

Natalie Exner Dean

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Education

Harvard University

- Ph.D., Biostatistics
- A.M., Biostatistics

Cambridge, MA

May 2014

May 2011

Boston University

- B.A., Biology, Mathematics/Statistics
- GPA: 3.93, *summa cum laude*, Dean's List

Boston, MA

May 2009

Experience

University of Florida

Gainesville, FL

Postdoc, *Department of Biostatistics*

Jan 2015–Present

- Supporting the design and analysis of the Ebola vaccine trial in Guinea.

World Health Organization

Geneva, Switzerland

External Statistical Consultant, *HIV Drug Resistance Group*

Dec 2012–Present

- Designing surveillance protocols for national estimation and evaluation of key components of HIV drug resistance surveillance.
- Applied statistical theory from the field of survey design to develop novel methods for sample size calculations in small countries and for estimation of a viral load suppression outcome adjusted for non-retention.
- Developed user-friendly sample size design tools in Excel and directions for data analysis using the Stata SVY commands.
- Presented at regional HIV/AIDS meetings in China, Brazil and Trinidad.
- Provided statistical guidance for survey design/analyses in Colombia, Ecuador, Namibia, South Africa, and Vietnam.

Harvard University - Public Health Research

Boston, MA

Research Assistant, *HIV Incidence Estimation using Cross-Sectional Viral Diversity*

June 2010–May 2014

- Developing novel measures of within-host HIV-1 viral genetic diversity to discriminate between recent and long-term infections.
- Applied statistical methodology from information theory and data clustering theory.
- Conducted analyses in R statistical software.

Consultant, *Predictors of Tuberculin Skin Test Implementation*

Apr 2010–July 2011

- Provided statistical support to researchers from Partners in Health.
- Assessed the relationship between tuberculin skin test implementation and symptoms of active tuberculosis in HIV-infected patients in Haiti.
- Conducted analyses in SAS statistical software.

Harvard University - Teaching

Boston, MA

Teaching Assistant, *The Analysis of Rates and Proportions*

Fall 2013

- Taught lab sessions using Stata.
- Graded homeworks/exams and held office hours.

Tutor, *Department of Biostatistics*

Summer 2010–Fall 2013

- Tutored students in introductory and master's level biostatistics courses.

Instructor, *Problem Solving in Advanced Statistics*

Fall 2012

- Designed and taught review materials to prepare doctoral students for the applied portion of their written qualifying exam.
- Identified appropriate course topics to adapt to the needs of the students.

Spring 2013

- Teaching Assistant, *Public Health Surveillance* Spring 2013
 - Graded homeworks and served as a liaison between students and professors.
- Teaching Assistant, *Quantitative Methods for Monitoring & Evaluation* Spring/Summer 2012
 - Prepared lab materials and taught lab sessions on survey design and implementation for program monitoring and evaluation using Stata SVY commands.
 - Graded homeworks/exams and held office hours.
- Teaching Assistant, *Introductory Statistics for Medical Research* Summer 2012
 - Supervised SAS lab session and graded exams.
- Teaching Assistant, *Introduction to Statistical Methods* Fall 2010/2011
 - Taught lab sessions on introductory statistics using Stata.
 - Graded homeworks/exams and held office hours.
- Summer School on Modern Methods on Biostatistics and Epidemiology - Teaching** Cison di Valmarino
Treviso, Italy
- Teaching Assistant, *Biostatistics I* Summer 2012/2013
 - Prepared researchers and medical professionals to perform statistical analyses.
 - Updated lab materials and taught lab sessions on introductory statistics using Stata.
- Teaching Assistant, *Monitoring and Evaluation of Health Programs* Summer 2012/2013
 - Prepared and taught lab sessions on survey design and analysis in Stata using the SVY commands.
- Boston University - Public Health Research** Boston, MA
- Research Assistant, *The Barbados Nutrition Study* July 2007–Apr 2009
 - Managed and analyzed data from this 40-year longitudinal study on the long-term effects of post-natal malnutrition.
 - Performed analyses on the relationship between early malnutrition and adult personality using SAS statistical software.
- Boston University - Teaching** Boston, MA
- Tutor, *Educational Resource Center* Feb 2007–Dec 2007
 - Tutored undergraduates in chemistry, calculus, and statistics.

