Private Drug Plan Drug Cost Forecast (2016-2018) Research Provided by QuintilesIMS for Innovative Medicines Canada

INNOVATIVE MEDICINES CANADA

MÉDICAMENTS NOVATEURS CANADA

REPORT OVERVIEW

A WORD ABOUT WORDS

- This forecast tackles ***private drug plan drug costs*** at the overall market level
- This is **NOT** the:
  - ***Drug plan cost*** – this is determined by the individual plan's claims experience and the premium required by the insurer
  - ***Premium*** or ***trend factor*** charged for private drug benefit plans – this is determined by the insurers taking on the risk of insuring the plan
  - ***Experience*** of individual plans.

HIGHLIGHTS

Forecast

- The report includes a baseline analysis that projects forward actual private drug plan drug costs from the 2011 to 2015 period to the 2016 to 2018 forecast period. This baseline analysis assumes a status quo scenario with no changes in the market beyond a continuation of historical trends. The baseline is predicted as 5.9% compound annual growth rate (CAGR) for the 2016-2018 period.
- The forecast also estimates the impact of four future market events over and above the baseline growth:

  1. **New innovative drug entries**
  2. **Innovative drug cost per claim increases**
  3. **Generic drug entry**
  4. **Biosimilar drug entry**

- The incremental aggregate impact of all 4 market events is +1% CAGR for the 2016 to 2018 period
- Overall private drug plan drug cost growth is expected to be 6.9% annually on average, for the 2016 to 2018 period

Drivers of growth

- Key drivers of total drug cost growth are expected to come from drugs launched in the 2011-2015 period, and generally increasing utilization of drugs for chronic diseases that have a higher cost per claim .
- Future events will have modest overall impact. Generic and biosimilar entries are not expected to offset cost growth drivers in the 2016-2018 period as much as in previous years.

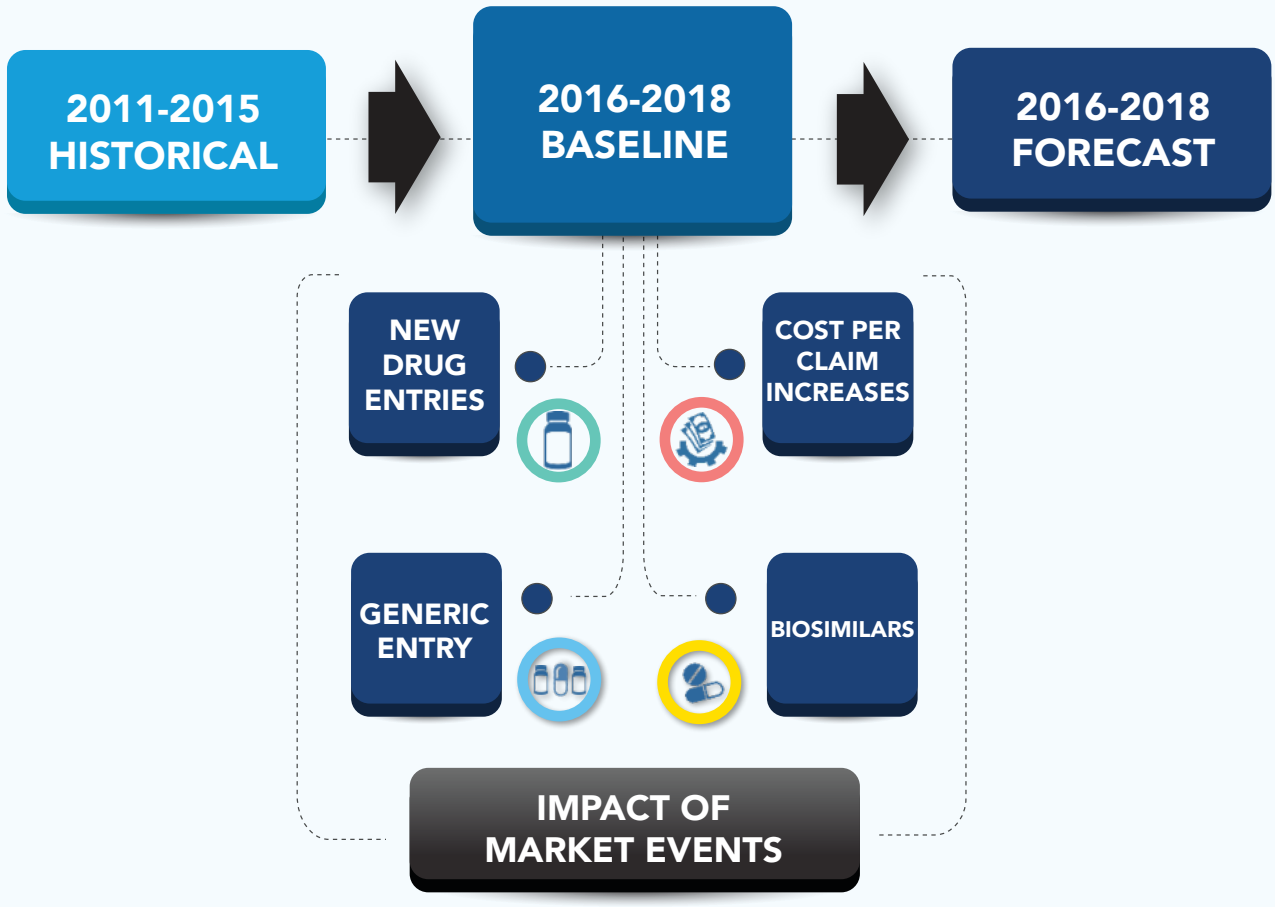
2. Why the forecast?

Employers are concerned about the cost and sustainability of their benefit plans. The market discussion has focused on growth in drug plan costs as a main driver. Innovative Medicines Canada (IMC), the industry association representing the majority of innovative name drug companies in Canada wanted to better understand the current and future market dynamics that could impact private drug plan drug cost growth, and engaged QuintilesIMS (formerly IMS Brogan), a global leader in healthcare market insights, to conduct a quantitative, transparent, and robust assumption-based forecast of private drug plan drug costs for the 2016-2018 period.

