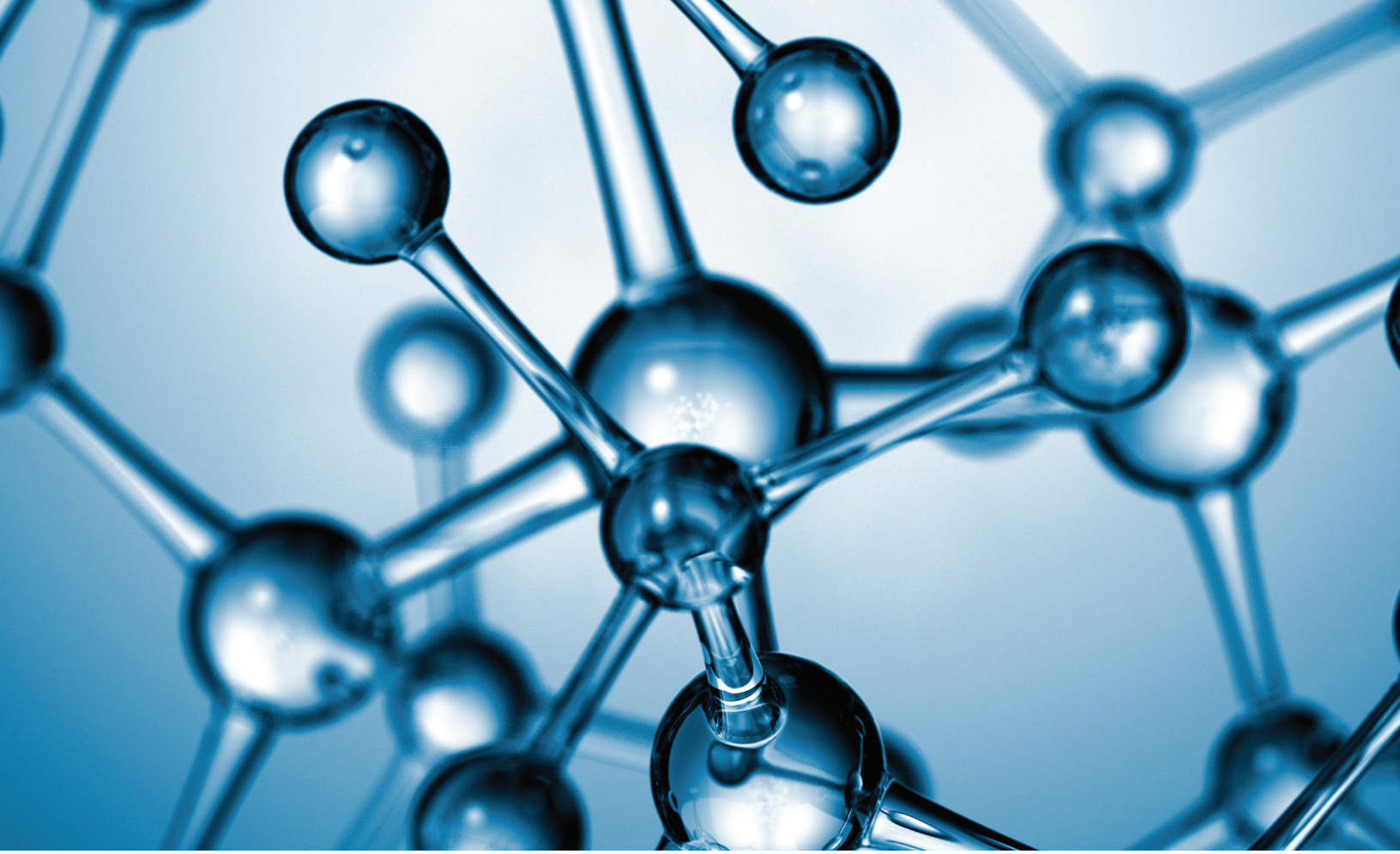

EXPRESS SCRIPTS CANADA

DRUG TREND REPORT

2013

EXPRESS SCRIPTS®


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EXECUTIVE SUMMARY

Drug Trend Overview

Prescription drugs play an important and increasingly essential role in reducing the impact of disease on individuals and families as well as on Canada's healthcare systems and economic productivity.

At the same time, drug cost inflation is a growing burden for both private and public healthcare plans, as well as for Canadian families. Overall, prescription drug spending in Canada's private sector has increased nearly fivefold in the last 20 years, from $3.6 billion in 1993 to $15.9 billion in 2013.

Express Scripts Canada's extensive drug trend analysis is designed to provide insurance carriers, third-party health benefits administrators, and plan sponsors with comprehensive data on the use of prescription medications in the private sector in Canada. These reports provide statistically relevant analysis based on millions of drug claims for more than seven million Canadians.

Plan sponsors that provide health benefits to their employees continue to deal with a rapidly shifting pharmacy landscape. In the face of increasing costs for traditional drugs, and the financial risk associated with specialty drug claims that can reach into the hundreds of thousands of dollars per treatment, many plan sponsors have shifted prescription costs to plan members. While this provides some protection from the cost inflation that continues to be a drag on the productivity and profitability of Canadian companies, it may also contribute to higher rates of non-adherence as prescription costs increase, potentially worsening health conditions and lessening productivity while increasing absenteeism and long-term disability costs. In addition, higher co-pays make benefit plans less attractive to members, making it more difficult for companies to attract and retain the most talented employees.

Specialty Forecast: Express Scripts Canada anticipates double-digit growth year over year. Costs will rise as newer, more sophisticated therapies with high price tags are brought to market; utilization will drive growth as more drug options become available for treating different complex conditions.

2013 Drug Trends At a Glance

- Specialty spend more than doubled in six years
  - Double-digit annual increase expected to continue in future
- Poor patient decisions are driving waste
  - Up to $1 of every $3 spent on drug benefits is wasted
  - Waste made worse through gaps in care
- Behavioural science required to drive better patient decisions
  - Better decisions have led to lower costs and healthier outcomes
- The national average annual drug spend per claimant increased by 1.3% to $765, reverting to an upward trend following a slight decline of 0.73% in 2012. This modest increase is consistent with the flat trend observed over the last four years.
- Large increases in specialty spend are being offset by provincial generic drug price reforms as well as patent expiries.
- Traditional drugs represented 98.7% of claims and 76% of spend; specialty drugs represented just 1.3% of claims but 24% of spend.
- Specialty spend continues to grow as a percentage of total drug spending, steadily increasing from 13.2% in 2007 to 24.2% in 2013, primarily driven by high treatment costs and an increase in utilization.
- Traditional drug spend underwent a negative trend of 1.2% in 2013, with increased utilization offset by a reduction in the cost per script.

Measuring Drug Waste

With the increase in specialty drug trend expected to continue, finding ways to balance and manage cost is a business imperative for plan sponsors.

Reducing waste in the prescription drug benefit system is therefore of vital importance. Express Scripts Canada's research found that as much as one in every three dollars spent in 2013 was wasted due to plan member choices that resulted in unnecessarily costly dispensing fees, use of higher-cost medications when lower cost but equally effective therapeutic alternatives were available, and non-adherence, when medicines are not taken as prescribed.

The Express Scripts Canada Drug Trend Report research finds that fully 33% of annual drug spend is waste, defined as "spending more without improving health outcomes." In fact, the data show that the primary driver of prescription drug cost inflation is not specialty drugs but uninformed patient decisions.

The two primary sources of waste are channel waste (25%), when members choose high-cost distribution channels and suboptimal dispensing intervals for maintenance drugs, and drug-mix waste (75%), when members use higher-cost medications that generate no additional health benefits.

Driving Better Patient Decisions to Reduce Waste

Even with the ever-mounting evidence of rising costs, uninformed member decisions continue to prevent healthcare plans from achieving optimal and financially sustainable outcomes.

Research shows that the vast majority of patients want exactly what plan sponsors want: healthier outcomes and lower costs. However, the enormous amount of drug spending waste proves that there is a gap between what employees want and what they actually do. At the same time, the results of active pharmacy benefit management (PBM) initiatives demonstrate that new approaches, informed by behavioral science, can drive more effective patient decisions, leading to lower costs as well as healthier outcomes.

Understanding this gap between intention and behaviour – and how to close it – is the first step to helping employees make better decisions. Better decisions mean reduced waste, sustainable drug plan costs for plan sponsors and lower co-payments as well as optimal health outcomes for employees.

While traditional adjudication tools control the allowable expenditures on designated items by reacting to incoming drug claims, these tools do not influence plan members to make better decisions. But when applied along with adjudication controls, active PBM services – which combine the tools of behavioural science, actionable data and clinical expertise – are influencing member decisions, creating informed consumers who are reducing waste within the prescription drug system. The result is sustainable prescription drug benefit plans that strengthen the ability of Canadian companies to attract and retain talented employees, optimize employee health outcomes and maximize return on benefit investment.

TREND OVERVIEW

PAGES 8 – 41

TREND OVERVIEW

A Note About Trend: One Word, Two Approaches…

Express Scripts Canada's drug trend analysis is based on a **retrospective** methodology and therefore will differ from an insurance carrier's health-plan premium increase, which is based on a **prospective** methodology. The Express Scripts Canada **retrospective** methodology also includes a drug plan's specific claims experience, change in proportion of eligible members with a claim, demographic changes, anticipated changes in the future mix of drugs, the erosion of member portion, a risk component, and other health plan claims experience.

As a result, Express Scripts Canada's trend factor will typically be lower than an insurance carrier's predicted average increase of an Extended Health Care (EHC) plan, of which prescription drugs are only one component.

Terminology Used in This Report

Drug Trend: Historical increase in cost allowable per claimant over the previous year.

Cost Allowable: Amount payable before member contribution.

Claimant: Each unique person who submits a prescription claim, including all dependents eligible for coverage under a plan member's health benefits plan.

Script: Prescription or claim.

Traditional Drugs: Medications that are easy to self-administer and require less intensive clinical monitoring; used to treat common medical conditions such as high cholesterol and high blood pressure.

Specialty Drugs: Injectable and non-injectable medications used to treat chronic, complex conditions such as rheumatoid arthritis, multiple sclerosis, and cancer. Specialty drugs are usually costly, require special storage and handling, need intensive clinical monitoring, and require frequent dosing adjustment.

Drug Spend and Trend in 2013

From an unprecedented number of patent expirations and a subsequent increase in generic use to a potential new wave of clinical trials on the horizon, the drug industry is an ever-changing landscape. Each year, Express Scripts Canada takes a look at traditional and specialty trends to make sense of leading indicators and a host of other factors, so that private payers can take action to ensure positive outcomes for all stakeholders.

Private plans continued to see an increase in drug spend per claimant in 2013. On a national basis the average annual drug spend per claimant increased by 1.3% in 2013 to $765, reverting to an upward trend following a slight decline of 0.73% in 2012. This modest increase is consistent with the flat trend observed over the last four years, with large increases in specialty spend being offset by provincial drug reforms as well as patent expiries.

Traditional drugs are defined as drugs used to treat common chronic medical conditions; they are relatively easy to administer and monitor, and are often comparatively low cost. Examples include top-selling drugs such as Crestor® and Lipitor® for treating high cholesterol. In 2013, traditional drugs represented 98.7% of claims and 75.8% of spend.

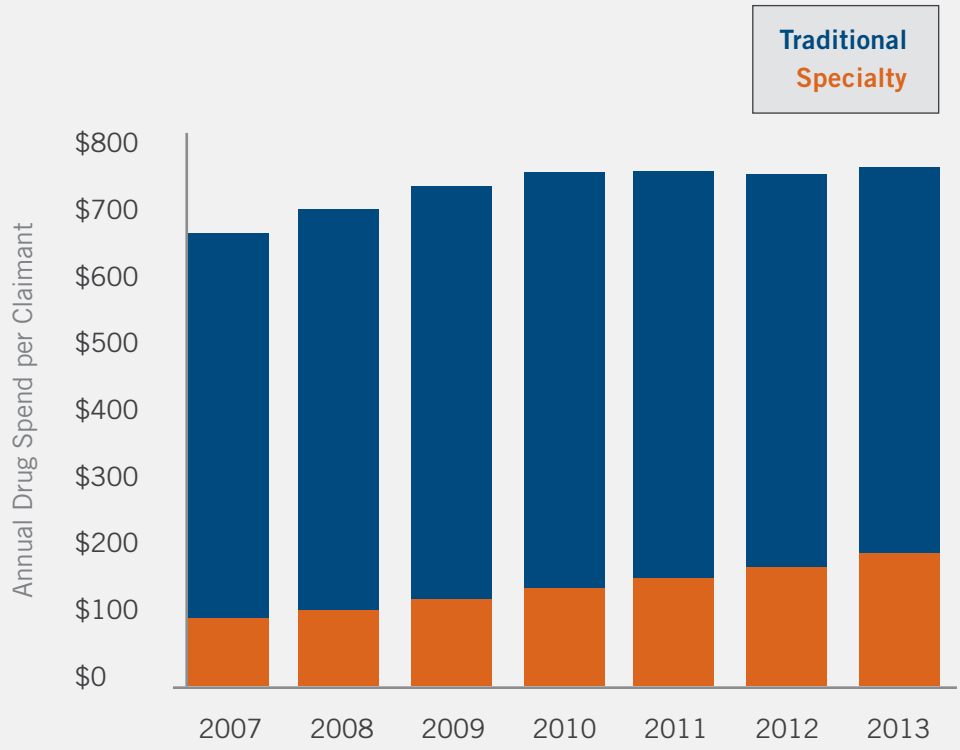
Specialty drugs are those used to treat severe and complex conditions such as cancer, multiple sclerosis, organ transplant, and severe-stage rheumatoid arthritis. Complex and costly, specialty drugs usually need special storage and handling. Therapies may require frequent dosing adjustments and intensive clinical monitoring. Specialty drugs represented a tiny proportion of all claims (just 1.3%), but 24.2% of spend in 2013.

Trend for specialty drugs continues to climb and has experienced double-digit growth annually since 2007. Specialty spend continues growing as a percentage of total drug spending, steadily increasing from 13.2% in 2007 to 24.2% in 2013, primarily driven by the high treatment cost and increase in utilization.

Private plans continue to see an increase in drug spend per claimant in 2013.

FIGURE 1 Increase in Drug Spend per Claimant Resumed

Specialty Spend Growing as % of Total Spend



	2007	2008	2009	2010	2011	2012	2013
Specialty Spend of Total (%)	13.2%	14.7%	15.7%	17.5%	19.5%	22.0%	24.2%

Drug Spend by Region

Spend per claimant is higher in the East, at $890 in Quebec and $758 in Ontario, followed by $739 in the Atlantic provinces. Conversely, spend per claimant in the Western provinces are in the range of $615 to $642.

Express Scripts Canada has determined that these variations are best explained by the availability of public drug programs. In the West and Prairies regions, specialty drugs only represented about 10% of spend, as public programs such as British Columbia PharmaCare, Alberta Rare Diseases Drug Program and Manitoba Home Cancer Drug Program have helped to alleviate the specialty burden of private plans. Specialty represents a greater portion of spend in the Eastern and Atlantic provinces, generally over 20%. With the double-digit trend increase of specialty drugs, the overall trend in Ontario and Quebec increased by 2.2% and 4.3%, respectively, in 2013.

While costs in Ontario and Quebec continued to increase in 2013, trailing reforms drove trend decreases in other regions. Specifically, British Columbia, Alberta, New Brunswick, and Newfoundland and Labrador executed another phase of their generic reforms in 2013, leading to a sizeable impact on the trend decrease of -3.8% to -4.9% in these provinces.

FIGURE 2 Specialty Represents Greater Portion of Spend in East
Public Programs Help Alleviate Specialty Burden in West

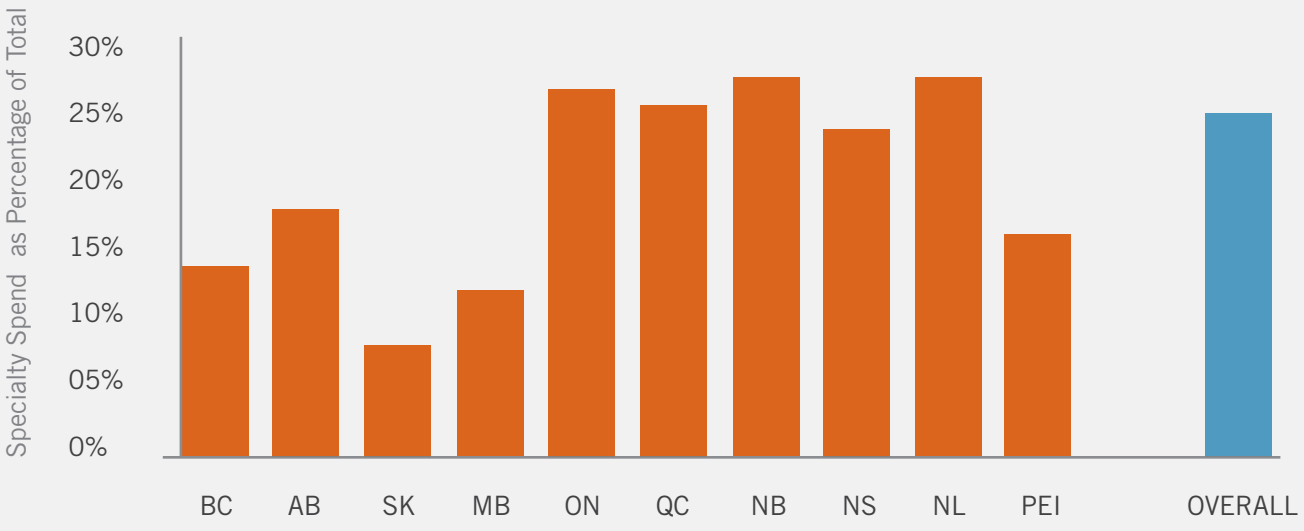
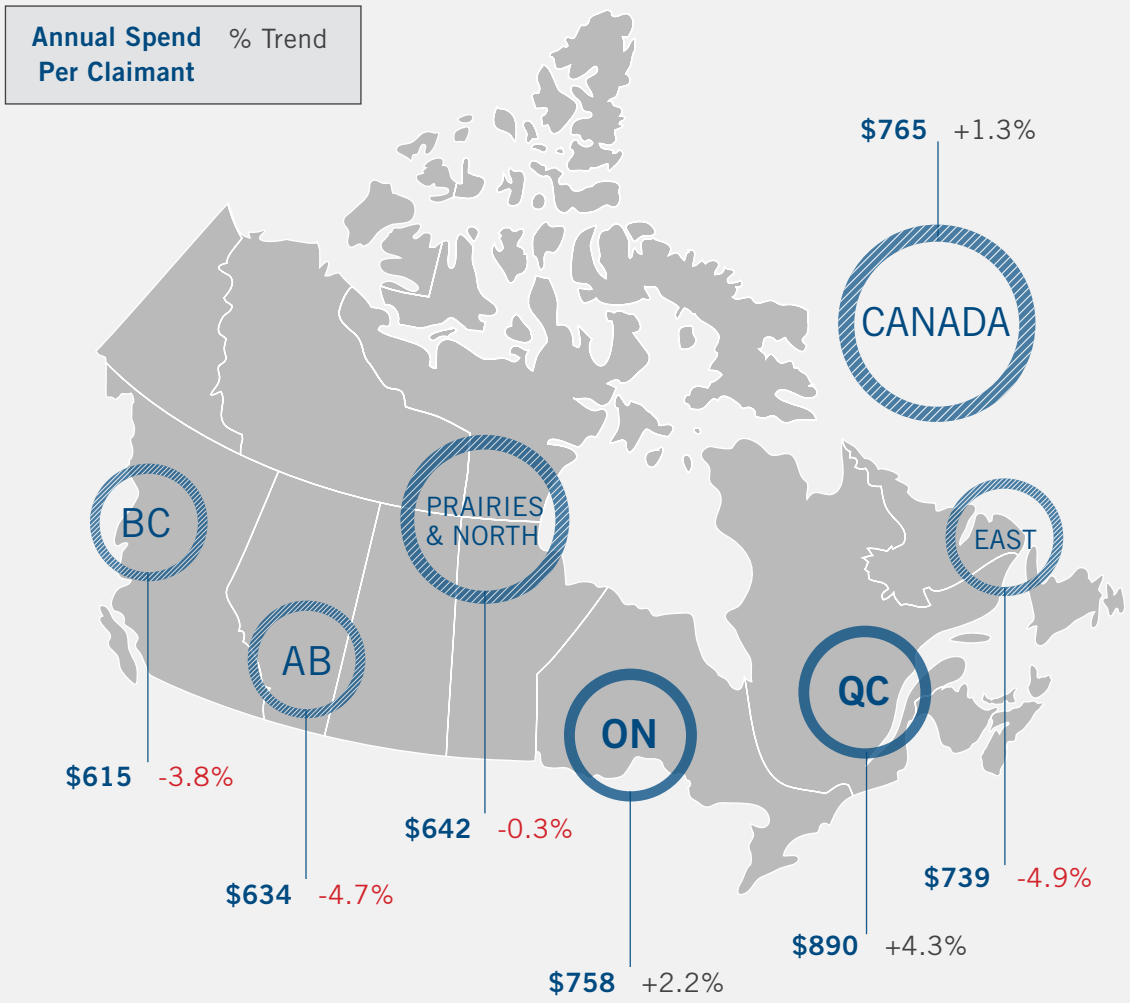


FIGURE 3 Costs in Ontario & Quebec Continue to Increase

Trailing Reforms Drove Trend Decrease in Other Regions



Specialty Drug Spend

Increasing use of specialty drugs had a significant impact on overall drug expenditures in 2013 and will continue to be a key driver in the future. Factors contributing to the increase in specialty include the shift to more in-home and outpatient administration, multiple new specialty drug approvals, and the introduction of new specialty drugs.

