



## **M. CHRISTOPHER ROEBUCK, PHD MBA**

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### **DATE**

November 1, 2022

### **EDUCATION**

**Ph.D. in Public Policy with Concentration in Economics**, UMBC, Baltimore, MD, 2012.

Dissertation Title: “Three Essays on the Economics of Prescription Drugs.”

Committee: M. Goldfarb (chair), N. Miller, D. Salkever, M. Stuart, R. Kaestner.

**M.B.A. in Finance**, University of Miami, Herbert Business School, Coral Gables, FL, 1997.

**M.M. in Music Business**, University of Miami, Frost School of Music, Coral Gables, FL, 1996.

**B.A. in Economics**, University of Pennsylvania, School of Arts & Sciences, Philadelphia, PA, 1994.

### **PROFESSIONAL AND ACADEMIC POSITIONS**

2011 to date *President & CEO*  
RxEconomics LLC, Hunt Valley, MD

Areas of expertise:

- Health economics and outcomes research (HEOR)
- Applied econometrics, biostatistics, and analytics
- Retrospective claims-based observational studies
- Economic evaluation of health care programs
- Comparative effectiveness research (CER)
- Health policy and legislation analysis
- Machine learning and artificial intelligence (AI)
- Translation of research into business practice

2007 to 2011 *Director, Strategic Research- Health Economist*  
CVS Caremark, Hunt Valley, MD

Areas of work:

- Management of researchers and data analysts
- Insurance coverage, benefit design and drug pricing
- Advanced econometric modeling and research methods
- Medication adherence, health services utilization and cost

2005 to 2007 *Manager, Predictive Modeling and Forecasting*  
Caremark, Hunt Valley, MD

Areas of work:

- Pharmacy budget impact modeling
- Predictive modeling and risk adjustment
- Monte Carlo simulation and Markov techniques

2002 to 2005                    *Consulting Research Analyst*  
Caremark (formerly AdvancePCS), Hunt Valley, MD

Areas of work:

- Pharmacoeconomics and outcomes research
- Advanced econometric modeling and program evaluation
- Return-on-investment analysis of direct-to-consumer advertising

1998 to 2002                    *Senior Research Associate in Health Economics*  
Department of Epidemiology, Health Services Research Center  
School of Medicine, University of Miami, Miami, FL

Areas of work:

- Economic evaluation of substance abuse treatment programs
- Relationships between substance abuse, labor and education
- Advanced econometric analysis for health services research
- Development of cost and outcomes collection instruments

## PUBLICATIONS

### Peer-Reviewed Journal Articles and Book Chapters

Randhawa, N., A. Khalyfa, R. Aslam, **M.C. Roebuck**, M. Inam, and K. Ayub. 2022. “Endoscopic Ultrasound-Guided Botox Injection for Refractory Anal Fissure.” *Journal of Clinical Medicine* 11:6207.

Dankwa-Mullan, I., J. George, **M.C. Roebuck**, J. Tkacz, V.C. Willis, F. Reyes, and Y. Arriaga. 2021. “Variations in Breast Cancer Surgical Treatment and Timing: Determinants and Disparities.” *Breast Cancer Research and Treatment* 188:259-272.

Haddad, T., J.M. Helgeson, K.E. Pomerleau, A.M. Preininger, **M.C. Roebuck**, I. Dankwa-Mullan, G.P. Jackson, and M.P. Goetz. 2021. “Accuracy of an Artificial Intelligence System for Cancer Clinical Trial Eligibility Screening: Retrospective Pilot Study.” *JMIR Medical Informatics* 9(3):e27767.

Beck, J.T., M. Rammage, G.P. Jackson, A.M. Preininger, I. Dankwa-Mullan, **M.C. Roebuck**, A. Torres, H. Holtzen, S.E. Coverdill, M.P. Williamson, Q. Chau, K. Rhee, and M. Vinegra. 2020. “Artificial Intelligence Tool for Optimizing Eligibility Screening for Clinical Trials in a Large Community Cancer Center.” *JCO Clinical Cancer Informatics* 4:50-59.

Chen, P., T. Li, T. Sun, V.C. Willis, **M.C. Roebuck**, D.M. Bravata, X. Liu, Y.E. Arriaga, I. Dankwa-Mullan, and A. Wu. 2020. “Clinical Decision Support for High-Risk Stage II Colon Cancer: A Real-World Study of Treatment Concordance and Survival.” *Diseases of the Colon and Rectum* 63(10):1383-1392.

Xu, F., M-J. Sepulveda, Z. Jiang, H. Wang, J. Li, Z. Liu, Y. Yin, **M.C. Roebuck**, E.H. Shortliffe, M. Yan, Y. Song, C. Geng, J. Tang, G.P. Jackson, A. Preininger, and K. Rhee. 2020. “Effect of an Artificial Intelligence Advisory Tool on Treatment Decisions for Complex Breast Cancer.” *JCO Clinical Cancer Informatics* 4:824-838.

**Roebuck, M.C.** and J.N. Liberman. 2019. “Assessing the Burden of Illness of Chronic Hepatitis C and Impact of Direct-Acting Antiviral Use on Healthcare Costs in Medicaid.” *American Journal of Managed Care* 25(8 Suppl):S131-S139.

Xu, F., M-J. Sepulveda, Z. Jiang, H. Wang, J. Li, Y. Yin, Z. Liu, **M.C. Roebuck**, E.H. Shortliffe, M. Yan, Y. Song, C. Geng, J. Tang, and K. Rhee. 2019. “Artificial Intelligence Treatment Decision Support for Complex Breast Cancer Among Oncologists with Varying Expertise.” *JCO Clinical Cancer Informatics* 1(3):1-15.

