To all of our partners:

2013 marked the beginning of a pivotal moment in healthcare. The intersection of healthcare reform with truly remarkable and progressive therapeutic and technological advances presents the ultimate opportunity to make a difference in the health and well-being of every member and client we serve.

At Catamaran®, we’ve charted a course to enable people to take charge of their health. At the heart of this vision is the ability to leverage data and technology in new and innovative ways, driving high levels of engagement and better outcomes for members, providers, and clients. We view the unique nature of every touchpoint, every encounter—each and every one—as a moment of opportunity to make a difference. We call it The Catamaran Difference™.

I encourage you to engage with Catamaran to learn about our vision and how we are making The Catamaran Difference. I invite you to weigh in on the discussion about how we can work together, harnessing each moment of opportunity to raise industry standards and accelerate real solutions to improve the health of our nation.

Mark Thierer
Chairman and CEO
Catamaran
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td></td>
</tr>
<tr>
<td>National Healthcare Landscape</td>
<td>6</td>
</tr>
<tr>
<td>Industry Trends</td>
<td>8</td>
</tr>
<tr>
<td>Catamaran Trend</td>
<td>14</td>
</tr>
<tr>
<td>Hot Topics</td>
<td>26</td>
</tr>
<tr>
<td>Future Trend</td>
<td>30</td>
</tr>
<tr>
<td>Local</td>
<td>32</td>
</tr>
<tr>
<td>Market Segments</td>
<td></td>
</tr>
<tr>
<td>Managed Care</td>
<td>36</td>
</tr>
<tr>
<td>Labor and Trust</td>
<td>38</td>
</tr>
<tr>
<td>Employer</td>
<td>40</td>
</tr>
<tr>
<td>State and Local Government</td>
<td>42</td>
</tr>
<tr>
<td>Medicare Part D</td>
<td>44</td>
</tr>
<tr>
<td>Workers’ Compensation</td>
<td>46</td>
</tr>
<tr>
<td>Personal</td>
<td>48</td>
</tr>
<tr>
<td>Healthcare is Personal</td>
<td></td>
</tr>
<tr>
<td>Case Studies</td>
<td></td>
</tr>
<tr>
<td>Specialty Therapy</td>
<td>52</td>
</tr>
<tr>
<td>Specialty Video Consult</td>
<td>53</td>
</tr>
<tr>
<td>Hospital Discharge Program</td>
<td>54</td>
</tr>
<tr>
<td>Medication Therapy Management (MTM)</td>
<td>56</td>
</tr>
<tr>
<td>Clinical Review</td>
<td>58</td>
</tr>
<tr>
<td>Detailed Clinical Review</td>
<td></td>
</tr>
<tr>
<td>Traditional Therapeutic Class Overview</td>
<td>60</td>
</tr>
<tr>
<td>Specialty Therapeutic Class Overview</td>
<td>66</td>
</tr>
<tr>
<td>Methodology</td>
<td>72</td>
</tr>
<tr>
<td>Glossary</td>
<td>73</td>
</tr>
<tr>
<td>References</td>
<td>74</td>
</tr>
<tr>
<td>Credits</td>
<td>76</td>
</tr>
</tbody>
</table>

# INTRO

1–5

# CHAPTER 1

6–31

# CHAPTER 2

32–47

# CHAPTER 3

48–57

# CLINICAL REVIEW

58–71

# APPENDIX

72–76
moments of opportunity

At Catamaran®, we know that harnessing every moment of opportunity is the clear pathway to making a difference. Personalized interventions and tailored solutions—both at the individual and the payer level—have proven to be the lifeblood that makes our clients successful and their members more engaged with their health.

A Comprehensive Approach

Catamaran clients, as a whole, experienced minimal changes in trend during 2013. We attribute these results to the ability to employ an approach that helps payers stay a step ahead—bringing consistency through a national perspective on best practices, a "local" understanding of how health care is practiced and deep insights at the individual level, to improve outcomes.

A number of stories stand out—those stories are portrayed as part of this book. They are illustrative of what can be accomplished by leveraging the tools and skills that coalesce when Catamaran and our clients come together to collaborate on solving their unique challenges.

Overall Drug Trend Remains Steady

The overall per-member-per-month drug trend for Catamaran’s book of business was 2.4%, compared to 2.3% in 2012. Price inflation in the unit cost of brand and specialty drugs exerted an upward influence on overall trend. That influence was moderated by generic launches, most notably Lipitor®. The rise reached its full potential mid-year, and by year-end reduced Catamaran’s overall trend by 20%. An additional moderating influence was a 42.9% reduction in utilization of hepatitis C drugs, as patients were "warehoused," waiting for new novel therapy launches.

Traditional trend was -0.7% and was impacted similarly by unit cost of brand drugs and generic launches. While specialty trend continued on its upward trajectory, it was tempered by a virtual halt in hepatitis C treatment as emerging, presumably more palatable, therapies were anticipated. Research and development efforts by pharmaceutical manufacturers in the specialty arena continue to highlight therapies that combine innovation with improved patient outcomes.

Looking Forward

Healthcare reform and a robust pipeline will continue to exert an upward impact on pharmacy spending. With the technological advancements and increasing demand for specialty therapies, spending in this arena is expected to account for 40% of all pharmacy spending by 2016.

Catamaran forecasts an annual increase in overall trend from 0.5 to 1.5 percentage points in each of the next three years. Deep insights and sophisticated analytic and intervention tools will be key to mitigating trend increases. The greatest impact will be made as Catamaran leverages our technology leadership position and our ability to connect and integrate our rich data sets to predict each moment of opportunity, driving high levels of member engagement, improved health outcomes and exceptional financial results for our clients.

"Whether it’s working with our clients to develop innovative programs... or providing advanced, prescriptive analytics that serve as a platform to improve quality and outcomes... or becoming one with our clients to turn clinical insights into actionable strategies... Catamaran is delivering smarter solutions, enabling critical connections and pioneering innovative interventions to produce the very best results."

—Sumit Dutta, SVP, Chief Medical Officer, Catamaran
National, fully scaled delivery and technology platforms combine to enable unique, configurable solutions that drive meaningful financial results. National guidelines and best practices lay the foundation for clinically valid and cost-effective management solutions. A deep understanding of market drivers and trends gives rise to new ways of tackling cost challenges. Tied together with insightful analytics, compelling results are achieved.
Healthcare Reform

The United States entered 2013 with a roadmap for reform of the healthcare system. Several milestones were established by the Affordable Care Act (ACA) for implementation:

• Expand access to health coverage through increased Medicaid benefits, creation of Consumer Operated and Oriented Plans (CO-OPs), and opening of state and federal health insurance marketplaces.

• Provide expanded coverage through a mandated set of essential benefits, including pharmacy benefits and preventive services.

• Promote access to value-based care, including Accountable Care Organizations (ACOs), Patient-Centered Medical Homes (PCMHs) and value-based contracting for goods and services.

Broad transformation and multiple paths toward reaching the ACA milestones became the norm in 2013. In January, a 1% increase in federal funding was established for states to expand preventive services offered through Medicaid coverage, with 30 states accepting or considering the expansion. In July, the U.S. Treasury Department and the IRS announced that the deadline for the Employer Mandate to provide acceptable coverage was being extended to January 2015. In October, health insurance marketplaces were launched in 23 states and the District of Columbia, with residents of the remaining 27 states gaining access through the federal insurance marketplace. Enrollments also began in 22 CO-OPs that launched coverage as of January 1, 2014.

The private sector certainly added its own momentum to the transformation of healthcare during 2013. The swing from volume-based purchasing to value-based care was the focus of purchasers and front-running providers throughout the year. Development of integrated data and care management services gained significant traction in 2013 as the market demand for value evolved. Value-based decision making was also driven to the consumer level through significant expansion of private health exchanges.

The looming pharmacy demand is also driving the healthcare market toward expanded cost containment and coordinated care measures. Industry estimates are projecting more than 30 million new PBM customers as a result of the ACA. The influx of new customers will stimulate creative cost management paradigms and entice new entrants into the PBM sector.

Healthcare Reform is Pharmacy Reform

The impact of healthcare reform will become readily apparent across pharmacy purchasing and benefits. U.S. spending on prescription drugs is estimated to increase in the retail space by $227 billion between 2010 and 2020. Projected prescription drug spending growth for 2014 alone is 5.2%—approximately 2.3 percentage points higher than estimated growth without the effects of the ACA. The health reform drivers pushing these increases include:

• Essential health benefit requirements: The initial ACA law established a set of essential health benefits for health plans offered through employers and exchanges. While there has been a delay in the employer mandate to 2015, all plans participating on the public and private exchanges included the set of essential health benefits as part of their offering.

• Use of prescription drugs among people who are newly insured: Pent-up demand for care and services will certainly drive pharmacy utilization higher as more individuals are enrolled in health coverage. A projected 32 million Americans will gain health coverage by 2019 through the ACA.

• More generous insurance benefits as a result of changes to cost-sharing provisions on January 1, 2014: Annual limits on essential health benefit spending and pre-existing condition restrictions for individuals 19 and younger were removed by the ACA as of January 1, 2014. The act also put limits in place for out-of-pocket spending, shifting additional costs back to employers and health plans.

The looming pharmacy demand is also driving the healthcare market toward expanded cost containment and coordinated care measures. Industry estimates are projecting more than 30 million new PBM customers as a result of the ACA. The influx of new customers will stimulate creative cost management paradigms and entice new entrants into the PBM sector.

Healthcare Reform is Pharmacy Reform

The impact of healthcare reform will become readily apparent across pharmacy purchasing and benefits. U.S. spending on prescription drugs is estimated to increase in the retail space by $227 billion between 2010 and 2020. Projected prescription drug spending growth for 2014 alone is 5.2%—approximately 2.3 percentage points higher than estimated growth without the effects of the ACA. The health reform drivers pushing these increases include:

• Essential health benefit requirements: The initial ACA law established a set of essential health benefits for health plans offered through employers and exchanges. While there has been a delay in the employer mandate to 2015, all plans participating on the public and private exchanges included the set of essential health benefits as part of their offering.

• Use of prescription drugs among people who are newly insured: Pent-up demand for care and services will certainly drive pharmacy utilization higher as more individuals are enrolled in health coverage. A projected 32 million Americans will gain health coverage by 2019 through the ACA.

• More generous insurance benefits as a result of changes to cost-sharing provisions on January 1, 2014: Annual limits on essential health benefit spending and pre-existing condition restrictions for individuals 19 and younger were removed by the ACA as of January 1, 2014. The act also put limits in place for out-of-pocket spending, shifting additional costs back to employers and health plans.

The looming pharmacy demand is also driving the healthcare market toward expanded cost containment and coordinated care measures. Industry estimates are projecting more than 30 million new PBM customers as a result of the ACA. The influx of new customers will stimulate creative cost management paradigms and entice new entrants into the PBM sector.
Positioning PBMs for Success

Dynamics in all market segments point to the need for PBMs that are experienced, agile and flexible. The shift to integrated data care infrastructures and the ability to translate those findings into actionable insights for patients, providers and payers. The building blocks for PBM success are distinct and intense:

- Rich data sets that include performance reporting, patient risk stratification, intervention reporting, issue tracking and customized outcomes reporting. Providing payers with the tools and insights they need to drive toward enhanced member outcomes and health plan savings, as well as the financial well-being of their plan.

- Technology solutions that increase connectivity between providers and health systems: Creating robust information and insights, including member-specific drug alerts, prescription claims history, and health systems:

- User-friendly member portals and mobile applications:

- Customized patient engagement tools:

- Technology solutions that increase connectivity between providers and health systems: Creating robust information and insights, including member-specific drug alerts, prescription claims history, and health systems:

- User-friendly member portals and mobile applications:

- Customized patient engagement tools:

- Technology solutions that increase connectivity between providers and health systems: Creating robust information and insights, including member-specific drug alerts, prescription claims history, and health systems:

- User-friendly member portals and mobile applications:

- Customized patient engagement tools:

Industry projections call for more than 30M new PBM customers as a result of the ACA¹

Successful PBMs must ensure they can deliver these unique population-based insights and direct consumer support to a wide audience of healthcare stakeholders. Partnering in an evolving environment with health plans, ACOs, PCMHs and other providers demands the ability to integrate multiple data sources and enable targeted clinical interventions across a full spectrum of healthcare services. Translating those activities to patient and client action then becomes the true test of a PBM’s focus on healthcare reform.

In an era of healthcare reform where transformation and flexibility are the norm, leading healthcare organizations such as Catamaran® will successfully deliver a comprehensive array of client-centered services and informatics that accelerate optimal outcomes for all stakeholders.

Specialty Landscape

The specialty pharmaceutical market continues to expand due to the entry of novel new drugs and new formulations, including products offering new routes of administration. Pricing for specialty products continues to push the envelope, especially for oncology drugs and agents with orphan drug status and/or breakthrough therapy designation. Genesys are beginning to appear within the specialty arena as well, but significant cost savings are yet to be fully realized. While biomarkers continue to be a focus for research and development by pharmaceutical manufacturers, the US market opportunity continues to lag behind Europe and other countries due to the lack of a finalized approval pathway.² has been more imperative to have specialty management tools in place, including optimized and coordinated benefit designs, effective utilization management programs, efficient distribution and maximized contracting, coupled with extensive patient engagement.

Specialty Expansion

The Food and Drug Administration (FDA) approved 27 novel new drugs in 2013. More than 50% of the approvals were for agents considered specialty products.³ The oncologic therapeutic class once again dominated the approvals, accounting for approximately 30% of all approvals, or eight new products. Other specialty-focused therapeutic areas that experienced new approvals in 2013 include multiple sclerosis, HIV, pulmonary arterial hypertension (PAH) and hepatitis C virus (HCV) infection.⁴

Several specialty therapeutic classes continue to move beyond historically injectable-predominant therapies. The multiple sclerosis, HCV, oncology and PAH classes experienced the addition of new oral products for the first time in 2013. The HCV class is anticipated to face significant expansion over the next couple of years. Several direct-acting antiviral (DAA) oral products are in the pipeline that will greatly increase the treatment options available for HCV. All-oral HCV therapies, especially for genotype 1 HCV, are expected by late 2014.
moments of opportunity

National

competition. By 2018, orphan drugs are forecast to

concerning is the finding that orphan drugs without therapeutic

of homozygous familial hypercholesterolemia. This trend is expected

into the specialty market segment beginning with the 2012 approval of

into the specialty market segment beginning with the 2012 approval of

to escalate, and the issue of orphan

New therapeutic areas are advancing into the specialty market arena,

of +7.4%, which is double that of the overall prescription market growth,

Orphan Drugs Driving Costs Up

Specially drug costs continue to escalate, and the issue of orphan

findings that the drug may demonstrate

safety and efficacy to their reference biologic at a lower cost and, as a result, are a continued

are expected for treating a medical condition

Treat, diagnose or prevent rare

Orphan Drugs

Treat a serious or life-threatening disease

Breakthrough Therapy

Treats a serious or life-threatening disease or otherwise significantly help to advance

First-in-class Agents

Use a new and unique mechanism of action for treating a medical condition

Orphan Drugs

Treat, diagnose or prevent rare
diseases that affect fewer than

Specialty Generics

Thus far, generic entrants to the specialty market have mainly been for older oral oncology products, HIV antiretrovirals and transplant
antirejection medications. A generic for the multiple sclerosis agent

Drug

Year

Product

2014

Eopiprofen

Epoproct

2015

Povaliglumix

Povaliglumix

2016

Rituximab

Rituxan

2018

Inflimab

Remicade

2019

Trastuzumab

Herceptin

image
moments of opportunity
National
period, resulting in much higher generic patent and gained a six month exclusivity manufacturers challenged the brand drug with several single-source generics, drug price inflation of brand drugs. In addition, spend, but was impacted by continued increased use of generics which offset drug The generic “patent cliff” continued to drive greater utilization of generic alternatives. became more cost conscious, resulting in more costs to the members through higher to emerge. As employers started to shift their long-term strategies for managing costs and outcomes.

