TELUS Health

Trends in Medication Management

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Content outline

i. Therapy class insights 2020
ii. Canadian biosimilar landscape
iii. Legislative update
iv. Gene therapy pipeline
v. Drug pipeline

Therapy class insights 2020

Top 10 drug classes by eligible amount I Canada

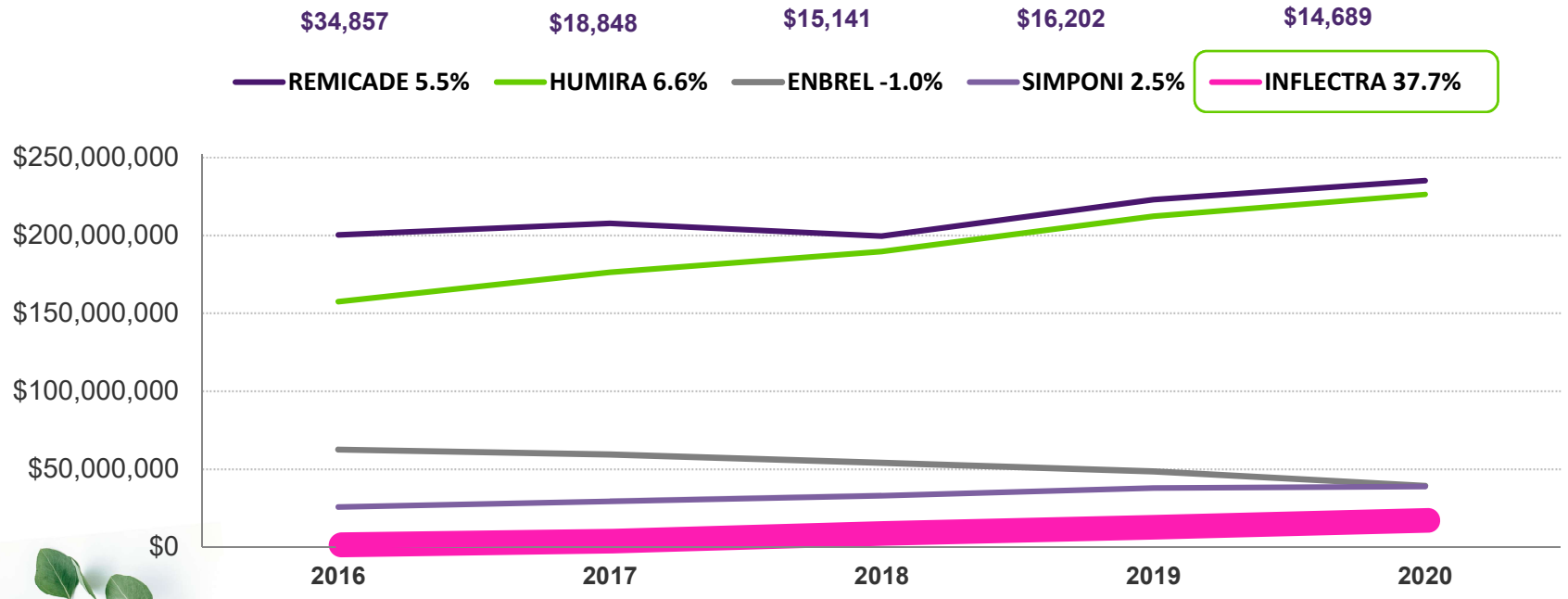
Rank	Therapeutic class	$	#	Rank 2019
1	INFLAMMATORY DISEASE	12.5%	0.6%	1
2	DIABETES	11.4%	7.4%	2
3	SKIN DISORDERS	7.6%	21.2%	3
4	ASTHMA	5.6%	16.9%	4
5	DEPRESSION	5.2%	18.2%	5
6	CANCER	4.3%	1.5%	6
7	STIMULANTS (ADHD)	4.0%	4.4%	7
8	MULTIPLE SCLEROSIS	3.5%	0.2%	8
9	BLOOD PRESSURE	3.2%	15.5%	9
10	ULCERS	2.8%	14.6%	11

