



2023

Category watch: A closer look at disruption.

Trends in drug utilization for
diabetes, ADHD and cystic fibrosis.

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Introduction

Disruption is the theme of the TELUS Health 2023 Category Watch report. The categories of diabetes, attention deficit hyperactivity disorder (ADHD) and cystic fibrosis have experienced explosive growth in recent years, fuelled by factors such as off-label prescribing, better health outcomes—even life-changing health outcomes—and growing patient populations.

Drawing from its database of privately insured individuals, which surpassed 12.7 million in 2022, TELUS Health pulls together analytics and expert analysis to spell out key trends in claims, claimants and eligible amounts.

Without exception, the categories of diabetes, ADHD and cystic fibrosis are experiencing transformative change. Also without exception, the handful of drugs driving such change represent advancements in treatment that can significantly improve quality of life—including productivity in the workplace.

Their impact on drug spend is also eye-opening. Combined, the total eligible amount for these three drug categories more than doubled from 2018 to 2022, surpassing \$1.1 billion in TELUS Health's book of business.

“The value of these medications for patients and employers is without question. At the same time, measures to optimize adherence, monitor utilization and support wellness more holistically are more important than ever.”

says Vicky Lee, Manager,
Pharmacy Consulting, TELUS Health.

Off-label prescribing leaves mark in diabetes.

No matter how you slice it, drugs for diabetes are steadily claiming a greater share of the spend for private drug plans—so much so that the category (including diabetes devices) took over the number-one position on TELUS Health’s top-10 list of drug categories in 2022, accounting for 12.9% of total eligible amounts submitted to drug plans.

While an explosion in off-label use of one of the diabetes drugs—Ozempic—for weight loss is a big factor behind the trend, it’s also important to note that prescribing has increased for certain classes of diabetes drugs, which have proven their ability to help manage the disease.

The share of all claimants submitting claims for a diabetes drug grew from 5.9% in both 2018 and 2019 to 7.4% in 2022 (chart 1). The first six months of 2023 saw the biggest jump yet in the share of all claimants, to 8.9%.

Stepping back to spread out these claims across all insured individuals (whether or not they made any claim at all), diabetes drugs represented 4.3% of TELUS Health’s book of business in 2022, up from 3.3% in 2018. For the first six months of 2023, that climbed further to reach 5.7%.

As a share of all claims, diabetes drugs climbed from 4.4% in 2018 to 5.3% in 2022, and to 5.8% for the first six months of 2023 (chart 2).

The last two years saw significant gains in the number of claimants for diabetes drugs, with 17.4% more claimants in 2021 and 21.8% more in 2022 (chart 3). Increased diagnoses are one factor. A 2022 report from the Public Health Agency of Canada stated that more than three million Canadians, or 8.9% of the population, now live with diabetes. After adjusting for an aging population, the prevalence of diabetes is climbing at an average rate of 3.3% annually.

Prescribers are also responding to evidence that second- or third-line therapies can and should begin sooner than later for some patients. “Treatment guidelines have changed, and now patients with high average blood-sugar levels and comorbidities can be started on combination therapies right off the bat, whereas before they might have been started on the first-line therapy only,” says Lee.

In 2020, the growth rate in the number of claims (13.3%) significantly outpaced growth in the number of claimants (2.2%) (charts 3 and 4). “This likely reflects provincial recommendations to pharmacies during the early months of the pandemic to reduce prescription refills to 30 days rather than the usual 90 days for maintenance therapies,” says Lee.





When the lens is switched to dollars, total eligible amounts for diabetes drugs have risen by double digits since at least 2019, culminating in a gain of 29.4% in 2022 (chart 5). The average eligible amount per claim was \$154.87 in 2022, up 9.6% from 2021 (\$141.27) and a difference of 26.5% compared to five years ago, in 2018 (\$122.38) (chart 6). For the first six months of 2023, the average eligible amount per claim was \$175.98.

