



Pharmaceutical Management
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2013 POSTER ABSTRACTS

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AHP and Simulation for Clinical Development Prioritization

Presented by David Wood, Axtria

Pharmaceutical companies often face challenges in selecting which of several possible indications they may pursue for a particular molecule, or which of several candidate molecules in a portfolio they could develop. The choice is complicated because it logically includes a variety of factors that are not easy to reconcile with each other, including notions of expected performance, downside risk and upside opportunity. It also includes a variety of qualitative factors that are often imperfectly defined, and are difficult to trade off with each other, or with the financial metrics.

This presentation discusses applying the Analytic Hierarchy Process to this problem. The financial metrics of the decision (which are included in the tradeoffs to be evaluated by AHP) are drawn from a simulation model that considers the timeline (and risks of failure) through the clinical period, and the possible range of commercial success (or failure) for those scenarios that are successful in clinical.

David Wood brings more than 25 years of experience in mathematical modeling of business problems, with significant work in all forms of sales and marketing optimization in the health care, pharmaceuticals, and managed care industries, over scores of engagements including sales and marketing structure, site location, and multi-channel marketing. He led the primary analytics teams for some of the largest pharmaceutical mergers of the last decade.

Prior to Axtria, David served as a Senior Vice President at marketRx, and Executive Director for Strategic Planning Consulting at Health Products Research. In addition, David has done substantial work in the development of Yield Management for the commercial airline industry (at Sabre Decision

Technologies), and has worked in finance, energy and natural resource economics sectors. David holds a PhD from the University of California, Berkeley, in Operations Research.

Case Study: Measuring the Effectiveness of Relay Health's E-Voucher Programs as a Bridge Gap for Contracting Strategy for a Launch Product

Presented by Shiraz Hasan and Lingyun Su, IMS Health

Situation: Manufacturer A was launching a product into a heavily competitive class and wanted to ensure the best uptake at launch and wanted to remove as much "Access Risk" from the equations as possible prior to their contracting strategy fully being implemented within 6-12 months into launch. This manufacturer launched with an E-Voucher Program. A post mortem analysis of the launch showcases what role the E-Voucher program played helping this company successfully launch into the market place and its quick uptake and utilization despite being patient out of pocket burdened at launch.

Shiraz Hasan is a Senior Principal at IMS Health focusing on helping companies compete through the use of analytics and strategy. Prior to joining IMS in 2012, Shiraz was a Senior Practice Leader at Wolters Kluwer Pharma Solutions where he led the managed markets consulting practice for their healthcare analytics business unit and was responsible for helping shape the company's industry-leading managed-markets data offering. Prior to WKPS, he held senior management roles in several financial and consulting services organizations. A global leader, Mr. Hasan's previous experiences include those in general management, strategic planning, marketing,

and sales management. While leading a financial technology start up, Mr. Hasan led a team that flawlessly identified and executed strategies that resulted in the organization being acquired for \$1.3 billion in value. Over the course of his career and education, he has won numerous awards for his innovative and creative approaches towards strategic design, leadership, financial analysis, and education. Mr. Hasan holds a BS in Environmental Sciences from Rutgers University as well as an MBA from Rutgers Business School.