Healthcare spending in the U.S. has slowed considerably over the last three years. However, with changes and newly adopted mandates to the healthcare system, we have seen different utilization patterns begin to emerge. As employers started to shift more costs to the members through higher deductibles, copays and coinsurance, patients became more cost conscious, resulting in greater utilization of generic alternatives. The generic “patent cliff” continued to drive increased use of generics which offset drug speed, but was impacted by continued price inflation of brand drugs. In addition, with several single-source generics, drug manufacturers challenged the brand drug patent and gained a six month exclusivity period, resulting in much higher generic pricing. While generic entries into the marketplace peaked in 2013 and helped to lower overall drug cost, innovations in the specialty market, occupied with price increases on existing drugs, increased specialty drug trend, although not as much as in 2012. Diseases such as cancer, hepatitis C, rheumatoid arthritis and cystic fibrosis were just a few classes where new oral disease-modifying agents were introduced, resulting in price increases and average costs that were ten times higher than for traditional brands. Thus, a small population of patients within the specialty market drove overall costs.

For Catamaran, 2013 was a transformational year as we completed the successful merger of two companies—SXC and Catalyst. This merger greatly expanded the services and expertise we offer as we partner with our clients to manage their pharmacy trend. In the following section, we provide insight into Catamaran’s 2013 trend figures for its newly combined book of business. This year, we take a more granular approach to analyzing trend by breaking utilization into two components: prescription count and drug mix. This provides a more precise view of what is truly driving trend.

Utilization is defined as a percent change in the average number of prescriptions per member-per-month (PMPM). Assessing changes in claim volume on a PMPM basis allows for identification of utilization changes due to factors such as patent expiries, clinical studies that were either favorable or unfavorable for a particular drug or drug class, or the effect of a clinical management strategy. Quantity looks at changes in the units dispensed per prescription, also known as intensity of therapy. The quantity driver provides insights regarding the dosing impact of certain drugs as a result of increased or decreased intensity to obtain the same therapeutic effect. It may also indicate the effectiveness of programs such as quantity limits in certain classes.

Drivers of Trend
• Overall PMPM drug trend for the Catamaran 2013 commercial book of business was 2.4%, compared to 2.6% in 2012. Patent expiries and the impact of lower cost generic alternatives dominated the marketplace and contributed to a -3% drug mix. This decrease was associated with patent expirations helped offset some of the overall price increases seen within the brand and specialty drugs.
• The launch of generic Lipitor® (atorvastatin) in November 2011, which reached its full potential by mid-2012 after the end of its 180-day exclusivity period, had a significant impact on reduction of Catamaran’s 2013 overall trend.
• A sharp reduction of 41% in overall trend for the hepatitis C class decreased specialty trend by 15 percentage points. The main driver in reduction of trend for this class was a 42.5% decrease in utilization as a result of prescribers “warehousing” patients while awaiting the launch of new hepatitis C products in late 2013.

2013 marked the beginning of a period of extraordinary change in the U.S. healthcare system: The intersection of unprecedented regulatory changes, a robust pipeline of brand and specialty drugs and the accelerated momentum around generics made for a delicate balancing act, prompting payers of all types to rethink their long-term strategies for managing costs and outcomes. Although 2013 generally remained equal to 2012 in terms of overall pharmaceutical spending, numerous dynamics contributed to this steady trend.

Overall Trend
For Catamaran, 2013 was a transformational year as we completed the successful merger of two companies—SXC and Catalyst. This merger greatly expanded the services and expertise we offer as we partner with our clients to manage their pharmacy trend. In the following section, we provide insight into Catamaran’s 2013 trend figures for its newly combined book of business.

Drivers of Trend
• Overall PMPM drug trend for the Catamaran 2013 commercial book of business was 2.4%, compared to 2.6% in 2012. Patent expirations and the impact of lower cost generic alternatives dominated the marketplace and contributed to a -3% drug mix. This decrease was associated with patent expirations helped offset some of the overall price increases seen within the brand and specialty drugs.
• The launch of generic Lipitor® (atorvastatin) in November 2011, which reached its full potential by mid-2012 after the end of its 180-day exclusivity period, had a significant impact on reduction of Catamaran’s 2013 overall trend.
• A sharp reduction of 41% in overall trend for the hepatitis C class decreased specialty trend by 15 percentage points. The main driver in reduction of trend for this class was a 42.5% decrease in utilization as a result of prescribers “warehousing” patients while awaiting the launch of new hepatitis C products in late 2013.

Multiple strategies to drive the use of generics contributed to Catamaran’s 2013 generic dispensing rate (GDR). This is a 2.1% increase over 2012.

Drivers of Trend
• Overall PMPM drug trend for the Catamaran 2013 commercial book of business was 2.4%, compared to 2.6% in 2012. Patent expirations and the impact of lower cost generic alternatives dominated the marketplace and contributed to a -3% drug mix. This decrease was associated with patent expirations helped offset some of the overall price increases seen within the brand and specialty drugs.
• The launch of generic Lipitor® (atorvastatin) in November 2011, which reached its full potential by mid-2012 after the end of its 180-day exclusivity period, had a significant impact on reduction of Catamaran’s 2013 overall trend.
• A sharp reduction of 41% in overall trend for the hepatitis C class decreased specialty trend by 15 percentage points. The main driver in reduction of trend for this class was a 42.5% decrease in utilization as a result of prescribers “warehousing” patients while awaiting the launch of new hepatitis C products in late 2013.

Drivers of Trend
• Overall PMPM drug trend for the Catamaran 2013 commercial book of business was 2.4%, compared to 2.6% in 2012. Patent expirations and the impact of lower cost generic alternatives dominated the marketplace and contributed to a -3% drug mix. This decrease was associated with patent expirations helped offset some of the overall price increases seen within the brand and specialty drugs.
• The launch of generic Lipitor® (atorvastatin) in November 2011, which reached its full potential by mid-2012 after the end of its 180-day exclusivity period, had a significant impact on reduction of Catamaran’s 2013 overall trend.
• A sharp reduction of 41% in overall trend for the hepatitis C class decreased specialty trend by 15 percentage points. The main driver in reduction of trend for this class was a 42.5% decrease in utilization as a result of prescribers “warehousing” patients while awaiting the launch of new hepatitis C products in late 2013.
Generic Drug Launches Create Savings Opportunities

The generic market continued to expand with some of the world's best-selling drugs such as Lidoderm® and Niaspan® losing patent protections in 2013. Market competition from generic drugs is saving public and private healthcare payers more than $1 billion every other day, according to the IMS Institute. Generic drug use has saved $1.1 trillion over the past decade for the U.S. healthcare market. Figure 5 illustrates some of the top generic launches of 2013.

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Therapeutic Class</th>
<th>U.S. Sales †</th>
<th>Release Date</th>
<th>Launch Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opana ER</td>
<td>Analgesics - Opioids</td>
<td>$405 Million</td>
<td>January</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Lamictal XR</td>
<td>Anticonvulsants</td>
<td>$262 Million</td>
<td>January</td>
<td>Competitive</td>
</tr>
<tr>
<td>Concerta</td>
<td>ADHD</td>
<td>$1.4 Billion</td>
<td>January</td>
<td>Competitive</td>
</tr>
<tr>
<td>Maxalt MLT</td>
<td>Migraine</td>
<td>$460 Million *</td>
<td>January</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Duetact</td>
<td>Antidiabetics</td>
<td>$27 Million</td>
<td>January</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Avandia</td>
<td>Antidiabetics</td>
<td>$367 Million **</td>
<td>January</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Suboxone SL Tabs</td>
<td>Analgesics - Opioids</td>
<td>$1.5 Billion</td>
<td>February</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Fosamax Oral Solution</td>
<td>Bone Density Regulators</td>
<td>N/A</td>
<td>February</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Luvox CR</td>
<td>Antidepressants</td>
<td>$33 Million</td>
<td>March</td>
<td>Unknown</td>
</tr>
<tr>
<td>Xopenex</td>
<td>Antiasthmatic &amp; Bronchodilator Agents</td>
<td>$477 Million</td>
<td>March</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Zometa</td>
<td>Bone Density Regulators</td>
<td>$2 Billion ***</td>
<td>March</td>
<td>Competitive</td>
</tr>
<tr>
<td>Reclast</td>
<td>Bone Density Regulators</td>
<td>$2 Billion ****</td>
<td>April</td>
<td>Competitive</td>
</tr>
<tr>
<td>Travatan</td>
<td>Ophthalmic Agents</td>
<td>$298 Million</td>
<td>April</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Atacand</td>
<td>Antihypertensives</td>
<td>$182 Million</td>
<td>May</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Zomig / Zomig ZMT</td>
<td>Migraine</td>
<td>$176 Million</td>
<td>May</td>
<td>Competitive/Exclusive</td>
</tr>
<tr>
<td>Aricept</td>
<td>Antidementia</td>
<td>$2.3 Billion</td>
<td>July</td>
<td>Competitive</td>
</tr>
<tr>
<td>Triplix</td>
<td>Antihyperlipidemics</td>
<td>$1.3 Billion *****</td>
<td>July</td>
<td>Competitive with AG</td>
</tr>
<tr>
<td>Temodar</td>
<td>Antineoplastics &amp; Adjunctive Therapy</td>
<td>$428 Million</td>
<td>August</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Vfend</td>
<td>Antifungals</td>
<td>$789 Million</td>
<td>September</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Kadian</td>
<td>Analgesics - Opioids</td>
<td>$275 Million</td>
<td>September</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Lidoderm</td>
<td>Dermatologicals</td>
<td>$1.2 Billion</td>
<td>September</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Niaspan</td>
<td>Antihyperlipidemics</td>
<td>$1.1 Billion</td>
<td>September</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Cymbalta</td>
<td>Antidepressants</td>
<td>$3.2 Billion</td>
<td>December</td>
<td>Competitive</td>
</tr>
</tbody>
</table>

† estimated U.S. sales
* sales include both Maxalt and Maxalt MLT
** sales include both Avandamet and Avandia
*** global with Reclast
**** global with Zometa
***** sales include both Tricor and Triplix

Top Generic Launches of 2013

Traditional Brand Drugs Entering the Marketplace

While more than 50% of the 27 new molecular entities that entered the marketplace in 2013 were specialty drugs, 52 of the approvals were considered traditional drugs. The new traditional drugs approved in 2013 were concentrated in the areas of diabetes and asthma/COPD.

Despite fewer new drug approvals in 2013 (compared to the record number of approvals in 2012), U.S. sales projections for drugs approved in 2013 exceed 2012 projections, and are expected to reach $13.9 billion over the next five years.

2013 Select Traditional FDA Approvals

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Indication</th>
<th>Launch Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invokana</td>
<td>Adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus</td>
<td>March</td>
</tr>
<tr>
<td>Breo Ellipta</td>
<td>Long-term, once-daily maintenance treatment of airflow obstruction and for reducing exacerbations in patients with chronic obstructive pulmonary disease (COPD), including chronic bronchitis and/or emphysema</td>
<td>May</td>
</tr>
</tbody>
</table>

Brand NAM Applications Filed

Number of New Molecular Entities 2004 – 2013

<table>
<thead>
<tr>
<th>Year</th>
<th>NAM Applications Filed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>10</td>
</tr>
<tr>
<td>2005</td>
<td>10</td>
</tr>
<tr>
<td>2006</td>
<td>20</td>
</tr>
<tr>
<td>2007</td>
<td>25</td>
</tr>
<tr>
<td>2008</td>
<td>30</td>
</tr>
<tr>
<td>2009</td>
<td>35</td>
</tr>
<tr>
<td>2010</td>
<td>40</td>
</tr>
<tr>
<td>2011</td>
<td>45</td>
</tr>
<tr>
<td>2012</td>
<td>50</td>
</tr>
<tr>
<td>2013</td>
<td>55</td>
</tr>
</tbody>
</table>
In 2013, the Catamaran book of business experienced a traditional trend of -0.7% as a result of the “patent cliff,” where some of the major blockbuster brand drugs lost patent protections. Drug mix of -5.0% helped offset traditional trend from unit cost increases seen in brand drugs. Utilization trend of 0.7% and quantity trend of 0.6% had a relatively small impact on trend.

Utilization
- Generic drugs experienced a 5.2% increase in overall trend. The increased use of more cost-effective generic options contributed to a -5.0% drug mix for traditional drugs.
- Due to numerous generic launches, generic utilization increased by 4.3% and brand utilization decreased by 12.8%.
- Significant utilization increases occurred within the ADHD/narcolepsy class due to drugs such as methylphenidate HCl, amphetamine and dextroamphetamine having a combined utilization trend close to 15% and comprising 54% of the market share by volume within this class.
- Montelukast sodium (Singulair®) was the highest-utilized generic drug, with a utilization trend of 169.5%. As a result, brand Singulair had a decrease in utilization of 98.1%.

Unit Cost
- Generic Lipitor®, one of the all-time best-selling drugs, had the most significant impact on reducing traditional trend in 2013. The average cost of atorvastatin decreased by 47.4%.
- A brand unit cost increase of 10.6% was partially mitigated by generic unit cost decreases of -9.8%. The top five drugs with the greatest contribution to price inflation included:
  - Cymbalta®
  - Crestor®
  - Abilify®
  - Advair Diskus®
  - Lantus Solostar®
- The average cost of a brand prescription of $307 was 10 times higher than the $30 average cost of a generic prescription.
- Within the top 10 therapeutic classes ranked by PMPM spend, the highest unit cost increases were observed in antidiabetic (10.9%) and dermatological (11.2%) therapeutic classes.
- The average cost per prescription increased 9% for antidiabetics and 10.3% for dermatologicals, due to higher utilization of the more expensive antidiabetic drug Lantus® and the dermatological drug Lidoderm®, as it is interesting to note that Lidoderm launched as a generic in September 2013, which explains the price inflation of its brand counterpart.

Utilization of the brand drug Singulair decreased 98.1% due to availability of generic Singular, which costs $130 less than the brand.
Drug Mix
- The antihyperlipidemic class experienced -16.6% drug mix, driven by increased adoption of atorvastatin which accounted for 24% of the market share for the class. Also, availability of a more cost-effective option, fenofibrate (Tricor®), helped drive a negative drug mix.
- The antiasthmatic and bronchodilator class experienced a significant decrease in drug mix of -17.1% that was driven by the availability of generic Singulair® (montelukast sodium) which saved an average of $130 per prescription.