When expressed as an average annual eligible amount per claimant, diabetes drugs added up to \$1,180.82 in 2022, 6.3% more than in 2021 (\$1,111.11) and 25.4% more than in 2018 (\$941.99) (chart 7).

Increased utilization of the newer, higher-cost therapies is solidly behind these growth trends. The drug class known as GLP-1 RAs posted the steepest trajectory, growing its share of distinct claimants from 7.6% in 2018 to 29.0% in 2022 (chart 8) and its share of the total eligible amount from 14.8% to 42.3% (chart 9).

GLP-1 RAs are also the costliest, recording an average annual eligible amount per claimant of \$1,723.47 in 2022 compared to just \$114.44 annually for metformin, the traditional first line of therapy for diabetes (chart 10).

While metformin remains the most utilized diabetes drug, its share of distinct claimants declined to 56.6% in 2022 from 65.7% in 2018, in response to the growing number of claimants taking GLP-1 RAs or another of the newer, second-line therapies (chart 8). Despite metformin's high volume of use, its much lower price point meant it accounted for just 5.5% of the total eligible amount in 2022 (chart 9).

The drug class known as SGLT2 inhibitors was the only class other than GLP-1 RAs to experience growth over the past five years, with its share of claimants reaching 30.4% in 2022 compared to 23.4% in 2018. Its share of the total eligible amount held fairly steady, at 20.7% in 2022 compared to 19.5% in 2018.

The third and oldest of the newer second-line therapies, DPP-4 inhibitors, saw declines in both their share of distinct claimants (from 28.3% in 2018 to 17.9% in 2022) and total eligible amount (from 26.8% to 13.3%).

“ The lower share of costs will accelerate in 2023 as this drug class becomes genericized,” notes Lee. “Multiple DPP-4 generics were marketed at the end of 2022.” ”



Weight loss can be an important part of treatment for people with type 2 diabetes. GLP-1 RAs and SGLT2 inhibitors can contribute significantly to weight loss, an outcome that has propelled their acceptance among patients and prescribers.

Over the past five years, two GLP-1 RAs, Victoza and Ozempic, moved to the forefront in terms of utilization for weight loss. Their manufacturers eventually spun off products indicated for weight management only: Saxenda for Victoza and Wegovy for Ozempic. However, Wegovy has yet to launch in Canada. “As a result, off-label prescribing of Ozempic for weight loss only has exploded over the past two years. The popularity of Ozempic has even led to shortages in Canada,” says Lee.

To determine what proportion of Ozempic claims are for weight loss only, TELUS Health identified claimants who are using it as monotherapy; that is, they are not taking any other diabetes drug. This is telling because clinical guidelines for diabetes management recommend the use of GLP-1 RAs, SGLT2 inhibitors and DPP-4 inhibitors as second- or third-line therapies, taken in conjunction with metformin or other first-line diabetes drugs.

