

Kendra Plourde

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EDUCATION

- 2015-2020 **Doctor of Philosophy, PhD**
Department of Biostatistics
Boston University School of Public Health, Boston, MA

Dissertation: *Joint Models for Estimating Determinants of Cognitive Decline in the Presence of Selection Bias after Enrollment.*

Advisor: Professor Yorghos Tripodis
- 2013-2014 **Master of Arts, MA**
Department of Biostatistics
Boston University School of Public Health, Boston, MA
- 2007-2010 **Bachelor of Arts, BA**
Department of Mathematics
Northwestern University, Evanston, IL

GRANTS

- 2018-2020 **National Institutes of Aging Ruth L. Kirschstein Predoctoral Individual National Research Service Award (F31).**
Title: *Novel Statistical Methods for Identifying Determinants of Cognitive Decline.*
Role: Principal Investigator

ACADEMIC PROFESSIONAL EXPERIENCE

- 2020-present **Postdoctoral Associate**
National Institutes of Aging (NIA) Imbedded Pragmatic Alzheimers disease (AD) and AD Related Dementias Clinical Trials (IMPACT) Collaboratory
Yale School of Public Health, Department of Biostatistics
Yale School of Internal Medicine, Department of Geriatrics
New Haven, CT

Advisors: Assistant Professor Fan Li and Professor Monica Taljaard
- 2017-2018 **Course Coordinator ‘Introduction to Statistical Computing’**
Boston University School of Public Health, Boston, MA
- 2015-2018 **Graduate Research Assistant**
The Framingham Heart Study, Department of Neurology
Boston University School of Public Health, Boston, MA

Advisor: Professor Alexa Beiser
- 2014-2016 **Graduate Research Assistant**

Boston Medical Center
Boston University School of Public Health, Boston, MA

Advisor: Professor Howard Cabral

2013-2015 **Graduate Research Assistant**
Health and Disability Working Group
Boston University School of Public Health, Boston, MA

Advisor: Professor Howard Cabral

ACADEMIC TEACHING EXPERIENCE

2021 **Invited Guest Lecturer ‘Joint Models’**
University of Toronto School of Public Health, Toronto, Canada

2016 **Co-Lecturer ‘Introduction to Statistical Computing’**
Boston University School of Public Health, Boston, MA

2009-2010 **Teaching Assistant ‘Single-Variable Calculus’**
Northwestern University, Evanston, IL

2008-2009 **Facilitator ‘Single-Variable Calculus’**
Gateway Science Workshop
Northwestern University, Evanston, IL

PRESENTATIONS AT PROFESSIONAL MEETINGS/ CONFERENCES

2021 **International Society for Clinical Biostatistics (ISCB) - Virtual**
online meeting. Oral presentation on ‘Sample Size Considerations for Stepped
Wedge Designs with Multiple Levels of Clustering.’

2021 **Society for Clinical Trials Annual Conference (SCT) - Virtual online**
meeting. Oral presentation on ‘Sample Size Considerations for Stepped
Wedge Designs with Multiple Levels of Clustering.’

2021 **International Conference on Stepped Wedge Trial Design - Virtual**
online meeting. Oral presentation on ‘Sample Size Considerations for Stepped
Wedge Designs with Multiple Levels of Clustering.’

2020 **Eastern North American Region International Biometric Society**
(ENAR) annual conference - Virtual online meeting. Oral presentation
on ‘Novel Joint Models for Identifying Determinants of Cognitive Decline in
the Presence of Informative Drop-out and Observation Times.’

2019 **Joint Statistical Meetings (JSM) - Denver, Colorado.** Oral presenta-
tion on ‘Novel Joint Models for Identifying Determinants of Cognitive De-
cline in the Presence of Informative Drop-out and Observation Times.’

2018 **Methods for Longitudinal Studies in Dementia (MELODEM) an-**

nual conference - Paris, France. Oral presentation on ‘Joint Models for Estimating Determinants of Cognitive Decline in the Presence of Survival Bias.’

2017 **Joint Statistical Meetings (JSM)** - Baltimore, Maryland. Oral presentation on ‘Joint Models for Estimating Determinants of Cognitive Decline in the Presence of Survival Bias.’