TELUS - Canada: $5.1 billion of eligible cost

Telus BoB. Canada2020 I $: % of Eligible Cost # : % of claimants

Inflammatory disease

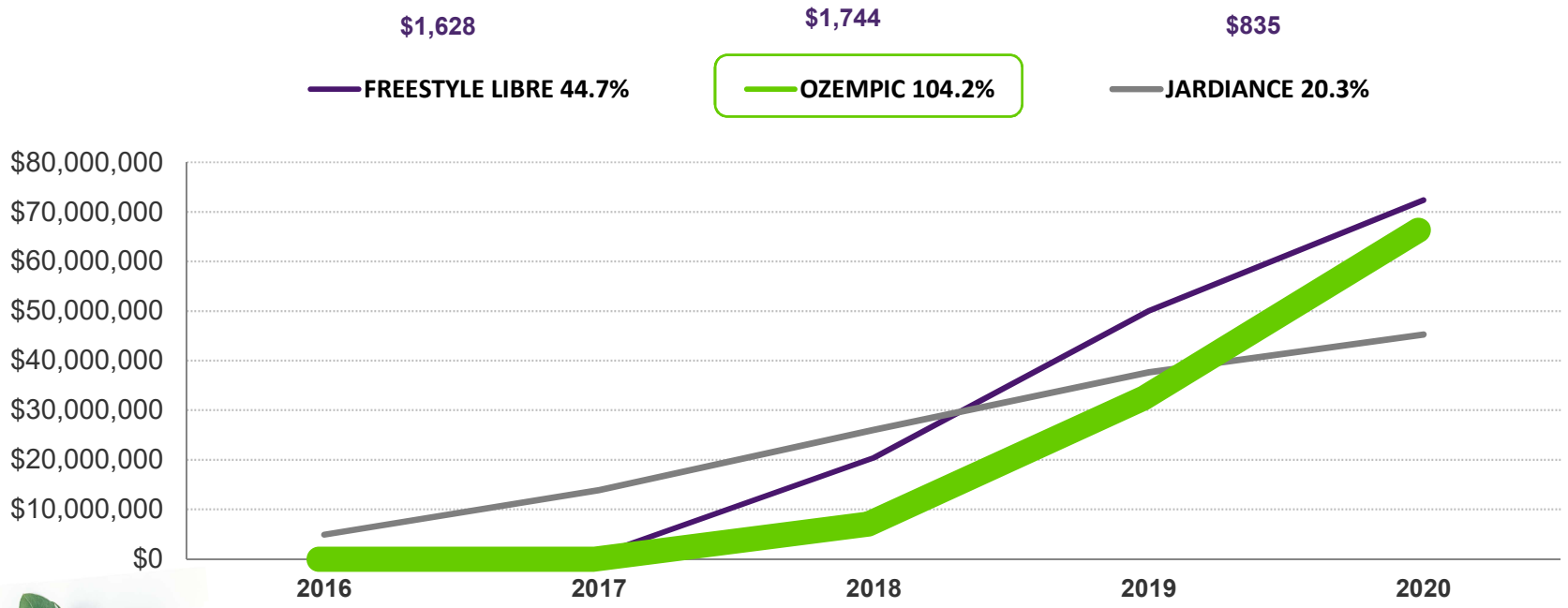
Total eligible cost 2020: $634.8M (+6.6%)



TELUS Health BoB Canada 2020. The % for each drug is the increase in eligible cost from 2019 to 2020.

Diabetes

Total eligible cost 2020: $578.0M (+10.9%)



TELUS Health BoB Canada 2020. The % for each drug is the variation from 2019 to 2020.

