

# CURRICULUM VITAE

Weiwei Zhu

## BIOGRAPHICAL INFORMATION

Weiwei Zhu, M.S.

Biostatistician III

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## EDUCATION:

Jan. 2006 – Dec. 2007

Master of Statistics

Texas A&M University, College Station, Texas, USA

## EXPERIENCE:

Apr. 2019 – present      Biostatistician    III

Kaiser Permanente Washington Health Research Institute

Apr. 2013 – Apr. 2019    Biostatistician II

Group Health Research Institute/Kaiser Permanente Washington Health Research Institute

Oct. 2009 – Apr. 2014    Biostatistician I

Group Health Research Institute

Feb. 2008 – Oct. 2009    Biostatistician

Moffitt Cancer Center and Research Institute

## PEER REVIEWED PUBLICATIONS:

- [1]. McCurry SM, Von Korff M, Morin CM, Cunningham A, Pike KC, Thakral M, Wellman R, Yeung K, Zhu W, Vitiello MV. Telephone interventions for co-morbid insomnia and osteoarthritis pain: The OsteoArthritis and therapy for sleep (OATS) randomized trial design. *Contemp Clin Trials*. 2019 Oct 12:105851. doi: 10.1016/j.cct.2019.105851 [Epub ahead of print]
- [2]. Henrikson, N., Zhu, W., Baba, L., Nguyen, M., Berthoud, H., Gundersen, G., Hofstetter, A., Outreach and reminders to improve HPV vaccination in an integrated primary care system: randomized trial, *Clin Pediatr (Phila)*. 2018 Nov;57(13):1523-1531. doi: 10.1177/0009922818787868. Epub 2018 Jul 13
- [3]. Lee, C., Zhu, W., Onega, T., Germino, J., O'Meara, E., Lehman, C., Henderson, L., Haas, J, Kerlikowske, K., Sprague, B., Rauscher, G., Tosteson, A., Alford-Teaster, J., Wernli, K., Miglioretti, D., The Effect of Digital Breast Tomosynthesis Adoption on Facility-Level Breast

