

Ransmond O. Berchie, MS, GStat

CONTACT INFORMATION

University of Utah School of Medicine, Department of Population Health Sciences
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RESEARCH INTERESTS

Survival analysis, longitudinal & multilevel data analysis, causal inference, statistical machine learning

EDUCATION

University of Utah School of Medicine, Salt Lake City, UT May 2025 (*Expected*)

Ph.D. Population Health Sciences - Biostatistics

Northern Arizona University, Flagstaff, AZ

May 2020

M.S. Statistics (**With Distinction; Final CGPA: 4.00 / 4.00**)

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

June 2017

B.S. Statistics (**First Class Honors**)

COLLABORATIVE RESEARCH

Graduate Research Assistant: Study Design & Biostatistics Center (SDBC),
University of Utah

August 2020 - Present

Mentor: Adam Bress, PharmD, MS

- First author and leading the analysis for estimating the Per-protocol effect of initiation and continuous treatment with angiotensin-II receptor blockers versus angiotensin-converting enzyme inhibitors on cardiovascular outcomes in a dataset with >2 million Veterans
- Co-first author and lead analyst for estimating the Per-protocol effect of initiation and continuous treatment with angiotensin-II receptor blockers versus angiotensin-converting enzyme inhibitors on cognitive outcomes in SPRINT
- Leading the data management and analysis for evaluating the association of genetic ancestry with cardiovascular disease among African Americans: Findings from the Jackson Heart Study and the Reasons for Geographic and Racial Differences in Stroke (REGARDS) cohorts
- Led the analysis for estimating the intent-to-treat effect of initiating an ACEI vs. ARB on cardiovascular disease outcomes among SPRINT and ACCORD-eligible US adults
- Led the data management and analysis for evaluating the association between pharmacy proximity with cardiovascular medication use and risk factor control in the United States
- Led the analysis for evaluating the Factors Associated with Antihypertensive Monotherapy Among US Adults with Treated Hypertension and Uncontrolled Blood Pressure Overall and by Race/Ethnicity, NHANES 2013-2018
- Second analyst for evaluating the distribution of predicted cardiovascular and all-cause mortality benefit of intensive vs. standard blood pressure control among SPRINT-eligible US adults

Mentor: Angela Presson, Ph.D., MS

- Double programmer for estimating the response rate of the patient-reported outcomes 1-year post-op and identifying factors associated with the response rate among patients who had hand surgery.

FUNDING FOR
GRADUATE
EDUCATION /
GRANT ACTIVITY

Title:	Informing optimal first-line antihypertensive therapy: A rigorous comparative effectiveness analysis of ARBs vs. ACEIs on long-term risk of dementia, cancer, heart disease, and quality of life
Role:	Analyst (PI: Bress)
Dates:	3/2022 – 12/2025
Funding Agency/Number:	NIA / R01AG074989
Description:	In this study, we will use national Veterans Health Administration and Kaiser Permanente Southern California data to determine the long-term comparative effects of ARBs versus ACEIs on the risk of dementia, cardiovascular disease, cancer, frailty, and life expectancy accounting for level of illness and quality of life.
Title:	Guiding next steps for SPRINT-MIND implementation: Identifying high-benefit subgroups and comparative effects of ARB- vs. ACEI-based regimens
Role:	Analyst (PI: Bress)
Dates:	08/2020 – 04/2024
Funding Agency/Number:	NIA / R01AG065805
Description:	This project will apply predictive modeling methods to identify optimal patients to receive intensive systolic BP treatment for cognitive outcomes. We will also conduct a comparative analysis evaluating ACEI- vs. ARB-based regimens on cognitive outcomes.
Title:	Patient Level Prediction of Clinical Outcomes and Cost-Effectiveness in SPRINT (Optimize-SPRINT)
Role:	Analyst (MPI: Bress, Moran, and Weintraub)
Dates:	12/2017 – 11/2023
Funding Agency/Number:	NHLBI / R01HL139837
Description:	This project will apply predictive modeling methods to identify optimal patients to receive intensive systolic BP treatment for cardiovascular outcomes and all-cause mortality. We also performed cost-effectiveness, national budget impact, and population-based analyses.
Title:	Using pharmacoepidemiology to optimize antihypertensive medication use to prevent aging-related multimorbidity: Midcareer investigator award in patient-oriented research and mentoring.
Role:	Analyst (PI: Bress)
Dates:	2/2023 – 1/2028
Funding Agency/Number:	NIA / K24AG080168-01
Description:	This proposal will give Dr. Bress time and support to continue his track record of successful mentorship of early-career investigators, and expand his mentored research program to include social determinants of health in aging-related multimorbidity.

