

**ALAN G. WHITE, PH.D.**  
**Managing Principal**  
**Analysis Group, Inc.**

Direct: 617 425 8217  
Office: 617 425 8000  
alan.white@analysisgroup.com

111 Huntington Avenue  
14th Floor  
Boston, MA 02199

Dr. White specializes in health care, transfer pricing and valuation, health economics and outcomes research (HEOR), and general commercial litigation. He combines his expertise in applied microeconomics, statistics, and econometrics with nearly 20 years of experience with client engagements. A diverse range of clients have retained Dr. White to assist in all stages of the litigation cycle – including advising on discovery issues, expert report preparation, and preparation for deposition and trial. He has worked on general commercial litigation matters such as allegations of false advertising and breach of contract, investigations into alleged off-label promotion of prescription drugs, and the economic impact of generic drug entry/substitution. Additionally, he has also analyzed economic issues relevant to class certification and quantification of damages.

Dr. White has managed numerous commercial litigation matters, supporting academic and industry specialists with expertise in industrial organization, statistics, health economics, and marketing. His tax and transfer pricing work has evaluated the arm's length nature of pricing in intercompany transactions, and the estimation of useful economic lives for various tangible and intangible assets. In addition to his litigation work, Dr. White's health economics engagements have included the development of empirical models for evaluating factors to help identify patients at risk of prescription opioid abuse, as well as the estimation of societal economic costs of prescription opioid abuse.

An active researcher, Dr. White's publications have focused on specific health economics issues, such as the economics of prescription opioid abuse and the evaluation of the impact of biosimilar approval on the litigation landscape. He has presented and participated in a number of industry conferences. Dr. White is an adjunct faculty member in the Department of Economics at Northeastern University, where he teaches courses on applied microeconomics and applied econometrics.

## **EDUCATION**

1999	Ph.D., economics, University of British Columbia <i>Concentrations: Public finance and economic &amp; financial statistics</i>
1996	M.Litt., economics, University of Dublin, Trinity College
1993	B.A., economics and mathematics, University of Dublin, Trinity College

## **PROFESSIONAL EXPERIENCE**

1999–Present	Analysis Group, Inc. <i>Managing Principal</i> <i>Vice President</i> <i>Manager</i> <i>Associate</i>
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2011–Present      Northeastern University  
*Adjunct Faculty Member, Department of Economics*

1998–1999      University of British Columbia  
*Lecturer, Department of Economics*

1997              Statistics Canada  
*Research Economist, Prices Division*

## SELECTED EXPERT TESTIMONY AND EXPERT ENGAGEMENTS

- ***Bayer Intellectual Property GmbH, et al. v. CAP IM Supply Inc.***  
*US District Court*  
*Case No. 1:17-cv-00591-RGA*  
Served as an expert on behalf of Bayer Animal Health in a patent infringement matter related to an alleged illegal entry of CAP IM’s generic version of one of Bayer’s products. Filed a report on irreparable harm (November 2017) and an expert report on damages (June 2018).
- ***Providence Health Plan v. Express Scripts, Inc.***  
*American Arbitration Association*  
*Case No. 74-187-Y-000602-13*  
Served as a damages expert on behalf of Providence Health Plan (PHP) in a breach of contract dispute over payments of manufacturer drug rebates to PHP by its pharmacy benefit manager, Express Scripts. Submitted an expert report and testified at arbitration (March 2015).
- ***Medtronic, Inc. and Consolidated Subsidiaries v. Commissioner of Internal Revenue***  
*US Tax Court*  
*Docket No. 6944-11*  
Served as an expert on behalf of Medtronic, Inc. in a transfer pricing dispute with the Internal Revenue Service (IRS) over the pricing of transactions between Medtronic’s US and Puerto Rican entities. Submitted an expert report (October 2014) and testified at trial (February 2015) on an assessment of the arm’s length nature of the prices charged by Medtronic US to Medtronic Puerto Rico for components manufactured in the US and exported to Puerto Rico for use in various medical devices.
- ***WellSpan Health, et al v. Quantum Imaging & Therapeutic Associates Inc.***  
*Court of Common Pleas, York County, Pennsylvania*  
*No. 2007-SU-5039-Y01*  
Served as an expert for WellSpan Health in a labor contract dispute with Quantum over alleged breaches of non-compete clauses in the labor contracts for a group of radiologists. Submitted an expert report on an analysis of the factors determining the supply and demand for radiologists in York County, PA.