- Cancer Screening Volume, *AJR Am J Roentgenol.* 2018 Nov;211(5):957-963. doi: 10.2214/AJR.17.19350. Epub 2018 Sep 20.
- [4]. Groeneweg, M., Forrester, S. Arnold, B., Palazzo, L., **Zhu, W.**, Yoon, P., Scearce, T., One-Year Outcomes of an Integrated Multiple Sclerosis Disease Management Program, *Jouranal of Manag Care Spec Pharm.* 2018 May;24(5):458-463. doi: 10.18553/jmcp.2018.24.5.458.
- [5]. Braithwaite, D., Miglioretti, D., **Zhu, W.**, Demb, J., Dietz, A., Sprague, B., Tice, J., Onega, T., Henderson, L., Walter, L., Kerlikowske, K., Family History and Breast Cancer Risk Among Older Women in the Breast Cancer Surveillance Consortium Cohort, *JAMA Intern Med.* 2018;178(4):494-501. doi:10.1001/jamainternmed.2017.8642
- [6]. Onega T, **Zhu W.**, Weiss JE, Goodrich M, Tosteson ANA, DeMartini W, Virnig B, Henderson L, Buist DSM, Wernli K, Kerlikowske K, Hubbard R, Preoperative breast MRI and mortality among older women with breast cancer, *Breast Cancer Research and Treatment*, 2018 Mar 7. doi: 10.1007/s10549-018-4732-z. [Epub ahead of print]
- [7]. Miles, R., Wan, F., Onega, T., Lenderink-Carpenter, A., O'Meara, E., **Zhu, W.**, Henderson, L., Haas, J., Hill, D., Tosteson, A., Wernli, K., Alford-Teaster, J., Lee, J., Lehman, C., Lee, C., Underutilization of Supplemental MRI Screening Among Patients at High Breast Cancer Risk, *Journal of Womens Health (Larchmt).* 2018 Jan 17. doi: 10.1089/jwh.2017.6623. [Epub ahead of print]
- [8]. Henderson, L., Hubbard, R., **Zhu, W.**, Weiss J., Wernli, K., Goodrich, M., Kerlikowske, K., DeMartini, W., Ozanne, E., Onega, T., Pre-operative breast MRI use by breast density and family history of breast cancer, *J Womens Health (Larchmt).* 2018 Jan 15. doi: 10.1089/jwh.2017.6428. [Epub ahead of print]
- [9]. Onega, T., Weiss, J., Goodrich, M., **Zhu, W.**, DeMartini, W., Kerlikowske, K., Ozanne, E., Tosteson, A., Henderson, L., Buist, D., Wernli, K., Herschorn, S., Hotaling, E., O'Donoghue, C., Hubbard, R., Relationship Between Preoperative Breast MRI and Surgical Treatment of Non-Metastatic Breast Cancer, *J Surg Oncol.* 2017 Nov 11. doi: 10.1002/jso.24796
- [10]. Miglioretti, D., **Zhu, W.**, Kerlikowske, K., Sprague BL, Onega, T., Buist, D., Henderson, L., Smith, RA., Breast Tumor Prognostic Characteristics and Biennial vs Annual Mammography, Age, and Menopausal Status. *JAMA Oncol.* Published online October 20, 2015. doi:10.1001/jamaoncol.2015.3084
- [11]. Kerlikowske K., **Zhu W.**, Tosteson A.N.A., Sprague BL, Tice JA, Lehman CD, Miglioretti DL. Identifying Women with Dense Breasts at High Risk of Interval Cancers. *Ann Intern Med.* 2015;162(10):673-681. doi:10.7326/M14-1465
- [12]. Henderson, L., Hubbard, R., Sprague, B., **Zhu, W.**, Kerlikowske, K., Increased risk of developing breast cancer after a false positive screening mammogram. *Cancer Epidemiol Biomarkers Prev.* 2015;24(12):1882-9. doi: 10.1158/1055-9965.EPI-15-0623.
- [13]. Chubak J, Onega T, **Zhu W**, Buist DS, Hubbard RA.; An electronic health record-based algorithm to ascertain the date of second breast cancer events.; *Med Care.* 2015 Apr 3. [Epub ahead of print].