For patients that are suffering from rare and serious conditions this increase comes with many potential life-changing outcomes such as delaying disease progression, avoiding surgery, improving quality of life, improving productivity, and prolonging life. These significant benefits will lead to even greater utilization in the future.

Specialty Increase Driven by Greater Utilization

Multiple Factors Driving Utilization Increase

Factors Driving Utilization

- New drugs / expanding indications
- Shift to oral or outpatient administration
- Increased prevalence
- **Potential life-changing outcomes**

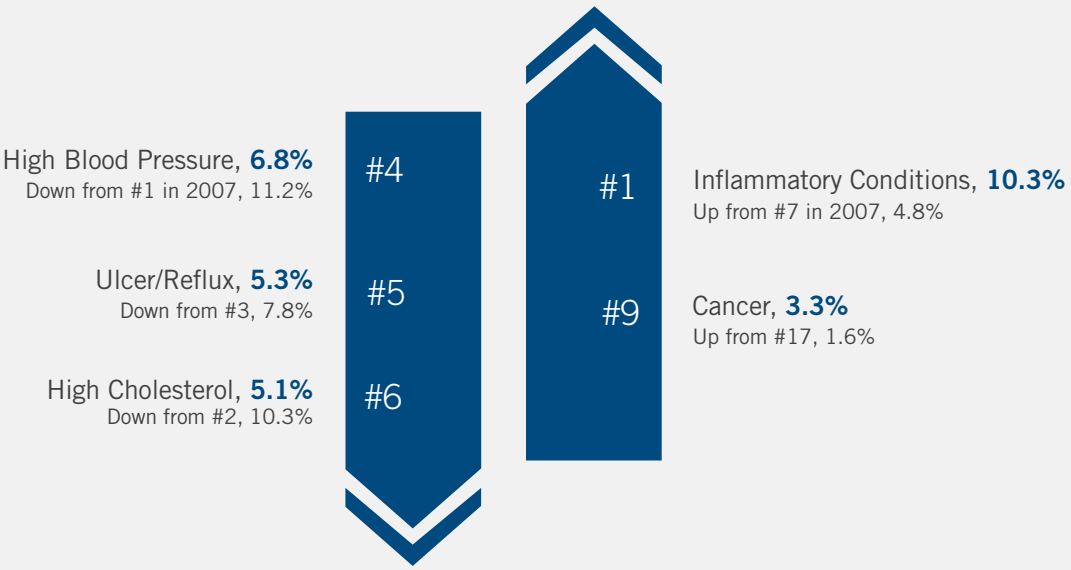
- ✔ Delay disease progression
- ✔ Reduce signs and symptoms
- ✔ Avoid surgery
- ✔ Improve productivity
- ✔ Improve quality of life
- ✔ Prolong Life

FIGURE 4 Increases in Utilization Driving Majority of Specialty Growth

Specialty Drug Spend

In 2013, utilization of specialty drugs increased by 7.5% and the cost per script increased by 2.4%, leading to an overall specialty trend increase of 10%. On average, a specialty claim costs 28 times more than a traditional drug claim ($1,270 vs. $45). As such, a small increase in utilization of specialty drugs leads to a much greater increase in overall spend, and spend is increasing as more patients use these drugs. This is exemplified by therapy classes for inflammatory conditions, which ranked seventh by spend in 2007 and climbed to first in 2013, and cancer, which ranked 17th in 2007 and rose to ninth in 2013. Simultaneously, the top traditional conditions such as high blood pressure, high cholesterol and ulcer/reflux have decreased as a percentage of overall spend due to a reduction in the cost per script due to patent expiries and provincial drug reforms.

FIGURE 5 Top Traditional Conditions Decreasing in Percentage of Spend
Specialty Increasing as More Patients Use High-Cost Specialty Drugs



Top 10 Therapy Classes by Spend

Rank by Total Cost 2013	Therapy Class	Percentage of Total Cost 2013	Percentage of Total Claims 2013	RANK by Claims 2013	Trend
1	Inflammatory Conditions*	10.3%	0.3%	41	10.0%
2	Diabetes	6.9%	5.6%	6	5.7%
3	Depression	6.9%	8.0%	2	-0.6%
4	High Blood Pressure	6.8%	12.9%	1	-9.4%
5	Ulcer / Reflux	5.3%	5.0%	7	-0.0%
6	High Cholesterol	5.1%	6.2%	4	-19.7%
7	Asthma / COPD	5.0%	4.3%	8	-0.9%
8	Antibiotics / Anti-Infectives	4.7%	7.9%	3	-10.1%
9	Cancer*	3.3%	0.8%	35	18.1%
10	Pain, Narcotic Analgesics	3.2%	5.7%	5	-1.6%

* Denotes specialty

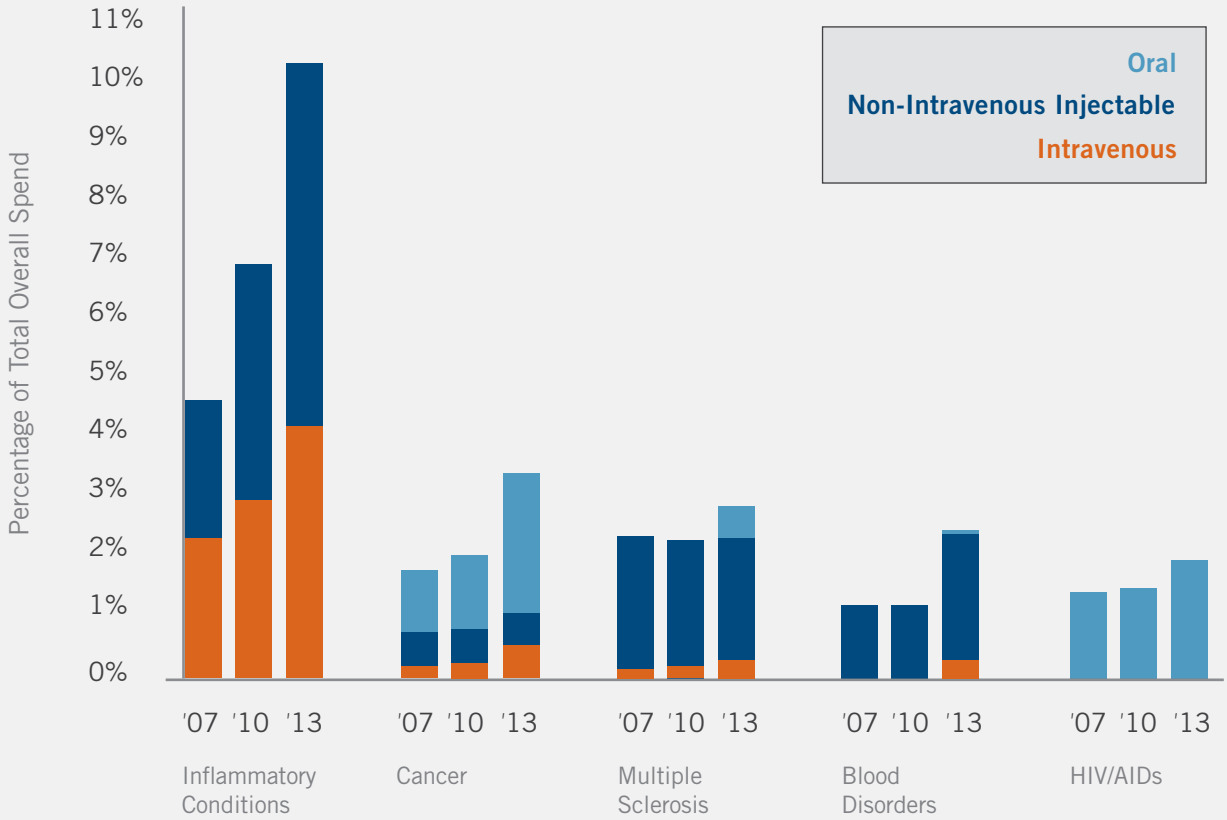
Shift to More In-Home and Outpatient Products

An emerging trend is the increase in the proportion of specialty drugs now available in oral dosage forms, providing drug administration convenience by making it possible for patients to receive therapy at home or in an outpatient setting. This also translates to a possible shift in payer, from hospital or public funding to private payers, contributing to an increased spend by private drug plans. The increase in the availability of oral dosage forms is evident in the multiple sclerosis and cancer disease states, both of which are further discussed in the Therapy Class Review section.

In 2007, for example, the cornerstone therapy for the treatment of multiple sclerosis was subcutaneous interferon injections. Since March 2011 four new oral drugs – Gilenya®, Fampyra™, Aubagio™, Tecfidera™ – have been introduced, with the latter two just approved in 2013. Their market shares continue to increase, and are expected to drive the trend of drug spend for treatment of multiple sclerosis upward.

FIGURE 6 Shift to Oral Treatment Options on the Rise

Increased Convenience and Ease of Administration Drive Utilization



New Specialty Drug Approvals and Pipelines

New drug approvals and pipeline continue to be dominated by the specialty category. Over the past couple of years, more specialty drugs that provide clinically effective treatment – and are sometimes the only drug treatment option for complex diseases – have been approved. About half of the new drugs approved in 2013 are a specialty medication (31 out of 63). New pharmacotherapy for treating niche conditions can provide significant clinical benefits to affected patients and caregivers; however, the high drug cost has created financial concerns for payers and for patients themselves.

Many notable specialty drugs entered the market in 2013, typically with a high price tag costing thousands per patient per year. Based on availability of pricing to-date, Adcetris® posted the highest therapy cost. For the treatment of blood cancers, it reached $232,300 per patient per year. Cancer drugs made up approximately one-third of these new specialty drug approvals.

Specialty Drugs Approved in 2013

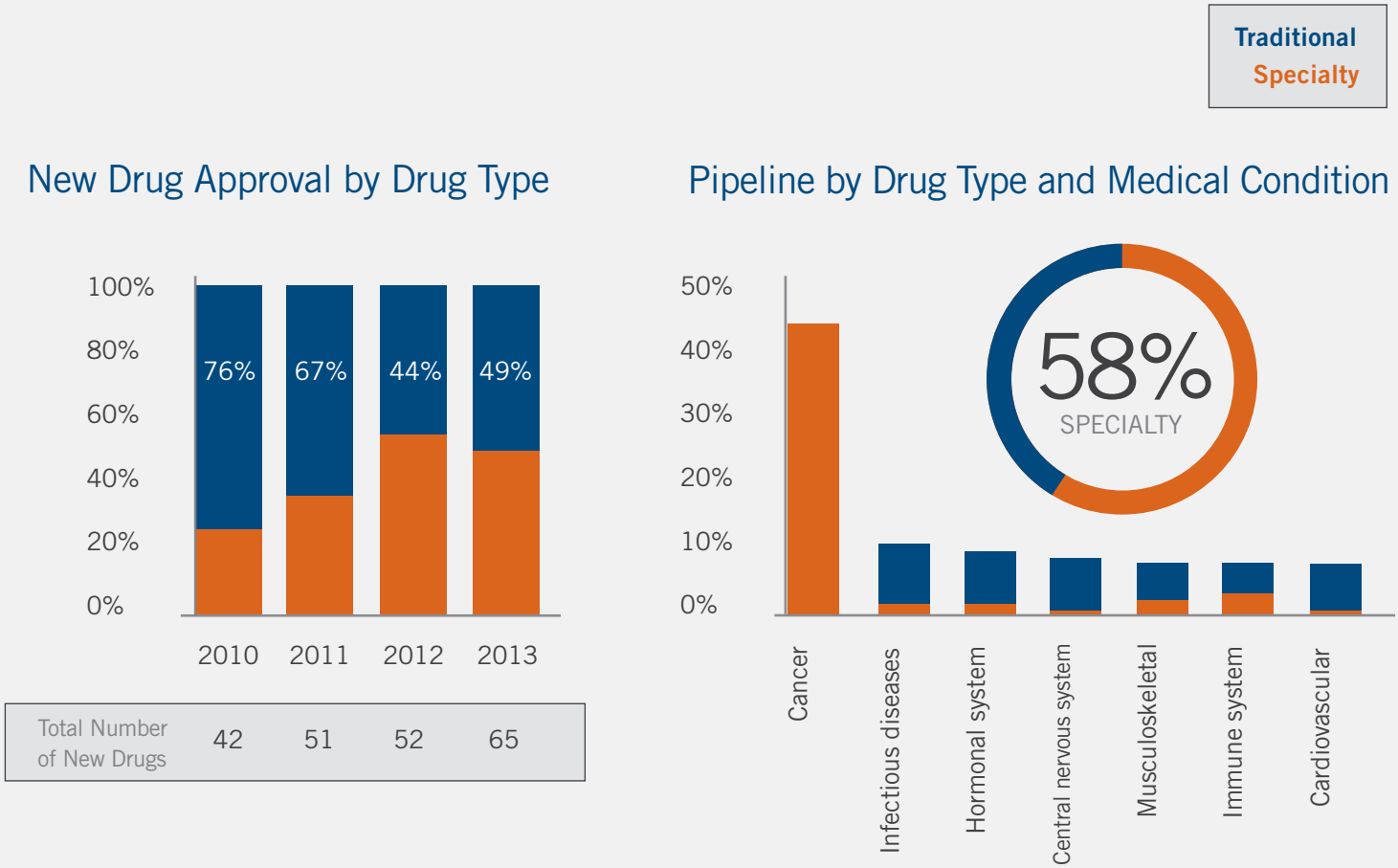
Brand Drug Name	Chemical Name	Primary Indication(s)	Annual drug cost per patient
Orencia® (Subcutaneous)	abatacept	Rheumatoid Arthritis	$19,300
Giotrif®	afatinib	Cancer - Lung	$30,400
Eylea®	aflibercept	Neovascular Age-Related Macular Degeneration	$9,000
Trisenox®	arsenic trioxide	Cancer - Acute Promyelocytic Leukemia	$33,550 (two 25-day courses)
Adcetris®	brentuximab	Cancer - Hodgkin Lymphoma, Systemic Anaplastic Large Cell Lymphoma	$154,880 - $232,300
Tybost™	cobicistat	HIV Infection/ AIDs	Not Available
Tafinlar™	dabrafenib	Cancer - Melanoma	$96,200
Tecfidera™	dimethyl fumarate	Multiple Sclerosis (Relapsing Remitting)	$12,150 - $24,300
Tivicay™	dolutegravir	HIV Infection/ AIDs	$14,250
Vitekta™	elvitegravir	HIV Infection/ AIDs	Not Available
Xtandi™	enzalutamide	Cancer - Prostate	$43,050
Naglazyme®	galsulfase	Maroteaux-Lamy Syndrome (MPS VI)	Not Available
Opsumit™	macitentan	Pulmonary Aterial Hypertension	$49,400
Uvadex™	methoxsalen	Cancer - Cutaneous T-Cell Lymphoma	Not Available
Jetrea®	ocriplasmin	Vitreomacular Adhesion	$4,150 (one treatment)
Signifor®	pasireotide	Cushing's Disease	$59,000 - $62,500
Fycompa™	perampanel	Seizures	$3,650
Perjeta™	pertuzumab	Cancer - Breast	$54,000
Stivarga®	regorafenib	Cancer - Colorectal, Gastrointestinal Stromal	$19,650 (median 3 month treatment cycle)
Zaxine®	rifaximin	Hepatic Encephalopathy	$12,000
Adempas®	riociguat	Chronic Thromboembolic Pulmonary Hypertension	$49,400
Istodax®	romidepsin	Cancer - Peripheral T-Cell Lymphoma	Not Available
Galexos™	simeprevir	Hepatitis C (Genotype 1)	$38,510 (course of treatment)
Imvamune™	small pox vaccine	Vaccine	Not Available
Aubagio™	teriflunomide	Multiple Sclerosis (Relapsing Remitting)	$20,600
Mekinist™	trametinib	Cancer – Melanoma (skin)	$110,150
Kadcyla™	trastuzumab and emtansine	Cancer - Breast	$93,250 (17 treatment cycles)
Erivedge®	vismodegib	Cancer - Basal Cell (skin)	$113,300

Looking ahead, with the shift in focus by a growing number of pharmaceutical manufacturers to the development of specialty drugs, it is estimated that 58% of drugs in the development pipeline are in the specialty category. Further, according to the Patented Medicine Prices Review Board (PMPRB), approximately 41% of all pipeline drugs are for treating cancer, followed by infectious diseases (9%), and the hormonal system (8%). With the shift to oral dosage forms, data illustrates that 70% of the cancer pipeline drugs are "chemicals" or "non-biologics," possibly for patient self-administration at home. Approval of these cancer drugs would therefore increase the financial burden for private payers.

