Designing A Patient-Centric Commercial Strategy

Designing A Patient-Centric Commercial Strategy

Rishi Agarwal, Principal, Axtria Inc.
Vipul Pandey, Senior Director, Axtria Inc.

> You've got to start with the CUSTOMER EXPERIENCE and work backwards...
>
> ***Steve Jobs***
> *Ex-Chairman & Chief Executive Officer (CEO), and Co-founder of Apple Inc.*

1. Evolving Healthcare - Need for Patient-Centricity

1.1 Introduction

Over the last decade more than ever, the world has made significant strides towards recognizing the uniqueness of an individual in a business opportunity context, whether it is individual entertainment preferences or personalized recommendations for shopping by providers like Netflix, Amazon, and Facebook. The healthcare ecosystem is also coming to terms with the fact that the uniqueness of a patient must be accounted for across the entire treatment paradigm. The healthcare ecosystem is converging towards driving and being held accountable for patient health outcomes and economic outcomes, or in other words, becoming more 'patient-centric.' The emergence of entities like Accountable Care Organizations (ACOs), greater emphasis on outcomes-based contracts and reimbursements, and increase in R&D investments for approvals of targeted therapies are examples of numerous pieces of evidence of an evolving 'patient-centric' paradigm.

1.2 Definition and Elements of Patient-Centricity

The elements of patient-centricity are best defined by the Institute for Healthcare Improvement (IHI) that recommended an approach to optimizing health system performance by pursuing overall health of the patient across three dimensions, which IHI calls the "Triple Aim":[1]

a. Improving the patient experience of **care** (including quality and satisfaction).

b. Improving the **health** of populations.

c. Reducing the per capita **cost** of healthcare.

All the entities within the healthcare landscape, e.g., government, pharma companies, payers and pharmacy benefit managers (PBMs), providers, and ACOs are working towards accomplishing the aforementioned goals. The explanations below illustrate how these goals are being accomplished:

a. **Government:** US Congress passed the 21st Century Cures Act in 2016 that is designed to help accelerate medical product development and bring new innovations and advances to patients who need them in a faster and more efficient manner. This act also allows real world evidence (RWE) observational data to be included in a new drug application (NDA).[2]

b. **Pharma Companies:** Manufacturers are acknowledging that the manifestation of diseases varies from one patient to another, and hence they are investing in the development of drugs that are targeted for specific gene mutations and treatment pathways. This is evident from the fact that out of the 59 active substances that were approved in 2018, 39 were in specialty therapy areas.[3]

c. **Payers and PBMs:** Insurance companies are increasingly pushing for reimbursements to be tied to patient health outcomes instead of traditional fee-for-service models. One of the strategies adopted by payers is to tie reimbursements to adherence to treatment guidelines. The treatment guidelines may

be provided by payers, institutions, or organizations, e.g., National Comprehensive Cancer Network (NCCN), American Society of Clinical Oncology (ASCO), National Cancer Institute (NCI), etc. 57% of Managed Care Organizations (MCOs) usually or always defer to guidelines for pharmacy benefit policy/coverage decisions, and 53% of MCOs for medical benefit.[4] No MCOs reported that they do not consider guidelines for policy/coverage decisions.[4] The rest consider guidelines but make their own independent assessment. The other strategy is to allow providers to make treatment decisions based on the patient-specific situation but then tying the reimbursement to health outcomes. This is driven by the increased costs of specialty medicines. Spending on traditional, non-specialty medications decreased by 5.8%, while spending on specialty medications increased by 9.4%.[5] Specialty medications now account for 44.7% of total drug spending, up 3.9% from 2017 and are anticipated to account for more than 50% by 2027.[5]

d. **Providers:** Providers are moving from fee-for-service models to more value-based care models. For example, three-quarters of oncologists are eager to supplement their own judgment with multidisciplinary tumor boards and advanced analytic tools that provide data transparency on how "patients like mine" respond to a specific drug regimen during clinical trials or in real-world settings.[4]

e. **ACOs:** ACOs are putting increased pressures on providers to track survival metrics and emphasize patient health outcomes.