- [14]. Hubbard, R., Benjamin-Johnson, R., Onega, T., Smith-Bindman, R., **Zhu W.**, Fenton JJ. Classification accuracy of claims based methods for identifying providers failing to meet performance targets. *Stat Med.* 2015 Jan 15;34(1):93-105. doi: 10.1002/sim.6318. Epub 2014 Oct 10.
- [15]. Hubbard, R., **Zhu, W.**, Balch, S., Onega, T., Fenton, J., Identification of abnormal screening mammogram interpretation using Medicare claims data. *Health Serv Res.* 2014 Jun 28. doi: 10.1111/1475-6773.12194. [Epub ahead of print]
- [16]. Fenton, J., **Zhu, W.**, Balch, S., Smith-Bindman, R., Lindfors, K., Fishman, P., Hubbard, R., Distinguishing Screening from Diagnostic Mammograms using Medicare Claims Data. *Medical Care*, 2032 Aug 23. [Epub ahead of print]
- [17]. O'Meara, E., **Zhu, W.**, Hubbard, R., Kerlikowske, K., Braithwaite, d., Dittus, K., Geller, B., Weaver, D., Wernli, K., Miglioretti, DL. Mammographic screening interval in relation to tumor characteristics and false-positive risk by race/ethnicity and age. *Cancer*, 2013 Aug 26. doi: 10.1002/cncr.28310. [Epub ahead of print]
- [18]. Dittus, K., Geller, B., Weaver, D., Kerlikowske, K., **Zhu, W.**, Hubbard, R., Braithwaite, D., O'Meara, E., Miglioretti, D., Impact of Mammography Screening Interval on Breast Cancer Characteristics of Women with Different Body Mass Index. *Journal of general Intern Med.* 2013 Jun 13. [Epub ahead of print]
- [19]. Fenton JJ, Onega T, **Zhu W**, Balch S, Smith-Bindman R, Henderson L, Sprague BL, Kerlikowske K, Hubbard RA.; Validation of a Medicare claims-based algorithm for identifying breast cancers detected at screening mammography.; *Med Care.* 2013 Aug 6 [Epub ahead of print].
- [20]. Kerlikowske, K., **Zhu, W.**, Hubbard, R., Geller, B., Dittus, K., Braithwaite, D., Wernli, K., Miglioretti, DL, O'Meara, E., Benefits and Harms of Screening Mammography Frequency by Age, Breast Density, Postmenopausal Hormone Therapy. 2013 May 13;173(9):807-16. doi: 10.1001/jamainternmed.2013.307.
- [21]. Hubbard, R., **Zhu, W.**, Horbyluk, R., Karliner, L., Sprague, B., Henderson, L., Lee, D., Onega, T., Buist, D., Sweet, A., Diagnostic imaging and biopsy pathways following abnormal screen-film and digital screening mammography. *Breast Cancer Res Treat.* 2013 Apr;138(3):879-87. doi: 10.1007/s10549-013-2466-5. Epub 2013 Mar 8
- [22]. Braithwaite, D., **Zhu, W.**, Hubbard, R., O'Meara, E., Migligretti, D., Geller, B., Dittus, K., Moore, Dan., Wernli, K., Mandelblatt, J., Kerlikowske, K., Screening outcomes in older U.S. women undergoing multiple mammograms in community practice: does interval, age or comorbidity score affect tumor characteristics or false positive rates? 2013 Mar 6;105(5):334-41. doi: 10.1093/jnci/djs645. Epub 2013 Feb 5.
- [23]. Henderson, L., Onega, T., Hubbard, R., **Zhu, W.**, Tosteson, A, Buist, D., Fishman, P., Assessing health care use and cost consequences of a new screening modality: the case of digital mammography. *Medical Care.* 2012 Dec;50(12).