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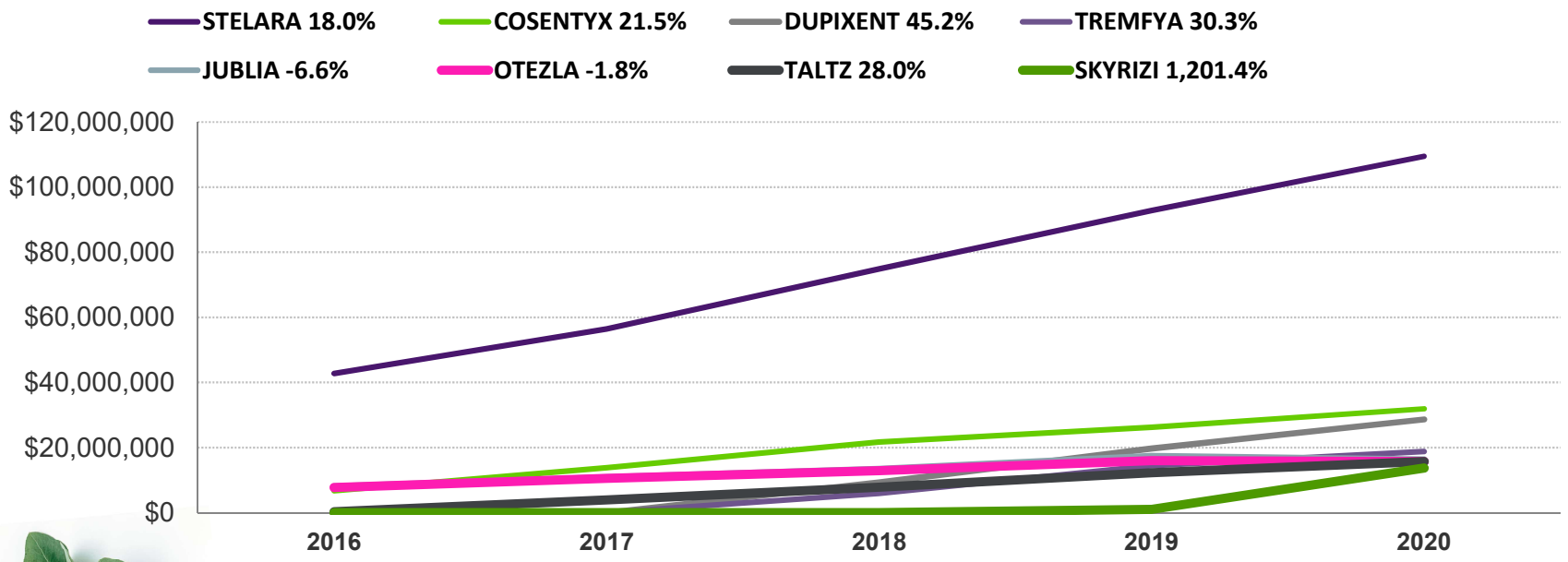
Skin disorders

Total eligible cost 2020: $384.7M (+13.1%)



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Skin disorders

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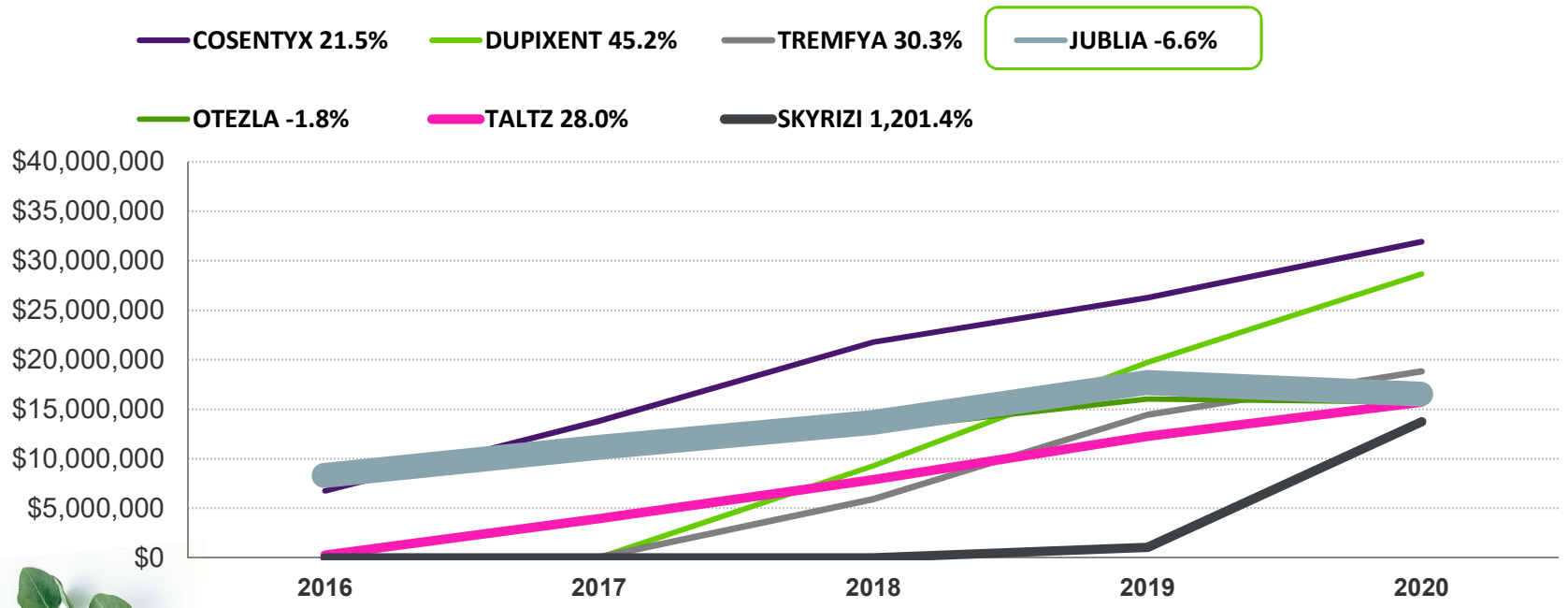


TELUS Health BoB Canada 2020. The % for each drug is the variation from 2019 to 2020.