TEACHING
EXPERIENCE

Part-Time Instructor, Northern Arizona University	Jul 2020 - Aug 2020
<ul style="list-style-type: none"> • Remotely taught one section of Applied Statistics Summer class, with a class size of 14. • Wrote weekly lessons, exams, and homework; graded projects and exams. • Used relatable concepts to motivate students to overcome learning obstacles. • Provided academic counseling to students 	
Graduate Teaching Assistant, Northern Arizona University	Aug 2018 - May 2020
<ul style="list-style-type: none"> • Primary instructor for two sections of Applied Statistics; with each section having 40 students. • Taught two Quantitative Reasoning sections, each with 36 students. • Taught one section of 72 students for a Precalculus class. • Co-taught one section of 72 students for a Precalculus class. • Precalculus and Quantitative Reasoning courses were taught in a modified emporium model. • Wrote weekly lessons, exams, and homework; graded projects and exams. • Served as a tutor and proctor at the Lumberjack Mathematics Center. • Provided academic counseling to students 	

Teaching Assistant, Kwame Nkrumah University of Science and Tech. Aug 2017 - Aug 2018

Mentor: Nana Kena Frempong, PhD

- Conducted tutorials on Bayesian Statistics, Survival Analysis, Time Series Analysis, Probability and Statistics, and Statistical Methods for undergraduate students.
- Individually taught four classes of size 90 students each in a traditional lecture.
- Recorded and updated class grades for various courses.
- Offered free tutoring services to struggling and low-income students.
- Prepared academic materials for teaching, research work, and presentations.

PROFESSIONAL
EXPERIENCE

Product Development - Data and Statistical Sciences Intern

Genentech Inc., South San Francisco

May 2023 - Aug 2023

Manager: Tracy Burgess

Mentors: Rui Zhao & Courtney Schiffman

- **Primary Endpoint Analysis in Idiopathic Pulmonary Fibrosis (IPF) Trials**
 - **Assessing Efficacy with a Continuous Endpoint Truncated by Death:** Performed an extensive simulation study to explore the bias in estimating parameters when the current value of forced vital capacity (FVC) is associated with the risk of death by comparing the parameters estimates from Linear Mixed-effects Model (which assumes data not collected after death is missing at random) and Joint Model.
 - **Prognostic Modeling - Identifying baseline variables that drive FVC outcome:** Implemented a modeling technique to assess whether we can use clinical variables to predict FVC outcome by using some in-house clinical trials data.

Intern

SIC Life Insurance Co Ltd., Kumasi, Ghana.

June 2015 - Aug 2015

- Data entry clerk.
- Sold policies to new clients.
- Educated clients on various products available.

OTHER RELEVANT
EXPERIENCE

Graduate Student Consultant, Statistical Consulting lab

Aug 2019 - Dec 2019

Northern Arizona University, Flagstaff, AZ

Mentor: Roy St. Laurent, PhD

- Provided various support of data entry, data analysis and output interpretation for a wide group of clients including students, faculties and local community members.
- Conducted statistical analysis (ANOVA, Regression, Logistic) for various projects.

Linen, Extraction & Cleaning Crew, Resident Life Support Services

June 2019 - Aug 2019

Northern Arizona University, Flagstaff, AZ

- Coordinated team members to greet guests with enthusiasm and a friendly demeanor.
- Loaded, transported and delivered items to guests safely and on time.
- Collaborated with colleagues to assign daily clean-up tasks, ensuring no one had to work past scheduled hours.

