

Curriculum Vitae
(Updated March 2023)

Robert Ashmead, Ph.D.

CONTACT INFORMATION	Ohio Colleges of Medicine Government Resource Center 150 Pressey Hall 1070 Carmack Road Columbus, OH 43210 <i>E-mail:</i> robert.ashmead@osumc.edu <i>Phone:</i> (614) 685-6817
RESEARCH INTERESTS	Applied statistics, causal inference, survey sampling, public health, statistical disclosure avoidance, data visualization, and policy evaluation research
EDUCATION	<p>The Ohio State University, Columbus, Ohio USA</p> <p>Ph.D., Biostatistics, December 2014</p> <ul style="list-style-type: none">• Dissertation: “Propensity Score Methods for Estimating Causal Effects from Complex Survey Data”• Advisor: Bo Lu, Ph.D. <p>M.S., Statistics, June 2011</p> <p>College of Wooster, Wooster, Ohio USA</p> <p>B.A., Mathematics , May 2009 Education minor</p>
HONORS AND AWARDS	<p>Joint Statistical Meetings Health Policy Statistics Section Student Paper Competition Winner, 2015. <i>Health Care Policy Evaluation Using Propensity Score Matching: A Study of Care Consistent with a Patient-Centered Medical Home Using a Large Population Survey</i></p> <p>Joint Statistical Meetings Survey Research Methods, Government Statistics, and Social Statistics Sections Student Paper Competition Winner, 2014. <i>Estimating Causal Effects Using Stratification and Weighting Propensity Score Estimators with Complex Survey Data</i></p> <p>College of Wooster: graduated Magna Cum Laude, with departmental honors, Foster prize in mathematics, 2009.</p>
ACADEMIC EXPERIENCE	<p>The Ohio State University, Columbus, Ohio USA</p> <p><i>Graduate Student</i> June, 2009 - December 2014 Includes Ph.D. research, Ph.D. and Masters level coursework, and research projects.</p> <p><i>LEND Fellow</i> September, 2011 - June, 2012 Leadership Education in Neurodevelopmental Disabilities fellow through the Ohio State University Nisonger Center. Interdisciplinary fellowship program which included coursework in disability studies and research projects. Provided statistical support to a variety of projects.</p> <p><i>Recitation leader and Lecturer</i> September, 2009 - June, 2011 Taught the introductory statistics course, “Introduction to the Practice of Statistics”.</p>

PEER REVIEWED
PAPERS

Frey H. , **Ashmead R.**, ... & Lynch C.D. Association of Prepregnancy Body Mass Index With Risk of Severe Maternal Morbidity and Mortality Among Medicaid Beneficiaries. *JAMA Network Open*. 2022;5(6)

Abowd J., **Ashmead R.**, Cumings-Menon R., Garfinkel S., Heineck M., ... & Zhuravlev P. The 2020 Census Disclosure Avoidance System TopDown Algorithm. *Harvard Data Science Review*. Special Issue 2, (2022)

Zhang P., Tossone K., **Ashmead R.**, Bickert T., ... & Bonny A.E. Examining Differences in Retention on Medication for Opioid Use Disorder: An Analysis of Ohio Medicaid Data. *Journal of Substance Abuse Treatment*, Volume 136, May 2022.

Abowd J., **Ashmead R.**, Cumings-Menon R., Garfinkel S.,... & Zhuravlev P. An Uncertainty Principle is a Price of Privacy-Preserving Microdata. *NeurIPS Proceedings*, (2021).

Berzofsky, M. E., Freedner, N., Scruggs, C., **Ashmead, R.**, Sahr, T., Lu, B., ... & Duffy, T. The Design and Methodology of the Ohio COVID-19 Survey. *Ohio Journal of Public Health*, 4(1), 5-10, (2021).

Zhang W., Liu A., Albert P. S., **Ashmead R. D.**, Schisterman E. F., Mills J. L. A Pooling Strategy to Effectively use Genotype Data in Quantitative Traits Genome-Wide Association Studies. *Statistics in medicine*, 37(27), (2018).

Lu B., **Ashmead R.** Propensity Score Matching Analysis for Causal Effects with MNAR Covariates. *Statistica Sinica*, 28, (2018).

Ashmead R., Slud E., Hughes T., Adaptive Intervention Methodology for Reduction of Respondent Contact Burden in the American Community Survey, *Journal of Official Statistics* 33(4) (2017).