With these driving forces, the outlook is that specialty spend will continue to increase in the future.

FIGURE 7 Specialty Increase Expected to Continue in Future

New Drug Approvals and Pipeline Dominated by Specialty



Specialty Drug Patent Expiries

The era of blockbuster drugs losing market exclusivity is coming to an end and the shrinking "patent cliff" signals a return to drug trend growth. Brand name drugs that lost patent in 2013 only contributed to 3.7% of the total drug spend in 2013, far less than the 10.3% contributed in 2012. According to the Health Canada Patent Register more drugs should experience patent expiries in 2014, including specialty drugs such as Neulasta®, Neupogen®, Revlimid and Botox®; and traditional drugs such as Cipralex®, Advair®, Lantus®, Ezetrol®, and Celebrex®.

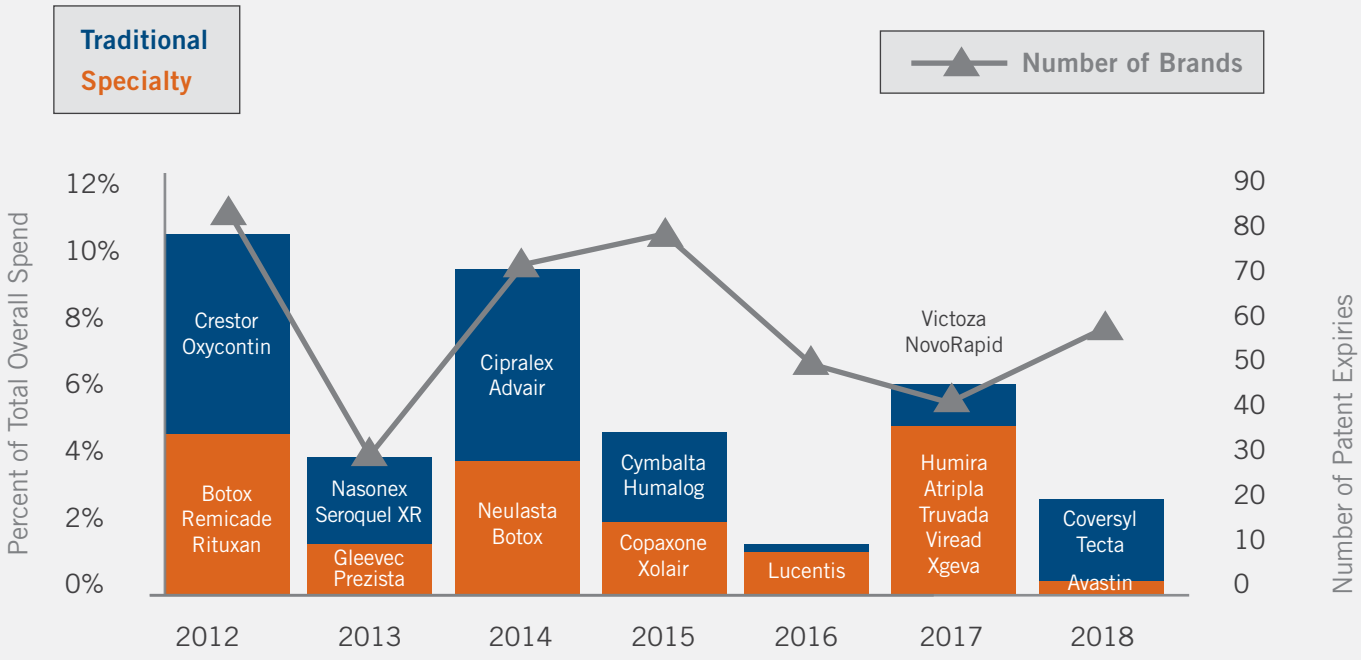
Brand name drugs that lost patent in 2013 only contributed to 3.7% of the total drug spend in 2013

Looking at a wider horizon, more specialty drugs will lose patent over the next five years. However, Express Scripts Canada anticipates these are unlikely to reduce trend in the near term due to the variability and limitations around the availability and usage of subsequent entry biologics (SEB).

Health Canada defines SEB as a biologic drug that enters the market subsequent to a version previously authorized in Canada and with demonstrated similarity to a reference biologic drug. Health Canada does not define SEBs as generic drugs, as such an SEB is not considered to be therapeutically or pharmaceutically equivalent to the reference drug. SEB manufacturers are required to complete clinical trials before release of an SEB on the market. Depending on the scope of clinical trials that have been conducted for an SEB, indication approval may differ from the reference brand. Since an SEB is not considered to be therapeutically or pharmaceutically equivalent to the reference drug, Health Canada does not support the automatic substitution of an SEB. Therefore, drug switching can only be done through therapeutic substitution, which requires approval and intervention by a patient, pharmacist and physician. With the anticipation that SEBs will only be moderately less expensive than their reference brand, while Express Scripts Canada expects the entry of SEBs to influence the specialty trend over time, the potential impact and savings remain highly uncertain. A list of SEBs under clinical development is summarized on the next page.

FIGURE 8 Slowing Patent Cliff Signals Return to Drug Trend Growth

Savings on Specialty Remain Highly Uncertain



Source: Patent Register, Drugs and Health Products, Health Canada

Reference Drug (Brand Name)	Chemical Name	Patent Expiry in Canada	Primary Indications	Current Status
Humira®	Adalimumab	2017	Rheumatoid arthritis, plaque psoriasis	Phase III
Remicade®	Infliximab	2017	Rheumatoid Arthritis	Phase III
Avastin®	Bevacizumab	2018	Cancer	Phase I and III
Gonal-F®	Follitropin alfa	2019	Fertility	Considered for licensing in the European Union
Rituxan®	Rituximab	2020	Rheumatoid arthritis, Cancer	Phase II and III
Herceptin®	Trastuzumab	2021	Cancer	Phase III
Enbrel®	Etanercept	2023	Rheumatoid arthritis and plaque psoriasis	Phase III
Lantus®	Insulin glargine	2023	Diabetes	Considered for licensing in the European Union
Neupogen®	Filgrastim	2024	Neutropenia	Considered for licensing in the European Union

Reference: Ndegwa S, Quansah K. Subsequent Entry Biologics – Emerging Trends in Regulatory and Health Technology Assessment Frameworks [Environmental Scan, Issue 43,ES0284]. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2014.

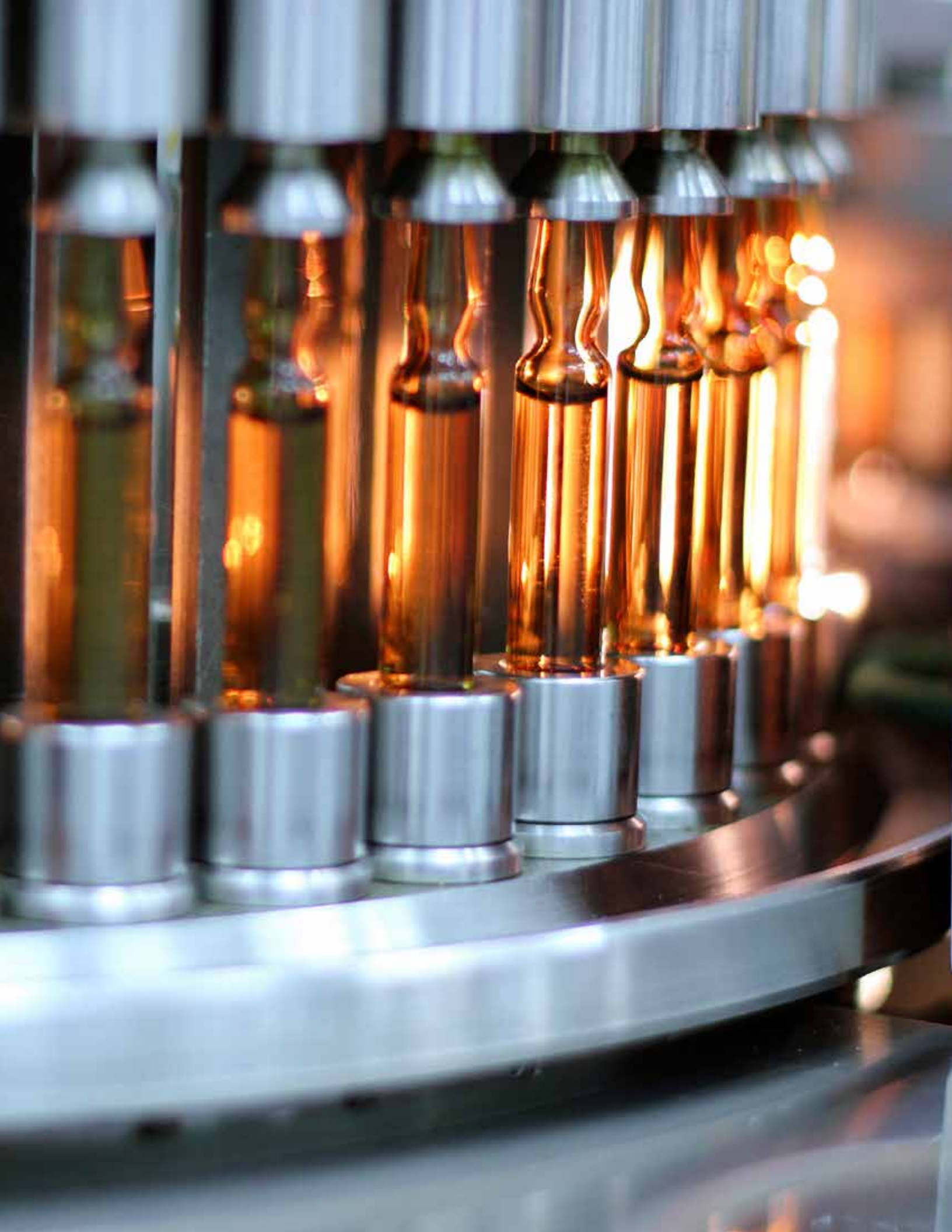
Subsequent Entry Biologic of Remicade

Taking the new SEBs of Remicade® as an example, the chemical CT-P13 is marketed under two brands: Remsima™ and Inflectra™. Both are manufactured by Celltrion Healthcare Co Ltd. (a South Korean company) and received Health Canada Notice of Compliance approval in January 2014.

Two clinical trials were conducted and published for CT-P13 in patients with ankylosing spondylitis (PLANETAS study) and in patients with active rheumatoid arthritis (PLANETRA study). The European Medicines Agency has approved CT-P13 for all the same indications as Remicade®, thus approving indication extrapolation. However, Health Canada has only granted four indications for CT-P13, specifically rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, and psoriasis. Indication extrapolation to gastrointestinal conditions – Crohn's disease and ulcerative colitis – was not granted to CT-P13, thus creating uncertainties about the market uptake of CT-P13 in Canada.

While drug switching from Remicade® to CT-P13 can only be done through therapeutic substitution, the potential price reductions of approximately 15% for CT-P13 compared to Remicade® would still allow private plans to achieve plan savings if the appropriate plan management tools and services are utilized.

Overall, Express Scripts Canada believes specialty patent expiries are unlikely to have a significant impact on trend in the near future.



Special Report - Profiling a Specialty Claimant

Specialty spend has doubled over the last six years due to double-digit annual increases. While we continue to advocate for patient access to effective treatments to achieve better health, there is no doubt that solutions are needed to ensure sustainability of private plans. In order to formulate and apply the right solutions, we need to have a better understanding of the claimants who are using specialty drugs. Express Scripts Canada created this special report to share our in-depth analyses of the demographics, comorbidities, and drug use pattern of selected specialty claimants.

Consistent with the pattern of low utilization and high spend with specialty drugs, Express Scripts Canada research has determined that only 1.17% of all plans members had a specialty drug claim. This includes the 0.41% of all plan members who had one or more specialty drug claims for the treatment of inflammatory conditions (e.g., severe rheumatoid arthritis). Their annual average treatment cost is $12,478 per patient, which includes expenses for all drug types – acute, maintenance, and specialty. This annual treatment cost is strikingly high: 16 times the national average of $765 per claimant per year, regardless of medical background. Similarly, 0.26% of all members had cancer drug claims with an annual treatment cost of $10,690 per patient, which is 14 times higher than the national average.

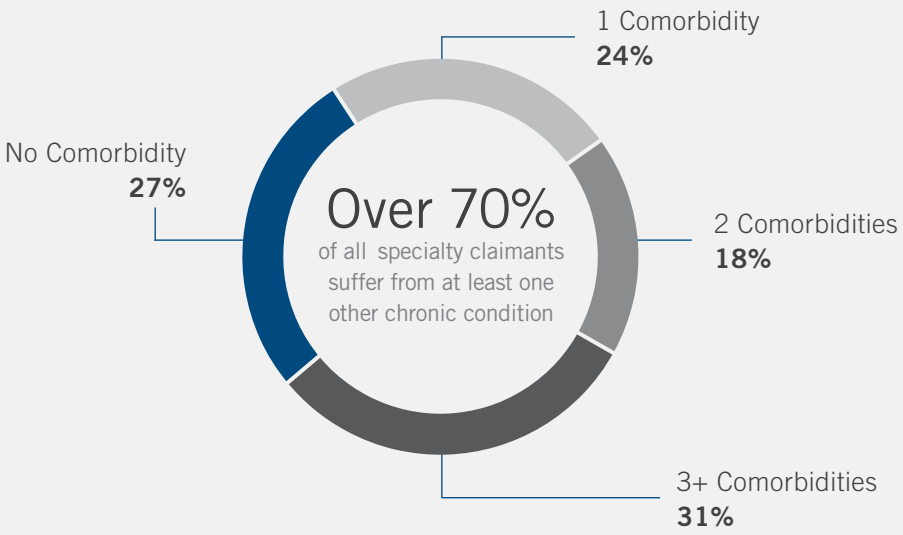
Although specialty conditions are not common, as evidenced by the small number of specialty drug claims and claimants, these conditions do impact the working population, thus impacting private plans. The average age of top specialty conditions ranges from 46.6 years among patients with multiple sclerosis to 55.9 years among patients with blood disorders. With the chronic and progressive nature of these conditions, ongoing treatment for months or years is required. Therapy modification that involves changing or adding another specialty drug may be considered when the condition progresses, and treatment cost is anticipated to remain high. As such, once a claimant becomes a specialty drug claimant private plans would continue to face the financial burden until – and if – the claimant receives reimbursement from their provincial drug programs.

Typical Demographics of Patients with Specialty Conditions

Specialty Condition	Average Age	% of Members	Annual Treatment Cost (incl acute, maint, specialty)
Inflammatory Conditions	47.6	0.41%	$12,478
Cancer	52.7	0.26%	$10,690
Multiple Sclerosis	46.6	0.06%	$15,901
Blood Disorders	55.9	0.15%	$5,125
AIDS or HIV Infection	48.5	0.07%	$11,647
Organ Transplant	49.6	0.08%	$ 2,090

FIGURE 9 Research – Specialty Patient Care is Critical
Comorbidity Analysis Based on ESC Book of Business

Comorbidities Among Specialty Claimants

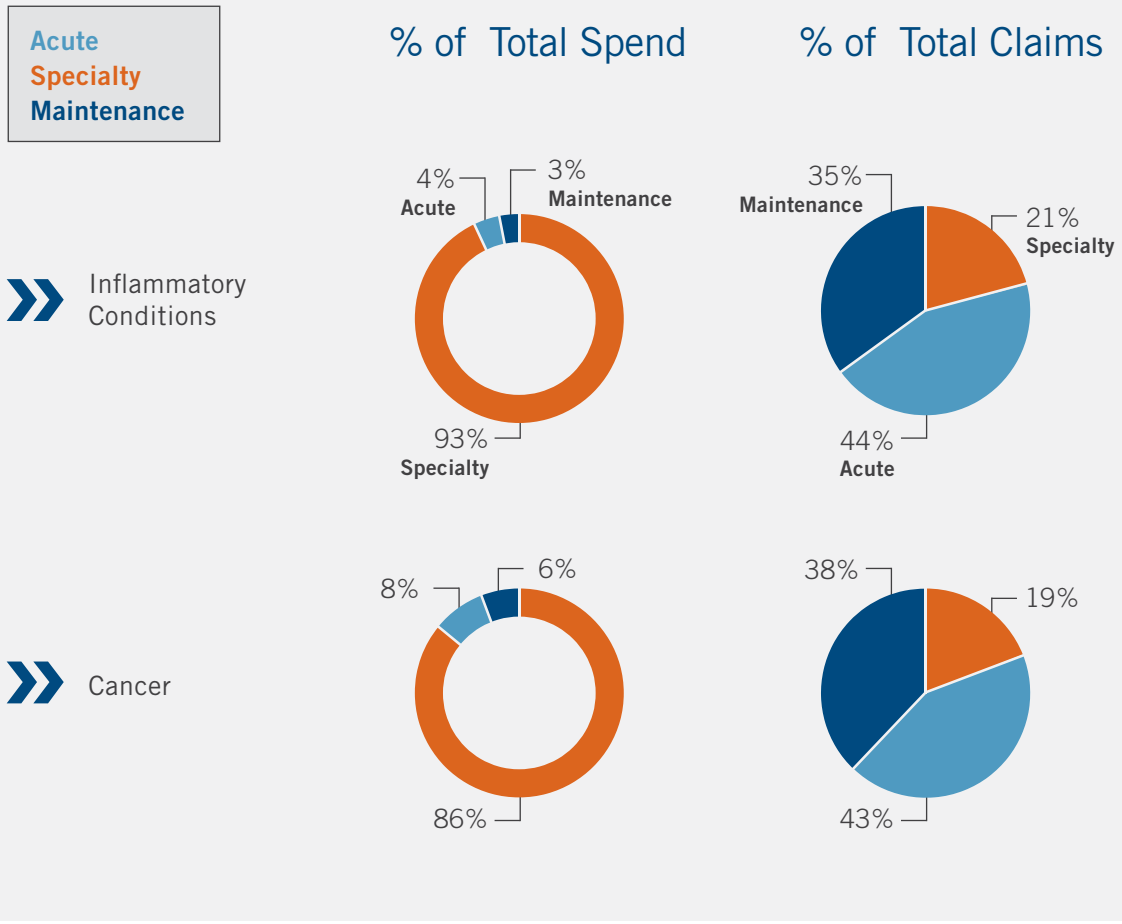


- 1 in 3 specialty claimants have high blood pressure
- 1 in 4 specialty claimants have gastric ulcers
- 1 in 5 specialty claimants have high cholesterol

With multiple comorbidities, most specialty patients require concurrent drug therapies in addition to specialty medications to manage health. Taking a specialty claimant with inflammatory conditions as an example, only 21% of this patient's drug claims were for specialty; 44% were for acute drugs such as antibiotics and pain reliever, with the remaining 35% for maintenance drugs such as water pills used for the treatment of high blood pressure. A similar pattern was observed for patients with cancer, multiple sclerosis, and HIV infections. With specialty patients requiring complex therapeutic regimens, there are opportunities for pharmacists' clinical involvement to provide better patient care, optimize drug benefits, and improve health outcomes.

