

 TELUS® Health

Trends in medication management

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Content outline

- I. Drug therapy class insights 2022
- II. Canadian biosimilar landscape
- III. Legislative update
- IV. COVID 19 insights
- V. Drug pipeline



A woman with long brown hair and glasses, wearing a grey knit top, is smiling and looking at a tablet held by a man. The man has dark hair and is wearing a light blue button-down shirt. They are standing in a modern office or public space with large windows in the background. A purple banner is overlaid on the left side of the image, containing the text 'Drug therapy class Insights 2022'.

Drug therapy class Insights 2022

Top 10 drug classes by eligible amount | Canada

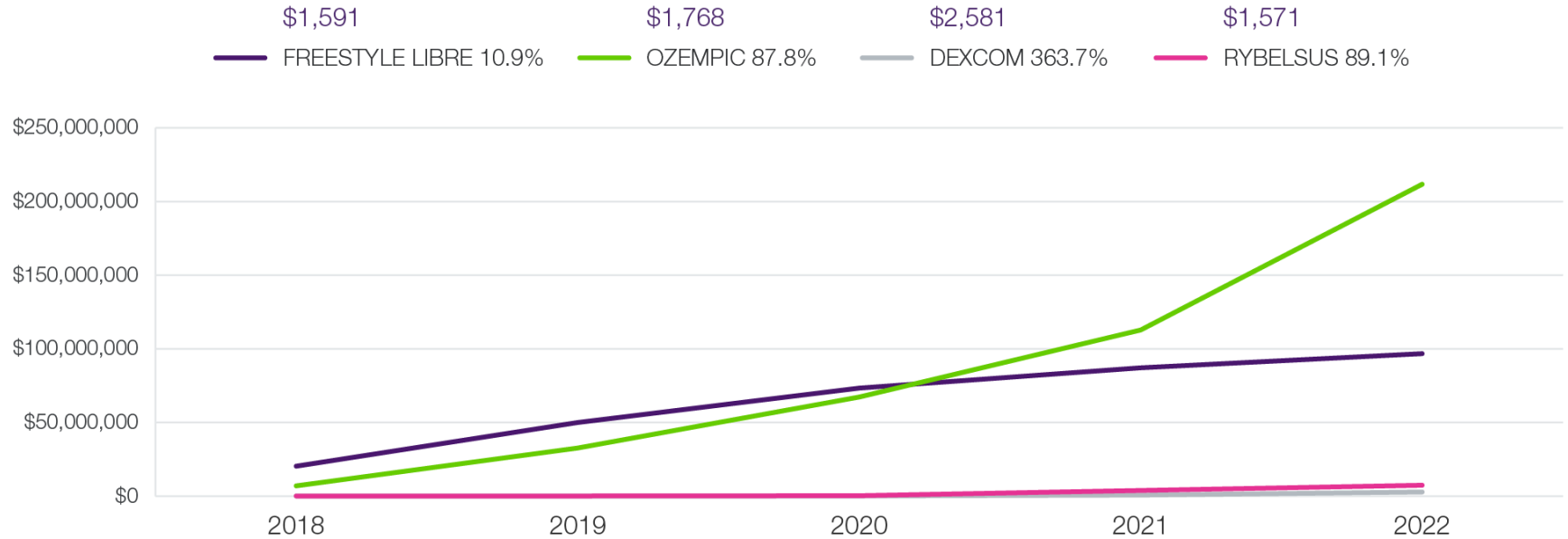
Rank	Therapeutic class	\$	#	Rank 2021	Change
1	Diabetes	12.9%	8.3%	2	▲
2	Inflammatory disease	11.2%	0.6%	1	▼
3	Skin disorders	8.1%	18.3%	3	=
4	Asthma	5.3%	20.1%	5	▲
5	Depression	5.2%	19.3%	4	▼
6	Stimulants (ADHD)	5.1%	5.9%	6	=
7	Cancer	3.8%	1.5%	7	=
8	Multiple sclerosis	3.0%	0.2%	8	=
9	Blood pressure	2.5%	14.9%	9	=
10	Gastrointestinal	2.5%	2.8%	11	▲

TELUS Health Portfolio, Canada, 2022 | \$: % of Eligible Cost # : % of claimants

TELUS - Canada: \$5.8 billion of eligible cost

Diabetes – top trends

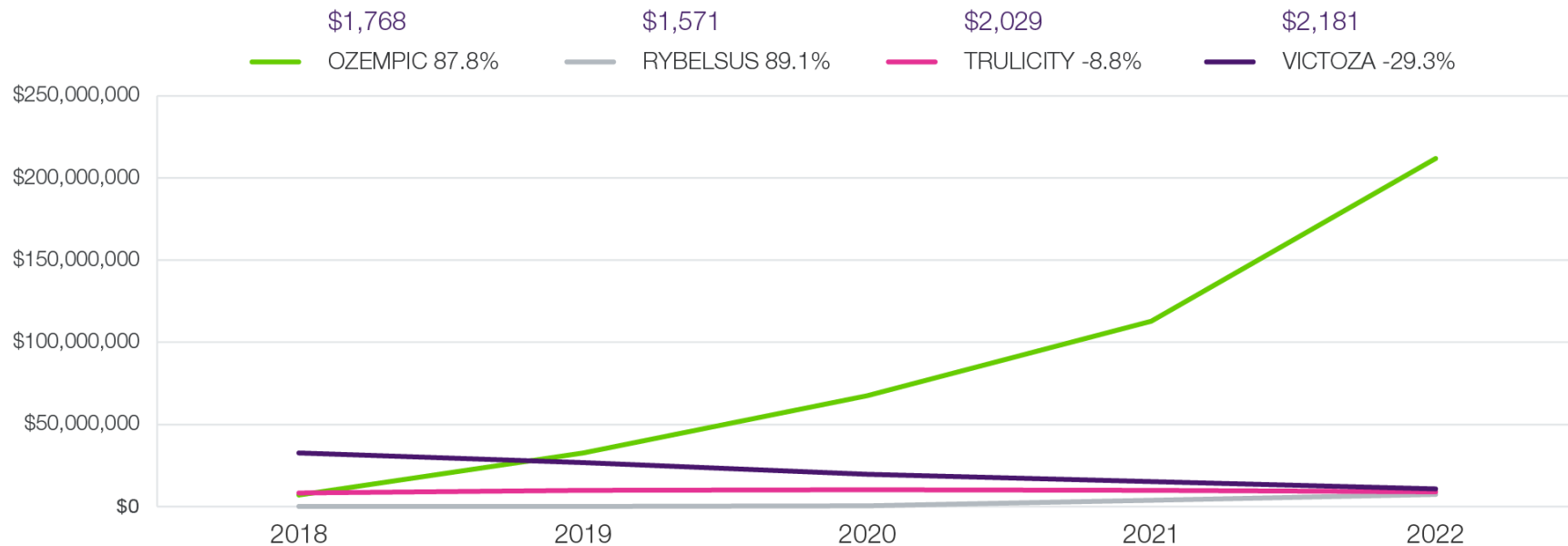
Total eligible cost 2022: \$745.2M (+16.6%)



TELUS Health Portfolio, Canada, 2022 | The % for each drug is the variation from 2021 to 2022.