> …realigning financial structures and redirecting care delivery to be more patient-centered, ACOs have given providers more accountability in the care of their patients.[6]
>
> ***Risa Lavizzo-Mourey, M.D.***
> *President and CEO of the Robert Wood Johnson Foundation*

1.3 White Paper Objectives

Pharma companies need to re-think their commercial strategy to align with the needs of patients in view of evolving healthcare dynamics. This white paper will elaborate on how a patient-centric approach should be leveraged for an important business planning process, marketing-mix analysis (MMx), which drives one of the key go-to-market strategy decisions made by the commercial organization. MMx has been traditionally designed to maximize metrics like sales, revenue, or new prescriptions (NRx) as a function of promotional spend. MMx should incorporate measures like adherence, improved patient health outcomes, etc., in designing and advancing the promotional strategy in the new world.

This white paper will first explain the current state of marketing-mix analytics and its challenges from the perspective of evolving healthcare dynamics. Then, it will describe the new patient-centric approach to designing marketing-mix analyses and establish validation of the new approach through a case study.

2. Marketing Mix Current State and Need to Apply Patient-Centric Concepts

2.1 Importance of MMx Analysis

MMx is one of the key decisions to be made as part of the commercialization strategy for any brand. MMx is the allocation of sales across promotional channels that a company utilizes to sell and market their brands. Pharma companies spend billions of dollars promoting their brands while leveraging a wide spectrum of promotional channels, ranging from more traditional channels like direct sales force promotion, samples, journal spending, direct-to-consumer advertising (DTCA), copay cards, and newer channels like social media, search, and digital channels. MMx analysis is done to measure the effectiveness of promotion channels and identify the optimal channel mix and investment level for future allocation. MMx helps answer the following questions:

a. Are the promotional tactics aligned with the overall brand strategy?

b. What is the financial effect of each promotional tactic?

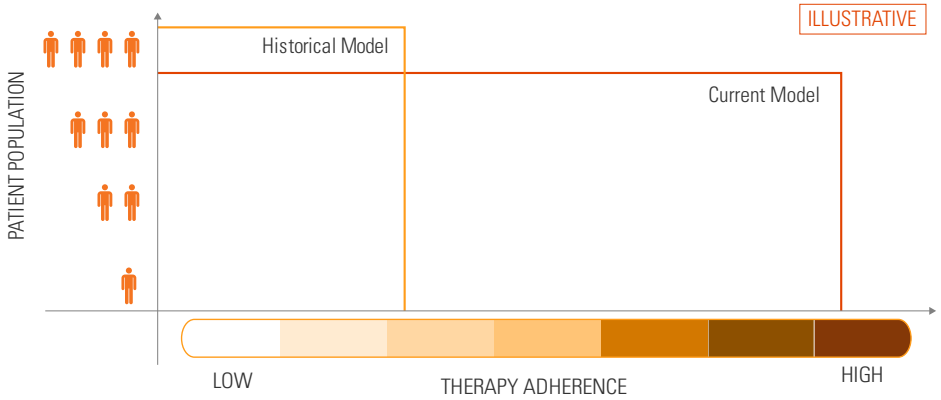
c. Is the current or planned level of promotion enough to meet brand financial goals?

d. Is there a better mix of promotional tactics that can be leveraged to achieve revenue goals with fewer spend?

2.2 Changes in MMx Analysis

MMx analysis as currently conducted, has not evolved to keep up with the changes in the healthcare ecosystem. Traditionally, and even now, after numerous industry environmental changes, most MMx decisions are informed by sales-based metrics like the number of prescriptions (Rxs), number of vials, dollar sales, days on therapy, etc. This has worked well so far because the majority of brand molecules have been primary-care based, where initiating patients on the therapy has been the principle driver of growth. While the industry recognizes non-adherence as an inefficiency, it has not been the primary driver of MMx. However, in the evolving healthcare landscape of specialty drugs, fewer patients, and higher prices, adherence is now more than mere inefficiency. Drug adherent patients are more likely to achieve clinical endpoints and health outcomes. Therefore, in the new commercial model design (CMD) world, as illustrated in **Figure 1,** not only should strategy drive the initiation of patients but also patient adherence to the prescribed regimen. Furthermore, given that measuring adherence also serves a dual purpose of being a metric that can be translated into a measure of value for the company, it is even more important to account for adherence while designing commercial models.