FIGURE 10 Specialty Patients Require Complex Therapeutic Regimen

Targeted Solutions are Needed to Optimize Spend and Care

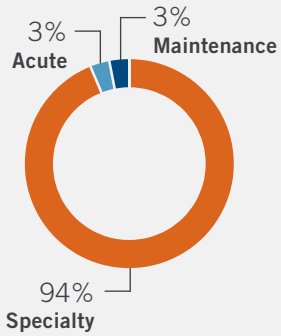


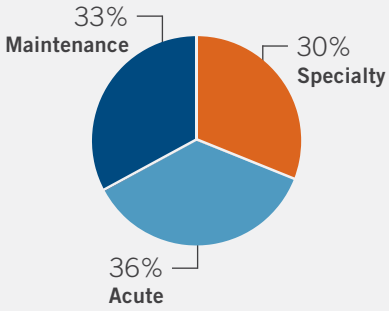
Acute
Specialty
Maintenance

% of Total Spend

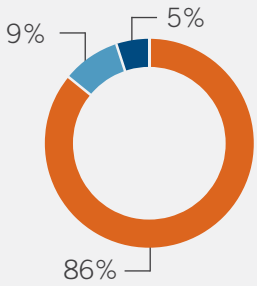
% of Total Claims

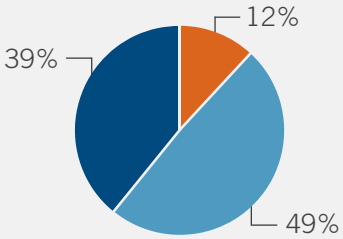
Multiple Sclerosis



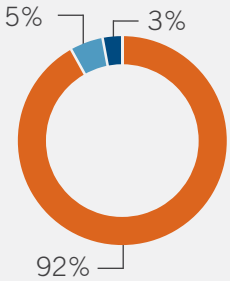


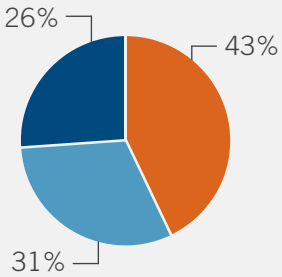
Blood Disorders



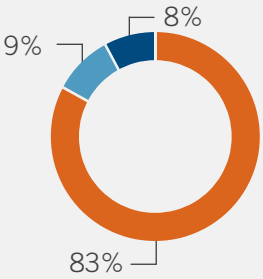


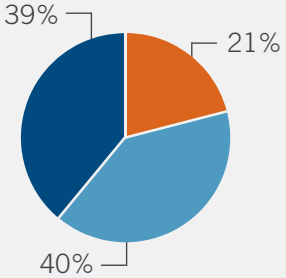
HIV Infection





Organ Transplant





Traditional Drug Spend

Traditional drug spend underwent a negative trend of 1.2% in 2013, with increased utilization offset by a reduction in the cost per script. The reduction in the cost per script was primarily driven by lower generic prices as a result of provincial price reforms and Council of Federation agreements, as well as an increase in the availability of generic options due to patent expiries. In addition, increased use of plan controls, such as mandatory generic substitution plans, helped decrease the cost per script.

This decrease was partially offset by an increase in utilization, which was driven by an increasing prevalence of the chronic conditions such as high blood pressure that come with an aging population, as well as an increase in the number of drug options for a wide array of medical conditions. An increase in pharmacy dispensing fees as well as the use of new, higher-cost brand name drugs also put upward pressure on the traditional drug trend.

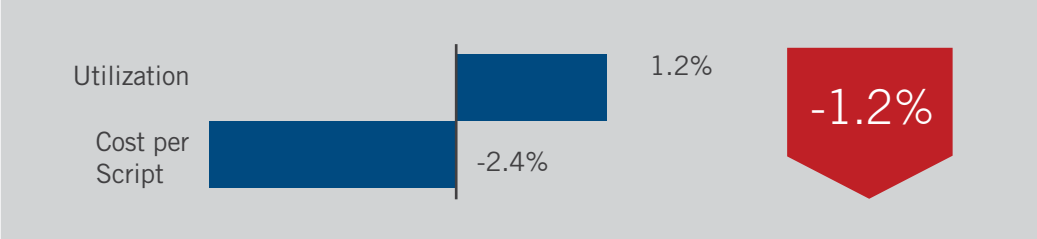
FIGURE 11 Traditional Drug Trend Mitigated by Generics
Increased Utilization will Drive Up Trend in the Near Future

Diabetes
High Cholesterol
High Blood Pressure
Mental Health

Traditional Drug Trend 2013

Factors to **Increasing** Trend ↑
- Increase Utilization
- Pharmacy Fees

Factors to **Decreasing** Trend ↓
- Provincial Drug Reform
- Patent Expiries
- Increase Plan Controls



Utilization and Spend Increases with Age

Utilization of traditional drugs has increased by 28.7% over the last 10 years, rising from the national average of 10 prescriptions per claimant per year in 2003 to 12.9 in 2013. The two key components that continue to drive the growth in utilization are *increased intensity* (more prescriptions per patient) and *increased prevalence* (greater percentage of eligible members with a claim). Increased intensity is usually driven by the increase in drug options for new or conventional medical conditions and more prescriptions filled for generic drugs due to improved affordability; increased prevalence is primarily driven by an aging Canadian population.

Exploring the demographics of Express Scripts Canada plan members, claims data shows that utilization peaked among plan members in the 50-to-65 age group. This aligns with higher utilization as employees grow older, which results in a higher drug spend. Also, as anticipated, private plans have lower claims and spend for patients 65 and older as provincial drug programs for seniors become available. This varies by region depending on whether the province is first payer or payer of last resort.

With an aging population, there is a pressing need for all payers to control costs in order to ensure sustainability.

Two key components that continue to drive the growth in utilization are increased intensity and increased prevalence

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Dispensing Fee

On a national basis, dispensing fees continued to modestly increase, up 1.2% to $11.03 in 2013, similar to the 1.5% increase in 2012. From a regional perspective, although the Atlantic Provinces posted the highest increase (5.6%) for the average fee submitted, it continues to be the lowest in Canada at $9.71. The Prairies and North region continues to set the highest average dispensing fee at $11.76, followed by Ontario at $11.23, Alberta at $10.87, and British Columbia at $10.21.

New Traditional Drug Approvals

Although more drug-development activity is trending toward specialty, a number of new traditional drugs received approval in 2013. However, many of these new arrivals are considered product line extensions and/or "me-too" products.

Along with the new drug approvals, an increase in the utilization of new higher-cost brand name drugs is slowly driving the traditional trend upward. Two prime examples are drugs for treating diabetes and drugs for mental disorders. For diabetes, new drugs with unique mechanism of action – DPP-4 inhibitors and incretin mimetics – are available. Coupling with the progressive nature and high prevalence of the disease, utilization and costs per script have both increased. Similarly, new antipsychotics like aripiprazole (Abilify™) and paliperidone (Invega®) have greater increases in utilization (136% and 255%, respectively) and spend (144% and 272%) since these provide more therapeutic options to patients with mental health disorders whose therapy is highly individualized.

Traditional Drugs Approved in 2013

Brand Drug Name	Chemical Name	Primary Indication(s)	Annual drug cost per patient
Ofirmev®	acetaminophen intravenous injection	Pain	Not Available
Tudorza™ Genuair™	aclidinium bromide	Chronic Obstructive Pulmonary Disease	$850
Xerese™	acyclovir/ hydrocortisone	Herpes Labialis	$36 (per treatment)
Rasilamlo®	aliskiren /amlodipine	Hypertension	Not Available
Lumigan® PF	bimatoprost	Open-Angle Glaucoma or Ocular Hypertension	Not Available
Omnaris HFA®	ciclesonide	Allergic Rhinitis	Not Available
Premarin® (extended release)	conjugated estrogens	Menopause/Postmenopausal Symptoms, Osteoporosis, Hypoestrogenism, Atrophic Vaginitis, Vulvar Atrophy	Not Available
Nocdurna®	desmopressin	Nocturia	$500
Silenor®	doxepin	Insomia	$450
Jublia®	efinaconazole	Onychomycosis	Not Available
Estrogel ProPak™	estradiol/progesterone	Menopause/Postmenopausal Symptoms	$850
Fentora®	fentanyl buccal tablet	Pain	Not Available
Instanyl Nasal Solution®	fentanyl citrate	Pain	Not Available
Breo Ellipta™	fluticasone/ vilanterol	Chronic Obstructive Pulmonary Disease	$1,500
Intuniv XR™	guanfacine	Attention Deficit Hyperactivity Disorder	$2,750
Picatof®	ingenol mebutate	Actinic Keratosis	$400
Jaydess®	levonorgestrel intrauterine system	Birth Control	$130
Pliaglis®	lidocaine/tetracaine	Anesthetic	Not Available
Jentadueto™	linagliptin/metformin	Diabetes Mellitus (Type 2)	$1,000
Myrbetriq™	mirabegron	Overactive Bladder	$650
Bystolic®	nebivolol	Hypertension	$450 - $900
Ilevro®	nepafenac	Pain and Inflammation Due to Cataract Surgery	Not Available
Striverdi® Respimat®	olodaterol	Chronic Obstructive Pulmonary Disease	Not Available
Neupro®	rotigotine	Parkinson's Disease	$1,350 - $2,800
Veregen®	sinecatechins	External Genital and Perianal Warts	Not Available
Diacomit™	stiripentol	Seizures	$17,150 - $39,250
Lysteda®	tranexamic acid	Menstrual Bleeding	Not Available
DuoTrav PQ®	travoprost/timolol	Open-Angle Glaucoma or Ocular Hypertension	$750
Fibristal™	ulipristal	Uterine Fibroids	$1,100 (3 month max treatment duration)

The Pan-Canadian Pricing Alliance (PCPA)

The Pan-Canadian Pricing Alliance (PCPA), part of the Council of the Federation's Health Care Innovation Working Group (HCIWG), conducts joint provincial/territorial negotiations for brand name drugs in Canada in order to capitalize on the combined buying power of public drug plans. These negotiations are expected to deliver greater value for publicly funded programs and patients, including lower drug costs, consistent pricing, better access to drugs, and consistency of coverage criteria across Canada. There are, however, many unknowns as to whether or not private payers may benefit or be adversely impacted by potential outcomes.

Both traditional and specialty drugs were included among the 32 joint negotiations that have been completed as of February, 2014. Examples of traditional drugs include Pradaxa™ and Xarelto® for preventing stroke, Onbrez® Breezhaler® and Seebri® Breezhaler® for treating chronic obstructive pulmonary disease. Specialty drugs include multiple oral and injectable cancer therapies such as Afinitor® and Perjeta™ for breast cancer, and Inlyta™ and Votrient® for kidney cancer. An additional 12 negotiations are currently underway; the majority, 10 out of 12, concern specialty drugs.

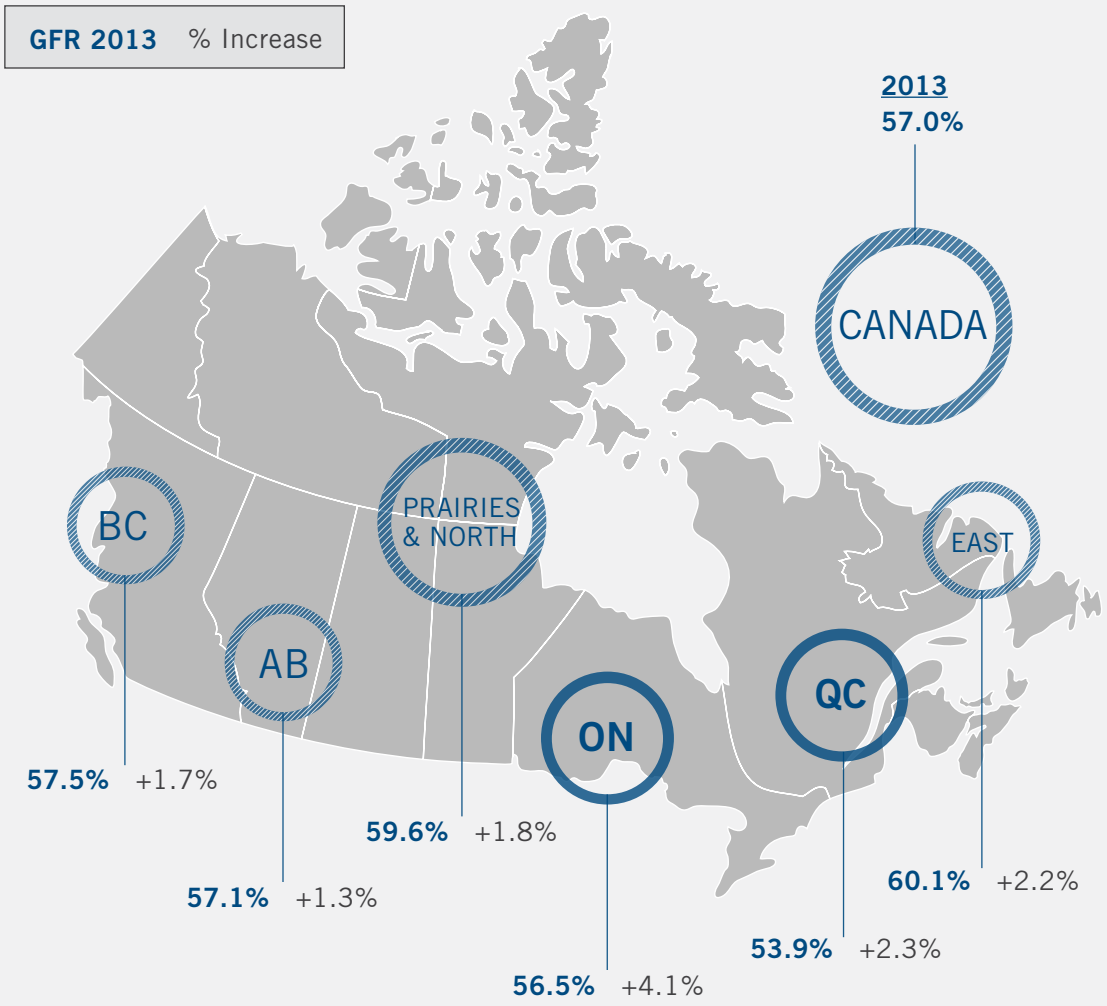
If pricing relief is extended to private payers, then the financial burden in paying for new expensive brand drugs can be alleviated. In contrast, if the negotiated prices are not published and do not apply to private plans, a two-tiered pricing is created and private payers can expect to see a jump in spend on new drugs as prescribing pattern changes and utilization increases.

Generic Fill Rate

Express Scripts Canada has observed significant generic fill rate (GFR) increases since 2007, primarily as a result of patent expiries. Generic fill rate is defined as the percentage of total drug claims filled with generics. This is a key metric for gauging the efficiency through which drug plans take advantage of the lowest-cost clinically equivalent medications. All factors being equal, higher GFRs translate to lower costs and similar clinical outcomes. The overall GFR in Canada increased from 41.7% in 2007 to 57% in 2013. On a regional level, all provinces had GFR increases in 2013, ranging from 1.3% in Alberta to 4.1% in Ontario.

FIGURE 12 Significant GFR Increases Primarily Due to Patent Cliff

All Regions Experienced Increases



Patent Expiries - First Time Generics

The increase in the generic fill rate in 2013 primarily came from a full year of generic utilization of several blockbuster drugs that came off patent in 2012, including rosuvastatin (Crestor®), losartan (Cozaar®), and telmisartan (Micardis®). Although additional patent expiries continued throughout 2013, these affected drugs did not have an overly high utilization and therefore had little impact on the generic fill rate.

The following table provides a complete list of noteworthy first-time generics in 2013.

First time Generics in 2013

Brand Drug Name	Chemical Name	Route of administration	Primary Indication(s)	Rank by Spend in 2013	Rank by Claims in 2013
Nasonex®	mometasone	Nasal Spray	Allergy	27	23
Seroquel XR®	quetiapine	Oral	Antipsychotic	35	25
Gleevec®+	imatinib	Oral	Cancer	43	634
Tri-Cyclen® LO	ethinyl estradiol/ norgestimate	Oral	Birth Control	55	37
Yasmin®	drospirenone/ethinyl estradiol	Oral	Birth Control	72	36
Prograf®+	tacrolimus	Oral	Organ Transplant	81	313
Ativan Sublingual®	lorazepam	Oral (Sublingual)	Anti-Anxiety	127	21
Axert®	almotriptan	Oral	Migraine	173	297
Aldara™	imiquimod	Topical	Skin Conditions	189	429
Prezista®+	darunavir	Oral	HIV / AIDS	212	675
Micronor®	norethindrone	Oral	Birth Control	237	174
Suboxone®	buprenorphine/naloxone	Oral	Pain, Narcotic Analgesics	241	144
Nitro-Dur®	nitroglycerin	Topical	Cardiovascular Disease	303	176
Xeloda®+	capecitabine	Oral	Cancer	323	592
Zometa®	zoledronic acid	Injectable	Osteoporosis	325	731
Travatan® Z	travoprost	Opthalmic Drop	Eye Disease, Glaucoma	338	325
Vigamox®	moxifloxacin	Opthalmic Drop	Eye Disease, Misc	342	197
Fosavance®	alendronate/vitamin D3	Oral	Osteoporosis	360	273
Valcyte®	valganciclovir	Oral	Antibiotics / Anti-Infectives	380	887
DuoTrav®	travoprost/timolol	Opthalmic Drop	Eye Disease, Glaucoma	419	392
Sustiva®+	efavirenz	Oral	HIV / AIDS	421	787
Lescol®	fluvastatin	Oral	High Cholesterol	534	474
Nitoman®	tetrabenazine	Oral	Movement Disorders	613	845
Salagen®	pilocarpine	Oral	Oral Health	614	710

Provincial Generic Price Reforms & Council of Federation

Provincial drug reforms continued to drive down the price of generics in several regions throughout 2013. New Brunswick and Newfoundland and Labrador completed the last phase of their reforms during 2013 by setting the generic prices at 25% of brand. British Columbia decreased the generic prices from 35% to 25% of brand in April 2013, and has further reduced the prices to 20% effective April 1, 2014. Alberta intended to decrease the generic prices from 35% to 18% of brand in April 2013, but due to opposing pressures most generics were decreased to 25%.

In addition, as a result of the collaborative effort among all provinces except Quebec in the Council of the Federation, the prices of six highly used generics – amlodipine, atorvastatin, omeprazole, rabeprazole, ramipril, and venlafaxine – were decreased to only 18% of brand across all provinces in April 2013. With continuing effort, an additional four chemicals which contributed to 6.3% of total drug spend in 2013 have price decreases to 18% of brand effective April 1, 2014, providing an estimated savings of 2.5% on total spend:

- citalopram (Celexa®) – for depression and mood disorders (0.5% of total spend)
- pantoprazole (Pantoloc®) – for gastric ulcers and reflux (0.9%)
- rosuvastatin (Crestor®) – for high cholesterol (4.6%)
- simvastatin (Zocor®) – for high cholesterol (0.3%)

Looking ahead, two more provinces – Alberta and New Brunswick – have announced major changes to drug reimbursement structure and public plan coverage in 2014 and beyond. Alberta has announced new pricing rules that incorporate the "lowest published price in Canada" to be used, along with changes to allowable upcharges and dispensing fees between April 2014 to April 2017. In the East, New Brunswick is introducing the Prescription and Catastrophic Drug Insurance Act, which stipulates that all New Brunswickers will be required to have prescription drug insurance, either public or private, effective April 1, 2015. Similar to the Régie de l'assurance maladie du Québec (RAMQ), private drug coverage must cover every drug covered under the New Brunswick Prescription Drug formulary, with additional restrictions on co-payments or deductibles. The change in New Brunswick is likely to create further financial and administrative pressures on private drug plans.