Quantity
- Traditional quantity trend remained relatively flat at 0.6% which indicates no major changes in daily average consumption.
- The top two classes that experienced the most significant quantity decreases were ADHD/narcolepsy and analgesics-opioids at -1.1% and -1.7% respectively. The decrease in quantity trend can be attributed to clinical programs that manage utilization such as quantity limits and controlled drug programs. These efforts maintain appropriate use and dosing regimens in classes with potential abuse.

-Amphetamine/dextroamphetamine, the most utilized drug by volume within the ADHD/narcolepsy class, experienced -1.3% quantity trend

For additional insights, please refer to the traditional therapeutic class review within the Clinical Review chapter for a more in-depth look at the 2013 influences on the top five traditional classes. Future trends that we anticipate in 2014 are also included in this detailed class review.
Specialty Trend

In 2013, the Catamaran book of business experienced a specialty trend of 14.3%, which was considerably lower than the 2012 trend of 21%. The 2013 specialty trend resulted from an overall 10.3% increase in unit cost and a nearly 4% increase in utilization. A relatively flat drug mix due to lower cost alternatives in certain classes helped to offset the trend.

Utilization

- Hepatitis C, hematopoietic, and hereditary angioedema classes experienced the largest reduction in utilization, whereas pulmonary arterial hypertension (PAH) and autoimmune inflammatory agents contributed to the largest increases in utilization.

- Hepatitis C utilization decreased by -42.5%, predominantly due to a -56% decrease in utilization of Incivek® and a -24% decrease of Victrelis®. These two drugs accounted for only one quarter of the class's total drug spend in 2013, compared to more than half of total drug spend for this class in 2012.

- Hematopoietic agents experienced -16.2% utilization trend. Procrit®, the top drug by prescription volume in this class, experienced close to a 30% reduction in utilization.

- Pulmonary arterial hypertension class experienced a 36% increase in utilization, which was primarily driven by the increased utilization of more cost-effective generics such as sildenafil citrate (Revatio®) used in the treatment of PAH.

- A higher prevalence of prescriptions of Synagis® (passive immunizing agents used to treat respiratory syncytial virus), Similac® (Nutramigen®) and Stelara® (autoimmune inflammatory conditions) also contributed to increased utilization trend.

Unit Cost

- The average cost of a specialty prescription increased 17% to $2,860 in 2013 due to increased utilization and a drug mix of more expensive products.

- Autoimmune inflammatory conditions, multiple sclerosis and oncology continued to be among the top three classes (ranked by cost) and experienced the most significant increases in unit cost of 15%, 11.6% and 10.6% respectively.

- Approximately 40% of the overall unit cost increase within specialty resulted from three products: Humira®, Enbrel® and Copaxone®. 46% experienced double-digit price inflation and, combined, had the largest contribution to the increase in specialty unit cost.

- Of the top six specialty drugs by cost, Rebif®, which is utilized in the treatment of multiple sclerosis, had the highest price inflation of nearly 22%.

- Psychotherapeutic and neurological agents experienced a 30% increase in the average cost of a prescription, which was the highest among the top ten therapeutic classes. Xyrem®, used for the treatment of narcolepsy to reduce excessive sleepiness, had a 35% increase in average cost per prescription.

- The specialty anticoagulant class experienced a trend reduction of -7.6% due to decreased utilization of brand drugs such as Arintra® and Lovenox®. On the other hand, a lower cost generic alternative for Lovenox, enoxaparin sodium, had a 7% increase in utilization and a -3.2% unit cost decrease, which contributed to the overall negative trend for the class.
Drug Mix

- The overall drug mix for specialty remained relatively flat at 0.3% compared to 2.1% seen in 2012. Lower specialty drug mix was influenced by utilization of more cost-effective options within the PAH, growth hormone and anticoagulant classes.
- Sildenafil citrate, at $500 per script, was 75% cheaper than the brand alternative Revatio® and contributed to the negative drug mix in the PAH class.
- Therapeutic agents utilized in the treatment of cystic fibrosis (CF) had a nearly 40% increase in trend resulting from higher utilization of expensive personalized therapies such as Kalydeco® at $25,000 per prescription, which is breakthrough treatment for CF.
- A drug mix trend of 73% for the oncology class was the second highest within the top ten therapeutic classes—a result of utilization increases for newer, more costly brand drugs such as Afinitor®, Sprycel®, Prolia®, Pomalyst® and Xtandi®.

Quantity

- While overall and traditional quantity trends were essentially flat, specialty quantity had a slight decrease of -0.3%, indicating changes in daily average consumption, or the number of units dispensed per prescription.
- Top classes such as transplant and anticoagulants had quantity decreases of -18% and -13%, respectively. Decreases in units dispensed were seen in top drugs such as tacrolimus, an immunosuppressant drug used after organ transplant to reduce the risk of rejection, and generic Lovenox, enoxaparin sodium, used as a blood thinner to reduce blood clotting. Recent availability of new oral anticoagulant drugs may have had an impact on quantity decreases of injectable products.
- The biggest quantity trend decrease was seen within the PAH class due to a significant decrease in units dispensed of generic Revatio, sildenafil citrate. Quantity limit programs and a recently approved lower dosing option had an impact on reducing quantity trend for generic Revatio.

The launch in fourth quarter 2013 of two new novel hepatitis C therapies—Sovaldi® (sofosbuvir) and Olysio® (simeprevir)—launched as having superior outcomes, had a significant impact on specialty trend. In anticipation of these new drugs, providers delayed initiating treatment of hepatitis C patients throughout the year, often referred to as the “warehousing” of patients, which led to decreased utilization of hepatitis C agents and a lower specialty trend.

The top ten specialty classes comprised more than 86% of specialty drug spend. Autoimmune inflammatory conditions and multiple sclerosis were the top two specialty classes for the fourth consecutive year.

For the first time in five years, the oncology class became one of the top three specialty classes by cost, the result of an expanded oncology drug pipeline.

More than 30% of the new drug approvals in 2013 were for oncology.
Proper medication adherence is a significant issue among U.S. consumers. It is estimated that 20–50% of patients are non-adherent to medication therapy25 according to the IMS Institute for Healthcare Informatics, healthcare costs incurred from improper and unnecessary use of medicines exceeded $200 billion in 2012—equal to 8% of the nation’s healthcare spending, and enough to cover the healthcare costs of more than 24 million currently uninsured citizens.24 There are six levers of opportunity that need to be addressed to increase the responsible use of medication, noted in Figure 18. Most notably, the three diseases with the highest avoidable costs due to nonadherence are high cholesterol, diabetes and high blood pressure, accounting for $44 billion, $34 billion and $14 billion in avoidable costs per year, respectively. Much of the population is affected by these diseases, and many people with these and other chronic diseases experience comorbidities as well, leading to an increased medication burden and adherence challenges for these individuals. Health plans, employers and the government view improvements in medication adherence as a critical aspect of reducing long-term rates of overall healthcare spending. This focus has led to new adherence strategies which have begun to show positive impact. In fact, for three of the most prevalent chronic conditions—diabetes, high blood pressure and high cholesterol—adherence rates have improved by nearly 3% since 2009.24

Proportion of days covered (PDC) measures the amount of medication a patient has on hand over a specific period to treat a medical condition at prescribed intervals. Catamaran, along with organizations such as the NCQA, uses 80% PDC as a benchmark for optimal adherence. As shown in Figure 20, we found that individuals trying to manage high blood pressure who had the added challenge of battling diabetes and/or high cholesterol had higher medication adherence than those taking antihypertensives alone.

Moments of Opportunity Catamaran believes opportunities are just that, individuals. We utilize patient-level prescription and medical claims data and apply sophisticated algorithms to take into account characteristics unique to an individual, and then assign dynamic risk scores which clearly signal moments of opportunity. Catamaran recognizes that the intersection of these moments of opportunity and highly targeted interventions is key to successfully increasing adherence. Once Catamaran has identified a patient as at-risk for non-adherence, we quickly act on this insight to take advantage of the moment of opportunity. Through an array of sophisticated intervention tools and individualized engagement tactics, Catamaran drives desired behavior and adherence outcomes. By finding and addressing each adherence opportunity, Catamaran generates a greater impact on overall health and pharmacy spending for its clients.
For more than a decade, the escalating use and abuse of opioid analgesics has become a deepening concern in the U.S. Opioid prescriptions have increased dramatically in that time, by more than 300% between 1999 and 2010. Of the 213,144 U.S. deaths relating to prescription drug overdose in 2010, 75% involved opioid pain relievers. Opioid overdose is now the second-leading cause of accidental death in this country.

Opioid utilization has the potential for both positive and negative implications for health plans, providers and individual patients. When prescribed and administered properly, opioids offer significant pain relief for patients. Used improperly, opioids have considerable potential for the user to become addicted, suffer negative health impacts and risk death.

In the U.S., 2.4 million people were considered opioid abusers in 2010, pointing to a critical need for effective management. Solving for issues such as use of multiple prescribers and pharmacies is critical to enabling appropriate and safe treatment of patients and avoiding unnecessary utilization in this highly addictive therapeutic class.

Bucking the National Trend
While the industry experienced continued increases within the opioid class, Catamaran’s 2013 opioid trend decreased to -0.6%. A utilization decrease of -2.6% and quantity decrease of -1.7% contributed to the overall reduction for this class. A drug mix of 3.4% indicated more prevalent utilization of brand drugs.

Decreases in quantity and utilization of opioid prescriptions were seen across Catamaran’s book of business. Decreased utilization of prescriptions for drugs such as acetaminophen with codeine #3, Oxycontin® and Suboxone® contributed to the overall utilization decrease of the class.

Moments of Opportunity
Effective opioid management addresses patient safety, enhances quality of life, decreases the risk for on-the-job injuries, limits inappropriate utilization and achieves overall plan savings. Catamaran offers a robust, flexible opioid management solution to identify situations of potential misuse and intervene with appropriate prescribers and pharmacies.

It starts with timely, accurate identification of members at risk for controlled substance abuse, misuse or waste. Prior authorization and quantity limits are used to validate the need for controlled substance therapy before a prescription claim is even approved for payment. Catamaran targets pain medications, sleep aids and stimulants for early identification of members with inappropriate use. Targeted medications can be tailored at the client level. Once identified, Catamaran clinicians work with prescribers concerning the cases, using multiple interventions to address patient usage patterns.

Catamaran’s program drills down further, looking for patterns that suggest misuse or abuse. Using sophisticated analytics, we find members who:

- Refill too frequently.
- Fill at multiple pharmacies.
- Use multiple prescribers or “doctor shop.”

We take advantage of these moments of opportunity to give prescribers a 360 degree view of the prescriptions that their patients are filing—often unknown to the physician. Access to this level of information enables prescribers to make fully informed decisions about patient treatment and achieve optimal outcomes.

**The National Impact of Opioids**

16,000+
The number of people who died in 2010 from overdoses involving prescription painkillers.

$72.5B
The annual amount that nonmedical use of prescription painkillers costs health insurers in direct healthcare costs.

12M
The number of Americans in a 2012 study that reported nonmedical use of prescription painkillers in the past year.

The National Impact of Opioids

**Moments of Opportunity**

Effective opioid management addresses patient safety, enhances quality of life, decreases the risk for on-the-job injuries, limits inappropriate utilization and achieves overall plan savings. Catamaran offers a robust, flexible opioid management solution to identify situations of potential misuse and intervene with appropriate prescribers and pharmacies.

It starts with timely, accurate identification of members at risk for controlled substance abuse, misuse or waste. Prior authorization and quantity limits are used to validate the need for controlled substance therapy before a prescription claim is even approved for payment. Catamaran targets pain medications, sleep aids and stimulants for early identification of members with inappropriate use. Targeted medications can be tailored at the client level. Once identified, Catamaran clinicians work with prescribers concerning the cases, using multiple interventions to address patient usage patterns.

Moments of Opportunity
Effective opioid management addresses patient safety, enhances quality of life, decreases the risk for on-the-job injuries, limits inappropriate utilization and achieves overall plan savings. Catamaran offers a robust, flexible opioid management solution to identify situations of potential misuse and intervene with appropriate prescribers and pharmacies.

It starts with timely, accurate identification of members at risk for controlled substance abuse, misuse or waste. Prior authorization and quantity limits are used to validate the need for controlled substance therapy before a prescription claim is even approved for payment. Catamaran targets pain medications, sleep aids and stimulants for early identification of members with inappropriate use. Targeted medications can be tailored at the client level. Once identified, Catamaran clinicians work with prescribers concerning the cases, using multiple interventions to address patient usage patterns.

Catamaran's program drills down further, looking for patterns that suggest misuse or abuse. Using sophisticated analytics, we find members who:

- Refill too frequently.
- Fill at multiple pharmacies.
- Use multiple prescribers or “doctor shop.”

We take advantage of these moments of opportunity to give prescribers a 360 degree view of the prescriptions that their patients are filing—often unknown to the physician. Access to this level of information enables prescribers to make fully informed decisions about patient treatment and achieve optimal outcomes.

**Moments of Opportunity**

Effective opioid management addresses patient safety, enhances quality of life, decreases the risk for on-the-job injuries, limits inappropriate utilization and achieves overall plan savings. Catamaran offers a robust, flexible opioid management solution to identify situations of potential misuse and intervene with appropriate prescribers and pharmacies.

It starts with timely, accurate identification of members at risk for controlled substance abuse, misuse or waste. Prior authorization and quantity limits are used to validate the need for controlled substance therapy before a prescription claim is even approved for payment. Catamaran targets pain medications, sleep aids and stimulants for early identification of members with inappropriate use. Targeted medications can be tailored at the client level. Once identified, Catamaran clinicians work with prescribers concerning the cases, using multiple interventions to address patient usage patterns.

Catamaran's program drills down further, looking for patterns that suggest misuse or abuse. Using sophisticated analytics, we find members who:

- Refill too frequently.
- Fill at multiple pharmacies.
- Use multiple prescribers or “doctor shop.”

We take advantage of these moments of opportunity to give prescribers a 360 degree view of the prescriptions that their patients are filing—often unknown to the physician. Access to this level of information enables prescribers to make fully informed decisions about patient treatment and achieve optimal outcomes.
Emerging market forces impacting pharmaceutical trend will present opportunities to forge innovative pathways to better manage healthcare spending. These market forces include broadening coverage of lives and benefits through healthcare reform efforts, an expansive drug pipeline featuring the rise of biosimilars and targeted brand therapies, and patient management strategies that redefine care management and patient engagement.

Over the next several years, Catamaran estimates overall trend will range between 1.6% – 0.6% between 2013 and 2017.30

2014 & 2015

-1.2% – 0.2%
-1.4% – 0.5%
-1.6% – 0.6%

2016

16.0% – 21.0%
16.3% – 21.4%
16.0% – 23.6%

2017 & 2018

2.8% – 5.1%
3.3% – 6.2%
3.7% – 7.7%

Overall trend predictions suggest pharmaceutical demand in the U.S. will be characterized by increasing utilization and modest spending growth. Industry estimates are projecting a compound annual growth rate (CAGR) of 1–4% between 2013 and 201730.

