

HEALTH DATA SCIENCE & AI SHOWCASE

Boston University Medical Campus

September 15, 2026



School of Public Health
Center for Health Data Science



AI Development Accelerator



**Rafik B. Hariri Institute for Computing
and Computational Science & Engineering**

HEALTH DATA SCIENCE & AI POSTER PRESENTATIONS

REAL-WORLD EVIDENCE & HEALTH SERVICES

1. PRELIMINARY FINDINGS OF SPEECH-LANGUAGE PATHOLOGY SERVICE USE AMONG CHILDREN AND ADOLESCENTS WITH PRIVATE HEALTH INSURANCE

Michelle L. Stransky*, Jacquelyn Nardelli, Howard Cabral

*Department of Pediatrics, Boston University Chobanian & Avedisian School of Medicine.

2. FROM POLICY TO CLAIMS: USING AI-ASSISTED POLICY ABSTRACTION TO BUILD A MULTI-STATE TELEHEALTH CODING FRAMEWORK FOR MEDICAID RESEARCH

Mackenzie Bullard*, Marc Laroche, Shapei Yan, Pual Christine

*Section of General Internal Medicine, Boston University Chobanian & Avedisian School of Medicine.

3. DEMOGRAPHICS, MOBILITY PATTERNS, AND PHARMACY VISITS

Elaine O. Nsoesie, Zou Yang*, Nina Cesare, Andrew Philips

*Thayer School of Engineering, Dartmouth College.

4. ANALYSIS OF PATIENT LEVEL DIABETES RELATED HEALTHCARE COSTS USING INPATIENT AND OUTPATIENT CLAIMS

Fangzhou Xie*, Lou Chitkushev, Guanglan Zhang

*Boston University Metropolitan College.

5. ANALYZING THE IMPACT OF THE 2008 GLOBAL FINANCIAL CRISIS ON MENTAL HEALTH OUTCOMES

Irena Vodenska, Fangzhou Xie*, Guanglan Zhang, Marislei Nishijima, Thomas Olsen, and Lou Chitkushev

*Boston University Metropolitan College.

6. FACTORS ASSOCIATED WITH TIRZEPATIDE INITIATION AMONG US ADULTS WITH OBESITY WITHOUT DIABETES

Gwen Aubrac*, Nathan Finney, Rafeya Raquib, Minh Le, Katherine Hempstead, Andrew Stokes

*Department of Epidemiology, Boston University School of Public Health.

7. ASSOCIATION BETWEEN LONG- AND SHORT-TERM DAILY STEP PATTERNS AND LONELINESS: LONGITUDINAL FITBIT DATA

Takashi Iida*, Tyler Prochnow, Masamitsu Kamada, Koichiro Shiba

*Department of Epidemiology, Boston University School of Public Health.

HEALTH DATA SCIENCE & AI POSTER PRESENTATIONS

REAL-WORLD EVIDENCE & HEALTH SERVICES (CONT'D)

8. PREVALENCE AND INCIDENCE OF HEART FAILURE PHENOTYPES AMONG TRANSGENDER AND GENDER DIVERSE ADULTS IN THE UNITED STATES

Ian K Everitt, MD, MPH, Emily K Quinn, MA, Meredith S. Duncan, PhD, Chris Grasso, MPH, Sari L Reisner, ScD, Guneet K Jasuja, PhD, MPH, Tonia Poteat, PhD, PA-C, MPH, Ayelet Shapira-Daniels, MD, Howard Cabral, PhD, Vin Tangpricha, MD, PhD, Michael K Paasche-Orlow MD, MPH, Emelia J Benjamin MD, ScM, Monica Mukherjee, MD, MPH, Carl G Streed Jr., MD, MPH*
*Section of General Internal Medicine, Boston University Chobanian & Avedisian School of Medicine.

9. A RETROSPECTIVE REVIEW OF TRANS-METATARSAL AND TRANS-TARSAL AMPUTATION FOR LIMB SALVAGE AT A SAFETY NET HOSPITAL

Hau Pham*, Rafael Moradian, Joshua Choi, Rojin Mohammadi Kangarani, Elizabeth Sanders
*Department of Surgery, Boston University Chobanian & Avedisian School of Medicine.