Figure 1: Impact of Therapy Adherence on Brand Commercials

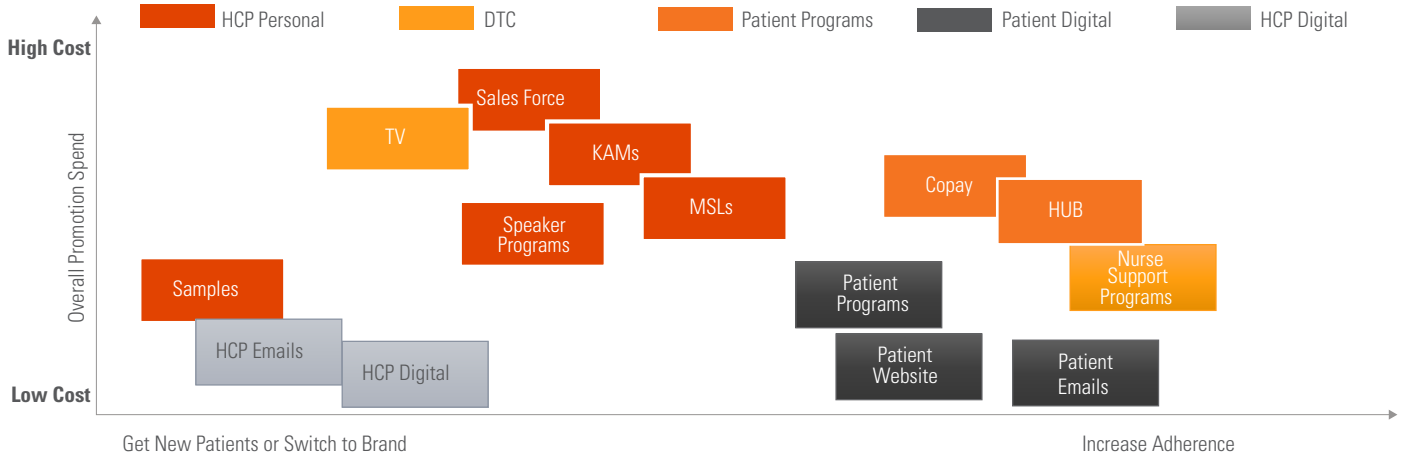


Source: Axtria, Inc.

2.3 Current MMx Approach and Methodological Challenges

Different promotional channels by design have different intentions, interacting with and influencing customers in various ways. **Figure 2** illustrates that certain channels (e.g., direct sales force) are designed towards HCPs while others (e.g., TV DTC) are focused on consumers and caregivers. Similarly, there are some channels (e.g., samples) that are aimed at getting new patients on the therapy while others (e.g., nurse support programs) are aimed at patient engagement after the treatment has been initiated, such as to increase drug adherence. Also, there are certain channels (e.g., co-pay cards) that have the dual ability to drive new patients as well as increase patient adherence.

Figure 2: Relative Effect of Promotion Channels on New Patient Starts vs. Increased Adherence



Source: Axtria, Inc.
Note: Chart not to scale. Spend allocations and objective classifications may vary for individual clients

Historically, prescription volume has been the most measurable and directly attributable commercial outcome. Hence, this is often used as the outcome variable to measure the effectiveness of promotional effort. **Figure 3** illustrates NRxs or sales as a function of promotional effort across channels, brand equity, carryover, competitive promotion (in some cases), market events, etc. The model analyzes the impact of each of the above components on how they affect NRx volume. Hence, the model attributes higher value to those channels that drive more NRxs on the margin (marginal net value) than other channels with lesser marginal effects. Marginal net value is measured as the marginal value generated by the channel at marginal cost.