Follow up… Canada - 2020

Class	Total eligible cost		Total number of claimants	
	$	Growth vs 2019	# patients	Growth vs 2019
Cholesterol	109.7 M	3.1%	643,558	-2.6%
PCSK9 Inhibitors (PRALUENT, REPATHA)	12.5 M	20%	2,324	13%
% of category	11.4%		0.4%	
Migraine	62.1 M	15.6%	136,090	0.1%
CGRP Inhibitors (AIMOVIG, AJOVY, EMGALITY)	15.0 M	119%	3,048	80%
% of category	24.1%		2.2%	
Cancer	213.9 M	7.6%	82,801	-3.1%
CDK4/6 Inhibitors (IBRANCE,VERZENIO,KISQALI)	17.1 M	23%	2,232	5%
% of category	8.0%		2.7%	

TELUS Health BoB 2020.

Top 10 products by eligible amount I Canada 2020

Rank	Product Name	$	#	Disease	Rank 2019
1	REMICADE	4.6%	0.1%	Inflammatory Disease	1
2	HUMIRA	4.5%	0.2%	Inflammatory Disease	2
3	STELARA	2.2%	0.1%	Skin disorders	3
4	VYVANSE	1.4%	1.5%	Stimulants (ADHD)	5
5	FREESTYLE LIBRE	1.4%	0.8%	Diabetes	7
6	OZEMPIC	1.3%	0.7%	Diabetes	16
7	INSULIN	1.2%	1.3%	Diabetes	4
8	SYMBICORT	1.1%	2.8%	Asthma	9
9	CONCERTA	1.1%	1.5%	Stimulants (ADHD)	6
10	ENTYVIO	0.9%	0.04%	Inflammatory Disease	11

TELUS Health BoB 2020.

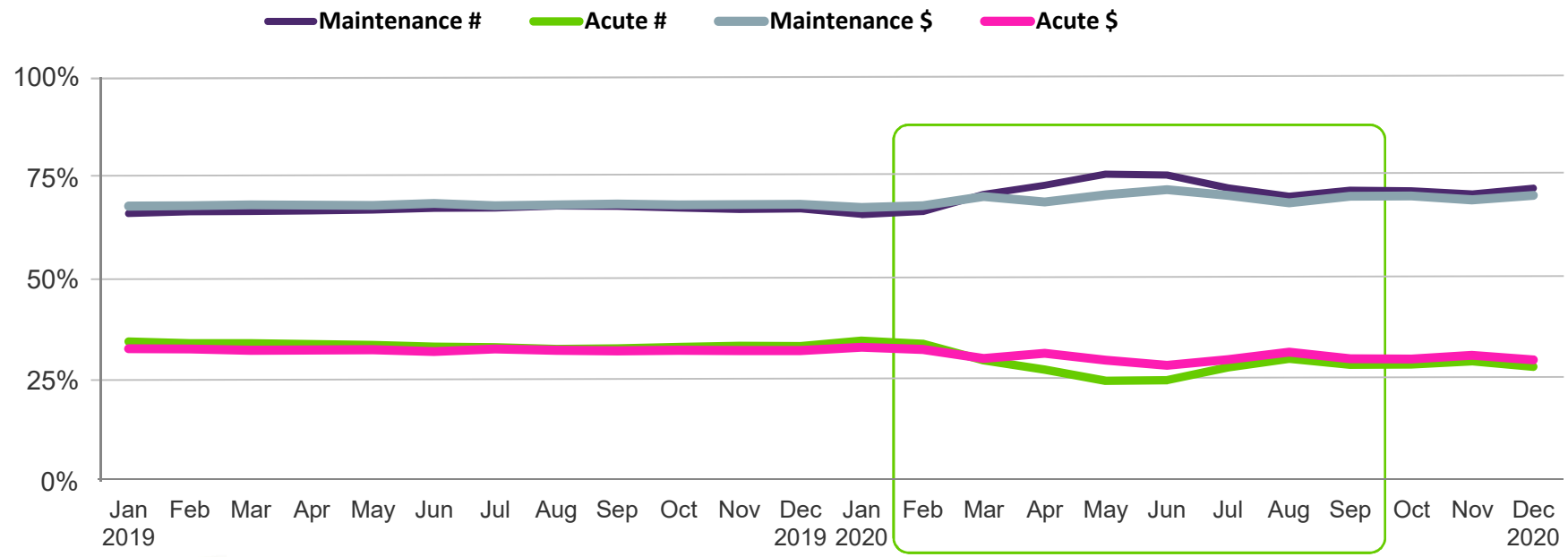
Top 10 most costly products per claimant | Canada 2020

