BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Bayman, Emine Ozgur

eRA COMMONS USER NAME (credential, e.g., agency login): BAYMANE

POSITION TITLE: Associate Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Hacettepe University, Ankara, Turkey	BS	06/1999	Statistics
Uludag University, Bursa, Turkey	MS	08/2002	Biostatistics
University of Iowa, Iowa City, Iowa	MS	06/2004	Biostatistics
University of Iowa, Iowa City, Iowa	PHD	08/2008	Biostatistics

A. Personal Statement

I am an Associate Professor of Biostatistics (primary) and Anesthesia (secondary) at the University of Iowa with research interests in Bayesian statistics, multi-center clinical trials, and prediction models of pain after thoracic surgery. Prior to assuming the role of Deputy Director of the Clinical Trials Statistical and Data Management Center (CTSDMC), I worked in the Department of Anesthesia as a faculty member for 10 years and primarily involved with studies related to the transition of acute to chronic pain after thoracic surgery and neuro-anesthesia. During those 10 years, I held a secondary appointment in the Department of Biostatistics and stayed involved by co-teaching Clinical Trials course with Dr. Coffey (co-PI) and being a co-investigator for some of the multi-center clinical trials conducted by CTSDMC such as CIT, IHAST and NeuroNext.

In the Department of Anesthesia I have served as a PI, a co-investigator, or a primary statistician for single or multi-center clinical trials including 1) an NIH-funded (R03) study, “Predicting Chronic Pain after Thoracic Surgery: A Bayesian Approach” (Bayman PI, Parekh co-I); 2) Psychosocial and Imaging Data for Widespread Chronic Pelvic Pain (NIDDK, MAPP-subcontract, Co-PI: Bayman); 3) Phase II Trial for Neuropathic Pain (NCI, co-I); 4) General Anesthesia for Brain Development (NICHD, co-I); and 5) Chiari type I Malformation (PCORI, DCC co-lead) using both frequentist and Bayesian approaches. Currently I am serving on the following 3 multicenter studies conducted by CTSDMC: 1) Network of Excellence in Neuroscience Clinical Trials (NeuroNext, NIH, co-I); 2) “Clinical Coordinating Center for the Acute to Chronic Pain Signatures Program” (A2CPS Consortium, NIH, co-I); and 3) “Fibromyalgia TENS in Physical Therapy Study: An Embedded Pragmatic Clinical Trial” (FM-TIPS, NIH, DCC lead).

We developed a novel Bayesian model to identify outlier observations. We applied this method to identify outlier centers in a multi-center clinical trial where 1000 patients were enrolled from 30 different centers (IHAST, NIH), and outlier faculty based on a clinical performance. For the LTC, Bayesian designs can be used to identify those centers with more variability on outcome as well as reasons for center-to-center variability in the outcome.

I am an elected member of the Association of University Anesthesiologists and serve on the American Society of Anesthesiologists (ASA) Committee on Research. I served as an ad-hoc member of the Clinical Study

Consortium Review Panel for the NIDDK. I am the Assistant Editor of Statistics in Anesthesia & Analgesia, and on the editorial board of Neurosurgery, and European Journal of Pain.

In summary, I have combined expertise in leading both small and large multi-center clinical trials, biomarker studies, using both frequentist and Bayesian analyses, extensively published on pain after thoracic surgery, and published innovative studies to assess center-to-center differences on outcomes in multi-center clinical trials.

1. Cudkowicz M, Chase MK, Coffey CS, Ecklund DJ, Thornell BJ, Lungu C, Mahoney K, Gutmann L, Shefner JM, Staley KJ, Bosch M, Foster E, Long JD, Bayman EO, Torner J, Yankey J, Peters R, Huff T, Conwit RA, Shinnar S, Patch D, Darras BT, Ellis A, Packer RJ, Marder KS, Chiriboga CA, Henchcliffe C, Moran JA, Nikolov B, Factor SA, Seeley C, Greenberg SM, Amato AA, DeGregorio S, Simuni T, Ward T, Kissel JT, Kolb SJ, Bartlett A, Quinn JF, Keith K, Levine SR, Gilles N, Coyle PK, Lamb J, Wolfe GI, Crumlish A, Mejico L, Iqbal MM, Bowen JD, Tongco C, Nabors LB, Bashir K, Benge M, McDonald CM, Henricson EK, Oskarsson B, Dobkin BH, Canamar C, Glauser TA, Woo D, Molloy A, Clark P, Vollmer TL, Stein AJ, Barohn RJ, Dimachkie MM, Le Pichon JB, Benatar MG, Steele J, Wechsler L, Clemens PR, Amity C, Holloway RG, Annis C, Goldberg MP, Andersen M, Iannaccone ST, Smith AG, Singleton JR, Doudova M, Haley EC, Quigg MS, Lowenhaupt S, Malow BA, Adkins K, Clifford DB, Teshome MA, Connolly N. Seven-Year Experience From the National Institute of Neurological Disorders and Stroke-Supported Network for Excellence in Neuroscience Clinical Trials. JAMA Neurol. 2020 Jun 1;77(6):755-763. PubMed Central PMCID: PMC7483960.
2. Bayman EO, Parekh KR, Keech J, Larson N, Vander Weg M, Brennan TJ. Preoperative Patient Expectations of Postoperative Pain Are Associated with Moderate to Severe Acute Pain After VATS. Pain Med. 2019 Mar 1;20(3):543-554. PubMed Central PMCID: PMC6657569.
3. Bayman EO, Parekh KR, Keech J, Selte A, Brennan TJ. A Prospective Study of Chronic Pain after Thoracic Surgery. Anesthesiology. 2017 May;126(5):938-951. PubMed Central PMCID: PMC5395336.
4. Bayman EO, Chaloner KM, Hindman BJ, Todd MM. Bayesian methods to determine performance differences and to quantify variability among centers in multi-center trials: the IHAST trial. BMC Med Res Methodol. 2013 Jan 16;13:5. PubMed Central PMCID: PMC3599203.