2017 **Alzheimer Cohorts Consortium** - Boston, Massachusetts. Oral presentation on ‘Joint Models for Estimating Determinants of Cognitive Decline in the Presence of Survival Bias.’

2017 **The New England Statistics Symposium (NESS)** - Storrs, Connecticut. Oral presentation on ‘Joint Models for Estimating Determinants of Cognitive Decline in the Presence of Survival Bias.’

INVITED PRESENTATIONS/ SEMINARS

2021 **The Interventional Studies in Aging Center (ISAC) seminar series** - Virtual online meeting. Oral presentation on ‘Sample Size Considerations for Stepped Wedge Designs with Multiple Levels of Clustering.’

2021 **Biostatistics Core of the Program on Aging seminar series** - Virtual online meeting. Oral presentation on ‘Sample Size Considerations for Stepped Wedge Designs with Multiple Levels of Clustering.’

2020 **Methods for Longitudinal Studies in Dementia (MELODEM) seminar series** - Virtual online meeting. Oral presentation on ‘Novel Joint Models for Identifying Determinants of Cognitive Decline in the Presence of Informative Drop-out and Observation Times.’

2017 **Methods for Longitudinal Studies in Dementia (MELODEM) seminar series** - Virtual online meeting. Oral presentation on ‘Joint Models for Estimating Determinants of Cognitive Decline in the Presence of Survival Bias.’

AWARDS AND HONORS

2018 National Institutes of Health F31 Grant Recipient.

2017 Excellence in Teaching Award, Boston University School of Public Health.

2017 The National Statistics Honorary Society, Mu Sigma Rho award.

2010 Honorable mention for outstanding work as a Teaching Assistant, Northwestern University Math Department.

2007 Dorothy Manier Essay Contest.

PROFESSIONAL AFFILIATIONS

2021-present	Society for Clinical Trials (SCT).
2020-present	Sigma Xi.
2017-present	New England Statistical Society (NESS).
2017-present	International Biometric Society (IBS).
2017-present	Eastern North American Region of the International Biometrics Society (ENAR).
2014-present	American Statistical Association (ASA).

PEER REVIEW SERVICE

2020-present	Statistics in Medicine.
2019-present	The Journal of the American Medical Association (JAMA).

DEPARTMENT/UNIVERSITY SERVICE

2020	Student Ambassador. Department of Biostatistics, Boston University School of Public Health, Boston, MA.
2016-2017	Vice President of Communications and Events. Biostatistics Student Association, Department of Biostatistics, Boston University School of Public Health, Boston, MA.
2015-2020	Student Peer Mentor. Department of Biostatistics, Boston University School of Public Health, Boston, MA.

R PACKAGES/REPOSITORIES/APPLICATIONS

2021	<code>multilevelSWCRT</code> (https://github.com/kldavisplourde/multilevelSWCRT). R code repository for implementing the sample size and power calculations under a generalized linear mixed model (GLMM) framework as described in “Sample size considerations for stepped wedge designs with subclusters” by Davis-Plourde, Taljaard, and Li.
2021	(https://kendra-davis-plourde.shinyapps.io/SWCRT_3Level_DesignEffect/). R-Shiny application for deriving the design effect for a multilevel stepped wedge cluster randomized trial across various study designs.

PEER-REVIEWED PUBLICATIONS

- [1] **Kendra Davis-Plourde**, Monica Taljaard, and Fan Li. “Design and analysis of co-primary endpoints in stepped wedge cluster randomized trials”. In: (**In progress** 2021).