**Roebuck, M.C.**, R.J. Kaestner, and J.S. Dougherty. 2018. “Impact of Medication Adherence on Health Services Utilization in Medicaid.” *Medical Care* 56:266-273.

Sepulveda, M-J., **M.C. Roebuck**, P. Fronstin, P. Vidales-Calderon, A. Parikh, and K. Rhee. 2016. “Elimination of the Out-

of-Pocket Charge for Children's Primary Care Visits: An Application of Value-Based Insurance Design." *Journal of Pediatrics* 175:195-200.

**Roebuck, M.C.**, J.S. Dougherty, R. Kaestner, and L.M. Miller. 2015. "Increased Use of Prescription Drugs Reduces Medical Costs in Medicaid Populations." *Health Affairs* 34(9):1586-1593.

**Roebuck, M.C.** 2014. "Medical Cost Offsets from Prescription Drug Utilization Among Medicare Beneficiaries." *Journal of Managed Care and Specialty Pharmacy* 20(10):994-995.

Fronstin, P., M-J. Sepulveda, and **M.C. Roebuck**. 2013. "Consumer-Directed Health Plans Reduce the Long-Term Use of Outpatient Physician Visits and Prescription Drugs." *Health Affairs* 32(6):1126-1134.

Fronstin, P., M-J. Sepulveda, and **M.C. Roebuck**. 2013. "Medication Utilization and Adherence in a Health Savings Account-Eligible Plan." *American Journal of Managed Care* 19(12):e400-e407.

Carls, G.S., **M.C. Roebuck**, T.A. Brennan, J.A. Slezak, O.S. Matlin, and T.B. Gibson. 2012. "Impact of Medication Adherence on Absenteeism and Short-Term Disability for Five Chronic Diseases." *Journal of Occupational and Environmental Medicine* 54(7):792-805.

Frick, K.D., **M.C. Roebuck**, J.I. Feldstein, C.A. McCarty, and L.L. Grover. 2012. "Health Services Utilization and Cost of Retinitis Pigmentosa." *Archives of Ophthalmology* 130(5):629-634.

Ketcham, J., C. Lucarelli, E. Miravete, and **M.C. Roebuck**. 2012. "Sinking, Swimming, or Learning to Swim in Medicare Part D." *American Economic Review* 102(6):2639-2673.

Polinski, J.M., W.H. Shrank, R.J. Glynn, H.A. Huskamp, **M.C. Roebuck**, and S. Schneeweiss. 2012. "Association between the Part D Coverage Gap and Adverse Health Outcomes." *Journal of the American Geriatrics Society* 60(8):1408-1417.

Polinski, J.M., W.H. Shrank, R.J. Glynn, H.A. Huskamp, **M.C. Roebuck**, and S. Schneeweiss. 2012. "Beneficiaries with Cardiovascular Disease and the Part D Coverage Gap." *Circulation: Cardiovascular Quality and Outcomes* 5(3):387-395.

**Roebuck, M.C.**, J.N. Liberman, M. Gemmill-Toyama, and T.A. Brennan. 2011. "Medication Adherence Leads to Lower Health Care Use and Costs Despite Increased Drug Spending." *Health Affairs* 30(1):91-99.

Liberman, J.N. and **M.C. Roebuck**. 2010. "Prescription Drug Costs and the Generic Dispensing Ratio." *Journal of Managed Care Pharmacy* 16(7):502-506.

**Roebuck, M.C.** and J.N. Liberman. 2009. "Impact of Pharmacy Benefit Design on Prescription Drug Utilization: A Fixed Effects Analysis of Plan Sponsor Data." *Health Services Research* 44(3):988-1009.

Knealing, T.W., **M.C. Roebuck**, C.J. Wong, and K. Silverman. 2008. "Economic Cost of the Therapeutic Workplace Intervention Added to Methadone Maintenance." *Journal of Substance Abuse Treatment* 34(3):326-332.

Mundt, M.P., M.T. French, **M.C. Roebuck**, L.B. Manwell, and K.L. Barry. 2005. "Brief Physician Advice for Problem Drinking among Older Adults: An Economic Analysis of Costs and Benefits." *Journal of Studies on Alcohol* 66(3):389-394.

Powers, C.A., C.M. Meyer, **M.C. Roebuck**, and B. Vaziri. 2005. "Predictive Modeling of Total Healthcare Costs Using Pharmacy Claims Data: A Comparison of Alternative Econometric Cost Modeling Techniques." *Medical Care* 43(11):1065-1072.

**Roebuck, M.C.**, M.T. French, and M.L. Dennis. 2004. "Adolescent Marijuana Use and School Attendance." *Economics of Education Review* 23(2):145-153.

French, M.T., **M.C. Roebuck**, and P.K. Alexandre. 2004. "To Test or Not to Test: Do Workplace Drug Testing Programs Really Discourage Employee Drug Use?" *Social Science Research* 33(1):45-63.