Some recent projects in which I have served in a similar role include:

NIH UG3 AR07637 (Sluka/Crofford, PIs)
Fibromyalgia TENS in Physical Therapy Study (TIPS): An Embedded Pragmatic Clinical Trial
09/26/2019 – 08/31/2024
Role: Co-Investigator (DCC Lead)

NIH U24 NS112873 (Coffey, PI)
Clinical Coordinating Center for the Acute to Chronic Pain Signatures Program
08/15/2019 – 07/31/2023
Role: Co-Investigator

NIH U01 NS077352
Network for Excellence in Neuroscience Clinical Trials (NeuroNEXT) – DCC
09/30/2011 – 06/30/2023
Role: Co-Investigator

NIH U01 DK070431 (Foster, PI)
Clinical Islet Transplantation: Data Coordinating Center (CIT:DCC)
09/30/2004-07/31/2018
Role: Co-Investigator

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

2019 -	Associate Professor , University of Iowa, Department of Biostatistics (primary), Iowa City, IA
2019 -	Associate Professor, University of Iowa, Department of Anesthesia (secondary), Iowa City, IA
2017 - 2019	Associate Professor, University of Iowa, Department of Anesthesia (primary), Iowa City, IA
2017 - 2019	Associate Professor, University of Iowa, Department of Biostatistics (secondary), Iowa City, IA
2011 - 2017	Assistant Professor, University of Iowa, Department of Biostatistics (secondary), Iowa City, IA
2011 - 2017	Assistant Professor, University of Iowa, Department of Anesthesia (primary), Iowa City, IA
2008 - 2011	Associate, University of Iowa, Department of Biostatistics (secondary), Iowa City, IA
2008 - 2011	Associate, University of Iowa, Department of Anesthesia (primary), Iowa City, IA
2004 - 2008	Research/Teaching Assistant, University of Iowa, Department of Biostatistics, Iowa City, IA
2000 - 2002	Research/Teaching Assistant, Uludag University, Department of Biostatistics

Honors

2003 - 2008	Graduate Education Scholarship, Higher Education Council of Turkey
2013	Best Abstract Award, American Society of Anesthesiologists (ASA) Annual Meeting
2007	Poster competition winner, Roy J. and Lucille A. Carver College of Medicine and the College of Public Health Research Week
2021	College of Public Health Faculty Service Award, University of Iowa

C. Contribution to Science

1. I have experience in acute to chronic post-thoracic surgery related pain. We first conducted a metaanalysis (b) to find the incidence of chronic pain at 3 and 6 months after thoracotomy. Second, we conducted a survey to determine the pain-related limitations on patients' daily activities after thoracic surgery. Third, we published the results of our prospective observational study regarding the predictors acute pain after video-assisted thoracoscopic surgery (a) and of chronic pain (c) after thoracic surgery. Fourth, we published an AAAPT solicited review paper for acute pain after thoracic surgery (d).

    a. Bayman EO, Curatolo M, Rahman S, Brennan TJ. AAAPT Diagnostic Criteria for Acute Thoracic Surgery Pain. J Pain. 2021 Apr 10; PubMed PMID: 33848682.
    b. Bayman EO, Parekh KR, Keech J, Larson N, Vander Weg M, Brennan TJ. Preoperative Patient Expectations of Postoperative Pain Are Associated with Moderate to Severe Acute Pain After VATS. Pain Med. 2019 Mar 1;20(3):543-554. PubMed Central PMCID: PMC6657569.
    c. Bayman EO, Parekh KR, Keech J, Selte A, Brennan TJ. A Prospective Study of Chronic Pain after Thoracic Surgery. Anesthesiology. 2017 May;126(5):938-951. PubMed Central PMCID: PMC5395336.
    d. Bayman EO, Brennan TJ. Incidence and severity of chronic pain at 3 and 6 months after thoracotomy: meta-analysis. J Pain. 2014 Sep;15(9):887-97. PubMed PMID: 24968967.