10. BEHAVIORAL ASSESSMENT RELIABILITY IN CLINICAL PHENOTYPING AND BIOMARKER RESEARCH FOR AUTISM

Enrique Perez-Benavides*, Jueqi Wang, Zijian Chen, Stefen Beeler-Duden, Zachary Jackokes, John D. Van Horn, Michael C. Schatz, Kevin A. Pelphrey, Archana Venkataraman
*Department of Electrical and Computer Engineering, Boston University College of Engineering.

ENVIRONMENT, INFECTIOUS DISEASE & GLOBAL HEALTH

11. ASSOCIATION BETWEEN GREENSPACE AND FECUNDABILITY IN A COHORT OF BLACK WOMEN

Chen Sheng*, Michael Winter, Etienne X. Holder, Kimberly Bertrand, Yvette Cozier, Jacqueline Hicks, Mary Willis, Talia Feldscher, Lauren A. Wise, Julie R. Palmer, Amelia K. Wesselink
*Department of Epidemiology; Biostatistics and Epidemiology Data Analytics Center (BEDAC); Department of Biostatistics; Center for Climate and Health, Boston University School of Public Health; Slone Epidemiology Center, Boston University Chobanian & Avedisian School of Medicine.

12. MIXED-METHOD COMMUNITY ENGAGEMENT FOR THE ADVANCING COMMUNITY RESILIENCE TO CUMULATIVE CLIMATE IMPACTS IN THE MYSTIC RIVER WATERSHED (ACRES) PROJECT

Chad W. Milando, Nina Cesare*, Allison M. James, Muskaan Khemani, Madeleine K. Scammell, Beverly Ge, Clarisza Runtung, Rida Jamal, Mariangelí Echevarría-Ramos, Amruta Nori-Sarma, Jonathan I. Levy
*Center for Health Data Science, Boston University School of Public Health.

HEALTH DATA SCIENCE & AI POSTER PRESENTATIONS

ENVIRONMENT, INFECTIOUS DISEASE & GLOBAL HEALTH (CONT'D)

13. HARMONIZING PUBLICLY AVAILABLE GLOBAL ENVIRONMENTAL EXPOSURE DATA FOR HEALTH RESEARCH IN SOUTH AFRICA

Lily Rosa*, Kevin Lane, Caradee Wright, Zachary Popp, Nina Brooks, Alana Brennan

*Department of Environmental Health, Boston University School of Public Health.

14. USING SPATIOTEMPORAL ANALYSIS TO INFORM MALARIA PROGRAMMATIC DECISION-MAKING IN SIERRA LEONE: A CASE STUDY

Stanley Muoghalu*, Kevin Lane, Abdul Mac Falama, Meredith Brooks

*Doctor of Public Health Program, Boston University School of Public Health.

15. ACCOUNTING FOR INDIVIDUAL-LEVEL SOCIAL CONTACT HETEROGENEITY IN TRANSMISSION MODELING: A SICKMIX STUDY

Jessica C. Ibiebele*, A.N. Shapiro, Dehao Chen, Judy Donald, Mark Schmidt, Samuel Jenness, Benjamin Lopman, Kayoko Shioda

*Center on Emerging Infectious Diseases, Boston University.

16. COMPARATIVE EFFECTIVENESS OF DIFFERENT DOSING SCHEDULES OF PNEUMOCOCCAL CONJUGATE VACCINES AMONG CHILDREN IN BRAZIL AND THE UNITED STATES

Katherine Jia*, Caroline Gava, Ana Catarina de Melo Araujo, João Carlos Lemos Sousa, Fan Bu, Shae Gantt, Ina Sze-Ting Lee, Cristiana Toscano, Kayoko Shioda

*Department of Global Health, Boston University School of Public Health.

17. UNDERSTANDING THE IMMUNE DYNAMICS OF LYME DISEASE VACCINES WITH BAYESIAN MODELING OF VACCINE-INDUCED IMMUNITY

Matthew Venzie*, Zoe Sirotiak, Dan Irovan, Grant Brown

*Department of Statistics & Mathematics, University of Connecticut College of Liberal Arts and Sciences.