- French, M.T., **M.C. Roebuck**, and A.T. McLellan. 2004. "Cost Estimation When Time and Resources are Limited: The Brief DATCAP." *Journal of Substance Abuse Treatment* 27(3):187-193.
- Roebuck, M.C.**, M.T. French, and A.T. McLellan. 2003. "DATStats: Results from 85 Studies Using the Drug Abuse Cost Analysis Program (DATCAP)." *Journal of Substance Abuse Treatment* 25(1):51-57.
- Alexandre, P.K., **M.C. Roebuck**, M.T. French, and M.J. Barry. 2003. "The Cost of Residential Addiction Treatment in Public Housing." *Journal of Substance Abuse Treatment* 24(4):285-290.
- French, M.T., **M.C. Roebuck**, M.L. Dennis, S.H. Godley, H.A. Liddle, and F.M. Tims. 2003. "Outpatient Marijuana Treatment for Adolescents: Economic Evaluation of a Multi-Site Field Experiment." *Evaluation Review* 27(4):421-459.
- Dennis, M.L., T.F. Babor, **M.C. Roebuck**, and J. Donaldson. 2002. "Changing the Focus: The Case for Recognizing and Treating Cannabis Use Disorders." *Addiction* 97(S1):4-15.
- Dennis, M.L., J.C. Titus, G. Diamond, J. Donaldson, S.H. Godley, F. Tims, C. Webb, Y. Kaminer, T.F. Babor, **M.C. Roebuck**, M.D. Godley, N. Hamilton, H. Liddle, C.K. Scott, and the CYT Steering Committee. 2002. "The Cannabis Youth Treatment (CYT) Experiment: Rationale, Study Design, and Analysis Plans. *Addiction* 97(S1):16-34.
- French, M.T., **M.C. Roebuck**, M.L. Dennis, G. Diamond, S.H. Godley, F. Tims, C. Webb, and J.M. Herrell. 2002. "The Economic Cost of Outpatient Marijuana Treatment for Adolescents: Findings from a Multi-Site Field Experiment." *Addiction* 97(S1):84-97.
- Alexandre, P.K., **M.C. Roebuck**, M.T. French, D.D. Chitwood, and C.B. McCoy. 2001. "Problem Drinking, Health Services Utilization, and the Cost of Medical Care." In *Recent Developments in Alcoholism, Volume 15, Services Research in the Era of Managed Care*, Section III, Chapter 13, pp. 285-298. M. Galanter (Ed.). Kluwer Academic/Plenum Press, New York.
- French, M.T., **M.C. Roebuck**, and P.K. Alexandre. 2001. "Illicit Drug Use, Employment, and Labor Force Participation." *Southern Economic Journal* 68(2):349-368.
- French, M.T., **M.C. Roebuck**, K.A. McGeary, D.D. Chitwood, and C.B. McCoy. 2001. "Using the Drug Abuse Screening Test (DAST-10) to Analyze Health Services Utilization and Cost for Substance Abusers in a Community-Based Setting." *Substance Use and Misuse* 36(6):927-947.
- French, M.T., **M.C. Roebuck**, A.T. McLellan, and J.L. Sindelar. 2001. "Can the Treatment Services Review (TSR) Be Used to Estimate the Costs of Addiction and Ancillary Services?" *Journal of Substance Abuse* 12(4):341-363.

#### White Papers, Abstracts, and Other Works

- Fronstin, P., **M.C. Roebuck**, and A.M. Fendrick. 2022. "The Impact of Covering Select Preventive Services on Employer Health Care Spending." *EBRI Fast Facts* #444, October 2022. Available at: <https://www.ebri.org/health/publications/fast-facts/content/the-impact-of-covering-select-preventive-services-on-employer-health-care-spending>.
- Fronstin, P. and **M.C. Roebuck**. 2022. "What Is Driving Increased Spending on Mental Health Care Services?" *EBRI Fast Facts* #443, October 2022. Available at: <https://www.ebri.org/health/publications/fast-facts/content/what-is-driving-increased-spending-on-mental-health-care-services>.
- Fronstin, P. and **M.C. Roebuck**. 2022. "Use of Health Care Services for Mental Health Disorders and Spending Trends." *EBRI Issue Brief* No. 569, September 2022. Available at: <https://www.ebri.org/health/publications/issue-briefs/content/use-of-health-care-services-for-mental-health-disorders-and-spending-trends>.