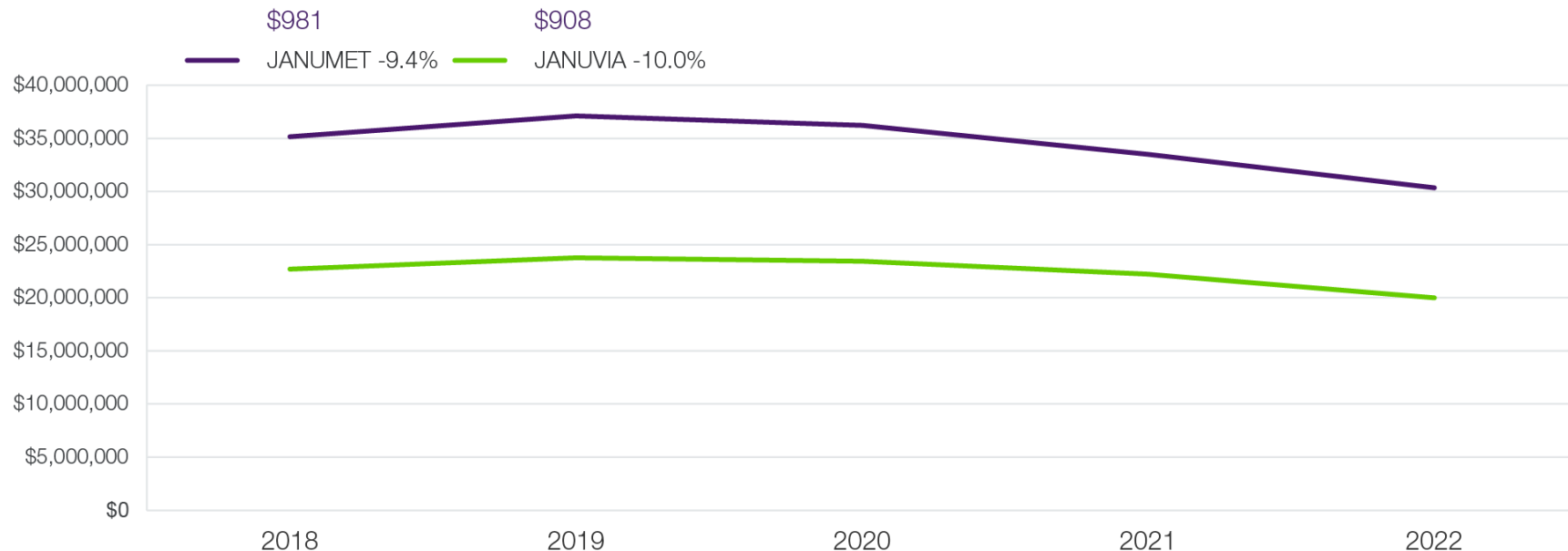
Diabetes – GLP-1 inhibitors

Total eligible cost 2022: \$745.2M (+16.6%)



Diabetes – DPP4 inhibitors

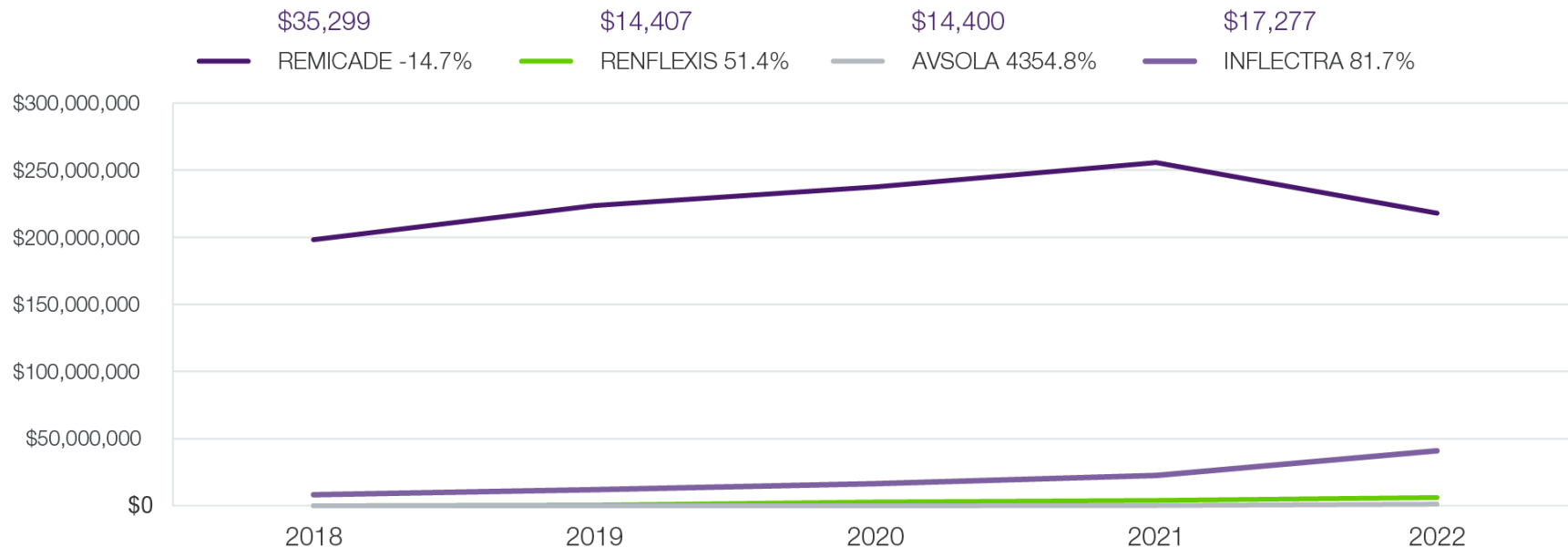
Total eligible cost 2022: \$745.2M (+16.6%)



