BRIAN GRINER, PhD

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Advanced analytics and insights consultant with over 25 years industry experience. Able to quickly design and scope analytic projects to align with client needs and budget to ensure a successful delivery. Areas of expertise and experience include:

- Data Science/Prescriptive analytics
- Simulation (i.e. "what if" scenario modeling)
- Forecasting using primary and secondary data sources
- Market Research: Choice-based conjoint analysis, Patient chart pulls, Segmentation, Attitudinal database scoring
- Machine Learning and Statistical Learning
- Data engineering
- Project design and management

SKILLS

Management

- 25+ years experience managing internal and external clients, direct reports, and client projects on cross-functional teams tasked with high profile projects
- Translate business questions into focused analytic workstreams that include: research design, data integration, appropriate analytic methods to produce high value, executive insights to support key business decisions and planning
- Leverage advanced analytic methods from statistics, machine learning and AI to deliver clear, actionable analytic insights and business recommendations for business leaders
- Develop advanced analytics teams that can work with internal and external business partners

Analytics

- Multidisciplinary approach analytics drawing from Multivariate and Bayesian Statistics, Econometrics and Statistical Learning. See experience for recent projects

Data Engineering

- **Cloud computing:** Experience working in aws, Azure, GCP using both Linux and Windows Server environments.
- **Programming languages:** Python, Unix/Linux shell, SQL (primarily for creating views and derived metrics for analytic datasets) Snowflake, Redshift, (some Spark using SQL context/PySpark)
- **Interactive dashboards** for predictive models in PowerB, e.g. Interactive immuno-oncology dashboard in Power BI using Python to deploy modes of Overall Survival in the PowerBI data model so survival rates for different subpopulations could be compared and graphed

Teaching

- **Learning Lab at Data Science & Learning Systems**: Develop and test ML/AI training materials through a series of 5 online workshops that introduced participants to ML/AI tools in the Python ecosystem: Python language, Numpy, Pandas, Matplotlib, Scikit-learn and TensorFlow libraries.
- Workshop textbook: **Geron A. Hands-On Machine Learning with Scikit-Learn, Keras & Tensorflow: Concepts, Tools and Techniques to Build Intelligent Systems. 2nd ed. Sebastopol (CA): O'Reilly; 2019** (click on **link** to see Jupyter notebooks used in workshop)

EXPERIENCE

DATA SCIENCE & LEARNING SYSTEMS, LLC - Principal **June 2017 to present**

Create new business insights from multiple data sources using Econometric, Time-series and statistical modeling, Statistical Learning, Machine Learning and Deep Learning models. Professional experience includes projects in waste management, life sciences, commercial pharmaceutical, financial services, technology, media and environmental non-profit sectors. Recent engagements include:

RUTGERS UNIVERSITY - Consultant **July 2024 to present**

- Created online survey for Sentence Order Frequency test using Google Forms with custom HTMLand CSS.
- Methodological research on Generalizability Theory using of Generalized Linear Mixed Models with count data.

WASTE MANAGEMENT - Consultant **January 2023 to June 2024**

- Member of the Financial Analytics team responsible for reviewing, updating and maintaining Python middleware codebase created by OneStream implementation partner Deloitte Consulting.
- Updated codebase with fixes and model refinements that reduced volumetric forecasting error by millions per year.

EVERSANA - Consultant **November 2021 to May 2022**

- Supported Eversana commercial team on launch of MedRhythms innovative medical device using music therapy and wearable sensors to treat patients with post stroke residual gate impairment.

BAYER PHARMACEUTICALS - Consultant **December 2019 to mid-February 2020**

- Supported Commercial Data Management team to organize and complete data documentation across Bayer's pharmaceutical product franchises, e.g., diabetes, CKD, Oncology, hematology.

- Data types included: administrative claims, specialty pharma/distributor, customer data master.
- Created SQL queries/views to help data analysts extract information schema from Bayer's data warehouse for individual products to incorporate into the data documentation platform.

