

**J. BRADFORD RICE, Ph.D.**  
**Vice President**

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Dr. Rice is an economist with a range of expertise in health economics, industrial organization, statistics, and econometrics. He has extensive experience applying economic theory, and statistical methods to complex litigation and health economics research settings. He has led analyses related to government investigations and litigation matters, where he has supported counsel and been retained as an expert on alleged Anti-Kickback Statute and False Claims Act violations, insider trading, breach of contract, and antitrust issues. Dr. Rice's work has included conducting empirical analyses involving large-scale databases on a range of topics including causal inference, merger simulation, and budget impact in the context of questions related to liability and damages. His recent case experience has involved providing assistance in the preparation of expert reports, testimony, and rebuttal analyses and arguments; developing sophisticated interactive models enabling real-time damages assessments under alternative scenarios; and presenting analyses to U.S. Attorney's Office investigators. In addition to his litigation work, he has provided econometric and statistical consulting on matters ranging from economic research questions, risk management, Fair Market Valuation, and compliance. He is Adjunct Faculty at Harvard University and has taught undergraduate courses on econometrics, health economics, industrial organization, and regulatory economics; published extensively in numerous peer-reviewed journals; and presented at leading conferences and seminars.

**EDUCATION**

- 2003-2008     **Boston University**, Boston MA  
*Ph.D, Economics*  
*M.A., Political Economy*
  
- 2001-2002     **Johns Hopkins University**, Baltimore, MD  
*Visiting Student, Mathematics*
  
- 1997-2001     **University of Florida**, Gainesville, FL  
*B.A., Economics*

**PROFESSIONAL EXPERIENCE**

- 2008-present    **Analysis Group**, Boston, MA
  
- 2016-present    **Harvard University**, Adjunct Faculty, Department of Economics, Cambridge, MA
  
- 2005-2008     **Boston University**, Lecturer and Research Assistant, Department of Economics, Boston, MA
  
- 2001-2008     **Johns Hopkins University**, Research Assistant and Consultant, Department of Economics, Bloomberg School of Public Health, and School of Medicine, Baltimore, MD
  
- 2004-2005     **Tufts University**, Research Assistant, Department of Economics, Medford, MA

2001 Florida Department of Environmental Protection, Economist, Central District, Orlando, FL

## SELECTED CASEWORK

### Anti-Kickback Statute and False Claims Act

- **Confidential Anti-Kickback Statute matter**  
Provided expert analysis in a criminal matter involving alleged violations of the Anti-Kickback Statute by a former pharmaceutical executive.
- **Confidential off-label marketing matter**  
Provided expert analysis addressing causation and damages analyses associated with alleged False Claims Act violations.
- **United States of America, et al., v. Solvay**  
*Southern District of Texas*  
Supported expert testimony regarding causation and damages associated with alleged off-label promotion of Androgel, Aceon, and Luvox.
- **United States ex rel. Strom v. Scios, Inc. and Johnson & Johnson**  
*United States District Court for the Northern District of California, San Francisco*  
Supported economic expert in analyzing the impact of alleged off-label promotion and payment of kickbacks with respect to Natrecor.
- **Zyprexa Litigation**  
*United States District Court for the Eastern District of New York, Pennsylvania and South Carolina Courts of Common Pleas*  
Supported multiple economic and statistics experts in assessments of causation, damages, and cost-effectiveness of Zyprexa.

### Breach of Contract

- **Abbvie, Inc. v. Biogen, Inc.**  
*American Arbitration Association*  
Supported expert testimony regarding profit maximization and alleged breach of contract violations.
- **Providence Health Plan v. Express Scripts, Inc.**  
*American Arbitration Association*  
Supported expert testimony regarding alleged loss in rebate revenues due to breach of contract.
- **Onyx Pharmaceuticals, Inc. v. Bayer Corporation, Bayer AG, Bayer Healthcare LLC, and Bayer Schering Pharma AG**  
*United States District Court for the Northern District of California, San Francisco*  
Supported economic expert in analyzing lost profits stemming from breach of contract claims.

### Other selected casework

- **Ischemia Research and Education Foundation v. Pfizer Inc.**  
*Superior Court of the State of California, County of Santa Clara*

Supported statistics, economics, and clinical experts in various analyses of lost profits and damages resulting from alleged misappropriation of trade secrets.