Over the next several years, Catamaran estimates overall trend will range between 2.8% and 7.7%, with specialty trend driving the majority of the cost. Price inflation will continue to drive increases in trend, particularly by upcoming new-to-market drugs, concentrated in the specialty market. A robust generic pipeline anticipated in 2014 will help mitigate brand price increases that would otherwise drive up overall trend. It is anticipated that generic drug launches will outpace brand launches in terms of volume and market share. In addition, significant generic launches and expanded coverage from healthcare reform will each contribute to increases in overall utilization. Figure 24 is a forecast of Catamaran’s overall, traditional and specialty trend for the next several years.

Future Trend

ACA Drives Rapid Expansion of Coverage

Implementation of healthcare reform continues to add significant impact to overall U.S. trends and future demand. By the year 2020, 41 million newly enrolled Americans will influence growth across all pharmaceuticals, particularly within mandated benefit categories.32

Fueled by this expansion, prescription costs are expected to double in the U.S. by the year 2020.30 Efforts to manage long-term healthcare spending will place increased emphasis on preventive medicine, driving usage of generics and growth in classes such as contraceptives.

Specialty Drug Pipeline Expands to Meet Demand

Technological advancements have provided emerging opportunities for targeted and personalized disease treatment and have led to significant expansion of the pipeline. According to a report from PhRMA, America’s biopharmaceutical research companies are using biological processes to develop 407 medicines and vaccines, targeting more than 100 diseases, which include:

- 338 monoclonal antibodies
- 250 vaccines
- 33 recombinant proteins
- 60 cell therapies
- 30 antisense medicines
- 46 gene therapies

With such development, pharmacogenomics testing appears poised to represent a significantly greater role in the initiation and management of specialty drug therapy in the future. As such, healthcare systems and payers will be pressed to develop or enhance internal mechanisms to not only evaluate the scientific evidence of these drugs themselves, but also the reliability and cost-effectiveness of any companion diagnostics that may come along with them. Increasingly, new molecular entities will be launched to address treatments across diseases areas such as rheumatoid arthritis, melanoma and hepatitis C11.

Generic Utilization Moderates Trend Change

Between 2013 and 2018, $230 billion of worldwide drug sales will be at risk from generic erosion following patent expiries.30 However, only $16 billion of this amount of potential savings is actually forecast to be achieved.30 One reason for this divergence is the growing contribution of biological products to overall worldwide sales. In 2018, around 50% of sales in the top 100 pharmaceutical products are expected to be generated by biological products.31

Working closely with its clients, Catamaran has delivered the industry’s leading GDR in recent years. Our tailored approach enables us to help clients maximize opportunities to drive higher generic utilization. As a result, our generic dispensing rate is projected to reach between 96.7%–90% by 2015.

Generic Dispensing Forecast

Deployment 2014–2018

84.9% – 98.2%
86.0% – 98.5%
86.7% – 90.0%
Understanding of unique business goals, cost challenges and environmental factors shape the conversation. Layering local best practices and cultural nuances defines the suite of solutions for each payer type. As these challenges and goals are illuminated by analytic insights, the right solutions can be tailored for each individual payer. Powered by technology, these solutions deliver reliable and meaningful outcomes.
a tailored approach for healthcare payers

Moving from a national to a local focus, we now take a detailed look at six distinct types of healthcare payers. Despite a common goal of providing high quality, well-coordinated care that delivers optimal outcomes at the best possible cost, these different healthcare payers face unique challenges and have specific priorities.

In this chapter, we explore the current landscape these various payers operate in and focus on the particular challenges they must navigate. We share examples of how Catamaran tailors our services for clients, putting our flexibility and best practice knowledge to work to solve real issues. For each market segment, we analyze differences in overall trend and trend components and compare these to the broader Catamaran book of business. Lastly, we provide insights into the trend drivers that are unique within each market segment.

Catamaran offers solutions that are tailored to achieve the specific goals of each healthcare payer. Before beginning our market-specific focus, we want to acknowledge a few broad challenges that cut across market segments and are top-of-mind for all healthcare payers today:

• Preparing for the opportunities and challenges of healthcare reform.
• Taking advantage of moments of opportunity to engage consumers in their healthcare.

We start with a brief look on the next page at market specific trends and Catamaran tailors our services for clients, putting our flexibility and best practice knowledge to work to solve real issues. For each market segment, we analyze differences in overall trend and trend components and compare these to the broader Catamaran book of business. Lastly, we provide insights into the trend drivers that are unique within each market segment.

Catamaran serves
the most diverse set of markets in the industry

Employers
Labor and Trust
Managed Care Organizations
Medicare Part D
TPAs
State and Local Government
CO-ops
Workers’ Comp
FFS Medicaid

Catamaran serves the most diverse set of markets in the industry.

Highly Managed Clients
Highly managed clients are highly motivated to achieve maximum value for their healthcare dollars. They tend to be industry innovators, willing to explore and implement a variety of clinical and plan design strategies to achieve optimal health outcomes and reduce costs.

Collaborating with clients, we pioneer new ways to drive members to lower cost alternatives, improve medication adherence and close gaps in care. Powerful analytics and patient-level risk scoring drive personalized interventions that engage members at the right moment — when patients have the opportunity to make a more informed, better decision that results in higher quality or lower cost treatment.

Taking advantage of these moments of opportunity to drive the most efficient use of healthcare dollars, highly managed clients typically benefit from implementing the following strategies:

• Member risk scoring and personalized interventions.
• Tailored clinical programs, including step therapy, quantity limits and prior authorization.
• Aggressive management of controlled drugs to reduce misuse and abuse.
• Formulary management tailored to address client-specific, high-cost medication classes.
• Exclusive specialty through BriovaRx®, a high-touch, patient-centric model.
• Plan designs with copay differentials that promote cost-effective choices.
• Multi-channel communications that engage members in their healthcare.

The remainder of this chapter examines market specific trends and Catamaran solutions for six of the market segments we serve.
Managed Care Organizations (MCOs) are tugged in many directions as they respond to changing industry dynamics and opportunities resulting from the Affordable Care Act (ACA). They need to be adept at operating in both public and private exchanges, while continuing to grow their core business in the traditional wholesale marketplace.

Across their business, MCOs need to leverage the power of medication therapy to manage chronic diseases and help minimize premiums to maintain a competitive edge. MCOs need partners with inherent flexibility and the agility to scale and respond quickly, as client needs change and program requirements increase in complexity. As a result of the ACA, more individuals will have access to healthcare through exchanges and marketing efforts will become more consumer-centric. Consumers will choose plans that offer the best value, giving MCOs an opportunity to differentiate with leading-edge tools and technology to engage members in managing their health.

Catamaran Solutions

Catamaran tailors our solutions to meet the needs of both national and regional health plans. Our expertise serving payers in both private and public markets gives clients the support and flexibility they need as they configure and adapt their business to successfully compete in today’s price-competitive marketplace. Working with Catamaran, MCOs gain:

• Favorable discounts along the pharmacy supply chain and impactful clinical support, enabling competitive premiums and new revenue wins.
• Member-friendly tools and services that engage members and help them become better informed consumers.
• Better outcomes by coordinating care and working with all stakeholders involved in healthcare delivery. Catamaran has programs to connect members, doctors, pharmacists and MCOs to help them provide the best care possible.
• A “Center of Excellence” service model, with local clinicians and analysts working side-by-side with clients to align with their strategy and collaborate more effectively on client priorities.
• Increased efficiency through Catamaran’s leading technology solutions.

Case Study

A large commercial, managed Medicaid and Medicare health plan located in the Midwest was experiencing extremely high costs within dermatology products, primarily due to aggressive coupon programs for kinase treatment from drug manufacturers. This client also had high utilization in categories with generic alternatives, including statins and antidepressants. Narcolepsy agents were another high cost, unmanaged category.

Catamaran recommended formulary restrictions, including formulary blocks and 100% patient pay for certain drugs, to nullify the impact of coupon programs for acne therapy. Clinically appropriate step therapy and prior authorization protocols were implemented in the statin, antidepressant and narcolepsy categories. These strategies drove significant client savings, with reduced utilization across all therapeutic categories.

Program Results

$10M+ in savings, year-over-year:

• $4.4M – dermatology products
• $4.0M – statin category
• $1.2M – antidepressant category
• $1.0M – narcolepsy category

Analytic Insights

Managed Care Organizations experienced a 17% overall trend, a 10.5% reduction from 2012 to 2013. Utilization trends of -0.1% and favorable drug mix of -3.2% helped offset a unit cost increase of 4.4%.

The negative drag mix was driven in part by more cost effective generic options for products such as Singulair®️, Lexapro®, Diovan HCT®️ and Actos, and led to a high generic dispensing rate of 83.8%.

The majority of the top therapeutic classes by cost and experienced the lowest trend of -17.5%, due to the availability of generic Tricor®️ (fenofibrate) and improved pricing of atorvastatin, generic Lipitor.

• The autoimmune inflammatory conditions and multiple sclerosis experienced an overall trend of 12.6% and 14.2%, respectively. Unit cost increases associated with products such as Enbrel®,Humira®️ and Avonex®️ were the primary contributors to overall trend in these classes.

• The highest unit cost increases were seen in psychotrophic and neurological agents as a result of Syrem®, which experienced 33.9% price inflation.
Governing boards for labor and trust funds face a multitude of factors that impact their health and wellness offerings. Plans developed through collective bargaining agreements have typically held fast to historically rich benefit structures, requiring fund managers to creatively address increasing cost trends and cash flow concerns.

Additional coverage requirements through the provisions of the ACA are also driving the need for strategies that lower net costs. The overall percentage of U.S. workers who belong to unions is approximately 11.3% of the working population.35 These workers have been heavily affected by downward cycles of the economy and are not eligible for coverage if not working. As trustees face increasingly complex and challenging budgetary pressures, strong consultative relationships among fund management and the PBM are key to finding solutions.

Catamaran Solutions

Budgetary pressures demand flexible and transparent solutions. Catamaran’s analytical approach identifies specific challenges and fuels proactive consultation on potential options and pathways for funds to achieve their goals. Our dedicated account teams understand that plan change recommendations require detailed consideration by the fund prior to approval. Catamaran’s breadth of expertise and array of solutions offers funds practical opportunities to address rising costs while promoting quality care. We offer:

• An array of clinical services that actively engage participants in medication management.
• Easy-to-use tools such as client portals, participant websites and mobile apps that streamline communication.
• A channel-neutral approach to the pharmacy supply chain that offers flexibility in plan design and choice for participants.
• Tailored client solutions that enable innovative cost management strategies, while preserving better benefits.

A labor and trust fund with 7,000 participants collaborated with Catamaran to better manage their growing diabetic population. Many of the diabetics were also on medications for high cholesterol and high blood pressure and were choosing expensive brand name drugs. The fund wanted to take a balanced approach by educating and encouraging participants to make better choices. Catamaran recommended our Step Therapy and Formulary Advantage Program to encourage increased generic utilization and preferred brands. The program was tailored to start with soft edits, focusing on new-to-therapy patients. When these patients presented a new prescription for one of three targeted conditions, they were redirected to fill a more cost-effective alternative. Those already on therapy with a non-preferred drug were encouraged to change medication within 90 days.

Case Study

2013 Labor and Trust Trend Drivers

<table>
<thead>
<tr>
<th>Trend Drivers</th>
<th>Brand Cost</th>
<th>Generic Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>1.1%</td>
<td>-1.7%</td>
</tr>
<tr>
<td>Traditional</td>
<td>-1.7%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Specialty</td>
<td>9.2%</td>
<td>-1.1%</td>
</tr>
</tbody>
</table>

Program Results

As GDR trend increased 7%

Plan PMPM decreased 6.3%

Analytic Insights

• Overall trend for Labor and Trust was 1.1%, due to the use of more cost-effective medications for traditional products, resulting in a very low drug mix.
• Traditional trend experienced a -1.7% trend due to brand utilization decreases of nearly 13% and generic drug utilization increases of 5%.
• To respond to the rapid pace of price increases, while managing plan design benefits and controlling cost erosions, Labor and Trust experienced a 3.7% increase in copay per traditional prescription and a 13.6% increase in copay per specialty prescription.
• Highest trend increases were seen among the top generic alternative drugs, fenofibrate (Triglyceride®) at 203% and montelukast sodium (Singular®) at 108%; both are cost-effective options that contributed to a favorable drug mix and drove brand use down.
• Specialty trend of 13.8% was driven by a 9.2% increase in unit cost. However, the availability of a lower cost generic option for Revatio® (sildenafil citrate) and switching to more cost-effective growth hormone products contributed to a rarely-seen negative drug mix of -1.1%.

FIGURE 29

Labor and Trust

FIGURE 30

2013 Brand vs. Generic Trend

• Overall trend for Labor and Trust was 1.1%, due to the use of more cost-effective medications for traditional products, resulting in a very low drug mix.
• Traditional trend experienced a -1.7% trend due to brand utilization decreases of nearly 13% and generic drug utilization increases of 5%.
• To respond to the rapid pace of price increases, while managing plan design benefits and controlling cost erosions, Labor and Trust experienced a 3.7% increase in copay per traditional prescription and a 13.6% increase in copay per specialty prescription.
• Highest trend increases were seen among the top generic alternative drugs, fenofibrate (Triglyceride®) at 203% and montelukast sodium (Singular®) at 108%; both are cost-effective options that contributed to a favorable drug mix and drove brand use down.
• Specialty trend of 13.8% was driven by a 9.2% increase in unit cost. However, the availability of a lower cost generic option for Revatio® (sildenafil citrate) and switching to more cost-effective growth hormone products contributed to a rarely-seen negative drug mix of -1.1%. 

FIGURE 29
### Local Quantity Total Trend

| Briova | Specialty Pharm | 1.5% |

**Rising specialty costs and the implications of healthcare reform remain ongoing concerns.** Today’s cost challenges are prompting consideration of creative and innovative strategies to produce results. More than ever, employers are demanding tailored solutions that align with the culture and goals of their organizations. Relevant and actionable analytics and insights are the key to unlocking the right approach and to driving decisions to implement new strategies.

### Catamaran Solutions

Catamaran delivers a unique experience for each and every employer, and it begins with the combined power of data and technology. From the start, Catamaran gathers data, information, insights are the key to unlocking the right approach and to driving decisions to implement new strategies.

1. **Multifaceted communication strategies** leverage individual member preferences and historical utilization. Communications are delivered via the most appropriate channels to drive the desired behavior. Whether it’s voice, web, mobile or video, we engage members in their own health.
2. **Sophisticated clinical expertise** enables clients to rely on Catamaran to provide relevant and impactful recommendations, leaving them free to concentrate on their most critical business priorities.

### Program Results

**4.7% in plan cost reduction related to:**

- **Overutilization of transcortical products, laser and short-acting opioids, sleep aids and hypnotic/panic drugs, drug-drug interaction of hypnotic and opioids, therapeutic duplication of sedative hypnosis and muscle relaxants.