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Inflammatory diseases

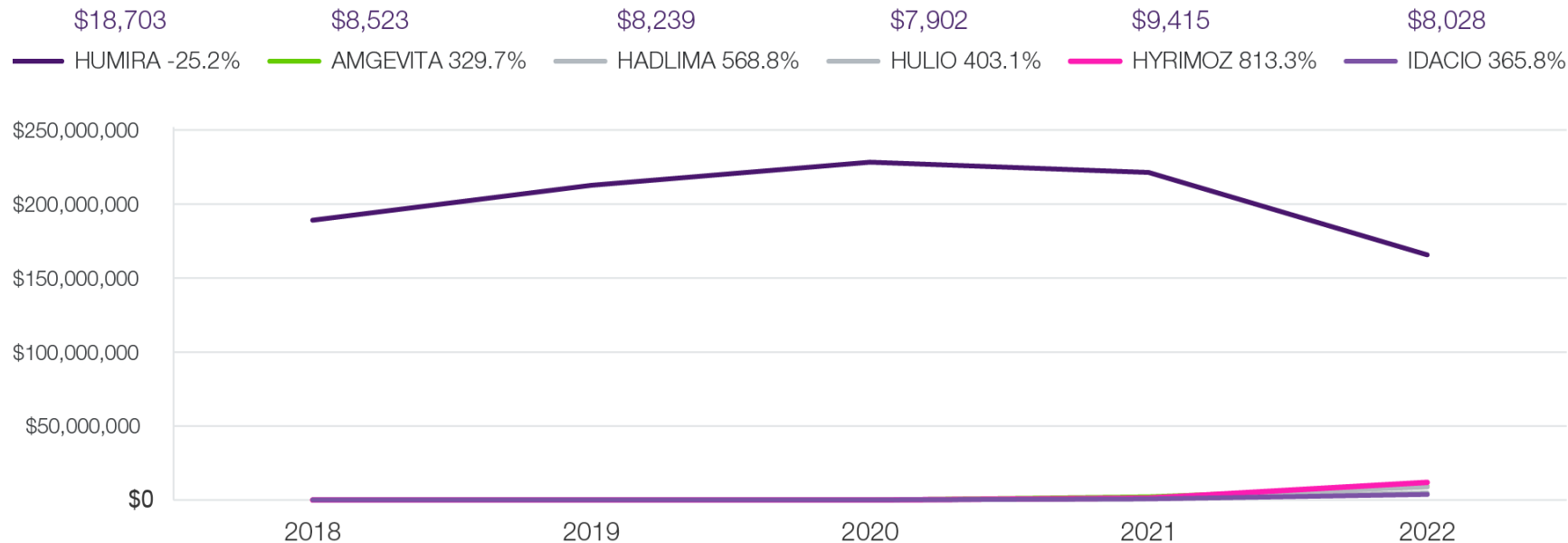
Total eligible cost 2022: \$647.7M (-3.9%)



TELUS Health Portfolio, Canada, 2022 | The % for each drug is the increase in eligible cost from 2021 to 2022.

Inflammatory diseases

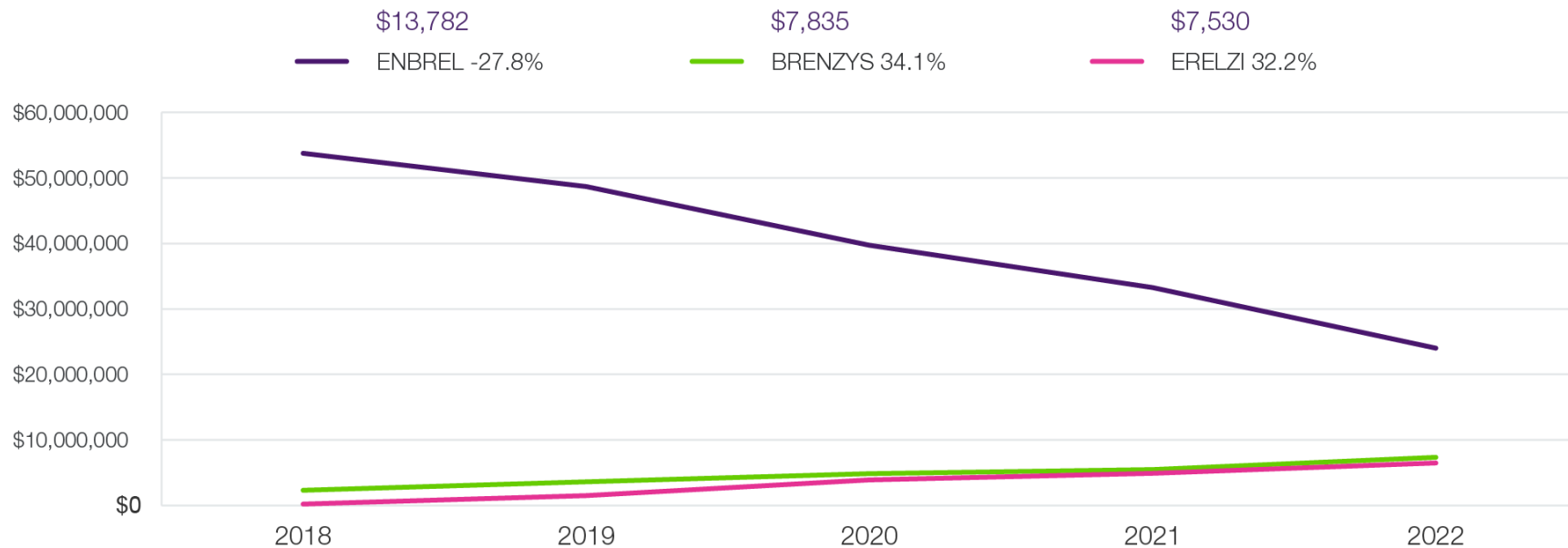
Total eligible cost 2022: \$647.7M (-3.9%)



TELUS Health Portfolio, Canada, 2022 | The % for each drug is the increase in eligible cost from 2021 to 2022.

Inflammatory diseases

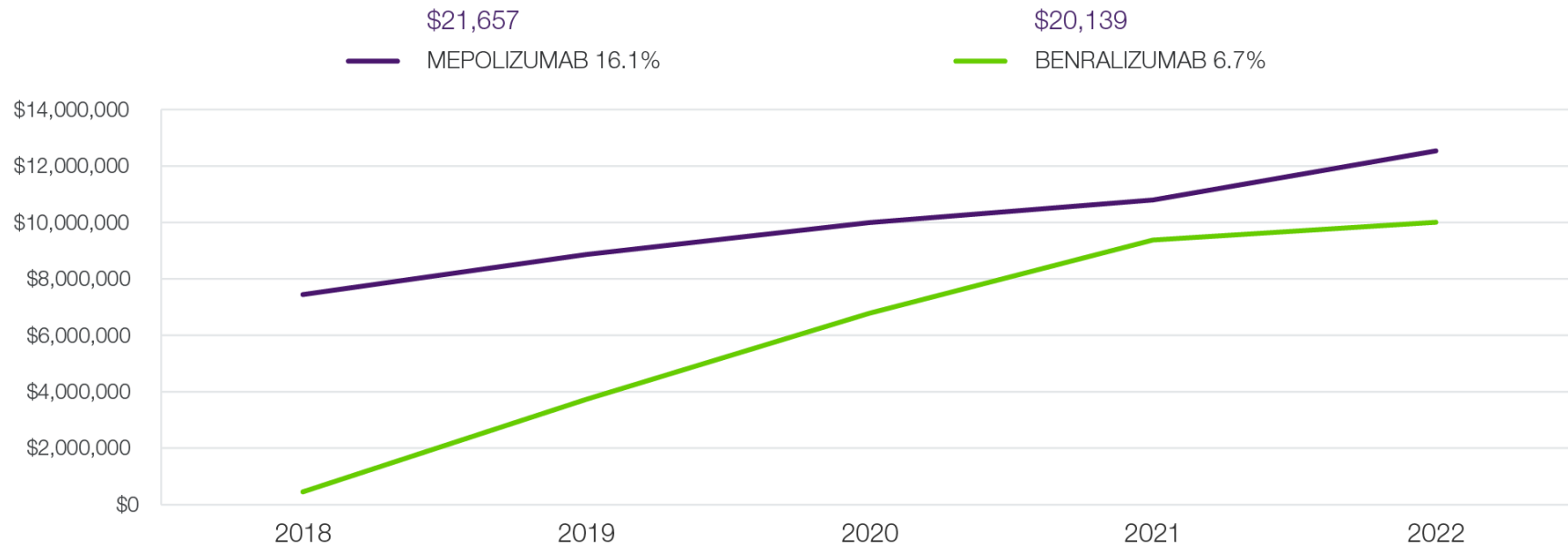
Total eligible cost 2022: \$647.7M (-3.9%)



TELUS Health Portfolio, Canada, 2022 | The % for each drug is the increase in eligible cost from 2021 to 2022.

