Key Findings

U.S. Employer Benchmarks and Trends

Employer Practice Leadership
Truven Health Analytics
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TRUVEN HEALTH ANALYTICS™

Table of Contents

Figures and Tables

Introduction

Employers that take a data-driven approach to managing population health and productivity can minimize financial and delivery risk. They can also maximize their opportunities to reduce cost trends and ultimately make their benefit programs sustainable in the context of healthcare reform.

Timely and appropriate benchmark comparisons are essential to identifying areas for program intervention, measuring progress, and providing decision-makers with appropriate context for program performance. Our Truven Health MarketScan® Research Database is the industry-leading standard for comprehensive employer-focused benchmarks for all aspects of health and productivity programs.

Executive Trend Summary

From 2007 through September 2012, U.S. employers experienced average increases of 4.6 percent annually in active per member per year (PMPY) net medical and pharmacy claims costs. We expect net claims payments for actives to grow by 3 to 4 percent in 2013 and 2014. Employee out-of-pocket costs (deductibles, copayments, and coinsurance) increased at roughly an 11.4 percent annual rate over the same period.

Total allowed active medical and pharmacy costs increased by 6.7 percent from $4,285 PMPY for the rolling year from Oct. 1, 2010, to Sept. 30, 2011, to $4,571 PMPY for the following 12-month period. This trend was heavily driven by an 8 percent increase in underlying outpatient medical services. Inpatient services increased by less than 3 percent compared to 2011. Outpatient emergency room, mental health/substance abuse, and surgeries topped the list of outpatient services with double-digit increases in 2012.

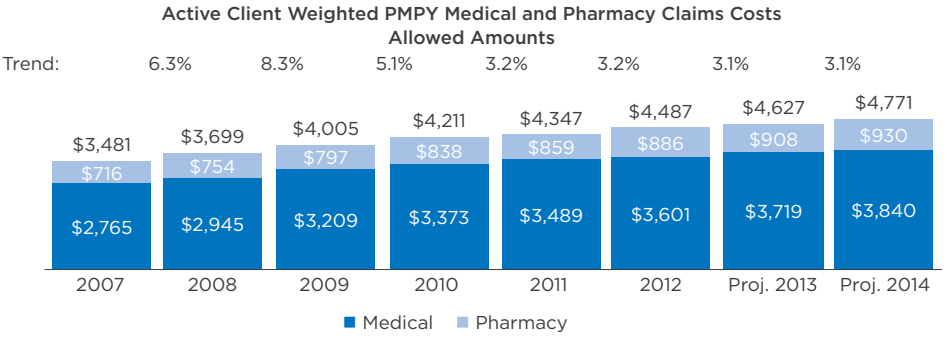
Employer pharmacy costs have moderated in recent years because of the increasing availability and use of generic medications, changes in overall drug prescriptions influenced by generic use, and proactive plan design management. Recent MarketScan data show that PMPY allowed pharmacy costs increased by 5.5 percent from $839 to $885 for the period from Oct. 1, 2011, to Sept. 30, 2012. Specialty pharmacy costs continue to increase at double-digit rates (13.4 percent) and specialty pharmacy now makes up 24 percent of total pharmacy spend across both medical and prescription drug segments. Specialty drugs such as Humira®, Enbrel®, Revlimid®, Copaxone®, and Avonex® are in the top 20 brand drug list based on cost volume in 2012.

This report contains additional details on the impact of preventive screening on chronic conditions and cancer, as well as health risk assessments and obesity.

Historic and Projected Employer Net Cost Trend Index 2007 – 2014

Based on a study of MarketScan data for an index of large employers, U.S. employers experienced average trends of 4.6 percent annually in PMPY net payment medical and pharmacy costs from 2007 through September 2012 (Figure 1). We expect these costs to continue to increase by 3 to 4 percent annually in 2013 and 2014. Projected claims trends do not reflect Patient-Centered Outcomes Research Trust Fund or Transitional Reinsurance fees.

Figure 1: MarketScan Trend Index 2007 – 2014

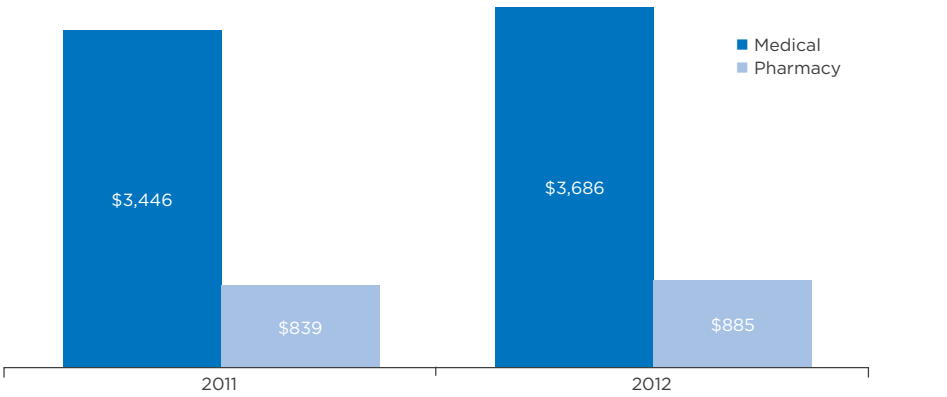


This study reflects a consistent index of 139 employers with complete claims history dating back to 2007. Note that net payment claims trends in recent years for Truven Health's full MarketScan employer dataset (340+ clients) have tended to be higher than the rates depicted above, reflective of differences in the experience of many of the companies added to MarketScan in recent years relative to the consistent group of clients in the index.