- **Insider trading**  
Supported multiple experts in association with criminal insider trading allegations for a former hedge fund portfolio manager.
- **Statistical consulting (multiple)**  
Assisted counsel and clients with development of various statistical analyses and sampling algorithms.
- **Merger review**  
Supported an expert in the analysis of market definition and assessment of the potential competitive effects of a proposed merger.
- **Daiichi Sankyo**  
*International arbitration*  
Supported an economic expert in analyzing potential inflated share prices due to alleged fraudulent representations in an acquisition of a pharmaceutical company.
- **Fair market valuation (multiple)**  
Performed fair-market valuations for physician compensation agreements and fee schedules related to service agreements.
- **Prevailing wages**  
Performed analyses to estimate hours worked and damages associated with failure to pay prevailing wages and overtime.
- **Analyses related to abuse or misuse of controlled substances**  
Conducted various statistical and economic analyses related to prescription opioids, including economic burden studies with attention to prevalence and costs of diagnosed and undiagnosed abuse to public and private payers, and development of multivariate risk models to assess risk factors associated with abuse or misuse.
- **Confidential FDA matter**  
Supported expert testimony regarding potential economic consequences of removing an existing pharmaceutical product from the market.
- **Government investigations concerning pharmaceutical & medical device marketing practices**  
Evaluated alleged conduct, quantified relevant sales, and performed causation analyses using econometric and statistical approaches associated with multiple government investigations of alleged kick-back payments to physicians, off-label marketing, improper pricing, and other allegations related to pharmaceuticals and medical devices. Developed, implemented, and presented analyses to investigators with respect to liability, damages, and other economic considerations. Cases include the following:
  - Xifaxan, Apriso, Relistor, + multiple additional products/Valeant and Salix Pharmaceuticals (Southern District of New York)
  - Namenda, Bystolic, Savella/Actavis and Forest Laboratories (Eastern District of Wisconsin)
  - Seprafilm/Genzyme-Sanofi (Middle District of Florida)
  - Xibrom/Bausch & Lomb (Western District of New York)
  - Keppra/UCB (District of Columbia)
  - Bone growth stimulators/Orthofix (District of Massachusetts)

- Prograf/Astellas (Northern District of Illinois)
- Rapamune/Pfizer (Western District of Oklahoma)
- Onyx, Axium/ev3 and Covidien (District of Massachusetts)
- Lyrica, Zyvox/Pfizer (District of Massachusetts)
- Protonix/Pfizer (District of Massachusetts)

## ARTICLES AND PUBLICATIONS

**Rice JB**, A White, A Lopez, P Galebach, P Schepman, B Popelar, and M Philbin, “Healthcare resource utilization and work loss in dermatomyositis and polymyositis patients in a privately-insured US population,” *Journal of Medical Economics* 2016; 19(7): 649-654.

Kirson NY, A Shei, **JB Rice**, CJ Enloe, K Bodnar, HG Birnbaum, P Holly, and R Ben-Joseph, “The burden of undiagnosed opioid abuse among commercially-insured individuals,” *Pain Medicine* 2015; 16(7): 1325-1332.

Shei A, **JB Rice**, NY Kirson, K Bodnar, CJ Enloe, HG Birnbaum, P Holly, and R Ben-Joseph, “Characteristics of high-cost patients diagnosed with opioid abuse,” *Journal of Managed Care & Specialty Pharmacy* 2015; 21(10): 902-912.

**Rice JB**, U Desai, L Ristovska, AKG Cummings, HG Birnbaum, M Skornicki, DJ Margolis, and N Parsons, “Economic outcomes among Medicare patients receiving bioengineered cellular technologies for treatment of diabetic foot ulcers,” *Journal of Medical Economics* 2015; 18(8): 586-595.

Shei A, **JB Rice**, NY Kirson, K Bodnar, HG Birnbaum, P Holly, and R Ben-Joseph, “Sources of prescription opioids among diagnosed opioid abusers,” *Current Medical Research & Opinion* 2015; 31(4): 779-784.