- [24]. Hubbard, R., **Zhu, W.**, Onega, T., Fishman, P., Henderson, L., Tosteson, A., Buist, D., Effects of digital mammography uptake on downstream breast-related care among older women. *Medical Care*. 2012 Dec;50(12):1053-9.
- [25]. Cook, A., Elmore, J., **Zhu, W.**, Jackson, S., Carney, P., Flowers, C., Onega, T., Geller, B., Rosenberg, R., Miglioretti, DL, Mammographic interpretation: radiologists' ability to accurately estimate their performance and compare it with that of their peers. *AMERICAN JOURNAL OF ROENTGENOLOGY*. 2012 Sep;199(3):695-702.
- [26]. Yasmeeen, S., Hubbard, R., Romano, P., **Zhu, W.**, Geller, B., Onega, T., Yankaskas, B., Miglioretti, DL, Kerlikowske, K., Risk of Advanced Stage Breast Cancer Among Older Women with Comorbidities. *Cancer Epidemiology, Biomarkers & Prevention*. 2012 Sep;21(9):1510-9. Epub 2012 Jun 28
- [27]. Fenton, J., **Zhu, W.**, Balch, S., Smith-Bindman, R., Lindfors, K., Fishman, P., Hubbard, R., External Validation of Medicare Claims for Digital Mammography and Computer-Aided Detection. *Cancer Epidemiology, Biomarkers & Prevention*. 2012 Aug;21(8):1344-7. Epub 2012 Jun 13
- [28]. Mahajan K, Coppola D, Chen YA, **Zhu W.**, Lawrence HR, Lawrence NJ, Mahajan NP. Ack1 tyrosine kinase activation correlates with pancreatic cancer progression. *Am J Pathol*. 2012 Apr;180(4):1386-1393.
- [29]. Shan, L., Chen, YA., Davis, L., Han, G., **Zhu, W.**, Molina, A., Arango, H., LaPolla, J., Hoffman, M., Sellers, T., Kirby, T., Nicosia, S., Sutphen, R., Measurement of Phospholipids Improves Diagnostic Accuracy in Ovarian Cancer. *PLoS ONE*. 2012;7(10): e46846. doi: 10.1371/journal.pone.0046846. Epub 2012 Oct 17
- [30]. Hubbard, R., Kerlikowske, K., Flower, C., Yankaskas, B., **Zhu, W.**, Miglioretti, DL, Cumulative risk of false-positive recall or biopsy recommendation after 10 years of screening mammography. *Ann Intern Med*. 2011;155(8):481-92.
- [31]. Bello, C.M., Yu, D., Komrokji R.S., **Zhu, W.**, Wetzstein, G.A., List A.F. and Lancet, J.E., Outcomes after induction chemotherapy in patients with acute myeloid leukemia arising from myelodysplastic syndrome. *Cancer*. 2011 Apr 1;117(7):1463-9. Epub 2010 Nov 8
- [32]. Kharfan-Dabaja, MA, Chavez, JC, Yu, D., **Zhu, W.**, Fernandez-Vertiz, EI, Perkins, J., Shapiro, J., Bookout, R., Perez, L., Fernandez, HF, Komrokji, RS, Lancetf, J., Brand, L., Field, T., Ayala, E., Janssen, W., List, AF, Anasetti, C., Severe hypoalbuminemia at day 90 predicts worse non-relapse mortality and overall survival after allogeneic hematopoietic stem cell transplantation for acute myeloid leukemia and myelodysplastic syndrome. *Biol Blood Marrow Transplant*. 2010 Jul
- [33]. Mahajan, K., Challa, S., Coppola, D., Lawtence, H., Luo, Y., Gevariya, H., **Zhu, W.**, Chen, Y., Lawtence, N., Mahajan, N., Effect of Ack1 Tyrosine Kinase Inhibitor on Ligand-Independent Androgen Receptor Activity. *Prostate*. 2010 Sep;70(12):1274-1285.
- [34]. Hunter, S., Love, K., Abdulla, R., **Zhu, W.**, Lee, J., Wells, K., Roetzheim, R., Sun Protection at Elementary Schools, A Cluster Randomized Trial. *JNCI Journal of the National Cancer Institute* 2010 102(7):484-492;

- [35]. Mahajan, K., Coppola, D., Challa, S., Fang, B., Chen, YA, **Zhu, W.**, Lopez, AS, Koomen, J., Engelman, RW., Rivera, C., Muraoka-Cook, RS, Cheng, JQ, Schnbrunn, E., Sebti, SM, Earp, HS, Mahajan, NP. Ack1 Mediated AKT/PKB Tyrosine 176 Phosphorylation Regulates Its Activation. *PLoS One*. 2010;5(3): e9646. Pmcid: PMC2841635
- [36]. Wang, W., Lau, R., Yu, D., **Zhu, W.**, Korman, A., Weber, J., PD1 Blockade Reverses the Suppression of Melanoma Antigen-Specific CTL by CD4+CD25Hi Regulatory T cells. *International Immunology*, Vol 21, No.9, pp.1065-1077
- [37]. Möller MG, Pappas-Politis E, Zager JS, Santiago LA, Yu D, Prakash A, Kinal A, Clark GS, **Zhu, W.**, Puleo CA, Glass LG, Messina JL, Sondak VK, Cruse CW: Surgical management of *melanoma-in-situ* using a staged marginal and central excision technique. *Annals of Surgical Oncology*, 2009 Jun.16(6): 1456-8
- [38]. Tanvetyanon, T., Qin, D., Padhya, T., McCaffrey, J., **Zhu, W.**, Boulware, D., DeConti, R., Trotti, A., Outcomes of post-operative concurrent chemoradiotherapy for locally advanced major salivary gland carcinoma. *Archive of Otolaryngology and Head & Neck Surgery*, 2009 Jul. 135(7): 687-92
- [39]. Tanvetyanon, T., Padhya, T., McCaffrey, J., **Zhu, W.**, Boulware, D., DeConti, R., Trotti, A., Prognostic factors for survival after salvage re-irradiation of head and neck cancer. *Journal of Clinical Oncology*, Vol 27, No 12, 2009