STATISTICAL, CAUSAL & DATA SCIENCE METHODS

18. A COMPARATIVE STUDY ON PERFORMANCES OF CAPTURE-RECAPTURE METHODS

Matthew Carroll, Benjamin Linas*, Jungwun Lee

*Section of Infectious Diseases, Boston University Chobanian & Avedisian School of Medicine.

19. INCLUDING POST-CLUSTERING VALIDATOR VARIABLES IN THE IMPUTATION MODEL

Fatima Tuz-Zahra*, Shariq Mohammed, Yorghos Tripodis

*Department of Biostatistics, Boston University School of Public Health.

HEALTH DATA SCIENCE & AI POSTER PRESENTATIONS

STATISTICAL, CAUSAL & DATA SCIENCE METHODS (CONT'D)

20. A PARTITIONING APPROACH TO MULTI-LEVEL LATENT CLASS PROFILE MODEL

Jungwun Lee*

*Department of Biostatistics, Boston University School of Public Health.

21. BAYESIAN CAUSAL FORESTS FOR ESTIMATING HETEROGENEOUS EFFECTS WITH JOINT TREATMENTS AND INTERFERENCE

Abhi Jain*, Wei Jin, Shariq Mohammed, Sara Lodi

*Department of Biostatistics, Boston University School of Public Health.

22. HTE IN COGNITIVE AGING

Jiemin Yang*, Ruoyun Yang, Ching-Ti Liu

*Department of Biostatistics, Boston University School of Public Health.

23. FUNCTIONAL PRINCIPAL COMPONENT ANALYSIS OF DIGIT-LEVEL PEN SPEED IN DIGITAL CLOCK DRAWING

Sophia Lu*, Adlin Pinheiro, Shariq Mohammed, Michael LaValley.

*Department of Biostatistics, Boston University School of Public Health.

24. CROSS-SECTIONAL INTRATUMORAL MICROBIAL ABUNDANCE CANNOT ESTABLISH CAUSATION: A CALIBRATION STUDY USING AN ESTABLISHED CARCINOGEN AS A NATURAL CONTROL

Julian Borges*

*Department of Computer Science, Boston University Metropolitan College.

AI, MACHINE LEARNING & DIGITAL HEALTH

25. LINGUISTIC FEATURES FROM DIGITAL VOICE RECORDINGS ARE MARKERS OF COGNITIVE IMPAIRMENT

Seho Park*, Nicole Roth, Megan Barker, Sanford Auerbach, Thomas T. Perls, Stephanie Cosentino, Rhoda Au, David J. Libon, Paola Sebastiani, Stacy L. Andersen

*Section of Geriatrics, Boston University Chobanian & Avedisian School of Medicine.

26. COGNITIVE IMPAIRMENT DETECTION THROUGH NETWORK-BASED REPRESENTATIONS OF DIGITAL CLOCK DRAWINGS

Adlin Pinheiro*, Huimin Cheng, Cody Karjadi, Katherine Gifford, Serkalem Demissie, Kathryn L. Lunetta, Chunyu Liu, Rhoda Au, Shariq Mohammed

*Department of Biostatistics, Boston University School of Public Health.

HEALTH DATA SCIENCE & AI POSTER PRESENTATIONS

AI, MACHINE LEARNING & DIGITAL HEALTH (CONT'D)

27. SPATIAL ORGANIZATION OF CLOCK ELEMENTS IN DIGITAL CLOCK DRAWING TEST AS FEATURES FOR COGNITIVE IMPAIRMENT PREDICTION

Jordan Ahn*, Adlin Pinheiro, Cody Karjadi, Rhoda Au, Shariq Mohammed

*Department of Biostatistics, Boston University School of Public Health.

28. INTERPRETABLE MEDICAL AI WITH VISION-LANGUAGE ALIGNMENT

Shantanu Ghosh*

*Department of Electrical and Computer Engineering, Boston University.

29. INTRA-ARTICULAR SEGMENTATION ENABLES DEEP LEARNING DETECTION AND LOCALIZATION OF CALCIFICATIONS ON KNEE CT

Qiu X.*, Domingues J.G., Lynch J.A., Kijowski R., Park H., Jarraya M., Liu F., Guermazi A., Neogi T.

*Department of Rheumatology, Boston University Chobanian & Avedisian School of Medicine; Universidade Federal de Minas Gerais School of Medicine; The University of California, San Francisco; Hospital for Special Surgery; Massachusetts General Hospital.