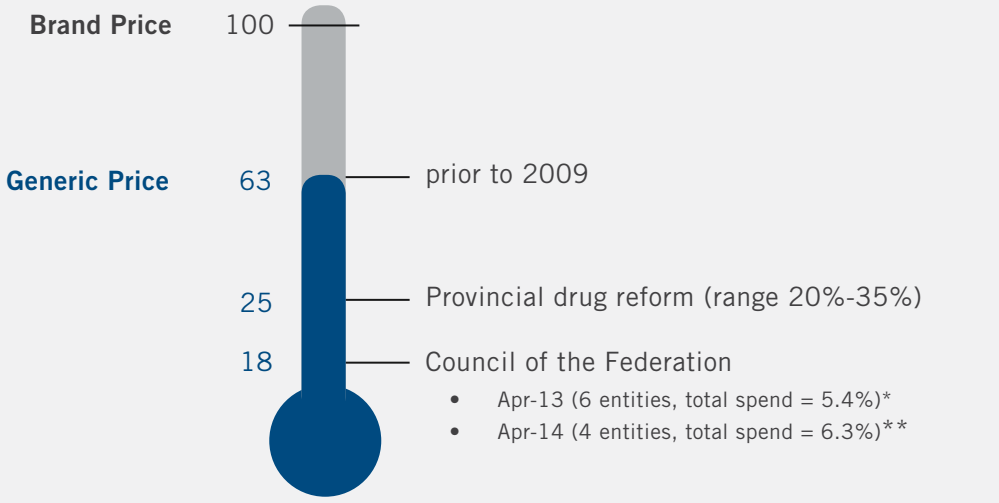
Formulary Generic Prices as % of Brand

	2013	Q1	Q2	Q3	Q4	**2014**
Alberta		35%	25%			18%
Ontario		25%				25%
British Columbia		35%	25%			20%
Québec		25%	25%			18%
Saskatchewan		35%				35%
Nova Scotia		35%				35%
New Brunswick		35%	25%			25%
Newfoundland & Labrador		40%	35%	25%		25%
Prince Edward Island		35%			25%	25%
Manitoba		48%*				48%*

* Express Scripts Canada analysis

Private plans have benefited from the widening gap between brand and generic prices with sizable drug cost savings in all provinces. Formulary generic prices were lowered gradually, from approximately 63% of brand prices prior to 2009 to the current 20% to 35%, with the Council of the Federation further decreasing the price of 10 highly utilized chemical entities to 18%. With that said, generic prices appear to be reaching a floor.

FIGURE 13 Widening Gap Between Brand and Generic Prices
Generic Prices Reaching Floor



Forecast

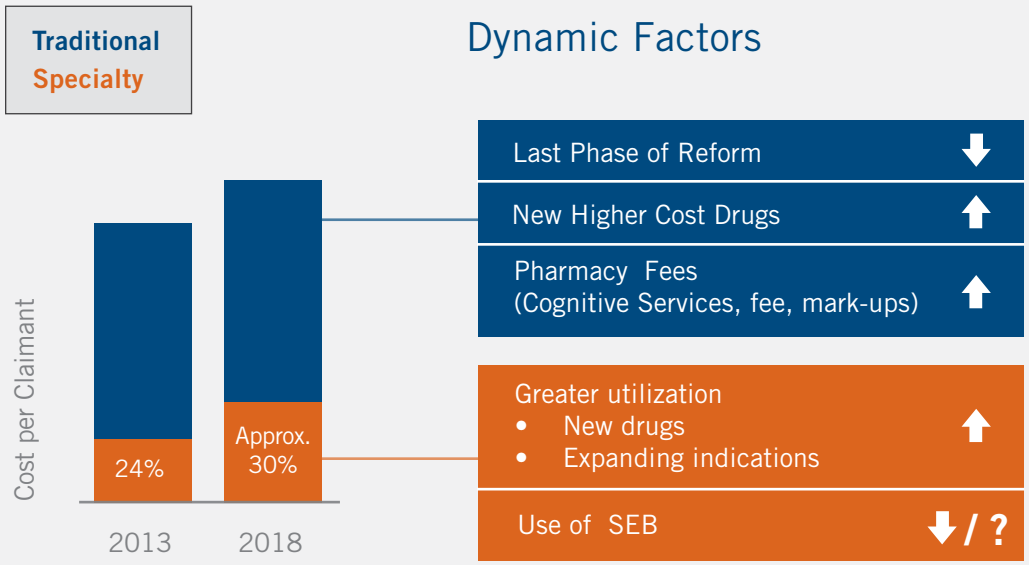
Traditional Forecast: Traditional drug spend currently accounts for 76% of overall private payer plan expenditures and is expected to trend slightly upward over time. Express Scripts Canada predicts that utilization, which is influenced by prevalence and intensity, will increase slightly in 2014 and beyond. Assuming that provincial generic reform activities have executed their final phase in 2014, the remaining driver of downward pressure on cost per script could come from additional negotiations on the part of the Council of the Federation. As such, the cost per script will eventually increase because of greater use of newer, higher cost brands. Overall, Express Scripts Canada predicts a relatively flat trend in 2014; greater growth in trend for the traditional drug category will eventually pick up starting 2015.

Specialty Forecast: In contrast to the flat trend projected for traditional drugs, Express Scripts Canada anticipates double-digit year-over-year growth for the specialty drug category. Both of the major trend components – cost per script and utilization – will contribute to positive trend. Costs will rise as newer, more sophisticated therapies with price tags of tens and hundreds of thousands of dollars are brought to market. Utilization will drive specialty growth as more drug options become available for treating different complex conditions. With the complexities around SEB approval and availability, Express Scripts Canada predicts that the introduction of SEBs will have a moderate influence in decelerating cost-per-script increases in the near term.

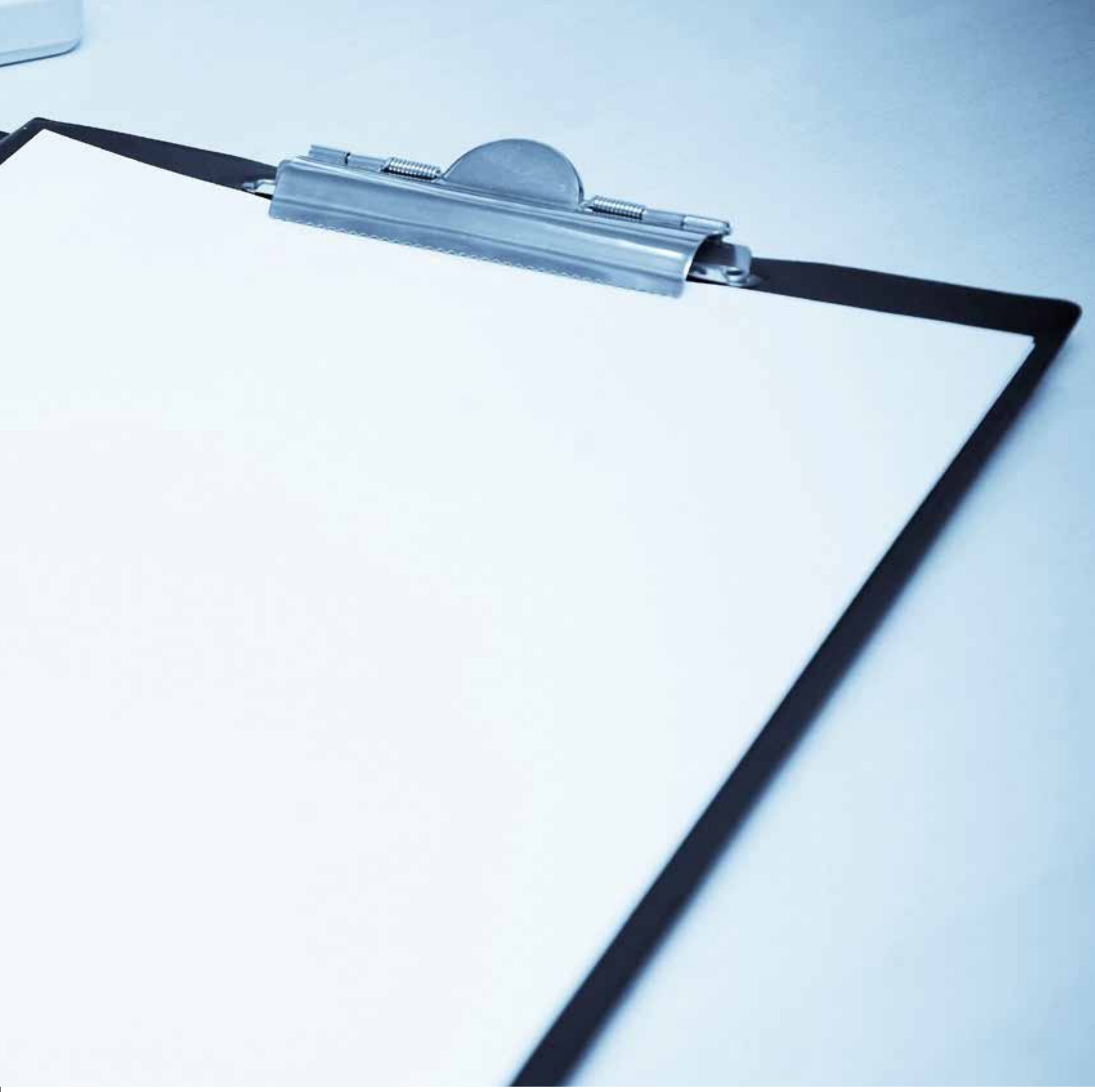
As most Phase III pipeline drugs are in the specialty drug category, Express Scripts Canada believes that specialty medications will represent an increasingly larger component of overall drug expenditure in the future, and that specialty medications will grow from 24% of spend to approximately 30% of the total drug spend for private payer plans in Canada by 2018.

FIGURE 14 Drug Benefit Costs will Rise in Future

Specialty Increases will Drive Drug Trend as Traditional Drug Costs Stabilize



THERAPY CLASS REVIEW



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KEY SPECIALTY THERAPY CLASSES

INFLAMMATORY CONDITIONS

The inflammatory conditions class encompasses medications that treat complex and severe medical conditions that involve impaired immune systems, including rheumatoid arthritis, psoriatic arthritis, ankylosing spondylitis, Crohn's Disease, ulcerative colitis, and plaque psoriasis. The overall trend increase of 10.03% was primarily driven by an 8.56% increase in utilization and a 1.48% increase in the cost per script.

Observations

- Remicade® and Humira® capture about 70% of the total market share in this class. Remicade® had a slight year-over-year decrease from 40% in 2012 to 37% in 2013, likely as a result of the shift to other self-injectable biologics like Humira® and Stelara®, which have similar indications and yet provide additional convenience in dosing and administration at a lower therapy cost. For example, for the treatment of ulcerative colitis, Humira® costs approximately $21,000 per patient per year, versus approximately $28,000 with Remicade®, thus providing an effective, lower-cost therapeutic alternative for patients.
- Utilization is expected to increase as patients are more likely to be prescribed this class of drugs due to their expanding indications, and as physicians become more comfortable prescribing specialty medications for inflammatory conditions. Both Stelara® and Cimzia® received new indications for the treatment of psoriatic arthritis in 2013, while Humira® and Simponi® were approved for ulcerative colitis.
- The two subsequent entry biologics (SEBs) of Remicade® – Remsima™ and Inflectra™ – were approved by Health Canada in December 2013. Although these SEBs were not granted the exact indications and are not interchangeable with Remicade®, these products will likely be priced at a discount, which should provide some savings to private payers if the appropriate plan management tools are in place. However, the anticipated slow uptake in SEBs is expected to keep costs in this therapy class high in the next three years.

Key facts

PERCENTAGE OF TOTAL CLAIMS
0.27%

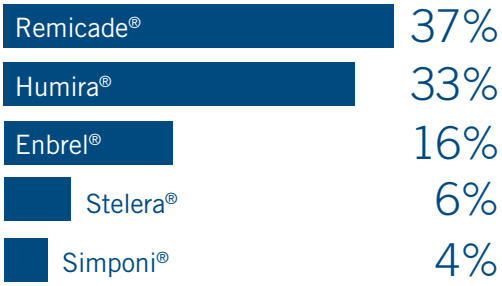
PERCENTAGE OF TOTAL SPEND
10.3%

AVERAGE COST PER SCRIPT
$2,377

TREND
10.03%

Top Drugs

Market Share by % Spend



CANCER

Cancer is a group of diseases characterized by uncontrolled and unregulated growth or spread of abnormal cells. According to the Canadian Cancer Society, about 187,600 Canadians were diagnosed with cancer in 2013. The overall five-year survival rate in Canada is 63%, with a huge variation among cancer types, ranging from 98% with thyroid cancer to only 8% with pancreatic cancer. The cancer drug class had a significant trend increase of 18.08% in 2013, up from 4.66% in 2012 and only 2% in 2011, primarily driven by the 12.97% increase in cost along with a 5.12% increase in utilization.

Observations

- Oral cancer drugs are typically not covered on hospital formularies and coverage on provincial drug formularies is limited, which has left many patients and private payers to pay for the majority of costs.
- Utilization of new oral cancer drugs approved in 2012, specifically kinase inhibitors such as Inlyta™, Xalkori™, and Zelboraf®, drove up the overall trend; the average cost per claim in 2013 was $4,178, $5,914, and $6,063, respectively. Many more oral therapies, such as Giotrif®, Tafinlar™, and Mekinist™, were approved in 2013, and these are expected to continue to drive up spend in 2014.
- Health Canada is increasingly approving new, highly targeted therapies that treat cancer based on a patient's specific genetic or proteomic profiles. These drugs are often associated with a more expensive research and development process, which may lead to higher price tags in this therapy class. However, these personalised treatments also result in greater success in identifying the individuals who are most likely to receive clinical benefits.
- As cancer survivorship increases, patients may require additional therapies over time, leading to a greater number of claims and spend per patient.

Key facts

PERCENTAGE OF TOTAL CLAIMS
0.62%

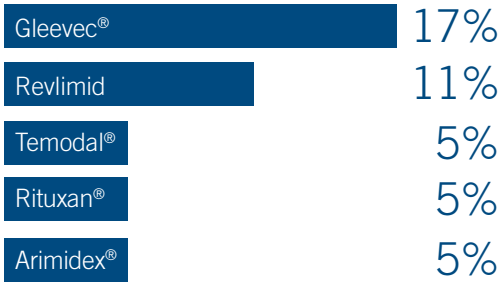
PERCENTAGE OF TOTAL SPEND
3.28%

AVERAGE COST PER SCRIPT
$341

TREND
18.08%

Top Drugs

Market Share by % Spend



MULTIPLE SCLEROSIS

Multiple sclerosis (MS) is a chronic, neurodegenerative disease believed to be caused by the immune system attacking the myelin sheath of the nervous system, which results in lesions and damage to nerve cells. MS is associated with a poor long-term prognosis without cure; the current goal of management is to prevent relapses and long-term disability. Canada has one of the highest rates of prevalence in the world, reported at 240 per 100,000. The overall trend in this therapy class jumped to 9.3% in 2013, compared with 5.8% in 2012 and 2.8% in 2011. Utilization (9.18%) was the key driver, with only a slight increase (0.12%) in cost.

Observations

- New oral therapies provide "add-on" options for patients to better manage their disease, and continue to change the treatment landscape in this therapy class. Gilenya®, the first oral medication for MS, increased its market share by 3%, to 14%, with overall trend growth of 41% in 2013.
- Even with the availability of new oral therapies, interferon beta-α1 (Rebif®/Avonex®) and Copaxaone®, both subcutaneous injections, accounted for 64% of the overall market share, maintaining their status as the standard and most widely used treatments for MS.
- Continued approval of additional therapies, including the new oral agents Tecfidera® and Aubagio® in 2013 and the intravenous drug Lemtrada ™ in 2014, are expected to drive double-digit growth in drug spend for MS medications in the next few years.
- Because the average onset of disease tends to be in younger patients, new utilization may slow as the population ages. However, this is not expected to drastically alter the trajectory of year-over-year cost increases.

Key facts

PERCENTAGE OF TOTAL CLAIMS
0.09%

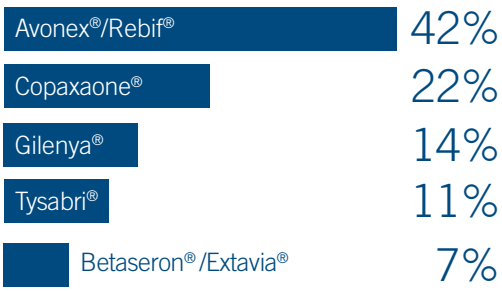
PERCENTAGE OF TOTAL SPEND
2.73%

AVERAGE COST PER SCRIPT
$1,786

TREND
9.3%

Top Drugs

Market Share by % Spend



HIV/AIDS

Treatments for HIV infection have improved significantly over the last 15 years, with oral therapies becoming much more common and extremely effective in delaying disease progression and prolonging survival. Treatment usually utilizes a cocktail of three antiretroviral medications that attacks the HIV virus through different mechanisms of action and prevents HIV drug resistance. Overall trend in this therapy class increased 3.14%; cost per script increased 2.78% along with a slight increase (0.35%) in utilization.

Observations

- The two most commonly used HIV medications in 2013 – Atripla® (efavirenz/emtricitabine/tenofovir) and Truvada® (emtricitabine/tenofovir) – were combination therapies, each containing more than one active ingredient in a single pill. These combination products reduce pill burden and help to boost medication adherence, which is critical in HIV management.
- Cost increases are expected to mount due to the shift from multiple, older generic regimens to single-pill branded combination therapies with steep price tags.
- Successful HIV treatment requires the patient to have high adherence to multiple chemicals for his or her lifetime, and this requirement results in continual growth in spend and utilization.

Key facts

PERCENTAGE OF TOTAL CLAIMS

0.13%

PERCENTAGE OF TOTAL SPEND

1.80%

AVERAGE COST PER SCRIPT

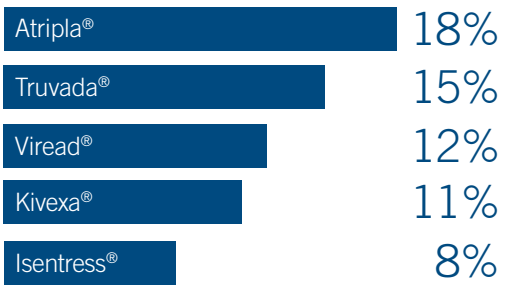
$802

TREND

3.14%

Top Drugs

Market Share by % Spend



EYE DISEASE, MACULAR DEGENERATION

Macular degeneration is the most common cause of vision loss in patients 50 and older. The Canadian National Institute for the Blind (CNIB) estimates that nearly 100,000 Canadians are currently affected by macular degeneration, a number expected to grow at a rate of approximately 10,000 per year as the population ages. The overall trend in this therapy class increased significantly in 2013, by 35.14%, primarily driven by the 31.41% increase in utilization and 3.71% increase in cost per script.