- ***Alexis Flores and Jennifer Flores Individually and on Behalf of Alexander Flores v. Amy E. Sullivan M.D., University of Utah Health Sciences Center and DOES 1–5***

*State of Utah Judicial District Court, Salt Lake County*

*Case No. 070909714*

Served as an expert on behalf of Flores in a medical malpractice matter brought by Flores against the treating physicians and hospital. Submitted an expert report rebutting the defendant's expert on an assessment of the appropriate measure of inflation to apply to future medical costs to be borne by the Flores family.

- ***Medtronic, Inc. and Consolidated Subsidiaries v. Commissioner of Internal Revenue***

*US Tax Court*

*Docket No. 17488-08*

Served as an expert on behalf of Medtronic, Inc. in a transfer pricing dispute with the IRS over Medtronic's cost-sharing arrangement in connection with its European operations. Submitted an expert report documenting the history of Medtronic's innovations with its cardiac and neurological devices over time.

- ***UFCW Local 1776 and Participating Employers Health and Welfare Fund, Eric Tayag, and Mid-West National Life Insurance Company of Tennessee v. Eli Lilly and Company***

*US District Court, Eastern District of New York*

*Docket No. 3:06-mc-00100-R*

Served as an expert on behalf of Eli Lilly and Company in a product fraud case related to its antipsychotic drug. Submitted expert declaration documenting sales trends over time in the antipsychotic therapeutic area.

## **SELECTED CONSULTING EXPERIENCE**

### **Health Care**

- **Antitrust litigations related to launch of generic prescription drugs**

Supported numerous experts retained on behalf of pharmaceutical manufacturers in multiple matters involving allegations that entry of generic versions of brand name prescription drugs were improperly delayed or infringed on certain patents. Addressed questions of market definition, liability, class certification, and damages. Assisted counsel with preparation for taking depositions of opposing experts.

- **False advertising allegations of misleading health claims made by manufacturer of multivitamins**

Supported an expert retained on behalf of a multivitamin manufacturer in survey design and preparation of an expert report describing a survey of consumer drivers of purchasing decision of multivitamins, in opposition to class certification.

- **Alleged false and misleading advertising of over-the-counter heartburn medications**

Supported an expert retained on behalf of a manufacturer of an over-the-counter heartburn medication in rebutting the opposing expert's damages analysis of the impact of the manufacturer's alleged misleading labelling. Assisted counsel with preparation for taking depositions of opposing experts.

- ***PharMerica v. AmerisourceBergen Drug Corporation***  
*Kentucky Court of Justice, Jefferson County Circuit Court*  
*Docket No. 14C1004682*  
Supported an expert retained on behalf of ABDC in a matter in which Pharmerica claimed it was owed millions in dollars in rebates pursuant to a rebate clause in the sales agreement between the two parties. Co-managed analyses of the nature of competition in markets for generic prescription drugs in the US and the manner in which competition impacted the calculation of the rebates.
- ***Novartis Corporation, et al. v. Teva Parenteral Medicines, Inc.***  
*US District Court*  
*Docket No. 1:08-cv-00952-SLR*  
Supported an expert retained on behalf of Novartis in an evaluation of the commercial success of two of Novartis's drugs. Analyses included an evaluation of the various factors contributing to the sale of Novartis's at-issue drugs.
- ***Momenta Pharmaceuticals, Inc., et al. v. Teva Pharmaceutical***  
*US District Court*  
*Docket No. 1:10-cv-12079-NMG*  
Supported an expert retained on behalf of Momenta in filing a declaration on irreparable harm in support of a preliminary injunction to remove Teva's generic from the market, which Momenta alleged infringes on its patent. Analyses included an evaluation of the contribution of Momenta's drug to its profitability and the potential future impact on pricing and sales should the generic be removed from the market.
- ***Purdue Pharma-Citizen Petitions re: OxyContin-Generic Subs***  
*US Food and Drug Administration*  
*Docket No. FDA-2012-P-1180*  
Supported an expert retained on behalf of Purdue Pharma to assess the impact of launches of generic versions of its non abuse-deterrent prescription opioid. The expert's declaration opined on the extent of generic substitution of non-abuse deterrent generic versions of Purdue Pharma's non abuse-deterrent opioid after it had launched its FDA-approved abuse-deterrent opioid.
- ***BTG International v. Wellstat Therapeutics***  
*Delaware Court of Chancery*  
*Docket No. CA12562*  
Retained by counsel for Wellstat Therapeutics in a breach of contract dispute against BTG International, Inc. The two parties had entered a distribution agreement for BTG to launch and market Wellstat's oncology drug, an antidote for overexposure to certain chemotherapy treatments. Supported expert in providing an evaluation of BTG's efforts to launch and market the drug. The court ruled in favor of Wellstat in 2017 and awarded damages. Upon appeal, the Supreme Court of Delaware upheld the decision in 2018.
- ***In re: Lidoderm Antitrust Litigation***  
*US District Court*  
*Docket No. 3:14-md-02521-WHO*  
Worked with the defendants in a reverse payments class action regarding a topical pain reliever. Supported experts in preparation of reports on 1) an evaluation of empirical analyses and other

