

VILIJIA R. JOYCE

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Versatile and experienced data scientist and leader in the healthcare space. Using data analysis and statistical modeling, I help organizations determine the cost of care and evaluate the efficiency of programs and interventions to improve health outcomes.

EDUCATION

MS, Health Services Research - STANFORD UNIVERSITY

Sep 2004 - Sep 2006

Advisor: Douglas K. Owens, MD, MS

BA, Int'l Area Economics/Health Policy – UNIVERSITY OF CALIFORNIA, LOS ANGELES

Sep 1997- Mar 2001

Advisors: Trudy Ann Cameron, Ph.D. and Carlos A. Végh, Ph.D.

WORK EXPERIENCE

VA Health Economics Resource Center (HERC), Menlo Park, CA

Jul 2002 - Present

DEPARTMENT OF VETERANS AFFAIRS

Associate Director (Jan 2021-Present) | Research Associate (Sep 2006-Present) | Research Assistant (Jul 2002-Sep 2006)

Select accomplishments, by study or center. Most code written in SAS, SQL, or R, unless indicated otherwise.

IIR 17-139, Cost effectiveness of interventions to reduce morbidity from opioid dependency (Douglas Owens, MD, MS - PI)

- Built analytic dataset for cost of overdose analysis, including monthly cost, Elixhauser comorbidities, RIOSORD score, and average total daily morphine milligram equivalents.
- Generated survival analysis in R and visualized survival curves using Kaplan-Meier plots (ggsurvplot/ggplot2).
- Co-authored manuscript in *JAMA Psychiatry*.
- Submitted and was awarded ~\$35k in funding for supplementary curation of a phenotype to identify pharmacotherapy for OUD.
- Served as project manager: literature reviews, budget needs, weekly call coordination and agenda building, IRB, privacy, and applications to access secure datasets.
- Managed study launch: drafted just-in-time documentation, IRB/RDIS protocols, VINCI DART protocol, WOC paperwork, budgets and cost transfers, and hired personnel.

IIR 14-099, Pregnancy Outcomes of Veterans (PROVE) (Ciaran Phibbs, PhD - PI)

- Built and documented series of utilization datasets for PI, Jessica Breland, PhD, and Jodie Katon, PhD, from VA and Fee Basis files.
- Wrote code to generate logistic regression and GEE models to test associations between PTSD and preterm birth.
- Wrote code to generate descriptive statistics, weighted Kappa statistics, and a longitudinal linear mixed effects model to assess predictors of differences in BMI classification.
- Co-authored 2 papers published in *Health Services Research* and *Obesity Science & Practice*.
- Managed regulatory compliance, including CA state and VA IRB, privacy, and applications to access secure datasets.

IIR 11-045, Management of HIV as a Chronic Disease (Douglas Owens, MD, MS - PI)

- Partnered with Stanford University's Quantitative Sciences Unit and wrote R code to evaluate different methods for handling missing data. Wrote SAS code to implement statistical models, including multiple imputation of missing values, extended Cox models with time varying co-variables, and marginal structural models.
- Co-authored 2 papers in *Statistics in Medicine* and *Clinical Infectious Diseases*.
- Managed regulatory compliance, including IRB and privacy.

CSP 512, Options in Management with Antiretrovirals (OPTIMA) (Douglas Owens, MD, MS - PI)

- Built datasets from clinical trial data and wrote SAS and STATA code to generate ordinary least squares models as well as two-part regression, beta regression, and finite mixture models to map the EQ-5D-3L or HUI3 onto the MOS-HIV (quality of life scores).
- Built analytic dataset from clinical trial data and wrote code to run a longitudinal linear mixed-effects model to test for differences in quality of life between randomized treatment groups.

- Authored/co-authored 8 papers in various journals including *Journal of Acquired Immune Deficiency Syndromes* and *Medical Decision Making*.
- Managed regulatory compliance, including IRB and privacy.

HERC Core (Todd Wagner, PhD - Director)

- Restructured HERC's website architecture. Built a SQL database and wrote ASP, HTML, CSS, and SQL code to construct a custom content management system to manage HERC's website. Collaborated with internal and external staff on website usability studies, needs assessments, and ongoing website updates in compliance with VA directives.
- Offered strategic leadership to HERC's Director and developed Center research goals and initiatives.
- Provided Center operational support re: budget, purchases, as well as for personnel issues including staff allocation, mentoring, conflict resolution, and hiring.
- Co-chaired Inclusion Workgroup and co-wrote/awarded grant to bring specialized Diversity, Equity, and Inclusion training to center.
- Developed presentations and built agendas for weekly administrative team meetings, monthly staff meetings, and Expert and Stakeholders Forums.