Drug	Average eligible cost per claimant	Number of claimants	Total eligible cost
ELAPRASE	$597,238	4	$2,388,953
VIMIZIM	$556,525	12	$6,678,302
MYOZYME	$539,262	6	$3,235,569
SOLIRIS	$472,913	57	$26,956,042
ALDURAZYME	$438,320	2	$876,640
VPRIV	$400,562	1	$400,562
NAGLAZYME	$395,617	1	$395,617
FABRAZYME	$386,611	1	$386,611
CERDELGA	$334,879	6	$2,009,273
REVESTIVE	$283,297	14	$3,966,156

Total 2020 eligible costs: $47.3M

TELUS Health BoB 2020.

Acute vs maintenance 2019 vs 2020



TELUS Health BoB Canada 2020. The % for each drug is the variation from 2019 to 2020.

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Canadian biosimilar landscape

Progression of biosimilars – Canada 2019-2020

Reference product	Comparator products	#		$	
		2019	2020	2019	2020
REMICADE (infliximab)	REMICADE	**89.2%**	**84.1%**	**94.9%**	**92.5%**
	INFLECTRA	10.6%	13.9%	5.0%	6.4%
	RENFLEXIS	0.7%	2.7%	0.1%	1.1%
ENBREL (etanercept)	ENBREL	**83.4%**	**70.8%**	**90.5%**	**81.9%**
	BRENZYS	12.8%	15.7%	6.7%	10.0%
	ERELZI	7.2%	14.9%	2.8%	8%
NEUPOGEN (filgrastim)	NEUPOGEN	**18.5%**	**11.3%**	**21.5%**	**13.2%**
	GRASTOFIL	81.5%	88.2%	78.5%	86.6%
	NIVESTYM	0%	0.5%	0%	0.2%

Telus BoB. Canada 2020 | $: % of Eligible Cost # : % of claimants

Progression of biosimilars – Canada 2019-2020

Reference product	Comparator products	#		$	
		2019	2020	2019	2020
LANTUS (insuline glargine)	LANTUS	**76.2%**	**68.4%**	**70.4%**	**63.5%**
	BASAGLAR	8.9%	15.6%	4.6%	10.1%
	TOUJEO	18.7%	19.2%	25.0%	26.4%
NEULASTA (pegfilgrastim)	NEULASTA	**52.2%**	**12.3%**	**61.2%**	**16.9%**
	FULPHILA	-	1.6%	-	1.1%
	LAPELGA	48.9%	87.1%	38.8%	82.0%

Telus BoB. Canada 2020 | $: % of Eligible Cost # : % of claimants

Biosimilars: provincial legislative landscape

Pharmacare

Province	Strategy
British Columbia	Mandatory switching
Manitoba	Tiered biologics reimbursement

Non-Pharmacare

Province	Strategy
Alberta	Mandatory switching
Ontario	Formulary Coverage
Quebec	Existing patient: grandfathered New patient: biosimilar start

Remaining provinces likely to leverage similar policies

Provincial landscape: mandatory switching

British Columbia

Pharmacare

Transition period	May 27-Nov 25 2019	Sept 5, 2019-March 6, 2020	Aug 20, 2020-Feb 18, 2021

Alberta

Non-Pharmacare

Transition deadline	Jan 15, 2021	March 1, 2021	May 1, 2021

Common molecules

Mandatory switching:

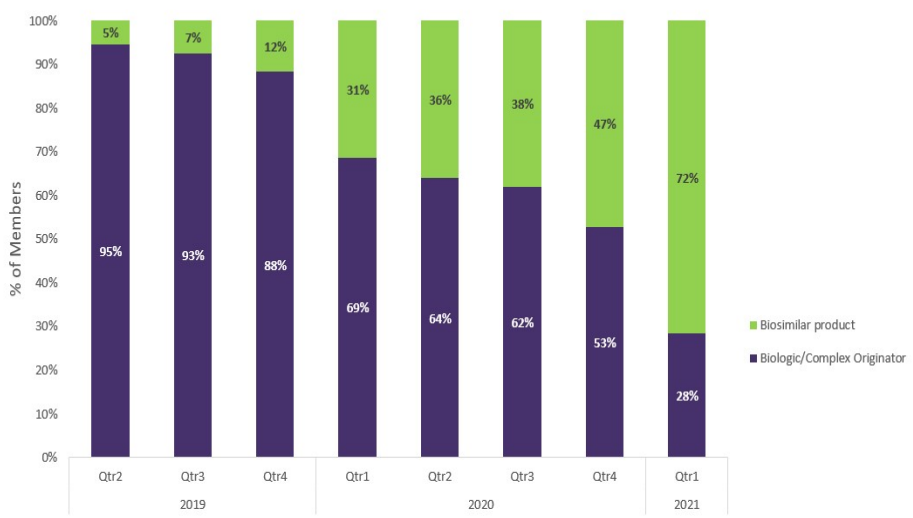
	etanercept	infliximab	rituximab	insulin glargine
Originator	Enbrel	Remicade	Rituxan	Lantus
Biosimilar	Brenzys, Erelzi	Inflectra, Renflexis	Truxima, Ruxience, Riximyo	Basaglar

Biosimilars: claims insight

British Columbia Biosimilar Program Impact

Mandatory switch begin date

Alberta Biosimilar Program Impact



Mandatory switch begin date

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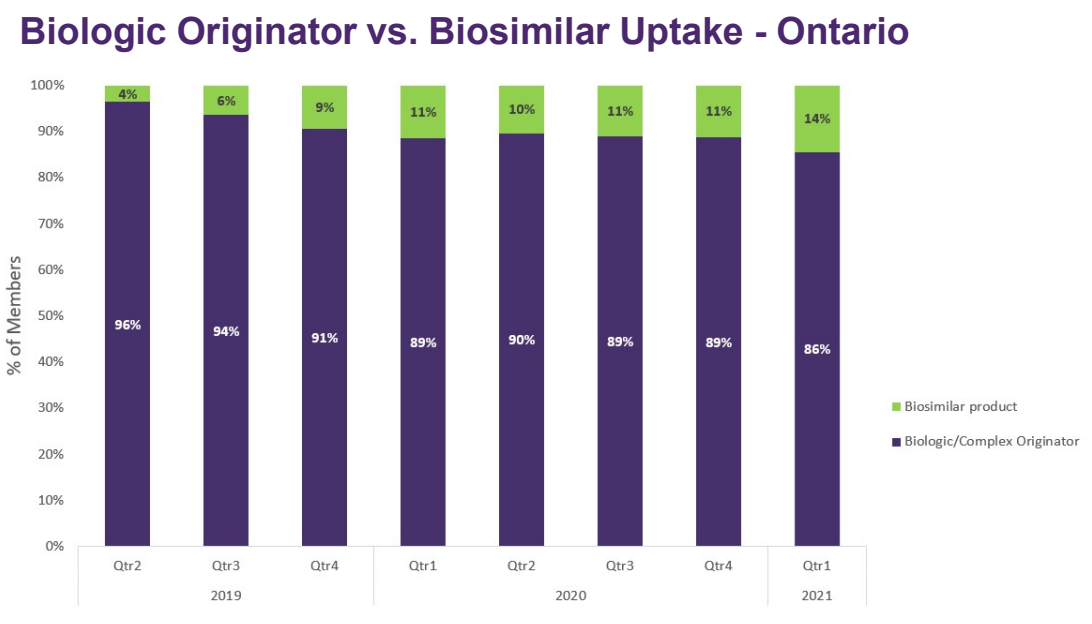
Biosimilars: claims insight



Current status in Ontario where no switching policy has been implemented.

