



# Cost Drivers Analysis of Private Drug Plans in Canada 2016-2018

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## Executive Summary

By understanding the source of cost growth in their drug benefit plans, employers can more efficiently and effectively deploy their efforts and resources to manage their costs for drug and other health benefits. This report examines the drivers of cost growth for private drug plan claims between 2016 and 2018 and compares this growth to increases between 2012 and 2016.

Private drug claims costs grew at a moderately low rate between 2016 and 2018, driven mostly by utilization of drugs for chronic disease. Costs increased at a compound annual growth rate (CAGR) of 3.5% in 2016–2018, down from 4.7% in 2012–2016 due to the impact of OHIP+ in Ontario. However, the 2016–2018 growth may be overstated, as it does not include product listing rebate agreements between insurers and manufacturers, nor does it include manufacturer financial assistance to patients. Growth in 2019 and 2020 is expected to rebound somewhat due to the OHIP+ policy change in April 2019, although this will not change the underlying drivers of the cost growth trend.

While drug costs are growing at a low to moderate rate for private payers nationally, insurer trend factors (the market inflation factors that are part of the confidential renewal calculation for group plans) continue to be significantly higher, although in 2018 the insurer trend factor saw a slight reduction for the first time. It is uncertain whether plan sponsors saw lower growth in their premium and pooling rates as a result.

Knowledge of the drivers of cost growth in benefit plans can empower employers to work to ensure the sustainability of their drug plan costs. Wellness and holistic disease management programs are an effective way to encourage healthy lifestyle behaviour. Changes that result in lower benefits utilization lead to healthier and more productive employees and, ultimately, lower the burden of chronic disease on the workplace and employers' bottom line.

Employers should continue to work with their insurer and benefit consultant to derive the value they need. This involves questioning the rationale for growth in their premium and pooling rates to better reflect their actual claims experience and, more importantly, requesting innovative solutions to support their efforts to invest in and promote employee wellness and the optimal use of benefits.

## Report Highlights

### Overall cost growth:

- National private drug cost growth was relatively low in 2016–2018 due to the temporary, one-time impact of OHIP+ and generic drug price reductions in 2018. A rebound is expected in 2019 and 2020 due to the OHIP+ policy change.
- Utilization (the number of claimants combined with number of claims per claimant) remained the most important driver of growth, accounting for 88% of growth outside Ontario and 65% in Ontario. This is consistent with the data for 2012–2016, which saw utilization account for 75% of the overall growth.
- The net impact of the change in the number of claimants was nearly zero because the decrease in the number of claimants in Ontario in 2018, when OHIP+ was introduced, nearly completely offset the increase in the rest of Canada.



### **Age effects:**

- Half of the private drug plan cost growth was driven by those aged 45–64, even though they make up less than half the claimants. People in this age group are higher users of medications and make more claims than people in other age groups.
- Those aged 45–64 could therefore be a target audience for chronic disease management programs. Younger age groups could be the target for wellness programs to prevent future chronic diseases.

### **Therapeutic class effects:**

- Chronic disease drugs were responsible for 67% of private drug plan costs in 2018 and contributed to over 86% of drug cost growth nationally. Most of the drugs in the top classes in terms of total costs were for conditions that are lifestyle related.
- Three of the four therapeutic classes of drugs with the highest total costs continued to be lower-cost, high-volume chronic disease drugs to treat mental health disorders, diabetes, and respiratory conditions. The number one class remains biologic treatments for auto-immune conditions.
- The top-growing classes in 2016 to 2018 were drugs for auto-immune conditions (biologics and nonbiologic drugs), cancer, and diabetes. The increasing costs for the auto-immune class can be attributed mainly to claimant growth, while the other classes saw cost per claim play a bigger role, mostly due to innovations in those therapeutic areas.

### **Impact of treatment costs:**

- Lower-cost drugs still make up the bulk of private drug plan costs, and their use continues to grow due to utilization (mostly for chronic diseases). But their contribution to growth moderated as a result of the generic drug price reductions in 2018.
- Consequently, drugs that cost between \$10,000 and \$25,000 per patient annually contributed the most to growth (accounting for about 50% of growth), largely due to claimant growth. These drugs include several biologics for auto-immune conditions.

### **Drivers of regional growth:**

- Among the provinces, Quebec accounted for the greatest proportion of national growth. Although Ontario has the largest population, its share was muted by the decrease in costs resulting from OHIP+. Drug cost growth was generally comparable across provinces, ranging between 3.6% and 5.6% CAGR. The two outliers were British Columbia, at 13.6% CAGR, and Ontario, at 1.3% CAGR.
- Private plans in the four western provinces (British Columbia, Alberta, Saskatchewan, and Manitoba) paid less per claimant, and the bulk of plan cost growth came from drugs that cost under \$10,000 per year. Here, private plan integration with pharmacare-style public drug plans shields private plans from a large portion of higher-cost drugs. As a result, common chronic diseases such as mental health disorders, diabetes, and respiratory illnesses drove most of the growth in drug costs in these provinces.



- In contrast, private plans in Ontario, Quebec, and the Atlantic provinces, which have a higher cost per claimant, saw the most growth come from drugs that cost between \$10,000 and \$25,000 per patient annually. These provinces have less integration with public drug plans, and so private plans bear a larger share of the higher-cost drug bill than private plans in the western provinces.

**Benefits industry's contribution to private drug plan costs:**

- Insurer trend factors were consistently higher than actual drug cost increases in 2015–2018, although the rate in 2018 did see a drop.
- Recurring and predictable claims on risk pools now challenge the original fundamental concept of addressing single catastrophic events. Pooling is a good concept, but its framework in the context of Canada's current healthcare system is broken.







# INTRODUCTION

The sustainability of private drug plan costs is an ongoing concern in the private benefits market. To address this concern, it is important to have a solid understanding of the underlying drivers of cost growth. This report highlights the key behavioural, demographic, disease and treatment-cost elements that are driving growth.

Innovative Medicines Canada, the industry association representing the majority of innovative drug companies in Canada, worked closely with IQVIA, a global leader in healthcare market insights, to examine the drivers of private drug plan claims cost growth between 2016 and 2018.

This report builds on the report *Cost Drivers Analysis of Private Drug Plans in Canada 2012–16*, published in 2018.<sup>1</sup> This year's report takes a deeper dive into the data on private market claims to highlight key drivers of cost growth for private drug plans between 2016 and 2018, both at the national and, for the first time, regional levels.

The growth of the private drug plan market is often reported without any details on the factors that influence total plan costs. The 2012–2016 cost drivers report identified significant growth due to greater drug utilization, principally for chronic diseases. This utilization is essentially defined as more claimants making more claims. This report provides updated analyses and insights into specific factors influencing the growth in private employer-sponsored drug plans in Canada between 2016 and 2018. The objective is to empower employers/plan sponsors to better manage their drug plans and ensure employee health and productivity in the future.

Drug cost growth can be attributed to three primary drivers: increases in the number of claimants, increases in the number of claims those claimants make, and increases in costs per claim due to the adoption of new innovations or to factors such as distribution fees and the frequency of dispensing. The first two of these — number of claimants and claims per claimant — combine to represent utilization (Figure 1).

FIGURE 1

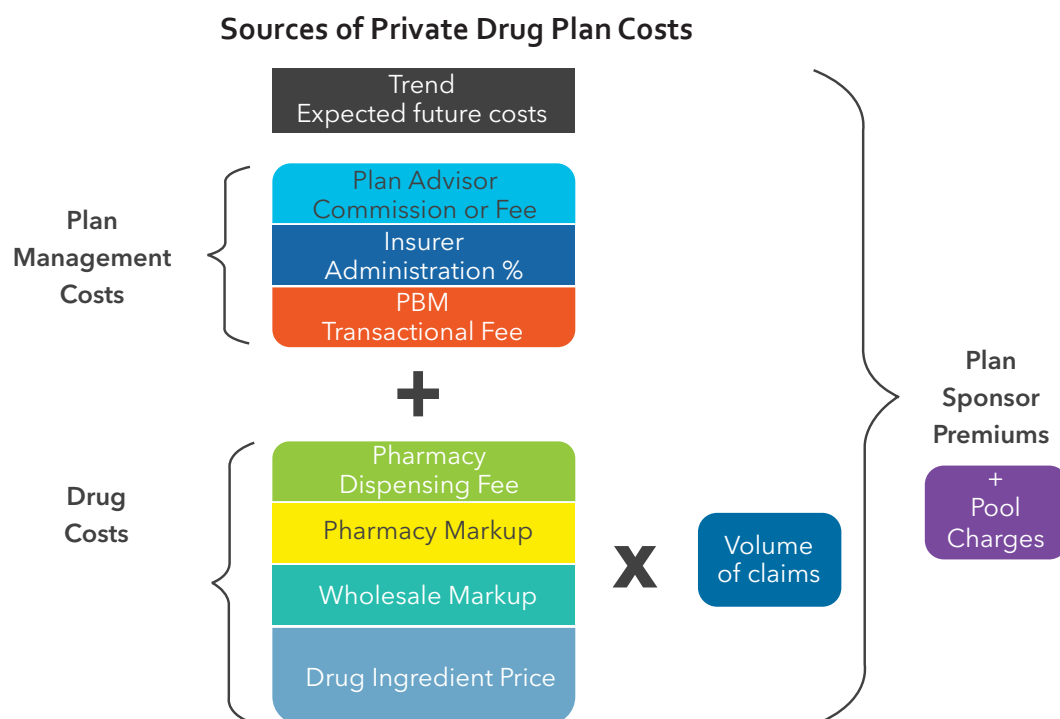
Drivers of Drug Cost Growth Due to Three Primary Effects

Claimant effect	Growth in number of claimants	} Utilization
Claims per claimant effect	Growth in number of claims per claimant	
Cost per claim effect	Growth in cost per claim	

Over and above drug costs, additional plan costs for the plan sponsor are added on by insurers, third-party administrators, benefit consultants, etc. (Figure 2). Some of these additional costs are explored in detail in Section 5: Benefits Industry's Contribution to Drug Plan Costs.



FIGURE 2



### Data Sources, Methodology, and Definitions

1. The analysis in this report is based on IQVIA Private Drug Plan Claims, the largest, national private drug plan claims database in Canada:
  - Includes nine of the top 10 private insurance carriers, third-party administrators, and benefit plan managers.
  - Represents 82% of pay direct private drug claims nationally. (Figures in this report have not been adjusted to represent 100% of the market.)
  - Captures more than 13 million active claimants with over 130 million drug claims.
  - Represents only members that have claimed, not all covered members.
2. Claims costs are based on eligible amount, including both the plan-paid and the patient-paid portions, and include drug ingredient costs and pharmacy and wholesaler markups (dispensing fees are not included except in Quebec).
3. Costs do not include private-payer product listing agreements, other rebate programs, and manufacturer financial assistance.
4. Growth is measured using the compound annual growth rate (CAGR). Given that actual growth may vary from year to year, CAGR defines the average annual growth rate for the entire period and adjusts for volatility and compounding.

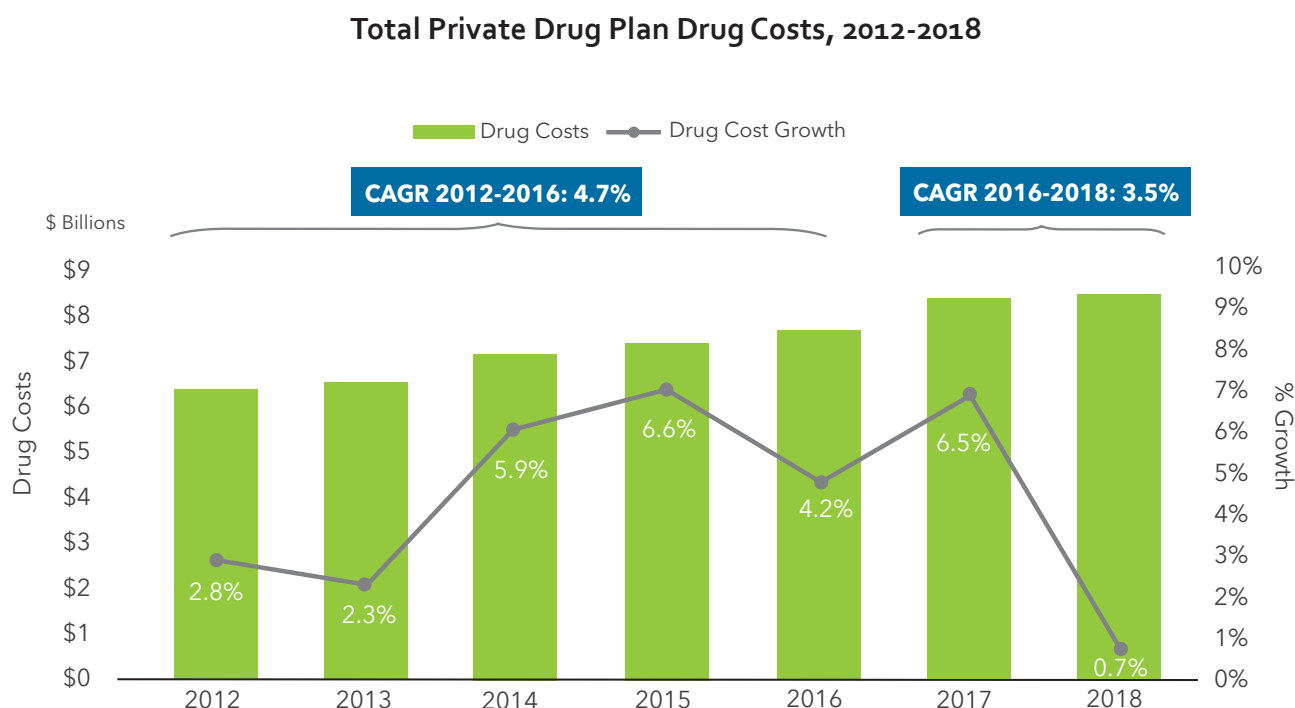


## 2. Overall Private Plan Drug Cost Growth, 2016–2018

Private drug claim costs increased at a compound annual growth rate in the low single digits in 2016–2018, consistent with historical rates. Growth was lower than in 2012–2016 mostly due to the impact of OHIP+.

The overall CAGR was 3.5% for 2016 to 2018, down from 4.7% between 2012 and 2016 (Figure 3). The decrease was due in part to an unusually low CAGR of 1.3% in Ontario as a result of the introduction of OHIP+, which offered free medication to all Ontarians under age 25 (see Appendix B for details). By comparison, Ontario's CAGR was 4.3% in 2012–2016. In the rest of Canada, costs increased at a CAGR of 5.1% in 2016–2018, consistent with the growth in 2012–2016 (Figure 4).

FIGURE 3: Growth Peaked in 2014–2015 and Slowed in 2018

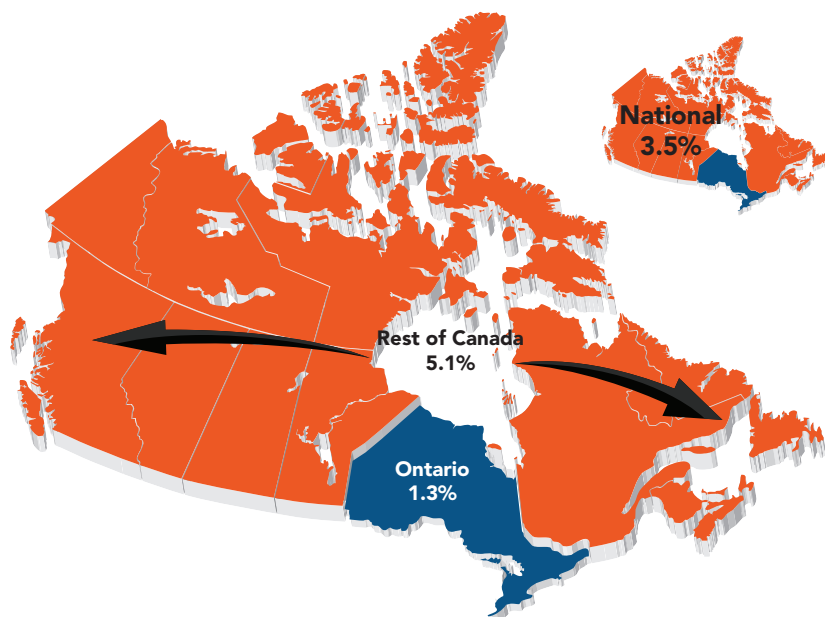


Source: IQVIA Cost Drivers Analysis 2016–2018; and Innovative Medicines Canada, Cost Drivers Analysis of Private Drug Plans 2012–2016.