2011–2012 Employer Cost Trends

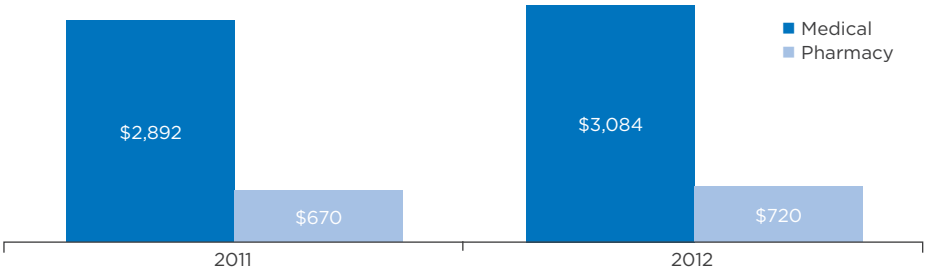
The PMPY allowed amount for medical claims expenses increased by 6.9 percent to $3,686 in 2012, while pharmacy claims expense rose by 5.5 percent to $885 (Figure 2). Combined allowed medical and pharmacy costs increased by 6.7 percent to $4,571 in 2012. Allowed amount is the total cost of care, consisting of the employer portion (net pay) and the member out-of-pocket expense after application of all provider pricing adjustments (i.e., discounts).

Figure 2: PMPY Medical and Pharmacy Allowed Amounts



2012 PMPY medical net payments increased by 6.7 percent to $3,084, while pharmacy net payments of $720 reflected a 7.4 percent annual increase from 2011 levels (Figure 3). Combined medical and pharmacy net payments increased by 6.8 percent from $3,562 in 2011 to $3,804 in 2012.

Figure 3: PMPY Medical and Pharmacy Net Payments



The PMPY medical out-of-pocket costs for 2012 increased by 8.9 percent to $549, while pharmacy out-of-pocket costs of $166 reflected a 0.6 percent annual decrease compared to 2011 (Figure 4). The decrease in pharmacy out-of-pocket costs reflects a continuing shift to generic drugs, which typically have the lowest copay levels in most pharmacy benefit plans. Combined medical and pharmacy out-of-pocket costs increased by 6.6 percent from $671 in 2011 to $715 in 2012.

Figure 4: PMPY Medical and Pharmacy Out-of-Pocket Costs

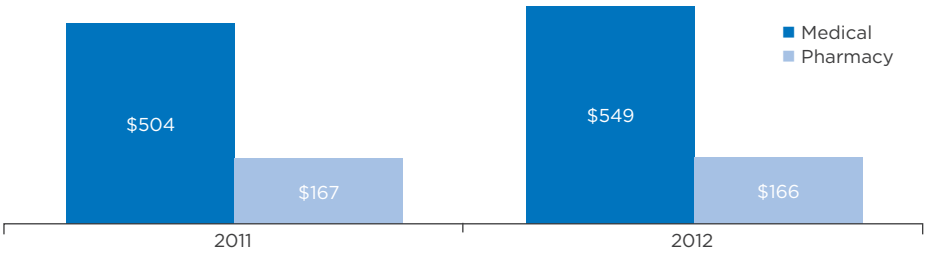
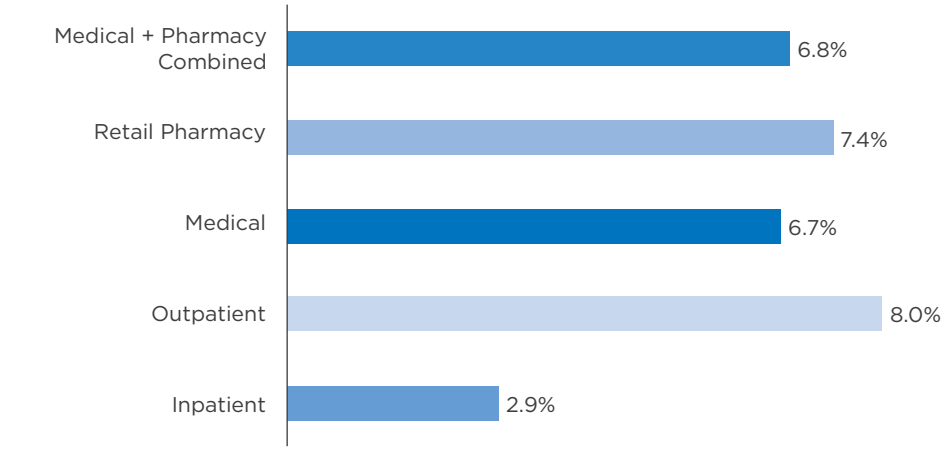


Figure 5 summarizes key trend rates for net payments for 2011 to 2012.

Figure 5: Net Payment Trend Rates for 2011 – 2012



The next section breaks down the components of medical and prescription drug trends into price and use components.

Inpatient Services

Inpatient admissions decreased slightly in 2012 to 57 admissions per 1,000 members, while the average cost per admission increased by 4.6 percent to $16,372 (Table 1). As the average length of stay decreased over this same period of time, the cost increase was being driven by a combination of price increases and a change in the mix of types of admissions.