- Fronstin, P., **M.C. Roebuck**, and A.M. Fendrick. 2022. “Limited Impact on Premiums of Expanding Pre-Deductible Coverage.” *EBRI Fast Facts* #441, August 2022. Available at: <https://www.ebri.org/health/publications/fast-facts/content/limited-impact-on-premiums-of-expanding-pre-deductible-coverage>.
- Fronstin, P., **M.C. Roebuck**, and A.M. Fendrick. 2022. “Premium Impact of Expanding Pre-Deductible Coverage to Chronic Disease Management Medications in HSA-Eligible Health Plans.” *EBRI Issue Brief* No. 563, July 2022. Available at: <https://www.ebri.org/health/publications/issue-briefs/content/premium-impact-of-expanding-pre-deductible-coverage-to-chronic-disease-management-medications-in-hsa-eligible-health-plans>.
- Fronstin, P., **M.C. Roebuck**, and A.M. Fendrick. 2022. “Premium Increases Are Low When Employers Add Pre-Deductible Coverage for Preventive Services in Response to Increased IRS Flexibility.” *EBRI Fast Facts* #437, June 2022. Available at: <https://www.ebri.org/health/publications/fast-facts/content/premium-increases-are-low-when-employers-add-pre-deductible-coverage-for-preventive-services-in-response-to-increased-irs-flexibility>.
- Fronstin, P., **M.C. Roebuck**, and A.M. Fendrick. 2022. “The Impact of Expanding Pre-Deductible Coverage in HSA-Eligible Health Plans on Premiums.” *EBRI Issue Brief* No. 558, May 2022. Available at: <https://www.ebri.org/health/publications/issue-briefs/content/the-impact-of-expanding-pre-deductible-coverage-in-hsa-eligible-health-plans-on-premiums>.
- Fronstin, P. and **M.C. Roebuck**. 2022. “Switch to High-Deductible Health Plans Reduces Use of Health Care Services and Spending Among Enrollees with Mental Health Disorders.” *EBRI Fast Facts* #431, March 2022. Available at: <https://www.ebri.org/health/publications/fast-facts/content/switch-to-high-deductible-health-plans-reduces-use-of-health-care-services-and-spending-among-enrollees-with-mental-health-disorders>.
- Fronstin, P. and **M.C. Roebuck**. 2022. “How Do High-Deductible Health Plans Affect Use of Health Care Services and Spending Among Enrollees with Mental Health Disorders?” *EBRI Issue Brief* No. 555, March 2022. Available at: [https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri\\_ib\\_555\\_mentalhealth-10mar22.pdf?sfvrsn=aec3b2f\\_2](https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri_ib_555_mentalhealth-10mar22.pdf?sfvrsn=aec3b2f_2).
- Arriaga, Y., J. Tkacz, **M.C. Roebuck**, J. George, V. Willis, and I. Dankwa-Mullan. 2021. “Factors Associated with Utilization of Post-Mastectomy Adjuvant Therapies in Privately Insured Female Patients with Early-Stage Invasive Breast Cancer.” Abstract. *Cancer Research* 81(13 Supplement):2617.
- Fronstin, P. and **M.C. Roebuck**. 2021. “Spending Differences for Physician-Administered Outpatient Drugs by Site of Treatment Across Metropolitan Statistical Areas and States.” *EBRI Fast Facts* #408, October 2021. Available at: [https://www.ebri.org/docs/default-source/fast-facts/ff-408-locationx3-21oct21.pdf?sfvrsn=44523b2f\\_4](https://www.ebri.org/docs/default-source/fast-facts/ff-408-locationx3-21oct21.pdf?sfvrsn=44523b2f_4).
- Fronstin, P. and **M.C. Roebuck**. 2021. “Shifting from Hospital Outpatient Departments to Physician Offices Equates to Significant Cost Reductions.” *EBRI Fast Facts* #405, September 2021. Available at: [https://www.ebri.org/docs/default-source/fast-facts/ff.405.locationx3.9sep21.pdf?sfvrsn=286a3b2f\\_4](https://www.ebri.org/docs/default-source/fast-facts/ff.405.locationx3.9sep21.pdf?sfvrsn=286a3b2f_4).
- Fronstin, P. and **M.C. Roebuck**. 2021. “Location, Location, Location: Spending Differences for Physician-Administered Outpatient Medications by Site of Treatment.” *EBRI Issue Brief* No. 536, August 2021. Available at: [https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri\\_ib\\_536\\_locationx3-19aug21.pdf?sfvrsn=cf6c3b2f\\_4](https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri_ib_536_locationx3-19aug21.pdf?sfvrsn=cf6c3b2f_4).
- Fronstin, P. and **M.C. Roebuck**. 2021. “Higher Lab Costs, Equivalent Value: Evaluating the Cost of Lab Services in Hospital Outpatient Departments, Physician Offices, and Stand-Alone Lab Facilities.” *EBRI Fast Facts* #393, April 2021. Available at: [https://www.ebri.org/docs/default-source/fast-facts/ff-393-locationx3-1apr21.pdf?sfvrsn=84e73a2f\\_6](https://www.ebri.org/docs/default-source/fast-facts/ff-393-locationx3-1apr21.pdf?sfvrsn=84e73a2f_6).
- Fronstin, P. and **M.C. Roebuck**. 2021. “Location, Location, Location: Cost Differences in Health Care Services by Site of Treatment—A Closer Look at Lab, Imaging, and Specialty Medications.” *EBRI Issue Brief* No. 525, February 2021. Available at: [https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri\\_ib\\_525\\_siteof-treatment-18feb21.pdf?sfvrsn=fc973a2f\\_2](https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri_ib_525_siteof-treatment-18feb21.pdf?sfvrsn=fc973a2f_2).