3. Forecast Approach

This was built by creating a baseline based on historical drug claims and then predicting how future events could influence growth further. The objective of the forecast was to provide a tool which would better predict drug cost growth and apply appropriate growth factors for private drug plans. This forecast is for the overall market level and may not reflect the experience of individual plans.

Graphic 1



4. Baseline

The forecast used actual private drug plan claims from 2011 to 2015 to develop a baseline for the 2016 to 2018 period. This captured actual historical claims growth and was then projected forward to predict future utilization. This baseline analysis depicts a status quo scenario assuming no changes in the market beyond a continuation of historical utilization trends.

- Growth for the 2016 to 2018 period was forecast at the chemical level, with innovative and existing generic versions of each chemical forecast separately, and then grouped at the therapeutic class level. *(For more details see Appendix 1)*

- Growth reflects a continued trend of growing number of claimants and claims volume. *(For more details see Appendix 2)*

- Does not factor in the impact of future new innovative drugs, or of generic or biosimilar drugs that may enter the market in the 2016 to 2018 period.

- Cost per claim was held constant at 2015 levels. This assumes no price changes or other factors affecting cost per claim for existing innovative drugs or generic drugs in the 2016-2018 period. (For more details, see Appendix 4)

Baseline Results

- The baseline ACTUAL historical total private drug plan drug cost compound annual growth rate (CAGR) for the period of 2011 to 2015 was 4.4% annually, on average.

- When projected forward with no market changes (status quo) the baseline PREDICTED total private drug plan drug cost CAGR for the period 2016 to 2018 is 5.9% annually, on average. *(See Graphic 2)*

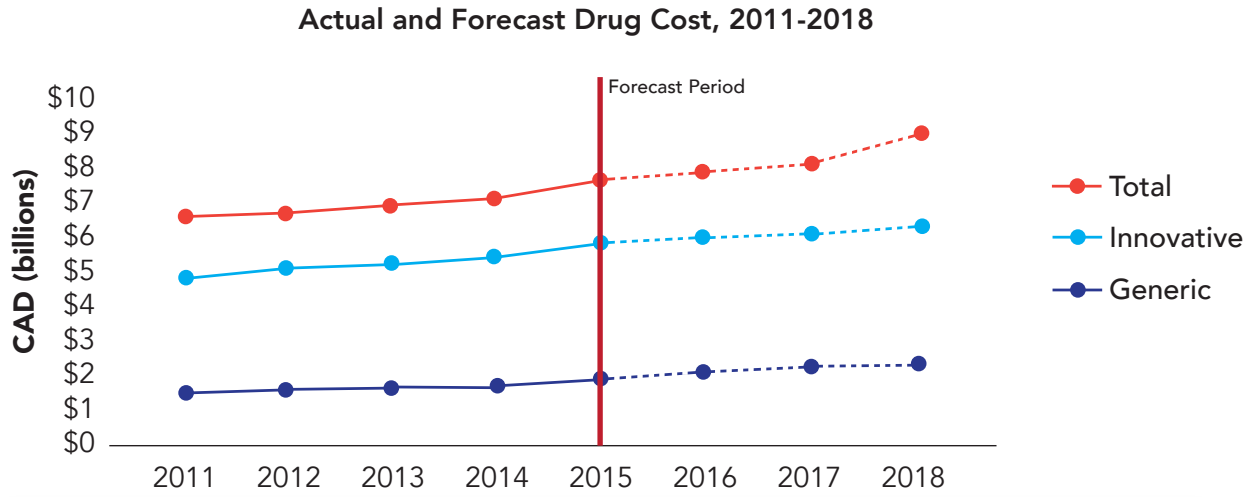
The baseline 5.9% growth is driven primarily by:

- The increased growth in utilization driving growth in claims estimated at 4.3% (See Appendix 2)

- An increasing share of claims for innovative, higher-costing drugs, which is driving growth in cost per claim estimated at 1.6%:
    - Existing high cost drugs ($10,000 or more per year per claimant, launched prior to 2016) are expected to grow 7.1% between 2016 and 2018, compared to 5.5% for other drugs. (See Appendix 2); and,
    - The impact of new drugs that entered the market between 2011 and 2015, which represent over 7% of the total baseline plan costs between 2016 and 2018, several of which are higher-costing drugs (See Appendix 4).

BASELINE TOTAL DRUG COST CAGR

Graphic 2



	Year-over-Year Growth								CAGR 2011-2015	CAGR 2016-2018
	2011	2012	2013	2014	2015	2016	2017	2018		
Innovative	-	2.9%	3.2%	6.6%	6.3%	3.2%	5.9%	5.5%	4.7%	5.7%
Generic	-	2.6%	-0.9%	3.6%	7.4%	7.9%	6.9%	6.6%	3.1%	6.7%
Total Baseline Drug Cost Growth	-	2.8%	2.2%	5.9%	6.6%	**4.3%**	**6.1%**	**5.7%**	**4.4%**	**5.9%**

Baseline growth developed by Quintiles IMS; assumptions and market events applied in collaboration with Innovative Medicines Canada

5. Building the "Forecast"

The baseline takes into consideration a continued historical growth based on the 2011 to 2015 market and although it assumes that no market changes will take place, in the Canadian drug landscape there is a variety of market events that could likely impact future drug costs. Several were considered in this forecast to determine whether they could have a significant incremental impact on the baseline in the 2016 to 2018 period.