Table 1: Year-Over-Year Inpatient Trend Components

	2011	2012	% Change
Net Pay PMPY Inpatient Acute	$898	$923	2.9%
Net Pay per Admit	$15,644	$16,372	4.6%
Admits per 1,000	57.7	57.0	-1.2%

Figure 6: Inpatient Trends

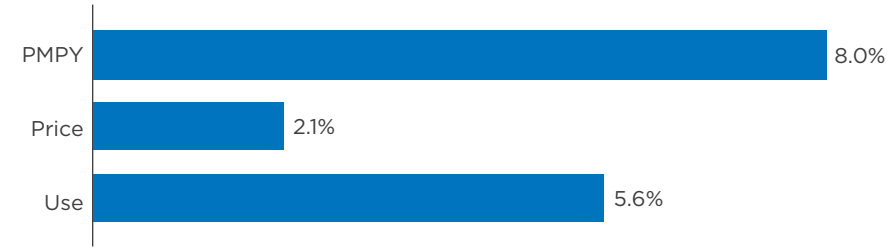
Outpatient Services

The continued increase in outpatient utilization is expected and, in many cases, may help to reduce overall expenses. Some of this increase can be explained by the shift from a higher-cost inpatient setting to a lower-cost outpatient setting. Outpatient utilization of services increased to 24,331 services per 1,000 members in 2012 or 5.6 percent over the prior period (Table 2).

Table 2: Year-Over-Year Outpatient Trend Components

	2011	2012	% Change
Net Pay PMPY Outpatient Medical	$1,936	$2,091	8.0%
Net Pay Per Outpatient Medical Service	$84	$86	2.1%
Outpatient Medical Services per 1,000	23,047	24,331	5.6%

Figure 7: Outpatient Trends



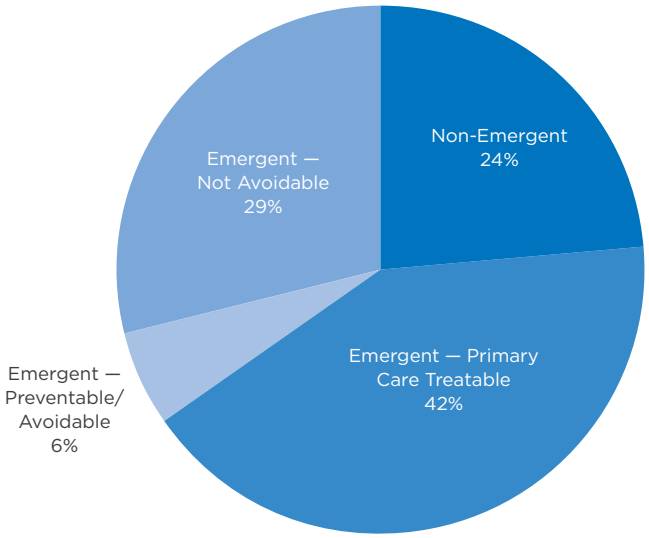
Outpatient categories with notable trend rates include emergency room, surgery, dialysis, and mental health/substance abuse — all with double-digit increases (Table 3).

Table 3: PMPY Outpatient Costs — High Trend Categories

	2011	2012	% Change
Outpatient Emergency Room	$192	$216	12.8%
Outpatient Surgery	$473	$532	12.4%
Outpatient Chemistry Tests	$57	$63	10.4%
Outpatient Therapeutic Radiology	$33	$38	14.4%
Facility Outpatient Dialysis	$20	$25	22.2%
Facility Outpatient Diagnostic Services	$31	$34	9.4%
Mental Health/Substance Abuse Outpatient	$67	$77	10.4%

Avoidable Emergency Room Visits

According to a new study from Truven Health Analytics™ conducted using MarketScan data and employing an algorithm developed by New York University researchers,[1] 71 percent of emergency room visits made by patients with insurance coverage did not require immediate attention in the emergency room or were preventable with proper outpatient care. The study examined insurance claims data for more than 6.5 million emergency room visits made by commercially insured individuals under age 65 during calendar year 2010. It found that only 29 percent of patients required immediate attention in the emergency room. Additionally, 24 percent did not require immediate attention, 41 percent received care that could have safely been provided in a primary care setting, and 6 percent received care that would have been preventable or avoidable with proper primary care. The authors surmised that diverting just 10 percent of these unnecessary visits to an office setting could result in a net savings of $18.68 in total allowed costs per health plan member per year.



Pharmacy Cost Trends

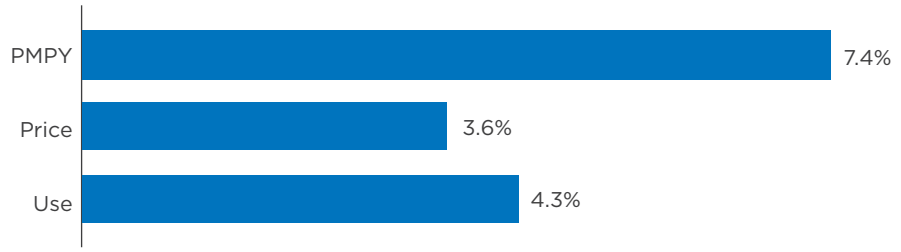
Retail pharmacy net pay PMPY increased by 7.4 percent in 2012 to $720. Use and cost components contributed an almost equal role to this trend increase (Table 4). The 4.3 percent increase in pharmacy utilization was reflected equally in both retail and mail order segments.