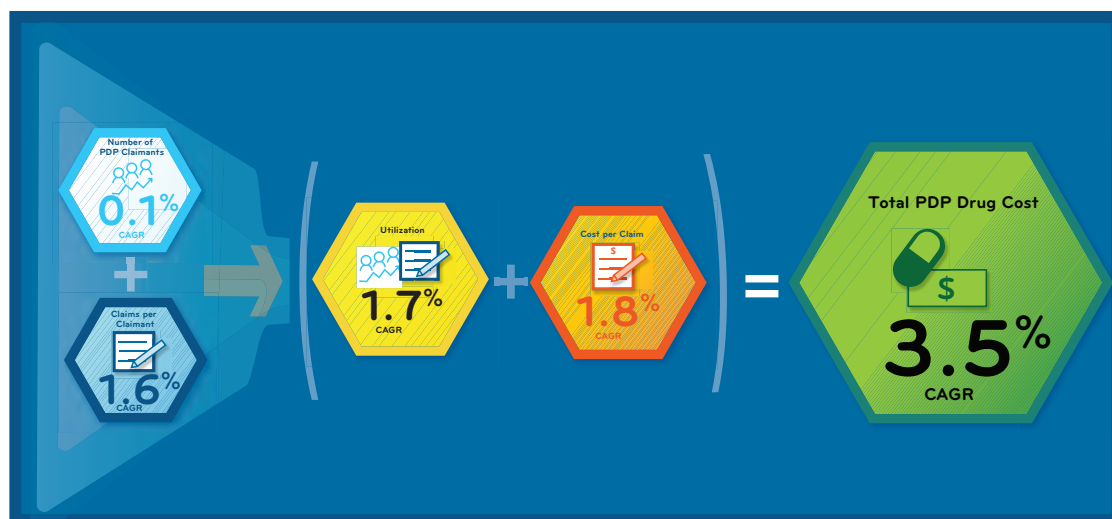


FIGURE 4: Growth Slows in Ontario, Muting National Growth



Source: IQVIA Cost Drivers Analysis 2016-2018

FIGURE 5: Private Drug Plan Cost Drivers 2016–2018



Source: IQVIA Cost Drivers Analysis 2016-2018



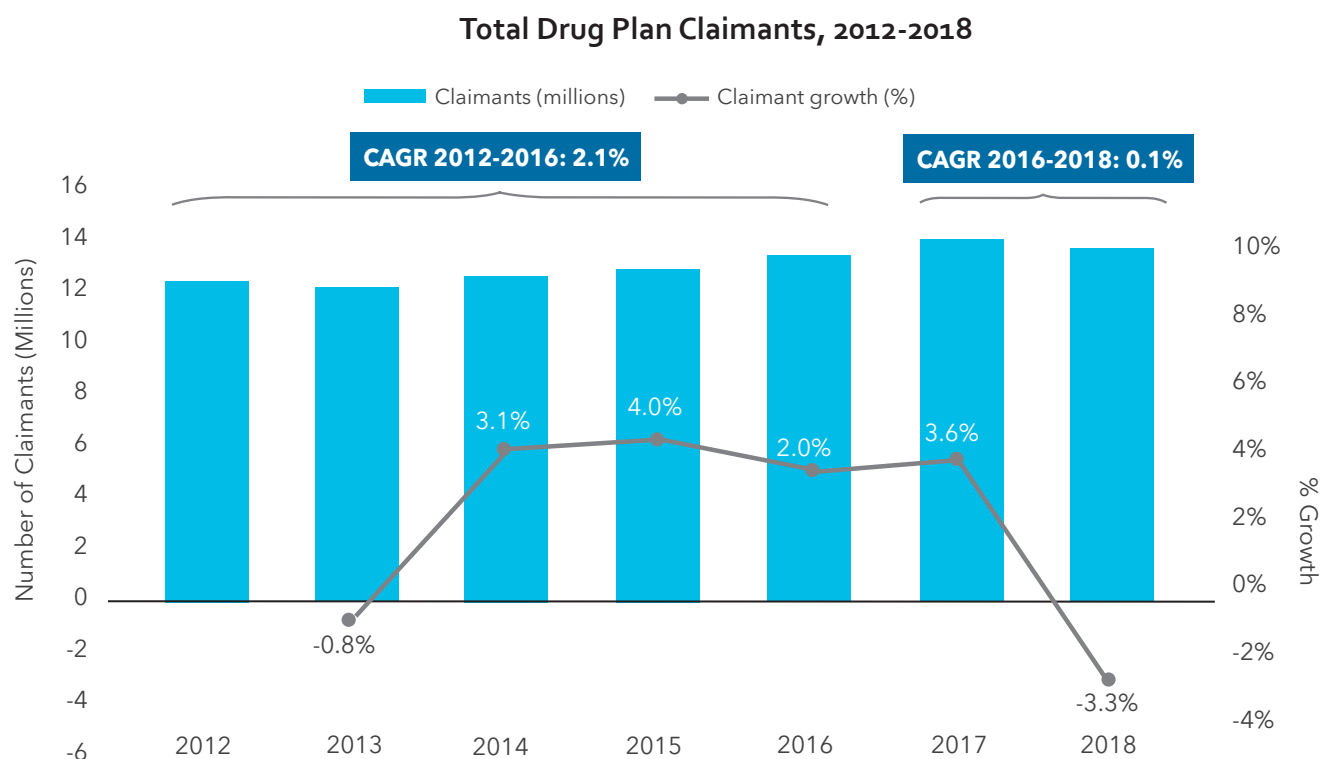
## 2.1 Claimant Growth

Claimant growth was nearly net zero due to a one-time negative shock (drop in claimants in Ontario) offsetting historical ongoing claimant growth.

The net new number of claimants contributed to cost growth of only 0.1% CAGR in 2016–2018. This was a considerable drop from the 2.1% CAGR growth in claimants in 2012–2016. Overall, from 2012 to 2018, the number of claimants grew every year except 2018, when OHIP+ drug coverage for youth was introduced in Ontario (Figure 6). Indeed, claimant growth in 2017 was consistent with prior years, at 3.6%.

With the introduction of OHIP+, the number of claimants fell by 4.2% CAGR in Ontario over 2016–18, whereas in the rest of Canada, claimant growth was 3.2% CAGR (Figure 11). Nationally, this translated into negative claimant growth in 2018 (-3.3%) and almost net zero growth over the two-year period (Figure 6).

FIGURE 6: Claimants Grew Every Year Except 2018



Note: Number of claimants not extrapolated to represent the whole national beneficiary population.

Source: IQVIA Cost Drivers Analysis 2016-2018; and Innovative Medicines Canada, Cost Drivers Analysis of Private Drug Plans 2012-2016.

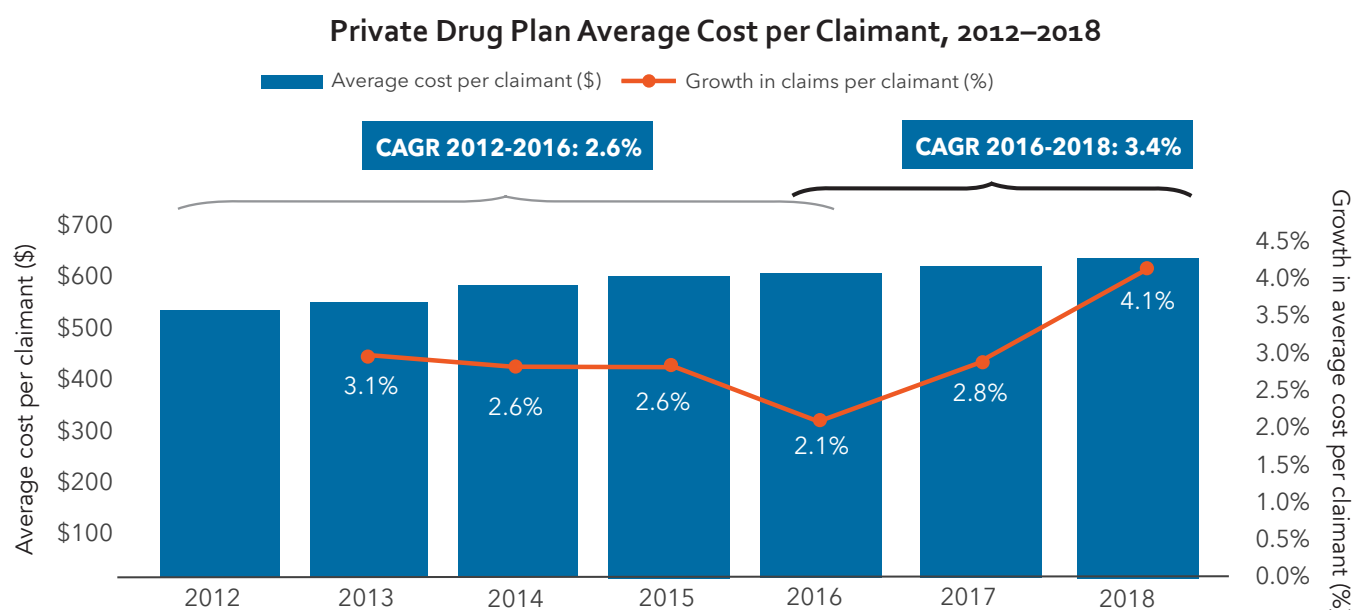


## 2.2 Cost per Claimant Growth

Cost per claimant growth was higher in 2016–2018 than in 2012–2016 because of the higher costs per claim and increased claims per claimant.

The total cost per claimant contributed to drug cost growth of 3.4% CAGR in 2016–2018, up from growth of 2.6% CAGR in 2012–2016 (Figure 7).

**FIGURE 7: Average Cost per Claimant Higher Than in Previous Study**



Source: IQVIA Cost Drivers Analysis 2016-2018; and Innovative Medicines Canada, Cost Drivers Analysis of Private Drug Plans 2012-2016.

Cost per claimant is driven by two components: claims per claimant and cost per claim. Costs for both components increased at comparable rates in 2012–2016 and 2016–2018. Still, the cost per claimant increase was slightly higher in 2016–2018 than in 2012–2016 largely due to a 2018 increase in claims per claimant, combined with a higher cost per claim increase in 2017.

Claims per claimant grew at a CAGR of 1.6% between 2016 and 2018, up from 1.4% in 2012–2016 (Figure 8). Meanwhile, the cost per claim grew at a CAGR of 1.8% between 2016 and 2018, up from 1.2% in 2012–2016 (Figure 9).



FIGURE 8: Claims per Claimant, a Component of Utilization, Comparable to Prior Period

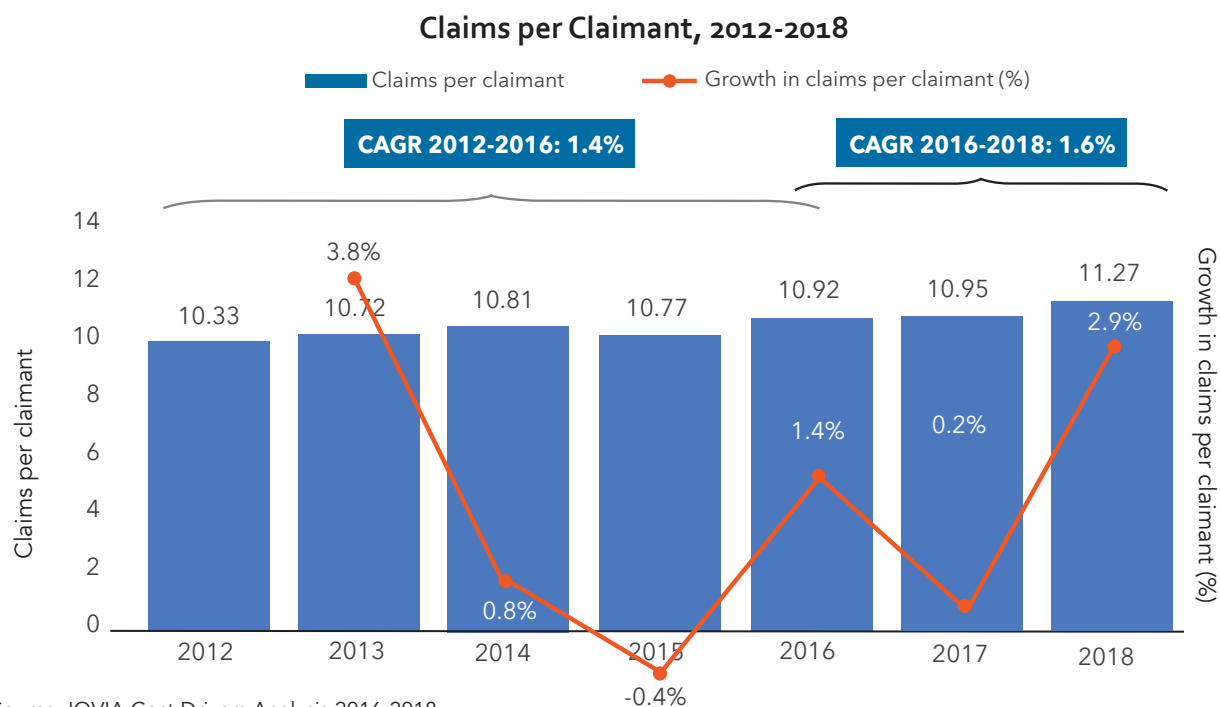
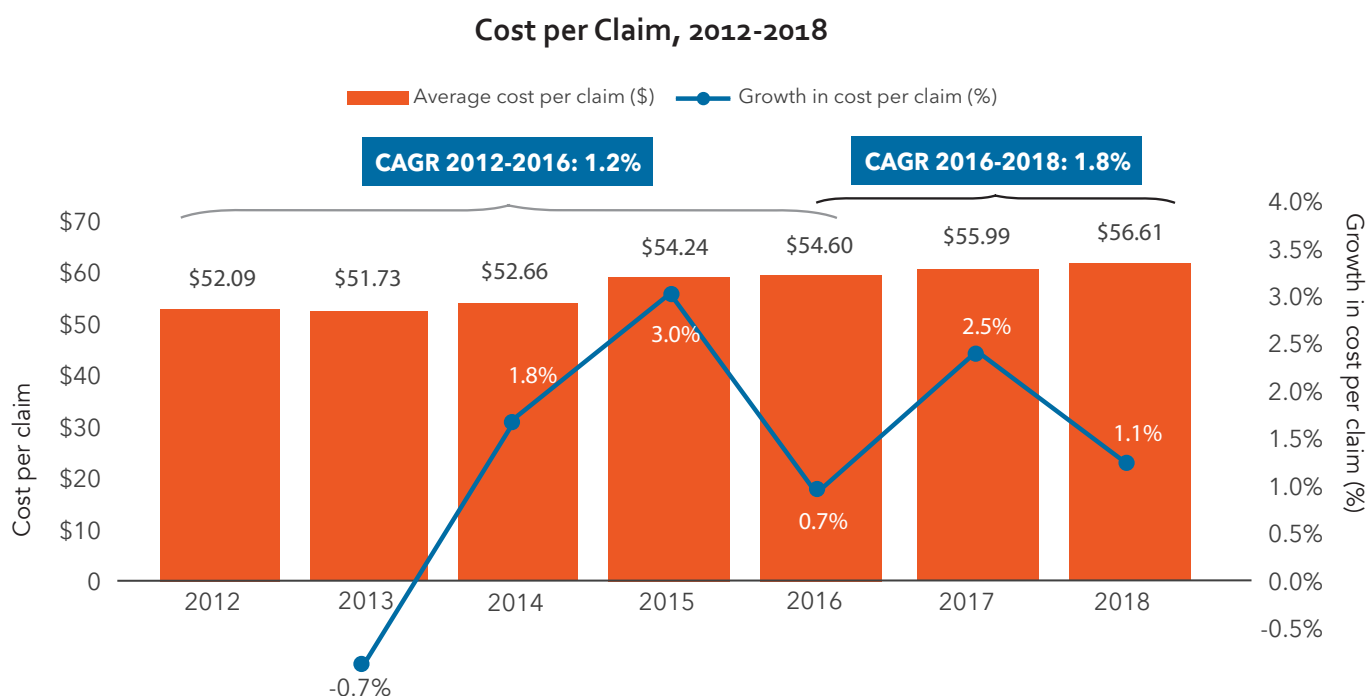


FIGURE 9: Cost per Claim Comparable to Prior Period





### 3. Major Trends Contributing to Growth

This section highlights key focus areas of cost growth for private drug plans across Canada. The three drivers of growth — claimant effect, claims per claimant effect and cost per claim effect — underlying each of these areas of growth are examined in Section 4.