- [2] **Kendra Davis-Plourde** and Yorghos Tripodis. “Novel joint model for estimating determinants of cognitive decline in the presence of informative observation and survival times”. In: ([In progress](#) 2021).
- [3] **Kendra Davis-Plourde**, Elizabeth Rose Mayeda, Sara Lodi, Teresa Filshtein, Alexa Beiser, Alden L. Gross, Sudha Seshadri, M. Maria Glymour, and Yorghos Tripodis. “Joint Models for Estimating Determinants of Cognitive Decline in the Presence of Survival Bias”. In: *Epidemiology* ([Resubmitted](#) September 2021).
- [4] **Kendra Davis-Plourde**, Monica Taljaard, and Fan Li. “Sample size considerations for stepped wedge designs with subclusters”. In: *Biometrics* ([Resubmitted](#) August 2021).
- [5] Harumitsu Suzuki, **Kendra Davis-Plourde**, Alexa Beiser, Ayako Kunimura, Katsuyuki Miura, Charles DeCarli, Pauline Maillard, Gary F. Mitchell, Ramachandran S. Vasani, Sudha Seshadri, and Akira Fujiyoshi. “Coronary Artery Calcium Assessed Years Before Was Positively Associated With Subtle White Matter Injury of the Brain in Asymptomatic Middle-Aged Men: The Framingham Heart Study”. In: *Circulation: Cardiovascular Imaging* 14.7 (July 2021).
- [6] Galit Weinstein, **Kendra Davis-Plourde**, Alexa S Beiser, and Sudha Seshadri. “Autonomic Imbalance and Risk of Dementia and Stroke: The Framingham Study”. In: *Stroke* 52.6 (Apr. 2021), pp. 2068–2076.
- [7] José R Romero, Jayandra J Himali, Alexa Beiser, Matthew P Pase, **Kendra L Davis-Plourde**, Pedram Parva, Sudha Seshadri, and Gary F Mitchell. “Aortic stiffness and cerebral microbleeds: The Framingham Heart Study”. In: *Vascular Medicine* 26.3 (Jan. 2021), pp. 312–314.
- [8] Serena Rajabian, **Kendra Davis-Plourde**, Melinda Tinsley, Emily K Quinn, Deborah Borne, Manisha H Maskay, Thomas P Giordano, and Howard J Cabral. “Pathways to housing stability and viral suppression for people living with HIV/AIDS: Findings from the Building a Medical Home for Multiply Diagnosed HIV-positive Homeless Populations initiative”. In: *PloS one* 15.10 (Oct. 2020), e0239190.
- [9] Frank J Wolters, Lori B Chibnik, Reem Waziry, Roy Anderson, Claudine Berr, Alexa Beiser, Joshua C Bis, Deborah Blacker, Daniel Bos, Carol Brayne, . . . , **Kendra L Davis-Plourde**, et al. “Twenty-seven-year time trends in dementia incidence in Europe and the United States: The Alzheimer Cohorts Consortium”. In: *Neurology* 95.5 (Aug. 2020), e519–e531.
- [10] Crystal ManYing Lee, Mark Woodward, G David Batty, Alexa S Beiser, Steven Bell, Claudine Berr, Espen Bjertness, John Chalmers, Robert Clarke, Jean-Francois Dartigues, **Kendra Davis-Plourde**, et al. “Association of anthropometry and weight change with risk of dementia and its major subtypes: A meta-analysis consisting 2.8 million adults with 57 294 cases of dementia”. In: *Obesity Reviews* 21.4 (Jan. 2020), e12989.
- [11] Galit Weinstein, **Kendra L Davis-Plourde**, Alexa S Beiser, and Sudha Seshadri. “Author response: Non-alcoholic fatty liver disease, liver fibrosis score and cognitive function in middle-aged adults: The Framingham study”. In: *Liver International* 40.5 (Dec. 2020), pp. 1240–1240.
- [12] Jie Ding, **Kendra L Davis-Plourde**, Sanaz Sedaghat, Phillip J Tully, Wanmei Wang, Caroline Phillips, Matthew P Pase, Jayandra J Himali, B Gwen Windham, Michael Griswold, et al. “Antihypertensive medications and risk for incident dementia and Alzheimer’s disease: a meta-analysis of individual participant data from prospective cohort studies”. In: *The Lancet Neurology* 19.1 (Jan. 2020), pp. 61–70.