Observations

- The aging population and lack of provincial coverage for Lucentis® are the key factors that drove the doubling of utilization from 0.01% to 0.02% of overall claims and the overall spend increase from 0.37% to 0.50% in private plans.
- Lucentis® dominated the market share for this condition, and there are instances when the cancer drug Avastin® was used off-label and reimbursed by private plans that cover Avastin® as a general benefit medication.
- Lucentis® received a new indication in 2014 for the treatment of visual impairment due to choroidal neovascularisation (CNV); this will further expand its utilization in 2014.
- A new medication, Eylea®, was approved by Health Canada in November 2013, providing a lower cost therapeutic alternative to Lucentis® and increasing competition in this class.

Key facts

PERCENTAGE OF TOTAL CLAIMS

0.02%

PERCENTAGE OF TOTAL SPEND

0.50%

AVERAGE COST PER SCRIPT

$1,563

TREND

35.14%

Top Drugs

Market Share by % Spend

Lucentis®	99.73%
Visudyne®	0.23%

CYSTIC FIBROSIS

Cystic fibrosis (CF) is a multi-organ disease caused by autosomal recessive mutations of the cystic fibrosis transmembrane regulator (CFTR) gene on chromosome 7. It primarily affects the respiratory and gastrointestinal system. Mutations of the CFTR gene result in a build-up of mucus that can lead to infection, inflammation, and damage to the lung tissues, and can cause nutrient malabsorption. The significant upward trend of 35.05% in this therapy class was driven primarily by cost trend growth of 27.42% and a 7.6% increase in usage.

Observations

- Therapeutic options for cystic fibrosis are very limited. Availability and utilization of new drugs Kalydeco™ and Cayston® drove the upward trend of this class. Kalydeco™ is an oral drug, approved in 2012, which treats CF patients with the G551D CF mutation that occurs in approximately four to five per cent of all CF patients. It works by potentiating the opening of the malfunctioning ion-channel and has a high cost of approximately $325,000 per patient per year.
- Patients with cystic fibrosis are prone to serious infections. Cayston®, approved in 2011, is an antibiotic (inhalation) for CF patients with chronic pulmonary Pseudomonas aeruginosa infections. This is a chronic therapy with annual cost of $28,000 per patient.

Key facts

PERCENTAGE OF TOTAL CLAIMS

0.005%

PERCENTAGE OF TOTAL SPEND

0.23%

AVERAGE COST PER SCRIPT

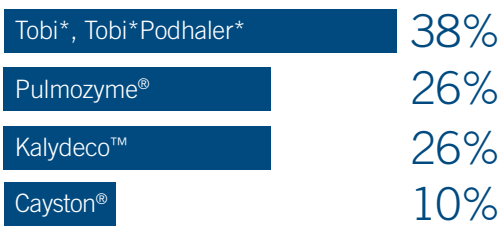
$2,690

TREND

35.05%

Top Drugs

Market Share by % Spend



HEPATITIS C

Hepatitis C is a viral infection affecting the liver that is spread through blood-to-blood contact. The Canadian Liver Foundation estimates that over 300,000 Canadians are currently infected and approximately 75% of infected patients would develop chronic infection. Chronic Hepatitis C (CHC) can cause slow liver disease progression, potentially leading to cirrhosis, liver failure, liver cancer, and death. This therapy class had an upward trend of 20.92%, primarily driven by an increase of 33.2% in utilization and mitigated by a decrease of 12.3% in cost.

Observations

- Prior to the approval of antivirals Incivek® and Victrelis™ in summer 2011, the standard of care was a combination of peginterferon (subcutaneous injection) plus ribavirin (oral) that costed about $20,000 per patient per 48 weeks' treatment. The addition of Incivek® or Victrelis™ improved cure rate, but with an incremental cost of $26,000 to $37,000 per patient, leading these two drugs to dominate 79% of the market share by spend in 2013.
- Two more new oral drugs, Galexos™ and Sovaldi®, were approved in the fourth quarter of 2013. Of key interest is Sovaldi® due to its superior efficacy across all genotypes of CHC and shortened duration of treatment (12 weeks). However, its high treatment cost of $58,000 per patient will definitely drive up utilization and spend in 2014 and beyond.
- Ongoing innovation and research continues in this class. For example, an investigational interferon-free, oral regimen consisting ledipasvir and sofosbuvir provided a promising sustained virologic response of 99%. The treatment landscape is expected to evolve as more efficacious therapies become available and when the new 2014 World Health Organization treatment guideline that recommends the use of Galexos™ or Solvadi® becomes adopted.

Key facts

PERCENTAGE OF TOTAL CLAIMS

0.005%

PERCENTAGE OF TOTAL SPEND

0.25%

AVERAGE COST PER SCRIPT

$3,041

TREND

20.92%

Top Drugs

Market Share by % Spend

KEY TRADITIONAL THERAPY CLASSES

DIABETES

Diabetes is a progressive, chronic condition characterized by high glucose levels in the blood. Poorly controlled diabetes commonly leads to severe complications like neuropathy, nephropathy, and vascular diseases. Disease management for type 2 diabetes is multifactorial, which requires significant dietary and lifestyle changes, education and training, and medications. The overall trend for this therapy class grew 5.67% in 2013, driven almost equally by cost trend growth of 3% and utilization growth of 2.67%.

Observations

- According to the Public Health Agency of Canada (PHAC), the prevalence of diabetes among Canadians increased by 70% between 1999 and 2009, from 4% to 6.8%. It is anticipated the prevalence of diabetes in Canada will reach approximately 10% by 2019. Diagnosis and treatment of type 2 diabetes continue to increase utilization in this class, driven by the aging population and increasing obesity rates.
- Newer drugs – dipeptidyl peptidase-4 (DPP-4) inhibitors and glucagon-like peptide-1 (GLP-1) agonists – provide therapeutic options for add-on therapy, but have also resulted in an increase in cost trend. Market share by spend of DPP-4 inhibitors grew from 7.2% in 2009 to 25% in 2013; GPI-1 agonists doubled from 5.9% in 2011 to 11.3% in 2013. These two classes are likely to continue to drive spend as more new brands – Oseni, Kazano, Nesina – continue to be approved.
- Brand innovation continues in this traditional therapy class. Two medications – canagliflozin and dapagliflozin – are in a new class of glucose-lowering, weight-loss-promoting diabetes drugs known as sodium glucose cotransporter-2 (SGLT-2) inhibitors. Both of these drugs were approved in the United States in 2013, are expected to become available in Canada in the near future, and may change the diabetes treatment landscape in the near future.

Key facts

PERCENTAGE OF TOTAL CLAIMS

5.62%

PERCENTAGE OF TOTAL SPEND

6.92%

AVERAGE COST PER SCRIPT

$73

TREND
5.67%

Top Drugs

Market Share by % Spend

HIGH BLOOD PRESSURE

High blood pressure continues to be one of the most commonly diagnosed conditions in Canada and is the leading risk factor for kidney disease, heart attack, and stroke. As most patients do not experience any signs or symptoms, approximately one-third of Canadians with high blood pressure are unaware of their condition. This therapy class posted a downward trend in three consecutive years, with a decline of 10.1% in 2011, 15.4% in 2012 and 9.4% in 2013. Similar to previous years, the decline was driven primarily by cost (-10.02%) while utilization steadily increased by 0.64%.

Observations

- Therapeutic options to treat high blood pressure are plentiful, with over 70 unique chemicals available. Generic medications made up 84.3% of total market share by claims and 52% of spend in this class. Generics kept the trend negative and contributed to decreases in spend. Through the Pan-Canadian Competitive Value Price Initiative for Generic Drugs, the Council of the Federation reduced the cost for six highly utilized generic drugs to 18% of brand prices in all provinces except in Quebec, effective April 2013. Among these are ramipril and amlodipine, for the treatment of high blood pressure.
- Brand name drugs accounted for 15.7% of claims and 48% of spend in this class. Only limited brands, such as Bystolic®, Teveten®, Olmetec®, Rasilez®, and Coversyl®, remain as single-source products; both Coversyl® (perindopril) and Coversyl® Plus (perindopril/indapamide) were ranked among the top five drug within this class. Initiations of therapeutic substitution or implementation of appropriate plan controls could have curbed this spend and driven the trend in this class even lower.

Key facts

PERCENTAGE OF TOTAL CLAIMS

12.94%

PERCENTAGE OF TOTAL SPEND

6.82%

AVERAGE COST PER SCRIPT

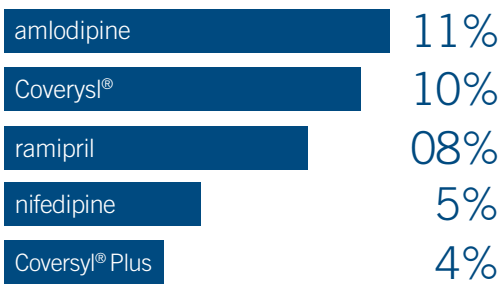
$30.10

TREND

-9.39%

Top Drugs

Market Share by % Spend



HIGH CHOLESTEROL

High cholesterol is a major risk factor for heart diseases and stroke as fatty deposits narrow the blood vessels and impede blood flow. Poor diet and sedentary lifestyle may lead to high cholesterol, although some patients are genetically disposed. There was a significant trend decrease of 19.66% in 2013, similar to the 18.37% trend decrease in 2012. This decrease was primarily driven by the 21.14% decrease in cost per script and just slightly offset by a 1.49% increase in utilization.

Observations

- The Pan-Canadian Competitive Value Price Initiative for Generic Drugs decreased generic prices of atorvastatin to 18% of brand in April 2013, and that of rosuvastatin and simvastatin in April 2014. This created negative cost growth in 2013, which will continue in 2014.
- Juxtapid™, the first microsomal triglyceride transfer protein inhibitor, was approved in 2014. This is indicated for patients with homozygous familial hypercholesterolemia who have extreme elevations of LDL-C, also known as bad cholesterol, and would otherwise require apheresis every other week to mechanically remove the fat from the blood. Prevalence is one-in-one-million people, and higher among French Canadians, at approximately one-in-275,000. Treatment cost is approximately $380,000 per patient per year. Juxtapid™ is designated as the first specialty drug within this high cholesterol class.
- Although new guidelines recommending treatment of high blood cholesterol based on patient risk factors rather than on cholesterol levels are expected to increase the utilization of statins, the complicated formula for determining risk has many primary care physicians taking a wait-and-see approach before incorporating the recommendations into common prescribing practice.

Key facts

PERCENTAGE OF TOTAL CLAIMS

6.18%

PERCENTAGE OF TOTAL SPEND

5.07%

AVERAGE COST PER SCRIPT

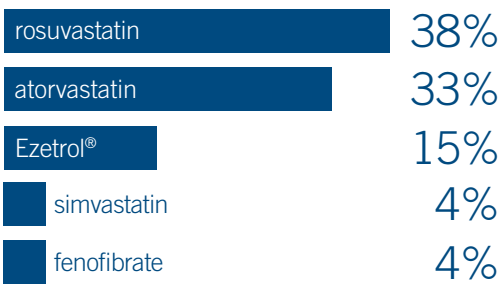
$47.33

TREND

-19.66%

Top Drugs

Market Share by % Spend



WASTE AND GAPS IN CARE

PAGES 58 – 69

WASTE AND GAPS IN CARE

Express Scripts Canada defines waste as "spending more without improving health outcomes." There are two key sources of the 33% of drug spend wasted: where and how often patients get their medication (channel waste) and which medications they receive (drug-mix waste).

CHANNEL WASTE

25% of waste is created by the choice of high-cost distribution channels and suboptimal dispensing intervals for maintenance drugs.

DRUG MIX WASTE

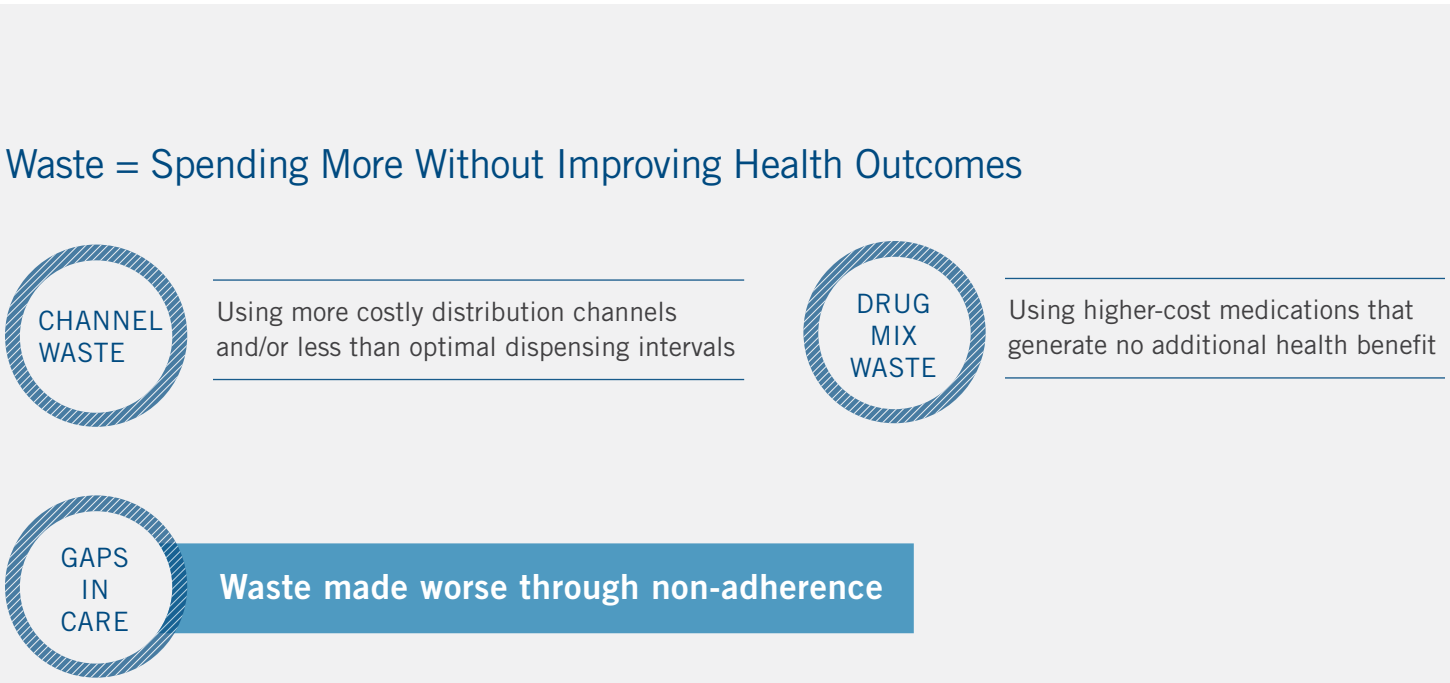
75% of waste is created by using higher-cost medications that generate no additional health benefits.

As the cost of prescription drug coverage continues to rise, some employers simply shoulder the extra cost in order to maintain their competitiveness. Others require employees to pay a greater share, a response that may weaken the employer's value proposition and contribute to lower rates of adherence, potentially undermining longer-term productivity. At the same time, other traditional plan management strategies have failed to restrain cost increases, creating a financial drag on the ability of Canadian companies to compete in the global market.

Extensive research shows that the primary driver of prescription drug cost inflation in North America is uninformed patient decisions. In 2013 Express Scripts Canada's proprietary research found that 33% of annual drug spend is waste, meaning that up to $1 in every $3 is spent without improving patient health outcomes. Waste ripples through the system when a patient uses pharmacy services that are unnecessarily expensive, refills prescriptions more often than necessary, uses more expensive medications when less expensive therapeutic alternatives are available, and fails to take prescription medication as prescribed. Recapturing that waste is key to keeping prescription drug coverage affordable for plan sponsors while optimizing employee health outcomes, productivity and competitiveness.

In addition to these two primary sources of waste, gaps in care due to a patient's non-adherence to medication are an additional cause for concern, as this can lead to a worsening health condition. Our research found that 40% of patients who suffer from the most common chronic conditions, such as diabetes and high blood pressure, were non-adherent to their medication. Not only has the prescription filled gone to waste, the patient not following the recommended treatment plan may also then require additional drug therapies, increased absenteeism, decreased productivity, and most importantly, increased disability costs.

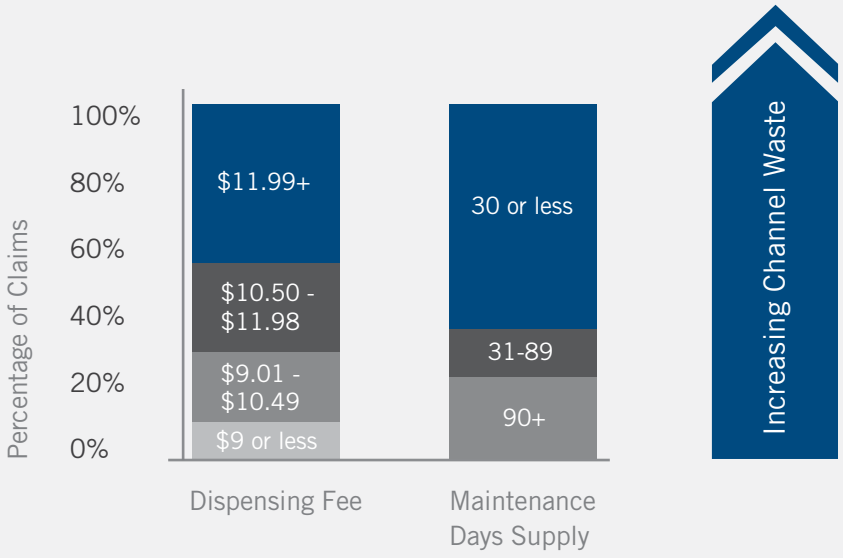
FIGURE 15 Poor Patient Decisions are Driving Waste
Up to One in Every Three Dollars in Drug Spend is Wasted



Channel Waste

The use of high-cost distribution channels and suboptimal dispensing intervals for maintenance medications together led to more dollars spent on dispensing fees than necessary during 2013, which is shown in the graph below.

FIGURE 16 Channel Waste Driven by Member Behavior
Higher Fees Than Necessary, More Fees Than Necessary



CHANNEL WASTE

Using more costly distribution channels and/or less than optimal dispensing intervals

Increased Usage of High-Cost Distribution Channels

The percentage of patients who use pharmacies that charge a high dispensing fee has grown over time. In 2013, 44% of claims were filled with a dispensing fee equal or higher than $11.99, which is up from 37% during 2012. In fact, 70% of all claims were filled with a dispensing fee of greater than $10.50. Creating educated patients would lead to savings for members as well as their benefit plan.