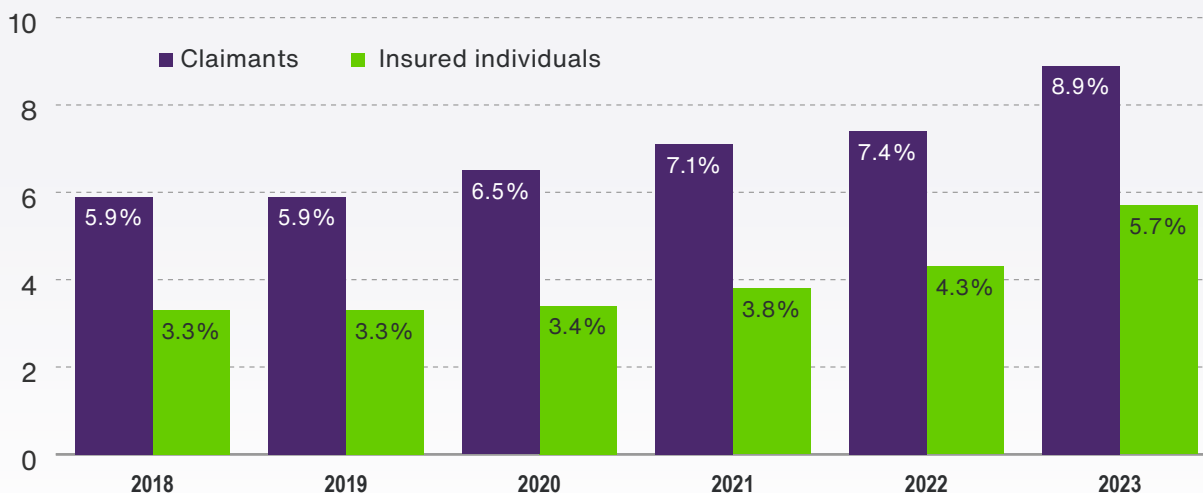
Applying this metric, claimants using Ozempic as monotherapy quadrupled from 2018 (5.9%) to 2022 (24.9%) (chart 11). They accounted for 19.7% of the total eligible amount in 2022, compared to 4.7% in 2018. The first six months of 2023 indicate a possible deceleration of the trend, with a 20.4% share of claimants and a 16.2% share of the total eligible amount.

“ To control off-label use, carriers have implemented controls such as step and prior authorization. And shortages of Ozempic across Canada may have contributed to the deceleration in growth, ” suggests Lee.

The average annual eligible amount per claimant using Ozempic as monotherapy was \$952 in 2022 (chart 12), almost half the annual eligible amount recorded for all claimants using a GLP-1 RA, of whom at least three out of four used it as indicated, for diabetes.



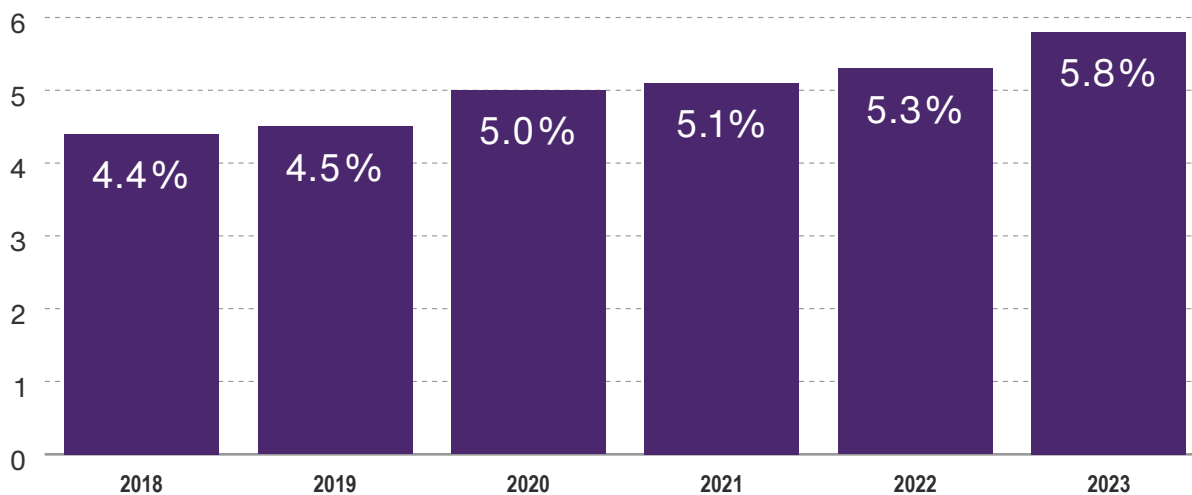
CHART 1 | Diabetes drugs: Share of all claimants and all insured individuals, 2018 – 2023.



Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.