Eosinophilic Asthma molecules

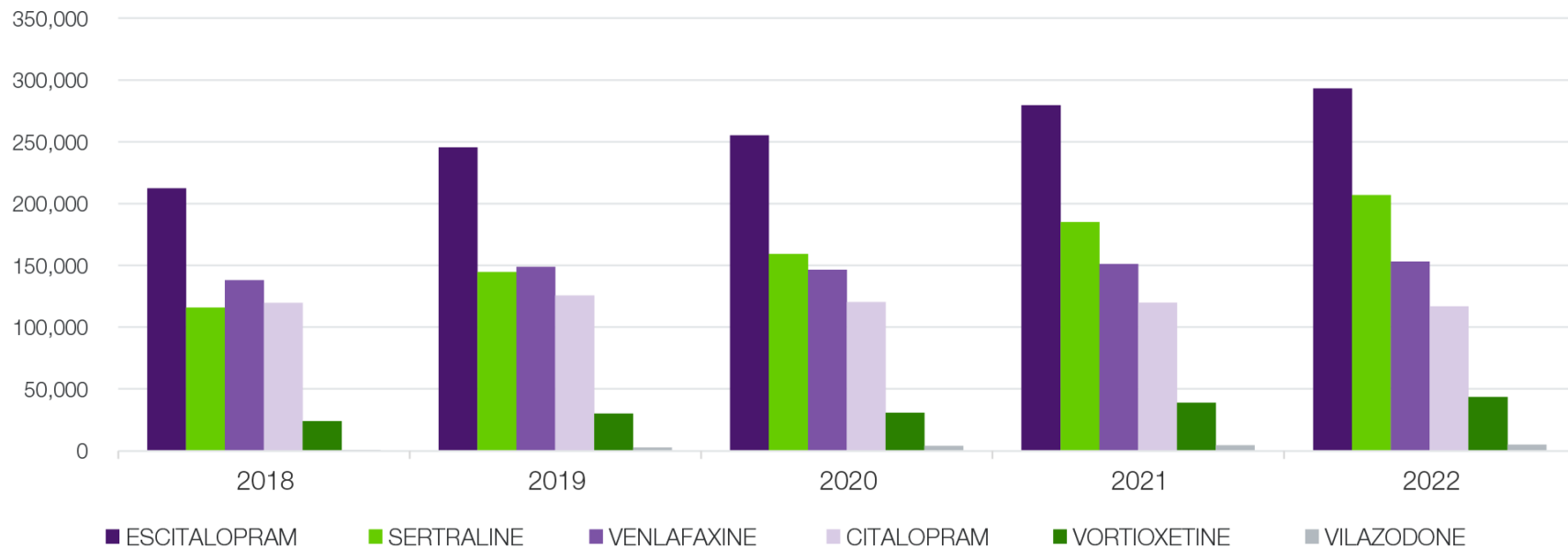
Total eligible cost 2022: \$306.4M (+16.7%)



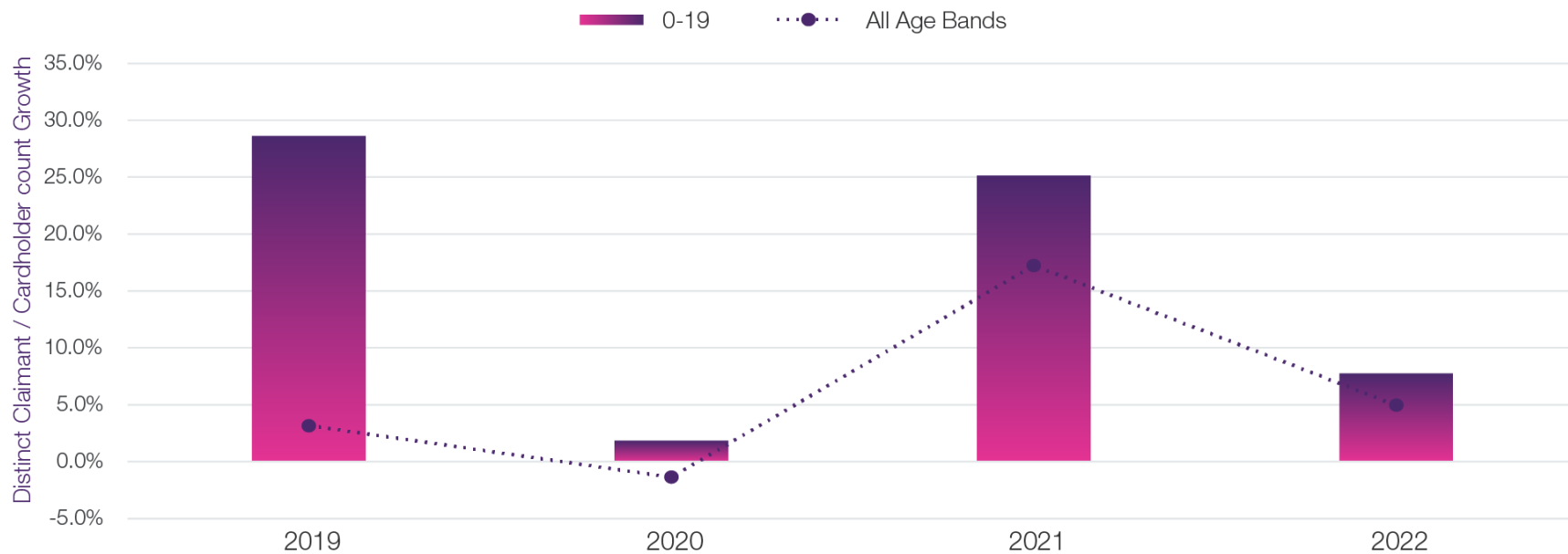
TELUS Health Portfolio, Canada, 2022 | The % for each drug is the variation from 2021 to 2022.