Figure 3: Traditional MMx Analysis Methodology

	Brand Equity	Carryover	Sales Force Impact	TV	Patient Programs	Speaker Programs	Samples	Digital	Channel Interaction-1	Channel Interaction-1
NRx or Total Sales	Intercept	+ fn (Previous period sales)	+ fn (Sales Force)	+ fn (TV)	+ fn (Patient Programs)	+ fn (Speaker Programs)	+ fn (Samples)	+ fn (Digital)	+ fn (Sales Force, Sample)	+ fn (Channel 1, channel 2) …

Source: Axtria, Inc.

The current approach, in our view, has several challenges:

a. **Resource Allocation:** During resource optimization, more marketing dollars are assigned to the promotional channels that drive more NRxs on the margin. Channels like nurse support programs, patient programs, and patient emails, generally get allocated fewer marketing dollars because, as seen in **Figure 2,** even though these channels have a greater effect on driving patient adherence than driving new patient starts or NRxs. In the long run, focus on driving only NRxs has far-reaching commercial implications as it lowers the lifetime value of a patient on therapy. This phenomenon becomes even more complex for channels that have dual-ability effects.

b. **Impact on Patient Health Outcomes:** For any specialty product, getting new patients on the therapy is as important as ensuring patients stay on the therapy for a longer duration and complete the treatment regimen. So, aligning these objectives of patient growth and patient duration in the overall commercial model becomes imperative for the success of the commercial strategy. Additionally, patients not completing their prescribed treatment regimen have a higher risk of not meeting the desired treatment endpoints.

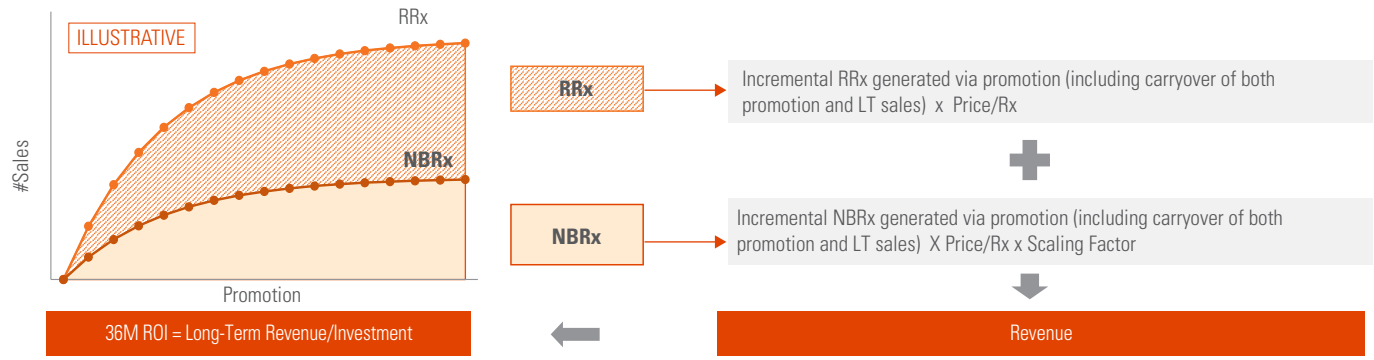
c. **Channel Interaction:** In reality, HCPs' prescribing decisions cannot be attributed to an isolated promotion channel. It is generally a resultant of his/her interaction with a sequence of promotion channels. Hence, it is pertinent to accurately account for interaction effects across various promotion channels and reallocate the shared impact in such a way that appropriate resources are allocated towards them during the budget optimization process.

3. Patient-Centric MMx Model Design Approach

A patient-centric marketing strategy approach will not only result in better health outcomes for patients but also create better value for pharmaceutical companies. An ideal commercial model should be based on three key analytical models. First, the model should have new-to-brand Rx (NBRx) as the outcome variable. This model is to capture the impact of promotion on getting new patients to try the drug. Second, the model should focus on a broader continuum of care as the outcome variable. This model should capture the impact of promotion channels on how they improve patient care. The third model should capture the impact of therapy adherence on patient health outcomes. However, we are assuming that this third model is the fundamental premise of drug research and the basis for the Food and Drug Administration's (FDA) review and approval for the drug. Hence, the third model can be taken as an underlying assumption, and the commercial model can be designed based on the first two models. The channel valuation and subsequent budgeting decisions should be determined by combining the outputs of the above two models. In order to operationalize this patient-centric thinking in designing a marketing strategy, a two-pronged MMx model is recommended (see **Figure 4**).