**Rice JB**, NY Kirson, A Shei, CJ Enloe, AKG Cummings, HG Birnbaum, P Holly, and R Ben-Joseph, “The economic burden of diagnosed opioid abuse among commercially insured individuals,” *Postgraduate Medicine* 2014; 126(4): 53-58.

**Rice JB**, NY Kirson, A Shei, AKG Cummings, HG Birnbaum, and R Ben-Joseph, “Estimating the costs of opioid abuse and dependence from an employer perspective: a retrospective analysis using administrative claims data,” *Applied Health Economics and Health Policy* 2014; 12(4): 435-446.

**Rice JB**, U Desai, AKG Cummings, HG Birnbaum, M Skornicki, and N Parsons, “Medical, drug, and work-loss costs of diabetic foot ulcers,” *Diabetes Care* 2014; 37: 651-658.

**Rice JB**, U Desai, AKG Cummings, HG Birnbaum, M Skornicki, and N Parsons, “Burden of venous leg ulcers in the United States,” *Journal of Medical Economics* 2014; 17(5): 347-356.

**Rice JB**, AG White, HG Birnbaum, M Schiller, DA Brown, and CL Roland. “A model to identify prescription opioid abuse, dependence, and misuse,” *Pain Medicine* 2012; 13(9): 1162–1173.

**Rice JB**, TM Samuelson, HG Birnbaum, and NP Katz. “Characteristics and use patterns of chronic hydrocodone users,” *Journal of Pain* 2012; 13(4) Supplement: S80.

Kasper J, LE Pezzin, and **JB Rice**. “Stability and changes in living arrangements: relationship to nursing home admission and timing of placement,” *Journal of Gerontology: Social Sciences* 2010; 65B(6): 783-791.

**Rice JB**, JD Kasper, and LE Pezzin. “A comparative analysis of Medicaid long-term care policies and their effects on elderly dual-enrollees,” *Health Economics* 2009; 18(3): 275-290

Yacub JN, **JB Rice**, and TR Dillingham. “Nerve injury in patients following hip and knee arthroplasties and knee arthroscopy,” *American Journal of Physical Medicine & Rehabilitation* 2009; 88(8): 635-641

Taylor C, D Braza, **JB Rice**, and TR Dillingham. “The incidence of peripheral nerve injury in extremity trauma,” *American Journal of Physical Medicine & Rehabilitation* 2008; 87(5): 381-385

**Rice JB**. “Exploiting agglomeration to survive globalization,” PhD dissertation, Department of Economics, Boston University (2008)

**Rice JB**, and A Sen. “Moral hazard in long-term guaranteed contracts: theory and evidence from the NBA,” PhD dissertation, Department of Economics, Boston University (2008)

**Rice JB**. “An interstate test of international offshorability rankings,” PhD dissertation, Department of Economics, Boston University (2008)

Rapson DS, and **JB Rice**. “Evidence of a collusive automobile industry? Bresnahan (1987) meets BLP,” PhD dissertation, Department of Economics, Boston University (2008)

**Rice JB**, LE Pezzin, and JD Kasper. “A dynamic model of policy and health effects on living arrangement transitions of elderly persons, *iHEA 2007 6th World Congress: Explorations in Health Economics Paper*

Ocasio-Silva M, E Moberg-Wolff, TR Dillingham, and **JB Rice**. “Spasticity treatment services in patients with cerebral palsy in the United States,” *Archives of Physical Medicine and Rehabilitation* 2007; 88(9): E81

Dillingham TR, LE Pezzin, and **JB Rice**. “Electrodiagnostic services in the United States,” *Muscle and Nerve* 2004; 29(2): 198-204

## PRESENTATIONS/SPEAKING ENGAGEMENTS

“When discounts raise costs: The effect of copay coupons on generic utilization,” 6th Biennial Conference of the American Society of Health Economists, University of Pennsylvania, Philadelphia, PA, June 2016 (discussant)

“Policy issues in health care,” 14th Annual International Industrial Organization Conference, Drexel University, Philadelphia, PA, April 2016 (chair)

“Cost-effectiveness studies for pharmaceuticals,” 5th Biennial Conference of the American Society for Health Economists, University of Southern California, Los Angeles, CA, June 2014 (chair)

“Economics of risky behaviors,” 5th Biennial Conference of the American Society for Health Economists, University of Southern California, Los Angeles, CA, June 2014 (chair)