Publications

Published

Galler JR, Bryce CP, Zichlin ML, Waber DP, **Exner N**, Fitzmaurice GM, Costa PT (2013). Malnutrition in the first year of life and personality at age 40. *Journal of Child Psychology and Psychiatry* 54(8): 911-919.

Galler JR, Bryce CP, Waber D, Hock RS, **Exner N**, Eaglesfield D, Fitzmaurice G, Harrison R (2010). Early childhood malnutrition predicts depressive symptoms at ages 11-17. *Journal of Child Psychology and Psychiatry* 51(7): 789-798.

World Health Organization (2014). Surveillance of HIV drug resistance in adults initiating antiretroviral therapy (pretreatment HIV drug resistance). Available at: <http://www.who.int/hiv/topics/drugresistance/protocols/en/>

World Health Organization (2014). Surveillance of HIV drug resistance in adults receiving antiretroviral therapy (acquired HIV drug resistance). Available at: <http://www.who.int/hiv/topics/drugresistance/protocols/en/>

Submitted or In Preparation

Exner N, Pagano M (2014). Evaluating confidence interval methods for binomial proportions in clustered surveys. (*Manuscript submitted.*)

Exner N (2014). Surveillance methods for monitoring HIV incidence and drug resistance. (*Thesis in preparation.*)

Exner N, Pagano M (2014). Adapting entropy to measure within-host viral diversity for use in a cross-sectional HIV-1 incidence assay. (*Manuscript in preparation.*)

Exner N, Mitchell S, Pagano M (2014). The use of the finite population correction in survey design. (*Manuscript in preparation.*)

Exner N, Pagano M (2014). Development of a viral load suppression measure adjusted for non-retention for the surveillance of acquired HIV drug resistance. (*Manuscript in preparation.*)

Presentations

Posters:

“Incorporating HIV-1 Genetic Diversity into an Algorithm for Incidence Estimation” Washington DC
• ENAR Spring Meeting Apr 2012

“The NEO PI-R Personality Inventory in a Barbadian Cohort: Effects of Early Childhood Malnutrition on Personality at 35-40 Years” Denver, CO
• Society for Research in Child Development Biennial Meeting Apr 2009

Seminars:

“Practical and Statistical Challenges in Developing an HIV Drug Resistance Surveillance Protocol ” Baltimore, MD
• ENAR Spring Meeting Apr 2014

“A Comparison of Methods for Estimating Confidence Intervals for Proportions in Clustered Surveys” Montreal, Canada
• Joint Statistical Meetings Aug 2013

“Adapting Shannon’s Entropy to Strengthen Relationship between Time since HIV-1 Infection and Within-Host Viral Diversity” Orlando, FL
• ENAR Spring Meeting Mar 2013

“HIV Incidence Estimation using Cross-Sectional Measures of Within-Host Viral Diversity” Boston, MA
• Department of Biostatistics HIV Working Group Seminar Series Oct 2012
• HSPH Toast PhD Working Group Seminar Series Sept 2012
• Department of Biostatistics Quantitative Working Group Apr 2012

Honors and Awards

American Statistical Association Alexandria, VA
• Winner, Edward C. Bryant Scholarship for an outstanding student in survey statistics Apr 2013
• Honorable Mention, Gertrude M. Cox Scholarship for women students in statistics Apr 2013

Harvard University Boston, MA
• Recipient, Department of Biostatistics Certificate of Distinction in Teaching Oct 2012

ENAR Spring Meeting Washington DC
• Overall and Student Winner, Modeling & Prediction RAB Poster Award Apr 2012