evidence in support of defeating class certification of purchasers of the prescription drug Lidoderm™; and 2) the role of pharmacy benefit managers in the distribution of payment of prescription drugs. Assisted counsel with depositions of opposing experts.

### **Transfer Pricing**

- As part of a dispute with the IRS over a cost-sharing arrangement between a US medical devices company as its foreign subsidiary, supported an expert in the quantitative evaluation of, and preparation of, an expert report on the useful life of cardiac devices.
- From the initial development of an expert report/testimony through the trial proceedings, supported an expert on the economic rationale for a sporting goods company to endorse a celebrity sports personality, as well as apportionment of contract value to licensing of a sports celebrity's name and image.
- Supported an expert in the development of an expert report and testimony on a reasonable royalty for a wholly-owned foreign subsidiary to its US parent for the licensing of technology and know-how for certain medical devices developed in the US.
- In a transfer pricing matter involving transactions between a US parent medical devices company and its wholly-owned foreign subsidiary, supported an expert in the development of an expert report and testimony in rebutting the methodology and implementation of an opposing expert.

### **Health Economics and Outcomes Research (HEOR)**

- Participated in numerous advisory boards of industry representatives.
- Prepared review reports on submitted manuscripts to journals such as *Journal of Managed Care Pharmacy*, *Pain Medicine*, *The Journal of Pain*, and *Journal of Opioid Management*.
- Served as an independent reviewer for *Abuse-Deterrent Formulations of Opioids: Effectiveness and Value*, ICER: Institute for Clinical and Economic Review (August 8, 2017).
- **Mallinckrodt, Inc.**  
Co-managed research projects in support of Mallinckrodt's therapeutic areas, resulting in scientific posters/presentations and publications in peer-reviewed journals (see publications, below). Disease areas include sarcoidosis, hepatorenal syndrome, chronic steroid exposure, and non-infectious inflammatory eye diseases. Analyses included an assessment of the economic burden of these diseases and an evaluation of the drivers of such costs.
- **Egalet Corporation, Inc.**  
Managed a number of research projects, in collaboration with Analgesic Solutions, Inc., in support of Egalet's launch of an abuse-deterrent opioid, ARYMO™, resulting in poster presentations and a peer-reviewed publication. Analyses focused on modelling the projected reduction in use of health care resources, and associated costs associated with the launch of ARYMO™.

- **Pfizer, Inc./King Pharmaceuticals, Inc.**

Co-managed a number of projects evaluating the economic burden of prescription opioid abuse, resulting in a number of poster presentations at various health care conferences. Projects included an estimation of the societal costs of prescription opioid abuse, a comparison of the profile and costs of prescription opioid abusers in a privately-insured population compared with that in a Medicaid population, and the development of a model quantifying the risk factors predictive of opioid abuse.

- **Daiichi Sankyo, Inc.**

Co-managed projects in support of DSI's abuse-deterrent prescription drugs, Morphabond™ and Roxybond™, resulting in a number of poster presentations and peer-reviewed publications. Projects included an evaluation of the health care resource utilization and associated cost implications of adding Morphabond™ to a health care plan's prescription drug formulary; an evaluation of the health care resource utilization and work loss implications of adding RoxyBond™ to a given health care plan's prescription drug formulary; and an evaluation of the risk of division in families with members having prescription opioid claims, relative to those without.

### **Commercial Damages**

- As part of a patent damages assignment, assisted an expert in the development of a rebuttal report on the valuation of particular features in a laptop. Report included an evaluation of the model developed and underlying data quality used by the opposing expert.
- Worked on behalf of a plaintiff (a computer manufacturer) that alleged it suffered price erosion as a result of entry of lower-priced computers that infringed on some of its sales and revenue. Assisted expert in developing econometric model to estimate the but-for price as a component of the price erosion of computer hardware in the absence of alleged patent infringement.
- Assisted an expert in the development of analyses to estimate the damages caused to a beer manufacturing as a result of recalling, destroying, and replacing, thousands of shipments of bottled beer as a result of an alleged fault by the bottling company resulting in cracks in the beer bottles.