### Case Study

A leading international retailer with more than 80,000 locations in the U.S. wanted to ensure appropriate utilization of controlled substances by plan members and reduce overall per prescript cost attributable to these highly addictive medications. Catamaran implemented a retrospective drug utilization program within the analgesic class to identify situations of over-utilization, therapeutic duplication and inappropriate high dosing. Focusing on this drug class reduces healthcare expenses, promotes employee-safety, decreases risk for injuries and addresses overlapping prescriptions from multiple prescribers. Interventions for overutilization accounted for 67% of the plan cost reduction in the controlled substance classes noted below.

### Analytic Insights

- **Overall employer trend was driven primarily by a 4.6% increase in overall prescription volume, much of which was specialty drugs.** The employer segment faced more than a 150% increase in specialty prescription volume, driven primarily by a 4.6% increase in trend. This segment saw a 53% higher specialty utilization trend compared to Catamaran’s book of business. The majority of therapeutic classes experienced an overall trend increase, with the exception of two classes: hepatitis C and antiplatelets.

- **Drug classes used to treat certain rare conditions contributed to overall increases in utilization—including trends of 16.2% for pulmonary arterial hypertension and 15% for respiratory syncytial virus (RSV).** Although prevalence of these cases is low, the exceptionally high average prescription cost can significantly impact specialty trend.

- **The antidiabetic class had an overall trend increase of 13.9%, driven by increases in unit cost of specialty drugs, where average cost per prescription increased by 9.3% to reach $270.**

- **Overall utilization trend was 15.3%, largely due to higher utilization of specialty drugs.** The employer segment faced more than a 75% increase in specialty prescription volume, much of which was unmanaged through retail specialty distribution.

- **This segment saw a 53% higher specialty utilization trend compared to Catamaran’s book of business.** The majority of therapeutic classes experienced an overall trend increase, with the exception of two classes: hepatitis C and antiplatelets.

- **Retail drug classes used to treat common conditions contributed to overall increases in utilization—including trends of 15.2% for pulmonary arterial hypertension and 15% for respiratory syncytial virus (RSV).** Although prevalence of these cases is low, the exceptionally high average prescription cost can significantly impact specialty trend.

- **The antidiabetic class had an overall trend increase of 13.9%, driven by increases in unit cost of specialty drugs, where average cost per prescription increased by 9.3% to reach $270.**

- **Overall utilization trend was 15.3%, largely due to higher utilization of specialty drugs.** The employer segment faced more than a 75% increase in specialty prescription volume, much of which was unmanaged through retail specialty distribution.

- **This segment saw a 53% higher specialty utilization trend compared to Catamaran’s book of business.** The majority of therapeutic classes experienced an overall trend increase, with the exception of two classes: hepatitis C and antiplatelets.

### Percent Plan Paid by Channel Distribution

**FIGURE 31**

<table>
<thead>
<tr>
<th>Specialty Volume by Channel Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
</tr>
<tr>
<td>33%</td>
</tr>
<tr>
<td>Retail</td>
</tr>
</tbody>
</table>

**FIGURE 32**

### Program Results

**4.7% in plan cost reduction related to:**

- **Overutilization of transcortical products, laser and short-acting opioids, sleep aids and hypnotic/panic drugs, drug-drug interaction of hypnotic and opioids, therapeutic duplication of sedative hypnosis and muscle relaxants.**

### Case Study

A leading international retailer with more than 80,000 locations in the U.S. wanted to ensure appropriate utilization of controlled substances by plan members and reduce overall per prescript cost attributable to these highly addictive medications. Catamaran implemented a retrospective drug utilization program within the analgesic class to identify situations of over-utilization, therapeutic duplication and inappropriate high dosing. Focusing on this drug class reduces healthcare expenses, promotes employee-safety, decreases risk for injuries and addresses overlapping prescriptions from multiple prescribers. Interventions for overutilization accounted for 67% of the plan cost reduction in the controlled substance classes noted below.

### Analytic Insights

- **Overall employer trend was driven primarily by a 4.6% increase in overall prescription volume, much of which was specialty drugs.** The employer segment faced more than a 150% increase in specialty prescription volume, driven primarily by a 4.6% increase in trend. This segment saw a 53% higher specialty utilization trend compared to Catamaran’s book of business. The majority of therapeutic classes experienced an overall trend increase, with the exception of two classes: hepatitis C and antiplatelets.

- **Drug classes used to treat certain rare conditions contributed to overall increases in utilization—including trends of 16.2% for pulmonary arterial hypertension and 15% for respiratory syncytial virus (RSV).** Although prevalence of these cases is low, the exceptionally high average prescription cost can significantly impact specialty trend.

- **The antidiabetic class had an overall trend increase of 13.9%, driven by increases in unit cost of specialty drugs, where average cost per prescription increased by 9.3% to reach $270.**

- **Overall utilization trend was 15.3%, largely due to higher utilization of specialty drugs.** The employer segment faced more than a 75% increase in specialty prescription volume, much of which was unmanaged through retail specialty distribution.

- **This segment saw a 53% higher specialty utilization trend compared to Catamaran’s book of business.** The majority of therapeutic classes experienced an overall trend increase, with the exception of two classes: hepatitis C and antiplatelets.

### Percent Plan Paid by Channel Distribution

**FIGURE 31**

<table>
<thead>
<tr>
<th>Specialty Volume by Channel Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
</tr>
<tr>
<td>33%</td>
</tr>
<tr>
<td>Retail</td>
</tr>
</tbody>
</table>

**FIGURE 32**

### Program Results

**4.7% in plan cost reduction related to:**

- **Overutilization of transcortical products, laser and short-acting opioids, sleep aids and hypnotic/panic drugs, drug-drug interaction of hypnotic and opioids, therapeutic duplication of sedative hypnosis and muscle relaxants.**
Affordability of pharmacy benefits continues to be a mission-critical issue for state and local governments. The compounding effect of a growing retiree population and mandated and negotiated coverage creates challenges to managing pharmacy spend.

Key challenges include:

- **Budget pressures:** Diminishing or frozen funding for benefits for employees is forcing governing bodies to consider tactics such as benefit renegotiation and consolidation of business units. They are also exploring narrow networks and more restrictive formularies.

- **Benefit structures:** State and local governments increasingly need to balance rich legacy benefit structures with additional mandated coverage for items such as contraceptives. Diminishing or frozen funding for benefits for employees is forcing governing bodies to consider tactics such as benefit renegotiation and consolidation of business units. They are also exploring narrow networks and more restrictive formularies.

- **Budget pressures:** Diminishing or frozen funding for benefits for employees is forcing governing bodies to consider tactics such as benefit renegotiation and consolidation of business units. They are also exploring narrow networks and more restrictive formularies.

**Catamaran Solutions**

Catamaran tailors our programs to meet the needs of state and local government clients, offering a wide spectrum of services to meet specific needs, including:

- **Flexible clinical programs** that allow choices relative to formulary management and member engagement strategies.

- **Insights from Catamaran’s powerful analytics database**, including state and local government benchmarks that help drive market-specific cost containment strategies.

- **Proactive, high-touch member engagement tools**, including useful web and mobile applications, that help to ensure effective cost management and promote health and wellness.

In addition, local knowledge by the Catamaran clinical and account team enables us to work with targeted prescribers within a state or municipality to encourage cost-effective prescribing behaviors.

**Case Study**

A large state benefit program with 85,000 employees in the Great Lakes region needed to find a better way to manage utilization and prescribing practices to achieve higher use of generic and lower-cost medication options, without cost-shifting to their plan members. After detailed analysis, Catamaran recommended that the state implement our Formulary Advantage Program to address their highest-cost medication classes.

Catamaran’s program encourages use of clinically effective, lower-cost medications and promotes medication adherence by helping patients reduce out-of-pocket costs. We targeted multiple drug categories with a focused step therapy approach. Results for the state insured and oral acne antibiotic program, measured via PMPM savings and GDR rate, demonstrated significant savings.

**Program Results**

- **$0.61 PPM savings**
- **99.6% GDR**

**Oral Acne**

- **GDR**
- **93.1%**
- **A 10-point increase**

**Analytic Insights**

- **Overall trend of 21.2% was the result of a 4.7% increase in unit cost and a -3.1% drug mix.**
- **Brand utilization decreases of 12.8% further mitigated brand price increases of 11.2%.**
- **Increases in generic utilization within the pulmonary arterial hypertensive class of 46.5%, coupled with decreases in generic unit costs of 11.2%, helped to offset overall trend.**
- **Traditional drugs experienced a negative trend of -10.2%. The majority of top classes by PMPM spend showed declining trends, led by antihypertensives at -14.4% and antineoplastics and immunosuppressants agents at -14.5%, due to significant generic launches in 2013.**

- **Overall trend of 32% for the contraceptive class was six times higher than the book of business, driven in part by utilization increases of 46.5%.**
- **Hematological agents trended 71.2% higher than the book of business, driven in part by utilization increases of 46.5%.**

- **A utilization trend of 21.2% was the main trend driver vs. a 6.8% increase for the book of business. Recombinate®, used to treat and prevent hereditary episodes in hemophilia A, had the highest utilization increase of more than 140%.**
With a relentless emphasis on improving health outcomes, the Centers for Medicare and Medicaid (CMS) expect health plans that offer Medicare Part D plans to demonstrate they are providing high quality care. And with 11,000 newly eligible seniors each day, there is heightened need to implement meaningful clinical programs that improve beneficiary health.

CMS Star Quality Ratings, which measure service and clinical quality indicators across plans, continue to be the gateway for high performing plans to distinguish their offering and qualify for higher reimbursement. Plans face myriad challenges, from OIG reports that show continued misuse of drugs through fraud, waste and abuse to changing regulations and new guidance each and every year. New this year, CMS clarified criteria to ensure that payments by Part D plans for drugs provided to hospice beneficiaries are correct under Medicare policy, creating the need for even greater vigilance by plans.

As plans devise their strategy to improve the coordination and quality of healthcare provided, it is critical that they partner with a PBM that can meet the demands of new regulations and the need for even greater vigilance by plans.

**Case Study**

A health plan with more than 1 million members wanted to improve member health and improve its CMS Star Ratings for medication adherence. Using our member intervention tool, Catamaran customized an outreach program that identified members taking medications in targeted categories that directly impact the ratings for adherence. When a member was late to refill a prescription for high-blood pressure, high cholesterol or diabetes, Catamaran engaged the member with a customized telephonic outreach. Using claims data, Catamaran communicated the specific medication(s) that the member was late to refill and offered to contact the member with his or her preferred retail pharmacy.

When asked about barriers to timely refill, members cited cost issues, side effects and transportation challenges, which gave the plan key insights for new programs to help these members stay adherent.

*Prescriptive analytics to identify beneficiaries who fall short of safety and efficacy goals.
*Multifaceted clinical interventions that improve quality and optimize outcomes.
*Integrated outreach to engage patients and prescribers, improving outcomes.*

**Program Results**

40% increase in refill rates for targeted medications within 6 months.

**Analytic Insights**

*The Medicare Part D segment experienced a 3.1% trend which was primarily driven by unit cost of 5.8% and increased utilization of specialty products.*

*The top traditional therapeutic classes by cost with the highest trend increases included antidiabetics, ulcer drugs and anticonvulsants. The antidiabetic class had the highest unit cost increase of 11.2% and was primarily driven by Lartruvo®. A 15.9% trend for ulcer drugs was due to increased unit cost and increased utilization of Nexium®, which is slated to lose patent protection in 2014. The trend for anticonvulsants was 13.0%, driven by increased utilization and unit cost for Lyrica®.

*The majority of the top classes for traditional drugs experienced decreases in quantity. The highest quantity decreases were within the psychotherapeutic and neurological agents, which experienced a -16.3% decrease.*

*The 22% trend for HIV drugs represented one-quarter of the Medicare Part D specialty PMPM, and was attributed to increased utilization of medications such as Truvada®, Prezista® and Isentress®.

*Oncology drugs experienced a 33.8% trend due to increases in utilization of 9.3%, and unit cost of 10.1%. Zytiga® and Xtandi® had the highest impact on this class with a $1.02 PMPM increase representing 40% of the increased trend.*
workers’ compensation

Unlike other payer segments, workers’ compensation is highly regulated on a state-by-state basis. Layering state-specific compliance requirements on top of cost challenges at the national level creates a complex and unique operating environment for workers’ compensation payers. Specific market dynamics include:

The dramatic rise in opioid and narcotic abuse which has contributed to a growing patchwork of state-by-state regulatory requirements surrounding Schedule II narcotics, including physician monitoring and treatment guidelines.

A growing set of pharmacy-specific regulatory requirements, including fee schedules for retail pharmacies, rules related to physician dispensing and compounding, and DAW-2 member penalties for brand drugs.

Improvements in the historically contentious relationships between PBMs and third-party billers, creating opportunities for more collaboration.

Providers combining and packaging ancillary services, such as durable medical equipment, home health, chiropractic services and physical and occupational therapy, with PBM services.

Providers combining and packaging ancillary services, such as durable medical equipment, home health, chiropractic services and physical and occupational therapy, with PBM services.

Dedicated resources—from executives to account and clinical teams—bring industry focus and expertise, while offering:

• Analytic Insights

2013 Workers’ Compensation Trend Drivers

- Overall trend of -1.2% was driven by 7% increase in unit cost, but mitigated by -3.5% drug mix and -2.8% utilization. Workers’ compensation is the only segment that measures trend based on utilizers rather than members, and prevalence was measured by new incidences.

- Generic unit cost decreased by 5.4% and offset some of the brand drug price increases. Higher generic utilization led to -12.4% decrease in utilization of brand drugs and a low drug mix.

- Opioids were the top class by cost, but experienced a -13% overall trend as a result of decreasing utilization, drug mix and quantity trends. Hydrocodone acetaminophen, which represented 84% market share, had a trend decrease of -47%.

- Antidepressants and analgesic-inflammatory agents experienced the highest unit cost increases within the top 5 drug classes by cost. Cymbalta®, which lost patent protection in December 2013, had a 15.5% overall trend increase, driven by an 18.2% unit cost increase.

- Workers’ compensation had an unusually high specialty quantity trend increase of 16.1%, compared to a negative trend within the book of business.

Catamaran Solutions

With Catamaran, workers’ compensation payers benefit from the size and scale of a full-service PBM that also brings knowledge in the nuances of this market. Dedicated resources—from executives to account and clinical teams—bring industry focus and expertise, while offering:

- Around-the-clock customer service with customizable after-hours protocols to enhance service levels.
- Clinical programs, including MFM, to locate and intervene with high cost claimants and drive better outcomes.
- Effective management of claimants at risk for abuse or misuse of Schedule II narcotic prescriptions.
- Tailored solutions that deliver on the requirements of the environment and the needs and goals of the payer.

Case Study

A large for-profit hospital and medical group has partnered with Catamaran since May 2011 to manage narcotics for their workers’ compensation program. Catamaran transforms claim prescription history into actionable insights, sharing a complete patient medication profile with prescribers and working with the client’s managed care vendor to facilitate necessary changes in therapy.