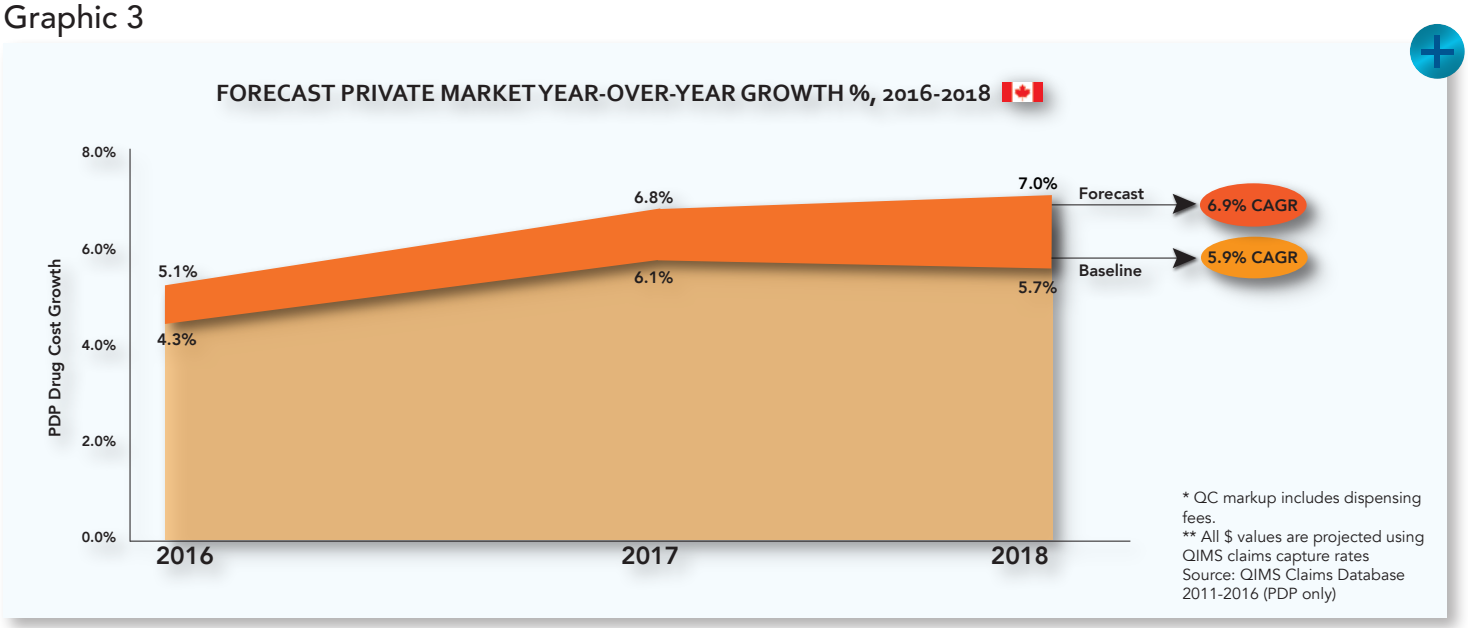
Therefore, in order to build out the forecast, the baseline was adjusted to include the following four key market change events (See Appendix 3 for the assumptions under each market event and how this was considered in the Baseline):

- New Drug Entries: New innovative drugs launched in the 2016-2018 period
- Cost per claim increases: factors impacting increases in the cost per claim for innovative drugs in 2016-2018, including but not limited to price increases
- Generic Entry: New Generic entrants, at existing generic price rules in 2018
- Biosimilars: New Biosimilar entrants

6. Forecast Results

The baseline predicted 5.9% of the market growth for the 2016 to 2018 period, and the combined impact of the four market events predicted in the "Forecast" added 1% net additional growth, for a total 6.9% average annual growth in the forecast period.

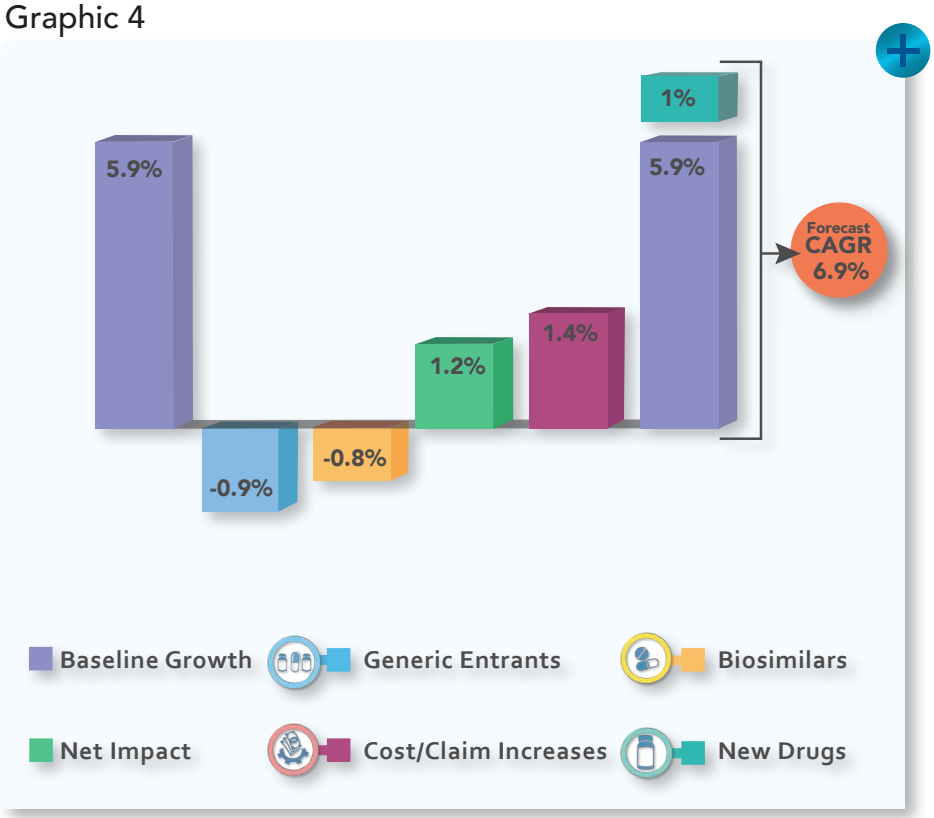
Graphic 3



The impact of each market event was evaluated separately on forecast private drug plan average annual drug costs, as follows.

- Generic resulted in a modest downward impact of **-0.9%** annually.
- Biosimilar entries resulted in a modest downward impact of **-0.8%** annually.
- The annual impact of new drugs was **+1.2%**
- Cost per claim growth contributed **+1.4%** annually.