### **PEER-REVIEWED JOURNAL ARTICLES**

#### **Economics of Prescription Opioid Abuse**

- "Assessment of Work Loss Associated With Prescription-Related Opioid Use Disorder: A Retrospective Analysis of Claims Data," with T. Spittle, C. Fernan, E. Billmyer, E. Marrett, W.J. Kwong, and L. Rossiter, *Journal of Occupational and Environmental Medicine* (March 2020)
- "Modeling the potential impact of abuse-deterrent opioids on medical resource utilization," with M. Yenikomshian, M. Carson, Z. Jia, M. Mendoza, and C. Roland, *Journal of Medical Economics* (October 2019)
- "Projecting the cost, utilization, and patient care impact of prescribing extended release non-abuse-deterrent opioids to chronic pain patients," with M. Yenikomshian, M. Carson, L. Garrison, G. Oderda, J. Biskupiak, P. Hlavacek, and C. Roland, *Journal of Opioid Management*, 13(5):291–301 (September/October 2017)

- “A Harm Reduction Model to Quantify Potential Misuse/Abuse Reduction and Abuse-Related Events Avoided from Abuse-Deterrent Opioids,” with T. Spittle, G. Niebler, J. Dayno, C. Brown, and N. Katz, *Pain Medicine* (revise and resubmit). Also presented as a poster at PAINWeek 2017, Las Vegas, NV (September 2017); American Pain Society 2017 Annual Scientific Meeting, Pittsburgh, PA (May 2017); and the American Association of Nurse Practitioners 2017 National Conference, Philadelphia, PA (June 2017)
- “A model to quantify potential medical events avoided and cost savings from abuse deterrent opioids,” with M. Yenikomshian, M. Carson, E. Masters, and C. Roland, *The Journal of Pain*, Volume 17, Issue 4;Supplement, Page S41, DOI: <http://dx.doi.org/10.1016/j.jpain.2016.01.168> (April 2016)
- “Positive subjective measures in abuse liability studies and real-world nonmedical use: Potential impact of abuse-deterrent opioids on rates of nonmedical use and associated healthcare costs” with J. LeCates; H. Birnbaum; W. Cheng; C. Roland, and J. Mardekian, *Journal of Opioid Management*, 11(3): 199-210 (May/June 2015). Also presented as a poster at the American Academy of Pain Medicine’s 30th Annual Meeting, Phoenix, AZ (March 2014)
- “Medical cost savings associated with an extended-release opioid with abuse-deterrent technology in the US,” with L.F. Rossiter, N. Kirson, A. Shei, H. Birnbaum, R. Ben-Joseph, and E. Michna, *Journal of Medical Economics*, 17(4): 279–87 (2014)
- “Societal economic benefits associated with an extended-release opioid with abuse-deterrent technology in the United States,” with N. Kirson, A. Shei, H. Birnbaum, R. Ben-Joseph, L.F. Rossiter, and E. Michna, *Pain Medicine*, 15(9): 1450–4 (2014)
- “Prescription Opioid Abuse: Challenges and Opportunities for Payers,” with N. Katz, H. Birnbaum, M. Brennan, J. Freedman, G. Gilmore, D. Jay, G. Kenna, B. Madras, L. McElhane, and R. Weiss, *American Journal of Managed Care*, 19(4): 295–302 (2013)
- “Direct and Indirect Cost of Patients Treated with Extended-Release Oxymorphone HCl or Controlled-Release Oxycodone HCl,” with N. Kirson, H. Birnbaum, M. Schiller, T. Waldman, K. Petersen, R. Ben-Joseph, T. Berner, and K. Summers, *Journal of Medical Economics*, 15(1): 1–9 (2012). Also presented as a poster at the 16th Annual International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, Baltimore, MD (May 2011)
- “A model to identify patients at risk for prescription opioid abuse, dependence, and misuse,” with B. Rice, H. Birnbaum, M. Schiller, D. Brown, and C. Roland, *Pain Medicine*, 13(9): 1162–1173 (2012). Also presented as a poster at PAINWeek, Las Vegas, NV (September 2011)
- “Economic Impact of Opioid Abuse, Dependence, and Misuse,” with H. Birnbaum, M. Schiller, T. Waldman, J. Cleveland, and C. Roland, *The American Journal of Pharmacy Benefits*, 3(4):e59–e70 (May/June 2011). Also presented as a poster at the Academy of Managed Care Pharmacy 2009 Educational Conference, San Antonio, TX (October 2009)
- “Societal Costs of Prescription Opioid Abuse, Dependence, and Misuse in the United States,” with H. Birnbaum, M. Schiller, T. Waldman, J. Cleveland, and C. Roland, *Pain Medicine*, 12: 657–667