Figure 4: Proposed MMx Analysis Model Design

		Brand Equity	Carryover	Sales Force Impact	TV	Patient Programs	Speaker Programs	Samples	Digital	Channel Interaction-1	Channel Interaction-1
Model 1:	NBRx or New Patients	Intercept	+ fn (Previous NBRx)	+ fn (Sales Force)	+ fn (TV)	+ fn (Patient Programs)	+ fn (Speaker Programs)	+ fn (Samples)	+ fn (Digital)	+ fn (Sales Force, Sample)	+ fn (Channel 1, channel 2) …
Model 2:	Repeat Rx or Repeat Patient Sales	Intercept	+ fn (Previous NBRx)	+ fn (Sales Force)	+ fn (TV)	+ fn (Patient Programs)	+ fn (Speaker Programs)	+ fn (Samples)	+ fn (Digital)	+ fn (Sales Force, Sample)	+ fn (Channel 1, channel 2) …



Source: Axtria, Inc.

A few examples of metrics that can potentially be used as a measure of the continuum of care are as follows:

a. Therapy adherence related metrics: Repeat Rxs, persistence and compliance, average days on therapy before falling off treatment, etc.

b. Quality of care related metrics: Days within which a patient is readmitted, number of visits to the emergency room, etc.

Other similar metrics can be identified depending on brand-specific dynamics and availability of data. It is acknowledged that in some cases arriving at an appropriate metric to measure the continuum of care for certain therapies may require the use of analogs and proxies. Some examples are rare diseases like Sjogren's Syndrome, where the challenges could go beyond data capture issues and be more around the ability to measure the continuum of care in a quantitative manner. However, with continuous evolution in data, these data challenges should improve over time.

4. Case Study: Using a Patient-Centric Approach for MMx Analysis

4.1 Case Study Description

The patient-centric model approach has been validated along with associated hypotheses while observing key insights in line with the expectations. A MMx analysis of a blockbuster product is used as the basis for the case study illustrated here. The product has consistently been growing in the past few years, and the client was leveraging 20+ promotion channels to support the sales and marketing effort. The spend varied from $50M+ for some channels to less than $100K for other channels. The client wanted to optimize promotional spend across these channels for the next planning cycle. The MMx analysis was modeled using both approaches – the traditional NBRx-driven as well as the new patient-centric approaches.

The outcome variable in the traditional approach utilized NBRx while in the second approach, the outcome variables for the patient-centric approach in the two models were as follows:

a. New patient volume-based metric – NBRx.

b. Therapy adherence as the continuum of care metric – RRx.

When promotional spend was optimized for the above-mentioned approaches, the results had some key differences. The top five channels by total recommended promotional spending, after optimization, from the two approaches are listed in the following table (see **Table 1**):