Suboptimal Dispensing Intervals for Maintenance Medications

Increasing prevalence continues to drive the utilization of maintenance drugs for treating chronic conditions. Treatment plans for these conditions include pills taken on a regular interval for a prolonged period of time, for example every day for a year, before the patient is required to see their clinician again. Therefore, maximizing the dispensing interval where appropriate leads to less pharmacy visits and lowers dispensing fee dollars spent. Express Scripts Canada's research determined the average day supply of maintenance drugs in 2013 was 47 days versus the optimal day supply of 90 days. This suboptimal day supply is evident in figure 16, which shows that 60% of claims were dispensed with a day supply of 30 days or less. Lengthening the day supply to 90 days would reduce the number of dispensing fees paid, thus allowing for the reduction of channel waste.

Case Study – Fee Cap Implementation

With the rapidly rising drug spend, plan sponsors are increasing the use of cost-control mechanisms such as a dispensing fee cap. However, these mechanisms often shift costs to the member without removing waste from the system.

Looking at a plan sponsor that implemented a $9 fee cap, Express Scripts research found members continued to fill their scripts at high-cost channels. The distribution by dispensing fee submitted range remained largely unchanged before and after implementation of the fee cap, with 70% of claims filled with a dispensing fee between $11 and $12 and 69% after the dispensing fee cap implementation. Also, the average dispensing fee submitted changed slightly from $11.36 to $11.26, meaning the average claimant paid more than $32 annually in dispensing fees for their drugs due to the fee cap.

These findings show that traditional plan design changes, such as dispensing fee caps, shift financial burden from the plan sponsor to the members but do not remove waste. To reduce waste, patients need to change their behaviour to obtain their medications at a pharmacy that charges lower dispensing fees. Patient behavior change, not fee caps, is required to drive out channel waste.

FIGURE 17 Fee Caps Shift Costs to Member, Do Not Reduce Waste

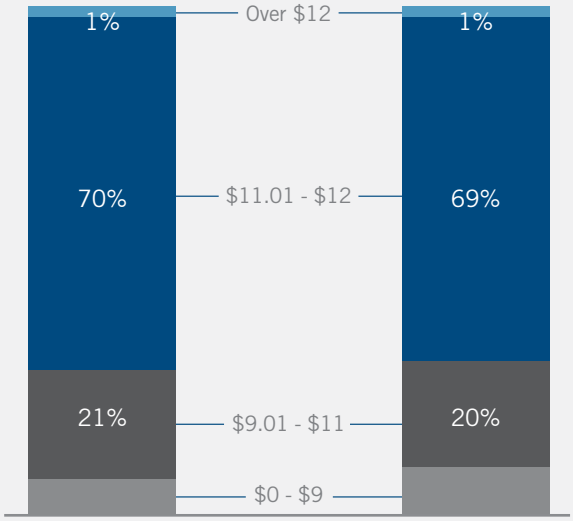
Traditional Fee Cap Controls Do Not Lead to Better Member Decisions

CASE STUDY

12,500 eligible lives

Fee Cap Implementation

Distribution of Claims by Fee Range



Dispensing Fee Metric	Before Fee Cap	After $9 Fee Cap
Avg. Disp. Fee Submitted	$11.36	$11.26

» Average claimant spends on average $32.12 more annually after the fee cap

Drug-Mix Waste

Drug-mix waste occurs when an employee uses a higher-cost medication that generates no additional health benefits over a lower-cost medication. Generic substitution – the routine switching of brand-name medications on which patents have expired to the lower cost, interchangeable generic equivalents – has helped curtail drug-mix waste. However, therapeutic substitution is required to truly eliminate drug-mix waste.

Therapeutic substitution, the proactive switching of a prescribed higher-cost drug to a lower-priced therapeutic alternative that provides similar clinical benefit, can deliver even greater value. When a patient needs to reduce low-density lipoprotein cholesterol (LDL-C) by 50% in order to reduce the risk of heart attack and stroke, for example, different statins and doses can achieve the clinical goal. But there are significant price differences. If a patient is prescribed and dispensed the brand drug Lipitor® 40mg to be taken once daily, the annual drug cost would be $920 per year. If the pharmacist substitutes the prescription with generic Lipitor®, the therapy cost is reduced to $154 per year. However, if the pharmacist initiates therapeutic substitution with the prescribing physician and is successful in switching the patient from brand Lipitor® 40mg to the therapeutically equivalent generic Crestor® 10mg, the therapy cost is further reduced to $89 per year, which is 90% less expensive than brand Lipitor®. The knowledge and initiatives required to prescribe, dispense, and use the lowest cost drug that provides similar clinical benefit is key to reducing drug-mix waste.

FIGURE 18 Drug Mix Waste Driven by Use of Higher Cost Alternatives
Therapeutic Substitution Delivers Greatest Value

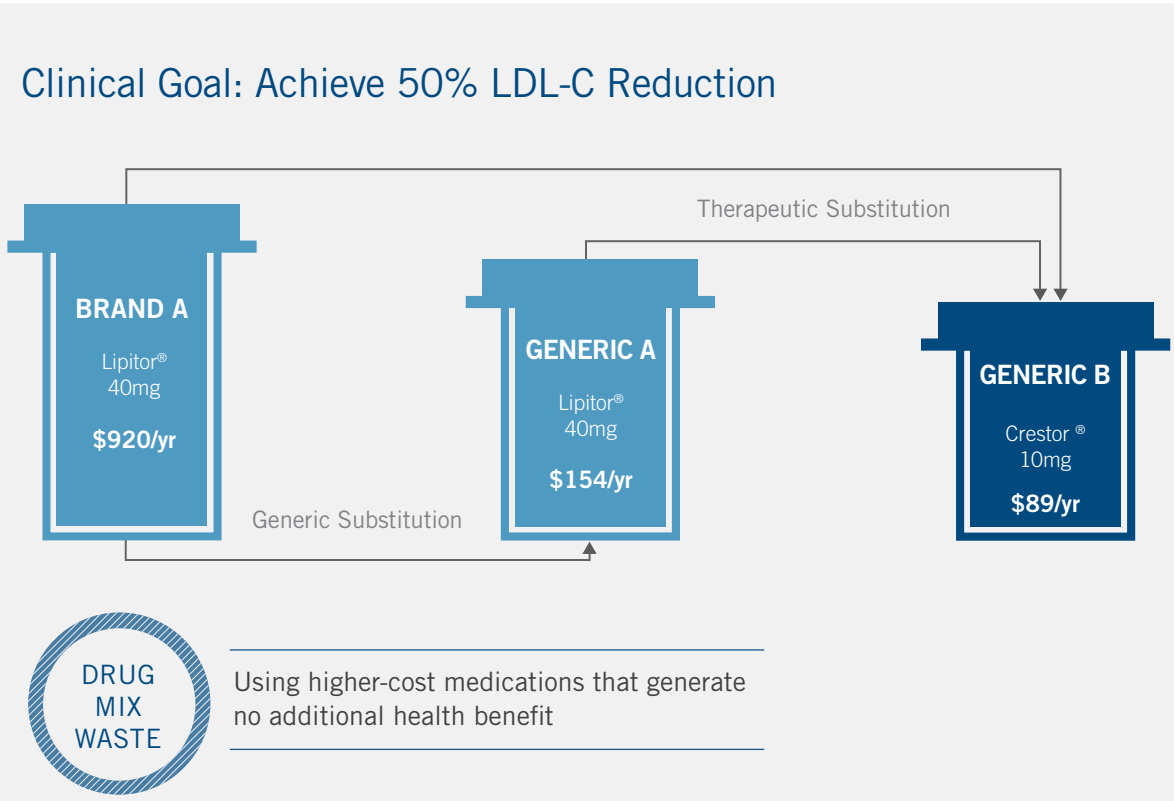
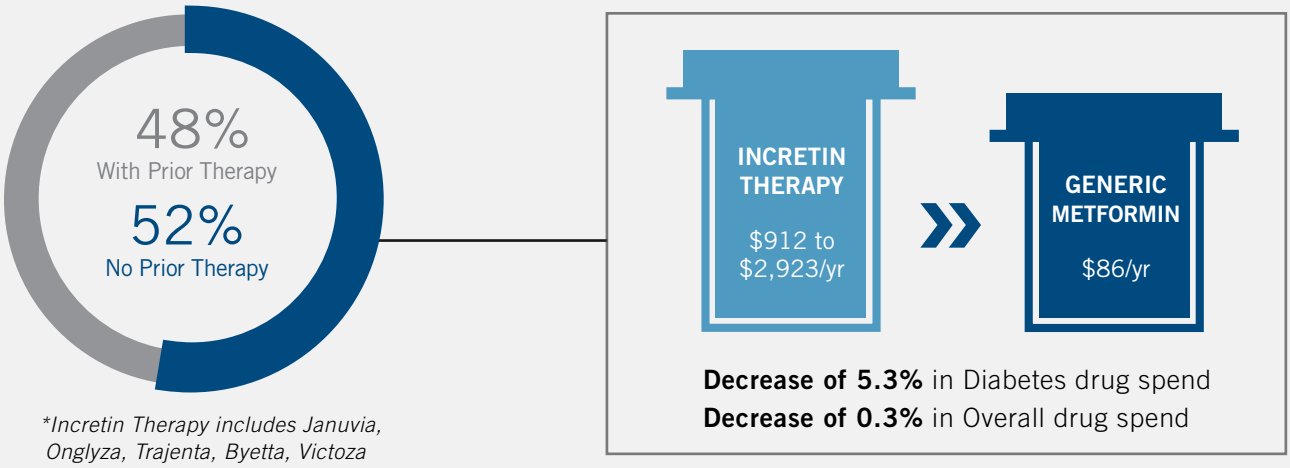


FIGURE 19 Not Aligning to Clinical Guidelines Creates Drug Mix Waste

Patients Should Begin With First-Line Therapy

Canadian Diabetes Association Clinical Practice Guidelines:

First-line pharmacotherapy for Type 2 diabetes is metformin



**Incretin Therapy includes Januvia, Onglyza, Trajenta, Byetta, Victoza*

Express Scripts Canada has also found that drug-mix waste can be reduced by aligning with evidence-based and peer-reviewed clinical practice guidelines intended to support healthcare decisions and proven to enhance quality of life.

Express Scripts Canada conducted a study of retrospective diabetes claims data for all its plan members, which quantified the proportion of claimants who were prescribed an incretin therapy as the first-line drug and then estimated the potential savings if metformin were prescribed first-line, as per the Canadian Diabetes Association Clinical Practice Guidelines (CDA CPG). Incretin therapy includes two drug classes, specifically dipeptidyl peptidase-4 (DPP-4) inhibitors and glucagon-like-peptide 1 (GLP-1) agonists, such as brand name drugs Januvia® and Victoza®.

The research found that 52% of the new incretin therapy patients did not receive or were currently not receiving metformin as recommended by the CDA CPG. If the lower-cost therapeutic alternative metformin is used, annual drug cost could be reduced from the range of $912 to $2,923 per patient for an incretin therapy to only $86 per patient per year. This translates to a potential decrease of 5.3% in diabetes drug spend and a decrease of 0.3% in overall drug spend. Advocating and encouraging of prescribing and dispensing practices that are in better alignment with current clinical guidelines can eliminate this drug-mix waste and should be applied across all therapy classes.

Case Study – Formulary Implementation

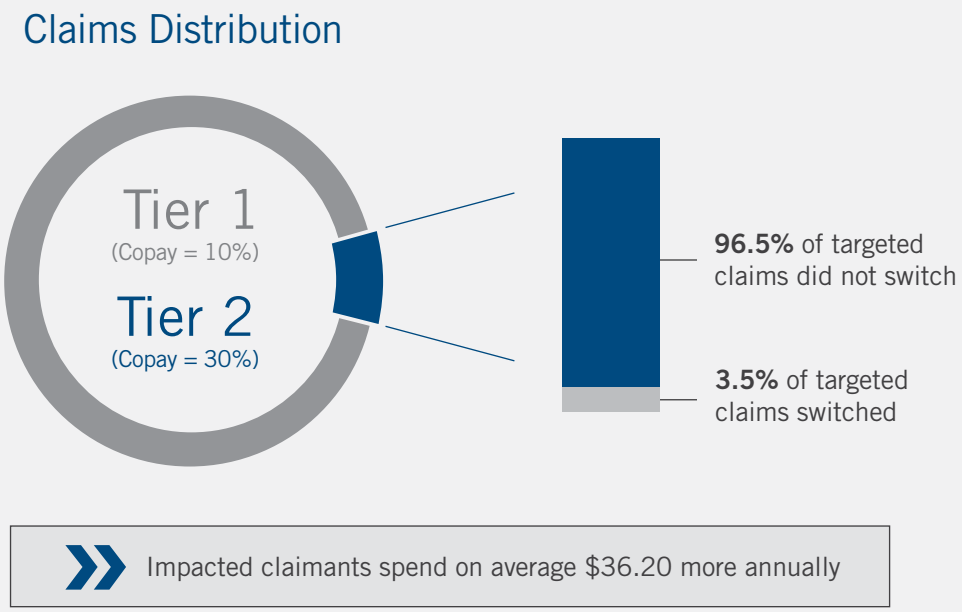
A tiered formulary is one of the more commonly used attempts to guide members towards the use of cost-effective drugs. Targeted higher-cost medications are typically placed in a lower tier, requiring greater member copay, whereas lower-cost preferred equivalents are placed in the higher tier, requiring lower member copay.

Express Scripts Canada research finds that these and other traditional means of educating members are ineffective in changing member behavior. Using a plan sponsor that implemented a traditional approach to a tiered drug formulary, our research found that only 3.5% of targeted claims moved to a lower-cost preferred drug even when the member faced a 20% financial penalty to use the targeted drug. For the plan sponsor that implemented this formulary, direct savings generated from the switch to preferred items was only 0.22% of total drug spend. Members who continued with a treatment plan on Tier 2 paid an additional $36.20 out of pocket.

Since traditional communication techniques are ineffective, strategies to change member behaviour and help members make better therapy decisions are required to drive increased usage of cost effective drugs.

FIGURE 20 Traditional Formulary Simply Shifts Costs to Members
Research Shows That Traditional Formularies Do Not Influence Member Decisions

CASE STUDY
3,000 eligible lives
Formulary Impact on Member Behaviour



Gaps in Care

One of the most complex behaviors associated with pharmacy benefits is member adherence to medications for chronic conditions. If a member does not adhere to their prescribed path of treatment, gaps in care are created. Potential consequences of such non-compliance include a decline in health and increased treatment costs, which can lead to absenteeism and additional drug therapy, physician visits, hospital admissions, and disability costs.

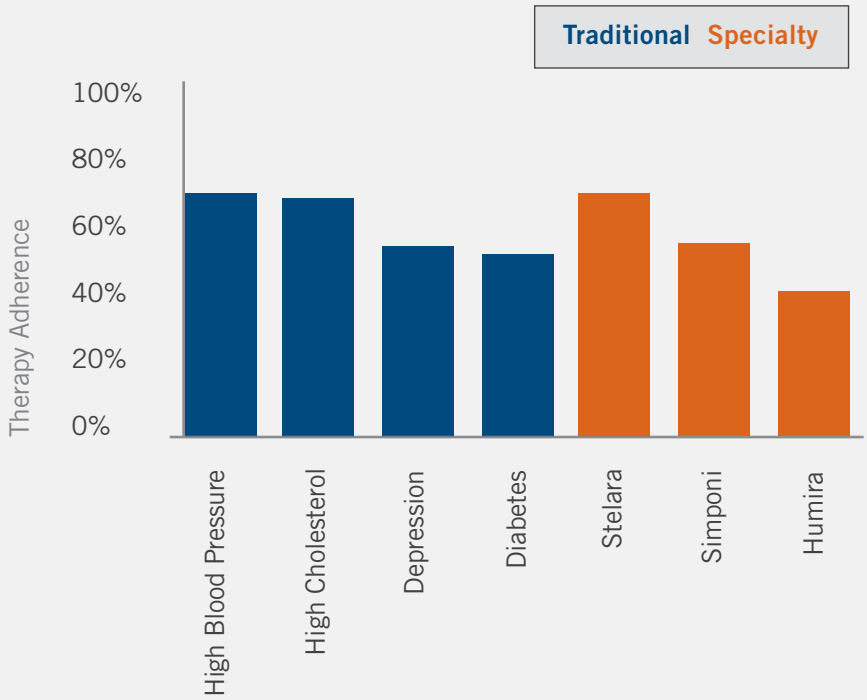
Express Scripts Canada's study found poor adherence across many drugs and therapy classes when examining pharmacy claims for patients with high blood pressure, high cholesterol, depression, diabetes and selected specialty drugs for 2013. Patients in this study used prescription drugs on an ongoing basis over the one-year period as part of their treatment. We measured adherence using proportion of days covered (PDC), which tells us the number of days a patient has medication on hand during the study period. A delay in refilling could indicate non-adherence to the medication regimen. A patient with a PDC of at least 80% was classified as adherent.

We found that poor adherence is true of drugs in both the traditional and specialty categories; 68% of claimants were deemed to be adherent for high blood pressure, 67% for high cholesterol, and 50% for diabetes. Adherence to specialty drugs was even lower, with only 39% for Humira®. Stelara® had a slightly higher adherence of 68%, possibly due to its less frequent administration (one dose every three months) as adherence measurements were likely less affected by changes in dosing or delays due to infections or adverse effects when compared to Humira® (once every two weeks).

Factors that influence adherence include member perceptions of the need for medication, perceived side effects, member cost, forgetfulness, procrastination around refills and renewals, and many other issues. As the medical condition progresses and requires a complex regimen, or as the therapy cost increases, there may be a synergistic magnification of the multiple clinical, cost and behavioral factors.