- Fronstin, P. and **M.C. Roebuck**. 2021. "Evidence That Health Care Coinsurance Reduces Use of Certain Care More Than Copayments Do." *EBRI Fast Facts* #376, January 2021. Available at: [https://www.ebri.org/docs/default-source/fast-facts/ff-376-costsharing-7jan21.pdf?sfvrsn=29bf3a2f\\_4](https://www.ebri.org/docs/default-source/fast-facts/ff-376-costsharing-7jan21.pdf?sfvrsn=29bf3a2f_4).
- Fronstin, P., **M.C. Roebuck**, J.D. Buxbaum, and A.M. Fendrick. 2020. "Use of Low-Value Health Care Services Rises After People Satisfy Health Plan Deductibles." *EBRI Fast Facts* #373, December 2020. Available at: [https://www.ebri.org/docs/default-source/fast-facts/ff-373-lvs-17dec20.pdf?sfvrsn=8b403a2f\\_4](https://www.ebri.org/docs/default-source/fast-facts/ff-373-lvs-17dec20.pdf?sfvrsn=8b403a2f_4).
- Dankwa-Mullan, I., M.M. McKillop, M. Solomon, A.M. Preininger, **M.C. Roebuck**, Y. Arriaga, J. George, G.P. Jackson, and B.R. South. 2020. "Identifying and Leveraging Public Data Sources with Structured Social Determinants of Health Information for Observational Health Research." Oral Presentation. *American Medical Informatics Association Virtual Annual Symposium*:S89.
- Dankwa-Mullan, I., **M.C. Roebuck**, J. Tkacz, and Y. Arriaga. 2020. "Determinants of Adjuvant Therapy Decisions Following Breast Conserving Surgery in Females with Early-Stage Breast Cancer: A Real-World Evidence Study." Abstract. *Academy Health Virtual Annual Research Meeting*:402.
- Dankwa-Mullan, I., **M.C. Roebuck**, J. Tkacz, O.M. Fayanju, Y. Ren, G. Jackson, and Y.E. Arriaga. 2020. "Disparities in Receipt of and Time to Adjuvant Therapy After Lumpectomy." Abstract. *Journal of Clinical Oncology* 38(15 Supplement):534.
- Dankwa-Mullan, I., **M.C. Roebuck**, J. Tkacz, J. George, F. Reyes, and Y. Arriaga. 2020. "Regional Disparities in Time to Treatment for Breast Conserving Surgery and Mastectomy in Women with Early-Stage Breast Cancer." Abstract. *Cancer Research* 80(16 Supplement):4341.
- Dankwa-Mullan, I., **M.C. Roebuck**, J. Tkacz, J. George, F. Reyes, Y. Arriaga, and G. Jackson. 2020. "Trends in and Determinants of Time to Primary Surgical Treatment for Females with Early Breast Cancer." Abstract. *The American Society of Breast Surgeons Official Proceedings, Volume XXI, 2020 Virtual Scientific Session*:782814.
- Fronstin, P. and **M.C. Roebuck**. 2020. "Managing Use of Health Care Services After People Satisfy Their Deductible: What Do Copayments and Coinsurance Do?" *EBRI Issue Brief* No. 519, November 2020. Available at: [https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri\\_ib\\_519\\_coinsurancecopayments-19nov20.pdf?sfvrsn=f7503a2f\\_2](https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri_ib_519_coinsurancecopayments-19nov20.pdf?sfvrsn=f7503a2f_2).
- Fronstin, P., **M.C. Roebuck**, J.D. Buxbaum, and A.M. Fendrick. 2020. "Do People Choose Wisely After Satisfying Health Plan Deductibles? Evidence from the Use of Low-Value Health Care Services?" *EBRI Issue Brief* No. 516, October 2020. Available at: [https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri\\_ib\\_516\\_lowvalhealth-22oct20.pdf?sfvrsn=56693a2f\\_6](https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri_ib_516_lowvalhealth-22oct20.pdf?sfvrsn=56693a2f_6).
- Fronstin, P., **M.C. Roebuck**, and B.C. Stuart. 2020. "How Site-of-Treatment Markups for Infused Oncology Medications Drive Cost Differences Over Time." *EBRI Fast Facts* #360, August 2020. Available at: [https://www.ebri.org/docs/default-source/fast-facts/ff-360-oncology2-27aug20.pdf?sfvrsn=68203a2f\\_4](https://www.ebri.org/docs/default-source/fast-facts/ff-360-oncology2-27aug20.pdf?sfvrsn=68203a2f_4).
- Fronstin, P., **M.C. Roebuck**, and B.C. Stuart. 2020. "HOPD-Infused Oncology Medicines Markup by MSAs and State." *EBRI Fast Facts* #351, April 2020. Available at: [https://www.ebri.org/docs/default-source/fast-facts/ff-351-oncology-24apr20.pdf?sfvrsn=7b53d2f\\_6](https://www.ebri.org/docs/default-source/fast-facts/ff-351-oncology-24apr20.pdf?sfvrsn=7b53d2f_6).
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- George, J., J. Tkacz, **M.C. Roebuck**, F. Reyes, Y.E. Arriaga, G.P. Jackson, and I. Dankwa-Mullan. 2020. “Real-World Study of Factors Associated with Breast Conserving Surgery for Females Diagnosed with Early-Stage Breast Cancer.” Abstract. *Journal of the National Comprehensive Care Network* 18(3.5):HSR20-085.
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- Roebuck, M.C.** and J.N. Liberman. 2018. “Burden of Illness of Chronic Hepatitis C in Medicaid.” *Value in Health* 21(S1):S83.
- Fronstin, P. and **M.C. Roebuck**. 2018. “The Impact of Health Status and Use of Health Care Services on Disenrollment From HSA-Eligible Health Plans.” *EBRI Issue Brief* No. 465, November 2018. Available at: [https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri\\_ib\\_465\\_disenroll-12nov18.pdf?sfvrsn=444f3e2f\\_6](https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri_ib_465_disenroll-12nov18.pdf?sfvrsn=444f3e2f_6).
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- Roebuck, M.C.** and J.S. Dougherty. 2016. “Impact of Medication Adherence on Hospitalization in Medicaid.” *Value in Health* 19(3):A9.
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- Fronstin, P. and **M.C. Roebuck**. 2015. “Financial Incentives and Workplace Wellness-Program Participation.” *EBRI Issue Brief* No. 412, March 2015. Available at: [http://www.ebri.org/pdf/briefspdf/EBRI\\_IB\\_412\\_Mar15\\_Wlns-Incnts.pdf](http://www.ebri.org/pdf/briefspdf/EBRI_IB_412_Mar15_Wlns-Incnts.pdf).
- Fronstin, P. and **M.C. Roebuck**. 2014. “Quality of Health Care After Adopting a Full-Replacement, High-Deductible Health Plan with a Health Savings Account: A Five-Year Study.” *EBRI Issue Brief* No. 404, September 2014. Available at: [http://www.ebri.org/pdf/briefspdf/EBRI\\_IB\\_404\\_Sept14.HSA-Qual.pdf](http://www.ebri.org/pdf/briefspdf/EBRI_IB_404_Sept14.HSA-Qual.pdf).
- Fronstin, P. and **M.C. Roebuck**. 2014. “Reference Pricing for Health Care Services: A New Twist on the Defined Contribution Concept in Employment-Based Health Benefits.” *EBRI Issue Brief* No. 398, April 2014. Available at: [http://www.ebri.org/pdf/EBRI\\_IB\\_398\\_Apr14.RefPricing.pdf](http://www.ebri.org/pdf/EBRI_IB_398_Apr14.RefPricing.pdf).
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- Fronstin, P. and **M.C. Roebuck**. 2014. “The Costs of Spousal Health Coverage.” *EBRI Fast Facts* #266, January 2014. Available at: [https://www.ebri.org/docs/default-source/fast-facts/ff-266-spslcvg-30jan14.pdf?sfvrsn=9638342f\\_2](https://www.ebri.org/docs/default-source/fast-facts/ff-266-spslcvg-30jan14.pdf?sfvrsn=9638342f_2).
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- Roebuck, M.C.**, R. Kaestner, and E. Miravete. 2013. “Medicaid Drug Rebates in Medicare Part D Low-Income Subsidy: An Economic Analysis of the Proposed Policy and its Implications for Multiemployer Plans.” Pharmaceutical Industry Labor-Management Association (PILMA). Available at: <http://www.pil-ma.org/study/pdfs/Rebates-Study-Full.pdf>.
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- Yoo, L., **M.C. Roebuck**, A.S. Flowers, M. Jay, T.J. Herron, and T. Vo. 2011. “Potential Financial Impacts of Aspirin as Primary Preventative Care.” Abstract. CVS Caremark.
- Ruetsch, C., **M.C. Roebuck**, and J.P. Tkacz. 2010. “Buprenorphine Adherence Among Insured Patients with Opioid Dependence: Impact on Health Services Utilization and Cost.” Poster presented at the 2010 American Academy of