RESEARCH
REPORTS

Slud E., **Ashmead R.**, Joyce P., Wright T., Statistical Methodology (2016) for Voting Rights Act, Section 203 Determinations. Research Report Series, Statistics #2018-12, (2018). <https://www.census.gov/srd/papers/pdf/RRS2018-12.pdf>

Hughes T., Slud E., **Ashmead R.**, Walsh R. Results of a Field Pilot to Reduce Respondent Contact Burden in the American Community Survey Computer Assisted Personal Interviewing Operation (2016) https://www.census.gov/content/dam/Census/library/working-papers/2016/acs/2016_Hughes_01.pdf

Ashmead R., Seiber E., Sahr T. Patient-Centered Medical Home Status in Ohio. Technical Report, The Ohio Colleges of Medicine Government Resource Center, (2013). <http://grc.osu.edu/sites/default/files/inline-files/Patient-Centered%20Medical%20Home%20Status%20in%20Ohio%20Report.pdf>

Ashmead R., Sahr T., Haverkamp S. 2013 Ohio Disability Data Report. Technical Report, Ohio Disability and Health Program. http://nisonger.osu.edu/media/odhp/OhioDisabilityDataReport_Ohio.pdf

Sahr T., **Ashmead R.**, Hayes W., Seiber E., Poverty and Health Cost Difficulties Among Ohio's Non-Senior Adult Populations in 2012, 2013, The Ohio Colleges of Medicine Government Resource Center <http://grc.osu.edu/sites/default/files/inline-files/Poverty%20and%20Health%20Cost%20Difficulties%20Among%20Ohio's%20Non-Senior%20Adult%20Populations%20in%202012.pdf>

Tumin R., **Ashmead R.**, Sahr T. Types of Insurance Coverage Among Ohio's Non-Senior Adult

and Child Populations in 2012. Technical Report, The Ohio Colleges of Medicine Government Resource Center, 2013. <http://grc.osu.edu/sites/default/files/inline-files/Types%20of%20Insurance%20Coverage%20Among%20Ohio%27s%20Non-Senior%20Adult%20and%20Child%20Populations%20in%202012.pdf>

Ranbom L., Hayes B., Sahr T., Jamieson B., Weston D., **Ashmead R.**, Evaluation of the Medicaid Buy-In Program for Workers with Disabilities. Technical Report. The Ohio Colleges of Medicine Government Resource Center, 2013. <http://ddc.ohio.gov/Portals/0/MBIReportMar2013.pdf>

CONFERENCE
PROCEEDINGS
PAPERS

Ashmead R., Slud E. Small Area Diagnostics and Validation with Applications to the Voting Rights Act Section 203. Proceedings of the Survey Research Methods Section, ASA. (2017)

Ashmead R., Slud E. Inference from Complex Survey-Embedded Field Experiments. Proceedings of the Survey Research Methods Section, ASA, (2016)

PRESENTATIONS
AND TALKS

“Government Resource Center: An Overview of Statewide Public Data Resources”. MORPC Data Day, Dublin, Ohio, March 2023

“An Introduction to Differential Privacy”. Short Course. Joint Statistical Meetings, Denver, Colorado, July 2019

“Estimating the Variance of Complex Differentially Private Algorithms”. Joint Statistical Meetings, Denver, Colorado, July 2019

“A Top-Down Algorithm for Releasing Differentially Private Hierarchical Multi-Dimensional Contingency Tables with Exact Constraints”. Joint Statistical Meetings, Vancouver, Canada, August 2018

“Small Area Diagnostics and Validation with Applications to the Voting Rights Act Section 203”. Joint Statistical Meetings, Baltimore, Maryland, August 2017

“Small Area Diagnostics and Validation with Applications to the Voting Rights Act Section 203”. Small Area Estimation 61st International Statistical Institute’s World Statistics Congress Satellite Meeting, Paris, France, July 2017

“Inference from Complex Survey-Embedded Field Experiments”. Joint Statistical Meetings, Chicago, Illinois, August 2016

“Propensity Score Estimators for Causal Inference with Complex Survey Data”. University of Maryland Baltimore County Statistics Colloquium. Baltimore, Maryland, October 2015

“Examining Mode Options for the Commodity Flow Survey”, International Total Survey Error Conference, Baltimore, Maryland, September 2015