Pharmacy Dispensed Through Pharmacy Benefit Manager (PBM)

Table 4: Year-Over-Year Pharmacy Trend Components

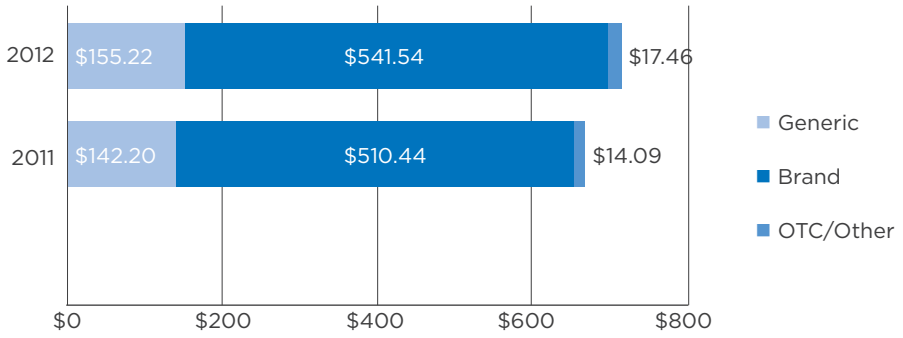
	2011	2012	% Change
Net Pay PMPY Pharmacy	$670	$720	7.4%
Net Pay per Day Supply Pharmacy	$2.27	$2.37	4.3%
Days Supply PMPY Pharmacy	295	305	3.3%

Figure 8: Pharmacy Trends



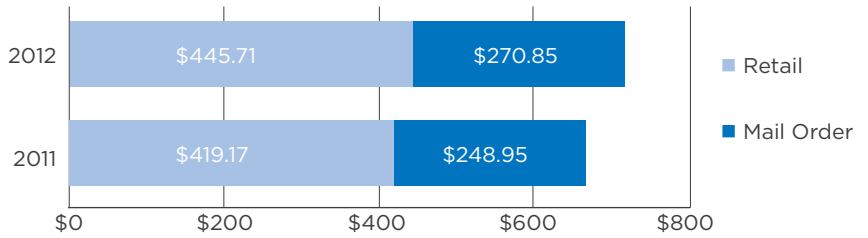
Generic use increases outpaced brand use increases. Price increases were driven primarily by unit price increases in brand drugs including specialty pharmacy. Generic PMPY pharmacy costs increased by 9.2 percent to $155.22, and brand pharmacy increased by 6.1 percent to $541.54 in 2012 (Figure 9).

Figure 9: Pharmacy PMPY Components — Brand/Generic/OTC



Retail PMPY increased by 6.3 percent to $445.71, and mail order increased by 8.8 percent to $270.85 PMPY (Figure 10). Mail order inflation was driven primarily by increases in utilization, while the retail pharmacy trend reflects comparable increases in both utilization and unit price.

Figure 10: Pharmacy Trends — Retail/Mail Order



Top Brand and Generic Drugs

In the past several years, many popular brand drugs have come off patent, creating a changing drug landscape for both brand and generic categories. Specialty drugs now occupy five of the top 20 brand drugs when categorized by total spend, even though they represent a relatively small patient volume. Not surprisingly, Atorvastatin Calcium (generic Lipitor®) is now the top generic drug in 2012 data. Lipitor still hangs on in the brand category, albeit further down the top drug list. The top 20 generic drugs make up roughly 8 percent of the total drug spend, while the top 20 brand drugs constitute 24 percent of the total pharmacy spending in 2012 MarketScan data.

Table 5: Top 20 Brand Drugs

Drug Ranked by Total Allowed $	% of Total Pharmacy	Use
HUMIRA®	2.16%	Rheumatoid arthritis, chronic plaque psoriasis, Crohn's disease
NEXIUM®	2.10%	Acid reflux disease
ENBREL®	2.09%	Rheumatoid arthritis, ankylosing spondylitis, psoriasis
CRESTOR®	1.84%	High cholesterol, high triglycerides
SINGULAIR®	1.57%	Asthma
LIPITOR®	1.48%	High cholesterol
CYMBALTA®	1.45%	Major depressive disorder, general anxiety disorder, fibromyalgia
COPAXONE®	1.34%	Multiple sclerosis
PLAVIX®	1.33%	Coronary artery, peripheral vascular, cerebrovascular disease
ABILIFY®	1.08%	Depression, bipolar disorder, schizophrenia
ACTOS®	0.88%	Type 2 diabetes
ADVAIR® DISKUS 250/50	0.87%	Asthma
JANUVIA®	0.86%	Type 2 diabetes
AVONEX®	0.78%	Multiple sclerosis
LANTUS SOLOSTAR®	0.73%	Type 2 diabetes
REVLIMID®	0.71%	Multiple myeloma
SPIRIVA®	0.71%	Bronchitis, emphysema, COPD
CELEBREX®	0.71%	Pain, inflammation
OXYCONTIN®	0.68%	Narcotic pain reliever
DIOVAN®	0.67%	Hypertension, heart failure