Addiction Psychiatry, Boca Raton, FL, December 2-5, 2010.

Esposito, D., **M.C. Roebuck**, and M.W. Lewis. 2006. "Beneficiaries' Out-of-Pocket Costs Under the Medicare Prescription Drug Benefit: Evidence from Medicare Discount Drug Card Claims Data." Abstract. *Value in Health* 9(3):A146.

Lee, P.J., **M.C. Roebuck**, and A. Flowers. 2005. "Impact of Titration Trend and Dosage Ranges on Adherence to Quetiapine Therapy in the Treatment of Bipolar Disorder." Abstract. CVS Caremark.

### Works in Progress

**Roebuck, M.C.** Forthcoming. "Impact of Direct-Acting Antiviral Use on Healthcare Costs in Medicaid: Economic Model Update." *American Journal of Managed Care*.

## **PROFESSIONAL**

### Grant-Funded Research Performed

"Economic Evaluation of Adolescent Drug Services" (National Institutes of Health, National Institute on Drug Abuse, Grant No. 1 R01 DA13298-01A1, \$375,145 from 4/2001 to 8/2002, **Project Director**)

"Cannabis Youth Treatment Coordinating Center: Benefit-Cost Analysis" (Public Health Service, Center for Substance Abuse Treatment, Grant No. UR4 TI11320 through Chestnut Health Systems, \$75,000 from 10/1/2000 to 9/30/2001, **Project Director**)

"The Impact of Workplace Drug Testing Programs on Employee Drug Use" (The Robert Wood Johnson Foundation, Grant No. 035152, \$163,368 from 9/1998 to 8/2001, **Project Director**)

"Coordinating Center for the Study of Treatment Effectiveness for Adolescent Marijuana Dependence" (Public Health Service, Center for Substance Abuse Treatment, Grant No. UR4 TI11320, \$355,000 from 10/1997 to 9/2000, **Project Director**)

### Conference Presentations

**Roebuck, M.C.** and J.N. Liberman. "Burden of Illness of Chronic Hepatitis C in Medicaid." Presented at the 23rd Annual International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, Baltimore, MD, May 22, 2018.

**Roebuck, M.C.** "Downstream Medical Cost Offsets in Medicare from Prescription Drug Use in Employer-Sponsored Insurance." Presented at the 21st Annual International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, Washington, DC, May 25, 2016.

**Roebuck, M.C.** and J.S. Dougherty. "Impact of Medication Adherence on Hospitalization in Medicaid." Presented at the 21st Annual International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, Washington, DC, May 23, 2016.

**Roebuck, M.C.** "Medical Cost Offsets from Prescription Drug Use in Medicaid." Presented at the 11th World Congress of the International Health Economics Association, Bocconi University, Milan, Italy, July 15, 2015.

**Roebuck, M.C.** "Medical Cost Offsets from Prescription Drug Utilization Among Medicare Beneficiaries." Presented at the 5th Biennial Conference of the American Society of Health Economists, University of Southern California, Los Angeles, CA, June 24, 2014.

**Roebuck, M.C.** "What is the Value of Medication Adherence? Effects on Medical Cost Offsets and Worker Productivity." Presented at the Department of Health Administration and Policy, George Mason University, Fairfax, VA, September 23, 2013.

**Roebuck, M.C.**, G.S. Carls, T.B. Gibson, J.A. Slezak, J.N. Liberman, and T.A. Brennan. "Impact of Medication Adherence on Worker Productivity: An Instrumental Variables Analysis of Five Chronic Diseases." Presented at the Academy

Health 2011 Annual Research Meeting, Seattle, WA, June 13, 2011.

**Roebuck, M.C.** and T.B. Gibson. "Measurement and Modeling Issues with Adherence to Pharmacotherapy." Presented at the Academy of Managed Care Pharmacy 2010 Educational Conference, St. Louis, MO, October 14, 2010.

**Roebuck, M.C.**, J.N. Liberman, M. Gemmill-Toyama, and T.A. Brennan. "Value of Medication Adherence in Chronic Vascular Disease: Fixed Effects Models of Health Services Utilization and Cost." Presented at the Academy Health 2010 Annual Research Meeting, Boston, MA, June 28, 2010.