FIGURE 21 Waste Made Worse By Gaps In Care

Poor Adherence Observed for Most Disease States and Treatments



40% of patients

are deemed non-adherent

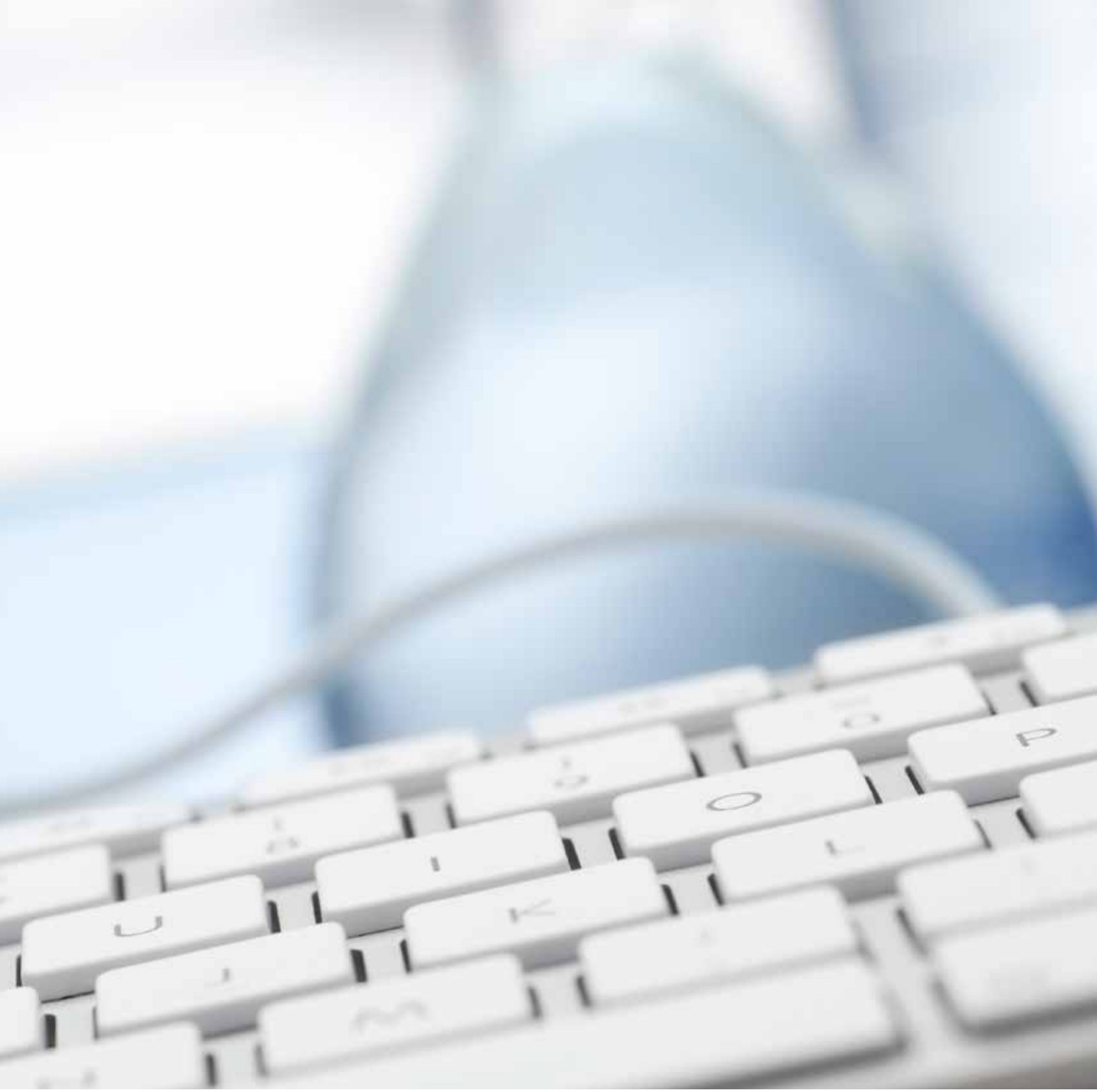
Potential Impacts of Non-Adherence

- Increased Disability Costs
- Additional Drug Therapy
- Increased Absenteeism
- Loss of Productivity

Waste Threatens Sustainability

With the ever-growing concern of rising health benefit costs due to new therapies and an aging population, controlling and eliminating waste is a priority for plan sponsors. By reducing the 33% waste that currently exists and by closing gaps in care, plan sponsors will be better equipped to provide competitive and sustainable benefits packages to their employees, with healthier outcomes.

DRIVING BETTER PATIENT DECISIONS



PAGES 72 – 83

DRIVING BETTER PATIENT DECISIONS

Even with the ever-mounting evidence of rising costs, uninformed member decisions continue to prevent healthcare plans from achieving optimal, financially sustainable outcomes. When an employee uses pharmacy services that are unnecessarily expensive or takes a medication that costs more but offers no clinical advantage, waste ripples through the system. When a patient does not take their medication as prescribed, their health outcome is compromised. All of these poor decisions contribute to increased costs for both employees and plan sponsors as well as suboptimal health outcomes for patients.

Why do so many employees make poor decisions? Don't they care about costs and health outcomes? Why haven't employee communication strategies driven higher levels of engagement and informed decision-making? And why haven't plan sponsors been able to contain waste with current plan design and benefits controls?

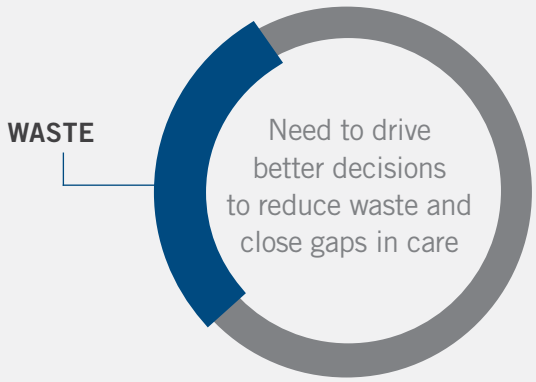
Research shows that the vast majority of patients want exactly what plan sponsors want: healthier outcomes and lower costs. However, the enormous amount of drug spending waste proves that there is a gap between what employees want and what they actually do. Understanding this gap between intention and behaviour – and how to close it – is the first step to helping employees make better decisions. Better decisions mean reduced waste, sustainable drug plan costs for plan sponsors, lower co-payments and optimum health outcomes for employees.

Yet it isn't easy for employees to choose wisely. They seldom understand drug therapy choices and almost never understand drug pricing; they are guided by busy healthcare providers who often lack the information and time needed to help them make good decisions within the context of the benefit plan. In addition, the human brain is wired for inattention and inertia, which makes it very difficult to capture attention long enough – or at the right time – to change behaviour.

While traditional adjudication tools control the allowable expenditures on designated items by reacting to incoming drug claims, the facts prove that these tools do not influence plan members to make better decisions.

FIGURE 22 Adjudication Tools Control Cost, Not Waste

Poor Patient Decisions lead to waste, higher costs, sub-optimal outcomes



Key Findings

- $1 of every $3 spent on drug benefit is wasted
- Traditional solutions control costs however they are ineffective at changing member decisions
- Waste made worse by gaps in care

New strategies are needed to influence patients to become smarter consumers of drugs in order to drive healthier outcomes at sustainable costs.

Ending Waste, Optimizing Outcomes

Plan sponsors need a new approach – one that supplements traditional adjudication tools, which react to incoming drug claims, with strategies designed to positively impact plan member decisions about the prescription. When combined with traditional adjudication controls, the combination of the following three distinctive tools drive better plan member decisions, which lowers costs and can lead to healthier outcomes.

Actionable Data

- Integrated clinical, patient, therapy, and benefit data to enable informed decisions

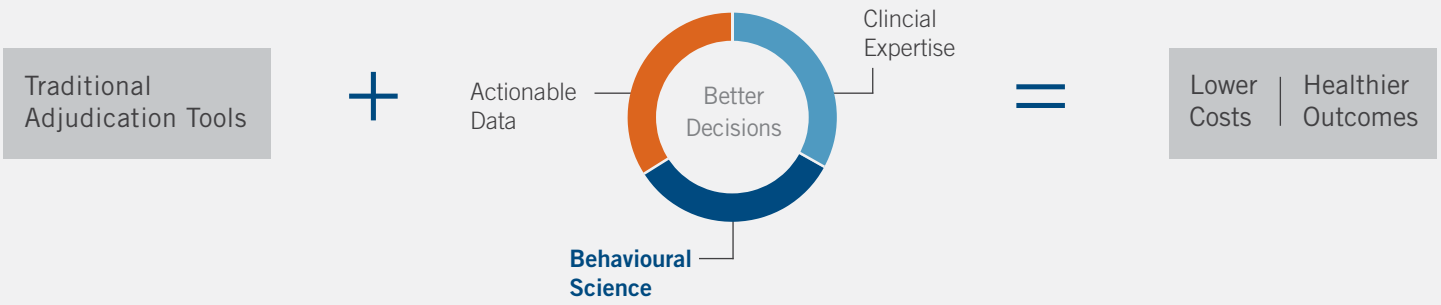
Behavioural Science

- Choice architecture, message framing, and other influence strategies

Clinical Expertise

- Clinical expertise to guide active pharmacy benefit management (PBM) rules and therapy optimization

FIGURE 23 Better Patient Decisions Will Reduce Costs, Improve Outcomes



Examples of Behavioural Sciences Strategies

Choice Architecture – designing with the intent to advantage desired behaviour

Active Choice Interventions to capture plan member attention and engage them to make a decision

Pre-commitment Seek commitment for a future good behavior; use techniques to secure action

Message Framing – messages designed to influence action and desired behaviour

Loss Aversion People work harder to avoid losses than to seek gains

Authority Communications Certain authority figures can positively affect behaviour

Active pharmacy benefit management (PBM) services bring together Behavioural Science techniques with Actionable Data and Clinical Expertise to directly influence plan member decisions. The Active PBM service is designed to interface with the existing drug claims adjudication processes, thereby enabling a plan sponsor to add the active PBM service to its current drug benefit plan.

This combination enables the ability to influence prescription decisions rather than the traditional adjudication only approach of simply reacting to an incoming drug claim. When combined with traditional adjudication controls and actively managed products, Active PBM services have proven to drive better plan member decisions and lower prescription drug costs for several Canadian plan sponsors.

This impact is demonstrated in the following case studies:

Case Study I - Reducing Channel Waste

Choice architecture is a behavioural science strategy that is proven to drive better patient decisions and reduce channel waste.

One plan sponsor, a publicly traded Canadian transportation company with more than 8,450 employees across the country, required members to make an active choice between remaining with their current pharmacy or switching to the ESC Home Delivery Pharmacy as a lower cost channel. It is important to note that there were no plan design incentives used to encourage use of the lower cost channel.

Plan members were educated about the ESC Home Delivery Pharmacy in order to understand the different pharmacy choices available. With that information in hand, members were then required to make an active choice, enforced and managed by the Active PBM service, about which channel they preferred: ESC Home Delivery Pharmacy or retail.

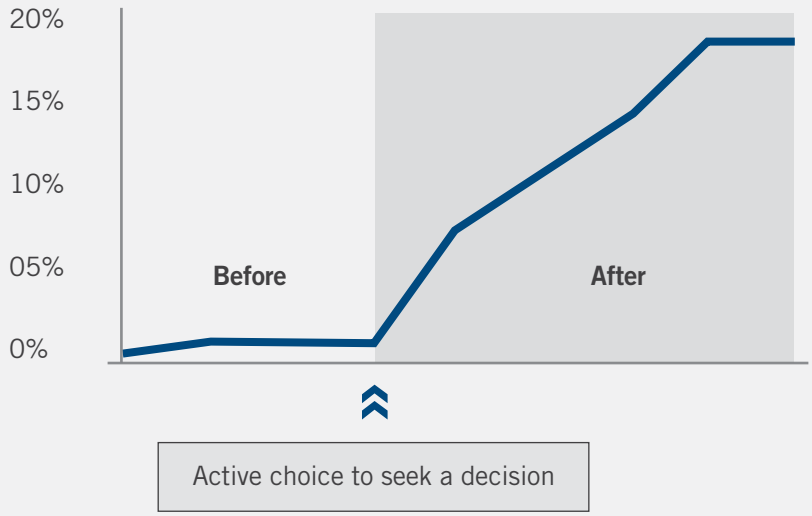
One of the most notable results was the 17-fold increase in employee adoption of the new program on a plan that had absolutely no participation incentives. This increase was entirely attributable to the effectiveness of the behavioural science and actionable data strategies – including active choice, adjudication interventions and real-time patient handling – at point of decision. The combination of these strategies drove clear member engagement, strong patient adoption, informed decision-making and lower costs for the benefit plan and the patients – with no member noise. The result of this strategy included a 39% decrease in total dispensing fees without a cost shift, which is a substantial reduction in channel waste.

FIGURE 24 Choice Architecture Proven to Drive Better Decisions, Reduce Channel Waste and Cost

Utilization of Lower Cost Channel

Active Choice increased utilization of lower cost channel more than 17X and drove 39% reduction in total dispensing fees

CASE STUDY
8,450 eligible members



Case Study II - Reducing Drug Mix Waste

Behavioural science strategies have also proven to drive better drug choices and reduce drug mix waste.

One national plan sponsor division with 3,800 employees and family members was able to target two drug classes, statins (used in the treatment of high cholesterol) and proton pump inhibitors (PPI) (used for gastric ulcer/reflux) for therapeutic optimization through the application of behavioural science within ESC's active PBM service.

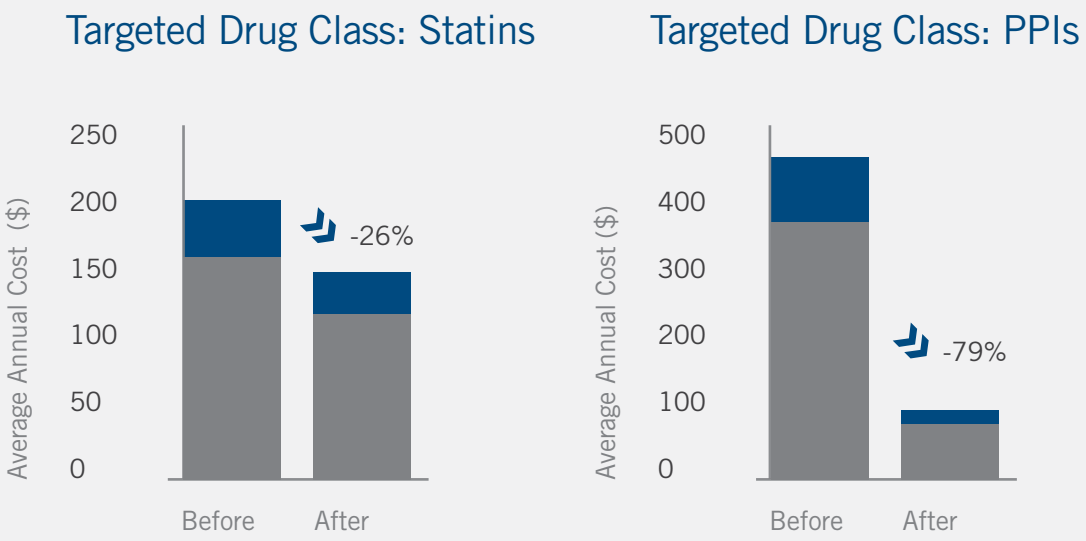
In order to reduce drug mix waste, ESC's Home Delivery Pharmacy leveraged pre-commitment and loss aversion techniques to drive better patient decisions. Information was provided to the patient about drug choices available to them, using proprietary research highlighting the efficacy, cost and safety of the possible therapeutic alternatives. This information was also shared with the member's doctor in an effort to educate all decision makers about an alternative effective treatment that could be achieved at a lower cost. This process of therapy optimization showed positive results, including a 62% approval rate by participating physicians and patients for switches to lower-cost, clinically effective therapies.

FIGURE 25 Behavioural Science Proven to Drive Better Decisions, Reduce Drug Mix Waste and Cost

Pre-commitment and message framing drove switch to lower-cost alternatives

Member Portion
Plan Portion

CASE STUDY
3,800 eligible members



Case Study III - Closing Gaps in Care

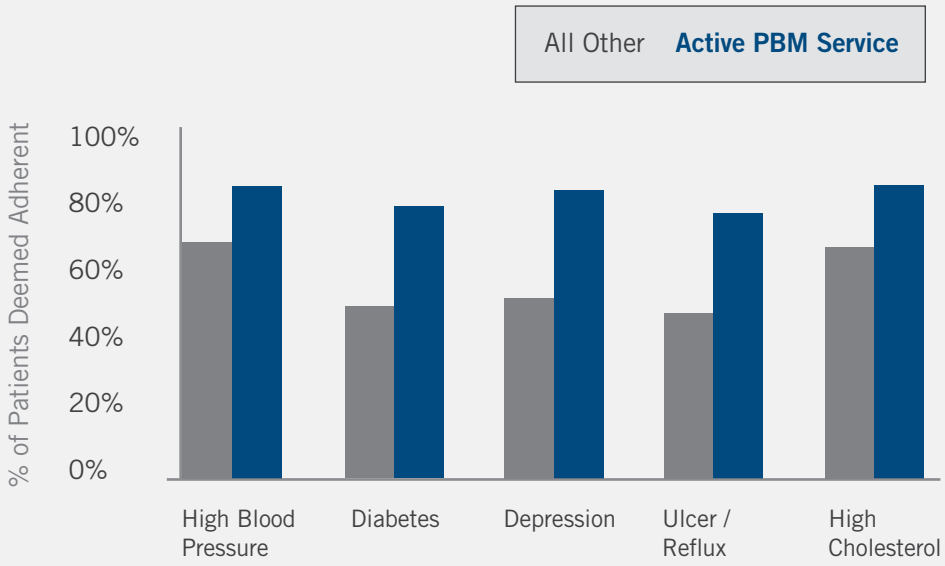
Behavioural science strategies combined with actionable data and clinical expertise have removed barriers to adherence and have reduced gaps in care that can lead to improved health outcomes.

A case study of 17,000 eligible employees and family members illustrates the impact of these strategies. Actionable data and behavioural science techniques enabled the ESC Home Delivery Pharmacy to enable supply monitoring services, adherence tools, and proactive outbound notifications to increase adherence to chronic medications, measured by Proportion of Days Covered (PDC), by 20% through the Active PBM service.

FIGURE 26 Actionable Data and Behavioural Science Proven to Reduce Barriers to Adherence and Potentially Improve Outcomes

Medication monitoring, adherence tools, and outreaches increased proportion of days (PDC) covered by > 20%

CASE STUDY
17,000 eligible members



Therapeutic Management

Clinical expertise is required to help patients optimize care for complex conditions through personalized therapeutic management.

Before treatment initiation, it is critical for pharmacists or physicians to manage their patient's expectations of the clinical benefits of the new therapy, as well as the potential occurrence of adverse effects. Any difference between the patient's expectations and their actual experience could easily lead to nonadherence or early therapy discontinuation, potentially leading to disease progression and drug wastage.

Further, through direct patient interaction, healthcare providers can prompt the appropriate questions to identify omissions of essential therapy and conduct prescription safety reviews. For example, a patient who uses Humira® and methotrexate for the treatment of severely active rheumatoid arthritis should also receive folic acid supplementation to prevent hematologic, gastrointestinal, and other side effects. Since folic acid does not require a prescription and may not appear on the pharmacy record, the pharmacist must ensure the patient receives and administers the overall regimen appropriately through counselling.

With better access to specialty drugs, especially injections to treat complex conditions at home, patients benefit from individualized care that helps ensure proper use of drugs. Considering the high treatment cost of specialty medications, it is important for private plans to ensure strategies are in place to optimize the benefits and values that could be delivered by these drugs.

Clinical Expertise Required to Further Optimize Care through Therapeutic Management

- Ensure proper use and training
- Manage expectations of clinical benefits
- Manage adverse effects
- Identify omissions of essential therapy
- Conduct prescription safety reviews (DUR)
- Outreach and collaborate with physician
- Counsel and educate patient

A New Way Forward

By leveraging behavioural science, actionable data and clinical expertise to drive better decisions, Active PBM services close the gap between the good intentions of employees and their actual behaviour, reducing waste and improving outcomes. The result is sustainable prescription drug benefit plans that strengthen the ability of Canadian companies to attract and retain talented employees, optimize employee health outcomes and maximize return on benefit investment.

ABOUT EXPRESS SCRIPTS CANADA

From its corporate headquarters just outside Toronto, Express Scripts Canada transforms the way organizations and employees think about and participate in their drug benefit plan. Express Scripts Canada provides pharmacy services to thousands of Canadian patients. Through its proprietary consumer intelligence, clinical expertise, and patients-first approach, Express Scripts Canada promotes better health decisions for plan members, while managing and reducing drug benefit costs for plan sponsors. Express Scripts Canada is indirectly owned by Express Scripts Holding Company. For more information visit www.express-scripts.ca.

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