Lingyun Su is Director of Statistical Methodology at IMS Health, where he applies his extensive experience with statistical modeling in Sales Force Effectiveness (SFE) to help Pharmaceutical clients accurately identify customer segments, properly structure their sales forces, and optimally spend their sales force resources across their product portfolio. Aside from SFE engagements, Lingyun also has extensive experience in statistically modeling managed care effects on prescribing behaviors using anonymized patient level data as well as Rx Benefit Design data. Prior to his career at IMS, Lingyun worked at Eli Lilly and Company, where he was closely involved in sales force analytics such as Sizing and Alignment, Customer Segmentation, Performance Tracking, and Incentive Compensation. He provided most of the analytics for a New Product Launch from pre-launch prospect segmentation to post launch performance tracking and diagnosis. He was a core participant of several major Sales Force Restructuring initiatives. Lingyun also provided crucial analytical support that contributed to the creation of a brand new hospital business unit. Additionally, he oversaw the production of analytical reports critical to a Six-Sigma project aimed at improving implementation quality of sales force strategies. Earlier in his career, Lingyun worked at Information Resources Inc., a leading data-driven sales and marketing information provider and analytics consultancy to the consumer packaged goods industry, where he helped the clients solve problems such as market competitive structure, customer segmentation, product attribute evaluation, and shelving optimization through segmentation, discrete choice modeling, and simulation. Lingyun has a Masters degree in Statistics from the University of Chicago and a Bachelors degree in Mathematics from Peking University, China. For his Masters degree, Lingyun successfully applied

Support Vector Machine approach to an image segmentation problem.

Controversial Elements of Payer-Based Forecasting; SPILLOVER: A LEGEND, DEMYSTIFIED

Presented by Joseph Musumeci and Casey Cormier, SkyLaunch Advisors

This analysis revealed that the effect of spillover in an asymptomatic, metabolic, competitive category exists even at the highest possible geographic level (state). Although the impact of spillover in this study has been shown to represent no more than 4% of total uptake (TRx), findings at the payer level indicate that there are ways to maximize positive spillover in areas with heightened sensitivity to spillover. When manufacturer management sets payer contracting thresholds for preferred (tier-2) vs. non-preferred (tier-3) access, net revenue optimization efforts at specific payers in sensitive U.S. geographies may justify additional 1.0% to 4.0% net price concessions over and above optimized rebates in the absence of a spillover factor. Furthermore, since these findings were derived from a co-pay assistance heavy category, manufacturers positioned to launch in unique positions may encounter a larger impact from access spillover.

Joe Musumeci brings his background in managed markets, product pricing, and launch forecasting to the continued refinement of SkyLaunch's cutting-edge launch forecasting tools. Prior to building SkyLaunch's payer access platform, he worked in managed markets consulting for Insight Strategy Advisors, managing pharma/biotech initiatives across therapeutic areas including CV/ Metabolic, Oncology, Respiratory, GI, CNS, Infectious Disease and Pain Management. His focus has been the U.S. market, but he has also led projects to support 5EU/BRIC pricing, access and launch initiatives. Mr. Musumeci spent additional time working in pharma through his experiences with oncology product development at Eisai Pharmaceuticals, as well as at Vantage Partners, a consulting firm with a robust pharma/ biotech practice. He also formerly worked in mergers & acquisitions investment banking, and in private equity with Harris Williams & Co. and Wells Fargo, respectively. Mr. Musumeci holds a Bachelor of Arts in Biology with a focus on Biochemistry from Harvard University.

Casey Cormier is one of the industry's pioneering developers of "bottom-up" payer account-level forecasting methodologies. As Head of the Data Analytics Program, she ensures that all SkyLaunch tools are continually equipped with the most advanced payer access analytics and forecasting methodologies. Prior to integrating SkyLaunch's forecasting platform, Ms. Cormier served as the Principal of the Data Analytics Group at Insight Strategy Advisors, where she constructed payer account-level forecasts and models across a variety of products and therapeutic areas in the U.S. market. Before joining Insight, she worked in payer/provider strategy with Accenture's Health & Life Sciences Division. Prior to working at Accenture, she spent time on the clinical side as a Circulatory Support Technician at California Pacific Medical Center in San Francisco. Ms. Cormier holds a Bachelor of Arts in Biochemistry from Harvard University.