BOEHRINGER INGELHEIM – Sr. Assoc. Director, Data Strategy & Innovation **January 2016 to May 2017**

Example projects include:

- **Speaker Bureau Rx Impact Analysis:** Measure ROI of speaker bureau based on physician attendance to event, speaker profile and change in physician attendee monthly prescribing. After controlling for other factors that influence physician prescribing, the speaker bureau program did not show a positive ROI. Analysis also showed that few physician's actually attended these events. Events were attended primarily by not prescribing medical professionals from the physician's office.
- **Outbound Telemarketing Campaign Effectiveness:** Measure ROI of outbound rep telemarketing campaign to physicians to counter a loss of formulary coverage by a large insurance plan. The analysis showed a significant difference in the rate of switching measured by the monthly change in prescribing. ROI was positive.
- **Physician Rx influencer predictive model score:** Created an influencer score for cardiovascular specialties using the CMS physician to physician aggregated patient referral data, physician specialty and prescribing behavior. Influencer score was able to identify cardiovascular physicians linked to high prescribing primary care physicians that placed them in the top 3 prescribing deciles after credit given to influencer for new scripts continued by the primary care physician.
- **Rep-Approved Email Click-Through promotion-response model:** Promotion response model measured changes in weekly physician NRx in response to rep approved emails, personal promotion (details and samples) and email content (type of message, e.g. formulary win, sorry I missed you, schedule appointment) and rep characteristics. Model results provided physician-level guidance on: optimal frequency, timing and content of rep approved emails.
- **Diabetes Franchise Provider Access Analysis:** Created a short list of hospitals with potential formulary barriers using physician – provider associations and monthly physician Rx data by product. Analysis compared physician prescribing of a specific therapy within each hospital to identify hospitals where physician prescribing is lower than average.

QUINTILES (now IQVIA) – Chief Methodologist, Advisory Services **November 2012 to April 2015**

Part of a team that worked across the company to help sell and deliver large projects that integrated services from different areas of the company. Example projects include:

- **Bayesian Network** P**atient journey Simulator:** Patient flow model created using EMR data and Bayesian Network cloud application to create online "what-if" scenario simulator. Using the scenario simulator the client was able determine that one of the key reasons for lack of market share was the lack of titration by physicians to manage side-effects per the product label. The counterfactual prediction from the Bayesian network showed that patients of physicians who titrated from the lower to higher doses had three time longer duration of therapy than patients of physicians who didn't titrate the dose.
- **Real World Data Market Share Tool:** Created a product share tool to give clients and early read on new product adoption using EMR data to predict patient share by line of therapy. The predicted results were aggregated by geographic area and weighted by prescription volume. Results were updated as new EMR data was loaded into the database.
- **Real World Data Analysis for R&D**: Analyzed ten comorbidities associated with MS patients on a particular treatment using EMR data. Analysis used by Research and Development to identify potential new indications for its product.
- **Provider evidence-based order set impact analysis:** Comparison of adherence to treatment and survival for oncology patients in a regional hospital system. Analysis showed a directional improvement in adherence to therapy but lacked statistical significance as a large proportion of order sets were overridden by physicians.
- **Market Research and Physician Rx integrated Sales Force Effectiveness model:** Combined market research surveys and prescription data to create a model of sales and support service quality in the respiratory market. Model predicted incremental Rx share for an increase in perceived quality of the client's field reps and support services relative to competitors. Sales operations used this model to prioritize training areas with the most impact on growing market share.
- **Linked Price - Market Access Simulator:** Market research data with medical directors and physicians from conjoint trade-off surveys was used in a hierarchical Bayes random effects model to create a quantitative pricing tool that predicted access levels at different price points. Tool used by client to inform contract negotiations for a new product.
- HIV, HCV, Oncology markets using hierarchical Bayes random effects model of physicians and payers
- **Patient Reported Outcomes Patient Engagement Model:** Validated PRO measures used in structural equation model to measure association between levels of patient engagement and outcomes in respiratory therapies. Model showed significantly improved outcomes for increased levels of patient engagement across several therapeutic areas.