Depression molecules # of Distinct Claimants

Total eligible cost 2022: \$303.1M (+8.4%)

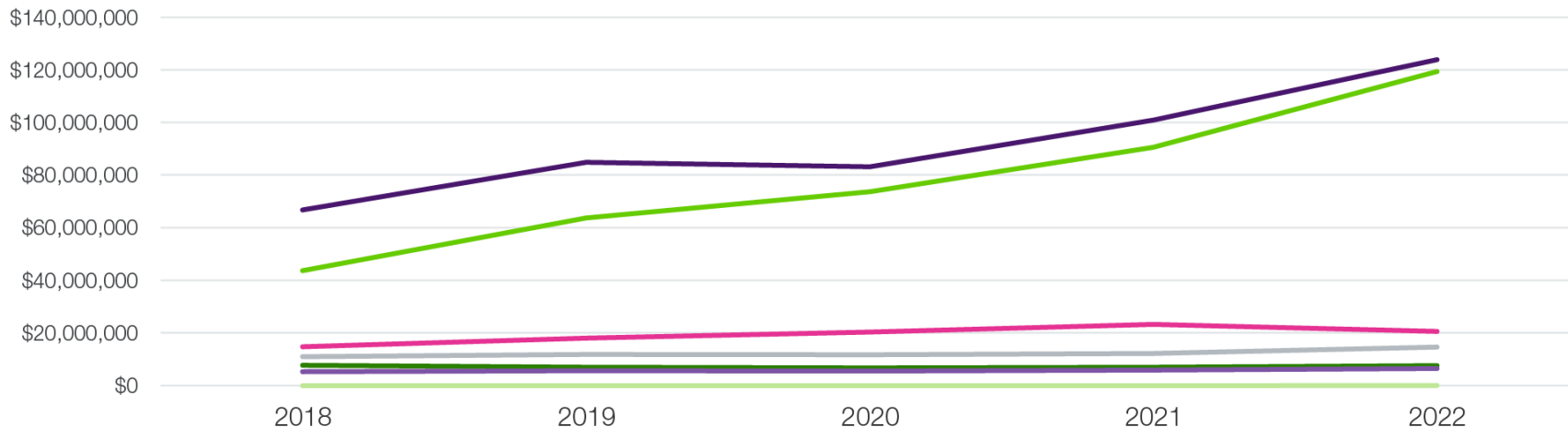
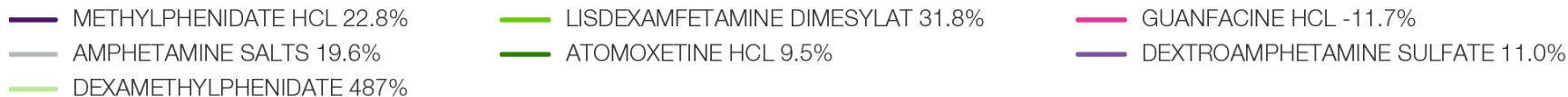


Depression Category: trend analysis



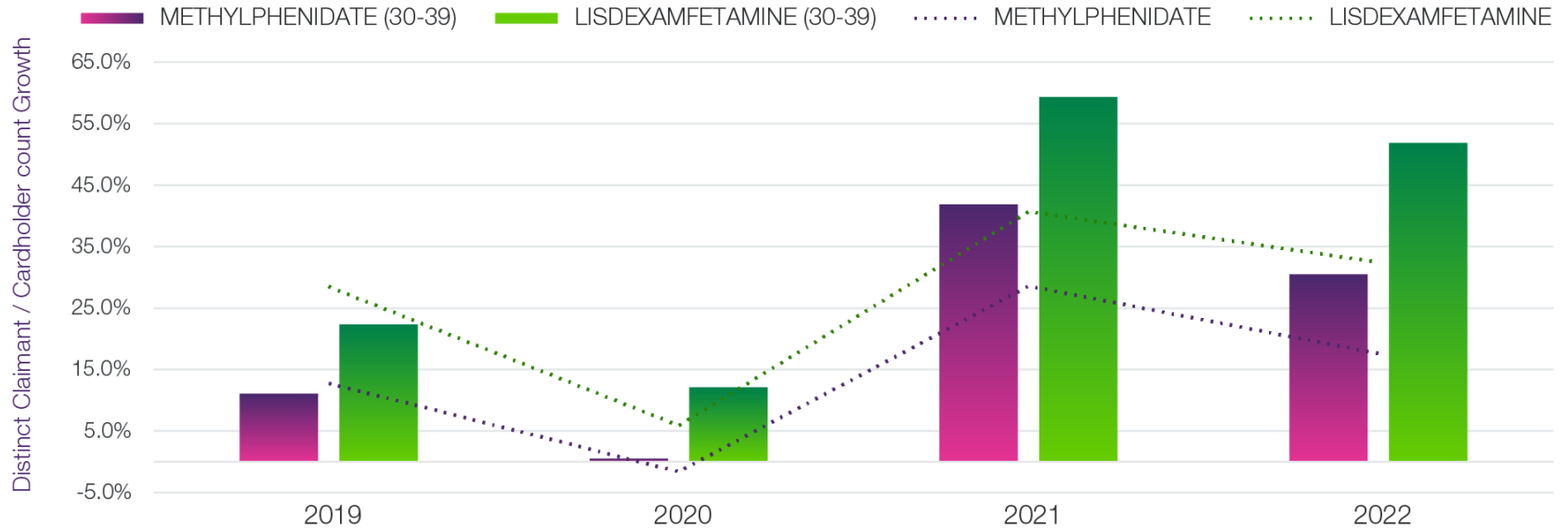
Stimulants (ADHD) molecules

Total eligible cost 2022: \$294.6M (+22.1%)



TELUS Health Portfolio, Canada, 2022 | The % for each drug is the variation from 2021 to 2022.

ADHD Category: trend analysis



Top 10 drug classes by eligible amount for pediatric - Age 0 – 17 | Canada

Rank	Therapeutic class	\$	#	Rank 2021	Change
1	Stimulants (ADHD)	24.4%	11.6%	1	=
2	Asthma	8.0%	27.2%	4	▲
3	Cystic Fibrosis	7.0%	0.02%	6	▲
4	Allergy Conditions	6.2%	20.0%	3	▼
5	Antibiotics / Anti-Infectives	5.9%	43.5%	8	▲
6	Rheumatoid Arthritis	5.8%	0.1%	2	▼
7	Skin Disorders	5.3%	18.6%	5	▼
8	Diabetes	3.4%	0.8%	7	▼
9	Depression	3.1%	6.2%	10	▲
10	Acne	2.9%	5.8%	9	▼