Getting Promotional Response Right in Oncology Markets

Presented by Brian Gibbs and Jim Cronin, ImpactRx, a Symphony Health Solutions Company

Promotional effectiveness among Oncologists has historically been poorly understood due to a paucity of data. This study provides an assessment of the relative impacts of client detailing, competitive promotion, brand positioning, managed care constraints on treatment choice in Oncology markets. Promotion response models were developed incorporating Oncologists' historical exposure to all detailing in the market with controls for patient characteristics, physician's perceptions of promotional efforts and managed care constraints. Client detailing remains the most important driver of treatment choice followed closely by brand perceptions. Managed care constraints and competitive promotion are notably less effective. At the physician segment level, however, there is widespread response heterogeneity. This study reveals how integrated data allows for rich insights for Oncology Promotional Response.

Brian Gibbs is a Vice President in the Consulting Solutions practice at ImpactRx where he works with management Consulting Analytics on a wide range of promotional strategy-related research. Brian brings a strong background of consulting and advanced analytics to ImpactRx

with extensive experience in statistical modeling and consulting for pharmaceutical and healthcare clients. He has headed the Advanced Analytic practices at large research organizations, and has led engagements on more than 100 studies across a wide range of brand lifecycle issues for therapeutic classes and brands. Prior to joining ImpactRx, Brian was a Senior Principal in the Promotion Response practice at IMS Consulting, a Principal in the Management Consulting Practice at PriceWaterhouseCoopers, Vice President and Director of Advanced Analytics at GfK V2, and an Associate Partner at Rosetta Marketing. In addition, his academic experience includes seven years in applied social science research and teaching at the University of Michigan and Princeton University, and lectures at the Wharton Business school at the University of Pennsylvania. Brian holds a B.A. from Rutgers College, and a M.A. and Ph.D. in International Political Economy from the University of Michigan (Ann Arbor).

Jim Cronin joined ImpactRx in 2005 to spearhead the launch of the Company's new oncology product line. Since then, he has been instrumental in building the oncology business unit—taking it from a start up offering to its current position as the industry's gold standard for measuring oncology sales force performance and its effect on physician reported patient treatment decisions. Mr. Cronin has over 15 years of experience within the pharmaceutical industry; supporting marketing, sales, and marketing research. For the past 10 years, he has specialized exclusively in the oncology sector. Prior to joining ImpactRx, he was an integral member of the team that introduced IntrinsicQ Research to the pharmaceutical and biotech industry. In addition, Mr. Cronin has worked across various therapy areas at companies such as Datamonitor and Quintiles Transnational, providing custom solutions, syndicated reporting, and CME support initiatives. He holds a BA from Fairfield University.

Impact of Integrated Delivery Networks on Physician Decisions

Presented by Anindita Basu, IMS Health

Integrated Delivery Networks (IDNs) are networks of facilities and providers working together to offer a continuum of care to a specific market or geographic area. Our original research indicates that IDNs have been rapidly increasing in number

and complexity. Over 50% of prescribing business is presently flowing through IDNs. They can reduce launch brand share by 20%-25% nationally and overall launch volume by around 10%. These averages vary significantly by geography but little by physician specialty or physician prescribing volume. Moreover, physicians' responsiveness is affected by their affiliation to IDNs thus leading to potential misallocation of commercial resources. Finally, counter to conventional wisdom, we found that IDNs can influence prescribing choices more strongly than managed care in certain geographies. This changing commercial landscape in pharma is bringing forward the need of a KAM approach to commercial strategies. KAM is the systematic development and nurturing of customers strategically important for survival and success. KAM based commercial strategies can enable a custom tailoring of products and services offered to meet the specific needs of complex client organizations like IDNs.

As a Director at IMS, Angeliki Cooney draws on over 12 years of professional services experience in helping clients evaluate, re-engineer and implement commercial strategies. Prior to joining IMS, Cooney was with ZS Associates, where she managed several large engagements across a variety of commercial areas, including sales forces strategy, design, optimization as well as commercial operations, reporting and incentive compensation. Prior to ZS Associates, Cooney designed and managed large scale operations and outsourcing engagements with both US and EU based clients in the financial services, consumer products, manufacturing and oil distribution industries. Cooney holds a MBA from Harvard Business School and a Chemical Engineering Degree from University of Patras, Greece.

