

SPH CURRICULUM VITAE

Date Prepared: December 2025

NAME: Emma Davies Smith
ACADEMIC TITLE: Research Associate
WORK ADDRESS: Center for Biostatistics in AIDS Research (CBAR)
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EDUCATION:

2011 to 2015	Statistics Minor in Mathematics	B.Sc.	University of Guelph Guelph, Ontario, Canada
2016 to 2017	Applied Statistics	M.Sc.	University of Guelph Guelph, ON, CA
2019 to 2023	Biostatistics	Ph.D.	University of Western Ontario London, ON, CA

POSTDOCTORAL TRAINING:

2023 to 2024	Biostatistics	Postdoctoral Research Fellow	Harvard School of Public Health NIH Training Grant in AIDS
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ACADEMIC APPOINTMENTS:

2024 to now	Research Associate	Harvard School of Public Health Center for Biostatistics in AIDS Research
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LICENSURE AND CERTIFICATIONS:

2021	SAS Certified Specialist, Base Programming
2022	SAS Certified Business Analyst, Regression and Modeling

OTHER ACADEMIC APPOINTMENTS:

2016 to 2017	Research Assistant	St Joseph's Healthcare Hamilton Infectious Disease & Microbiology
2017	Graduate Research Assistant	University of Guelph
2019 to 2023	Graduate Research Assistant	University of Western Ontario

OTHER PROFESSIONAL APPOINTMENTS:

2016	Assoc. Statistical Consultant	Community Engaged Scholarship Institute	Guelph, ON, CA
2017	Statistical Analyst	Sun Life Financial	Waterloo, ON, CA
2018	Data Scientist	ADknown	Guelph, ON, CA

COMMITTEE SERVICE:

DEPARTMENTAL/SCHOOL AND UNIVERSITY SERVICE:

2014 to 2015	Mathematics & Statistics Club Secretary	University of Guelph Mathematics and Statistics
2014 to 2015	Curriculum Committee Student Representative	University of Guelph Mathematics and Statistics
2016	Southern Ontario Math & Stats Conference Coordinator	University of Guelph Mathematics and Statistics
2020 to 2021	Graduate Student Journal Club Organizer, Facilitator	University of Western Ontario Epidemiology and Biostatistics
2020 to 2021	Society of Graduate Students Elected Representative	University of Western Ontario Epidemiology and Biostatistics
2024 to 2025	HIV Working Group Seminar Organizer	Harvard School of Public Health Biostatistics
2025	R Working Group Member	Harvard School of Public Health CBAR
2025	IMPAACT Brain and Mental Health Committee Representative	Harvard School of Public Health CBAR
2025	Risk Benefit Working Group Organizer	Harvard School of Public Health CBAR

PROFESSIONAL SOCIETIES:

2022 to 2023	Member	Statistical Society of Canada
2024 to now	Member	American Statistical Association
2024 to now	Member	Society for Clinical Trials

EDITORIAL ROLES:

Ad hoc	Annals of Epidemiology, HIV Medicine, Open Forum Infectious Diseases,
Review	Osteoarthritis and Cartilage, Statistical Communications in Infectious Disease, Statistical Methods in Medical Research

HONORS AND DISTINCTIONS:

2014	Tucker Scholarship for Women (Leadership in statistics)	University of Guelph Leadership / Institutional
2016	College of Physical & Engineering Science Graduate Scholarship (Highest grades entering M.Sc.)	University of Guelph Academic / Institutional
2016	Canada Graduate Scholarship M (CGS-M) (Nationally competitive multi-year research award)	University of Guelph Research / National
2020	Dean's Research Scholarship (Co-supervised by clinician and basic scientist)	University of Western Ontario Research / Institutional
2021, 2022	Ontario Graduate Scholarship (Provincially competitive one-year research award)	University of Western Ontario Research / Provincial
2025, 2026	New Investigator Scholarship (Postdoc-level presenting author in infectious disease)	CROI* Research / Conference

**CROI: Conference on Retroviruses and Opportunistic Infections*

TEACHING AND TRAINING:

TEACHING IN OTHER COURSES:

2016 Fall, Winter	STAT*2040 Statistics I TA: Office hours, grading	University of Guelph Mathematics and Statistics
2021, 2022 Fall	BIostat*3100/9509 Principles of Biostatistics TA: Lab leader, office hours, grading	University of Western Ontario Epidemiology and Biostatistics
2021, 2022, 2023 Winter	BIostat*3110/9521 Multivariable Methods TA: Lab leader, office hours, grading	University of Western Ontario Epidemiology and Biostatistics
2022 Fall	FAMMED*9610 Advanced Quant. Research Instructor: Developed + delivered three 3-hr lec.	University of Western Ontario Family Medicine

ADVISORY AND SUPERVISORY RESPONSIBILITIES:

2024	Nick Birk, Ph.D. student Co-supervised Independent Research Proj w/ Dr. Rui Wang	Harvard School of Public Health Biostatistics
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BIBLIOGRAPHY:

1. Peer-reviewed publications

A. Original research

Speicher DJ, Luinstra K, **Smith EJ**, Castriano S, Smieja M. Non-invasive detection of IgG antibodies from common pathogenic viruses using oral flocked swabs. *Diagn Microbiol Infect Dis.* 2020; 97(3): 115038.