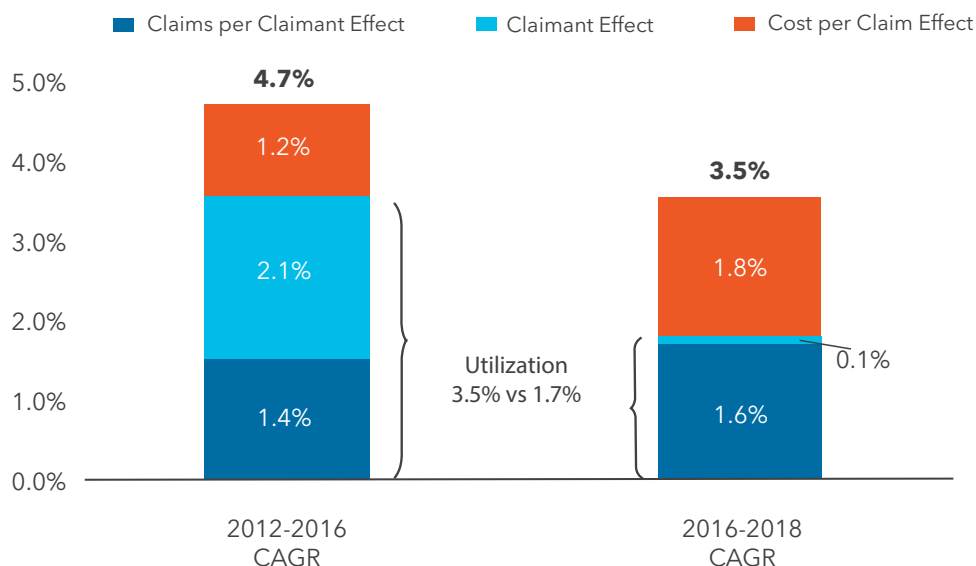
#### 3.1 Utilization

Utilization is the key driver of growth in private plan drug costs.

Utilization is the number of claimants combined with the claims per claimant. In 2016 to 2018, utilization was responsible for almost half (1.7%) of the 3.5% overall net national growth, down from nearly 75% of the 4.7% overall net national growth in 2012 to 2016 (Figure 10). The reduced utilization impact was due mostly to the drop in the number of claimants in Ontario in 2018 under OHIP+.

The impact of OHIP+ can be better isolated by looking at Ontario separately from the rest of the country. In Ontario, utilization fell by 2.1% CAGR as claimants and their claims shifted to OHIP+. Adding the absolute value of the drop in claimants (-4.2% CAGR) to the other individual key drivers shows that utilization had a 65% impact on total absolute growth. In the rest of Canada, utilization growth accounted for 88% (4.5% CAGR) of the 5.1% overall net CAGR (Figure 11). (See Appendix B for more information on OHIP+.)

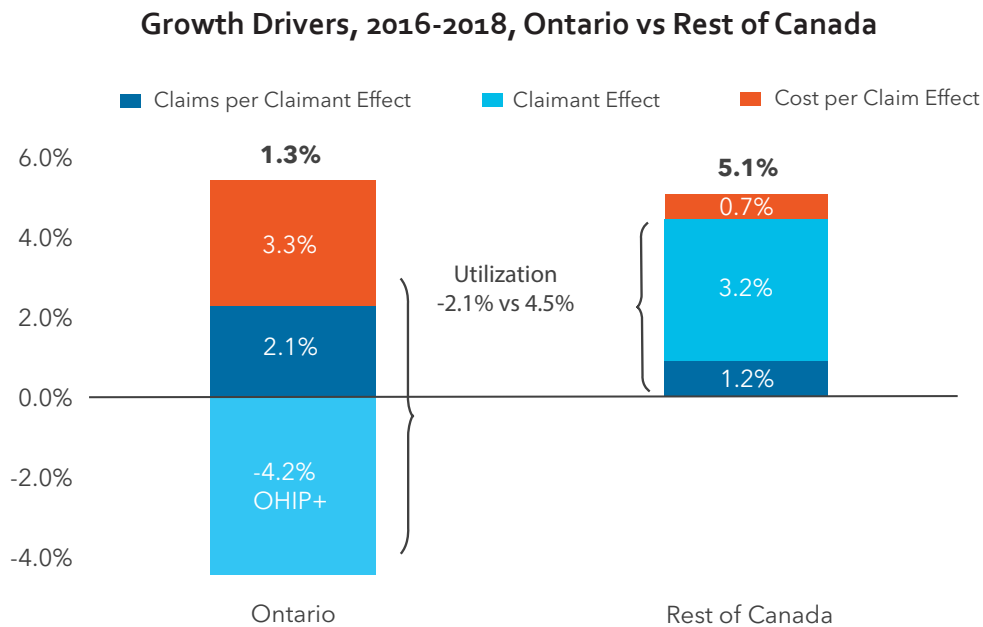
**FIGURE 10: Net Utilization Growth Lower in 2016–2018 Than 2012–2016 Due to OHIP+**



Note: individual driver effects may not add up to the total CAGR due to the cross-effects, which is minimal and not shown here.  
Source: IQVIA Cost Drivers Analysis 2016-2018; and Innovative Medicines Canada, Cost Drivers Analysis of Private Drug Plans 2012-2016.



FIGURE 11: Utilization Still a Key Driver of Growth in 2016–2018 After Accounting for OHIP+



Note: individual driver effects may not add up to the total CAGR due to rounding.  
Source: IQVIA Cost Drivers Analysis 2016-2018.

### 3.2 Chronic Disease

Claims for chronic disease drugs contributed 86% of the net private drug plan cost growth nationally.

To understand the impact of one-time versus ongoing claims, this analysis compared drugs that treat chronic diseases and drugs that treat non-chronic conditions. Drugs were grouped by therapeutic class as chronic or non-chronic by the characteristic of the disease they treat (see Appendix A for more information). Chronic and non-chronic disease drugs may also include specialty drugs, which are defined here as drugs that cost over \$10,000 per patient per year. Oncology (antineoplastic) medications were kept as a separate category and not classified as either chronic or non-chronic.

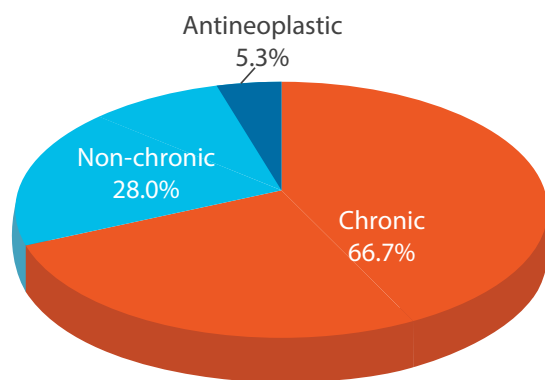
Chronic disease drugs were responsible for 67% of total private drug plan costs in 2018 (Figure 12). They contributed to 86% of the growth in private drug plans nationally from 2016 to 2018 — that is, they accounted for 3.0% of the total cost growth of 3.5% CAGR (Figure 13). In Ontario, chronic disease drugs accounted for 1.3% of the net cost growth of 1.3% CAGR, while in the rest of Canada, they accounted for 4.1% of the net cost growth of 5.1% CAGR.





FIGURE 12: Chronic Disease Drugs Make Up the Bulk of Private Drug Plan Costs

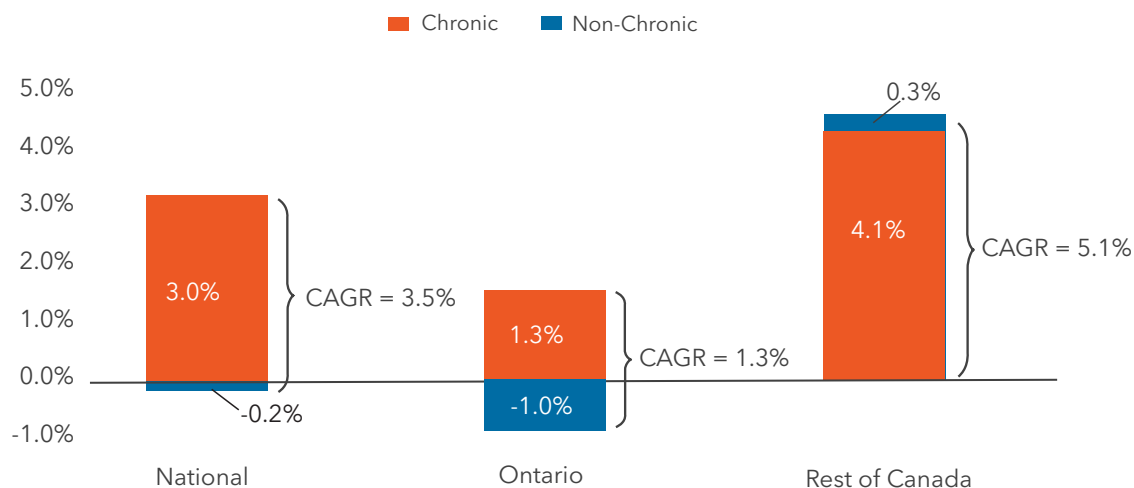
% Share of Private Drug Plan Costs, 2018



Source: IQVIA Cost Drivers Analysis 2016-2018

FIGURE 13: Chronic Disease Drugs Biggest Contributors to Drug Cost Growth Nationally

Contribution to 2016-2018 CAGR, by Chronic and Non-Chronic Disease



Source: IQVIA Cost Drivers Analysis 2016-2018.

Note: individual components may not add up to the total CAGR due to the antineoplastic effect, which was measured separately but is not shown here due to its relative small impact.



The contribution of chronic disease drugs to growth was higher in 2016–2018 than in 2012–2016, when chronic disease drugs represented 67% of the growth. This is in part due to the relatively larger impact in 2012–2016 of non-chronic hepatitis C drugs, which now have a negligible impact on the private market. (See “Impact of Hepatitis C Treatments on Private Drug Plans,” page 28).

In Ontario, growth in the cost of chronic disease drugs in private drug plans was almost fully offset by a decrease in the cost for non-chronic drugs. This was due to the impact of youth moving to OHIP+ in 2018, since children and youth are more likely to be prescribed medications for non-chronic conditions. As a result, the contribution of chronic disease drugs to absolute growth was lower in Ontario than in the rest of Canada, where chronic drugs drove 80% of the growth (Figure 13).

### 3.3 Age Effects

Claimants in the 45-64 age group were the biggest contributors to drug cost growth in private drug plans.

When cost drivers are examined by age, the working-age population, represented by those 25 to 64, is by far the largest contributor to growth. They accounted for 94% (3.3% of the total 3.5% CAGR) of the cost growth in private drug plans in 2016–2018 (Figure 14).

Within that large age group, the largest share of the cost growth was driven by those aged 45–64 (54% of the cost growth, or 1.9% contribution to CAGR). Those aged 25–44 accounted for 40% of the growth, or 1.4% contribution to CAGR (Figure 15). The 45–64 age group has the highest share of claimants (38.5% in 2018) — closely followed by the 25–44 age group (31% in 2018) — and a higher average cost per claimant, thus explaining its relatively larger contribution to cost growth.

The under 25 age group saw its contribution to growth decrease significantly, to -0.9%, due to the impact of OHIP+, compared with a 0.7% contribution to growth in 2012–2016. (See Appendix B for details about OHIP+.)

**FIGURE 14: Working Population Consistently the Biggest Contributor to Cost Growth**

**Contribution to CAGR, 2012-2018, by Major Age Category**

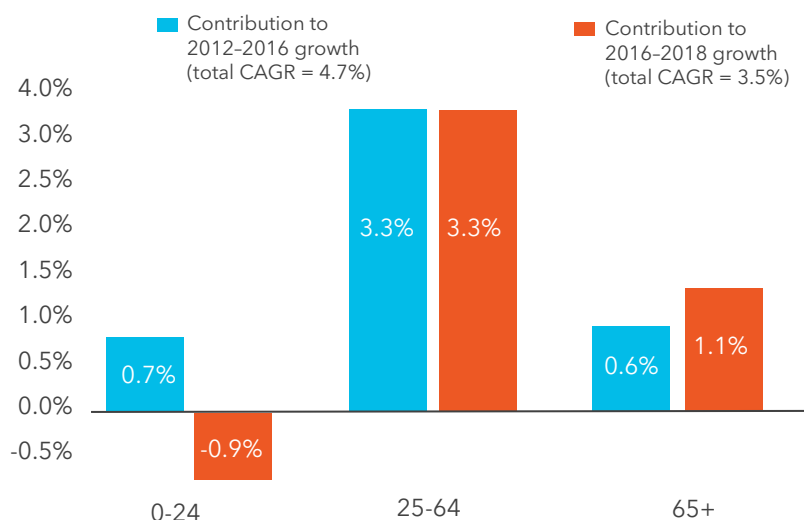
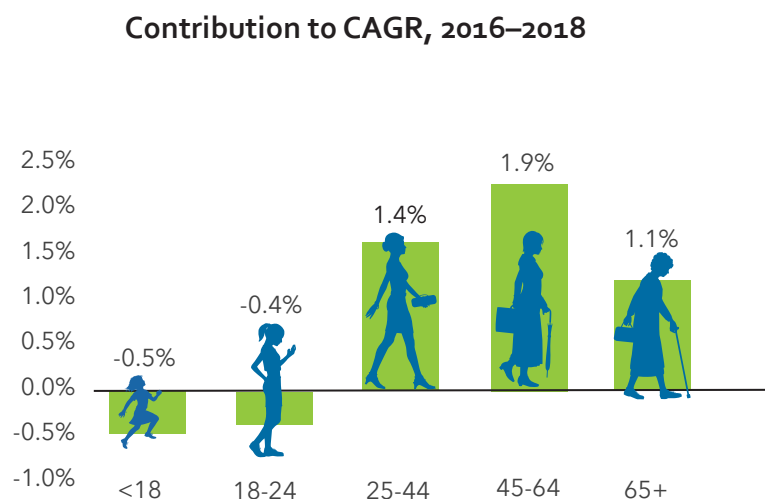




FIGURE 15: 45–64 Age Group a Bigger Contributor to Cost Growth



Source: IQVIA Cost Drivers Analysis 2016-2018.

### 3.4 Therapeutic Class Effects

- Auto-immune disease and diabetes drugs were the leading classes in terms of total drug costs in 2018 and contributors to drug cost growth in 2016–2018.
- Drugs for mental health and respiratory conditions still accounted for the largest portion of drug costs in 2018 (as in 2016) but were not the top contributors to growth.
- Although cancer was not a leading disease in terms of total drug costs, it contributed significantly to cost growth.

The therapy classes responsible for the bulk of the drug costs in private plans were biologics for auto-immune diseases (rheumatoid arthritis, psoriasis, irritable bowel and Crohn’s disease, and age-related macular degeneration), mental health drugs (antidepressants, antipsychotics, and attention-deficit and hyperactivity disorder medications), diabetes drugs (including diabetes glucose meters and test strips submitted as claims and reimbursed), and respiratory drugs (including drugs for allergies, asthma, COPD, and cystic fibrosis) (Figure 16). See Appendix A for sample lists of drugs in these classes.

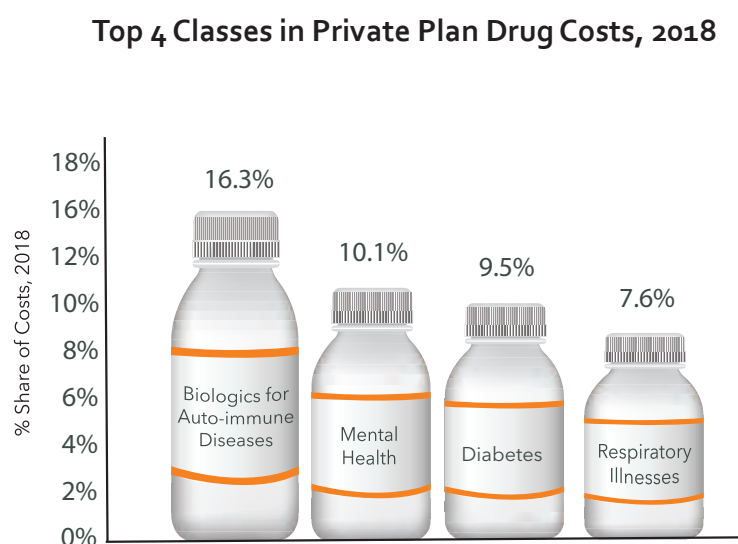


The four fastest-growing therapy classes in 2016–2018 were biologics for auto-immune diseases, diabetes drugs, cancer drugs (antineoplastics), and other immune-function drugs (generally, non-biologic drugs for other auto-immune diseases, such as multiple sclerosis, organ rejection, lupus, amyotrophic lateral sclerosis, etc.) (Figure 17). Two top-growing classes in 2016–2018 were also in the top classes in terms of cost in 2018: biologics for auto-immune disease and diabetes drugs.