Anindita Basu uses well-established consultative skills to understand her clients' objectives and requirements, and then develop, design and implement complex analytical methodologies to help them meet those objectives. Anindita's background in econometrics and analytical marketing allows her to address a wide range of pharmaceutical marketing and sales issues for her clients. Since joining IMS, Anindita has focused on strategic projects with an emphasis on Promotion Analysis to improve ROI, Optimization, Managed Care Pull Through analysis, Incentive Compensation and statistical modeling in Sales Force Effectiveness for a multi-product portfolio.

Anindita joins IMS Consulting from Health Products Research, where she was a Senior Manager. In that role, she conducted promotion response analysis, implementation of new product targeting programs, sales force sizing, and setting incentive compensation quotas and goals as well as realization designs and optimization. Before entering graduate school, Anindita worked for KPMG as a Consultant. She also served as an adjunct professor at Rutgers teaching Macroeconomics and Applied Mathematics. Anindita holds a Master of Arts in Economics from Rutgers University, and a MS in Econometrics from Presidency College, India, and has also completed her MBA in Marketing Strategy.

Key Account Selling Models: How Research & Analytics Can Inform a New Way of Selling

Presented by Bill Coyle, ZS Associates

Research conducted by ZS Associates identified several behaviors that separate the best key account managers (KAMs) from average KAMs. The best KAMs start with a thorough understanding of an account's decision making process. Organizationally, understanding customer decision-making processes is the foundation for designing a structured selling process that aligns the company's resources to best serve key accounts. We will share case studies that highlight how the right research and analytics can help your organization gain an in-depth understanding of your customers' decision-making processes. From this, the organization can define the selling processes and KAM roles required to build high-performing key account teams.

Bill Coyle is a Principal with ZS in Princeton, NJ. Bill's work at ZS has spanned many key areas of sales and marketing in the pharma and biotech industries. His expertise areas include sales operations & analytics, commercial organization design & optimization, and market access & pricing / managed care. In addition to his experience in the US pharma & biotech industry, Bill was a member of the team that established ZS's office in Zurich, Switzerland, where he worked primarily with the global and region Europe HQs of our pharma and biotech clients. His experience prior to joining ZS includes industrial sales and marketing in the plastics industry. Bill joined ZS in 2004. He earned his

MBA from the Kellogg School of Management at Northwestern University. Bill holds a Bachelor's of Science in Chemical Engineering from the A. James Clark School of Engineering at the University of Maryland.

LOT (Line of Therapy) Targeting: Identifying Top Physicians by Line of Therapy and Measuring Individual Physician Market Shares in Oral/IV Combo Markets

Presented by Igor Rudychev, Bayser

In this study we developed a novel approach to identify top physicians by Line of Therapy and to measure individual physician market shares in oral/biologics markets by Line of Therapy. We also identified high share IV physicians and compared their treatment patterns with the patterns of high share SubQ physicians. This approach allowed us to optimize targeting by identifying physicians who use our product predominantly on 3rd and 4th lines of therapy and compare them with the 1st & 2nd line physicians. It also explained low usage of SubQ products for IV dominant physicians. The results of the analysis were used for targeting, segmentation, and sales force optimization. Potential targets for the promotional campaigns were identified. Physician segments by Line of Therapy, market shares, SubQ/IV dominance were created. Overlap of the top physicians who used our product as a 1st line with the influencers/decision makers allowed us to identify strong advocates for our product.

Igor Rudychev is the Vice President of Operations with Bayser. For the last 12 years Igor had been working with most of the top 20 pharmaceutical companies and assisted clients in patient-level data analysis, managed care, sales force optimization, influence mapping, promotion response modeling, hospital-retail spillover, and segmentation & targeting. Igor has a MBA from University of Chicago and a Ph.D. in superstring theory from Texas A&M University (under the supervision of Dr. Sezgin, student and collaborator of Nobel Prize Winner Abdus Salam). Igor is a President's, Regents, NSF, and NATO fellow.