Graphic 4



Comparing forecast to actual for 2016

The forecast was conducted in fall 2016 and included a prediction for 2016. Since this report is being completed in 2017, we validated the accuracy of the forecast for 2016. The forecast private drug plan drug cost growth for 2016 was 5.1%, and **actual growth for 2016 was 4.1%**, 1.0% less than predicted. This speaks to the conservative nature of the forecast.

7. Summary

- Drug costs are expected to rise moderately in the next 3 years, not exponentially
    - Largest future cost drivers are existing drugs:
    - Recently-launched drugs, particularly diabetes and oncology, as well as continued growth in biologic modifier agents for auto-immune diseases. Hep C drugs have negative growth in the forecast period.
- Many costlier innovative treatments have been developed to treat complex diseases
- Future new drug launches are expected to have a modest growth impact on drug costs in the overall private drug plans market. A blockbuster is not expected to be launched in the near future and have the same level of impact that Hepatitis C medicines had in 2014-2015.
- Future savings from generics and biosimilars are not expected to offset cost growth significantly in the forecast period.

FORECASTING NOTES

- Quintiles IMS private drug plan claims database captures approximately 70% of all private drug plan claims (85% of pay-direct market), and is highly representative across all Canada.
- Drug cost includes mark-ups but does not include dispensing fees, except in Quebec where dispensing fees cannot be separated from the drug costs.
- Existing non-transparent Product Listing Agreements (PLA) and other discounts or rebates are not captured in the forecast
- Sensitivity analyses were completed with lower and higher market event impacts and are detailed in Appendix 5.

8. Discussion and Key Take-Aways:

- Chronic diseases are growing quickly in the working population, and so combined with some recent innovation in diabetes and cardiovascular treatments, drug costs are experiencing fast growth in these disease states. Plans and employers are smart to implement prevention and wellness/chronic disease programs to encourage lifestyle changes and decrease incidence of chronic illness to reduce future plan costs, absenteeism and disability claims related to these illnesses.

- New specialty drugs with a higher price tags are becoming more common, however, the majority of these are expected for very small patient populations with complex medical conditions such as cancer, multiple sclerosis and rheumatoid arthritis, which can no longer be managed by traditional drugs.

- Although savings from generic entrants and biosimilars are expected to be lower in our forecast than in the past few years, there are already signs of greater savings through further generic price reductions in 2017, and aggressive policies to encourage biosimilar savings. Moreover, the biosimilar pipeline is rich and its impact will begin to be felt more strongly beyond 2018. Likewise, these drug costs do not take into account the many savings already being generated through product listing agreements for new products as well as for existing biologics with biosimilar competition.

- Drug benefit plans are the most valued health benefit among all health benefits among employees and their employers (Source: Sanofi HC Survey). Over 17 million Canadian workers and their 7 million dependents rely on their private workplace health benefits to keep them healthy and productive (Source: CLHIA).

- Canadian workers and their families covered with private health benefits historically have received, and continue to expect, high-quality and timely (Source: CHPI) access to innovative treatments and it is in employers' best interest to keep their employees and their families healthy by enabling access to innovative treatments in a timely fashion.

- The value of innovative drugs goes beyond the workplace. Canadian employers and sponsors make a huge contribution to reducing health care costs in the public sector and the societal burden of disease by providing timely access to innovative treatments for their plan members.[1,2,3]

References

[1] Conference Board, The Value of Specialty Medications: An Employer Perspective. September 2016.

[2] Rawson NSB (2016). Economic cost of delayed access to 14 new cancer medicines in Canada's public drug plans. Canadian Health Policy, May 31, 2016. Toronto: Canadian HealthPolicy Institute.

[3] Frank R. Lichtenberg. THE BENEFITS OF PHARMACEUTICAL INNOVATION: HEALTH, LONGEVITY, AND SAVINGS. Montreal Economic Institute, June 2016.

APPENDIX 1
THERAPEUTIC CLASS FORECAST

- In this forecast, therapeutic class is based on an internal QuintilesIMS Therapeutic Class and Sub-therapeutic class classification system. Chemicals are grouped into 17 main therapeutic classes (antidiabetic, cardiovascular, other CNS, etc.) accounting for the majority of Private drug plan cost, with the remainder captured under "Other therapy areas". The Top 5 fastest growing classes of existing drugs are predicted to be: Antidiabetic agents (15.7%); Other immunomodulating/ immunosuppressive agents (13.7%); Autonomic agents (10.6%); Oncology (10.4%); and Anticonvulsants (10.1%).

- Drastically reduced growth rates are expected for the following classes of drugs: Anti-infective agents (from 13% growth to 0.5% growth); Biologic disease modifiers for RA/PsO/IBD (from 14% growth to 5% growth); and Hormones and synthetic substitutes (from 6% to 5% growth).

- Rapidly increasing growth rates are expected for the following classes of drugs: Cardiovascular drugs (from -10% to +2.9% growth); Anticonvulsants (from -5.3% to +10.1% growth); Gastrointestinal drugs (from -0.7% to +8.2%); Autonomic Agents (from 5.8% to 10.6% growth); Bronchopulmonary therapy agents (from 5.7% to 9.2%); and Other CNS (from 3.0% to 8.5% growth).

Table 1: Baseline and Forecast Growth by Therapeutic Class

THERAPEUTIC CLASS	COST GROWTH (ACTUAL) CAGR 2011-2015	BASELINE COST GROWTH (Forecasted) CAGR 2016-2018	FORECAST COST GROWTH CAGR 2016-2018
All	**4.4%**	**5.9%**	**6.9%**
Biologic disease modifiers for RA/PsQ/ IBD	13.6%	7.6%	5.4%
Anti-depressants and anti-psychotics	4.2%	6.8%	5.9%
Cardiovascular	-10.0%	2.1%	2.9%
Antidiabetic	**11.6%**	**13.5%**	**15.7%**
Anti-infective agents	12.9%	-0.4%	0.5%
Gastrointestinal drugs	-0.7%	5.6%	8.2%
Bronchopulmonary therapy	5.7%	6.6%	9.2%
Other immunomodulating/ immunosuppressive agents	**13.4%**	**11.1%**	**13.7%**
Hormones and synthetic substitutes	6.0%	2.8%	5.1%
Oncology	**10.3%**	**8.1%**	**10.4%**
Analgesics	-1.8%	0.8%	3.2%
Blood formation and coagulation	2.5%	2.7%	3.7%
Skin and mucous membrane preperation	4.1%	2.6%	5.2%
Other CNS	3.0%	6.2%	8.5%
Anticonvulsants	**-5.3%**	**8.4%**	**10.1%**
Autonomic agents	5.8%	7.9%	10.6%
Nutritional Products	2.5%	1.4%	4.0%
Other therapy areas	7.8%	6.0%	7.3%