SELECTED PEER-REVIEWED PUBLICATIONS (OF 19 TOTAL)

1. Fairley M, Humphreys K, **Joyce VR**, Bounthavong M, Trafton J, Combs A, Oliva EM, Goldhaber-Fiebert JD, Asch SM, Brandeau ML, Owens DK. Cost-Effectiveness of Treatments for Opioid Use Disorder: A Model-Based Analysis. *JAMA Psychiatry*. Published online March 31, 2021. doi:10.1001/jamapsychiatry.2021.0247
2. Breland JY, **Joyce VR**, Frayne SM, Phibbs C. Differences in Body Mass Index based on Self-Reported versus Measured Data from Women Veterans. *Obesity Science & Practice* 2020; 6: 434– 438.
3. Desai M, Montez-Rath ME, Kapphahn K, **Joyce VR**, Mathur MB, Garcia A, Purington N, Owens DK. Missing data strategies for time-varying confounders in comparative effectiveness studies of non-missing time-varying exposures and right-censored outcomes. *Statistics in Medicine* 2019; 38(17), 3204-3220.
4. **Joyce VR**, Sun H, Barnett PG, Bansback N, Griffin SC, Bayoumi AM, Anis AH, Sculpher M, Cameron W, Brown ST, Holodniy M, Owens DK. Mapping MOS-HIV to HUI3 and EQ-5D-3L in Patients with HIV. *MDM Policy & Practice* 2017; 2(2):1-13.
5. Desai M, **Joyce V**, Bendavid E, Olshen RA, Hlatky M, Chow A, Barnett P, Owens DK. Risk of Cardiovascular Events Associated with Current Exposure to HIV Antiretroviral Therapies in a US Veteran Population. *Clin Infect Dis* 2015; 61(3):445-452.
6. Bayoumi AM, Barnett PG, **Joyce VR**, Griffin SC, Sun H, Bansback NJ, Holodniy M, Sanders G, Brown ST, Kyriakides TC, Angus B, Cameron DW, Anis AH, Sculpher M, Owens DK. Cost-effectiveness of Newer Antiretroviral Drugs in Treatment-Experienced Patients with Multi-drug Resistant HIV Disease. *J Acquir Immune Defic Syndr* 2013; 64:382-391.
7. **Joyce VR**, Smith MW, Johansen KL, Unruh ML, Siroka AM, O'Connor TZ, Palevsky PM. Health-Related Quality of Life as a Predictor of Mortality Among Survivors of Acute Kidney Injury. *Clin J Am Soc Nephrol* 2012; 7(7):1063-1070.
8. **Joyce VR**, Barnett PG, Chow A, Bayoumi AM, Griffin SC, Sun H, Holodniy M, Brown ST, Kyriakides TC, Cameron DW, Youle M, Sculpher M, Anis AH, Owens DK. Effect of treatment interruption and intensification of antiretroviral therapy on health-related quality of life in patients with advanced HIV: A randomized, controlled trial. *Med Decis Making* 2012; 32(1):70-82.
9. **Joyce VR**, Barnett PG, Bayoumi AM, Griffin SC, Kyriakides TC, Yu W, Sundaram V, Holodniy M, Brown ST, Cameron W, Youle M, Sculpher M, Anis AH, Owens DK. Health-Related Quality of Life in a Randomized Trial of Antiretroviral Therapy for Advanced HIV Disease. *J Acquir Immune Defic Syndr* 2009; 50(1):27-36.

SELECTED PRESENTATIONS

- “VA Laboratory Data”, October 2015-2021 for the VA Data Bootcamp, Menlo Park, CA [oral presentation].
- “Cost Data: Three Lessons from a Study on Hepatitis C Treatments and their Budgetary Impact”, April 28, 2017 at Academy Health's Health Datapalooza, Washington, DC [oral presentation, panel member, booth volunteer].
- “Predicting the HUI3 and EQ-5D from the MOS-HIV in Patients with Advanced HIV,” October 20, 2015 at the Society for Medical Decision Making Annual Meeting, St. Louis, MO [oral presentation].

HONORS

Latin honors (cum laude) – UNIVERSITY OF CALIFORNIA, LOS ANGELES

2001