Boston University	Boston, MA
• Winner, John E. Alman Award in Statistics	May 2009
• Inductee, Phi Beta Kappa Society	May 2009
• College Scholar, top 5% of juniors in Class of 2009	Sept 2008
• Member, College of Arts & Sciences Honors Program	May 2007
• Distinguished Sophomore, top 40 (of 2,500) freshmen in Class of 2009	Sept 2006

Fellowships and Scholarships

• National Institutes of Health, <i>AIDS Predoctoral Fellowship</i>	Aug 2009–July 2013
• University of Washington, <i>Summer Institute in Statistics & Modeling in Infectious Diseases Scholarship and Travel Award</i>	June 2010
• Boston University, <i>Trustee Scholarship</i> (full-tuition merit-based scholarship)	Sept 2005–May 2009
• Osram Sylvania, <i>Corporate National Merit Scholarship</i>	Sept 2005–May 2009
• Boston University, <i>Undergraduate Research Opportunities Program Grant</i>	Jan 2008–Aug 2008

Activities

Statistical Referee

• AIDS Research and Human Retroviruses	October 2014
• Biometrics	November 2013
• BMC Public Health	Jan 2013

ENAR Spring Meeting

Orlando, FL

Session Chair, <i>Contributed Papers: Prediction/Prognostic Modeling</i>	Mar 2013
• Facilitated a series of seven presentations on prediction and prognostic modeling.	

Harvard School of Public Health

Boston, MA

Member, <i>Quantitative Working Group</i>	May 2012–May 2014
• Participating in working group to address statistical concerns for a large-scale cluster-randomized HIV prevention trial in Botswana.	
Co-Chair, <i>Department of Biostatistics Student Committee</i>	Apr 2012–Apr 2013
• Served as a liason between students and faculty in the department.	
• Coordinated academic and social events for prospective and current students.	
• Singlehandedly organized and facilitated two well-attended alumni panels for students to learn from the experiences of department graduates in various fields.	
Member, <i>Department of Biostatistics Student Committee</i>	Aug 2009–Apr 2013
• Helped plan and organize academic and social activities for current students.	
Co-Coordinator, <i>HIV Working Group Seminar Series</i>	Aug 2012–Aug 2013
• Recruited members of the Department of Biostatistics and Center for Biostatistics in AIDS Research to present their HIV/AIDS related research.	
Participant, <i>HIV Incidence Assay Calibration Workshop</i>	July 2012
• Participated in a two-day workshop with an international group of researchers to develop guidelines for the use of a new method for HIV incidence assay calibration.	
Tour Guide, <i>Department of Biostatistics & Summer Session for Public Health Studies</i>	Jan, July 2012
• Represented department as tour guide for prospective doctoral students.	Jan 2013
• Served as Harvard School of Public Health tour guide for summer MPH students.	
Mentor, <i>John D. O'Bryant High School</i>	May 2012
• Advised local high school students interested in careers in public health.	

Coordinator/Member, *McGoldrick Fellowship Reading Group* Fall 2011/2012

- Facilitated infectious disease-centered reading group for visiting scholars from Africa by selecting appropriate articles and organizing schedule.
- Assisted visiting scholars with statistical analyses for their research.

Co-Coordinator/Walker, *AIDS Walk Boston* June 2011/2012

- Organized Department of Biostatistics Team for local AIDS Walk.

Boston University

Boston, MA

Volunteer Receptionist, *Project Trust* June 2007–Aug 2007

- Answered phones and managed paperwork at local HIV testing center.

Volunteer Tutor, *CAP/SPARK Program* Feb 2006–April 2007

- Tutored children living with or affected by HIV/AIDS.

Professional Affiliations

- International Biometric Society Jan 2012–Present
- American Statistical Association Sept 2012–Present

Skills

- Computing: R, SAS, Stata, L^AT_EX, Excel.
- Languages: English (Native), French (Basic Conversational).

References

- Available upon request.

Last updated February 28, 2015