30. PNEUMOPATH: AUTOMATED PREDICTION OF PNEUMONIA HISTOPATHOLOGY FEATURES FROM WHOLE-SLIDE IMAGES

Amulya Shastry*, Bradley E. Hiller, Nathan L. Sanders, Anna E. Tseng, Jeet Kothari, Aoife K. O'Connell, Hans P. Gertje, Catherine T. Ha, Ekaterina Murzin, James A. Lederer, Thomas G. Beach, Daniel G. Remick, Nicholas A. Crossland, Stefano Monti, Joshua D. Campbell, Joseph P. Mizgerd

*Pulmonry Center, Section of Computational Biomedicine, Department of Medicine, Department of Virology, Immunology, and Microbiology, Department of Biochemistry and Cell Biology, Department of Pathology & Laboratory Medicine, Boston University Chobanian & Avedisian School of Medicine; National Emerging Infectious Diseases Laboratories (NEIDL), Boston University; Banner Sun Health Research Institute; Department of Surgery, Brigham and Women's Hospital and Harvard Medical School; Department of Biostatistics, BU School of Public Health.

31. MULTIMODAL TRANSFORMERS FOR CGM AND DIET BASED GLUCOSE FORECASTING

Jung Lee*, Suheng Yao, Lin Tang, Xiaowei Yu, Michael Cheney, Honghuang Lin, Xuezhou Zhang, Debarghya Mukherjee, Maura Walker, Nicole Spartano, Huimin Cheng

*Department of Biostatistics, Boston University School of Public Health.

32. A HUMAN-IN-THE-LOOP LLM FRAMEWORK FOR A TRUSTWORTHY DIABETES-NUTRITION KNOWLEDGE GRAPH

Lin Tang*, Xiaohang Zhang, Xuezhou Zhang, Huimin Cheng

*Department of Biostatistics, Boston University School of Public Health; Faculty of Computing & Data Sciences, Boston University.

HEALTH DATA SCIENCE & AI POSTER PRESENTATIONS

AI, MACHINE LEARNING & DIGITAL HEALTH (CONT'D)

33. IMPROVING SURGICAL SAFETY: USING AI MODELS TO PREDICT MAJOR INTRAOPERATIVE HEMORRHAGE

Nisha Jha*, Devesh Jha

*Department of Epidemiology, Biostatistics, and Global Health Policy Design, Boston University School of Public Health.

34. PYTHON-POWERED CLINICIAN-DRIVEN ANATOMIC DELINEATION IN THE LARYNX FOR VARIABILITY EVALUATION AND EXEMPLAR GENERATION

Winston Liu*, Lucas Berry, Gintas Krisciunas

*Department of Otolaryngology, Head & Neck Surgery, Boston Medical Center.

35. TRACKIMPACT: AUTOMATING ANALYSES, AMPLIFYING IMPACT

Kayla J. Kuhfeldt*, Kim C. Brimhall

*Clinical & Translational Science Institute, Boston University Chobanian & Avedisian School of Medicine; Department of Health Law, Policy & Management, Boston University School of Public Health.

OMICS, MOLECULAR DATA & BIOENGINEERING

36. CONTRASTIVE LEARNING OF HISTOPATHOLOGY AND TRANSCRIPTOMIC DATA FOR BREAST CANCER MOLECULAR SUBTYPING

Anqi Zou*, Qiyu Wu, Elaine Huang, Chao Zhang

*Section of Computational Biomedicine, Boston University Chobanian & Avedisian School of Medicine.

37. LEARNED IMMUNE ARCHITECTURES OF DURABLE ANTIBODY RESPONSES ACROSS VACCINES

Stephanie Hao*, Pawel F. Przytycki

*Faculty of Computing & Data Sciences, Boston University; Section of Computational Biomedicine, Boston University Chobanian & Avedisian School of Medicine.

38. REGION-SPECIFIC CIRCNA DYSREGULATION AND REGULATORY NETWORK ALTERATIONS ACROSS EIGHT HUMAN BRAIN REGIONS IN ALCOHOL USE DISORDER

Aravind Panicker, Abhishek Kumar, Abhyuday Singh Parihar, Mintao Lin, Huiping Zhang*

*Department of Psychiatry; Department of Medicine (Biomedical Genetics), Boston University Chobanian & Avedisian School of Medicine.