We began with a retrospective approach focused on historical and contemporaneous, and then expanded our focus to include a broader group of narcotics and address multiple provider issues. The program now includes concurrent review of highly addictive Schedule II narcotics to help improve claimant safety, reduce risk of adverse events and promote appropriate utilization.

This partnership has produced dramatic results. Total cost and average cost per prescription for Schedule II narcotics have steadily decreased since program inception.

This partnership has produced dramatic results. Total cost and average cost per prescription for Schedule II narcotics have steadily decreased since program inception.

Program Results

Average cost per line of business

<table>
<thead>
<tr>
<th>2011—2013 Trend</th>
<th>Overall</th>
<th>Specialty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average cost per line of business</td>
<td>-18.8%</td>
<td>-12.8%</td>
</tr>
</tbody>
</table>

Trend Drivers

Local

Workers' Comp

Workers' Comp

Total

Workers' Comp

Total

Overall

Workers' Comp

Total

Workers' Comp

Overall

Analytics

- Overall trend of -1.2% was driven by 7% increase in unit cost, but mitigated by -3.5% drug mix and -2.8% utilization. Workers’ compensation is the only segment that measures trend based on utilizers rather than members, and prevalence was measured by new incidences.

- Generic unit cost decreased by 5.4% and offset some of the brand drug price increases. Higher generic utilization led to -12.4% decrease in utilization of brand drugs and a low drug mix.

- Opioids were the top class by cost, but experienced a -13% overall trend as a result of decreasing utilization, drug mix and quantity trends. Hydrocodone acetaminophen, which represented 84% market share, had a trend decrease of -47%.

- Antidepressants and analgesic-inflammatory agents experienced the highest unit cost increases within the top 5 drug classes by cost. Cymbalta®, which lost patent protection in December 2013, had a 15.5% overall trend increase, driven by an 18.2% unit cost increase.

- Workers’ compensation had an unusually high specialty quantity trend increase of 16.1%, compared to a negative trend within the book of business.

- Top class by cost, anticoagulant, had the highest quantity increases as a result of a 60% quantity increase in generic Lovenox®, compared to -5.8% in book of business.

- Anticoagulants were the top therapeutic class by cost and experienced -65% overall trend due to higher utilization of generic drugs. However, this class saw a 64.5% quantity increase, driven by generic Lovenox which experienced a 63.3% quantity increase.
Acknowledgement of and regard for the unique aspects of each patient forms the basis for a personalized approach. Patient-level environmental, financial and behavioral factors influence outcomes, and clinical histories can add a layer of complexity. Leveraging data to glean clinical insights and linking these insights to the characteristics of the individual patient drives personalized interventions, engaging people to take charge of their health.
Engaging members to achieve personal health

Effective healthcare is delivered at a personal level. Individuals make health-related decisions on a daily basis that affect the quality of their lives and the overall cost of healthcare. For clinicians and healthcare organizations, understanding how to effectively engage people at critical moments is paramount to achieving the best possible health outcomes.

Engaging members at the right time in the right way first and foremost requires comprehensive and timely analytics for identification of moments of opportunity. Enabling positive personal choices requires multifaceted communication vehicles and choice—choice of where and how members acquire their medications.

Drugs don’t work in patients who don’t take them
—C. Everett Koop, MD

Moments of Opportunity

Today’s technologies create “big data”—information sets so massive and complex they have the great potential for information overload, hindrance of timely use and generation of non-actionable information. Technologically savvy and smart analytics are needed in order to sift through incredible amounts of diverse data to identify individual members who will benefit from proactive intervention at a precise time. The use of prescriptive analytics is the most effective way to find the right “moments of opportunity” for engaging members in better decision-making about their care. Catamaran’s proven technology and analytics allow us to find clarity and relevance within billions of data points to single out new insights that will drive meaningful action to improve overall health.

Communicating Your Way

Engaging with the right people at the right time is the first half of the communication equation. Just as important is how to communicate—targeted messaging via the most appropriate channel is critical to garnering the desired response. A one-size-fits-all approach to communications will not produce the most effective results. Enabling a personalized experience produces better outcomes and greater overall value. Catamaran’s focus on mass individualization enables a personalized experience for each member. Our interventions include video consultation, phone calls, interactive voice response (IVR), text messaging and evolving new technologies. We leverage all available communication channels and understand which channel will be the most effective for the particular member, including direct face-to-face communication with the pharmacist.

We offer advanced self-service options, providing direct access to information that enables members to better manage their own health. These self-service apps provide freedom to obtain information when needed and control over the type of information accessed. Providing members with the opportunity to engage through a personalized approach drives optimal health and cost behaviors.

Promoting Access and Adherence

Once members are motivated to take action, reducing the barriers to their success is the next goal. Access to their medications can become a significant barrier if limits are placed on where members can acquire their medications. A channel-neutral approach is necessary to ensure that individuals have easy and preferred access to obtaining their medications. A national retail network, full service mail order pharmacy and a specialty pharmacy provide ample venues. Catamaran offers members open access to each of these channels, helping to ensure that patients take that important first step in obtaining their medication and that they continue to refill as appropriate. By empowering members to make their own decisions, barriers are reduced and effective healthcare is achieved.

The Power of Engagement

We recognize that members are unique, with different clinical histories, co-morbidities, financial situations. However, one aspect they all have in common is the opportunity to make well-informed decisions about their healthcare. By actively engaging members in their healthcare with personalized intervention strategies, Catamaran helps members take advantage of these moments of opportunity to achieve maximum cost-savings and better health outcomes. The following case studies provide brief examples of the value of Catamaran’s personalized approach.

Performing a Comprehensive Medication Review following hospital discharge.

Unloading the first specialty medication shipment with a new-to-therapy patient.

Recommending missing medication to a patient in care.

Reminding patients to refill maintenance medications to increase adherence.

Encouraging patients to fill maintenance medications with home delivery.

Providing holistic support to specialty therapy patients.

Catamaran offers a variety of personalized intervention strategies to engage members.

Moments of Opportunity

For every 100 prescriptions written:
- 10-14 are picked up
- 25-30 are taken properly
- 45-60 are refilled
- 40-45 prescriptions written:
- 25-30 are picked up
- 35-50 are taken properly
- 50-65 are refilled

“Drugs don’t work in patients who don’t take them” —C. Everett Koop, MD

Source: IMS Institute for Healthcare Informatics

Table of Contents

- Personal
- Engaging Members
- Moments of Opportunity
- Table of Contents
Patient Situation

More than 30 years ago, Jim received multiple blood transfusions following a serious car accident. Now 55 years old and living alone, Jim has battled the resulting hepatitis C for nearly 30 years. In addition, he suffers from type II diabetes, coronary artery disease and chronic back pain, which he successfully manages with oral medications, diet and lifestyle changes. Following a full course of interferon and ribavirin® five years ago, Jim recently relapsed and now needs additional hepatitis C therapy. Jim was prescribed triple drug therapy and referred to BriovaRx.

Holistic Patient Approach

During his initial consult with Robin, the BriovaRx Patient Management Program clinician, she focused on helping Jim understand the unique dietary requirements for his specialty medications. She outlined an individualized plan for Jim to consume the required 20 grams of fat with each dose of Incivek®, taking into account his overall diet restrictions. The plan for Jim included food options that would not only meet the fat requirement, but that were also:

• Low in carbohydrates to help control his diabetes.
• Good fats, rather than bad fats, to help manage his heart disease.
• Optimal dose scheduling to promote adherence.
• The importance of glucose self-monitoring and keeping all lab and doctor appointments.

Throughout his treatment, Jim had frequent one-on-one interaction with Robin. Understanding the potential impact of hepatitis C treatment on his other conditions and overall health, Robin supported Jim throughout his triple drug therapy regimen. She provided written and verbal education and frequent reminders about:

1. Potential Treatment Barriers
   a. Poor glycemic control
   b. Non-adherence due to increased pill burden with three new medications
   c. Medication dosing confusion with the additional pill burden
   d. Potential decline in overall health that may not be detected as Jim lives alone

Additionally, in order to help Jim manage his medications, Robin demonstrated proper injection technique for the mother and son. Midway through the video consult, the pharmacist first reviewed the use, dose, administration and potential medication side effects, and then demonstrated proper injection technique for the mother and son. The mother decided to inject her son while our pharmacist looked on. The mother performed the injection without any problem, and her son exclaimed, “It didn’t hurt a bit!”

BriovaRx: Specialty Video Consults

Starting specialty medication therapy with a self-injectable medication can be a daunting task. When therapy kicks off with a BriovaLive® video consult, patients and caregivers are able to connect with a BriovaRx pharmacist and understand their medications together—in the privacy of their own homes. Medication adherence goes up when patients receive timely support and training to build the confidence and knowledge they need to self-inject correctly. We’ve summarized below the positive impacts of a BriovaLive video consult for three patients.

“it didn’t hurt a bit!”

A 53-year-old female with hepatitis C saw her physician at the beginning of his first medication delivery. The Briova pharmacist asked about other medications that her patient was taking. The patient stated she didn’t know all of her medications and couldn’t even pronounce some of them. The pharmacist asked the patient if she had injected one of her medications before and she responded, “No, I’m afraid of needles.”

When a 53-year-old female with osteoporosis was prescribed Forteo®, she firmly stated she didn’t want to risk seeing blood through the country to her physician’s office for self-injecting training from the office nurse. The physician and the patient were pleasantly surprised to hear that the patient opted for a personalized injection training via video consult. Scheduling her first medication with her iPad, the patient easily followed the instructions from the Briova pharmacist during the session. The patient asked a few questions and then successfully injected herself, under the watchful eye of the physician and the office nurse. The physician and the office nurse were so impressed that they will now contract with BriovaRx for self-injection training via video consult. A young paraplegic man was diagnosed with hepatitis C. In addition to many other conditions, during the unboxing of his first medication delivery, the Briova pharmacist asked about other medications that he was taking. The patient stated he didn’t know all of his medications and couldn’t even pronounce some of them. The pharmacist asked the patient if he had injected one of his medications before and he responded, “No, I’m afraid of needles.”

BriovaRx: Country Style

When a 14-year-old growth hormone patient received his first medication shipment and his mother connected with a BriovaRx pharmacist to orient him to the teenager’s first medication shipment of Norditropin FlexPro. The Briova Rx pharmacist first reviewed the use, dose, administration and potential medication side effects, and then demonstrated proper injection technique for the mother and son. The pharmacist first reviewed the use, dose, administration and potential medication side effects, and then demonstrated proper injection technique for the mother and son. The mother performed the injection without any problem, and her son exclaimed, “It didn’t hurt a bit!”

As a patient in rural Kansas, mom was having trouble getting to the pharmacy to refill her teenager’s first medication shipment of Norditropin FlexPro. The pharmacist demonstrated proper injection technique for the mother and son. The mother performed the injection without any problem, and her son exclaimed, “It didn’t hurt a bit!”

Patient Support

A First Hand View

A young paraplegic man was diagnosed with hepatitis C. In addition to many other conditions, during the unboxing of his first medication delivery, the Briova pharmacist asked about other medications that he was taking. The patient stated he didn’t know all of his medications and couldn’t even pronounce some of them. The pharmacist asked the patient if he had injected one of his medications before and he responded, “No, I’m afraid of needles.”

When a 53-year-old female with osteoporosis was prescribed Forteo®, she firmly stated she didn’t want to risk seeing blood through the country to her physician’s office for self-injecting training from the office nurse. The physician and the patient were pleasantly surprised to hear that the patient opted for a personalized injection training via video consult. Scheduling her first medication with her iPad, the patient easily followed the instructions from the Briova pharmacist during the session. The patient asked a few questions and then successfully injected herself, under the watchful eye of the Briova pharmacist. The odds of achieving a high medication adherence level and a successful treatment outcome go sky high when patients receive personalized support.
hospital discharge program

Client Overview
A long-standing Catamaran client, a leading Northeast regional health system, has been a collaborative partner when it comes to piloting innovative ways to improve service, reduce unnecessary healthcare costs and enhance overall patient outcomes. A recent partnership focused on the development and launch of the Catamaran Hospital Discharge program. This unique clinical solution leverages our clinical, technology and analytic assets to help reduce hospital readmissions for targeted conditions.

Pilot Program
Officially launched in the summer of 2013, this pilot program provides medication therapy management and medication adherence support to members discharged from the hospital with one of seven medical conditions associated with the highest risk for hospital readmission.

Members with targeted conditions are contacted within 24-72 hours of hospital discharge by a Catamaran clinical pharmacist. The pharmacist:
• Conducts a full reconciliation of discharge medications, medications utilized by the patient prior to admission.
• Assesses all prescription and OTC medications on hand and provides counseling on potential clinical issues.
• Provides education and action plans for members on how to best adhere to their key chronic medications on a real-time basis, and conducts timely intervention the moment any sign of non-adherence is detected.

While this pilot is scheduled to run through third quarter of 2014, preliminary results of the Hospital Discharge program show promising trends in resolving medication discrepancies, improving medication adherence and reducing readmissions. Pilot results also show a high level of engagement and satisfaction among targeted plan members.

This successful partnership serves as a model for PBMs/MCOs to collaborate across the country in helping to address one of the most significant challenges facing our healthcare system today.

Helping Patients Avoid Readmission

Preventing avoidable hospital readmissions helps protect patients from the risks associated with inpatient care. We've summarized below two of the many patient cases that were identified for intervention by a Catamaran clinical pharmacist during the first six months of our pilot Hospital Discharge Program. These cases illustrate potential medication conflicts that without intervention, might have led to readmission.

Hospital Discharge Program Results
50% resolution of medication discrepancies
47% increase in refill rates*
41% reduction in readmissions**

Targeted Conditions
• Heart Failure
• Myocardial Infarction
• Atrial Fibrillation
• COPD
• Asthma
• Pulmonary Embolism
• General Depression

A 58-year-old female was admitted to the hospital after experiencing shortness of breath upon exertion. The patient was diagnosed with heart failure and began treatment with a diuretic medication, furosemide. Following a five-day hospital stay, the patient was discharged with a prescription for furosemide.

Following discharge, the patient received a call from a Catamaran pharmacist who reviewed medications the patient had at home, as well as new medications filled upon discharge. The pharmacist noted that prior to admission, the patient was prescribed a combination antihypertensive and diuretic that was a duplicate therapy to furosemide. The pharmacist contacted the primary care physician to notify him of the duplication and recommended switching the antihypertensive combination drug to a single antihypertensive that could be safely prescribed in addition to the furosemide.

Following discharge, the patient received a call from a Catamaran pharmacist. During the call, the pharmacist reviewed all medications the patient was taking—medications the patient already had at home as well as those recently started upon discharge. The pharmacist noted that, without intervention, the patient was taking escitalopram, an antidepressant medication.

Duplicate drugs increase potential side effects and drug interactions that can lead to hospital readmissions. The pharmacist noted that the new medication prescribed at discharge by another physician, Escitalopram, could lead to an increase in medication side effects, the pharmacist discussed the drug with the member and contacted the primary care physician regarding the duplicate therapy.

The escitalopram was discontinued, saving the plan more than $2,000 in annual prescription costs resulting from the duplicate therapy. The patient was discharged, improving medication adherence and reducing readmissions.