## **NON-PEER-REVIEWED PUBLICATIONS**

- [1]. Yarborough, B., Boudreau, D., **Zhu, W.**, Janoff, S., Fujii, M., A prospective investigation of the risks of opioid misuse, abuse, and addiction among patients treated with extended-release/long acting (ER/LA) opioids for the treatment of chronic pain, *report of FDA ER/LA Opioid Post-Marketing Requirement Studies*, September 2019
- [2]. Hubbard, R., Milton, J., **Zhu, W.**, Wang, L., Chubak, J., Accounting for Differential Error in Time-to-Event Analyses Using Imperfect Electronic Health Record-Derived Endpoints, *In book: New Advances in Statistics and Data Science*, pp.239-255
- [3]. Yarborough, B., Boudreau, D., Green, C., **Zhu, W.**, Janoff, S., Fujii, M., Glass, A., A prospective investigation of the risks of opioid misuse, abuse, and addiction among patients treated with extended-release/long acting (ER/LA) opioids for the treatment of chronic pain, *report of FDA ER/LA Opioid Post-Marketing Requirement Studies*, June, 2018

## **Selected Poster, Presentation and Conference abstract**

- [1]. Biopsy Following Pre-Operative MRI vs. No MRI by Extent of Density, Breast Cancer Surveillance Consortium Annual Meeting (oral presentation), **Zhu, W.**, September 18, 2019
- [2]. Explore diagnostic work-up, biopsy types and biopsy result by site and facility, Breast Cancer Surveillance Consortium Annual Meeting (oral presentation), **Zhu, W.**, September 18, 2019

- [3]. Common characteristics associated with new chronic ER/LA users and chronic IR/SA users who switch opioid analgesic products, Yarborough, B., Zhu, W., Stumbo, S., Ahmendani, B., Andrade, S., Boscarino, J., Clark, R., Cottler, L., Hechter, R., Mudumbai, S., Starrel, J., Boudreau, D., AHSR, 2018
- [4]. Risk of less-favorable breast tumor characteristics with biennial versus annual mammography by age and menopausal status (Poster), Zhu, W., Kaiser Permanente National Oncology Symposium, San Francisco, 2018
- [5]. Mammographic breast density and breast cancer risk in older women, Braithwaite, D., Zhu, W., ASPO, 2018
- [6]. HPV vaccination text-message reminders: parent participation rates (Poster), Nguyen M., Zhu W., Baba L., Berthoud H., Hofstetter A., Henrikson N., ASPO, 2017
- [7]. Health system-based HPV vaccine reminders: randomized trial results (Oral Presentation), Henrikson, N., Zhu W., Nguyen M, Baba, L., Berthoud, H., Hofstetter A., ASPO, 2017
- [8]. HPV Vaccine Promotion Program and Initiation of the HPV Vaccine, Gundersen, G., Henrikson, N., Berthoud, H, Baba, L., Zhu, W., Nguyen, M., CPRG, 2016
- [9]. HPV vaccine pilot: Preliminary findings, Henrikson N., Baba, L., Berthoud, H, Zhu, W., Gundersen, G., Nguyen, M., Hofstetter A., KPWHRI faculty meeting, 2016
- [10]. Outcomes of an Integrated Multiple Sclerosis Disease Management Program, Groeneweg, M., Zhu, W., 2016
- [11]. New Variables and Risk Factors from Patient File, Breast Cancer Surveillance Consortium Annual Meeting (oral presentation), Zhu, W., May 21, 2014
- [12]. Validation of Medicare Claims Data for Mammography, Breast Cancer Surveillance Consortium Contract Annual Site Visit (oral presentation), Zhu, W., May 15, 2013
- [13]. Patient Risk Factors Over Time (oral presentation), Zhu, W., Breast Cancer Surveillance Consortium Annual Meeting, June 3, 2013
- [14]. Potthast, L., Chowdhary, S., Pan, E., Yu, D., Zhu, W., and Brem, S. The infiltrative, diffuse pattern of recurrence in patients with malignant gliomas treated with bevacizumab. The ASCO Annual Meeting, the American Society of Clinical Oncology, Orlando, FL, May 29-June 2, 2009.
- [15]. Bello, C.M., Yu, D., Zhu, W., Wetzstein, G.A., and Lancet, J.E. Outcomes following induction chemotherapy in patients with AML arising from MDS: analysis of prognostic factors. The ASCO Annual Meeting, the American Society of Clinical Oncology, Orlando, FL, May 29-June 2, 2009.
- [16]. Sarnaik, A.A, Yellin, M., Yu, D., Zhu, W., Weber, J.S. Th17 inducibility predicts freedom from relapse after CTLA-4 blockade for the treatment of metastatic melanoma. The AACR 100th Annual Meeting, the American Association for Cancer Research, Denver, CO, April 18-22, 2009