(2011). Also presented as a poster at the 15th Annual International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, Atlanta, GA (May 2010)

- “Analytic Models to Identify Patients At Risk for Prescription Opioid Abuse,” with H. Birnbaum, M. Schiller, J. Tang, and N. Katz, *American Journal of Managed Care*, 15(12): 897–906 (2009)
- “Development of a Budget-Impact Model to Quantify Potential Cost Savings from Prescription Opioids Designed to Deter Abuse and Ease of Extraction,” with H. Birnbaum, D. Rothman, and N. Katz, *Applied Health Economics and Health Policy*, 7(1): 61–70 (2009). Also presented as a poster at the 21st Annual Meeting and Showcase of the Academy of Managed Care Pharmacy, Orlando, FL (April 2009)
- “Estimated Costs of Prescription Opioid Analgesic Abuse in the United States in 2001: A Societal Perspective,” with H. Birnbaum, J. Reynolds, P. Greenberg, M. Zhang, S. Vallow, J. Schein, and N. Katz, *Clinical Journal of Pain*, 22 (8): 667–676 (2006). Also presented as a poster at the 18th Annual International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, New Orleans, LA (May 2013)
- “Direct Costs of Opioid Abuse in an Insured Population in the United States,” with H. Birnbaum, M. Mareva, M. Daher, S. Vallow, J. Schein, and N. Katz, *Journal of Managed Care Pharmacy*, 11:469–479 (2005). Also presented as a poster at the 132nd Annual Meeting of the American Public Health Association, Washington, DC (November 2004)

### **Economic Data and Statistical Methods**

- “Hedonic Price Indexes for Personal Computer Operating Systems and Productivity Suites,” with J. Abel, E. Berndt, and C. Monroe, *Annales d’Economie et de Statistique*, No. 79/80: 787-807 (2005). Previously published as *NBER Working Paper, No. 10427* (April 2004)
- “Price Indexes for Microsoft’s Personal Computer Software Products,” with J. Abel and E. Berndt, *NBER Working Paper No. 9966* (September 2003)
- “Outlet Types and the Canadian Consumer Price Index,” *Canadian Journal of Economics*, 33 (2):488–505 (2000)
- “Measurement Biases in Consumer Price Indexes,” *International Statistical Review*, 67 (3):311–325 (1999)

### **Economics of Selected Disease Areas**

- “Consequences of Insurance Denials Among U.S. Patients Prescribed Repository Corticotropin Injection for Acute Exacerbations of Multiple Sclerosis,” with J.B. Rice, M.P. Panaccio, M. Simes, E. Billmyer, N. Downes, J. Niewoehner, and G.J. Wan, *Neurology and Therapy* (June 2021)
- “Economic Burden of Non-Infectious Inflammatory Eye Disease (NIIED) in a Commercially-Insured Population in the United States,” with T.A. Albin, J.B. Rice, M. Johnson, A.F. Lima, L. Bartels-Peculis, G. Ciepiewska, and W.W. Nelson, *Ocular Immunology and Inflammation* (December 2020)