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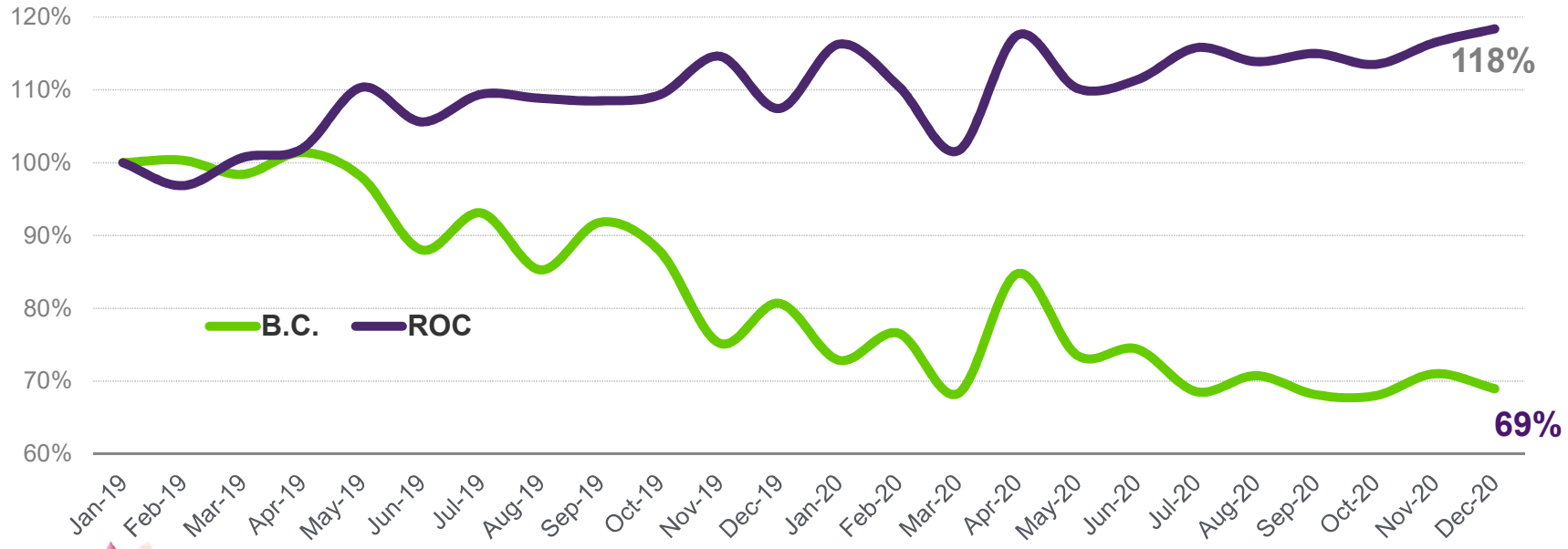
Biosimilar: evolution B.C. vs ROC (Canada without B.C.)

Relative cost per claimant



Eligible amount by claimant for « BIO » in January 2019: ROC : 1 037 $; B.C. : 667 $

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Legislative update

National pharmacare: A national strategy?

“A publicly funded, universal prescription medicine drug insurance plan for all Canadians.”

Bill-C213:

An act to **enact the Canada Pharmacare Act was first introduced in 2019 and then was reintroduced in September 2020**.

The proposed legislation outlines that in order to gain an [unspecified] annual cash contribution from the federal government for this program, **provincial and territorial governments would need to build a jurisdiction specific pharmacare plan** that is universal, comprehensive, accessible and portable.

Bill-C213 status update:

Bill was **rejected at the second reading on February 2021** on the basis of the bill’s imposition of national pharmacare on provincial-territorial jurisdiction over healthcare.

Moving forward: The federal government hopes to work with premiers on a more collaborative approach to universal pharmacare that respects provincial-territorial jurisdiction in the future.

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.

Key buckets

Excessive price factors in the Patent Act

Looking at prices of drugs in the same therapeutic class, prices in other countries, inflation rate changes, etc.

Patented medicines regulations

Reporting requirements (price, sales, R&D expenditures)

International reference countries

Excessive price guidelines

Compliance and enforcement policies, price tests.

Gene therapy pipeline

Conventional Therapy

Uses small molecules, peptides, proteins

Treatment contains a small (most drugs) or large (biologics) molecule that mimics or disrupts processes associated with a condition or disease

Chronic therapy

Many conventional treatments must be taken by pill, injection or infusion on a continual basis. and usually the effect of treatment stops once the medication is stopped

Manage or treat symptoms long-term

Usually relieves the signs and symptoms of disease

Gene Therapy

Uses DNA, RNA, Cells

Reprograms the body to directly fight disease

One-time Treatment

Effect of treatment may be permanent after a single administration

Potentially Curative

Potential to transform medicine. halting the progress of a disease or alleviating the underlying cause of a disease

https://www.novartis.com/our-focus/cell-and-gene-therapy/new-era-medicine

Gene therapies today

Glybera

Developed over decades at the University of British Columbia

Approved in Europe in November 2012 to treat lipoprotein lipase deficiency (LPLD)

