans Before and During the COVID-19 Pandemic. Graduate Seminar, UW-Madison, Fall 2022.

Luo, D., Regional variation in healthcare usage for Medicare beneficiaries: a cross-sectional study based on the health and retirement study. Graduate Seminar, UW-Madison, Fall 2021.

REFEREE EXPERIENCE

Archives of Public Health, BMC Health Services Research, BMC Public Health, BMC Geriatrics, Cost Effectiveness and Resource Allocation, International Journal for Equity in Health.

RESEARCH EXPERIENCE

University of Wisconsin-Madison, UW-Madison School of Medicine and Public Health, Madison, WI
Department of Population Health Sciences   Jan 2022-Current
Project Assistant of Dr. Ying Cao

Project I: Comparison of Post-Acute Care in Inpatient Rehabilitation Facilities between Beneficiaries with Traditional Medicare and Medicare Advantage Plans: 2019-2020

- Conducted literature review on comparison between Traditional Medicare and Medicare Advantage plans related to health outcomes in the inpatient rehabilitation facilities.
- Extracted data and performed preliminary analysis in STATA&R to trace the change of length of stay (LOS), payment, and place of discharges before and during the COVID-19 pandemic.
- Summarized results and prepared the manuscript. We found that Medicare beneficiaries had longer LOS, lower payment per episode, more discharges to home with HHA, and less to SNF than TM beneficiaries. During the pandemic, both plan types had shorter LOS, higher payment, increased discharges to home with HHA, and decreased discharges to SNF compared to that before the COVID-19 pandemic.

Project II: Regional Variation of Length of Stay for Inpatient Rehabilitation Services Among Stroke Patients: Comparison between US Traditional Medicare and Medicare Advantage

- Conducted literature review on comparison between Traditional Medicare and Medicare Advantage plans related to health outcomes in the inpatient rehabilitation facilities.
- Extracted data and performed preliminary analysis in STATA&R to trace the regional variation change of length of stay (LOS) among stroke patients before and during the COVID-19 pandemic.
- Summarized results and prepared the manuscript. We found that risk-adjusted average LOS decreased for both TM and MA during the pandemic, whereas the regional variation decreased among TM-covered episodes but increased among MA-covered ones. The changes were driven by a few different regions between TM and MA.

University of Wisconsin-Madison, UW-Madison School of Medicine and Public Health, Madison, WI
Department of Population Health Sciences   Sep 2020-Aug 2021
Project Assistant of Dr. Marietou Ouayogode

Project I: COVID-19 and Employment Security: The Case of Wisconsin

- Conducted literature review on the association between COVID-19 and employment security.
- Extracted data and performed preliminary analysis in STATA&R to trace the change of 1) employment rate 2) unemployment rate 3) the number of labor force 4) wage between 2010 and 2021 based on U.S. Bureau of Labor Statistics.
- Prepared the abstract to describe these changes and found most states had the lowest employment rate in March 2020 and quickly recovered later.

Project II: COVID-19, Food Security, and Obesity in Wisconsin

- Conducted literature review on the association between COVID-19 and food security and the association between COVID-19 and obesity.
- Extracted data and performed preliminary analysis in STATA&R to compare the pre and post COVID-19 pandemic difference in food security and the relationship between food security and obesity based on the Survey of the Health of Wisconsin.
- Prepared the abstract to summarize results and found that food insecurity was highly associated with overweight and was more prevalent in post COVID-19 pandemic.

Project III: COVID-19-related Discrimination, Stress related Racism, and Discrimination in Wisconsin

- Conducted literature review on the association between COVID-19 and discrimination.
- Extracted data and performed preliminary analysis in STATA&R to compare the pre and post COVID-19 pandemic difference in discrimination based on the Survey of the Health of Wisconsin.
- Prepared the abstract and found that race discrimination was more likely to happen on minor groups, especially on Asians, in post COVID-19 pandemic.

University of Wisconsin-Madison, UW-Madison School of Medicine and Public Health, Madison, WI
Department of Population Health Sciences   Sept 2020-Dec 2021
Project Assistant of Dr. Tiffany Green

Project I: Data Analysis for Project Implicit Data

- Cooperated with colleagues to create data dictionary for race-based and weight bias project implicit data.
- Collaborated with colleagues to conduct preliminary data cleaning and created STATA datasets for project implicit data.
- Cleaned the Behavioral Risk Factor Surveillance System (BRFSS) data and created STATA datasets for BRFSS data.
- Integrated BRFSS data into project implicit data and created descriptive tables.
- Participated in weekly meetings.