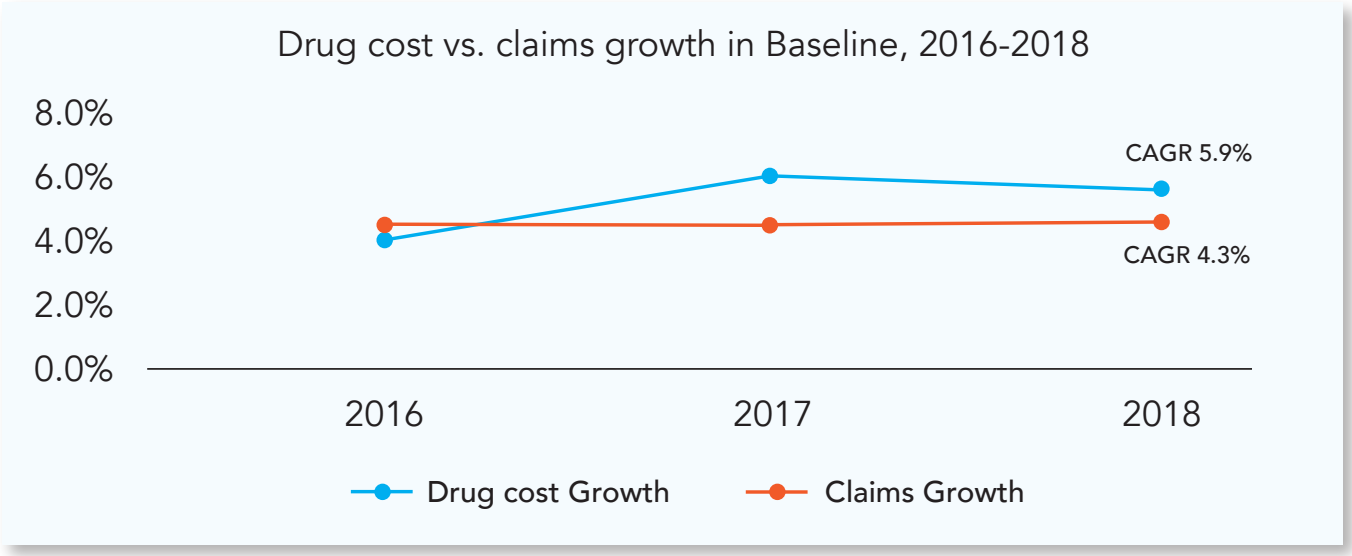
APPENDIX 2

COST DRIVERS IN THE BASELINE GROWTH, INCLUDING HIGH-COST DRUGS GROWTH

There are 2 variables that explain drug cost growth: claims growth, and cost per claim growth. The volume of claims increased by 4.3%, and cost per claim increased by 1.6% in our baseline forecast period, for a total of 5.9% drug cost growth annually.

a) Within claims growth, there are 2 additional variables: increasing number of claimants, and increasing volume of claims per claimant. This is a reflection of more individuals getting sick, and sick individuals getting sicker (co-morbidities) and needing multiple prescriptions.

Graphic 5



b) Within cost per claim growth, there are several factors to consider, including a shift to more expensive drugs, but also a increases in mark-ups and fees, all of which can increase the cost per claim.

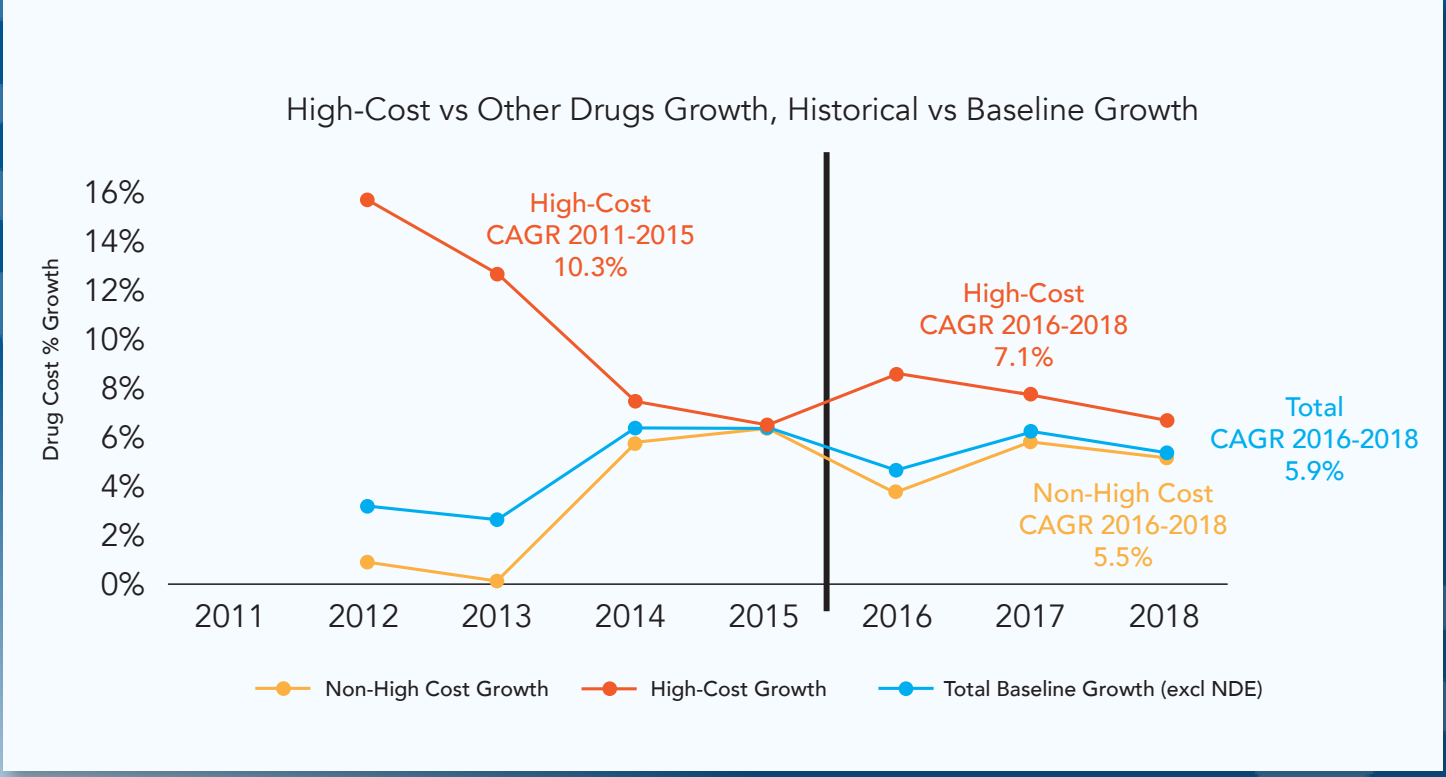
Overall, this trend reflects an increasing volume share of claims for higher-costing drugs vs lower-costing drugs, or what is otherwise known as drug mix substitution, i.e., the effect of shifting to newer innovative drugs or simply to more expensive therapies that treat more severe conditions.