Table 6: Top 20 Generic Drugs		
Drug Ranked by Total Allowed $	**% of Total Pharmacy**	**Use**
Atorvastatin Calcium	1.31%	High cholesterol (generic Lipitor)
Escitalopram	0.48%	Depression and generalized anxiety disorder
Enoxaparin Sodium	0.47%	Anticoagulant — deep vein thrombosis, pulmonary embolism
Methylphenidate Hydrochloride	0.46%	Attention-deficit hyperactivity disorder
Valacyclovir Hydrochloride	0.41%	Herpes simplex, herpes zoster (shingles), herpes B
Fluticasone Propionate	0.40%	Asthma, allergic rhinitis
Budesonide	0.40%	Asthma, noninfectious rhinitis
Venlafaxine Hydrochloride	0.38%	Major depressive disorder, anxiety disorder
Omeprazole	0.35%	Gastroesophageal reflux disease
Metoprolol Succinate	0.34%	Hypertension
Amlodipine Besylate and Benazepril Hydrochloride	0.33%	Hypertension
Zolpidem Tartrate	0.33%	Insomnia
Simvastatin	0.33%	High cholesterol
Lansoprazole	0.30%	Gastroesophageal reflux disease
Mixed Amphetamine Salt	0.28%	Attention-deficit hyperactivity disorder
APAP/Hydrocodone Bitartrate	0.26%	Narcotic pain reliever
Losartan Potassium	0.25%	Hypertension
Azithromycin	0.24%	Middle ear infections, strep throat, pneumonia, bronchitis, sinusitis
Gabapentin	0.22%	Epilepsy, neuropathic pain
Modafinil	0.21%	Narcolepsy

Pharmacy Dispensed Through Medical and Prescription Drug Benefit Plans

MarketScan includes pharmacy data for drugs dispensed through both medical and prescription drug benefit plans. In 2012, roughly 18 percent of the total pharmacy PMPY cost of $872 was dispensed through the medical benefit (Table 7).

Table 7: PMPY Pharmacy Costs — All Sources			
	2011	**2012**	**% Change**
Specialty	$184.93	$209.78	13.44%
Non-Specialty	$632.33	$662.17	4.72%
Total	$817.26	$871.95	6.69%
Specialty %	22.6%	24.1%	1.4%

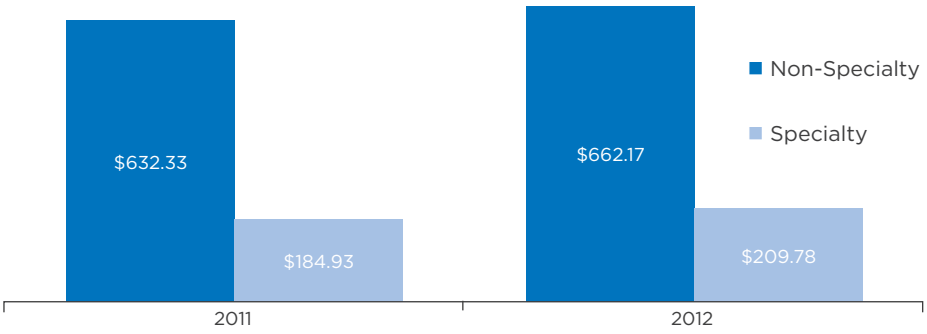
Specialty Pharmacy

Specialty pharmacy is a growing and significant component of a typical prescription drug benefit program. Specialty drugs can be dispensed through either the medical benefit in an outpatient facility or doctor's office, or through the pharmacy benefit by a pharmacy benefit manager.

Specialty drugs include therapies for autoimmune disorders (rheumatoid arthritis, psoriasis, and Crohn's disease), multiple sclerosis, cancer, and pulmonary

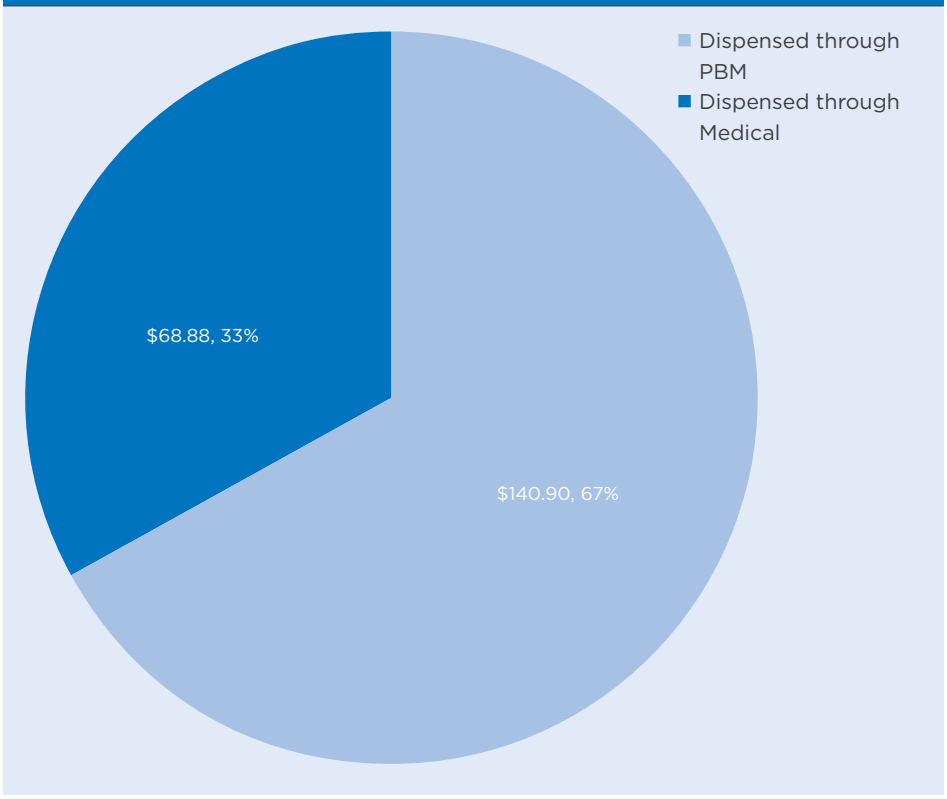
hypertension. Overall, specialty drugs increased from $184.93 or 22.6 percent of all pharmaceuticals (percentage of allowed amount) to $209.78 or 24.1 percent from 2011 to 2012 (Figure 11).