- “Predictors of High-cost Patients With Noninfectious Inflammatory Eye Diseases,” with W.W. Nelson, J.B. Rice, M. Johnson, J. Reiff, A.F. Lima, L. Bartels-Peculis, G. Ciepielewska, and T.A. Albini, *Clinical Therapeutics* (November 2019)
- “The Burden of Non-infectious Inflammatory Eye Diseases: A Systematic Literature Review,” with J. Rice, L. Scarpati, G. Wan, and W. Nelson, *Current Medical Research and Opinion*, 34(12):2095–2103 (December 2018). Poster also presented at the Academy of Managed Care Pharmacy (AMCP) Annual Meeting, Denver, CO (March 2017)
- “Healthcare resource use and cost associated with varying dosages of extended corticosteroid exposure in a US population,” with J. Rice, M. Johnson, A. Wagh, Y. Qin, L. Bartels-Peculis, G. Ciepielewska, and W. Nelson, *Journal of Medical Economics*, 21(9):846–852 (September 2018). Results also presented during a podium presentation at the 2017 American College of Rheumatology/Association of Rheumatology Health Professionals (ACR/ARHP) Annual Meeting, San Diego, CA (November 2017)
- “Long-Term Systemic Corticosteroid Exposure: A Systematic Literature Review,” with J. Rice, L. Scarpati, G. Wan, and W. Nelson, *Clinical Therapeutics*, 39(11):2216-2229 (November 2017)
- “Quantitative characterization of the relationship between levels of extended corticosteroid use and related adverse events in a US population,” with J. Rice, M. Johnson, A. Wagh, Y. Qin, L. Bartels-Peculis, G. Ciepielewska, and W. Nelson, *Current Medical Research and Opinion*, 34(8):1519–1527 (2018)
- “High-Cost Sarcoidosis Patients in the United States: Patient Characteristics and Patterns of Healthcare Resource Utilization,” with J. Rice, A. Lopez, and W. Nelson, *Journal of Managed Care & Specialty Pharmacy*, 23(12):1261–1269a (2017)
- “The Burden of Hepatorenal Syndrome Among Commercially Insured and Medicare Patients in the United States,” with J. Rice, P. Galebach, K. Korenblat, A. Wagh, B. Lovelace, G. Wan, and K. Jamil, *Current Medical Research and Opinion*, 33(8):1473–1480 (2017). Also presented as a poster at American Society of Nephrology (ASN) Kidney Week, Chicago, IL (November 2016); and the American Association for the Study of Liver Diseases (AASLD) Liver Meeting, Boston, MA (November 2016)
- “Economic Burden of Sarcoidosis in a Commercially-Insured Population in the United States,” with J. Rice, A. Lopez, A. Conway, A. Wagh, W. Nelson, M. Philbin, and G. Wan, *Journal of Medical Economics*, 20(10):1048–1055 (2017). Abstract also presented at the 2nd International Conference on Respiratory and Pulmonary Medicine, Chicago, IL (October 2016)
- “Healthcare Resource Utilization and Work Loss in Dermatomyositis and Polymyositis Patients in a Privately-Insured US Population,” with J. Rice, A. Lopez, P. Galebach, P. Schepman, B. Popelar, and M. Philbin, *Journal of Medical Economics*, 19(7):649–654 (2016). Also presented as a poster at the Academy of Managed Care Pharmacy (AMCP) Nexus, Orlando, FL (October 2015)
- “Direct and Indirect Costs of Pain Therapy for Osteoarthritis in an Insured Population in the United States,” with H. Birnbaum, C. Janagap, S. Buteau, and J. Schein, *Journal of Occupational and Environmental Medicine*, 50(9): 998–1005 (September 2008). Also presented as a poster at the 12th

Annual International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, Arlington, VA (May 2007)

- “Economic Burden of Illness for Employees with Painful Conditions,” with H. Birnbaum, M. Mareva, A. Henckler, P. Grossman, and D. Mallett, *Journal of Occupational and Environmental Medicine*, 47 (9):884–892 (2005). Also presented as a poster at the 9th Annual Meeting of the International Society for Pharmacoeconomics and Outcomes Research, Washington, DC (May 2004); and at the American Society of Health-System Pharmacists Meeting, Orlando, FL (December 2004)

## OTHER ARTICLES AND PUBLICATIONS

- “How Pharma Cos. Can Evaluate Alliance Agreements’ Validity,” with L. Berneman and A.C. Faye, *Law360* (September 2020)
- “Smart Contracts & Their Potential Tax Implications,” with J. Royer, *Lawyer Monthly* (October 24, 2018)
- “Survey evidence to evaluate a marketing claim: Skye Astiana, Plaintiff v. Ben & Jerry’s Homemade, Inc., Defendant,” with R. Befurt, chapter in *Handbook of Marketing Analytics: Methods and Applications in Marketing Management, Public Policy, and Litigation Support* (2018)
- “Will ‘Biosimilar’ Medications Reduce the Cost of Biologic Drugs? Not Necessarily,” with R. Mortimer and C. Frois, *Scientific American* guest blog (March 9, 2017)
- “The Potential For Litigation In New Era Of Biosimilars,” with C. Frois and R. Mortimer, *Law360* (September 20, 2016)
- “The True Costs of The Bay State’s Painkiller Epidemic,” commentary on *WGBH News, Boston* (March 28, 2014)
- “Misery can’t be quantified, but fiscal toll of opioid abuse is measureable,” *The Boston Globe* (February 25, 2014)
- “Report: Abuse-deterrent reformulation of OxyContin saved \$430M nationwide,” *Boston Business Journal* (April 25, 2014)
- Comment on Kam Yu’s chapter “Measuring the Output and Prices of the Lottery Sector: An Application of Implicit Expected Utility Theory,” in *Price Index Concepts and Measurement* (2009)
- “Price Indexes for Microsoft’s Personal Computer Software Products,” with J. Abel and E. Berndt, in *Hard-to-Measure Goods and Services: Essays in Honor of Zvi Griliches*, E. Berndt and C. Hulten (eds.), Chicago: University of Chicago Press for the National Bureau of Economic Research Studies in Income and Wealth, Volume 67, Chapter 9 (2007)
- “Measuring Prices of Prepackaged Software,” book contributor, *Software, Growth, and the Future of the U.S. Economy*, The National Academies Press (2002)