Zou G, **Smith E**, Jairath V. A nonparametric approach to confidence intervals for concordance index and difference between correlated indices. *J Biopharm Stat.* 2022; 32(5): 1-28.

Zou G, **Smith E**, Zou L, Qui S, Shu D. A rank-based approach to design and analysis of pretest-posttest randomized trials, with application to COVID-19 ordinal scale data. *Contemp Clin Trials.* 2023; 126: 107085.

Davies Smith E, Malvestutto C, Ribaudo HJ, Fichtenbaum CJ, Aberg JA, Watanabe M, Bloomfield GS, Currier JS, Chu SM, Fitch KV, Diggs MR, Bedimo R, Valencia J, Gomez-Ayerbe C, Brar I, Madruga JV, Lu MT, Douglas PS, Zanni MV, Grinspoon SK. Cardiovascular hazards of abacavir- versus tenofovir-containing antiretroviral therapies: Insights from an analysis of the REPRIEVE trial cohort. *Open Forum Infect Dis.* 2025; 12(4): ofaf177.

Davies Smith E, Jairath V, Zou G. Rank-based estimators of global treatment effects for cluster randomized trials with multiple endpoints on different scales. *Stat Meth Med Res.* 2025; 34(6): 09622802251338387.

Reproducible code: github.com/statisticelle/sim-gwinp

Fichtenbaum CJ, Malvestutto CD, Watanabe MG, **Davies Smith E**, Ribaudo HJ, McCallum S, Fitch KV, Currier JS, Diggs MR, Chu SM, Aberg JA, Lu MT, Valencia J, Gomez-Ayerbe C, Brar I, Madruga JV, Bloomfield GS, Douglas PS, Zanni MV, Grinspoon SK, REPRIEVE Investigators. Effects of antiretrovirals on major adverse cardiovascular events in the REPRIEVE trial: a longitudinal cohort analysis. *Lancet HIV*. 2025; e496-e505.

Davies Smith E, Douglas PS, McCallum S, Troendle J, Diggs MR, Lu AB, Chu SM, Umbleja T, Lu MT, Zanni MV, Grinspoon SK, Ribaudo HJ. Win ratio aligns with and enhances interpretation of REPRIEVE's primary findings. *Clin Infect Dis*. 2025; ciaf477.

Reproducible code: github.com/statisticelle/winratio-sas

Kileel EM, Malvestutto CD, Zanni MV, **Davies Smith E**, Fichtenbaum CJ, Lake JE, Lo J, Aberg JA, Martinez E, Patel K, Bloomfield GS, Chu SM, Awwad A, Diggs MR, Lu AB, Bares SH, Berner D, Smieja M, Okeke NL, Kumar P, Joao E, Currier JS, Lu MT, Fox MP, Brennan AT, Douglas PS, Grinspoon SK, Ribaudo HJ. Risk of obesity, diabetes, hypertension, and MACE following a switch to an integrase inhibitor: a target trial emulation in REPRIEVE. *Lancet HIV*. In press.

Davies Smith E, Choi YH, Jairath V, Zou G. Confidence Interval Estimation for the Win Probability in Cluster Randomized Trials with Hierarchical Composite Endpoints Using Win Fractions. *Clin Trials*. In press.

Reproducible code: github.com/statisticelle/sim-winp

B. Other peer-reviewed

Davies Smith E, Douglas PS, Grinspoon SK, Ribaudo H. Small effects, big impact: Multiple win measures aid interpretation, but don't forget the bigger picture. *Clin Infect Dis*. 2025; ciaf588.

2. Non-print materials

A. Selected blog posts (statisticelle.com, 800 active users per month):

Davies Smith E. Resampling, the jackknife, and pseudo-observations. *Statisticelle*. 2022 Dec 16. URL: statisticelle.com/resampling-the-jackknife-and-pseudo-observations/ (20 reads per month)

Davies Smith E. Minor musings on measurement. *Statisticelle*. 2023 Nov 16. URL: statisticelle.com/mmm/ (20 reads per month)

Davies Smith E. EM algorithm essentials: Estimating standard errors using the empirical information matrix. *Statisticelle*. 2024 Jul 6. URL: statisticelle.com/em-algorithm-essentials-estimating-standard-errors-using-the-empirical-information-matrix/ (25 reads per month)

Davies Smith E. Practical inference for win measures via U-statistic decomposition. *Statisticelle*. 2025 Aug 4. URL: statisticelle.com/practical-inference-for-win-measures-via-u-statistic-decomposition/

3. Published abstracts (last two years only)

Davies Smith E,* Douglas PS, McCallum S, Troendle J, Diggs M, Chu S, Lu M, Zanni M, Grinspoon S, Ribaldo H. Time-Updated Win Ratio Aligns With Primary REPRIEVE Findings and Suggests Early Pitavastatin Benefit. CROI 2025. Poster.**

* Presenting author ** New Investigator Scholarship