HEALTH DATA SCIENCE & AI POSTER PRESENTATIONS

OMICS, MOLECULAR DATA & BIOENGINEERING (CONT'D)

39. ASSESSMENT OF ALPHAFOLD PROTEIN MODELS FOR SMALL-MOLECULE LIGAND DOCKING VERSUS CO-FOLDING

Hlib Maidanik*, Maria Lazou, Rohin Bajaj, Raheel Sarwar, Omid Ziaee, Sandor Vajda, Diane Joseph-McCarthy

*Department of Biomedical Engineering; Division of Material Sciences & Engineering, Boston University College of Engineering; Department of Chemistry, Boston University College of Arts & Sciences.

40. MICROBIAL BIOSENSORS FOR SMART TREATMENTS: SENSING FERTILITY HORMONES IN WHOLE BLOOD

Yazmin Camacho*, Kelsey Crawford, Luca Pungan, Kaavya Akula, Alexander Tan, Miguel Jimenez

*Department of Biomedical Engineering; Department of Materials Science & Engineering, Boston University College of Engineering.

41. HYDROGEL-BASED PLATFORMS: THERAPEUTICS AND MICROBIAL SCREENING IN EXTREME ENVIRONMENTS

Kelsey Crawford*, Yazmin Camacho, Luca Pungan, Kaavya Akula, Alexander Tan, Miguel Jimenez

*Division of Materials Science and Engineering, Boston University College of Engineering.

HEALTH DATA SCIENCE & AI

INTERACTIVE DEMONSTRATIONS

42. DEMOCRATIZING OUR DATA: A UNIQUE USE OF POWER BI TO CREATE THE CHILDREN'S HEALTHWATCH INTERACTIVE DASHBOARD

Sharon Coleman*, Allison Landowski, Axin Hua

*Biostatistics and Epidemiology Data Analytics Center (BEDAC), Boston University School of Public Health.

43. A COMPACT VISION-LANGUAGE MODEL FOR MULTI-SEQUENCE BRAIN MRI

Shreyas Puducheri*, Diala Lteif, Shuyue Jia, Subhrangshu Bit, Artem Kaliaeve, Asim Z. Mian, Juan E. Small, Balamurugan Mangaleswaran, Bryan A. Plummer, Sarah A. Bargal, Rhoda Au, Vijaya B. Kolachalama

*Boston University Chobanian & Avedisian School of Medicine.

44. AUDITING TREATMENT-INFORMATION LEAKAGE IN SOFA-BASED STATE REPRESENTATIONS FOR SEPSIS REINFORCEMENT LEARNING

Mohammad Shahin*

*Department of Biostatistics; Department of Epidemiology; Department of Health Law, Policy & Management, Boston University School of Public Health.

45. MYELIN: AN AGENT SYSTEM TO DOWNLOAD AND PROCESS OMICS DATA

Jiayong Tu, Zhou Zhou, Ting-Ting Fu, Lei Hou*

*Department of Medicine, Boston University Chobanian & Avedisian School of Medicine; Undergraduate Research Opportunities Program, Boston University.

46. A PHYSICIAN-STATISTICIAN DEBATE FRAMEWORK FOR AUTOMATED OBSERVATIONAL STUDY PROPOSAL GENERATION: DESIGN, EMPIRICAL VALIDATION, AND BEHAVIORAL CHARACTERIZATION

Musong Gao*

*Department of Biostatistics, Boston University School of Public Health.

47. AXONATLAS: AN EXPLAINABLE AI PLATFORM FOR INTERACTIVE NEUROANATOMY EDUCATION AND CLINICAL NEUROLOGIC LESION LOCALIZATION

Nisha Jha*

*Department of Epidemiology, Biostatistics, and Global Health Policy Design, Boston University School of Public Health.

48. SYMPORTER

Farah Rexha*

*Department of Anatomy and Neurobiology, Boston University Chobanian & Avedisian School of Medicine.

49. AI-SIMULATED VOICES FOR CLINICAL TRAINING

Caroline Brinkert*

*Department of Speech, Language & Hearing, Boston University Sargent College of Health & Rehabilitation Services.