Maximizing the Value of APLD for Brand Analytics: How to Build an APLD Capability that is Greater than the Sum of its Parts

Presented by Albert Whangbo and Adam Hadjinian, ZS Associates

Anonymized patient-level data (APLD) provides critical insights for brand planning, commercial execution, and performance tracking. However, APLD remains costly, and in an increasingly budget-constrained environment, brand teams must find ways to maximize the return on their sizable data investments. Teams that take a "build once, deploy many" approach to defining their APLD strategy enjoy cost savings, experience higher utilization of the data, observe greater consistency in the results, and are able to drive higher quality decisions for their brands. This presentation provides case examples and practical tips for management science professionals to facilitate the creation of stronger and more efficient APLD capabilities within the brand teams that they support.

Albert Whangbo is a Manager with ZS Associates in the firm's New York office. He has extensive experience helping clients in the pharmaceutical and biotechnology industries leverage advanced analytics and market research to evaluate and improve their sales potential and marketing effectiveness. Albert is one of the leaders of ZS' patient-level data analytics capability, and has led engagements that leveraged APLD for opportunity assessments, marketing campaign design and evaluation, and health outcomes research, among other applications. Albert's experience at ZS also includes forecasting and sales force design. Albert holds a PhD in Management Science from Stanford University. He also has an MS in Operations Research from Stanford and a BS in Civil Engineering from NC State University.

Adam Hadjinian is an Associate Principal with ZS Associates in the firm's New York office. Adam has worked extensively with pharmaceutical brand team clients, helping them maximize business performance by supporting brand strategy development (with opportunity assessment and campaign design) and optimizing the execution of their marketing tactics (with marketing effectiveness assessments and execution excellence monitoring). Adam holds an MBA

from the Kellogg School of Management at Northwestern University and a BBA in Marketing from the University of Wisconsin.

Prospective Approach to Analyzing DTC Investment Decision

Presented by Barbara Somlo and Anindita Basu, IMS Health

The role of Direct-to-consumer (DTC) advertising and its effectiveness have been under question in the last couple of years. With overall Pharma promotional spend reduction, dry pipeline and cost-cutting the focuses on DTC spend has increased. The industry trend begs three key questions that we seek to answer through our research:

- Are brands realizing a positive return on investment? Does that vary for mature to launch brands?
- If so, what is the optimal spend level for the brand? What is the optimal channel mix (TV, print, others)?
- What is the expected return on investment (ROI) short-term and over time (lifetime value)?

We report on two studies that examined these questions at two very important phases of product life-cycle.

Barbara Somlo joined IMS Health in 2011 as an Engagement Manager. She has held roles in Forecasting, Business Development/ Licensing, Marketing Analytics and Marketing Sciences at a major biotechnology firm.

Shift in Payor Mix: How to Predict and What Does it Mean for Pharmaceutical Companies?

Presented by Mukund Raghunath and Anand Srinivasan, Mu Sigma Inc

The managed markets landscape is changing rapidly and most pharmaceutical companies have little visibility into their future business from various payor types. In recent trends, pharmaceutical companies have seen commercial payor coverage decline for several drugs/therapeutic areas. Given the recent Supreme Court ruling

on "Patient Protection and Affordable Care Act", enrollment in Medicaid is expected to increase over the next few years. Likewise, the changing demographics of the US population, such as aging baby boomers, is likely to result in a major shift in payor mix. Today, most pharmaceutical companies face a degree of uncertainty about how their payor mix will evolve over the next 3–5 years. There is a need for a framework that will help pharmaceutical companies evaluate future payor mix in order to prepare for such changing market conditions. Mu Sigma will help predict shift in payor mix by presenting a framework that incorporates all driving factors such as recent healthcare reforms, epidemiology, patient demographics, organic growth etc. The approach will combine quantitative rigor and business heuristics to understand the relationships of these factors with payor mix from a historical perspective to determine future behavior.