TELUS Health Portfolio, Canada, 2022 | \$: % of Eligible Cost # : % of claimants

TELUS - Canada: \$449 million of eligible cost





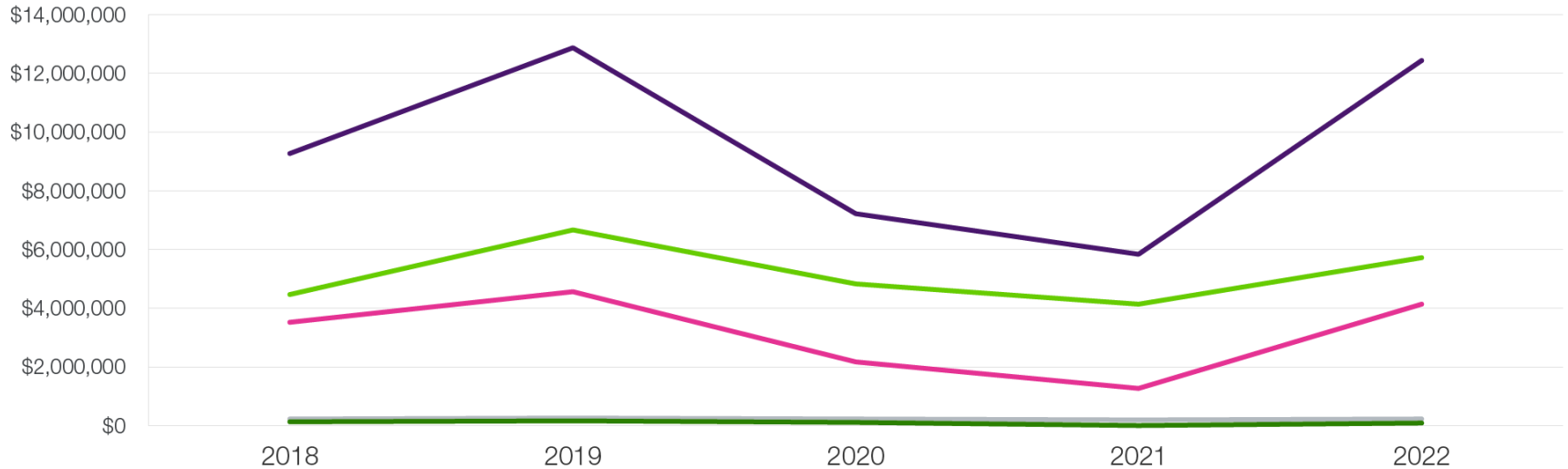
Pediatric antibiotic shortage

- Health Canada announced shortages for antibiotic suspensions starting with amoxicillin and clavulanic Acid starting in November 2022.
- Other antibiotic suspensions followed in December 2022.
- Occurred during a peak in upper respiratory disease in children.
- All across Canada.

Antibiotic Classes for pediatric - Age 0 – 17 | Canada

Total eligible cost 2022: \$26.3M (+74.7%)

— PENICILLIN 112.9% — CEPHALOSPORINS 38.9% — MACROLIDES 225.6% — ANTIVIRALS 17.0% — NEURAMINIDASE 2400.6%



TELUS Health Portfolio, Canada, 2022 | The % for each drug is the variation from 2021 to 2022.

Baby formula shortage

- Baby formula back order after an important manufacturing facility in the United States closed.
- Coverage for these specialty formulas only for babies with severe intolerance or allergies, who are not able to take regular formulas.
- During the shortage: exceptional coverage was approved for formula that are usually not covered of for imported products.



Top 10 most costly products per claimant - Canada 2022

Drug	Average eligible cost per claimant	Number of claimants	Total eligible cost
Luxturna	\$1,806,536	3	\$5,419,609
Strensiq	\$1,454,381	2	\$2,908,764
Nexviazyme	\$798,029	1	\$798,029
Vimizim	\$641,049	12	\$7,692,597
Givlaari	\$545,248	1	\$545,248
Elaprase	\$510,798	3	\$1,532,390
Soliris	\$456,445	65	\$29,668,926
Myozyme	\$430,847	10	\$4,308,467
Ultomiris	\$408,348	6	\$2,450,088
Onpattro	\$393,815	3	\$1,181,444

Total 2022 eligible costs: \$56.5M

A smiling male customer service representative wearing a headset and working at a computer in a call center. He is wearing a red and white checkered shirt. In the background, other call center agents are visible, also wearing headsets and working at their desks. The scene is brightly lit, suggesting a modern office environment.

Canadian biosimilar landscape

Biosimilars: Provincial legislative landscape

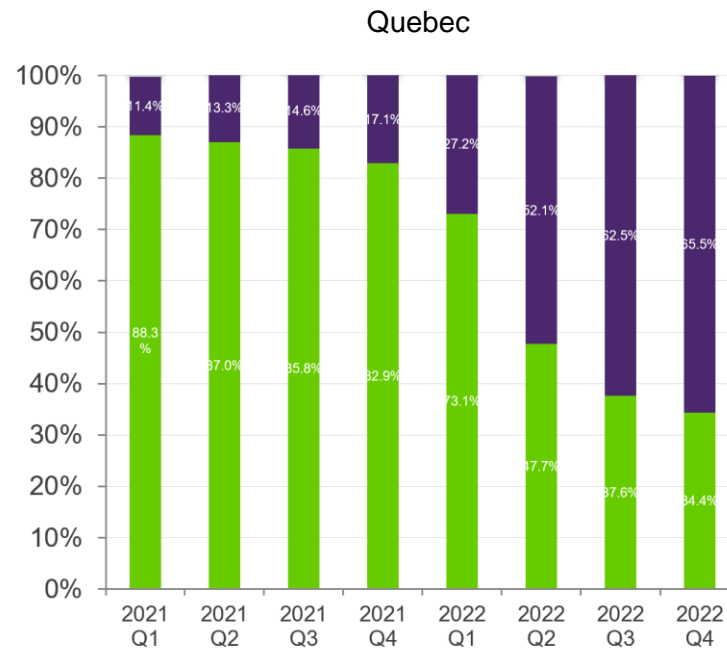
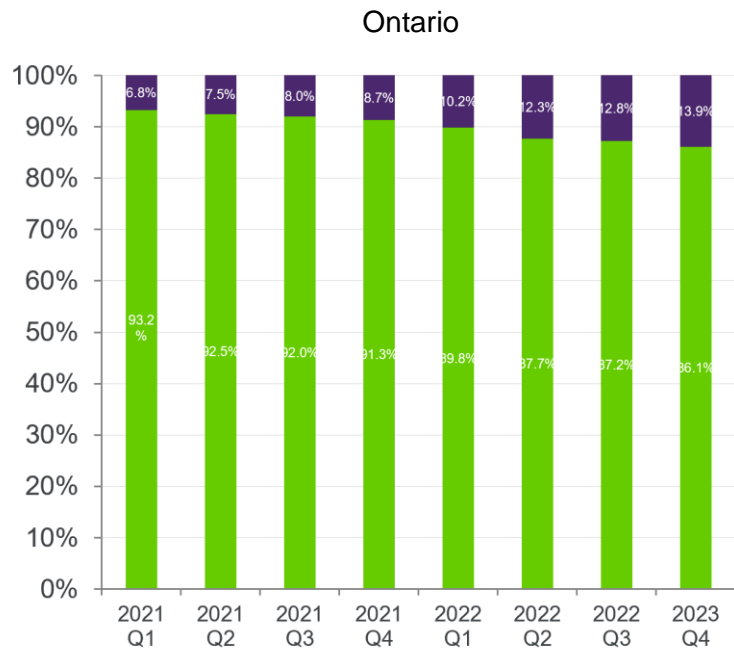
Pharmacare

Province	Strategy
British Columbia	Mandatory switching (2019)
Manitoba	Tiered biologics reimbursement
Saskatchewan	Mandatory switching (April 2023)