Project II: Implicit and Explicit Racial Prejudice among Medical Professionals: Updated Estimates

- Conducted literature review on implicit and explicit anti-Black prejudice among US physicians.
- Extracted data and performed preliminary analysis in STATA to assess the associations between self-reported occupational status (physician, non-physician healthcare worker) and implicit and explicit prejudice toward Black, Arab-Muslim, Asian, and Native Americans, net of demographic characteristics.
- Summarized results and prepared the manuscript. We found that physicians and non-physician healthcare workers exhibited more implicit and explicit anti-Black and anti-Arab-Muslim prejudice than the general population.

Emory University, Rollins School of Public Health, Atlanta, GA
Hubert Department of Global Health   Sept 2019-May 2020
Graduate Research Assistant of Dr. Solveig Cunningham

Project: Urban-rural Differences in the Distribution and Risk Factors of Diabetes Among Rural Hukou Beneficiaries of New Cooperative Medical Scheme in China

- Conducted literature review on the association between obesity and diabetes among the Chinese middle-aged and elderly population in urban vs. rural areas
- Extracted data and performed preliminary analysis in Stata to compare urban-rural differences of prevalence, risk, and association of diabetes and obesity based on the Chinese Health and Retirement Longitudinal Study in 2011, 2013, and 2015
- Prepared the manuscript for publication and found the obesity or overweight rural and urban residents are more likely to have diabetes, while the association is stronger among rural residents

Emory University, Rollins School of Public Health, Atlanta, GA
Department of Health Policy and Management   Feb 2019-Aug 2021
Graduate Research Assistant of Dr. Edmund Becker

Project: Urban-rural Differences in Healthcare Utilization Among Rural Hukou Beneficiaries of the New Cooperative Medical Scheme in China

- Explored the association between healthcare utilization and living area among the Chinese beneficiaries of the New Cooperative Medical Scheme.
- Conducted multilevel regressions to test the association using Stata based on the data from the Chinese Health and Retirement Longitudinal Study in 2015.
- Drafted manuscript for publication and found that rural residents have higher frequency and probability on both inpatient and outpatient visits than urban beneficiaries.

Columbia University, Mailman School of Public Health, New York City, NY
Department of Epidemiology   May 2019-Dec 2020
Graduate Research Assistant of Dr. L. H. Lumey

Project I: The Economic Burden of Disease in Middle-Aged and Elderly People with Diabetes

- Collaborated with colleagues to conduct literature review on the economic burden of diabetics among middle-aged and elderly Chinese.
- Compared differences of medical expenditure between aware and unaware diabetics using Stata.
- Drafted manuscript for submission and found that unaware diabetics have higher medical expenditures and a larger healthcare expenditure increasing rate than aware diabetics in both 2011 and 2015.

Project II: Urban and Rural Disparities in Healthcare Expenditures Among Rural Hukou Beneficiaries of New Cooperative Medical Scheme in China

- Investigated the history and policies changes of Chinese Social Health Insurance since 1949, especially the changes after the healthcare reform in 2009.
- Performed multilevel analysis in Stata to compare urban-rural differences of medical expenditures among rural beneficiaries of Chinese Social Health Insurance.
- Prepared the manuscript for publication and found that rural beneficiaries have higher outpatient expenditures but less inpatient expenditures than urban residents.

Mathematical Contest in Modeling, Chongqing, China   Dec 2016-Apr 2017

Data Analyst

- Led a group of four people to design a model for toll station incorporating Electronic Toll Collection lane (ETC) and human attended toll collection lane.
- Applied the Support Vector Machine (SVM) method to predict numbers of ETC lanes and human attended lanes per toll collection station, to ensure lane efficiency, and to minimize the possibility of car congestion.
- Drafted a report and presented on the mathematical contest evaluation panel.

Marketing Club at Southwest University, Chongqing, China   Mar 2015-Jun 2015
Project Analyst

- Designed a survey to collect data on Southwest University students' smoking behaviors, product preferences, and expenditures.
- Conducted in-person interview, collected and cleaned data with excel, and made descriptive analysis.
- Prepared report and tables for presentation with colleagues.

PROFESSIONAL EXPERIENCE

Medical Insurance Management Bureau, Nanchong, China   Jun 2017-Jun 2018
Health Insurance Analysis Intern

- Examined relationship between health insurance types and out of pocket money for medical service under different health conditions for 20,000 subjects.
- Summarized results, created graphics, and presented at a schoolwide social science research meeting.
- Formulated public health insurance policy recommendations on how to expand health insurance coverage based on analytical results.

China CITIC Bank, Chongqing, China   Jun 2016-Aug 2016
Finance Department Intern

- Planned and organized weekly department meeting under the supervisor's guidance.
- Applied VBA to test and analyze customer risk preference according to their investment ability and willingness.
- Take part in an assessment of operating performance of securities firms through financial statement analysis.

TECHNICAL SKILLS

Statistical software: R; Stata; SAS; Eviews; Python; MS Excel, Word, and PowerPoint applications.
Language: Chinese (native) and English (professional fluency).

REFERENCES

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