- External factors (Health care reform, epidemiology and patient demographics) will be quantified and their contribution to payor mix will be determined using heuristic modeling techniques.
- These factors along with organic growth rates (using historical data) will be applied on the baseline volume at a payor level to determine projected payor mix for 2015.
- The established payor mix will be applied to the company's forecasted volumes with an assumption that these forecasts account for factors such as competition, macroeconomics and internal factors.
- The process will be validated and stress tested for range of values to accommodate the future uncertainties.

This will also enable end users to work on different scenarios based on changing relationship of the key factors with payor mix. This would help setup a baseline and measure the changes based on different scenarios. The primary outcome of this exercise is a framework that will help pharmaceutical companies predict the shift in payor mix in 2015. In addition, the framework will provide a methodology to identify key drivers and their attribution to the payor mix change. A real-world case study will be used to illustrate how the payor mix would evolve for a large pharmaceutical company with products in multiple therapeutic areas. We will conclude by discussing the strategies that pharmaceutical companies should adopt in light of their changing payor mix.

Mukund Raghunath has over 11 years of Engineering and consulting experience with Motorola and a leading Sales and Marketing Strategy firm in the US. He has helped several Fortune 500 companies in the Pharmaceutical and Healthcare space address a broad range of business issues. He also has extensive experience in product planning, development and management in the telecom sector. Mukund has a Masters Degree in Computer Science from the University of Illinois and an MBA with honors from the University of Chicago, Graduate School of Business.

Anand Srinivasan is a Regional Head of Client Services at Mu Sigma. He leads a global team of analytics professionals that provide analytics solutions to Mu Sigma's clients in the SF Bay Area. Anand has worked extensively with pharmaceutical clients across a wide range of issues including sales strategy, sales operations and incentive plans, marketing strategy, product launch strategy, marketing effectiveness execution, managed markets contracting/pricing and R&D analytics. Prior to Mu Sigma, Anand worked as a consultant with ZS Associates for 3 years and with IBM Business Consulting Services for 5 years. Anand received his MBA from the Kellogg School of Management at Northwestern University and a B.Tech from the Indian Institute of Technology, Bombay.

A Test of the Conceptual and Structural Validity of the van Westendorp Price Sensitivity Meter: A US Pharmaceutical Market Case Study

Presented by Amit Patel, Medical Marketing Economics, LLC and David Wamble, PhD Student, University of Mississippi

The goal of this project was to test the validity of the van Westendorp Price Sensitivity Meter (PSM). Using the PSM approach and an online survey, 120 US Psychiatrists were asked four pricing questions to determine the price sensitivity for a new late stage development injectable antipsychotic. They were shown a range of prices for the referent product - average of \$1,265/mo. (\$270 - \$1,619/mo.). Results indicated the

following price points: optimal – \$225/mo., indifferent – \$320/mo., marginally expensive – \$400/mo., and marginally cheap – \$200/mo. This study exposes the difficulty in determining optimal price points using the PSM technique.

Amit Patel's primary area of expertise is market research techniques focused on custom quantitative research designs and analyses. He develops and coordinates market research that supports complex pharmaceutical pricing, reimbursement, positioning, and segmentation issues in a broad array of therapeutic areas. He has published in the areas of price controls, customer relationship marketing, marketing ethics and policy, and cross-cultural communication. He currently serves on the Advisory Board for Research in Social and Administrative Pharmacy and has served as an ad hoc reviewer for several journals. He is also an Adjunct Assistant professor at the University of Mississippi and Manipal University, schools of pharmacy. Amit holds a Bachelor of Pharmacy, MS in Pharmaceutical Marketing, and a PhD in Pharmaceutical Sciences.