A 40-year-old female was admitted to the hospital for generalized depression and migraines. Upon discharge, she was prescribed a total of eight medications, including three medications that were new to the member—citalopram, divalproex and trazodone.

While this pilot is scheduled to run through third quarter of 2014, preliminary results of the Hospital Discharge program show promising trends in resolving medication discrepancies, improving medication adherence and reducing readmissions. Pilot results also show a high level of engagement and satisfaction among targeted plan members.

Following discharge, the patient received a call from a Catamaran pharmacist. During the call, the pharmacist reviewed all medications the patient was taking—medications the patient already had at home as well as those recently started upon discharge. The pharmacist noted that the new medication prescribed at discharge by another physician, Escitalopram, could lead to an increase in medication side effects, the pharmacist discussed the drug with the member and contacted the primary care physician regarding the duplicate therapy.

The escitalopram was discontinued, saving the plan more than $2,000 in annual prescription costs resulting from the duplicate therapy. The patient was discharged, improving medication adherence and reducing readmissions.

A 58-year-old female was admitted to the hospital after experiencing shortness of breath upon exertion. The patient was diagnosed with heart failure and began treatment with a diuretic medication, furosemide. Following a five-day hospital stay, the patient was discharged with a prescription for furosemide.

Following discharge, the patient received a call from a Catamaran pharmacist who reviewed medications the patient had at home, as well as new medications filled upon discharge. The pharmacist noted that prior to admission, the patient was prescribed a combination antihypertensive and diuretic that was a duplicate therapy to furosemide. The pharmacist contacted the primary care physician to notify him of the duplication and recommended switching the antihypertensive combination drug to a single antihypertensive that could be safely prescribed in addition to the furosemide.

Following discharge, the patient received a call from a Catamaran pharmacist. During the call, the pharmacist reviewed all medications the patient was taking—medications the patient already had at home as well as those recently started upon discharge. The pharmacist noted that the new medication prescribed at discharge by another physician, Escitalopram, could lead to an increase in medication side effects, the pharmacist discussed the drug with the member and contacted the primary care physician regarding the duplicate therapy.

The escitalopram was discontinued, saving the plan more than $2,000 in annual prescription costs resulting from the duplicate therapy.
Adherence Rates

<table>
<thead>
<tr>
<th>Disease Class</th>
<th>Percentage Improvement in PDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma/COPD</td>
<td>16%</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>15%</td>
</tr>
<tr>
<td>Diseases/ Disorders</td>
<td>20%</td>
</tr>
<tr>
<td>Hematologic</td>
<td>39%</td>
</tr>
</tbody>
</table>

Patient Situation

Margaret, a 64-year-old female, was identified via risk scoring and data analysis for follow-up by a Catamaran pharmacist in the Medication Therapy Management program. Margaret’s medication profile was extensive, with an active drug list of 10 maintenance medications for a wide range of conditions that included malignancies, insomnia, hypertension, diabetes and hyperlipidemia.

Catamaran’s Medication Therapy Management (MTM) program utilizes proprietary risk scoring and analytics based on pharmacy and/or medical claims to identify members for further intervention. We actively manage members with the most complex medication profiles, finding opportunities to improve the cost or quality of member healthcare. Once identified, MTM pharmacists systematically review all active medications in a member’s profile for:

- Appropriateness of indication(s).
- Effectiveness of the medication for the member’s condition(s).
- Acceptable dosage ranges and duration of therapy.
- Gaps in therapies.
- Cost-effective strategies, including therapeutic interchange and brand to generic conversions.
- Clinically significant drug-drug interactions.
- Dose optimization and drug consolidation opportunities.
- Appropriateness of the medication based on member demographics, which includes factors such as age, renal insufficiency and others.

In addition to a comprehensive medication review, our program screens for appropriateness of therapy, inappropriate medications in the elderly and compliance and persistence. Following a detailed review, recommendations are then provided to the member’s physician for approval and implementation. MTM pharmacists contact members to discuss any questions as well as helpful education materials for future reference.

Pharmacist Guidance

After performing a comprehensive medication review of Margaret’s medication profile, the pharmacist identified the following concerns:

- Glyburide 5mg was identified as an inappropriate medication in the elderly.
- Zolpidem 10mg was identified as a possible high dose.

In addition, the pharmacist identified the following opportunity to reduce Margaret’s daily pill burden and reduce the frequency of dosing:

- Metoprolol Tartrate 50mg twice daily was recommended to change to Metoprolol ER 100mg daily.

The Catamaran pharmacist contacted the primary care prescriber who was receptive to discussing the recommended changes to Margaret’s treatment plan.

In addition to contacting the prescriber, the Catamaran pharmacist also contacted Margaret to discuss her treatment plan and answer her questions about medication therapy. The following topics were discussed:

- Importance of a heart-healthy diet and regular exercise.
- Blood pressure, blood sugar and cholesterol goals.
- Importance of yearly flu shot.
- Signs and symptoms of low blood sugar.

For high-risk patients, a clinical pharmacist serves as a valuable resource for both the prescriber and patient to identify potential safety issues, improve adherence, close gaps in care and optimize medication therapy. With MTM, prescribers and high-risk patients receive consultative support for complex medication regimens.
The top five traditional classes for the Catamaran book of business comprise close to 40% of total traditional drug spend. Antidiabetics have remained the top class by cost for the last several years, experiencing double-digit trend increases as a result of price inflation. However, a negative drug mix for the top five classes, particularly for antihyperlipidemics and antithrombotic and bronchodilator agents, helped offset increases in traditional trend.

The following section reviews the top five traditional classes by providing a clinical overview and highlighting some of the major industry drug trends that occurred in 2013. In addition, a “look ahead” section provides insights regarding anticipated trends in the upcoming years that will have an impact on each therapeutic class.

1. Antidiabetics
2. Antihyperlipidemics
3. Antihypertensives
4. Antithrombotic and Bronchodilator Agents
5. Antidepressants

The top five classes by spend reviewed in the traditional therapeutic section include:

- Antidiabetics
- Antihyperlipidemics
- Antihypertensives
- Antithrombotic and Bronchodilator Agents
- Antidepressants

**A Look Back**

- For the Catamaran book of business, the antidiabetic class experienced double-digit increases in unit cost due to top drugs such as Lantus®, Novolog®, Victoza® and Bydureon®. Insulin remained one of the fastest growing agents in the class, with the long-acting insulin analog, Lantus, the market leader in terms of cost. The rapid-acting insulin Apidra®, Humalog® and Novolog made up about 40% of the insulin market and were some of the top drugs by cost.

- The gliptin analogs have demonstrated better blood glucose lowering than the dipeptidyl peptidase-4 (DPP-4) inhibitors. However, the potential for acute pancreatitis has limited their use. Januvia® had a -33.6% utilization trend due to its twice-daily administration. Tradjenta® had a 92% increase in utilization.

- The first sodium glucose co-transporter-2 (SGLT-2) inhibitor, Invokana®, entered the market in mid-2013 and provided glucose lowering that was insulin-independent, as well as the potential for modest weight loss.

**A Look Ahead**

- By 2018, the diabetes category will account for nearly 13% of drug sales across the total therapeutic class. It is projected by 2050 that one in three Americans will have diabetes if current lifestyles are not changed.

- Lantus growth will remain strong, with patent protection through early 2015. However, there are some companies studying Lantus-like products which may enter the market in 2016.

- Additional SGLT-2 inhibitors are likely to enter the market in the next several years. On January 8, 2014, the FDA approved the second SGLT-2 inhibitor, Farxiga™ (dapagliflozin). Post-marketing studies are required to further assess cardiovascular events and malignancies.

- Bydureon was the first long-acting GLP-1 receptor agonist approved for once-weekly injectable administration. Several other long-acting GLP-1 receptor agonists are currently being studied.
Moments of Opportunity

Traditional Therapeutic Class Overview

A Look Back

• The negative trend for the class was a result of utilization of generics, including the market-leading statins atorvastatin and simvastatin. Utilization erosion of the branded products Antara, Niopan, and Trilipix occurred once generic equivalents became available.

• Utilization of Vytorin® (simvastatin/ezetimibe) and Zetia® (ezetimibe) continue to decline, most likely due to a lack of evidence to support a reduction in cardiovascular risk, which has been demonstrated to be lower than that provided by statins.

• Recently released treatment guidelines for adults with high blood cholesterol (i.e., high low-density lipoprotein cholesterol (LDL-C) levels) focus on reducing the overall cardiovascular risk (ASCVD) risk rather than achieving target LDL-C goals. Studies are the key recommended therapy based on overall benefit vs. risk. Four statin benefit groups, three statin-intensity levels and a new cardiovascular risk calculator have been created to guide therapy. Generally, nonstatins (e.g., fibrates, niacin, fish oils, etc.) are no longer recommended for the treatment of high cholesterol due to their potential high cost and will be used as add-on therapy to statins.

A Look Ahead

• Creata® will likely see stabilization in market share until patient protection expires in May 2016 and will continue to have a place in therapy for patients who require a high-intensity statin.

• Implementation of the new cholesterol guidelines may cause increased use of the statins since Crestor® will likely see stabilization in market share until patent protection expires in May 2016 due to the new recommendations, although adoption of new guidelines remains to be seen.

• The negative trend for the class was a result of utilization of generics, including the market-leading statins atorvastatin and simvastatin. Utilization erosion of the branded products Antara, Niopan, and Trilipix occurred once generic equivalents became available.

• Utilization of Vytorin® (simvastatin/ezetimibe) and Zetia® (ezetimibe) continue to decline, most likely due to a lack of evidence to support a reduction in cardiovascular risk, which has been demonstrated to be lower than that provided by statins.

• Recently released treatment guidelines for adults with high blood cholesterol (i.e., high low-density lipoprotein cholesterol (LDL-C) levels) focus on reducing the overall cardiovascular risk (ASCVD) risk rather than achieving target LDL-C goals. Studies are the key recommended therapy based on overall benefit vs. benefit profile for ASCVD risk reduction.

• Utilization of Vytorin® (simvastatin/ezetimibe) and Zetia® (ezetimibe) continue to decline, most likely due to a lack of evidence to support a reduction in cardiovascular risk, which has been demonstrated to be lower than that provided by statins.

• Recently released treatment guidelines for adults with high blood cholesterol (i.e., high low-density lipoprotein cholesterol (LDL-C) levels) focus on reducing the overall cardiovascular risk (ASCVD) risk rather than achieving target LDL-C goals. Studies are the key recommended therapy based on overall benefit vs. benefit profile for ASCVD risk reduction.

• Recently released treatment guidelines for adults with high blood cholesterol (i.e., high low-density lipoprotein cholesterol (LDL-C) levels) focus on reducing the overall cardiovascular risk (ASCVD) risk rather than achieving target LDL-C goals. Studies are the key recommended therapy based on overall benefit vs. benefit profile for ASCVD risk reduction.

• There are several proprotein convertase subtilisin/kexin (PCSK9) inhibitors in the pipeline for the treatment of hypercholesterolemia. It is probable these injectable monoclonal antibodies will not be approved for first-line cholesterol management. There will be likely classified as specialty agents due to their potential high cost and will be used as add-on therapy to statins.

Moments of Opportunity

Traditional Therapeutic Class Overview

antihyperlipidemics

Top Drugs by Market Share

- Crestor - 23.4%
- Pravastatin Sodium - 11.0%
- Atorvastatin Calcium - 23.4%
- Simvastatin - 34.4%
- Fenofibrate - 4.9%
- Lipitor - 7.9%

Approximate Number of Drugs in the Pipeline

- 9
- 14
- 18
- 9

Traditional Therapeutic Class Overview

antihypertensives

Top Drugs by Market Share

- Lisinopril - 19.5%
- Lisinopril/Hydrochlorothiazide - 8.5%
- Enalapril/Metoprolol Succinate ER - 6.3%
- Lisinopril/Diltiazem - 1.4%

Approximate Number of Drugs in the Pipeline

- 9
- 16
- 8
- 19

Clinical Review

Traditional

Moments of Opportunity
Traditional Therapeutic Class Overview: antihistamtic & bronchodilator agents

A Look Back

• The antihistamtic & bronchodilator class experienced declining overall trend, primarily driven by a negative drug mix due to the release of generic Singulair® in September 2012. Brand Singulair utilization declined by 38% while utilization of generic Singulair (montelukast) increased by 163%, becoming the most utilised drug in the class.

• The steroid/long-acting beta agonist (LABA) combination inhalers continued to dominate the asthma market, with the first agent in class, Advair® Diskus®, continuing to be the market leader. While it had a decrease in utilization, it remained the top drug by cost, comprising 26% of the class. It experienced 10.9% price inflation that contributed to the overall unit cost for the class.

• Other agents in the LABA class combination, Symbicort® and Dulera®, began to increase in utilization. For patients who are not controlled on inhaled corticosteroids (ICS), treatment guidelines recommend adding another controller medication such as a LABA or a leukotriene receptor antagonist.47, 48

• For the treatment of chronic obstructive pulmonary disease (COPD), Advair and Spiriva® lead the market.49 Tudorza®, approved in July of 2012, has started to gain some utilization. It has the same labeled indications as Spiriva and requires twice-daily dosing versus Spiriva at once a day.

A Look Ahead

• Respiratory drug sales should continue to comprise about 7% of the total worldwide drug market.38 Two new products, Anoro® Ellipta and Breo® Ellipta, are approved for COPD treatment only. However, Breo is currently in Phase 3 trials for asthma treatments, and is likely to take market share from Advair due to once-daily dosing versus Advair’s twice-daily dosing.26

• The newer once-daily LABA indicated for the treatment of COPD will likely continue to gain market share. Brovana® and Perforomist® are available as nebulized solutions, while Arcapta® is available as an inhaler. These newer agents will likely be used instead of the twice daily Serevent and Foradil inhalers.

• The FDA has issued draft guidelines for the development of generic Advair49 that require only a partial clinical development program. These guidelines recommend adding another controller medication such as a LABA or a leukotriene receptor antagonist.47, 48

• It is estimated that roughly 20–30% of patients fail existing therapies. Treatment for resistant depression remains an unmet need in the category.38

• Several triple reuptake inhibitors (TRI) which inhibit dopamine, serotonin and norepinephrine have had their development discontinued.38 Several pharmaceutical manufacturers had difficulty moving the products from Phase 2 into Phase 3 development.

Antidepressants

A Look Back

• A decreasing overall trend for antidepressants was driven by negative price inflation, due to generics from the selective serotonin reuptake inhibitor (SSRI) and serotonin norepinephrine reuptake inhibitor (SNRI) classes, which continued to drive utilization. Sales in the class continued to decline as the majority of the category was available generically.

• Cymbalta® (duloxetine) was the fourth-highest ranked medication by U.S. Pharmaceutical Sales.50 Duloxetine was FDA approved and launched in December 2003. Generic shortages occurred after launch because fewer generic manufacturers marketed their generics than originally anticipated.