Non-Pharmacare

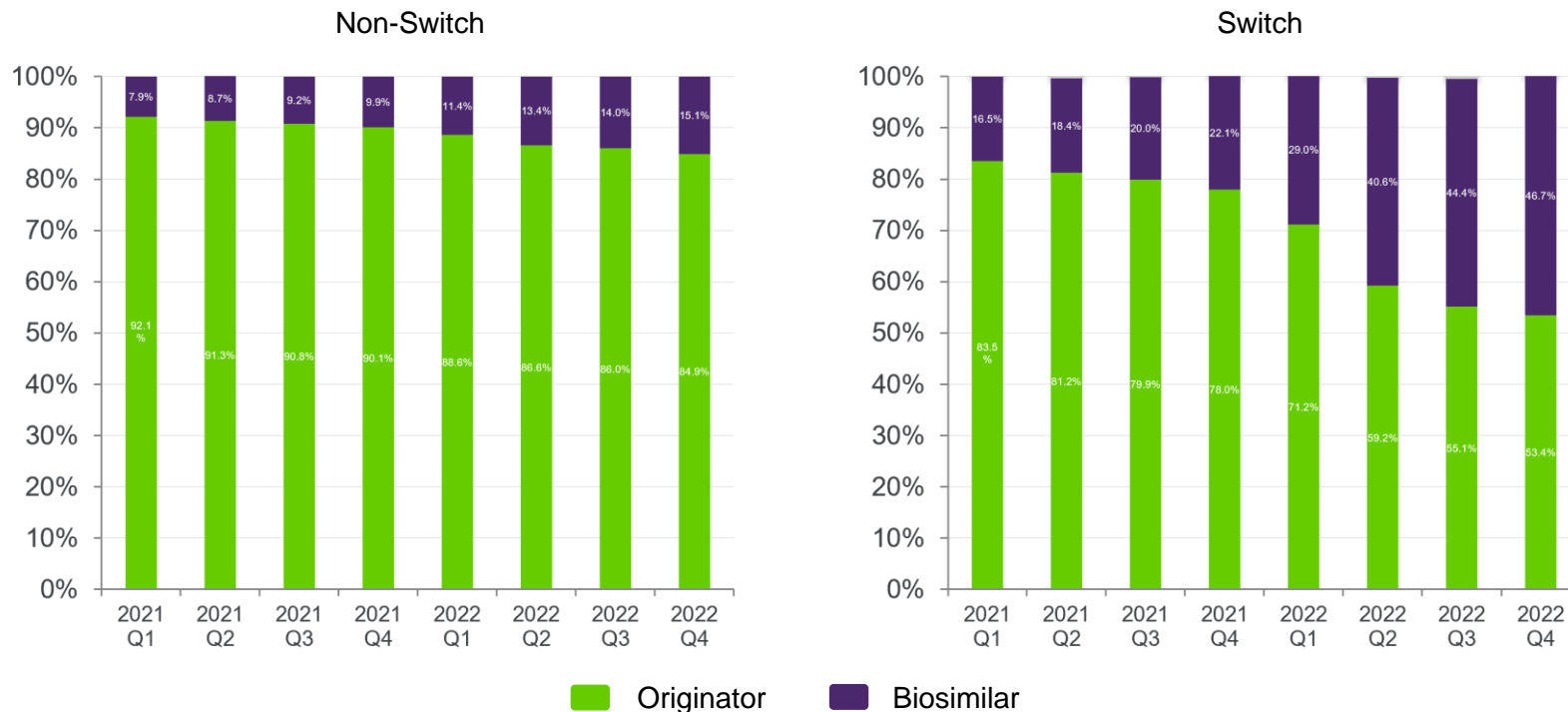
Province / Territories	Strategy
Alberta	Mandatory switching (2020)
New Brunswick	Mandatory switching (2021)
Quebec	Mandatory switching (2022)
Nova Scotia	Mandatory switching (2022)
Ontario	Mandatory switching (Dec 2023)
North West Territories	Mandatory switching (2022)
Yukon	Mandatory switching (2023)
Newfoundland	New starts to biosimilar Mandatory switching (2024)

Biosimilar | # of Distinct Claimants



Originator Biosimilar

Biosimilar | # of Distinct Claimants



Biosimilars

Legislative considerations impacting biosimilar switch programs

- Insulin pump users could not be switched to a biosimilar alternative because compatibility with the pumps have not yet been approved by Health Canada: **Provinces have extended their exceptions for originator products to be allowed for insulin pump users.**
- Admelog (biosimilar to Humalog) - vial format is still awaiting compatibility approval with insulin pumps.
- Kristy (biosimilar to Novorapid) – vial format is anticipated to be market available in Q1 2024. Compatibility with insulin pumps will still have to be approved.





Plan Management Solutions

Product Listing Agreements (PLA)

- Plan member choice
-

Prior authorization (PA)

- Biosimilar first
-

Biosimilar Switching

- Hard switch
- Soft switch



Legislative update

PMPRB updates: Overview.



The PMPRB board is a federal regulatory agency established in 1987 with the mandate to ensure that gate prices of patented medicines are not “excessive” and report to Parliament on price trends and R&D.

Patented medicine regulation amendments.

To recap:

- **In August 2019**, amendments to the Patent Medicine Regulations was introduced by the PMPRB board.
- **The amendments seek to add** new price regulatory factors, add a revised list of reference countries and change the reporting requirement for specific drug categories.
- The **coming into force date** of the amendments have been further postponed to **July, 1 2022**.

PMPRB guideline updates.

In February 2022, the Quebec Court of Appeal:

- **STRUCK** the Economic Factors
- **STRUCK** the Disclosure of Product Listing Agreements
- **UPHELD** the Change to the Comparator Countries

April 2022: PMPRB announced that it was preparing a new version of the guidelines



PMPRB updates

Since then...

The new guidelines were not implemented on January 1, 2023. The interim directives issued by the Commission on 18 August 2022 will remain in effect until further notice.



Pharmacare

UNIVERSAL DRUG BENEFIT PROGRAM:

NDP/Liberal agreement included a pharmacare framework for end of 2023:

- Formulary for essential drugs
- Bulk purchase plan

However, it remained absent from the 2023-24 announced budget.

Pharmacare

FEDERAL PROGRAM FOR RARE DISEASES

- Project was initiated in 2021.
- Individual provinces have taken steps towards improving care for rare diseases. For example:
 - Quebec: Policy was published in June 2022. It focuses on awareness and training, easy and equitable access to diagnosis, care and services, and promotion of research, innovation and data collection.
 - British Columbia Pharmacare Program may provide exceptional funding, on a case-by-case basis.
 - Alberta: Rare Diseases Drug Coverage Program which may cover drugs approved for the treatment of a short list of rare diseases.
- On March 22, 2023, the Government of Canada announced up to \$1.5 billion in funding.
- Objective: improve access to drugs for the treatment of rare diseases.
- It remains to be seen whether federal funding under the National Strategy may go towards supporting existing provincial initiatives.