VOLUNTEER
EXPERIENCE

- **Volunteer, Genentech Inc.**
Genentech Gives Back Week

June 2023

Assembled clean birth kits for mothers in medically underserved communities

- **Poster Evaluator, University of Utah 2021 Undergraduate Research Summer Symposium**

Aug 2021

- **Liaison For Freshmen**

Osei Kyeretwie High School, Office of the Senior House Master

May 2011 - Aug 2013

- Registered and recorded personal information on freshmen.
- Distributed prospectus to freshmen
- Planted lawns and flowers on campus.

HONORS, AWARDS & CERTIFICATES	• Graduate Statistician Accreditation - American Statistical Association	July 2023 - Aug 2030
	• Lester R. Curtin Award - American Statistical Association	2022
	• African American Doctoral Scholars Initiative Award - University of Utah	2020
	• Carlson-Diekelman Rushall-Schroeder Memorial Endowed Scholarship, Northern Arizona University	2019
	• Outstanding Graduate GPA, Northern Arizona University	2019
PROFESSIONAL DEVELOPMENT	• Genentech Leader - Intern Exchange (gLINX) Intern	July - Dec 2023
	• 2023 Utah Data Science Day - University of Utah	Jan 2023
	• 2022 Conference on Statistical Practice - American Statistical Association	Feb 2022
	• Designing Big Data Healthcare Studies I & II - LinkedIn Learning	April 2020
	• Object Oriented Data Analysis in Health Sciences - Institute for Mathematical and Statistical Innovation	July 2023
LEADERSHIP AND AFFILIATION	• Student Member ; American Statistical Association	Sep 2021 - Present
	• Student Member ; Royal Statistical Society	Aug 2018 - Present
	• Student Member ; American Mathematical Society	Aug 2018 - Present
	• Student Member ; Institute for Mathematical and Statistical Innovation	Aug 2022 - Present
	• Member ; Interdisciplinary Association of Population Health Science	Aug 2020 - Present
	• Committee member , Population Health Sciences Student Advisory Committee, University of Utah.	Aug 2020 - May 2021
	• Organizing Sub-Committee Head ; Presbyterian Youth and Student Association 2017 Planning Committee	Nov 2016 - Sep 2017
	• President ; Organizing Wing, National Union of Presbyterian Students - Kwame Nkrumah University of science & Technology, Ghana	Mar 2016 - Apr 2017
	• Organizing Secretary ; National Union of Presbyterian Students - Kwame Nkrumah University of science & Technology, Ghana	Mar 2016 - Apr 2017
PROGRAMMING AND TECHNICAL SKILLS	• R : Proficient	
	• SAS : Intermediate	
	• SPSS : Proficient	
	• Stan : Proficient	
	• Git : Proficient	
	• Bash/unix systems : Intermediate	
	• LaTeX : Proficient	
	• High Performance Computing : Proficient	