- [17]. Gwede, C.K., Thomas, K.B., Tarver, W.L., Quinn, G.P., Yu, D., Zhu, W., Jacobsen, P.B., Dessureault, S., Shibata, D., Healthcare provider discussion of familial risk with colorectal cancer patients. The 33rd Annual Meeting, American Society of Preventive Oncology, Tampa, FL, March 8–10, 2009
- [18]. Möller M.G., Nair, R.A., Hodul, P.J., Strosberg, J.R., Yu, D., Zhu, W., Wu, J., Hernandez, J., Kvols, L., Malafa, M., Coppola, D., Nasir, A., Clinical relevance of insulin-like growth factor 1 receptor expression scores in neuroendocrine tumors. The 62nd Annual Cancer Symposium, society of Surgical Oncology, Phoenix, AZ, March 5–8, 2009
- [19]. Kharfan-Dabaja, M.A., Chavez, J.C., Fernandez-Vertiz, E.I., Yu, D., Zhu, W., Perkins, J., Fiels, T., Ayala, E., Fernandez, H.F., Alsina, M., Perez, L., Raychaudhuri, J., Ochoa-Bayona, J.L., Brand, L., Sullivan, D., Anasetti, C., Hypoalbuminemia (<3.0 g/dl) and poor Karnofsky performance (KPS <80) at day 90 are independent predictors of worse non-relapse survival (NRS) and overall survival (OS) in adult allogeneic hematopoietic cell transplantation (allo-HCT) recipients: results of a multivariable analysis. The 2009 BMT Tandem Meetings, American Society for Blood and Marrow Transplantation, Tampa, FL, February 11-15, 2009
- [20]. Thomas, K.B., Gwede, C.K., Tarver, W., Quinn, G.P., Yu, D., Zhu, W., Jacobsen, P.B., Dessureault, S., Shibata, D., Exploring motivations for disclosure of a colorectal cancer diagnosis to first-degree relatives (FDR) and cancer survivors' perceptions of familial risk to FDRs. The 6th Annual Conference, American Psychosocial Oncology Society, Charlotte, NC, February 5–8, 2009
- [21]. Kharfan-Dabaja, M.A., Chavez, J.C, Fernandez-Vertiz, E.I., Yu, D., Zhu, W., Perkins, J., Fiels, T., Ayala, E., Fernandez, H.F., Alsina, M., Perez, L., Raychaudhuri, J., Ochoa-Bayona, J.L., Brand, L., Sullivan, D., Anasetti, C., Hypoalbuminemia and poor Karnofsky performance score at day 90 following allogeneic hematopoietic stem cell transplantation (allo-HCT) are independent predictors of worse non-relapse survival (NRS) and overall survival (OS): a multivariable analysis approach of various clinical laboratory and pharmacologic parameters. The 50th Annual Meeting, American Society of Hematology, San Francisco, CA, December 6-9, 2008
- [22]. Rackoff, A., Kucera, S., Yu, D., Zhu, W., Barthel, J., How much additional procedure time is required to obtain multiple mucosal surveillance biopsies in patients with Barrett's esophagus? The Annual Scientific Meeting and Postgraduate Course, American College of Gastroenterology, Orlando, FL, October 3-8, 2008
- [23]. Gironda, V., Trotti, A., Stevens, C., Zhu, W., Harris, E., Year-End Evaluation of Radiation Oncology Physicians (YEEROP). American Society for Radiation Oncology 2009 Annual Meeting, Chicago, IL, November 1-5, 2009