## ABSTRACTS AND POSTER PRESENTATIONS

- “Assessment Of Work Loss Associated With Prescription Opioid Abuse: A Retrospective Analysis Of Commercial Claims,” with T. Spittle, C. Fernan, E. Marrett, W.J. Kwong, and L.F. Rossiter, poster presented at PAINWeek Annual Meeting, Las Vegas, NV (September 2018)
- “Budget Impact Analysis of MorphaBond™ ER (morphine sulfate extended-release) for the Treatment of Chronic Pain from a Managed Care Perspective,” with E. Marrett, W.J. Kwong, and L.F. Rossiter, poster presented at PAINWeek Annual Meeting, Las Vegas, NV (September 2018)
- “Assessment Of Work Loss Associated With Prescription Opioid Abuse: A Retrospective Analysis Of Commercial Claims,” with T. Spittle, C. Fernan, E. Marrett, W.J. Kwong, and L.F. Rossiter, poster presented at ISPOR Annual International Meeting, Baltimore, MD (May 2018)
- “Budget Impact Analysis of RoxyBond Tablets for Oral Use CII: An Immediate-Release Abuse Deterrent Formulation of Oxycodone for the Treatment of Pain,” with T. Spittle, E. Marrett, W. Kwong, C. Fernan, and L.F. Rossiter, poster presented at the Academy of Managed Care Pharmacy’s Managed Care & Specialty Pharmacy Annual Meeting, Boston, MA (April 2018)
- “Healthcare Resource Use, Characteristics, and Predictors of High-Cost Patients with Non-Infectious Inflammatory Eye Disease (NIIED) In a Commercially-Insured US Population,” with T. Albini, J. Rice, A. Lopez, J. Reiff, A. Lima, S. Elliot, L. Bartels-Peculis, G. Ciepielewska, and W. Nelson, poster presented at the Association of Research in Vision and Ophthalmology (ARVO) Annual Meeting, Honolulu, HI (April 2018)
- “Quantitative characterization of the relationship between levels of extended corticosteroid use and related adverse events in a US population,” with J. Rice, M. Johnson, A. Wagh, Y. Qin, L. Bartels-Peculis, G. Ciepielewska, and W. Nelson, podium presentation at 2017 American College of Rheumatology/Association of Rheumatology Health Professionals (ACR/ARHP) Annual Meeting, San Diego, CA (November 2017)
- “Clinical Outcomes, Healthcare Resource Use, and Cost in Patients with Non-Infectious Inflammatory Eye Disease (NIIED) in a US Population,” with T. Albini, J. Rice, A. Lopez, J. Reiff, A. Lima, B. Filas, S. Elliot, L. Bartels-Peculis, G. Ciepielewska, and W. Nelson, poster presented at the 2017 American Academy of Ophthalmology (AAO) Annual Meeting, New Orleans, LA (November 2017)
- “Quantifying Clinical and Economic Outcomes Associated with Chronic Corticosteroid Exposure in a US Population,” with J. Rice, A. Lopez, A. Wagh, Y. Qin, G. Mitri, L. Bartels-Peculis, G. Ciepielewska, and W. Nelson, podium presentation at the 2017 American College of Rheumatology/Association of Rheumatology Health Professionals (ACR/ARHP) Annual Meeting, San Diego, CA (November 2017)
- “The Economic Burden of Dermatomyositis and Polymyositis in the US,” with J. Rice, P. Galebach, A. Lopez, P. Schepman, B. Popelar, M. Philbin, and E. Boing, 2016 ACR/ARHP Annual Meeting (November 2016)
- “Estimating the payer-specific excess medical costs of opioid abuse in the U.S.,” with E. Michna, N. Kirson, A. Shei, H. Birnbaum, R. Ben-Joseph, and L.F. Rossiter, poster presented at the 18th Annual