- **Published**

1. King, J. B., **Berchie, R. O.**, Derington, C. G., Marcum, Z. A., Scharfstein, D. O., Greene, T. H., Herrick, J. S., Jacobs, J. A., Zheutlin, A. R., Bress, A. P., & Cohen, J. B. (2023). New Users of Angiotensin II Receptor Blocker-Versus Angiotensin-Converting Enzyme Inhibitor-Based Antihypertensive Medication Regimens and Cardiovascular Disease Events: A Secondary Analysis of ACCORD-BP and SPRINT. *Journal of the American Heart Association*, 12(17), e030311. DOI
2. Catherine G. Derington, Adam P. Bress, **Ransmond O. Berchie**, Jennifer S. Herrick, Jincheng Shen, Jian Ying, Tom Greene, Gabriel S. Tajeu, Swati Sakhuja, Natalia Ruiz-Negrón, Yiyi Zhang, George Howard, Emily B. Levitan, Paul Muntner, Monika M. Safford, Paul K. Whelton, William S. Weintraub, Andrew E. Moran, Brandon K. Bellows. Estimated population health benefits of intensive systolic blood pressure treatment among SPRINT-eligible US adults. *American Journal of Hypertension*. hpad047
3. Derington, Catherine G., Adam P. Bress, Jennifer S. Herrick, Joshua A. Jacobs, Alexander R. Zheutlin, **Ransmond O. Berchie**, Molly B. Conroy, William C. Cushman, and Jordan B. King (2023). "Antihypertensive Medication Regimens Used by US Adults With Hypertension and the Potential for Fixed-Dose Combination Products: The National Health and Nutrition Examination Surveys 2015 to 2020." *Journal of the American Heart Association*
4. Alexander R. Zheutlin, Catherine G. Derington, PharmD, Jordan B. King, **Ransmond O. Berchie**, Jennifer S. Herrick, Dave L. Dixon, Jordana B. Cohen, Daichi Shimbo, Ian M. Kronish, Joseph J. Saseen, Paul Muntner, Andrew E. Moran, Adam P. Bress. Factors associated with antihypertensive monotherapy among US adults with treated high blood pressure: NHANES 2013-2018. *American Journal of Hypertension*.
5. Frempong, Nana & **Berchie, Ransmond** & Baidoo, Richard & Abijah, Benjamin & Oforiwa-Amanfo, Osei. (2021). A Simulation Study to Examine the Bias of Some Sample Measures of Skewness. *Applied Mathematical Sciences*. 15(4): 189-200. DOI:10.12988/ams.2021.914276
6. Frempong NK, Nartey E, Bukari FK, **Berchie RO (2018)**. "Modelling the force of infection for Hepatitis B among heterogeneous groups at the Komfo-Anokye Teaching Hospital." *J Biostat Biometric App* , 3(1): 109.

- **Accepted**

1. Alexander Zheutlin, Nasser Sharareh, Jenny Guadamuz, **Ransmond Berchie**, Catherine Derington, Joshua Jacobs, Favel Mondesir, G. Caleb Alexander, Emily Levitan, Monika Safford, Robert Vos, Dima Qato, Adam Bress. Association between pharmacy accessibility with cardiovascular medication use and risk factor control in the United States.
Accepted by: *Journal of the American Heart Association*

- **Draft in Progress**

1. Catherine G. Derington, **Ransmond O. Berchie**, Daniel Scharfstein, Tom H. Greene, Jordana B. Cohen, Ryan M. Andrews, Jennifer S. Herrick, Jeff Williamson, Joshua A. Sonnen, Nicholas M. Pajewski, Adam P. Bress. Per-protocol effect of continuous treatment with angiotensin-II receptor blockers versus angiotensin converting enzyme inhibitors on cognitive outcomes in SPRINT
2. Ambarish Pandey, **Ransmond O. Berchie**, D. Edmund Anstey, Suzanne Judd, Daichi Shimbo, Emily B Levitan, George Howard, Monika M. Safford, Paul Muntner, Ninad S. Chaudhary, Tsegaselassie Workalemahu, Lynn B. Jorde, Rachel Hess, Robert J. Mentz, Michael E. Hall, Javed Butler, Shreya Rao, Rick A. Kittles, Leslie A. Lange, Ethan M. Lange, Marguerite R Irvin, Adam P. Bress. The Association of Genetic West African Ancestry with Incident Cardiovascular Disease among African Americans.

SCIENTIFIC
ABSTRACTS
AND
PRESENTATIONS

1. Derington CG, Bellows BK, Tajeu GS, Herrick JS, **Berchie RO**, Ying J, Sakhuja S, Greene T, Ruiz-Negron N, Howard G, Levitan E, Muntner P, Safford MM, Weintraub WS, Moran AE, Bress AP. Distribution of predicted cardiovascular and all-cause mortality benefit of intensive vs standard blood pressure control among US adults eligible for the Systolic Blood Pressure Intervention Trial. Podium presentation for the American Heart Association Hypertension Scientific Sessions, September 2021
2. **Berchie RO**, Baidoo R, Oforiwaa YA, Okpoti AN.Examining The Performance Of Some Sample Measures Of Skewness Using Monte Carlo Simulation. Podium presentation for Scientific Computing and Industrial Modeling Conference,Kwame Nkrumah University of science & Technology. November 2017.

AD HOC
REVIEWER
EXPERIENCE

- **JAMA** (mentored by Dr. Adam Bress)
- **Circulation** (mentored by Dr. Adam Bress and Dr. Catherine Derington)