Figure 11: Specialty and Non-Specialty Pharmacy



Specialty drugs dispensed through the medical benefit grew at a slightly greater rate than those dispensed through the pharmacy benefit (14.5 percent versus 12.9 percent). The significance in this lies in the underlying benefits structure. Under the medical benefit, the specialty drug may be subject to a coinsurance (a percentage share of the total cost, which in many instances has an annual cap on the member's share). Under the pharmacy benefit, expenses are generally subject to a fixed-dollar copayment.

Figure 12: Specialty by Dispensing Source

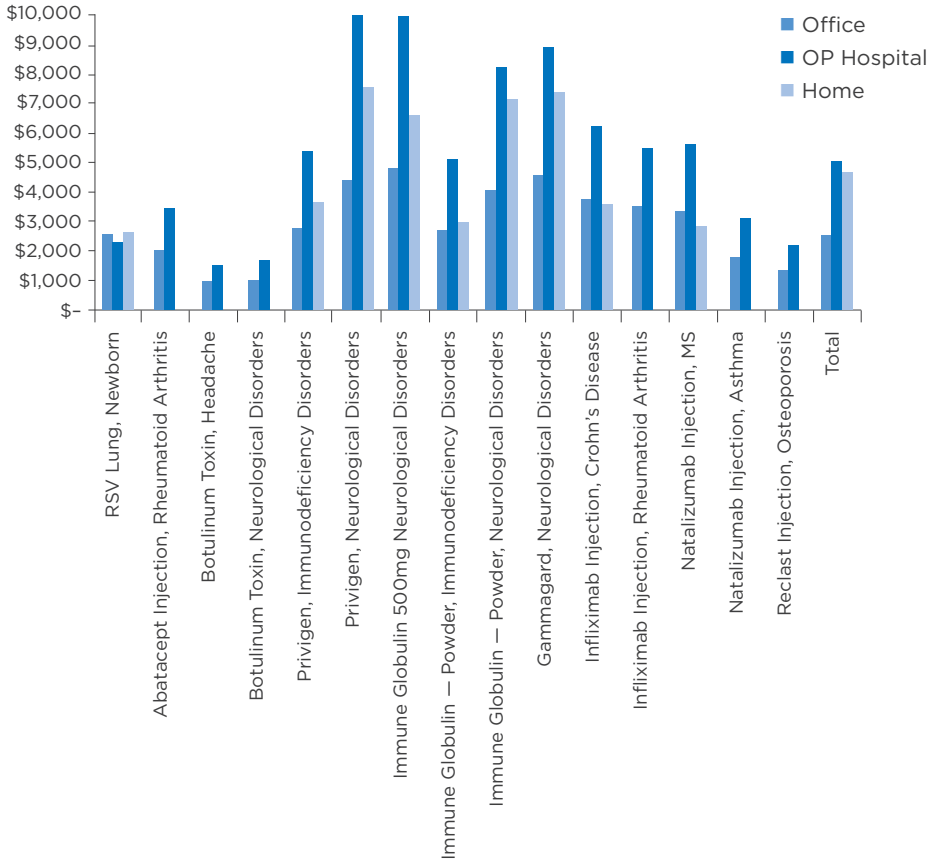


Specialty Drugs

An examination of 10 high-volume specialty drugs covered under the medical benefit showed that in 2011, on average, the cost for the same drug for the same condition in the office setting was about half the cost for the delivery of the drug in the outpatient hospital setting. The study was based on a commercially insured population age 65 and under. The differences were evident in the cost of the drug itself, as well as the associated administration costs.

Figure 13: Average Cost per Visit — Specialty Drugs

Top Medical Coverage Specialty Drugs, Average Cost Per Visit, (Including Administration and Testing)



Chronic and Cancer Conditions and Preventive Screening

The 15 common chronic or cancer conditions in Table 8 account for more than 17 percent of the medical spend in 2012 MarketScan data for active employees. Osteoarthritis, lower back disorder, coronary artery disease, breast cancer, and depression continue to lead the list with $486 PMPY collectively in medical costs.

- Asthma and lower back disorders still top the list in emergency room visits per 1,000
- Substance abuse, osteoarthritis, depression, and coronary artery disease have the highest hospital days per 1,000
- Substance abuse (28.1 percent), diabetes (7.1 percent), breast cancer (6.7 percent), and osteoarthritis (6 percent) had the highest PMPY trend increases
- Congestive heart failure and cerebrovascular disease had PMPY trend decreases larger than 5 percent