Notable changes in the top four classes between 2016 and 2018 were that respiratory drugs ranked fourth in 2018 in terms of cost (up from sixth in 2016), and cardiovascular drugs ranked fifth (down from third in 2016) due to generic price reductions that affected this class more than others. (See also Section 4.2, Drivers of Therapeutic Class Effects.)

Interestingly, respiratory drugs also came a close fifth in terms of cost growth, even though OHIP+ had the largest negative impact on this class of drugs in 2018. (See Appendix B for more information on OHIP+.)

**FIGURE 16: Drugs for Auto-immune Diseases, Mental Health, and Diabetes Lead the Pack in 2018**



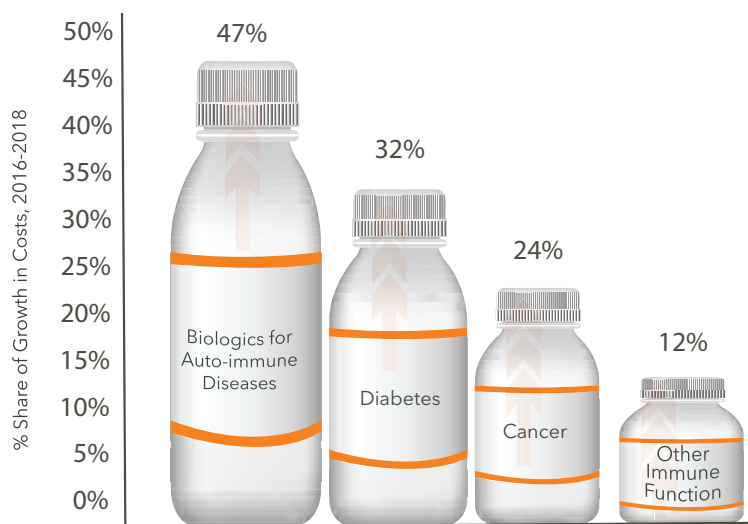
Note: the share of growth may add up to more than 100% because of some classes contributing to negative growth. When adding up the positive and negative growth classes, the shares net out to 100%.

Source: IQVIA Cost Drivers Analysis 2016-2018



FIGURE 17: Drugs for Auto-immune Diseases, Diabetes, and Cancer Lead Growth

Top 4 Classes Driving Growth in Private Plan Drug Costs, 2016–2018



Note: the share of growth may add up to more than 100% because of some classes contributing to negative growth. When adding up the positive and negative growth classes, the shares net out to 100%.

Source: IQVIA Cost Drivers Analysis 2016-2018

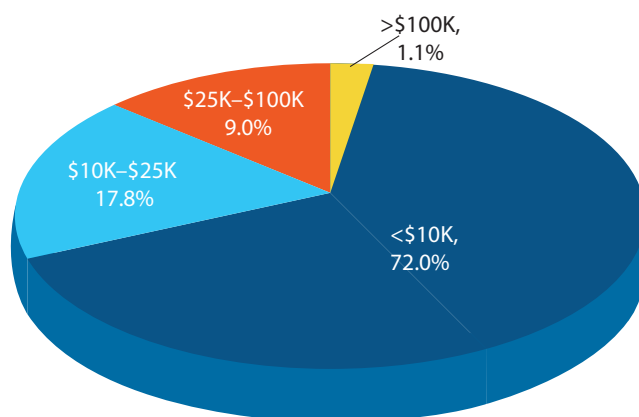
### 3.5 Impact of Treatment Costs

- Non-specialty drugs made up the bulk of private drug plan costs, at 72%, in 2018.
- Non-specialty drugs had the strongest contribution to growth in 2017, but due to the one-time generic price reductions in 2018, their net impact was lower than that of specialty drugs over 2016–2018.
- Specialty drugs costing between \$10,000 and \$25,000 made the biggest contribution to 2016–2018 growth, driven by increased utilization.



FIGURE 18: Non-Specialty Drugs Make Up the Bulk of Drug Plan Costs

Share of 2018 Private Drug Plan Costs, by Treatment Cost Category



Source: IQVIA Cost Drivers Analysis 2016-2018

When growth is stratified by annual patient treatment costs, the fastest growing cost category is shown to be for specialty drugs costing between \$10,000 and \$25,000 annually per patient\*, representing 54% of total growth (1.9% out of 3.5% total growth) (Figure 19). Much of the growth in this category of drugs was due to new claimants. (See Section 4.3, Growth Drivers by Therapeutic Cost Category.)

However, it is important to look at the annual results separately to understand the impact of one-time events as opposed to ongoing trends.

In 2017, non-specialty treatments (that is, drugs costing less than \$10,000 per year per) made the largest contribution to growth, accounting for 60% of the growth (3.9% out of 6.5% growth in 2017). In 2018, however, generic price reductions resulted in decreasing costs for drugs in this category (Figure 20). As a result, their contribution over the entire period was muted, at 23% of the total growth (0.8% of the 3.5% CAGR).

Specialty drugs that cost more than \$25,000 annually per patient† had a negligible contribution to growth (Figure 19) and contributed less to growth in 2018 than in 2017 (Figure 20).

\* Examples of drugs that cost between \$10,000 and \$25,000 annually include Humira, Stelara, Enbrel, Xolair, Simponi, and Gilenya.

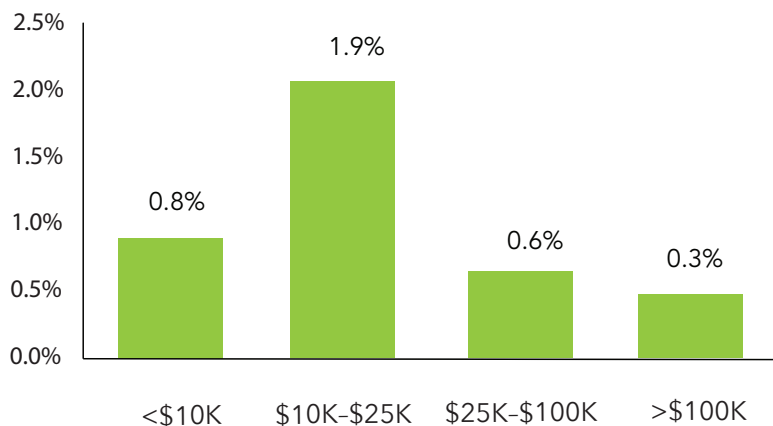
† Examples of drugs that cost between \$25,000 and \$100,000 annually include Harvoni, Epclusa, Revlimid, Ibrance, Tysabri, and Imbruvica. Examples of drugs that cost over \$100,000 annually include Soliris, Orkambi, Vimizim, Kalydeco, Revestive, and Myozyme.





**FIGURE 19: Specialty Drugs \$10K–\$25K the Biggest Net Contributor to Growth Due to Impact of Generic Price Reductions**

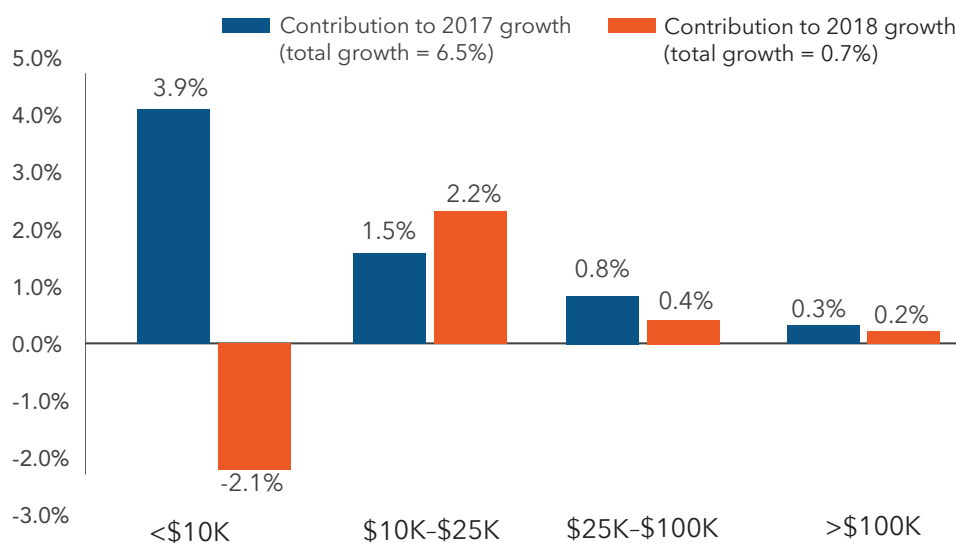
**Contribution to 2016-2018 CAGR (total CAGR = 3.5%)**



Source: IQVIA Cost Drivers Analysis 2016-2018

**FIGURE 20: Costs for Non-Specialty Drugs Dropped in 2018 Due to Generic Price Reductions**

**Contribution to 2016-2018 Growth**



Source: IQVIA Cost Drivers Analysis 2016-2018

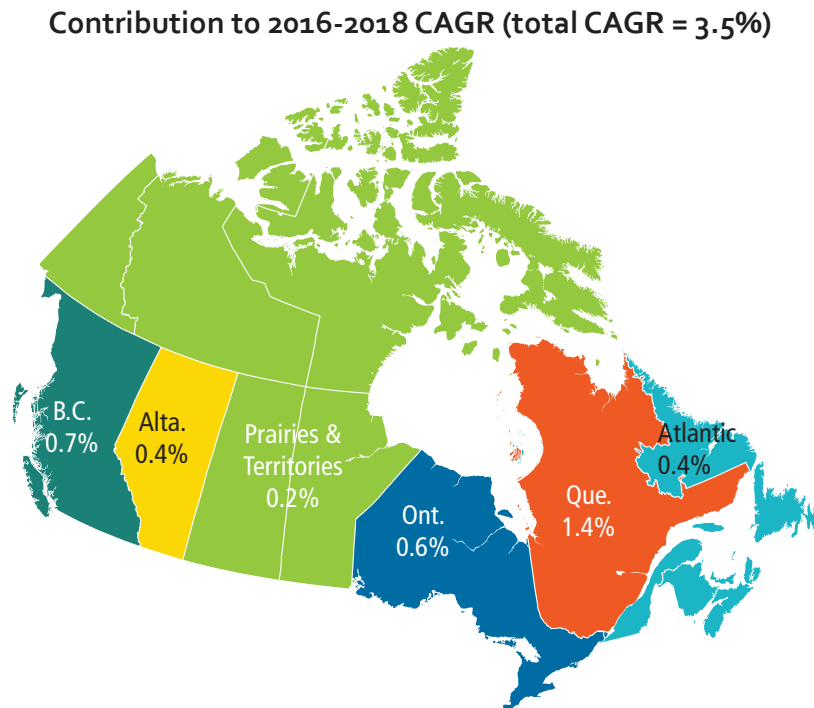


### 3.6 Regional Growth Impacts

- Quebec replaced Ontario as the top contributor to cost growth for national drug plans due to the impact of OHIP+.
- In all regions except Quebec, growth was lower in 2018 than in 2017 due to the impact of generic price reductions.

To advance the analysis in the 2012–2016 report on cost drivers, this report includes an analysis of drug cost growth by region. Ontario and Quebec have the largest market shares and thus normally have the largest impact nationally. However, due to the introduction of OHIP+ in 2018, Ontario's impact on national growth was lower than usual for 2016–2018 (Figure 21), the result of 2.6% growth in 2017, offset by a drop of 1.3% in 2018 (Figure 22). Quebec contributed the most to national growth. British Columbia had the next biggest contribution to growth, despite having the second smallest regional market share in the country. (See Appendix D for in-depth regional analysis.)

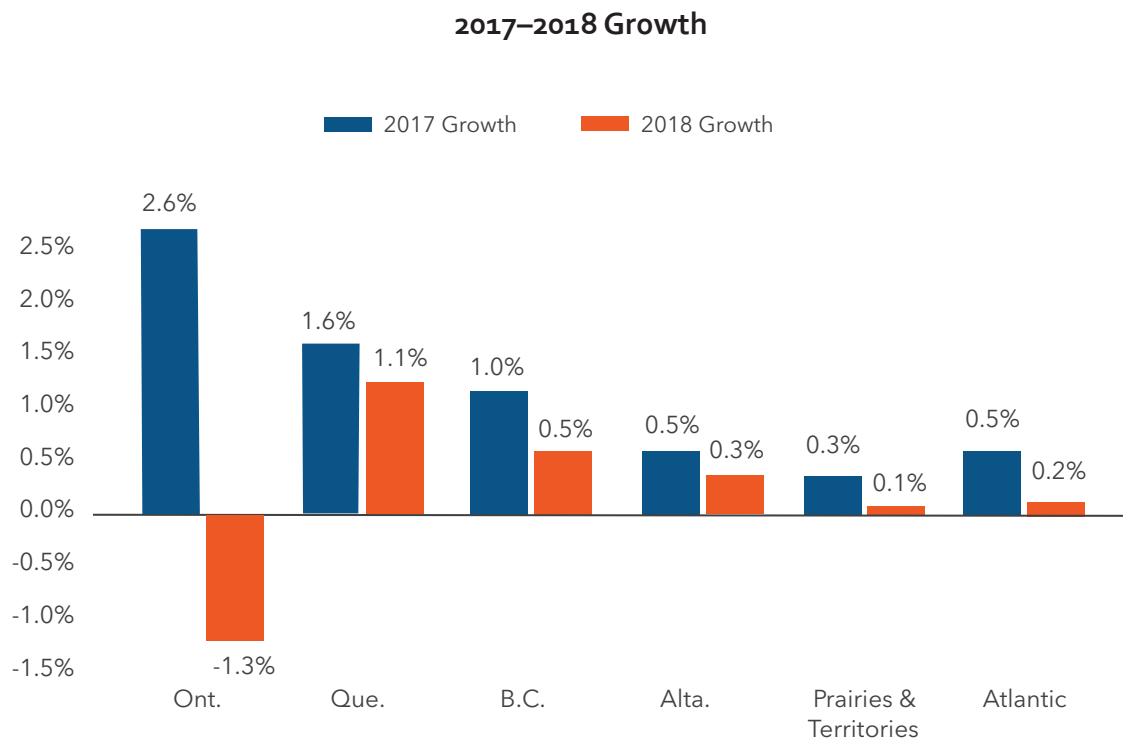
FIGURE 21: Quebec Surpassed Ontario as Top Contributor to National Growth



Source: IQVIA Cost Drivers Analysis 2016-2018



FIGURE 22: Lower Growth in 2018 Due to Generic Price Drops and OHIP+



Source: IQVIA Cost Drivers Analysis 2016-2018



## 4. Detailed Drivers of Major Trends

Building on the previous section's analysis of the major trends contributing to overall drug cost growth, this section explores the three cost drivers (claimants, claims per claimant, and cost per claim) underlying each of these trends.

### 4.1 Drivers of Chronic Disease Drug Cost Growth

- Chronic disease drug cost growth was mostly driven by utilization.
- The impact of the cost per claim is likely exaggerated due to the muted impact from the number of claimants resulting from OHIP+.
- The overall drop in non-chronic disease drug costs was mostly driven by OHIP+, price reductions for generic drugs, and the drop in costs for hepatitis C medications in private plans.

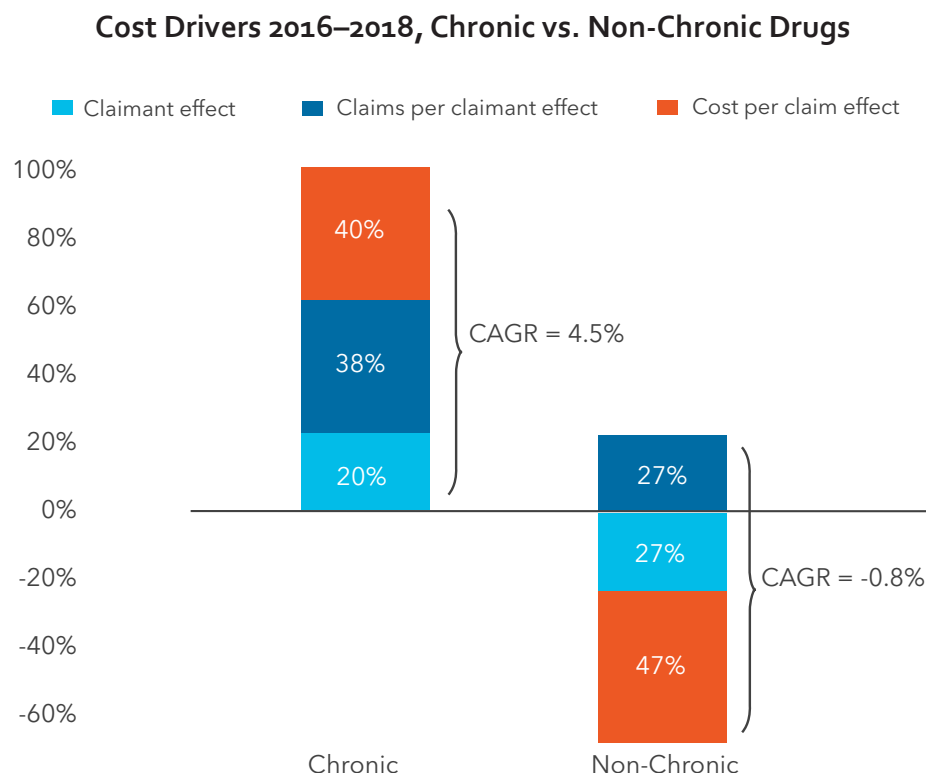
As discussed in Section 3.2, cost growth was significantly higher for chronic disease drugs (CAGR of 4.5%) than for non-chronic disease drugs (CAGR of -0.8%) in 2016–2018, contributing to 86% of the growth in private plan drug costs.