International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, New Orleans, LA (May 2013)

- “Prescription Pain Therapy Switching Among Osteoarthritis Patients in a Privately Insured Population,” with D. Ng, C. Benson, D. Moore, M. Lauve, and J. Schein, poster presented at the 20th Annual Meeting and Showcase of the Academy of Managed Care Pharmacy, San Francisco, CA (April 2008)
- “Costs of Prescription Opioid Abuse and Cost Savings of Abuse-Deterrent Prescription Opioid Drugs,” with H. Birnbaum and N. Katz, poster presented at the 10th Annual European Congress of the International Society for Pharmacoeconomics and Outcomes Research, Dublin, Ireland (October 2007)

## **PRESENTATIONS AND SPEAKING ENGAGEMENTS**

- “The Role of Academic and Industry Experts in Transfer Pricing Disputes,” panel participant, TP Minds Americas, Miami, FL (February 24–26, 2020).
- “Intangibles and Transfer Pricing: Minimizing Valuation Risks,” live webcast, The Knowledge Group (August 2018)
- “Understanding the Opioid Epidemic,” panel discussant, Council on Foreign Relations, Washington, DC (May 2018)
- “Emerging Biosimilar Litigation and Economic Considerations,” panel discussant, GCR Live IP & Antitrust California: Pharmaceutical Pricing and Public Policy, Stanford, CA (May 2017)
- “The Economic Burden of Prescription Opioid Abuse” live testimony, Legislative Health & Human Services Committee and the Courts, Corrections and Judiciary Committee of the New Mexico Legislature, State Capitol, Santa Fe, NM (October 2016)
- “Understanding the Economic Aspects of BEPS,” panel discussant, 4th Annual USD Transfer Pricing Symposium, San Diego, CA (April 2016)
- “Opioid Abuse: Financial Implications of Abuse Deterrent Formulations,” 7th Annual RADARS Conference: Formulating a Solution to Misuse and Abuse, Hilton Washington DC/Rockville (April 2013)
- “Use of Claims Data in Constructing Price Indexes for Medical Services,” with J. Abel and A. Castor, paper presented at the Annual Meeting of the American Economic Association, Allied Social Science Associations, Chicago, IL (January 2007)
- “Hedonic Price Indexes for Personal Computer Operating Systems and Productivity Suites,” with J. Abel, E. Berndt, and C. Monroe, paper presented at the Annual Meeting of the American Economic Association, Allied Social Sciences Associations, Philadelphia, PA (January 2005)

- “Hedonic Price Indexes for Personal Computer Operating Systems and Productivity Suites,” with J. Abel, E. Berndt, and C. Monroe, paper presented at the Conference on Research in Income and Wealth, National Bureau of Economic Research, Cambridge, MA (July 2004)
- “Weight Watching: An Application to PC Software Price Indexes,” paper presented at the Conference on Research in Income and Wealth Conference on Price Index Concepts and Measurement, Vancouver, BC (June 2004)
- “Price Indexes for Prepackaged Software,” with E. Berndt, presented at the Conference on Software, Growth, and the Future of the U.S. Economy, National Academies Board on Science, Technology, and Economic Policy, Washington, DC (February 2004)
- “Price Indexes for Microsoft’s Personal Computer Software Products,” with J. Abel and E. Berndt, paper presented at the Conference on Research in Income and Wealth, National Bureau of Economic Research, Bethesda, MD (September 2003)
- “The Measurement of Stock Market Indexes,” presented at the NBER Program on Technological Change and Productivity Measurement (August 2000)
- “Outlet Types and the Canadian Consumer Price Index,” presented at the NBER Program on Technological Change and Productivity Measurement (March 2000)
- “Outlet Types and the Canadian Consumer Price Index,” presented at the Canadian Economic Association Meetings, Toronto, ON (May 1999)
- “The Equivalence of Total Factor Productivity and Cost Regressions in Decomposing Productivity Measures,” with W. Waters, II, Division of Transportation and Logistics, University of British Columbia, presented at the Georgia Productivity Workshop, Athens, GA (October 1998)

## **PROFESSIONAL ASSOCIATIONS AND MEMBERSHIPS**

American Economic Association

International Society for Pharmacoeconomics and Outcomes Research

American Bar Association

National Association for Business Economics

American Academy of Managed Care Pharmacy