KANTAR HEALTH - Sr Methodologist, Advanced Methods **June 2010 to October 2012**
BIOVID CORP - Exec Dir, Strategic Analytics **November 2007 to May 2010**
STRATEGIC BUSINESS RESEARCH - VP, Strategic Consulting & Advanced Analytics **November 2005 to October 2007**
TARGETRX - Dir, Client Solutions and New Product Development **June 2002 to October 2005**

EDUCATION

UNIVERSITY OF PITTSBURGH, GRADUATE SCHOOL PUBLIC & INTL. AFFAIRS - Pittsburgh, PA

PhD Public Policy Research Methods - Doctoral Program Award (Academic Excellence in Dissertation Research)

MPA Public Administration - Thesis: Evaluation of Alternative Methods for Forecasting Regional Industry Employment

WEST CHESTER UNIVERSITY - West Chester, PA

BA Communications - Magna Cum Laude

RUTGERS UNIVERSITY - New Brunswick, NJ

Certification: Oracle SQL and PL/SQL + Python Developer + Java Programmer (5 month program)

AWARDS

IPSOS NEW PRODUCT INNOVATION AWARD - 2001 Florence, Italy for customer satisfaction (CS) management system for inbound call center for automated reporting and manager email alerts for dissatisfied, high-value customers.

SAMPLE OF POSTS, PRESENTATIONS, POSTERS & PUBLICATIONS

American Statistical Association Biopharmaceutical Section Regulatory-Industry Workshop. PS40-Supervised Machine Learning to Identify Social Behavioral Health Care Risks for COVID-19—Related Mortality and Inform Targets for Treatment and Prevention

2018 Future Pharma Commercial Data Insights Conference: **Practical Applications for Building A Commercial Center of Excellence: Digital Analytics Case Study**

ICAAC/ICC 2015 – 55th Interscience Conference on Antimicrobial Agents and Chemotherapy: **Inconsistency in Defining Profound and Prolonged Neutropenia for Antifungal Prophylaxis Decisions**. A. H. Sung [1], T. Rhodes [1], J. Arduino [1], S. W. Marcella [1], R. Stolper [2], M. Meyer [2], D. Kombe [2], B. Griner [2]; 1. Merck & Co., Inc., Kenilworth, NJ, 2. Quintiles, Durham, NC

June 2014 Life Science Leader: **Navigating the New World of Value-Based Healthcare**

2014 Pharma Market Research Conference: Using Bayesian Networks: Unified Physician-Patient Segmentation,Targeting and Positioning of New Products

2013 Pharmaceutical Market Research Group National Annual Conference: Navigating the New World of Value-Based Healthcare: A Quantitative Approach to Modeling Value Drivers to Simulate Global Market Access, Reimbursement and Pricing for New Therapies

2013 Quintiles White Paper: Navigating the New World of Value-Based Healthcare: Global Trends and Regulatory Reforms That Will Shape the Future of Healthcare

2012 November – December PharmaVoice: 2013: Year in Preview, Marketing experts identify trends that will have the most impact on the marketing landscape in the next five years

2012 Sawtooth Software Conference and Proceedings: Leveraging the Upper Level Models in HB for Integrated Modeling of Multiple Stakeholders and Decision Processes in Complex Market Environments

2010 PBIRG University Annual General Meeting: Using Primary Patient Level Data to Bring Market Opportunity Assessments to Life

2009 American Marketing Association Advanced Research Techniques Forum: A Dynamic Framework for Modeling Multistakeholder Interaction – A Pharmaceutical Case Study

2008 Pharmaceutical Marketing Research Group Institute: Building a Framework that Embraces the Interdependence between Physicians, Nurses and Patient Therapy Decisions

2007 Pharmaceutical Marketing Research Group Institute: Stairway to … Stickiness! How Benefits Laddering and

Message Optimization Help Build a Product Story

DISSERTATION RELATED PUBLICATIONS

Stephen Farber, Brian Griner: Valuing watershed quality improvements using conjoint analysis. Ecological Economics 07/2000; 34(1-34):63-76. DOI:10.1016/S0921-8009(00)00153-1
Stephen Farber, Brian Griner: Using Conjoint Analysis to Value Ecosystem Change†. Environmental Science and Technology 03/2000; 34(8). DOI:10.1021/es990727r
Brian Griner, Stephen Farber: A Conjoint Analysis of Water Quality Enhancements and Degradations in a Western Pennsylvania Watershed. 06/1996; Watersheds ’96 Conference Proceedings: pp. 635-638.