“Health Care Policy Evaluation Using Propensity Score Matching: A Study of Care Consistent with a Patient-Centered Medical Home Using a Large Population Survey”. Joint Statistical Meetings, Seattle, Washington, August 2014

“Estimating Causal Effects Using Stratification and Weighting Propensity Score Estimators with Complex Survey Data”. Joint Statistical Meetings, Boston, Massachusetts, August 2014

“Estimating Causal Effects from Complex Survey Data Using Stratification and Weighting Propensity Score Estimators”. Atlantic Causal Inference Conference, Providence, Rhode Island, May 2014

“A Causal Framework for Intervention Evaluation with Survey Data”. Joint Statistical Meetings, Montreal, Canada, August 2013

PROFESSIONAL
EXPERIENCE

Ohio Colleges of Medicine Government Resource Center, Columbus, Ohio

Research Scientist, Assistant Director and Section Lead for the Informatics Reserach Section **May, 2019 - Present**

- Provides statistical methodology expertise consulting across over more than ten projects including the planning and analysis of probability sample surveys, predictive and causal modeling, program evaluation, and the creation of interactive dashboards.
- Senior Methodologist, responsible for the training and direction of staff in learning and carrying out statistical methodology.
- Leads a section of over 10 researchers and graduate students who specialize in statistical methodology, interactive visualization and reporting, and GIS. Directly supervises multiple staff.
- Develops and trains staff in data visualization tools such as interactive dashboards.
- PI of the SUD 1115 Evaluation, Co-PI of the Medicaid Health Informatics and the CICIP-Hositals projects.

U.S. Census Bureau, Center for Enterprise Dissemination, Suitland, Maryland

Research Mathematical Statistician (part-time)

March, 2020 - Present

- Provides technical expertise on the Census Bureau’s effort to apply differential privacy to the 2020 Decennial Census results.

U.S. Census Bureau, Center for Statistical Research and Methodology, Suitland, Maryland

Research Mathematical Statistician

January, 2015 - April, 2019

- Responsible for applying statistical expertise to projects both collaborating with other parts of the Census Bureau and original statistical methodology research.
- Provided technical expertise on the Census Bureau’s effort to apply differential privacy to the 2020 Decennial Census. One of the lead team members developing the theory and managing the implementation of the new methods.
- Developed small area estimation models to aid in the coverage determinations for jurisdictions and states that met the requirements of Section 203 of the Voting Rights Act that require jurisdictions to provide voting assistance in languages(s) other than English. Used a parametric bootstrap technique to assess model fit and refine the modeling approach.
- Analyzed the results of an embedded field experiment to reduce contact burden in the data collection of the American Community Survey. Determined the most appropriate variance estimation technique taking into consideration the complex features of the experimental design. Co-authored the results of the study in a public-facing report.
- Researched response modes and analyzed patterns of reporting in the Commodity Flow Survey for a project sponsored by the Bureau of Transpiration Statistics. Used a propensity score weighting approach to estimate average outcomes if all respondents had used either the electronic mode or paper mode, respectively. Made multiple presentations of the findings to the sponsor and was the primary author on a detailed report of the findings.
- Provided expertise on small area estimation for the National Survey of Drug Use and Health for considerations of expanding the survey to additional regions.

Ohio Colleges of Medicine Government Resource Center, Columbus, Ohio

Graduate Research Specialist

July, 2012 - December, 2014

- Lead author and project lead for the Patient-Centered Medical Home Status of Ohio project and report.
- Collaborated on statistical methods, analysis, and report writing on a variety of projects including the 2012 Ohio Medicaid Assessment Survey, the 2013 Electronic Health Records Survey, and the Ohio Disability and Health Programs 2013 Ohio Disability Data Report
- Developed the survey-weighting methods for the 2013 Electronic Health Survey Records Survey. Built interactive web applications to display results of the 2012 Ohio Medicaid Assessment Survey using R Shiny

Eunice Kennedy Shriver NICHD, Bethesda, Maryland

Summer Researcher

July - August, 2011

- Researched pooling strategies for effective use of genotype data in a quantitative traits genome-wide association study

COMPUTER SKILLS

- Software Packages: Python, R, Stata, SAS. High performance computing with Spark. Optimization software: Gurobi, CPLEX. Interactive web applications via R Shiny. Git

**PROFESSIONAL
ACTIVITY**

- Member of the American Statistical Association, 2013 - present
- President Columbus American Statistical Association Chapter, 2023
- Vice President Columbus American Statistical Association Chapter, 2022