“Medical, drug, and work-loss costs of diabetic foot ulcers,” International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 18<sup>th</sup> Annual Meeting, New Orleans, LA, May 2013 (podium)

“Medical, drug, and work-loss costs of venous leg ulcers,” International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 18<sup>th</sup> Annual Meeting, New Orleans, LA, May 2013 (poster)

“Healthcare resource utilization and economic burden of diabetic foot ulcers in Medicare and Privately-insured populations,” Symposium for Advanced Wound Care (SAWC) Spring, Denver, CO, May 2013 (poster)

“Healthcare resource utilization and economic burden of venous leg ulcers in Medicare and Privately-insured populations,” Symposium for Advanced Wound Care (SAWC) Spring, Denver, CO, May 2013 (poster)

“Characteristics and use patterns of chronic hydrocodone users,” 31<sup>st</sup> Annual Scientific Meeting of the American Pain Society (APS), Honolulu, HI, May 2012; PAINWeek, Las Vegas NV, September 2012 (poster)

“Identifying predictors of chronic hydrocodone use,” American Academy of Pain Medicine (AAPM) 2012 Annual Meeting, Palm Springs, CA, February 2012 (poster)

“Moral hazard in long-term guaranteed contracts: theory and evidence from the NBA,” MIT Sloan Sports Analytics Conference, Boston, MA, March 2011; Microeconomic Theory Seminar, Boston University, Boston MA, November 2007; Empirical Microeconomics Seminar, Boston University, Boston, MA, October 2007 (podium)

“A model to identify prescription opioid abuse, dependence, and misuse,” PAINWeek, Las Vegas, NV, September 2011 (poster)

“Nursing home litigation and quality of care,” AEA/ASSA Annual Meeting, New Orleans, LA, January 2008 (discussant)

“Exchange rate volatility, plant turnover, and productivity,” Microeconomics Seminar, Boston University, Boston, MA, November 2007 (discussant)

“A dynamic model of policy and health effects on living arrangement transitions of elderly persons,” International Health Economics Association (iHEA) 6th World Congress, Copenhagen Business School, Copenhagen, Denmark, July 2007 (podium)

“Economics and child health,” International Health Economics Association (iHEA) 6th World Congress, Copenhagen Business School, Copenhagen, Denmark, July 2007 (chair)

## **OTHER**

2008-present Board of Directors, Katherine Swan Ginsburg Program for Humanism and Compassion in Medicine, Beth Israel Deaconess Medical Center

2013 Best Podium Presentation, ISPOR Research Presentation Podium Award (for the presentation “Medical, drug, and work-loss costs of diabetic foot ulcers”)

- 2011 Best Research Paper, MIT Sloan Sports Analytics Conference (for the paper “Moral hazard in long-term guaranteed contracts: theory and evidence from the NBA”)
- 2009 Ernest W. Johnson Excellence in Research Writing Award, Association of Academic Physiatrists (for the paper “The incidence of peripheral nerve injury in extremity trauma” *American Journal of Physical Medicine & Rehabilitation* 2008; 87(5): 381-385)
- 2008 Sustained Excellence in Teaching Services Award, Department of Economics, Boston University
- 2001 Outstanding Contribution, Florida Department of Environmental Protection

**Professional affiliations:** American Economic Association, American Society for Health Economists (ASHEcon), International Health Economics Association (*iHEA*), American Health Lawyers Association

**Referee (alphabetical):** *American Journal of Managed Care, American Journal of Pharmacy Benefits, Health Economics, International Journal of Drug Policy, Journal of Health Economics, Journal of Labor Economics, Journal of Medical Economics, Journal of Sport Management*

**Graduate distinctions:** Institute for Economic Development Student Research Award, various Boston University scholarships (Graduate School of Arts and Sciences Senior Teachers Scholarship, Graduate School of Management Doctoral Scholarship, Economics Teaching Fellow Scholarship, Graduate School of Arts and Sciences Research Assistant Scholarship)

**Undergraduate distinctions:** Graduation with honors (*cum laude*), Dean’s List (various semesters), Omicron Delta Epsilon, Johns Hopkins University Visiting Student Scholarship, Florida Academic Scholarship, Florida Merit Scholarship