2. I have experience in opioid use after surgery. We first conducted a retrospective study for the long-term opioid prescription patterns among the veterans (a). Then, we conducted another retrospective study for the opioid use trajectories after thoracic surgery among veterans (c). In addition, our AAAPT solicited methodological publication on acute pain trajectory (d) also describes methods that can be used for the opioid use trajectories.

    a. Bayman EO, Oleson JJ, Rabbitts JA. AAAPT: Assessment of the Acute Pain Trajectory. Pain Med. 2021 Mar 18;22(3):533-547. PubMed Central PMCID: PMC7971475.
    b. Hadlandsmyth K, Mosher HJ, Bayman EO, Wikle JG, Lund BC. A Typology of New Long-term Opioid Prescribing in the Veterans Health Administration. J Gen Intern Med. 2020 Sep;35(9):2607-2613. PubMed Central PMCID: PMC7458960.

c. Bishop MO, Bayman EO, Hadlandsmyth K, Lund BC, Kang S. Opioid use trajectories after thoracic surgery among veterans in the United States. Eur J Pain. 2020 Sep;24(8):1569-1584. PubMed PMID: 32506529.

d. Bayman EO, Brennan TJ. Video-assisted thoracoscopic surgery versus robotic-assisted thoracoscopic surgery and postoperative opioid consumption. J Thorac Dis. 2018 Sep;10(Suppl 26):S3222-S3223. PubMed Central PMCID: PMC6186588.

3. We developed a novel model to identify outlier observations with a Bayesian approach. We first applied this method to identify outlier centers in a multi-center clinical trial where data from 1000 patients were collected from 30 centers (a). Then, we applied the same Bayesian model to identify outlier anesthesia faculty for two metrics assessing clinical performance (b). Our third paper of the series examined performances of anesthesia faculty versus anesthesia providers for another clinical outcome: prolonged extubation (c).
   a. Bayman EO, Dexter F, Todd MM. Prolonged Operative Time to Extubation Is Not a Useful Metric for Comparing the Performance of Individual Anesthesia Providers. Anesthesiology. 2016 Feb;124(2):32238. PubMed PMID: 26545101.
   b. Bayman EO, Dexter F, Todd MM. Assessing and Comparing Anesthesiologists' Performance on Mandated Metrics Using a Bayesian Approach. Anesthesiology. 2015 Jul;123(1):101-15. PubMed PMID: 25906338.
   c. Bayman EO, Chaloner KM, Hindman BJ, Todd MM. Bayesian methods to determine performance differences and to quantify variability among centers in multi-center trials: the IHAST trial. BMC Med Res Methodol. 2013 Jan 16;13:5. PubMed Central PMCID: PMC3599203.

4. I have the expertise to conduct and analyze data from large multi-center clinical trials. See IHAST (1,000 patients from 30 centers) and Stage (1,100 patients from 3 centers) trials below.

   a. Aziz MF, Bayman EO, Van Tienderen MM, Todd MM, Brambrink AM. Predictors of difficult videolaryngoscopy with GlideScope® or C-MAC® with D-blade: secondary analysis from a large comparative videolaryngoscopy trial. Br J Anaesth. 2016 Jul;117(1):118-23. PubMed Central PMCID: PMC4913400.
   b. Aziz MF, Abrons RO, Cattano D, Bayman EO, Swanson DE, Hagberg CA, Todd MM, Brambrink AM. First-Attempt Intubation Success of Video Laryngoscopy in Patients with Anticipated Difficult Direct Laryngoscopy: A Multicenter Randomized Controlled Trial Comparing the C-MAC D-Blade Versus the GlideScope in a Mixed Provider and Diverse Patient Population. Anesth Analg. 2016 Mar;122(3):74050. PubMed PMID: 26579847.
   c. Nguyen HP, Zaroff JG, Bayman EO, Gelb AW, Todd MM, Hindman BJ. Perioperative hypothermia (33 degrees C) does not increase the occurrence of cardiovascular events in patients undergoing cerebral aneurysm surgery: findings from the Intraoperative Hypothermia for Aneurysm Surgery Trial. Anesthesiology. 2010 Aug;113(2):327-42. PubMed Central PMCID: PMC2910193.
   d. Hindman BJ, Bayman EO, Pfisterer WK, Torner JC, Todd MM. No association between intraoperative hypothermia or supplemental protective drug and neurologic outcomes in patients undergoing temporary clipping during cerebral aneurysm surgery: findings from the Intraoperative Hypothermia for Aneurysm Surgery Trial. Anesthesiology. 2010 Jan;112(1):86-101. PubMed PMID: 19952722.

Complete List of Published Work in My Bibliography:
https://www.ncbi.nlm.nih.gov/myncbi/emine.bayman.1/bibliography/public/