The baseline for the forecast period does not factor in drug price increases for individual drugs.

This forecast examined the trend in utilization towards high-cost drugs, defined as a drug that costs $10,000 or more annually per claimant between 2005-2015 from the Private Pay Direct Drug Plans or the Ontario Public Drug Plan. This does not include cancer drugs or other drugs that are paid for solely through hospital budgets or through independent provincial health agencies such as cancer agencies. Also note that these high-cost drugs do not include the recent new drug entrants included in the historical and baseline growth, in order to avoid duplication of impact in this forecast. Note that many of the recent new drug entrants would have been high-cost drugs.

For the Baseline Forecast Period of 2016-2018, high-cost drugs were predicted to grow by 7.1% per year and 5.5% for other drugs, for a total of 5.9% baseline drug growth.

Graphic 6



APPENDIX 3

BUILDING THE FORECAST: FUTURE MARKET EVENTS - DESCRIPTION AND ASSUMPTIONS AND HOW CONSIDERED IN THE BASELINE

In the baseline, existing trends were carried forward and no changes were modeled with respect to any of the future market events.

Assumptions for future market events are listed below, and the respective assumption (or non-assumption) in the baseline growth:

Table 2

MARKET EVENT	BASELINE (2016-2018)	FORECAST ASSUMPTIONS (2016-2018)
1. New Drug Entries 	No new drugs entering market during the forecast period (2016 to 2018) Baseline includes growth of new drugs entries that entered the market in the baseline period, called "recent new drugs" (2011 to 2015) *(See Appendix 4 for more details)*	The 2011 to 2015 historical average for the number and impact of new drug entries (excluding Hepatitis C products) *(See Appendix 4 for more details)*
2. Cost per claim increases 	Growth held to 2015 levels 1.18% (2016 to 2018)	Average annual growth in the cost per claim of 1.34%, based on the period of 2011 to 2015, to continue for the 2016 to 2018 period. *(See Appendix 5 for more details)*

Table 2: continued

MARKET EVENT	BASELINE (2016-2018)	FORECAST ASSUMPTIONS (2016-2018
3. Generic Entry 	No new generic entries during the forecast period (2016 to 2018) No further price reductions on existing generics during the forecast period (2016 to 2018)	The expected number of generic entries due to Loss of Exclusivity (LOE) based on actual expected dates of loss of exclusivity for existing innovatives in the 2016-2018 period, and based on the average historical generic entry timing and market growth. Expected at 80 innovatives from 2016-2018. The forecast assumed that there would be no further generic price reductions for 2016-2018 period. Note: The generic reductions to 15% announced in 2017 were not factored in as they were announced after this forecast was completed.
4. Biosimilars 	No new biosimilar drugs enter the market during the forecast period (2016-2018) Existing biosimilars in the 2011-2015 period (e.g. Inflectra, Basaglar, etc.) are carried forward in the baseline forecast (2016-2018)	A. 12 biologic drugs were expected to lose patent exclusivity and start to face biosimilar competition in 2016 to 2018 based on IMS and IMC expert opinion B. New biosimilars will be priced (transparent list) at 60% of the biologic originator drug C. When a new biosimilar enters the market, the share of new patients starting the biosimilar vs. the innovative biologic will be: • 50% in 1st year of biosimilar launch • 75% in 2nd year • 90% in 3rd year and thereafter D. The biologic originator manufacturer will enter into a product listing agreement to reduce the cost of the innovative to 80% of its former list price. This is assumed to begin in Q3 one year after biosimilar entry

APPENDIX 4

NEW DRUGS ENTRY IN BASELINE VS FORECAST

The New Drug Entry impact was estimated by considering the growing influence of products in the five years following launch. Future new drug launch impact was applied to total forecast drug cost, and not any particular therapeutic area. Two components were considered in the 2016-2018 forecast: the impact of drugs actually launched between 2011 and 2015 (Recent New Drug Entry impact), and the impact of new drugs that might launch between 2016 and 2018 (Future New Drug Entry impact). (see table 3 below)

Recent and future new drug launches combined are predicted to grow by 7.1% annually in 2016-2018 (see table 4 below), with a cumulative average annual cost impact of 9.6% in 2016-2018 annually.