Despite the reduction in the number of claimants in Ontario due to the introduction of OHIP+, more of the cost growth for drugs to treat chronic diseases still came from utilization (accounting for 58% of the growth) than from cost per claim (40% of growth) (Figure 23). (See Appendix A for a list of chronic and non-chronic disease drugs.) As a result, the relative impact of the cost per claim on chronic disease drug cost growth was exaggerated.

For drugs that treat non-chronic conditions, the absolute effect of utilization (54% of growth) and cost per claim (47% of growth) almost completely offset each other, resulting in a net CAGR of -0.8% (Figure 23). This was likely strongly influenced by OHIP+, which led to a drop in private plan costs for the non-chronic drugs that are mostly used in the younger population, as well as generic price reductions and the drop in costs for hepatitis C drugs, which now have a minimal impact on the private payer market. (See page 28 for more information on hepatitis C drugs.)



FIGURE 23: Utilization the Key Driver of Chronic Disease Drug Cost Growth



Source: IQVIA Cost Drivers Analysis 2016-2018

#### 4.2 Drivers of Therapeutic Class Effects

- Growth in the number of claimants was the leading cost driver for the fastest growing therapeutic class, biologics for auto-immune diseases, and for other immune-function drugs.
- Cost per claim had a more significant impact than claimant growth on diabetes and cancer drugs.
- Claims per claimant had a limited or downward effect on costs for all therapeutic classes.

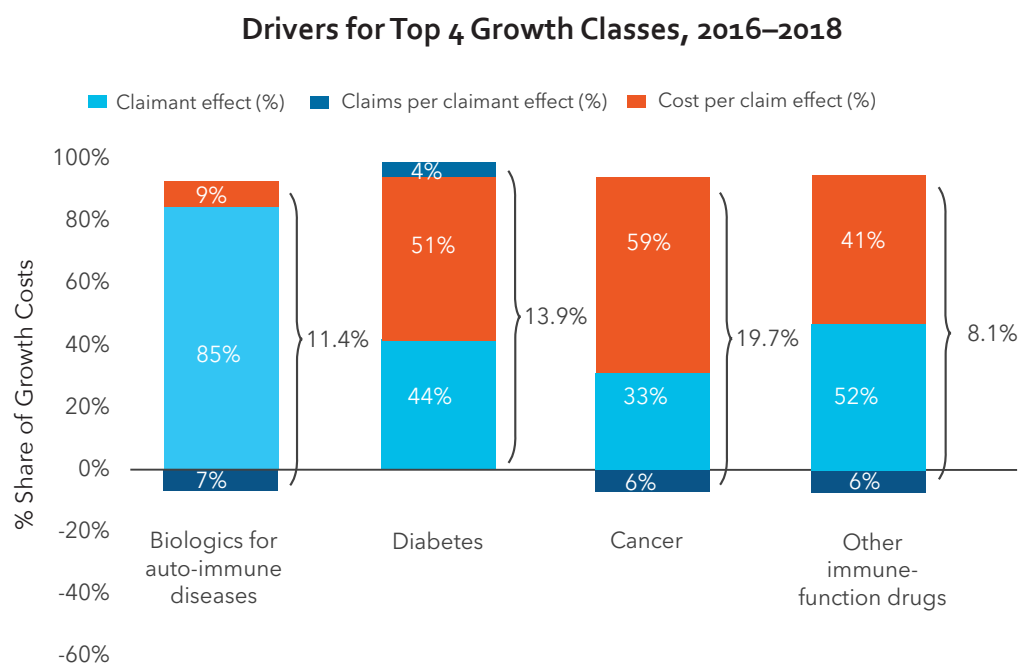
Cost growth for biologics for auto-immune diseases, the fastest growing therapeutic class, was driven by an increased number of claimants, representing 85% of growth (Figure 24). In contrast, cost per claim was the primary driver for cancer drugs (59% of growth). For the antidiabetics and other immune-function drugs, an increase in number of claimants and cost per claim had comparable impact.



A drop in cost per claim — likely due to generic drug price reductions — was the main driver of declining costs in four of the five classes with the largest cost drops (Figure 25). The exception was anti-infective agents, which saw claimant decline as the main contributor of negative growth — likely as a result of a cost shift of antibiotics from private plans to OHIP+ in 2018, as well as the reduction of private payer hepatitis C claims due to increased reimbursement by public plans. (See page 28 for more information on hepatitis C drugs).

In the case of pain medications (analgesics), all three effects were a net negative, possibly because of policy changes around opioid use (Figure 25). Although anticonvulsants and mental health drugs had an increase in the number of claimants, this growth was significantly lower in 2018 than in 2017, likely due to OHIP+. Because these two classes of medications are commonly used in the younger age groups, their number of private plan claimants declined in Ontario while increasing in the rest of Canada. In Ontario, the number of claimants dropped 3.8% in 2018 for anticonvulsants and 6.7% for antidepressants, antipsychotics, and ADHD, while in the rest of Canada, the number of claimants increased 2.7% and 6.4% respectively. It would be safe to assume that after the impact of OHIP+ and generic price reductions are factored in, these high-volume, low-cost classes will resume their normal growth due to the utilization impact of chronic disease drugs. (See Appendix B for more information about OHIP+.)

**FIGURE 24: Utilization Main Driver for Auto-Immune Drugs, Cost per Claim Main Driver for Diabetes and Cancer Drugs**

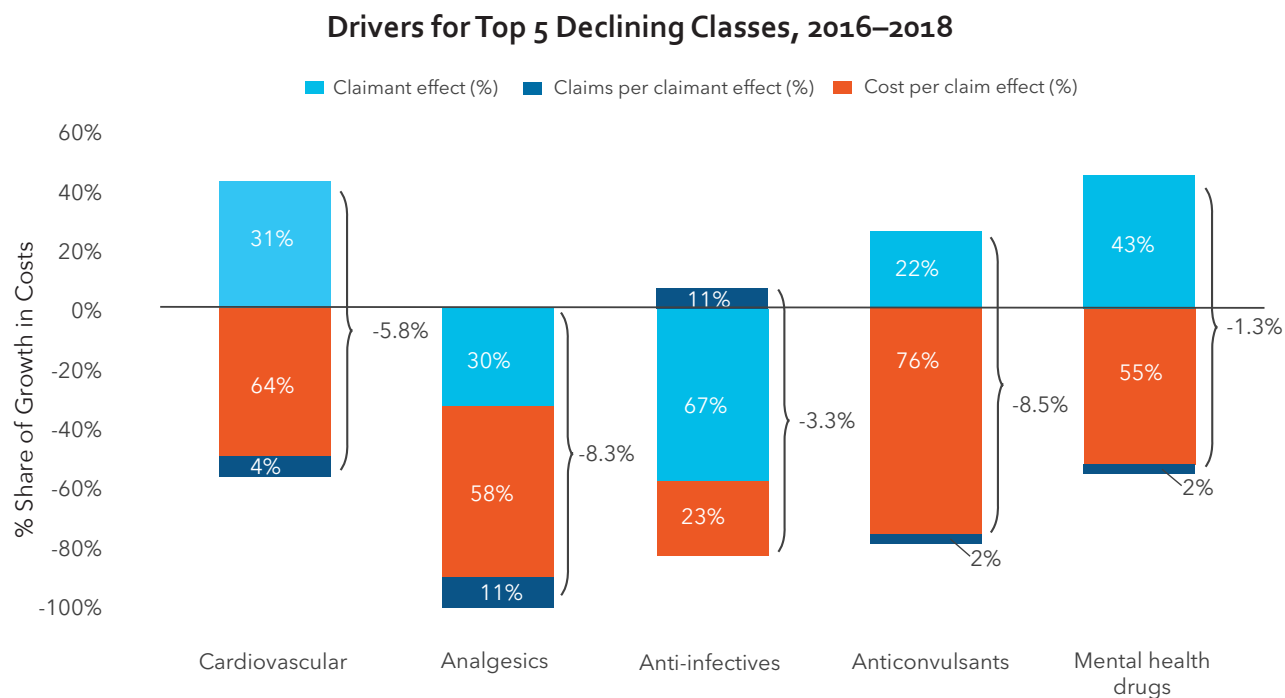


Note: individual driver effects may not add up to 100% of the total CAGR due to cross-effects, which are minimal and not shown here.  
Source: IQVIA Cost Drivers Analysis 2016-2018





FIGURE 25: Cost per Claim the Main Driver of Lower Costs



Note: individual driver effects may not add up to 100% of the total CAGR due to cross-effects, which are minimal and not shown here.  
Source: IQVIA Cost Drivers Analysis 2016-2018



### Impact of Hepatitis C Treatments on Private Drug Plans

In 2014, the launch of direct-acting antivirals (DAAs) for hepatitis C virus infections were a long-awaited cure for patients. Prior to their launch, many hepatitis C patients had abandoned existing treatments because they found their low success rates and strong side effects intolerable. The new treatments led to a cure for most patients after a treatment cycle of 12 to 24 weeks. Knowing that these treatments were in the pipeline, physicians and patients began to postpone treatment, while awaiting the launch of these new highly effective medications.<sup>2</sup> This “warehousing” contributed to a peak of new private payer claims in 2015, when the new hepatitis C drugs were launched and covered by some private plans.

In 2015, hepatitis C drugs were reported as having one of the highest cost impacts on private plans. However, they did not stay at the top for long, as existing patients completed their curative, one-time-expense treatment, and public plans began to cover these drugs in mid-to-late 2015. Notably, the peak cost for private plans for hepatitis C medications in 2015 was only one-third that of the peak for public plans, according to data from IQIVA Pharmastat.

In 2017, public coverage increased when the clinical criteria for access was expanded to include more genotypes, or severities, of hepatitis C, with the net impact of further reducing costs for hepatitis C medications in private plans. By early 2019, costs in private plans were back to what they were in 2013, before the launch of the first-generation curative hepatitis C medication in 2014. However, starting in 2015, as a result of the hepatitis C experience, many insurers added additional review processes that have meant potentially significant delays in access for new innovative treatments.





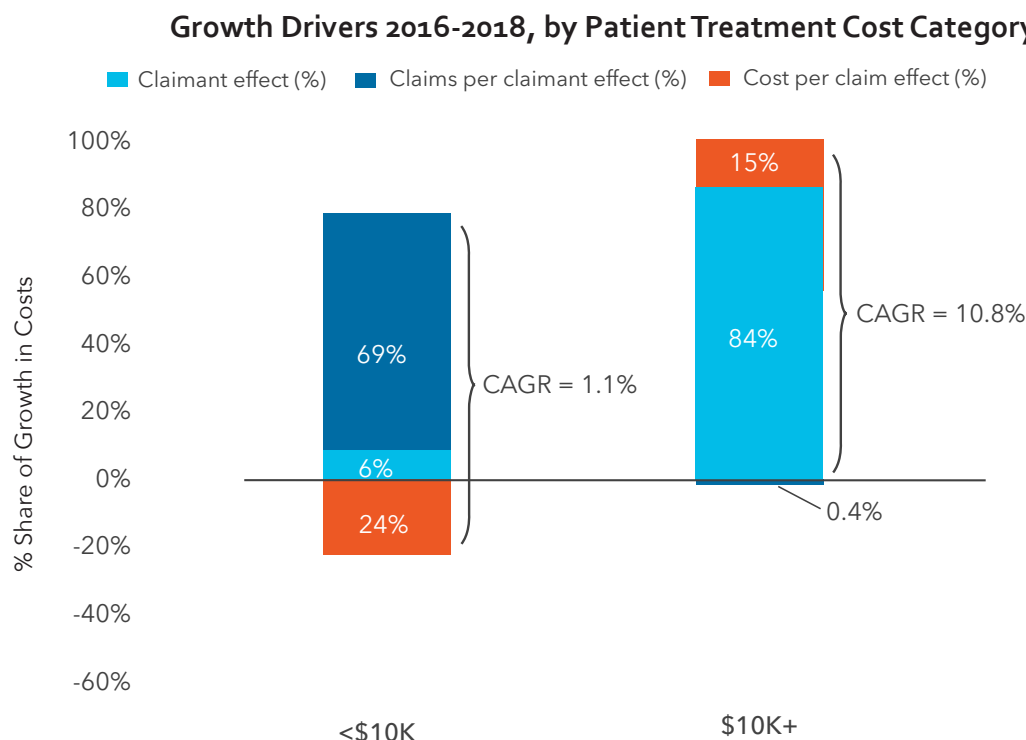
## 4.3 Growth Drivers by Therapeutic Cost Category

- For non-specialty drugs, growth in the number of claims per claimant drove the bulk of cost growth, while cost per claim decreased due to the generic price reductions.
- For specialty drugs, the bulk of the cost growth came from growth in the number of claimants.

Non-specialty drugs — that is, drugs with an annual cost of less than \$10,000 per patient — accounted for 72% of private drug claims costs in 2016–2018. Growth in this category was driven largely by increased utilization due to the claims per claimant effect (more claims per claimant). The relatively small increase in the number of claimants (claimant effect) was due to the impact of OHIP+, while the decrease in the cost per claim effect was largely due to generic drug price reductions (Figure 26). After these one-time impacts, these lower-cost drugs will likely resume their growth due to ongoing utilization growth.

Most of the cost growth for drugs with an annual cost over \$10,000 was due to an increase in utilization stemming from an increase in claimants. For these specialty drugs, there was a minimal impact from increasing costs per claim growth and virtually no impact from increased claims per claimant (Figure 26). This was also the case for drugs in the highest cost threshold (\$100,000+), while the impact was evenly distributed for drugs in the \$25,000–\$100,000 range (not shown).

FIGURE 26: Claimant Growth the Key Driver of Specialty Drug Growth



Note: individual driver effects may not add up to 100% of the total CAGR due to cross-effects, which are minimal and not shown here.  
Source: IQVIA Cost Drivers Analysis 2016-2018



## 4.4 Growth Drivers by Region

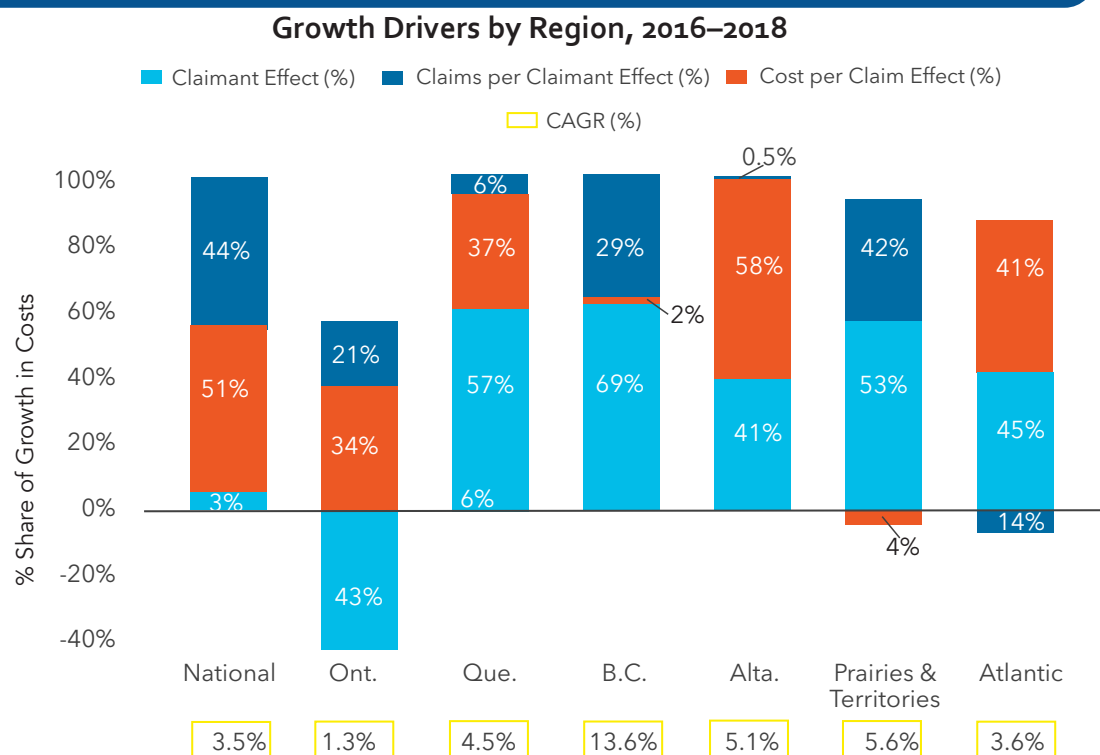
- Utilization generally had the largest impact on private plan drug cost growth across the country, although it contributed to a decrease in costs in Ontario and an increase in costs in the rest of Canada.
- Differences in whether claimant growth or cost per claim growth contributed more to growth in each province reflect the province's public plan design and how much of the cost burden private plans bear.