• Pamelor® (mirtazapine) had a decrease in utilization, it remained the top drug by cost, comprising 10.1% of the class. It experienced 10.9% price inflation that contributed to the overall unit cost for the class. It is estimated that roughly 20–30% of patients fail existing therapies. Treatment for resistant depression remains an unmet need in the category.38

• It is projected that worldwide sales will continue to decline due to generic dominance in the category.1 It is likely that SSRI sales will continue to be the first-line treatment for depression due to physician comfort level and tolerability of the drugs.38

• It is estimated that roughly 20–30% of patients fail existing therapies. Treatment for resistant depression remains an unmet need in the category.38

• Several triple reuptake inhibitors (TRI) which inhibit dopamine, serotonin and norepinephrine have had their development discontinued.38 Several pharmaceutical manufacturers had difficulty moving the products from Phase 2 into Phase 3 development.
Specialty Therapeutic Class Overview

Autoimmune Inflammatory Conditions

The top five classes by spend reviewed in the specialty therapeutics section include:

1. Autoimmune Inflammatory Conditions
2. Multiple Sclerosis
3. Oncology
4. HIV
5. Growth Hormone

In 2013, overall specialty drug trend was 14.3%, 35% lower than 2012. This decrease was primarily due to a reduction within the hepatitis C class in overall trend and utilization. The anticipation of new oral therapies to treat hepatitis C patients led to a sharp reduction of -41% in utilization trend in this class, as prescribers delayed treatments, or "warehoused" patients prior to the approval of new therapies in late 2013.

For the last several years, autoimmune inflammatory conditions and multiple sclerosis have remained the top two classes, comprising more than 50% of specialty drug spend. Unit cost increases remained one of the primary drivers of trend within the specialty classes. Autoimmune inflammatory conditions experienced the highest increases within the top five classes due to double-digit price inflation for drugs such as Humira, Enbrel and Stelara.

The following section reviews the top five specialty classes for 2013 and provides deeper insights around drugs that impacted each class. Emerging trends that will have significant implications for the next few years are also reviewed.

1. Autoimmune Inflammatory Conditions

*Humira® (adalimumab) experienced 11.4% utilization trend due to its multiple indications in conjunction with its subcutaneous administration and long-term market availability. Enbrel® (etanercept) was the second most utilized product in this category. Combined, these two drugs accounted for over 85% of market share. Enbrel, Delata® (sitafloxacin) and Orencia® (abatacept) all had double-digit price inflation.*

*Cimzia® (certolizumab) was one of the newer additions to the TNF category. Its indications are expanding and it is the third most utilized TNF agent. Simponi® (golimumab) was another newer TNF agent whose indications continued to expand as well. It offers both subcutaneous (including a pen device) and intravenous formulations.*

2. Multiple Sclerosis

*Approvals for new indications and new formulations for this class included: Actemra® (tocilizumab) received approval for the treatment of polyarticular juvenile idiopathic arthritis (PJIA) and approval for a single-use prefilled syringe to treat rheumatoid arthritis.*

*Simponi received approval for a single-use prefilled syringe and SmartLect autoinjector. It also received approval for treatment of moderately to severely active ulcerative colitis.*

A Look Ahead

*Rheumatology agents are expected to account for over $50 billion in worldwide sales and represent 5.5–13% of worldwide market share by 2018.*

*Several new drugs are in the pipeline, including Entyvio™ (vedolizumab), a subcutaneously administered intestinal mucosal cell adhesion molecule (MAdCAM) inhibitor, which is expected to be available in 2014 for treatment of moderately to severely active Crohn’s disease or active ulcerative colitis in adults. In addition, Humira is expected to receive approval for pediatric Crohn’s disease in 2014.*

*Utilization of Xeljanz® is expected to grow since it is being evaluated in Phase 3 trials for once-daily dosing in rheumatoid arthritis (RA), for the treatment of psoriatic arthritis, plaque psoriasis and ulcerative colitis. It is also in Phase 2 trials for ankylosing spondylitis and Crohn’s disease. Xeljanz received approval for a label expansion to include inhibition of progression of structural damage in RA in February 2014.*

*Xeljanz received approval for a label expansion to include inhibition of progression of structural damage in RA in February 2014.*

*Several biosimilars are in development for the U.S. market for autoimmune-related conditions.*

*It is not clear if these products will choose the biosimilar or standard pathway for FDA approval.*
multiple sclerosis

A Look Back

- The MS market is forecasted to grow between 4–5.8% per year over the next five years.38, 34
- Tysabri® pharmacy utilization has remained relatively stable, albeit small. This was due to its restricted distribution and reserved use in patients non-responsive to other MS therapies.
- Copaxone and beta interferons (i.e., Avonex®, Betaseron®, Extavia®, Rebif®) continued to be the top drugs by market share.
- Betaseron® (interferon beta 1b) continued to gain market share.

Top Drugs by Market Share*

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copaxone</td>
<td>31.4%</td>
</tr>
<tr>
<td>Betaseron</td>
<td>8.1%</td>
</tr>
<tr>
<td>Rebif®</td>
<td>10.6%</td>
</tr>
<tr>
<td>Avonex®</td>
<td>14.8%</td>
</tr>
<tr>
<td>Tysabri®</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

- A new higher-concentration, less-frequent dosing formulation (40 mg / mL) of Copaxone® received FDA approval in January 2014. A generic for Copaxone 20 mg / mL is anticipated in May 2014.22
- Plegridy™ (teriflunomide), Gilenya® (fingolimod) and Tecfidera® (dimethyl fumarate) continued to gain market share.
- Gilenya® became available in the US in August 2013.

A Look Ahead

- The multiple sclerosis (MS) class experienced overall trend of 14.8%, driven in large part by price inflation. Copaxone® (glatiramer acetate) and the beta interferon Rebif® were the top two drugs by cost and utilization, with price inflation increases of 11% and 21.7%, respectively.
- Rebif® (rebetabolin sodium) became the first antibody-drug conjugate (ADC) agent. An ADC is a new kind of targeted cancer medicine that can attach to certain types of cancer cells and deliver chemotherapy directly to them. Kadcyla is a targeted therapy for metastatic breast cancer.
- Tafinlar® (dabrafenib) and Mekinist® (trametinib), both kinase inhibitors that work on different signaling sites in the same pathway, were approved for treatment of patients with unresectable or metastatic melanoma.
- Gazyva® (idelalisib) became the first agent to be approved with breakthrough therapy designation from the FDA. Gazyva was approved for use in combination with chlorambucil for the treatment of patients with previously-untreated chronic lymphocytic leukemia (CLL).
- Imbruvica® (ibrutinib) was approved as a breakthrough therapy and has become the first Bruton’s tyrosine kinase inhibitor for the treatment of mantle cell lymphoma (MCL).

oncology

A Look Back

- Oncology drugs comprised nearly 30% of FDA new molecular entity approvals for 2013 and continued to be an area with significant pharmaceutical research and development focus.
- 2013 new drug approvals saw some interesting additions to the oncology therapeutic arsenal:
- 
  - Kytril® (trituzumab deruxtecan) became the first antibody-drug conjugate (ADC) agent.
  
- Some oncology products anticipated to receive approval in 2014 include Cyramza™ (ramucirumab), with 89 targeted oncology therapeutic approvals, and generics.39 Chemotherapeutic agents will represent $26 billion.

A Look Ahead

- By 2018, the oncology class is anticipated to represent approximately 14% of worldwide market share, with 89 targeted oncology therapies approved for account for 99% of patients with metastatic melanoma.
- Some oncology products anticipated to receive approval in 2014 include Cyramza™ (ramucirumab), Velcade® (bortezomib), and Beleodaq™ (belinostat). Tafinlar® was announced the launch of generic Velcade® in March of 2014.40
- CynEGA is a intravenously administered angiogenesis inhibitor for the treatment of advanced gastric cancer, following disease progression after initial chemotherapy.
- Idelalisib is an orally administered phosphatidylinositol-3 kinase delta inhibitor for the treatment of indolent non-Hodgkin’s lymphoma (iNHL).
- Beloquin® is an intravenously administered pan-histone deacetylase inhibitor for the treatment of relapsed or refractory peripheral T-cell lymphoma (R/R PTCL).41

Clinical Review

Specially

m o m e n t s 
 o f 
 o p p o r t u n i t y
The GH agents experienced a significant trend increase due to increases in utilization and price inflation. Norditropin Flexpro® was the top utilized product and experienced an 18.2% increase in utilization. It has approved indications for pediatric and adult growth hormone deficiency (GHD). Many recombinant somatropin products are available from different manufacturers. These multiple products differ in their FDA-approved indications, dosage, formulations, administration, preparation requirements, delivery devices and storage/handling requirements.

A Look Ahead

• The fixed-dose combination product Atripla® was the top drug by market share among the single-source branded products. Atripla and Stribild have the additional advantage of once-daily dosing. It is the only AVR that is FDA approved, in combination with safer antiretrovirals if needed, whereas Stribild should not.

• Truvada® (emtricitabine / tenofovir disoproxil fumarate) was the second most utilized antiretroviral (AVR), although utilization decreased by 1.3%. The tenofovir reverse transcriptase inhibitors contained in Truvada are components of preferred AVR regimens. Truvada also offers the advantage of once-daily dosing. It is the only AVR that is FDA approved, in combination with safer sex practices, for pre-exposure prophylaxis (PrEP) to reduce the risk of sexually-acquired HIV in high risk adults.

• Generic Atripla is now being studied, but is nowhere near the utilization of single-source brand Avls. Genentech’s CombiMix® was the top generic AVR as ranked by prescription count.

The HIV market is forecast to experience 10–15% annual growth over the next several years, largely due to increased treatment starts and higher prices. Multiclass fixed-dose combination products such as Atripla, Complera and Stribild are expected to experience continued growth, given their advantage of decreased pill burden. Utilization of Truvada® is forecast to grow as well, possibly taking market share away from lamberts®.

• HIV guidelines are typically updated annually. We await updated guidelines for 2014 which should provide, among other guidance, recommendations for the newer HIV AVRs.

• A fixed-dose combination product containing dolutegravir / lamivudine / abacavir is expected to provide, among other guidance, recommendations for the newer HIV AVRs. Generic Atripla are not anticipated to have significant market impact. Some are single-ingredient only products, while others contain multiple ingredients but require more frequent dosing. Generic Viread® (tenofovir emtricitabine) is expected to launch in April 2014.

• The fixed-dose combination product Elvitegravir / cobicistat / emtricitabine / tenofovir disoproxil fumarate was the top product utilized and experienced a 19.6% increase in utilization. It has approved indications for pediatric and adult HIV-related conditions and it is the only HIV approved for growth failure associated with Noonan syndrome.

• Norditropin Flexpro® is available in user-friendly pen devices (e.g., Flexpro® and Nordiflex®), which do not require any additional preparation and can be stored outside the refrigerator for up to 21 days after first use.

• Certain somatropin products are approved only for unique conditions, such as human immunodeficiency virus-associated wasting or cachexia (i.e., Serostim®) or short bowel syndrome (SBS) (i.e., Zorbtive®). Zorbtive® was one of the top five drugs in its class and had 121.5% overall utilization. It has approved indications for pediatric and adult GHD-related conditions and it is the only GH approved for growth failure associated with Noonan syndrome.

• For those with a need for parenteral support.

A Los A Look Ahead

• Recombinant somatropin is the mainstay of therapy for conditions related to growth hormone deficiency (GHD). Others are approved indications for pediatric and adult GHD-related conditions and it is the only GH approved for growth failure associated with Noonan syndrome.

• For those with a need for parenteral support.
Data contained in this trend report is from the Catamaran Book of Business and includes all clients with the exception of Cash Card, Workers’ Compensation, Medicare Part D and Managed Medicaid clients. Workers’ Compensation and Medicare Part D lines of business are included in this trend report, but reported separately.

- All costs (e.g., cost per unit) are represented as total drug costs (ingredient cost plus dispensing fee) unless otherwise noted.
- Traditional drugs are identified as all drugs that are not included on the Catamaran Comprehensive Specialty List.
- Specialty drugs are identified by the Catamaran Comprehensive Specialty List.
- Overall drug trend includes specialty and traditional drugs.
- Manufacturer rebates are not included in the plan cost metrics.
- Utilization trend is based on Rx supply per-member-per-month (PMPM) unless otherwise noted. It is calculated by looking at the total number of prescriptions in a study period divided by total eligible members as well as total number of months. Utilization is normalized based on distribution channel.
- Client cohort comprises clients who had continuous enrollment from 2012 to 2013 and had 24 months of claim experience.
- Eligible members had to have continuous eligibility in both 2012 and 2013.
- Price inflation was calculated by looking at the same GPI-14 and a brand or generic source code to determine the same mix of drugs year over year. Unit cost for 2012 is compared to unit cost for 2013 and multiplied by the total number of units in 2013.

### Capability Gaps

- The time period used to determine the trend in this report was compiled from calendar years 2012 and 2013. Listed below are additional parameters that were used to analyze data:

- • All costs (e.g., cost per unit) are represented as total drug costs (ingredient cost plus dispensing fee) unless otherwise noted.
- • Traditional drugs are identified as all drugs that are not included on the Catamaran Comprehensive Specialty List.
- • Specialty drugs are identified by the Catamaran Comprehensive Specialty List.
- • Overall drug trend includes specialty and traditional drugs.
- • Manufacturer rebates are not included in the plan cost metrics.
- • Utilization trend is based on Rx supply per-member-per-month (PMPM) unless otherwise noted. It is calculated by looking at the total number of prescriptions in a study period divided by total eligible members as well as total number of months. Utilization is normalized based on distribution channel.
- • Client cohort comprises clients who had continuous enrollment from 2012 to 2013 and had 24 months of claim experience.
- • Eligible members had to have continuous eligibility in both 2012 and 2013.
- • Price inflation was calculated by looking at the same GPI-14 and a brand or generic source code to determine the same mix of drugs year over year. Unit cost for 2012 is compared to unit cost for 2013 and multiplied by the total number of units in 2013.

### Appendix

72 73

Data contained in this trend report is from the Catamaran Book of Business and includes all clients with the exception of Cash Card, Workers’ Compensation, Medicare Part D and Managed Medicaid clients. Workers’ Compensation and Medicare Part D lines of business are included in this trend report, but reported separately.

- All costs (e.g., cost per unit) are represented as total drug costs (ingredient cost plus dispensing fee) unless otherwise noted.
- Traditional drugs are identified as all drugs that are not included on the Catamaran Comprehensive Specialty List.
- Specialty drugs are identified by the Catamaran Comprehensive Specialty List.
- Overall drug trend includes specialty and traditional drugs.
- Manufacturer rebates are not included in the plan cost metrics.
- Utilization trend is based on Rx supply per-member-per-month (PMPM) unless otherwise noted. It is calculated by looking at the total number of prescriptions in a study period divided by total eligible members as well as total number of months. Utilization is normalized based on distribution channel.
- Client cohort comprises clients who had continuous enrollment from 2012 to 2013 and had 24 months of claim experience.
- Eligible members had to have continuous eligibility in both 2012 and 2013.
- Price inflation was calculated by looking at the same GPI-14 and a brand or generic source code to determine the same mix of drugs year over year. Unit cost for 2012 is compared to unit cost for 2013 and multiplied by the total number of units in 2013.