Table 3: Assumptions of New Drug Entry in the Baseline and the Forecast

BASELINE FORECAST (2016-2018)	NEW DRUG ENTRY MARKET EVENT IN FORECAST (2016-2018)
RECENT NEW DRUG ENTRY IMPACT	**FUTURE NEW DRUG ENTRY IMPACT**
A. Impact in 2016-2018 of new drugs that were launched during the 2011 to 2015 period	**A.** Impact of drugs launched in 2016 to 2018 on the 2016 to 2018 forecast period.
B. The true impact of new drugs is never really felt until a few years after launch, once prescribers are more comfortable with the products. The baseline forecast takes into consideration new drugs launched in the 2011-2015 to ensure that the model includes the continued impact on drug costs in 2016-2018. It is a moving 5-year recent new drugs, so for 2016 it is 2011-2015 new drugs, for 2017 it is 2012-2016 new drugs, for 2018 it is 2013-2017 new drugs.	**B.** Impact of drugs which will be launched in 2016 to 2018 is estimated based on observed impact of 2011-2015 new drug launches (see graphic 7 below).
C. Includes Hepatitis C drugs	**C.** The historical magnitude of impact of Hepatitis C drugs are not expected to be replicated in the 2016-2018 period, so they are excluded for purposes of forecasting expected numbers and cost impact of future new drugs in the forecast period

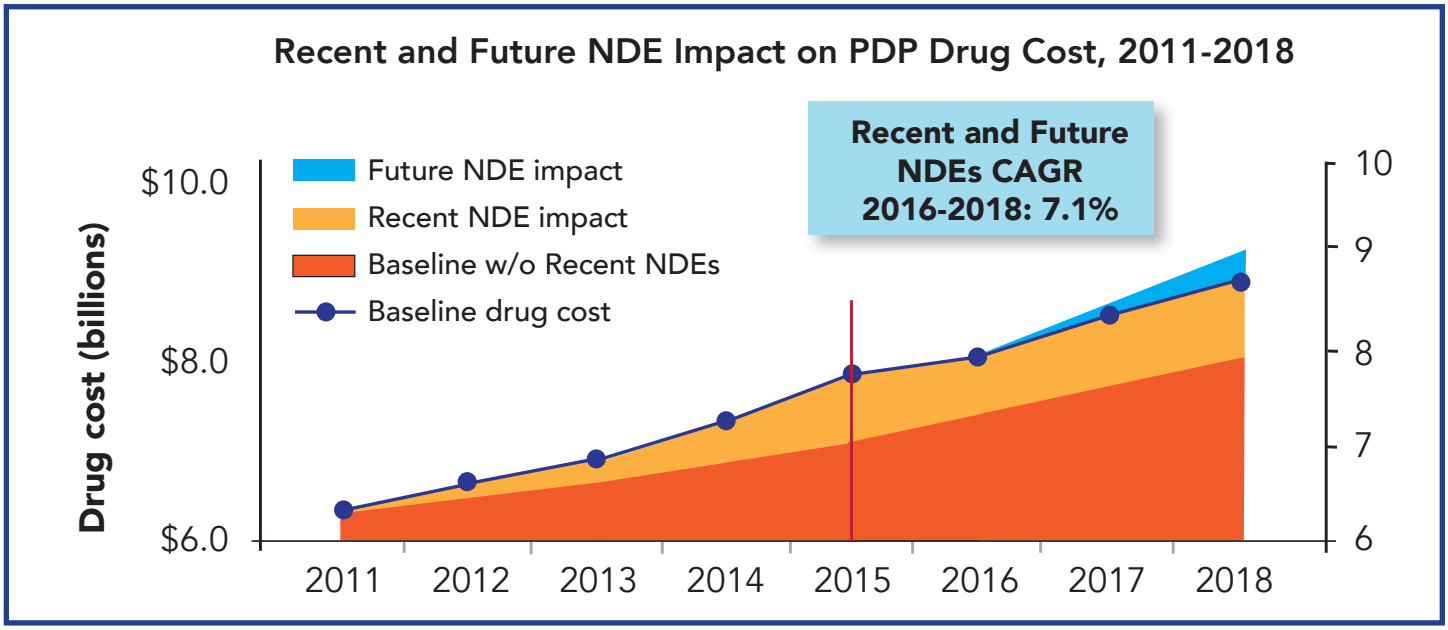
Table 4: Recent New Drug Entry (NDE) Impact Years

FORECAST YEAR	RECENT NEW DRUG ENTRY (NDE) IMPACT YEARS				
2016	2015	2014	2013	2012	2011
2017	2016	2015	2014	2013	2012
2018	2017	2016	2015	2014	2013

ACTUAL RECENT NDE IMPACT

FORECAST RECENT NDE IMPACT

Graphic 7: Recent and Future NDE Impact on PDP Drug Cost, 2011-2018



APPENDIX 5

COST PER CLAIM IN BASELINE VS FORECAST

Cost per claim is impacted by many factors, including:

- Price per unit
- Prescription size (units, i.e., dosage, and duration) and Claims Frequency
  - E.g. every 3 months refill, or weekly refills, or once a year treatment, etc.
- Mark-ups – there is variability across provinces and even across pharmacies, and potentially even across type of drug
- Dispensing fees in Quebec only *(see Forecasting Notes on page 11)*

Cost per claim increases could result from a change in any of these factors and are **not solely** a result of list price increases.

In the baseline growth, cost per claim for each innovative product was held constant, based on the 2015 average annual cost per claim.

For the forecast, cost per claim increases seen in 2011 to 2015 historical data were used to calculate the average annual cost per standard unit increases for innovative products for 2016-2018. *(See table below)*

The cost per claim was calculated and applied at the innovative drug level. No changes in cost per claim were considered for generic products, but only for innovative products.

Based on historical average annual cost per claim incrases, the forecast applied a 1.34% annual cost per claim increase in the 2016-2018 period..

Innovative cost per claim increases had an average drug cost impact of 1.4%, annually.

Table 5 : Average Drug Claims Cost Growth, 2011-2015

	DRUG COST GROWTH					AVERAGE 2011-2015
	2011	2012	2013	2014	2015	
Innovative DINs	-	1.32%	1.36%	1.50%	1.18%	1.34%

APPENDIX 6
SENSITIVITY ANALYSIS

The forecast started with a realistic set of assumptions to drive the events, after which sensitivity analyses were performed using low and high impact trend assumptions.