There were notable differences between regions in terms of growth drivers. The claimant effect had the largest impact on private drug plan cost growth in most regions, with British Columbia, Quebec, and the Prairies and Territories seeing claimants drive the most in-province growth. In all provinces but Ontario, an increase in the number of claimants contributed to an overall increase in costs (Figure 27). In Ontario, the decrease in the number of claimants due to OHIP+ contributed to lower cost growth.

Cost per claim was the biggest driver of growth in Alberta, whereas it had almost no impact in British Columbia and in the Prairies and Territories. Instead, increased utilization in the form of claims per claimant drove growth in these two regions. These differences can be attributed to differences in public drug plan designs. (See Appendix C for a comparison of provincial public drug plan designs.)

See Appendix D for more in-depth regional analysis.

FIGURE 27: Utilization the Key Driver in Most Provinces



Note: individual driver effects may not add up to 100% of the total CAGR due to cross-effects, which are minimal and not shown here.  
Source: IQVIA Cost Drivers Analysis 2016-2018



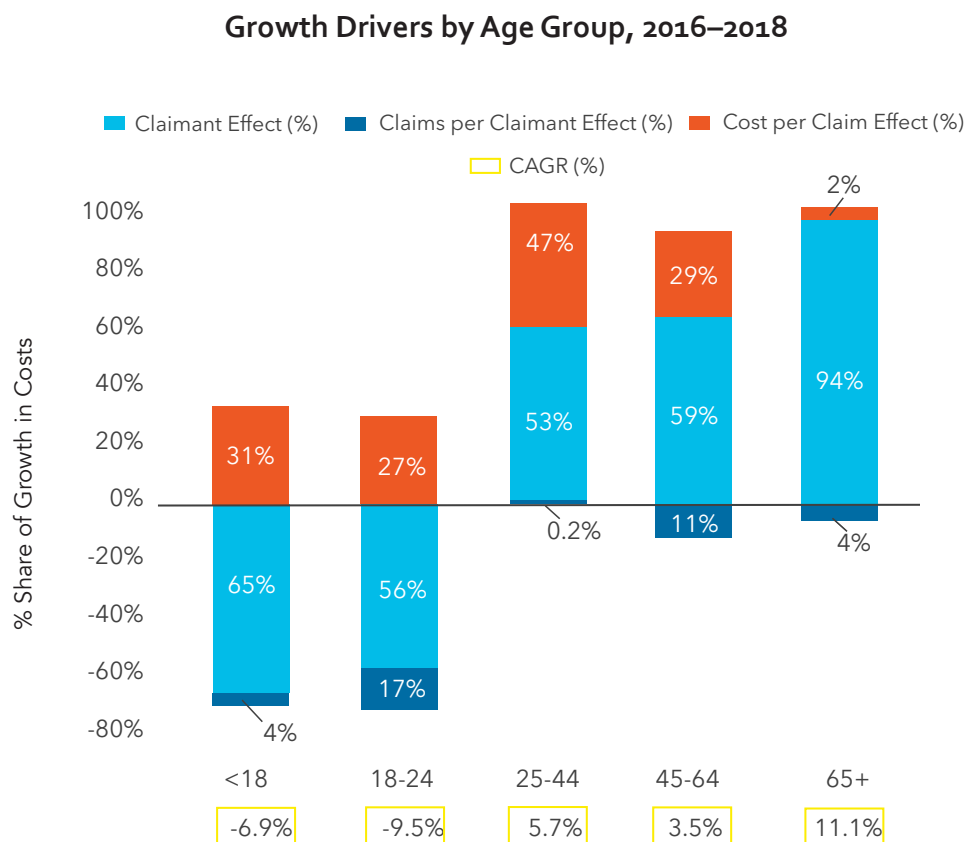
## 4.5 Growth Drivers by Age Group

Utilization had the biggest relative impact on private plan drug cost growth in all age groups, mostly because of changes in the number of claimants.

In the younger age groups, an overall decrease in the number of claimants due to OHIP+ led to a net decrease in costs. In the older age groups, an increase in claimants led to increasing net costs (Figure 28).

In the 25–44 age group, cost per claim had the strongest relative impact, although this effect was still less than the effect of utilization.

**FIGURE 28: Claimant Effect the Key Driver of Growth for all Age Groups**



Note: individual driver effects may not add up to 100% of the total CAGR due to cross-effects, which are minimal and not shown here.  
Source: IQVIA Cost Drivers Analysis 2016–2018.



## 5. Benefits Industry's Contribution to Private Drug Plan Costs

The previous report, *Cost Drivers Analysis of Private Drug Plans in Canada 2012–2016*, explained how premiums, pooling charges, and other insurer and administrative charges contribute to the total cost of drug plans for employers and plan sponsors. As mentioned in that report, there is limited transparency in how premiums are set — and even less for pooling charges.

To set a benefit plan's health premiums, an insurer will consider a plan's prior-year claims experience (i.e., growth in year-over-year claims) but will also apply a "trend factor" or "market inflation factor" in a health premium calculation to anticipate health claim costs for the upcoming year. The factor accounts for the insurer's expected increases in claims resulting from inflation, increased utilization, population aging, new services and products, legislative changes, changes in the mix of products or services being used, and any costs shifting from the public to the private sector.

The insurer trend factor is part of the confidential renewal calculation for a group plan and is usually seen only by the plan sponsor and their benefit plan advisor. It may be questioned or adjusted as part of the benefit plan renewal premium negotiation.

However, some benefit plan advisors survey insurance carriers and report on the annual trend factors being used. One such report that has been published for many years is Buck Canada HR Services Limited's (Buck) Canadian Health Care Trend Survey.<sup>3</sup>

Drug plans are included in health premium rates, and so a trend factor for the health benefits includes all components of health coverage, such as drugs, hospital, paramedical practitioners. According to the 2019 Buck survey, the insurers' average health care trend factor for renewals was expected growth of 11.43%, down slightly from 11.92% in 2018. At the individual benefit level, the average trend factor for prescription drugs alone was 10.99% for 2019, down from 12.45% in 2018.

According to Buck, through this period, if plans were renewed on their actual claims experience, most would align with the growth rate of 3.5% demonstrated in this analysis:

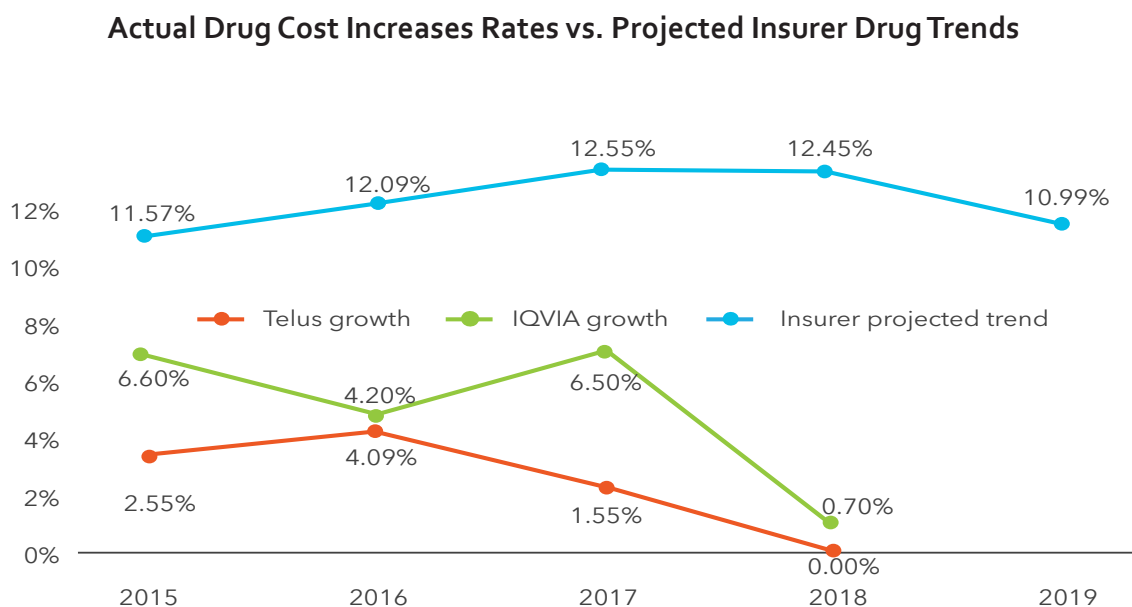
*It's important to understand that, based on claims experience alone, in a properly rated health plan, most plan sponsors would see about 3%-5% change, year over year, in premiums, reflecting their own trend. It's the additional "market inflation" factor that keeps premiums increasing.<sup>4</sup>*

Buck compared the insurer projected trend for prescription drugs since 2015 to the actual increase in the cost of drug claims reported for each year by TELUS Health, which represents over 50% of total private insured lives in Canada and adjudicates the pay-direct drug claims for several of the largest insurers in Canada. The IQVIA cost drivers analysis growth rate presented in earlier sections of this report, which captures the majority of Canadians covered by private plans regardless of insurer, aligns closely with the TELUS growth rate (Figure 29).





Figure 29: Significant Gap Continues Between Insurer Projected Drug Cost Trend and Actual Drug Cost Trend



Source: Buck Canada HR Services Limited; IQVIA Cost Drivers Analysis 2016–2018; Innovative Medicines Canada, Cost Drivers Analysis of Private Drug Plans 2012–2016.

As Figure 29 shows, there is a large gap between the projected insurer drug trend and actual growth in drug costs. Plan sponsors should work with their benefit plan advisor to carefully review proposed premium increases at renewal time.

In particular, it is difficult to evaluate how and whether insurer trend factors affect premiums and their impacts on insurer pooling arrangements. Pooling, also known as stop-loss insurance, is purchased by employers to manage the impact of a high-cost claim by making the insurance company liable for losses that exceed certain limits, often referred to a “pooling limit.” The limit is expressed as a dollar amount per employee per year, or per employee plus dependants per year, and typically covers all health expenses (e.g., drugs, private duty nursing, and durable equipment) but can be limited to specific categories only (e.g., drugs). Eligible claims in excess of the pooling limit are removed from the employer’s claims experience, effectively shifting the risk to the insurer.

Generally, pooling limits are set by the insurer for smaller to mid-size employer health plans and by the plan sponsor for larger plans. The pooling limit can reflect many factors, including underwriting arrangement, risk tolerance, plan design, etc.

While plan sponsors are aware of their pooling limit, how pooling charges are calculated remains unknown because the calculations are not shared in group benefits renewals.

In 2012, the Canadian Drug Insurance Pooling Corporation (CDIPC) was created to help distribute the risk of high-cost, recurring drug claims across insurers. Essentially, CDIPC is a form of reinsurance; however, the pooling framework applies only to fully insured drug plans and is limited to drug claims exceeding pre-set thresholds for at least two years.



The CDIPC pooling arrangement works on two levels. The EP3 (Extended Healthcare Policy Protection Plan) pooling mechanism allows employers to share costs for claims above the insurers' determined threshold (each insurer can set their own threshold at any level they choose). Once a claim reaches the industry threshold of \$65,000 (in 2019) for two consecutive years, the insurer can share the risk with other insurers in the CDIPC Insurer Pool.<sup>5</sup>

With CDIPC, the cost of eligible drug claims is shared by all participating insurers and is based on their share of total annual paid drug claims. Industry pooling kicks in if a drug claim exceeds the initial threshold of \$65,000 (in 2019) for two years. At that time, the industry pools 85% of the plan member's paid drug claims up to the CDIPC pooling maximum of \$500,000 (in 2019). In the third and subsequent year, a claim will be eligible for pooling if it is greater than the ongoing threshold of \$32,500 (in 2019).<sup>6</sup>

Quebec has its own not-for-profit pooling organization called the Quebec Drug Insurance Pooling Corporation (QDIPC). This corporation oversees the risk-sharing framework as outlined under Quebec's Act Respecting Prescription Drug Insurance. Unlike the CDIPC, the QDIPC offers risk protection to all types of benefit plan funding arrangements (fully insured, administrative services only, and refund-accounted) for plan sponsors up to 3,999 lives. The free market applies to plan sponsors with 4,000 or more lives. In 2019, QDIPC reduced pooling premiums by between 2% and 12% depending on group size. The sole exception was for groups with 25–49 lives, where QDIPC elected to reduce the pooling limit from \$18,000 to \$16,500 and maintain current premium rates.<sup>7</sup> The reduction in pooling charges reflects reduced claims for hepatitis C drugs that have mainly transferred to public drug plans.

### **Is it time to rethink pooling?**

Despite recent single-digit annual drug trend growth, insurers have become more risk averse, as evidenced in increased pooling limits,<sup>8</sup> shifting more risk and cost to employers. Historically, pooling mechanisms were designed by insurers to mitigate the risk associated with low-frequency, higher-cost catastrophic claims such as out-of-country travel. However, with the advent of personalized medicine and innovative health and drug technologies, pooling mechanisms no longer reflect the current reality of health care in Canada.

Pooling was designed to manage non-recurring, unforeseen risk.<sup>9</sup> Because the nature of healthcare innovation has changed, claims on pooled risk are recurring and often predictable now. These claims now challenge the original fundamental concept of addressing single catastrophic events. This change has led many to think that insurers are experience-rating pooled claims from plan sponsors,<sup>10</sup> something that contravenes the underlying and fundamental principle of pooling — to spread risk across a large group so that participants with large claims do not bear the entire burden of the claim and no one participant in the pool is disadvantaged. Hundreds or thousands of plan sponsors collectively can manage the risk associated with high-cost claims, but single-plan sponsors cannot.

Pooling is a good concept, but many stakeholders believe its framework in the context of Canada's current healthcare system needs improvement:

*Pooling costs are a bit of a black box. ... I would certainly argue for greater transparency regarding pooling costs. ~ Brian Lindenberg, Mercer Canada<sup>11</sup>*



*The logic behind EP3 may have been sound, but the end result has failed to live up to intentions.  
~Gordon Hart, Selectpath Benefits and Financial Inc.<sup>12</sup>*

*A single claim can threaten a plan's sustainability.... Pooling could certainly be a more effective and lasting solution if some fundamental improvements are made. ~Jonathan Bohm, Normandin Beaudry<sup>13</sup>*

Improvements to the pooling framework could reflect the current healthcare reality of recurring claims that keep many employees healthy, productive, and at work. To achieve reform, stakeholders must collaborate to find mutual solutions to a problem that affects them all.





## 6. Discussion and Implications

Cost growth for private drug plans in Canada was lower in 2016–2018 than in prior years due to the one-time impact of OHIP+ in Ontario. However, plan sponsors should remain vigilant about managing their drug plan costs, as the underlying drivers of cost growth and major contributors to it continue to be the same: utilization, chronic diseases, specifically lifestyle-related diseases (mental health disorders, diabetes, and respiratory illnesses), and complex auto-immune diseases. Plan sponsors should also pay attention to their claims experience in order to better understand their specific drug plan's cost drivers and make sure they are deriving value from their annual premium and pooling rate increases.