**Roebuck, M.C.**, J.N. Liberman, M. Gemmill-Toyama, and T.A. Brennan. "Value of Medication Adherence in Chronic Vascular Disease: Fixed Effects Models of Health Services Utilization and Cost." Presented at the 3<sup>rd</sup> Biennial Conference of the American Society of Health Economists, Cornell University, Ithaca, NY, June 21, 2010.

**Roebuck, M.C.**, J.N. Liberman, M. Gemmill-Toyama, and T.A. Brennan. "Impact of Depression Medication Adherence on Health Services Utilization and Cost." Presented at the Johns Hopkins Bloomberg School of Public Health, Health Economics Seminar, Baltimore, MD, December 10, 2009.

**Roebuck, M.C.**, J.N. Liberman, M. Gemmill-Toyama, and T.A. Brennan. "Impact of Depression Medication Adherence on Health Services Utilization and Cost." Presented at the Western Economic Association International 84<sup>th</sup> Annual Conference, Vancouver, BC, June 30, 2009.

**Roebuck, M.C.** and Y. Wang. "Canadian Border Crossing for Prescription Drugs: Evidence from Medicare Drug Discount Card Data." Presented at the 2<sup>nd</sup> Biennial Conference of the American Society of Health Economists, Duke University, Durham, NC, June 23, 2008.

**Roebuck, M.C.** and J.N. Liberman. "Prescription Benefit Design, Generic Dispensing and Mail Service Utilization: A Panel Analysis of Plan Sponsor Data." Presented at the Academy Health 25<sup>th</sup> Annual Research Meeting, Washington, DC, June 9, 2008.

**Roebuck, M.C.** and J.N. Liberman. "Medication Adherence, Health Services Utilization and Cost." Presented at the Ingenix Symmetry User Conference, San Francisco, CA, May 17, 2007.

**Roebuck, M.C.**, D. Esposito, M.W. Lewis, and J. Berger. "Dollars to Doughnuts: Predicting Prescription Drug Costs of Enrollees and the Medicare Program under Part D." Presented at the Academy Health 23<sup>rd</sup> Annual Research Meeting, Seattle, WA, June 26, 2006.

**Roebuck, M.C.** and J.N. Liberman. "More Predictive Modeling of Total Healthcare Costs Using Pharmacy Claims Data: Adherence Dimension and Boosted Regression." Presented at the American Society of Health Economists Inaugural Conference, University of Wisconsin, Madison, WI, June 6, 2006.

**Roebuck, M.C.**, M.T. French, and A.T. McLellan. "DATStats: Results from 85 Studies using the Drug Abuse Cost Analysis Program (DATCAP)." Presented at the Academy Health 20<sup>th</sup> Annual Research Meeting, Nashville, TN, June 29, 2003.

**Roebuck, M.C.**, M.T. French, and M.L. Dennis. "Adolescent Marijuana Use and School Attendance." Presented at the Academy Health 20<sup>th</sup> Annual Research Meeting, Nashville, TN, June 27, 2003.

**Roebuck, M.C.**, M.T. French, M.L. Dennis, S.H. Godley, H.A. Liddle, and F.M. Tims. "Outpatient Marijuana Treatment for Adolescents: Economic Evaluation of a Multi-Site Field Experiment." Presented at the Academy for Health Services Research and Health Policy 2002 Annual Research Meeting, Washington, DC, June 25, 2002.

**Roebuck, M.C.** "Adolescent Drinking and School Attendance." Presented at the Costs and Benefits of Alcohol Services and Interventions (National Institute on Alcohol Abuse and Alcoholism, Grant No. 1 R01 AA13167) Year 1 Advisory Board Meeting, Miami Beach, FL, December 13, 2001.

**Roebuck, M.C.** "Benefit-Cost Analysis of Outpatient Marijuana Treatment for Adolescents: Findings from a Multi-Site Field Experiment." Presented at the Economic Evaluation Methods: Development and Applications (National Institute on Drug Abuse, Grant No. 1 R01 DA11506) Year 3 Advisory Board Meeting, Miami Beach, FL,

February 22, 2001.

**Roebuck, M.C., M.T. French, and M.L. Dennis.** “Chronic Marijuana Use and School Dropout.” Presented at the American Public Health Association 128<sup>th</sup> Annual Meeting, Boston, MA, November 16, 2000.

**Roebuck, M.C. and M.T. French.** “The Economic Cost of Outpatient Marijuana Treatment for Adolescents: Findings from a Multi-Site Field Experiment.” Presented at the Cannabis Youth Treatment Steering Committee Meeting, Bloomington, IL, February 21, 2000.

**Roebuck, M.C. and M.T. French.** “Using the Treatment Services Review (TSR) to Estimate the Cost of Addiction and Ancillary Services.” Presented at the Economic Evaluation Methods: Development and Applications (National Institute on Drug Abuse, Grant No. 1 R01 DA11506) Year 1 Advisory Board Meeting, Coral Gables, FL, April 8, 1999.