Table 1: Top Five Channels by Total Promotional Spend After Optimization

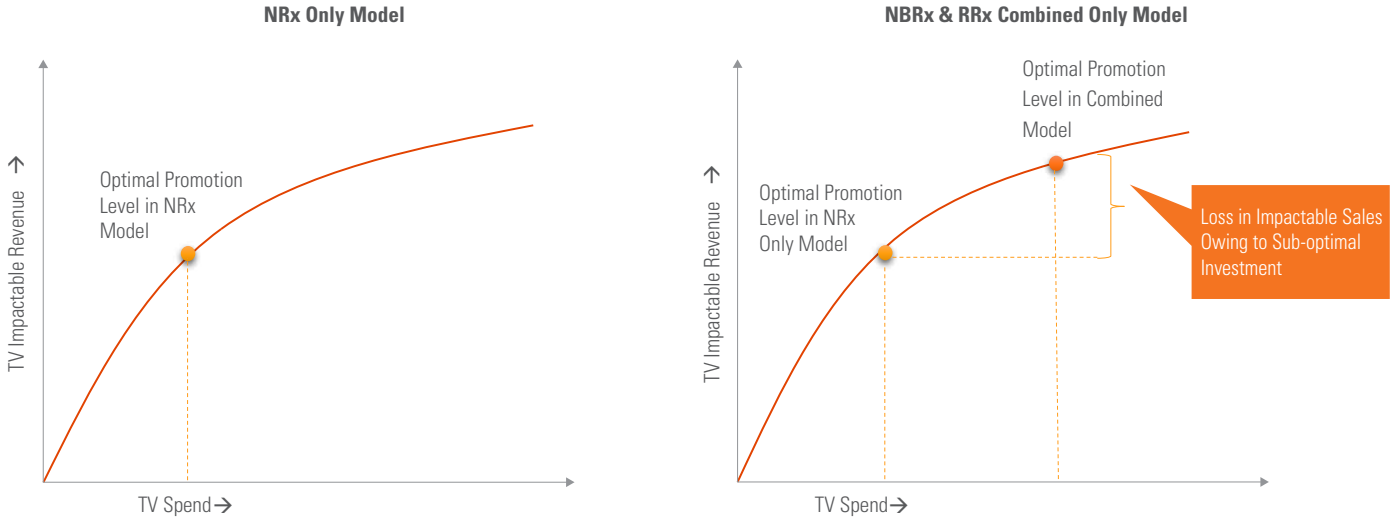
Rank	Traditional Approach	Patient-Centric Approach
1	Sales Force	Sales Force
2	Co-Pay	TV
3	TV	Co-Pay
4	Point of Care	Consumer Digital
5	Consumer Digital	Nurse Support

Source: Axtria, Inc.

4.2 Case Study Analysis and Results

Figure 5 illustrates the impact of increased promotional spend on the TV channel between the two models. If only the NBRx model were used to optimally allocate investments, TV would have received a significantly lower investment budget. However, this would have been sub-optimal as per the combined model based on which it should receive a ~1.5x higher investment budget. This result is because TV turned out to be a greater driver of not only new patient starts but also for adherence by existing patients on the therapy, hence driving long-term value for the brand.

Figure 5: Channel Spent Difference Between Traditional vs. Proposed Approach (TV Spend Example)



Source: Axtria, Inc.

4.3 Other Model Observations

The following additional observations were made from the analysis of both approaches to conduct MMx:

a. While the sales force remained the most effective promotion channel in both models, TV turned out to be a lot more effective in the combined model as compared to the NRx-only model.

b. Nurse Support did not rise to the top five promotional channels in the NRx-only model but was an important driver of patient adherence, thus taking the fourth spot in the combined model.

c. If the NRx-only model were chosen, a smaller budget would have been allocated towards TV and Nurse Support channels, which would have resulted in lower long-term brand returns.

d. The model also considered channel interactions across tactics. Some channel combinations that have a high degree of interactions were as follows:

   1) Paid Search and Website.

   2) DTCA and Patient Digital.

   3) Sales Force and Samples.

   4) Sales Force and Speaker Programs.

   5) Sales Force and DTCA.[7]

5. Key Conclusions and Future Avenues for Research

5.1 Key Conclusions

The evolving healthcare landscape is requiring a re-thinking of the traditional approaches for informing critical go-to-market decisions such as MMx analysis. A shift toward patient-centricity requires a change in modeling approaches for MMx. This change in thought process should not only affect short-term optimization initiatives but will have long-term upsides along the dimensions of the Triple Aim Framework:

- Patients will derive better health outcomes with increased adherence to the prescribed therapy.
- Better health outcomes will result with a potentially lower cost of overall treatment, such as a reduced number of hospitalization and ER visits, the existence of side effects, etc.
- Better healthcare experience for the patient.