Utilization remains the main driver of growth as a result of more Canadians in the workforce and their dependants developing chronic diseases. The impact of chronic disease as a cost driver is not to be understated, as their prevalence continues to rise.<sup>14</sup> Likewise, the continued value brought to patients from biologics and other specialty treatments for complex diseases is also evident in their growing use. The unexpected diagnosis, stress, and costs of these complex diseases, such as auto-immune conditions, can be challenging for plan members, as well as for smaller plan sponsors, who can face significant increases in premiums and large sudden increases in pooling charges.<sup>15</sup>

Private plans can and should create room for these treatments by focusing on prevention and management through better drug and other extended health benefits that target lifestyle interventions to change behaviours related to the top chronic diseases, such as mental health disorders, diabetes, and cardiovascular and respiratory illnesses. This, in turn, will help maintain future access to the specialized innovative and ground-breaking treatments to cure, treat, or help manage symptoms for complex conditions that cannot necessarily be prevented and managed through lifestyle and behaviour modification alone.

Workplace wellness programs, such as those designed to prevent the development of some chronic diseases, can have a positive impact and reduce overall costs.<sup>16</sup> This is an area where innovation is critically needed by insurers and pharmacy benefit managers (PBMs) and where benefit plan providers can bring additional value for employers and their employees. Employers and plan sponsors are increasingly looking for out-of-the-box solutions from their insurance carriers to help them manage workplace health and productivity and better manage their health benefits costs. It is critical that employers understand the connection between their premiums and pooling rates, and how they align with actual claims, to assess value for money compared with other options. This highlights the value of greater transparency and availability of claims data for the plan sponsor. This greater understanding is essential in the fight against chronic disease and to ensure a positive return on investment for employers and the Canadian economy.





## Appendix A: Therapeutic Class and Chronic Disease Drugs Definitions

In this analysis, therapeutic classes are based on an internal IQVIA Therapeutic Class and Subtherapeutic classification system whereby chemicals are grouped into 17 main therapeutic drug classes (antidiabetic, cardiovascular, other central nervous system, etc.) accounting for the majority of private drug plan costs, with the rest captured under “other therapy areas.”

For this edition of the report, a thorough review of the therapeutic classes was conducted, resulting in some changes in classifications to make the classes more focused on diseases. The major classes affected include the following:

- Attention-deficit hyperactivity disorder (ADHD) medications were grouped together from various classes and combined with antidepressants and antipsychotics to create a mental health class.
- Bronchopulmonary therapy drugs now include drugs that span a wider variety of respiratory conditions, including allergies, asthma and COPD, as well as cystic fibrosis, and renamed “respiratory illness.”
- Immune suppressing or modulating treatments were combined and then separated into biologics and non-biologic treatments to create two separate classes: biologics for auto-immune diseases and other immune-function treatments respectively. The former includes the disease-modifying biologics for rheumatoid arthritis, psoriasis, psoriatic arthritis, Crohn’s and irritable bowel disease, etc., but also now includes age-related macular degeneration, as the pathogenesis of this disease shares many attributes with auto-immune disorders.<sup>17</sup> The latter includes treatments for multiple sclerosis, as well as organ-rejection suppressing drugs.
- Cancer treatments were combined under antineoplastics, even though some may have been classified under other classes such as immune-modulating therapies, etc.
- Drugs under the “other” class were moved to existing categories that share similar affected body systems, including several rare disease drugs.





Therapeutic Class Categorization and Examples of Drugs			
Therapeutic classes	Examples of Drugs		
Analgesics	TYLENOL W/CODEINE (ACETAMINOPHEN & PSEUDOEPHEDRINE HCL)	TEVA-MORPHINE SR (MORPHINE SULFATE)	CAMBIA (DICLOFENAC POTASSIUM)
Anticonvulsants	LYRICA/RIVA-PREGABALIN (PREGABALIN)	BRIVLERA (BRIVARACETAM)	TOPAMAX/AURO-TOPIRAMATE (TOPIRAMATE)
Antidepressants, anti-psychotics and ADHD	CYMBALTA (DULOXETINE)	ABILIFY (ARIPIRAZOLE)	VYVANSE (LISDEXAMFETAMINE DIMESYLATE)
Antidiabetic	LEVEMIR (INSULIN DETEMIR)	ACCUTREND CONTROL SOLUTION (DIAGNOSTIC AGENT - DIABETES)	TEVA-METFORMIN (METFORMIN HCL)
Anti-infective agents	SHINGRIX (SHINGLES VACCINES)	JAMP-AMOXICILLIN (AMOXICILLIN TRIHYDRATE)	EPCLUSA (SOFOSBUVIR & VELPATASVIR)
Antineoplastic	IBRANCE (PALBOCICLIB)	ZYTIGA (ABIRATERONE ACETATE)	GLEEVEC (IMATINIB)
Autonomic agents	NEUPRO (ROTIGOTINE)	MYLAN-PRAMIPEXOLE (PRAMIPEXOLE HCL)	MYLAN-BACLOFEN (BACLOFEN)
Biologic disease modifiers for rheumatoid arthritis, psoriasis, irritable bowel disease, age-related macular degeneration	REMICADE/INFLECTRA (INFLIXIMAB)	ENTYVIO (VEDOLIZUMAB)	EYLEA (AFLIBERCEPT)
Blood formation and coagulation	APO-WARFARIN (WARFARIN)	XARELTO (RIVAROXABAN)	NEUPOGEN (FILGRASTIM)
Bronchopulmonary therapy	EPIPEN (EPINEPHRINE)	SYMBICORT (FORMOTEROL & BUDESONIDE)	ORKAMBI (IVACAFTOR & LUMACAFTOR)
Cardiovascular	LIPITOR (TIOTROPIUM BROMIDE)	VASOTEC (ENALAPRIL SODIUM)	ENTRESTO (SACUBITRIL & VALSARTAN)
Gastrointestinal drugs	NEXIUM (ESOMEPRAZOLE MAGNESIUM)	FLORAZOLE ER (METRONIDAZOLE)	ACIDOPHILUS PROBIOTIC (BIFIDOBACTERIUM BIFIDUM & LACTOBACILLUS ACIDOPHILUS)
Hormones and synthetic substitute	SANDOZ ALENDRONATE (ALENDRONATE)	MIRENA (LEVONORGESTREL)	CYTOMEL (LIOTHYRONINE SODIUM)
Nutritional products	COMPLETE MULTI (VITAMIN-MULTI & MINERAL)	B12 (VITAMIN B12)	TOLEREX (NUTRIENTS&SUPPLEMENTS)
Other central nervous system (CNS) drugs	XYREM (4-HYDROXYBUTYRIC ACID SODIUM)	THRIVE (NICOTINE)	SUMATRYX (THYROID GLAND)
Other immunomodulating/ immunosuppressive agents	COPAXONE/GLATECT (GLATIRAMER ACETATE)	GILENYA (FINGOLIMOD)	ADVAGRAF (TACROLIMUS)
Skin and mucous membrane preparation	NOVO-HYDROCORT (HYDROCORTISONE)	LUXIQ (BETAMETHASONE VALERATE)	PICATO (INGENOL MEBUTATE)
Other therapy areas	VIAGRA/TEVA-TADALAFIL (TADALAFIL)	SAXENDA (LIRAGLUTIDE)	SPINRAZA (NUSINERSEN)



Chronic Drugs Categorization			
Therapeutic Classes	Antineoplastic	Chronic	Non-chronic
Analgesics			✓
Anticonvulsants		✓	
Antidepressants, antipsychotics and ADHD		✓	
Antidiabetic		✓	
Anti-infective agents			✓
Antineoplastic	✓		
Autonomic agents		✓	
Biologic disease modifiers for rheumatoid arthritis, psoriasis, irritable bowel disease, age-related macular degeneration		✓	
Blood formation and coagulation			✓
Bronchopulmonary therapy		✓	
Cardiovascular		✓	
Gastrointestinal drugs			✓
Hormones and synthetic substitutes		✓	
Nutritional products			✓
Other central nervous system (CNS) drugs CNS		✓	
Other immunomodulating/immunosuppressive agents		✓	
Skin and mucous membrane preparation			✓
Other therapy areas			✓



## Appendix B: Key Pharmaceutical Policy Initiatives That Affected 2016–2018 Cost Growth

### B1 Context for OHIP+ and Generic Price Reductions

#### OHIP+

The Ontario provincial government introduced a drug program called OHIP+ on January 1, 2018. It offered free medication to all Ontarians under age 25 regardless of family income or access to private insurance benefits. Enrolment was automatic.

As a result, drug claims for Ontario Drug Benefit (ODB) eligible drugs for Ontario plan members under age 25 were transferred from private drug plans to the Ontario provincial drug plan.

After the June 2018 provincial election, the new Ontario government implemented changes making youth with private drug coverage no longer eligible for OHIP+ effective April 1, 2019. The result was that claims for eligible plan members that had been transferred to the Ontario provincial drug plan from January 1, 2018, to March 31, 2019, transferred back to private drug plans after April 1, 2019.

The impact of the 2019 change is not included in this analysis. But the net effect on this cost driver analysis for 2016–2018 was a large reduction in private payer claimants in the <25 age group, whose claims were entirely transferred to the Ontario provincial drug plan for the 12 months between January 1, 2018, and December 31, 2018. This impact is expected to be reversed — i.e., there will be a significant increase in the number of claimants in private drug plans in Ontario — for April 1 to December 31, 2019.

#### Generic Price Reductions

The pan-Canadian Pharmaceutical Alliance (pCPA) and the Canadian Generic Pharmaceutical Association (CGPA) negotiated a five-year agreement effective April 1, 2018, to reduce the prices of nearly 70 of the most commonly prescribed drugs in Canada by 25%–40% for participating public and private group drug plans. The 18 generic products whose prices had been negotiated down to 18% or 15% of the brand price since 2013 were lowered (along with two additional molecules) further to 10%, and another 48 generic products were reduced to 18% of the brand price.<sup>18</sup> An announcement estimated savings of “\$385 million in the first year, and up to \$3 billion over the next five years through a combination of price reductions and the launch of new generic drugs.”<sup>19</sup>

The net impact of these generic price reductions was a reduction in the average cost per claim in all provinces that participated (all provinces except Quebec). With continued increases expected in utilization, growth is forecast to return to historical levels in 2019 and beyond. Quebec struck its own deal with the CGPA, but the details are not transparent.





## B2 Impact of OHIP+ and Generic Price Reductions on Overall Private Drug Plan Cost Growth

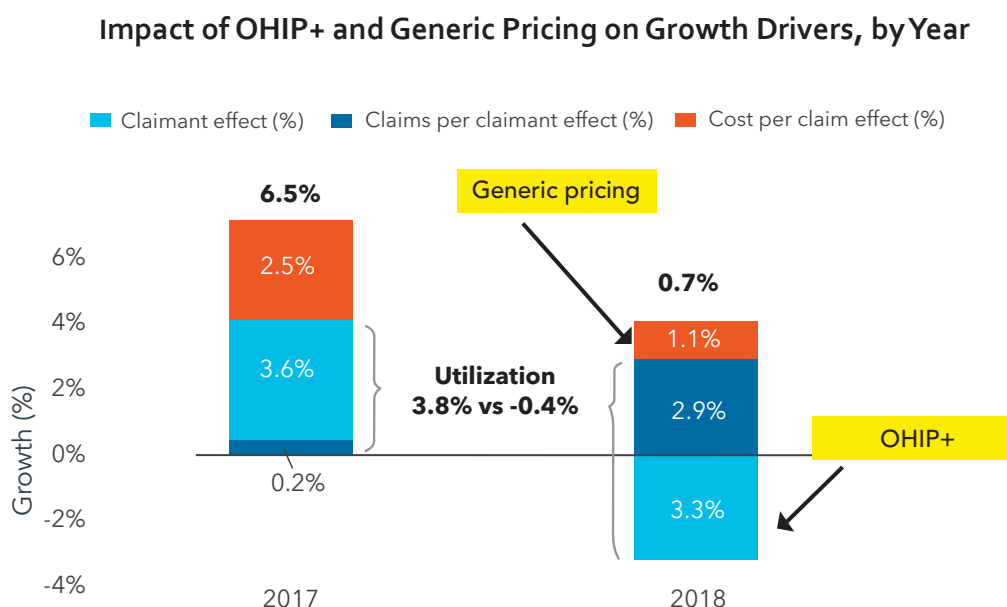
OHIP+ and generic price reductions in 2018 had a dramatic offsetting impact on drug cost growth, but the impact will be temporary.

The impact of OHIP+ and generic price reductions can be assessed by comparing data for 2018 and 2017. The overall growth in private plan drug costs was only 0.7% in 2018, down from 6.5% growth in 2017.

The drop in the number of claimants in 2018 reduced growth by 3.3%, primarily because of the transfer of claimants to the public plan in Ontario due to OHIP+. The magnitude of this impact becomes clearer when compared with positive claimant growth of 3.6% in 2017 (Figure 30).

The generic pricing reform in 2018 also had an important impact, though a smaller one than OHIP+. The cost per claim grew by 1.1% in 2018, down from 2.5% in 2017 (Figure 30).

**FIGURE 30: OHIP+ and Generic Pricing Affected Claimant and Cost per Claim Growth in 2018**



Note: Individual driver effects may not add up to the total CAGR due to cross-effects, which are minimal and not shown here.  
Source: IQVIA Cost Drivers Analysis 2016-2018

## B3 Detailed Impact

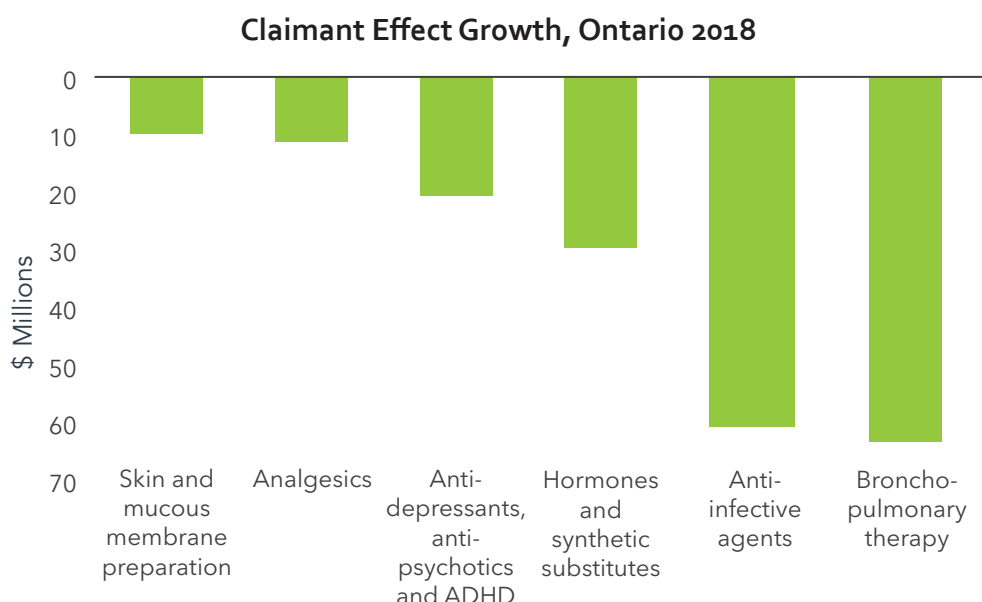
### OHIP+ (claimant effect)

As noted, OHIP+ had a significant impact in private drug plans in Ontario by reducing the number of claimants in the <25 age group specifically. This affected certain therapeutic classes more than others. For example, respiratory (bronchopulmonary) drugs and anti-infective agents saw the most impact in terms of absolute cost reductions directly due to a drop in claimants.



Hormones and synthetic substitutes and mental health drugs also saw a modest decline. Given the medication trends for patients under age 25 in general, the impact due to claimants in these specific classes is assumed to be because of asthma drug inhalers (bronchopulmonary therapy) and allergy medicines (e.g., EpiPens), antibiotics, contraceptives, and ADHD medicines (Figure 31). This is likely to be reversed due to the 2019 OHIP+ changes.