There was a variance of -1.8% and +1.5% on the total annual drug cost growth using our low and high impact sensitivity scenarios.

Table 6: Sensitivity Analysis Assumptions of Market Events

MARKET EVENT	ASSUMPTIONS ADDED TO BASELINE FORECAST	SENSITIVITY ANALYSIS	
		LOW IMPACT	HIGH IMPACT
1. NEW DRUG ENTRIES	The 2011 to 2015 historical average for number of new drug entries	50% of the 2011 to 2015 historical average for number of new drug entries	150% of the 2011 to 2015 historical average for number of new drug entries
2. COST PER CLAIM INCREASES	The average annual 1.34% growth in the cost per claim for the period of 2011 to 2015, will continue for the 2016 to 2018 period.	1.18% cost per claim increase, based on the lowest seen in 2011 to 2015 historical period	1.5% cost per claim increase, based on the highest seen in 2011 to 2015 historical period
3. GENERIC ENTRY	The annual number of generic entries due to Loss of Exclusivity (LOE) for the period of 2011 to 2015 will remain constant for the 2016 to 2018 period. Estimated to be 80 innovatives The forecast assumed that there would be no further generic price reductions for 2016-2018 period.	Faster generic entry: 3+ generics enter immediately at Loss of Exclusivity (LOE)	Slower generic entry: 1 additional generic entrant after each year of Loss of Exclusivity (LOE)

Table 6: Sensitivity Analysis Assumptions of Market Events (continued)

MARKET EVENT	ASSUMPTIONS ADDED TO BASELINE FORECAST	SENSITIVITY ANALYSIS	
		LOW IMPACT	HIGH IMPACT
4. BIOSIMILARS 	**A.** 12 biologic drugs were expected to face biosimilar competition in 2016 to 2018 based on IMS and IMC expert opinion **B.** Biosimilar is priced at 60% of innovative name reference drug **C.** The innovative name drug manufacturer will enter into a product listing agreement to reduce the cost of the innovative to 80% of the former list price of the reference innovative name drug. This assumed to begin in Q3 one year after biosimilar entry **D.** When a new biosimilar enters the market, the share of new patients starting biosimilar vs. innovative: • 50% in 1st year of biosimilar launch • 75% in 2nd year • 90% in 3rd year and thereafter	**C.** The innovative name drug manufacturer will enter into a product listing agreement to reduce the cost of the innovative to **60%** of the former list price of the reference innovative name drug. This assumed to begin in **Q1** one year after biosimilar entry	**C.** The innovative name drug manufacturer **WILL NOT** enter into a product listing agreement

Table 7

OVERALL IMPACT TO PRIVATE DRUG PLAN DRUG COSTS (2016-2018)			
BASELINE (NO EVENTS)	FORECAST	LOW IMPACT	HIGH IMPACT
5.9%	**6.9%**	**5.1%**	**8.4%**

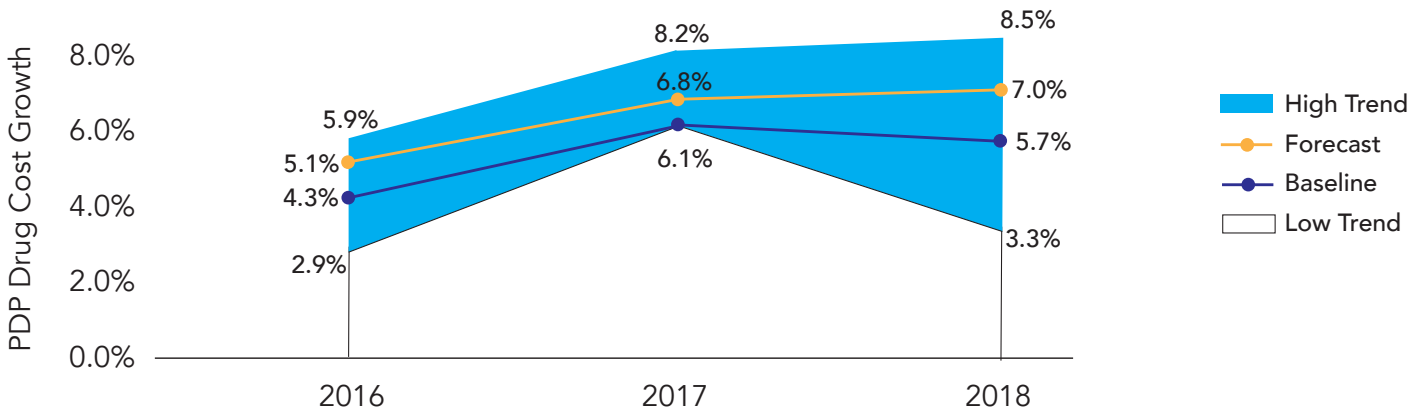
Table 8

IMPACT OF MARKET EVENTS TO PRIVATE DRUG PLAN DRUG COSTS (2016-2018)			
MARKET EVENTS	**FORECAST**	**LOW IMPACT**	**HIGH IMPACT**
1. NEW DRUG ENTRIES	**+1.2%**	**+0.6%**	**+1.9%**
2. COST PER CLAIM INCREASES	**+1.4%**	**+1.3%**	**+1.6%**
3. GENERIC ENTRY	**-0.9%**	**-1.1%**	**-0.7%**
4. BIOSIMILARS	**-0.8%**	**-1.6%**	**-0.3%**
SUM OF ALL MARKET EVENTS	**+1.0%**	**-0.8%**	**+2.5%**

Graphic 8

Full range of trend factor scenarios results in forecast drug cost CAGR from 5.1% to 8.4% over 2016-2018

Forecast Drug Cost Year-Over-Year Growth %, 2016-2018



Total PDP Drug Cost CAGR, 2016-2018			
High Trend	**Forecast**	**Low Trend**	**Baseline Growth**
8.4%	**6.9%**	**5.1%**	**5.9%**

* Low Scenario has smallest drug cost increase in $ terms, but relatively stagnant biosimilars impact in 2017 results in high-year-over-year growth.

Baseline growth developed by Quintiles IMS; assumptions and market events applied in collaboration with Innovative Medicines Canada

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