5.2 Future Avenues for Research

The above methodology and case study establishes that a patient-centric approach can be applied effectively to MMx decisions. There are other critical decisions that need to be informed as part of the go-to-market strategy, e.g., customer segmentation, commercial model design, targeting, incentive compensation design, etc. A patient-centric approach can refine these decisions by adequately accounting for the factors that deliver on the Triple Aim. For example, a patient-centric customer segmentation will likely assign a higher value to the customers who are driving patient health outcomes by say, having better results in achieving improvements in biomarkers or driving better adherence, etc. Such customer segmentation will further help in effective targeting strategy and resource allocation. This paper recommends revisiting the various commercial decisions from the perspective of being patient-centric. Upcoming white papers in this series will dive deeper into these business questions with real data and case studies.

> Take care of the patient and everything else will follow.
>
> ***Thomas Frist, M.D.***
> *Co-founder of HCA Healthcare*

References

1. Institute for Healthcare Improvement. Triple Aim for Populations. Institute for Healthcare Improvement, available at http://www.ihi.org/Topics/TripleAim/Pages/Overview.aspx.
2. U.S. Food & Drug Administration. 21st Century Cures Act. U.S. Food & Drug Administration, content current as of 29 March 2018, available at https://www.fda.gov/regulatory-information/selected-amendments-fdc-act/21st-century-cures-act.
3. IQVIA Institute for Human Data Science. The Global Use of Medicine in 2019 and Outlook to 2023. IQVIA Institute for Human Data Science, published online 29 January 2019, available at https://www.iqvia.com/insights/the-iqvia-institute/reports/the-global-use-of-medicine-in-2019-and-outlook-to-2023.
4. Genentech A Member of the Roche Group. The 2018 Genentech Oncology Trend Report 10th Edition Perspectives from Managed Care Organizations, Specialty Pharmacies, Oncologists, Practice Managers, and Employers. Genentech A Member of the Roche Group, published online in April 2018, available at https://www.genentech-forum.com/content/dam/gene/managedcare/forum/pdfs/Oncology-Trends/2018_Genentech_Oncology_Trend_Report.pdf.
5. Express Scripts. Annual Drug Trend report. Express Scripts, published online 6 February 2019, available at https://www.express-scripts.com/corporate/drug-trend-report.
6. Fierce Healthcare. The evolution of ACOs and what it may look like in the future [Special Report]. Fierce Healthcare, available at https://www.fiercehealthcare.com/special-report/evolution-acos-and-what-it-may-look-like-future-special-report
7. Narayanan S, Desiraju R and Chintagunta P. Return on Investment Implications for Pharmaceutical Promotional Expenditures: The Role of Marketing-Mix Interactions. *Journal of Marketing* 2004; 68: 90-105. Published online 1 October 2004, available at https://journals.sagepub.com/doi/abs/10.1509/jmkg.68.4.90.42734.

Rishi Agarwal
Principal, Axtria Inc.
300 Connell Drive, Suite 5000
Berkeley Heights, NJ 07922
E: rishi.agarwal@axtria.com

Vipul Pandey
Senior Director, Axtria Inc.
300 Connell Drive, Suite 5000
Berkeley Heights, NJ 07922
E: vipul.pandey@axtria.com

Contact Us

+1-877-9AXTRIA
info@axtria.com

Disclaimer

Axtria® understands the compliance requirements behind personalization and we do not work with any personally identifiable data that can identify an end-customer of a business.

We have the strictest data security guidelines in place as we work with businesses to improve the experience for their customers.

www.axtria.com
info@axtria.com
@Axtria
facebook.com/AxtriaInc/
linkedin.com/company/axtria
instagram.com/lifeataxtria

Founded in 2010, Axtria is a global provider of cloud software and data analytics to the life sciences industry. We help life sciences companies transform the product commercialization journey to drive sales growth and improve healthcare outcomes for patients. We continue to leapfrog competition with platforms that deploy artificial intelligence and machine learning. Our cloud-based platforms - Axtria DataMAx™, Axtria SalesIQ™, Axtria InsightsMAx™, Axtria CustomerIQ™, and Axtria MarketingIQ™ - enable customers to efficiently manage data, leverage data science to deliver insights for sales and marketing planning, and manage end-to-end commercial operations. We help customers in the complete journey from data to insights to operations.

For more information, visit www.axtria.com.

Follow Axtria on Twitter, Facebook, Instagram, and LinkedIn.