- [13] Galit Weinstein, **Kendra Davis-Plourde**, Jayandra J Himali, Shira Zelber-Sagi, Alexa S Beiser, and Sudha Seshadri. “Non-alcoholic fatty liver disease, liver fibrosis score and cognitive function in middle-aged adults: The Framingham Study”. In: *Liver International* 39.9 (June 2019), pp. 1713–1721.
- [14] Nicole L Spartano, **Kendra L Davis-Plourde**, Jayandra J Himali, Charlotte Andersson, Matthew P Pase, Pauline Maillard, Charles DeCarli, Joanne M Murabito, Alexa S Beiser, Ramachandran S Vasan, et al. “Association of accelerometer-measured light-intensity physical activity with brain volume: the framingham heart study”. In: *JAMA network open* 2.4 (Apr. 2019), e192745–e192745.
- [15] Galit Weinstein, **Kendra L Davis-Plourde**, Sarah Conner, Jayandra J Himali, Alexa S Beiser, Anne Lee, Andreea M Rawlings, Sanaz Sedaghat, Jie Ding, Erin Moshier, et al. “Association of metformin, sulfonylurea and insulin use with brain structure and function and risk of dementia and Alzheimer’s disease: Pooled analysis from 5 cohorts”. In: *PloS one* 14.2 (Feb. 2019), e0212293.
- [16] Nicole L Spartano, **Kendra L Davis-Plourde**, Jayandra J Himali, Joanne M Murabito, Ramachandran S Vasan, Alexa S Beiser, and Sudha Seshadri. “Self-reported physical activity and relations to growth and neurotrophic factors in diabetes mellitus: the Framingham Offspring Study”. In: *Journal of diabetes research* 2019 (Jan. 2019).
- [17] Claudia L Satizabal, Cécilia Samieri, **Kendra L Davis-Plourde**, Barbara Voetsch, Hugo J Aparicio, Matthew P Pase, José Rafael Romero, Catherine Helmer, Ramachandran S Vasan, Carlos S Kase, et al. “APOE and the association of fatty acids with the risk of stroke, coronary heart disease, and mortality”. In: *Stroke* 49.12 (Nov. 2018), pp. 2822–2829.
- [18] Matthew P Pase, **Kendra Davis-Plourde**, Jayandra J Himali, Claudia L Satizabal, Hugo Aparicio, Sudha Seshadri, Alexa S Beiser, and Charles DeCarli. “Vascular risk at younger ages most strongly associates with current and future brain volume”. In: *Neurology* 91.16 (Sept. 2018), e1479–e1486.
- [19] Arvind Nishtala, Ryan J Piers, Jayandra J Himali, Alexa S Beiser, **Kendra L Davis-Plourde**, Jane S Saczynski, David D McManus, Emelia J Benjamin, and Rhoda Au. “Atrial fibrillation and cognitive decline in the Framingham Heart Study”. In: *Heart Rhythm* 15.2 (Feb. 2018), pp. 166–172.
- [20] Howard J Cabral, **Kendra Davis-Plourde**, Mariana Sarango, Jane Fox, Joseph Palmisano, and Serena Rajabiun. “Peer support and the HIV continuum of care: results from a multi-site randomized clinical trial in three urban clinics in the United States”. In: *AIDS and Behavior* 22.8 (Jan. 2018), pp. 2627–2639.
- [21] Jonathan Hatoun, **Kendra Davis-Plourde**, Brian Penti, Howard Cabral, and Lewis Kazis. “Tobacco control laws and pediatric asthma”. In: *Pediatrics* 141.Supplement 1 (Jan. 2018), S130–S136.
- [22] Emer R McGrath, Alexa S Beiser, Charles DeCarli, **Kendra L Plourde**, Ramachandran S Vasan, Steven M Greenberg, and Sudha Seshadri. “Blood pressure from mid-to late life and risk of incident dementia”. In: *Neurology* 89.24 (Dec. 2017), pp. 2447–2454.
- [23] Lori B Chibnik, Frank J Wolters, Kristoffer Bäckman, Alexa Beiser, Claudine Berr, Joshua C Bis, Eric Boerwinkle, Daniel Bos, Carol Brayne, Jean-Francois Dartigues, . . . , **Kendra Davis-Plourde**, et al. “Trends in the incidence of dementia: design and methods in the Alzheimer Cohorts Consortium”. In: *European journal of epidemiology* 32.10 (Oct. 2017), pp. 931–938.

- [24] Hugo J Aparicio, Jayandra J Himali, Alexa S Beiser, **Kendra L Davis-Plourde**, Ramachandran S Vasam, Carlos S Kase, Philip A Wolf, and Sudha Seshadri. “Overweight, obesity, and survival after stroke in the Framingham Heart Study”. In: *Journal of the American Heart Association* 6.6 (June 2017), e004721.