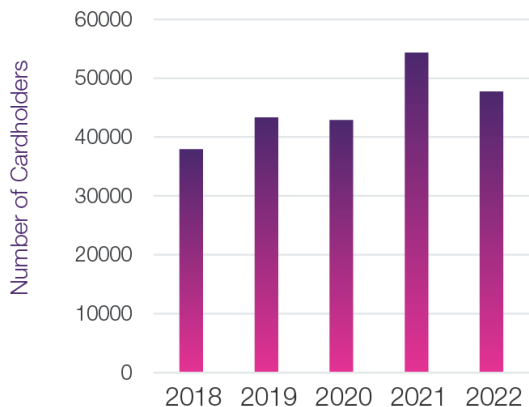
<https://www.fasken.com/en/knowledge/2023/03/canada-announces-funding-and-next-steps-in-rare-disease-drug-strategy>



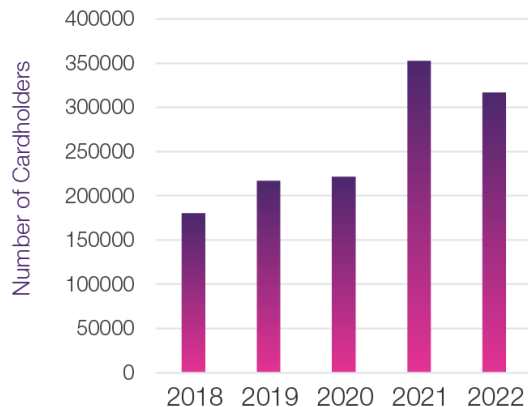
COVID-19 insights

New/delayed diagnosis (new starts)

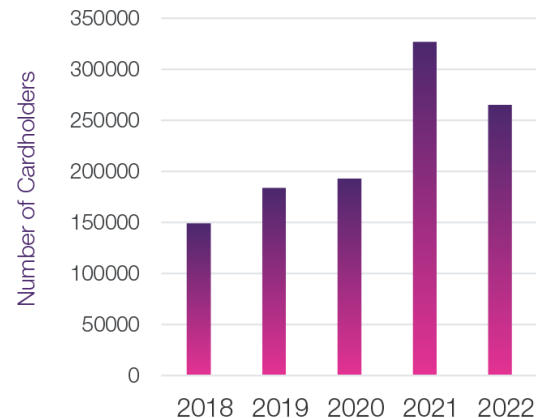
Cancer New Starts



Depression New Starts



Cardio-Cholesterol New Starts

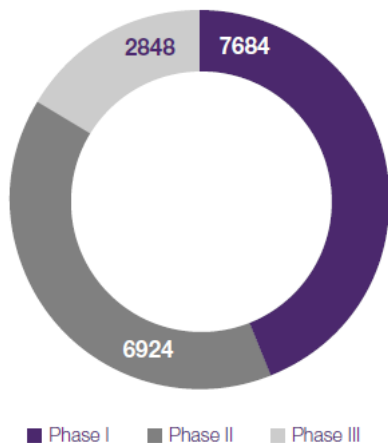


A young woman with her hair in a bun, wearing a white lab coat over a yellow shirt, is looking down at a white tablet computer. She is standing behind a pharmacy counter. In the background, there are shelves filled with various boxes of medicine. Some boxes are labeled 'MEDICOLINE', 'LACTO-FORD', and 'TO FORD'. There is also a sign on the wall with a picture of a family. The overall scene is a professional pharmacy environment.

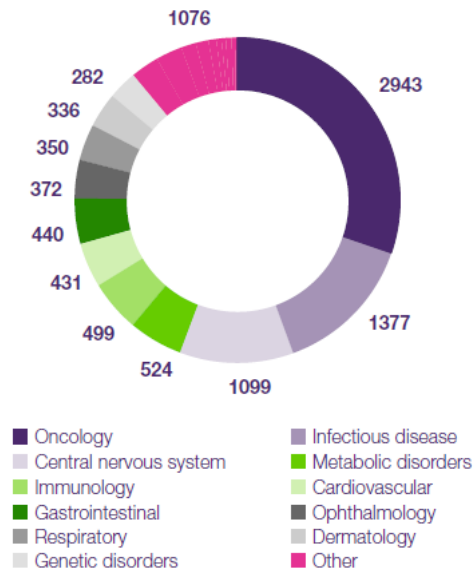
Drug pipeline

A glimpse at the pipeline

Drugs in development by phase.



Number of drug candidates in phase 2 or 3 development by therapeutic area.



Biosimilars & Generics

- Biosimilars Under Review (Health Canada)
 - Eculizumab (for Soliris)
 - Aflibercept (for Eylea)
 - Ustekinumab (for Stelara)
- Recent US developments
 - A Biologics License Application has been accepted by the FDA for biosimilar denosumab (for Prolia and Xgeva) – Feb 2023
 - A Biologics License Application has been accepted by the FDA for biosimilar natalizumab (for Tysabri) – July 2022
- Canadian Generic Launches/Pipeline
 - “High Cost” Generics (Examples Xeljanz / Otezla / Gilenya / Imbruvica)



Diabetes

New basal insulins will draw market from biosimilars, with focus on once weekly dosing

- LAI-287 (insulin icodec, Novo-Nordisk). Expected to file with the FDA in 2023. Later in Canada
- LY-3209590 (Lilly)

Cagrilinitide+semaglutide (Novo Nordisk)

- Ozempic will lose data protection in 2026
- Showing potentially improved efficacy for weight loss endpoints, but also expected to get approval in Type 2 Diabetes

Anticipated major generic entries:

- Forxiga (dapagliflozin) - May 2023
- Trajenta (linagliptin) - April 2024





Depression

Zuranolone (Zulresso)

- 14 day short course, rapid acting antidepressant in Major Depressive Disorder and Post Partum Depression
- 67.4% response rate after a single 2 week course, but almost 60% required at least one additional course over a 1 year period. Durability of response is a concern
- FDA decision expected Aug 5, 2023
- Not yet filed with Health Canada

Dextromethorphan+bupropion (Auvelity)

- Combination of two existing drugs
- Greater reductions in depression scores and dramatically increased remission rates versus bupropion alone
- Approved by the FDA in December 2021
- Not yet filed by Health Canada



Cholesterol

MK-0616 (Merck)

- Another PCSK9 inhibitor, but oral
- “clinically meaningful reductions in LDL-C superior to placebo.” in Phase 2b trial

Migraine Pipeline

Growing number of oral CGRP inhibitors entering the market in the acute and preventative migraine space:

- Qulipta is now commercialised – indicated for prevention of migraines
- Ubrelvy has received Health Canada approval – indicated for acute treatment of migraines
- Nurtec is anticipated to be approved in both the preventative and acute treatment indications





Hemophilia

Etranacogene dezaparvovec (US Brand Name: Hemgenix, CSL Behring)

- FDA approval in November 2022 – considered a breakthrough treatment for Hemophilia B
- Considered the most expensive medicine in the world



Key messages

Key messages



1. Continued growth across various therapeutic categories can be balanced with plan sustainability tools.



3. Impact of biosimilar molecules is leading to cost relief across specialty drugs.



2. Costs to treat rare diseases continue to grow but may be mitigated by future provincial/federal rare disease programs.



4. Future pipeline can add to cost pressures but also provide cost relief.