Consulting Clients and Services Performed

AbbVie- *Health Economics and Outcomes Research*

Alcohol Research Group, Public Health Institute- *Economic Cost Analysis*

American Enterprise Institute- *Reimbursement Rate Setting*

Association of Floral Importers of Florida- *Economic and Statistical Analysis*

Basketcase.com- *Financial Analysis and Strategic Planning*

Center for Applied Value Analysis- *Health Economic Markov Modeling*

Chestnut Health Systems- *Economic Evaluation and Econometric Analysis*

Colombia Flower Council- *Economic and Statistical Analysis*

CVS Caremark- *Econometric Analysis*

Employee Benefit Research Institute- *Econometric Analysis*

EviCore Healthcare- *Econometric Analysis and Predictive Modeling*

GlossGenius- *Statistical Analysis*

GNS Healthcare- *Health Economic Predictive Modeling*

Hamilton Beach/Proctor-Silex- *Statistical Analysis*

Harvard Medical School- *Economic Evaluation*

Health Analytics- *Econometric Analysis*

IBM Watson Health- *Econometric Analysis*

Johns Hopkins University/Medical Institutions- *Economic Cost Analysis*

Johnson & Johnson- *Economic Evaluation*

Key West Housing Authority- *Economic Cost Analysis*

Law Offices of YM&C- *Expert Witness Testimony*

Law Offices of Alexander Ramey- *Expert Witness Testimony*

Mauna Kea Technologies- *Health Economic Predictive Modeling*

MicroMass Communications- *Predictive Modeling*

Milliman- *Economic Cost Analysis*

Pfizer- *Policy Analysis*

Pharmaceutical Industry Labor Management Association- *Policy Analysis*

Pharmaceutical Research and Manufacturers of America- *Policy Analysis*

Prime Therapeutics- *Econometric Analysis and Predictive Modeling*

Promius Pharma- *Economic Study Design*

Research Institute on Addictions- *Economic Evaluation and Econometric Analysis*

State of New Jersey, Department of Human Services- *Reimbursement Rate Setting*

State of Oklahoma, Department of MH & SAS- *Economic Cost Analysis*

The Moran Company- *Econometric Analysis*

Treatment Research Institute- *Economic Cost Analysis*

Two World Media/Two World Entertainment- *Financial Analysis and Strategic Planning*

University of Vermont- *Economic Cost Analysis*

West Health Investment Fund- *Technical Diligence*

### Workshops and Trainings Attended

“Economic Evaluation of Drugs, Devices and Other Medical Interventions.” Hay, J., Instructor, 3<sup>rd</sup> Biennial Conference of the American Society of Health Economists, Cornell University, Ithaca, NY, June 20, 2010.

“Modeling Health Care Costs and Counts.” Deb, P., W. Manning, and E. Norton, Instructors, 2<sup>nd</sup> Biennial Conference of the American Society of Health Economists, Durham, NC, June 22, 2008.

“CVS Caremark Foundational Leadership.” 2006-2008.

“Health Econometrics of Health Cost, Expenditure, and Utilization Data.” Deb, P. and W. Manning, Instructors, American Society of Health Economists Inaugural Conference, Madison, WI, June 4, 2006.

“Risk and Decision Assessment Training Using @Risk, Part II.” Palisade Corporation, Ithaca, NY, October 31-November 1, 2005.

“Risk and Decision Assessment Training Using @Risk, Part I.” Palisade Corporation, Ithaca, NY, October 20-21, 2005.

“Old and New Utility Measures in Health Economics and Outcomes Research.” Johnson, F.R., B. Hauber, and J. Mausekopf, Instructors, International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 9<sup>th</sup> Annual International Meeting, Arlington, VA, May 16, 2004.

“Bayesian Analysis: Overview.” Luce, B., C.S. Hollenbeak, and E. Fenwick, Instructors, International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 9<sup>th</sup> Annual International Meeting, Arlington, VA, May 16, 2004.

“Modeling Health Care Costs and Counts.” Deb, P., W. Manning, and E. Norton, Instructors, 4<sup>th</sup> International Health Economics Association (IHEA) World Congress, San Francisco, CA, June 15, 2003.

“Playing by New Rules: HIPAA Privacy and Health Services Research.” Academy Health, Herndon, VA, April 29, 2003.

“SAS Programming I: Essentials.” SAS Institute, New York, NY, February 5-7, 2003.

### Honors and Awards

2013 19<sup>th</sup> Annual Health Care Research Award, National Institute for Health Care Management (NIHCM) Foundation, Washington, DC

2006 Best Abstract Award, Academy Health 23<sup>rd</sup> Annual Research Meeting, Seattle, WA

### Professional Association and Journal Affiliations

Academy Health

Member, 1998-2022

*Health Services Research* Reviewer, 2008-2022

*Health Affairs* Reviewer; 2011-2022

Academy of Managed Care Pharmacy

Associate Member, 2010-2012

*Journal of Managed Care Pharmacy*

Reviewer, 2010-2022

Editorial Advisory Board, 2012-2016

American Economic Association

Member, 1998-2022

*American Journal of Managed Care* Reviewer, 2013-2022

American Public Health Association

Member, 1998-2004

American Society of Health Economists

Member, 2005-2022

Scientific Review Committee Member, 2005-2016

*Applied Health Economics and Health Policy* Reviewer, 2022

Association for Public Policy Analysis and Management

Member, 2005-2016

American Association of Wine Economists

Member, 2018-2022

Eastern Economic Association

Member, 2005-2016

*Health Economics* Reviewer, 2017-2022

International Health Economics Association

Member, 1998-2022

Scientific Review Committee Member, 2006-2016

*International Journal of Health Policy and Management* Reviewer, 2022

International Society for Pharmacoeconomics & Outcomes Research

Member, 2005-2022

Review Committee Member, 2006-2011

*Journal of Drug Issues* Reviewer, 2011-2022

*Journal of General Internal Medicine* Reviewer, 2011-2022

*Journal of Substance Abuse Treatment* Reviewer, 2012-2022

*Medical Care* Reviewer, 2017-2022

National Association of Forensic Economics

Member, 2018-2020

Pharmaceutical Research and Manufacturers of America Foundation, *Young Investigator Grant in Adherence*, Review Committee Chairperson, 2012-2017

Western Economic Association International

Member, 2009-2016