Table 8: Chronic and Cancer Conditions

Chronic Conditions and Cancer	Allowed Amount PMPY Medical	PMPY Allowed Cost Trend 2012/2011	Patients/ 1,000	Hospital Days/1,000	Days/Admit Adjusted Length of Stay (ALOS)	ER Visits/ 1,000	Visits Office Med/1,000
Osteoarthritis	$148	6.0%	60.2	8.4	2.7	0.6	128.7
Lower Back Disorder	$125	3.3%	100.2	2.9	2.9	6.0	403.5
Coronary Artery Disease	$105	-0.9%	23.9	7.3	3.5	1.9	37.5
Breast Cancer	$61	6.7%	8.3	0.8	2.5	0.1	32.0
Depression	$47	4.3%	52.7	7.8	5.8	1.6	305.0
Diabetes	$47	7.1%	70.4	3.0	3.9	1.5	140.8
Cerebrovascular Disease	$41	-6.3%	12.1	5.4	4.1	1.5	12.8
Hypertension	$37	2.0%	121.0	1.7	3.4	1.8	185.2
Substance Abuse	$27	28.1%	6.7	10.8	7.1	1.9	18.1
Colon Cancer	$26	5.4%	2.1	2.0	6.5	0.1	9.4
Congestive Heart Failure	$21	-9.7%	4.9	4.6	5.0	0.9	5.5
Asthma	$18	4.9%	33.6	1.8	2.6	3.0	51.4
Chronic Obstructive Pulmonary Disease	$14	-3.5%	10.4	2.7	4.0	1.0	12.9
Rheumatoid Arthritis	$13	2.9%	5.4	0.2	4.0	0.1	15.5
Cervical Cancer	$6	-3.1%	7.5	0.3	2.3	0.1	9.7

Employers have focused significant effort through wellness and disease management programs to encourage employees to obtain evidence-based preventive screening measures for common cancer conditions (e.g., mammograms, colonoscopies, pap smears) and chronic conditions (e.g., various tests associated with the management of type 2 diabetes).

Table 9 highlights compliance rates for some common screening measures using National Quality Foundation metrics and 2012 MarketScan data.

Table 9: Preventive Screening Compliance

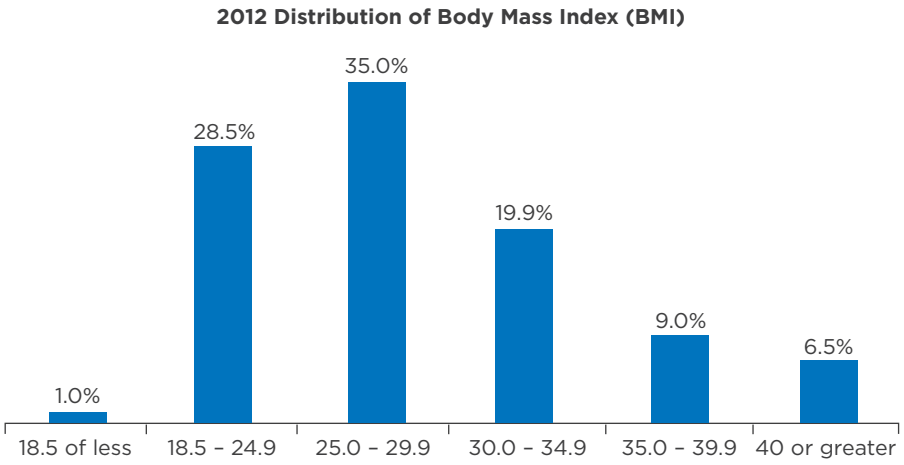
	Compliance Rate Percentiles		
Preventive Screening	**25th**	**50th**	**75th**
Asthma Drug Management Rate	90.3%	92.5%	93.9%
Breast Cancer Screen	64.6%	68.5%	71.4%
Cervical Cancer Screen	63.0%	68.6%	73.4%
Colorectal Cancer Screen	36.1%	39.5%	41.8%
Coronary Artery Disease Lipid Test	75.6%	83.0%	87.2%
Diabetes Eye Exam	24.6%	28.8%	34.6%
Diabetes HbA1c Test	75.7%	80.7%	84.2%
Diabetes Lipid Test	67.8%	73.7%	78.0%

Health Risk Assessments and Obesity

Employers are increasingly relying on Health Risk Assessment (HRA) responses to supplement administrative claims data as they measure and quantify population health. For example, obesity is traditionally under-represented in administrative claims relative to actual prevalence due to typical claims coding practices; however, HRA data can provide more robust insight into obesity.

In 2012, more than 35 percent of MarketScan HRA respondents (sample of 489,000+ responses) fell into the obese category (BMI of 30 or higher). Another 35 percent were overweight (BMI in range of 25.0 to 29.9).

Figure 14: Health Risk Assessments and Obesity



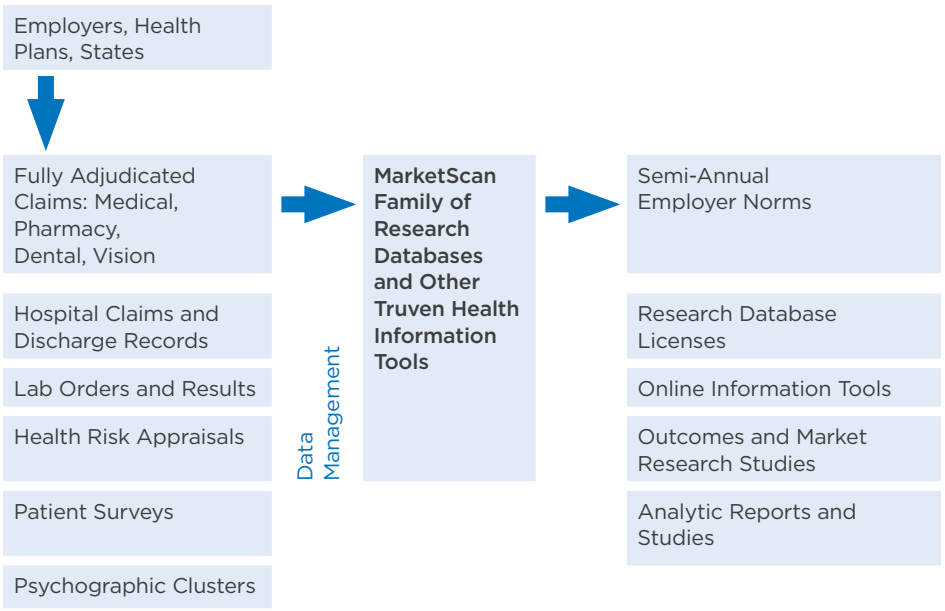
Data and Methodology

The MarketScan Research Database gives healthcare researchers access to fully integrated, anonymous, individual-level healthcare claims data to help them understand health economics and outcomes. Patient-level data (inpatient, outpatient, drug, lab, health risk assessment, and benefit design) from commercial, Medicare supplemental, and Medicaid populations reflect real-world treatment patterns and costs.