Launched at the equivalent of US$1.6 million as a one-time treatment (intended to last at least ten years)

- Enzyme replacement therapy cost $300,000 per year for life

Discontinued in 2017

Gene therapies today

Luxturna

Approved by Health Canada on October 13, 2020

- For the treatment of adult and pediatric patients with vision loss due to inherited retinal dystrophy caused by confirmed biallelic RPE65 mutations and who have sufficient viable retinal cells

Cost of $515,750 per eye as a one-time treatment ($1,031,500 total)

- Hospital-based treatment

No existing therapies

- Disease often leads to complete blindness

Gene therapies today

Zolgensma

Approved by Health Canada on December 15, 2020

- For pediatric patients with 5q spinal muscular atrophy (SMA)

Cost of $2.8 million as a one-time treatment

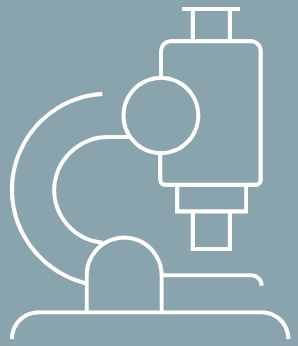
- Now “the world’s most expensive drug”

Alternative is Spinraza (formerly “the world’s most expensive drug”)

- $708,000 in the first year. and $354,000 per year thereafter

Select gene therapies in development

Gene therapy	Manufacturer	Disease	Phase	Possible market date
RPA-501	Rocket Pharmaceuticals	Danon Disease	Phase 1	2024
MYO-201	Sarepta Therapeutics	Dysferlinopathies such as limb-girdle muscular dystrophies	Phase 1	2024
CTX-001	CRISPR Therapeutics	Sickle Cell Disease, Thalassemia	Phase 2	2023/2024
Zynteglo	Bluebird Bio	Sickle Cell Disease, Thalassemia	Phase 3	2023
Roctavian	BioMarin	Hemophilia A	FDA	2023
HMI-102	Homology Medicines	Adult Phenylketonuria (PKU)	Phase 2	2025



Drug pipeline

Submission under review: Health Canada (February 22, 2020)

New drug submission **83** molecules

Oncology: 21 submissions	Other drugs: Immunosuppressants, vaccines	Biosimilars: 9 submissions including Bevacizumab (AVASTIN) Trastuzumab (TRAZIMERA) Rituximab (RITUXAN) and others (Filgrastim, Pelfigrastim, Etanercept)

Generic products - **152** molecules

HIV drugs:

Atazanavir (REYATAZ) Darunavir (PREZISTA) Dolutegravir (TIVICAY)	Ritonavir (NORVIR)	Efavirenz, emtricitabine, tenofovir disoproxil fumarate (ATRIPLA) Emtricitabine, tenofovir disoproxil fumarate (TRUVADA) Tenofovir disoproxil fumarate (VIREAD)

Diabetes drugs :

Canagliflozin (INVOKANA)	Linagliptin (TRAJENTA)	Sitagliptin (JANUVIA)

Spinal muscular atrophy (SMA)

SPINRAZA: intrathecal injection 3 times a year

ZOLGENSMA is a gene therapy intended to treat spinal muscular atrophy. Administered as a single injection

EVRYSDI (Risdiplam): SMA therapy but in the form of an oral liquid (possibility of home administration)

Treatment of cholesterol

LEQVIO (inclisiran): Alternative to REPATHA and PRALUENT

Twice a year injection administered by a healthcare professional

Approval suspended in USA. Approved in Europe

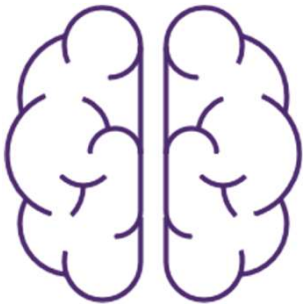
Cystic fibrosis

TRIKAFTA : Triple therapy (ivacaftor, tezacaftor and elexacaftor)

Advantage over existing treatments: possibility of treating 90% of patients

Approved by the FDA

Multiple sclerosis



KESIMPTA (ofatumumab)

VUMERITY (diroximel fumarate)

PONESIMOD

Key Messages

i. Top 10 drug classes continue to grow

ii. Impact of provincial biosimilar policies

iii. Growth in ultra high cost drugs (>$250,000)

iv. Future gene therapy treatment options

v. New biosimilar entrants are slowing down

Questions


Thank you!
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