## **PROFESSIONAL DEVELOPMENT WORKSHOPS**

- [1]. Welcome to the Tidyverse: An Introduction to R for Data Science, Symposium on Data Science and Statistics, Bellevue, WA, May 29, 2019
- [2]. Data Visualization, 3rd Seattle Symposium on Health Care Data Analytics, Seattle, WA (Oct. 22-24, 2018)
- [3]. SAS training: Data Manipulation Techniques, Bellevue, WA (Nov. 15-17, 2017)
- [4]. Case Studies in Longitudinal Data Analysis, (Ben French), Summer Institute in Statistics for Clinical Research, Seattle, WA (2017)
- [5]. Full supervised Methods for Statistical Machine Learning (Simon, Noah; Witten, Daniela), Summer Institute in Statistics for Clinical Research, Seattle, WA (2017)
- [6]. Targeted Learning for Data Adaptive Causal Inference in Observational and Randomized Studies ((Mark van der Laan and Susan Gruber), 2nd Seattle Symposium on Health Care Data Analytics, Seattle, WA (Oct. 23-25, 2016)
- [7]. Health care analytics in the presence of big data: Case studies in Python and apache Spark (Debashis Ghosh and Evan Carey), 2nd Seattle Symposium on Health Care Data Analytics, Seattle, WA (Oct. 23-25, 2016)
- [8]. Introduction to structural equation modeling and its applications (Yiu-Fai Yung), JSM, Seattle, WA (Aug 11, 2015)
- [9]. Applied Longitudinal Analysis (Garrett Fitzmaurice), JSM, Seattle, WA (Aug 8, 2015)
- [10]. Development and Evaluation of Risk Prediction Models (Kathleen Kerr), Summer Institute in Statistics for Clinical Research, Seattle, WA (2014)
- [11]. Propensity Score Methods, Models and Adjustment (David A. Stephens), Summer Institute in Statistics for Clinical Research, Seattle, WA (2014)

## **TEACHING EXPERIENCE:**

Lecturer, "Basic Biostatistics" in Epidemiology 101 courses, March 2019, Kaiser Permanente Washington Health Research Institute

## **PROFESSIONAL SERVICE:**

- [1]. UW biostatistics student seminar (2019)
- [2]. Kaiser Permanente Washington Health Research Institute SAC (2018-2019)
- [3]. Kaiser Permanente Washington Health Research Institute Safety committee (2017 - 2019)
- [4]. Reviewer for Journal of Preventive Medicine (2018)
- [5]. Reviewer for JAMA Internal Medicine (2018)



- [6]. Reviewer for Annals of Internal Medicine (2018)
- [7]. UW biostatistics student seminar (2018)
- [8]. Kaiser Permanente Washington Health Research Institute faculty recruitment committee (2017 - 2018)
- [9]. Consulting on GHQ (2017)
- [10]. Consulting on Master's thesis for UW Epidemiology student (2016)
- [11]. Consulting on GHRI faculty (2016)
- [12]. GHRI IT director recruitment committee (2016)
- [13]. Course Monitor at JSM (2015)
- [14]. GHRI Methods Strategy Implementation Subgroup (2012)

**AWARD:** Group Health Research Institute: Extraordinary Achievement Award (2011)

**RESEARCH ACTIVITY:** Member of American Statistical Association