The MarketScan Research Databases offers:

- **Longitudinal Strength**. MarketScan provides the longest data history available, extending data back to 1995. This enables us to track patients over multiple years in detail.
- **Unique Data Sources**. Unlike competitors, MarketScan is comprised of data from both employers and health plans. This allows us to track patients even when they switch health plans.
- **Multifaceted Patient-Level Detail**. We link MarketScan data at the patient level using a unique identifier that is consistent across services, health plans, and time. This includes patient copayments, mail order prescriptions, specialty pharmacy, carve-out services, manually and electronically submitted claims, and plan summaries.
- **Complete Continuum of Care Views**. MarketScan data fully integrate all treatments and plan designs to provide insights into the impact of cost, treatment, and behavioral drivers.
- **Reliability and Validity**. Researchers have published more than 100 studies using MarketScan data over the past 5 years.

Figure 15: MarketScan Research Databases



MarketScan Semi-Annual Employer Norms

We create the MarketScan Semi-Annual Employer Norms Report from the claims experience of more than 341 employers representing 14.6 million covered lives and crossing the full spectrum of industry types, health plans, and pharmacy benefit managers. We design these semi-annual norms to focus on measures and segments of particular value to employers in managing their population's health and productivity. We aggregate the semi-annual norms at the employer level, rather than the claim or member level. This means that the results for each employer included in a norm receive equal weight, so that a single large employer does not skew the results.

A key difference between the MarketScan Semi-Annual Employer Norms Report and other available employer healthcare cost trend data is that the MarketScan norms reflect actual client experience data from health plans, pharmacy benefits managers (PBMs), disability, workers' compensation, eligibility, and other vendors. MarketScan data are not self-reported survey data.

MarketScan norms are also not limited to a single vendor's book of business or narrow industry segments, but reflect data from hundreds of data suppliers and clients. The norms reflect our independent status in the marketplace across health plans and healthcare providers.

We build the MarketScan norms using data gathered from our clients' data warehouses. The data undergo standardized processes to aggregate, scrub, and report health and productivity. Our processes are compliant with the Statement on Standards for Attestation Engagements (SSAE) No. 16 (formerly SAS-70). This means that we define and calculate values for a given measure consistently across all clients.

All year-over-year trend results in the MarketScan Semi-Annual Employer Norms Report reflect a convenience sample drawn from a consistent group of 341 employer clients with 14.6 million active members (6.8 million active employees) across the 2 years ending Sept. 30, 2012. By including only clients with complete data for the 2 years of this study, we minimize the impact of variance over time in our MarketScan book of business data. Unless otherwise indicated, data reflect paid — as opposed to incurred — claims data. This feature allows us to produce trends for the most current data available without application of completion methodologies necessary for trend analysis on incurred basis data.

We also include in this report a multi-year trend study that reflects a consistent group of 139 clients with more than 10 million covered lives, whose data are available for all years in the period from 2007 through 2012. We exclude results for clients with severe outlier experience or who show significant variance in covered membership during the study period.

Results, unless otherwise indicated, reflect averages of values calculated at the employer level, with each employer receiving equal weight. PEPY rates included in the study reflect the experience for the employee and their covered dependents at the "contract" level. PMPY rates also reflect the experience for the employee and his or her covered dependents on a per-capita basis.

Conclusion

Organizations have always sought to maximize the value of their investments in the health of their workforces. Making the most of every health investment is even more critical during the current economic downturn and the move toward a more global marketplace. Employers face the enormous challenge of balancing cost control with the wellness and productivity of their employees.

MarketScan norms are a valuable tool for allowing an employer to identify performance gaps that drive healthcare financial risk and areas of their programs that are functioning effectively. These benchmarks play an important role in monitoring the ongoing performance of programs and provide a source of independent data in evaluating vendor and plan administrator performance. We hope that you will be able to incorporate these MarketScan norms into your plan management and evaluation activities.

Reference

1 The assignment of discharge diagnoses as "preventable/avoidable" was based on the condition classification scheme developed by researchers at New York University and the United Hospital Fund for use in analysis of hospital discharges. See Bindman A, Grumbach K, Osmond D, Komaromy M, Vranizan K, Lurie N, and Billings J, "Preventable Hospitalizations and Access to Health Care," *Journal of the American Medical Association* 274 (1995): 305–311; and Billings J, Anderson G, and Newman L, "Recent Findings on Preventable Hospitalizations," *Health Affairs* 15 (Fall 1996):239–249.

FOR MORE INFORMATION

For more information or to review additional figures presented with these findings, please contact John Azzolini or Chris Justice, Senior Directors, Practice Leadership, Truven Health Analytics, via **employer@truvenhealth.com**. If you are currently working with us, please speak with your client director.

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