**FIGURE 31: OHIP+ Affected Respiratory Illness and Anti-Infective Drugs the Most**



Source: IQVIA Cost Drivers Analysis 2016-2018

## Generic Price Reductions (Cost per Claim Effect)

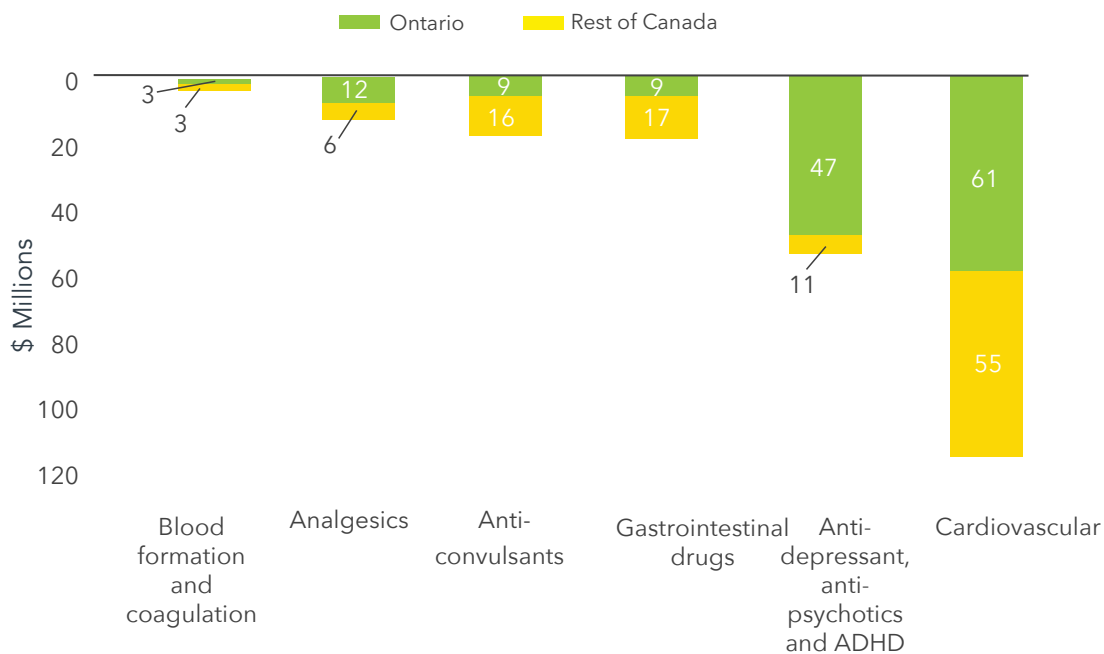
The generic price reductions also had a downward impact on total private plan drug cost growth, as mentioned, by lowering the cost per claim for affected drugs. But as in the case of OHIP+, this affected certain classes of drugs more than others — that is, classes of drugs that were already largely genericized, such as cardiovascular drugs (e.g., simvastatin), mental health drugs (e.g., quetiapine), and gastrointestinal drugs (e.g., omeprazole). To isolate potential combined impacts of OHIP+ and generic price reductions in Ontario, due to its large size and dominance of the market, the pan-Canadian analysis is separated between Ontario and the rest of Canada.

Most notably, cardiovascular drugs were by far the most affected in terms of absolute cost due to the reduced cost per claim. Ontario was responsible for slightly more than half of this impact at the national level. Mental health drugs had the next largest impact, with Ontario contributing most of the impact. Other classes of drugs, such as gastrointestinal drugs, anticonvulsants, analgesics, and blood formation and coagulation drugs, had a more equal relative impact in Ontario and the rest of Canada (Figure 32).



FIGURE 32: Generic Price Reductions Affected Cardiovascular and Mental Health Drug Costs the Most (2018)

**\$ Cost per Claim Effect Growth, Rest of Canada vs. Ontario 2018**



Source: IQVIA Cost Drivers Analysis 2016-2018



## Appendix C: Comparison of Provincial Public Drug Plan Designs

Type of Public Drug Plans	Provinces
<b>Pharmacare provinces</b> <ul style="list-style-type: none"><li>• Everyone is eligible to be covered, but coverage is optional.</li><li>• Patient must pay income-tested deductible, co-pay, and/or pay the premium out-of-pocket before public coverage benefits are paid.</li><li>• Private coverage is usually limited to paying (either in full or in part) the out-of-pocket from the public plan deductible, co-pay, or premium. Coverage shifts from private to public once the out-of-pocket limit has been reached.</li></ul>	<b>B.C., Alta., Sask., Man.</b>
<b>Non-pharmacare provinces</b> <ul style="list-style-type: none"><li>• Only select groups have coverage (e.g., social assistance recipients, seniors, children, those without private insurance).</li><li>• Public coverage benefits paid out range widely — from little out-of-pocket payment required in Ontario to high co-pays in Atlantic Canada.</li><li>• Public coverage is also available for non-beneficiaries with high out-of-pocket costs, based on income-tested deductible or co-pay. The out-of-pocket limit also ranges widely.</li></ul>	<b>Ont., N.B., N.S., N.L., P.E.I</b>
<b>Quebec</b> <ul style="list-style-type: none"><li>• Coverage is mandatory, either public or private.</li><li>• Employers must provide private coverage equivalent to public coverage.</li><li>• Those without private coverage are automatically enrolled for public coverage.</li><li>• Public plan premiums apply, as well as deductibles and co-pay (up to a limit) based on income.</li></ul>	<b>Que.</b>



## Appendix D: In-Depth Regional Analysis

This edition of the cost drivers analysis of private drug plans in Canada includes a regional analysis for the first time. Not all details are included in the main body of the report for space and relevance reasons. This section provides additional baseline information broken out by region, such as shares of drug plan costs and claimants, average cost per claimant, cost growth, and characteristics of drivers of growth where they differ from the national drivers of growth.

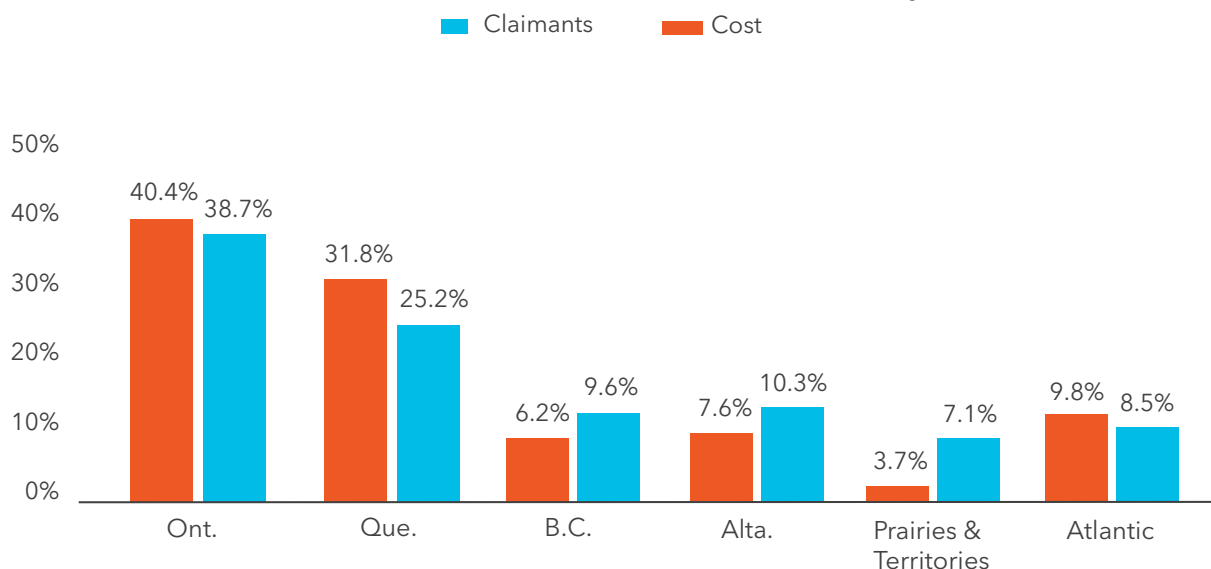
### D2 CAGR Growth for Each Region

Ontario private plans account for the largest share of costs and claimants of any province or territory (despite OHIP+) (Figure 33), but not the highest cost per claimant (Figure 34). Quebec and the Atlantic provinces have the highest average cost per claimant. Costs in Quebec may be overstated because dispensing fees are included in this dataset for Quebec but not for other provinces (where costs include markups but not dispensing fees). As well, Quebec patients are more likely to receive a 30-day supply prescription than a 90-day one, and so more frequent dispensing also increases Quebec costs as a proportion of the total claims cost.

British Columbia, Alberta, and the Prairies and Territories have a significantly lower average cost per claimant than the rest of the country. As a result, their share of national costs is lower than their proportional share of claimants.

Figure 33: Unequal Proportional Share of Costs vs. Claimants by Province

Provincial Share of Private Plan Costs and Claimants, 2018

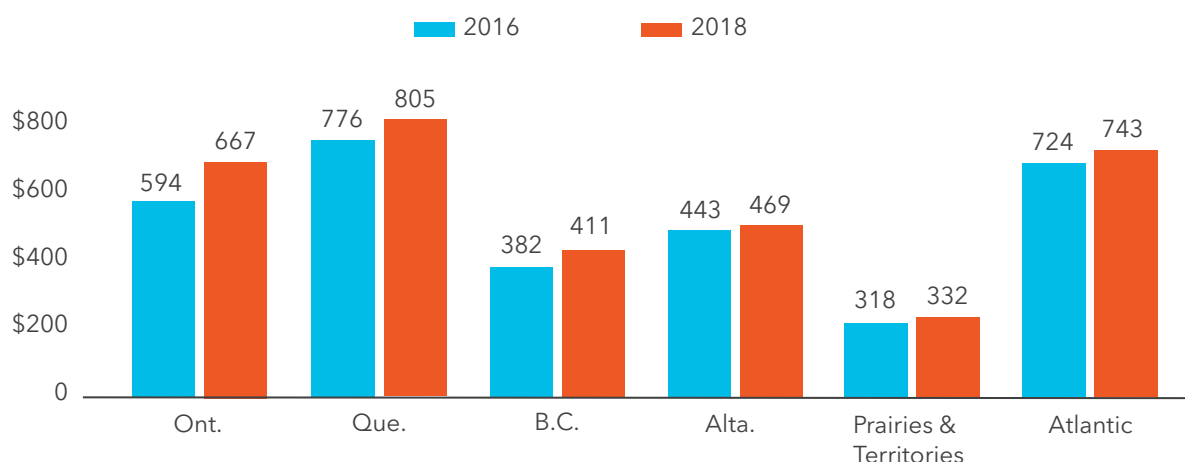


Source: IQVIA Cost Drivers Analysis 2016-2018



FIGURE 34: Ont., Que., Atlantic Higher Average Cost per Claimant Than B.C., Alta., Prairies & Territories

Private Drug Plan Average Costs per Claimant by Province, 2016 vs. 2018



Source: IQVIA Cost Drivers Analysis 2016-2018

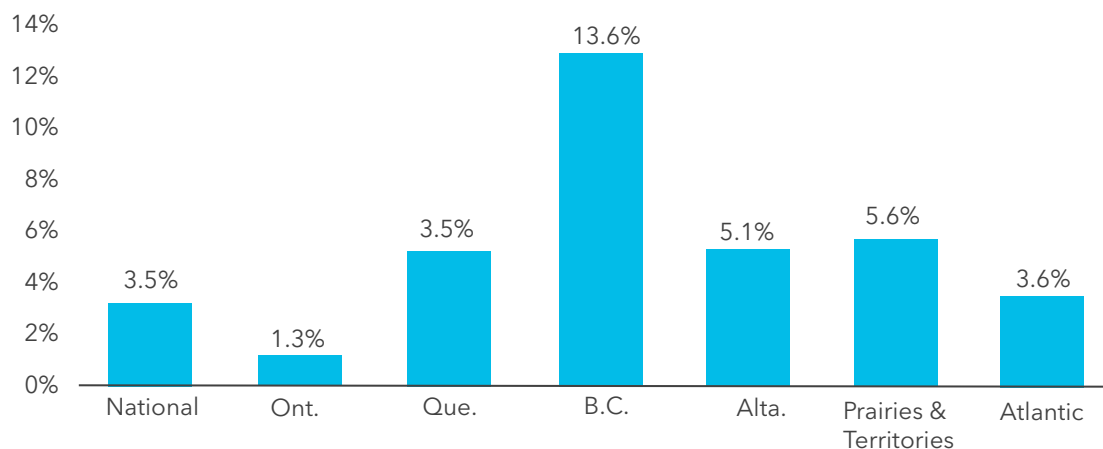
D2 CAGR Growth for Each Region

The compound annual growth rate for private drug plan costs across the country was similar in Quebec, Alberta, the Prairies and the Territories, and the Atlantic provinces (Figure 35). Ontario, at 1.3% (due to OHIP+), and British Columbia, at 13.6% (due to a large one-time jump in the number of senior claimants in 2017), were outliers.

In most provinces, growth in utilization (growth in the number of claimants plus the number of claims per claimant) contributed to the bulk of the private plan drug cost growth (Figure 36).

FIGURE 35: B.C. Had the Highest CAGR, Ontario the Lowest

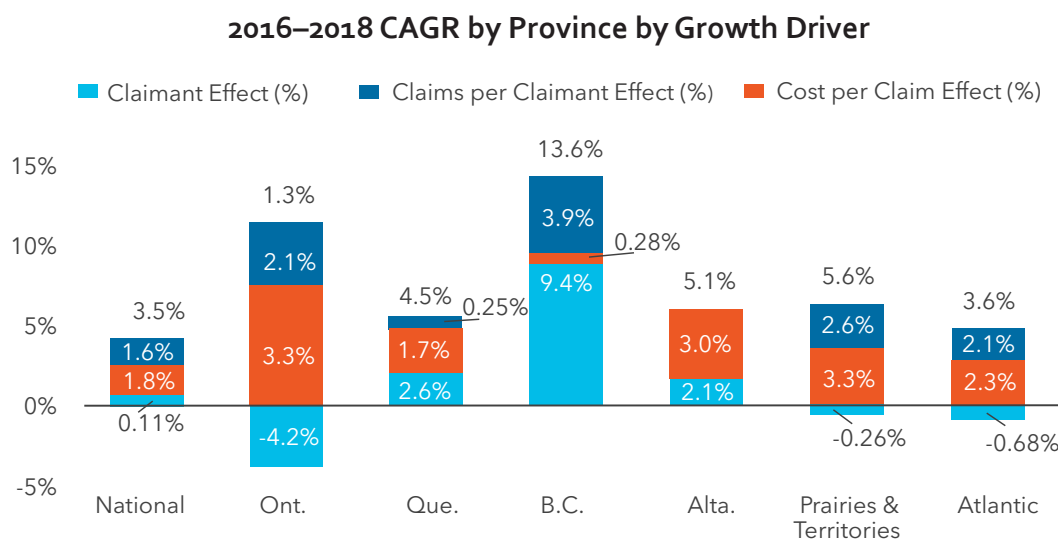
2016–2018 CAGR by Province



Source: IQVIA Cost Drivers Analysis 2016-2018



**FIGURE 36: Utilization (Claimant + Claims per claimant) Growth Contributed to the Bulk of the Growth in Most Provinces**



Source: IQVIA Cost Drivers Analysis 2016-2018

### D3 Regional Characteristics of Growth

When the different cost drivers are compared by region, some interesting variations arise, likely due to plan design and integration with the different types of public drug plans across the country. (See Appendix C: Comparison of Provincial Public Drug Plan Designs for more information.)

#### Top Therapy Class Growth by Region

- Biologic disease modifiers were in the top two classes of drugs contributing to growth in all regions except for British Columbia, where they ranked fourth.
- Antidiabetic drugs were in the top two growth contributors in all regions
- Cancer drugs were in the top four contributors to growth in all regions except the Prairies & Territories, where they ranked fifth.
- Respiratory drugs were in the top two to four classes contributing to growth in four out of the six regions.
- Other central nervous system (CNS) drugs were ranked fourth in contribution to growth in Ontario but lower in other provinces. This class includes drugs to treat cigarette and opioid dependence, such as Nicoderm, Champix, Suboxone, and Butrans, as well as drugs to treat migraines, such as Relpax and Zomig.
- Cardiovascular drugs were ranked fourth in contribution to growth in Quebec, whereas in other provinces they contributed to a reduction in cost growth. This is likely due to the lack of transparency in generic drug prices in Quebec compared with the agreement in the rest of Canada. (See Appendix B for details on the generic drug prices reductions.)



### Age by Region

- In the Prairies and Territories, the Atlantic provinces, and B.C., seniors (65+) contributed the most to cost growth in 2016–2018. Of note, in B.C., seniors accounted for half of all private drug plan cost growth. This was most likely a one-time effect due to an environmental change that led to more seniors continuing with their private coverage.
- The 25–64 age group was the biggest contributor to growth in the other provinces (Ontario, Quebec, and Alberta).

### Treatment Costs by Region

- In Ontario, Quebec, and the Atlantic provinces, drugs that cost between \$10,000 and \$25,000 annually per patient contributed the most to private drug plan cost growth.
- In contrast, in Alberta, British Columbia, and the Prairies and the Territories, drugs that cost less than \$10,000 annually contributed the most to growth. This is not surprising given the public plan design integration in the western provinces that generally protects private plans from the impact of high drug costs. (See Appendix C: Comparison of Provincial Public Drug Plan Designs for more information.)





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