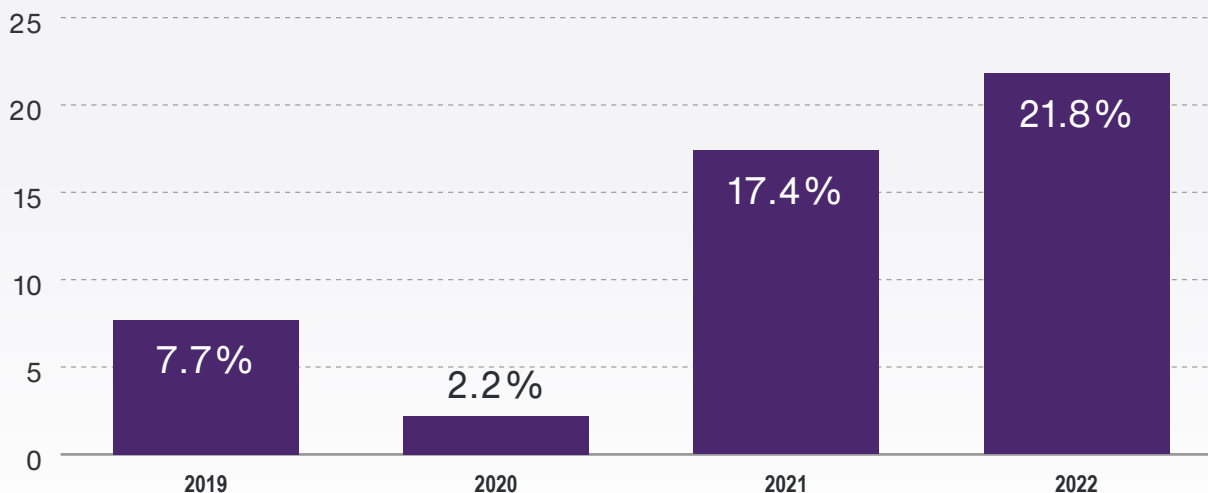
CHART 2 | Diabetes drugs: Share of all claims, 2018 – 2023.



Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.



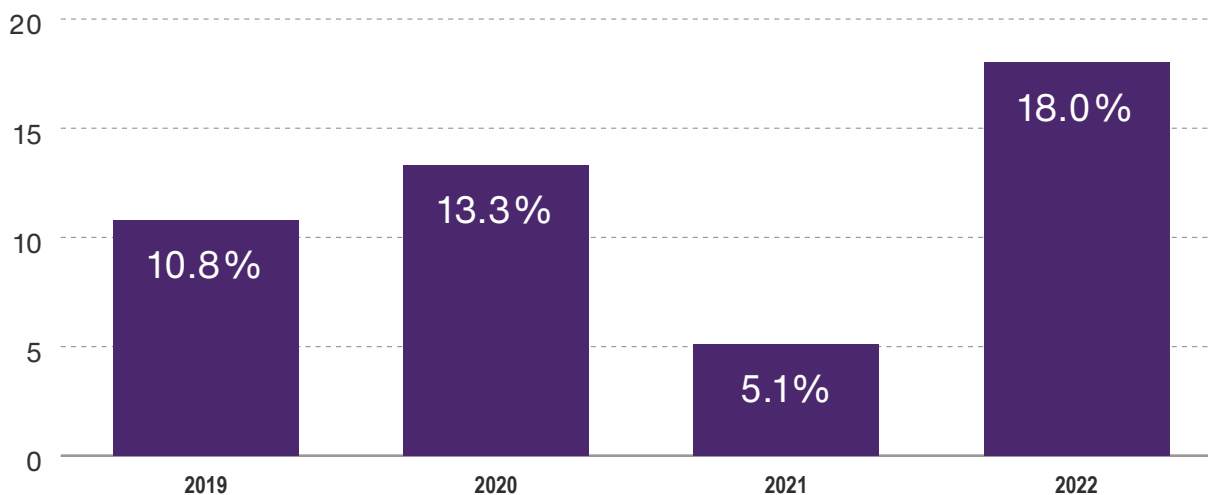
CHART 3 | Diabetes drugs: Change in number of claimants, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



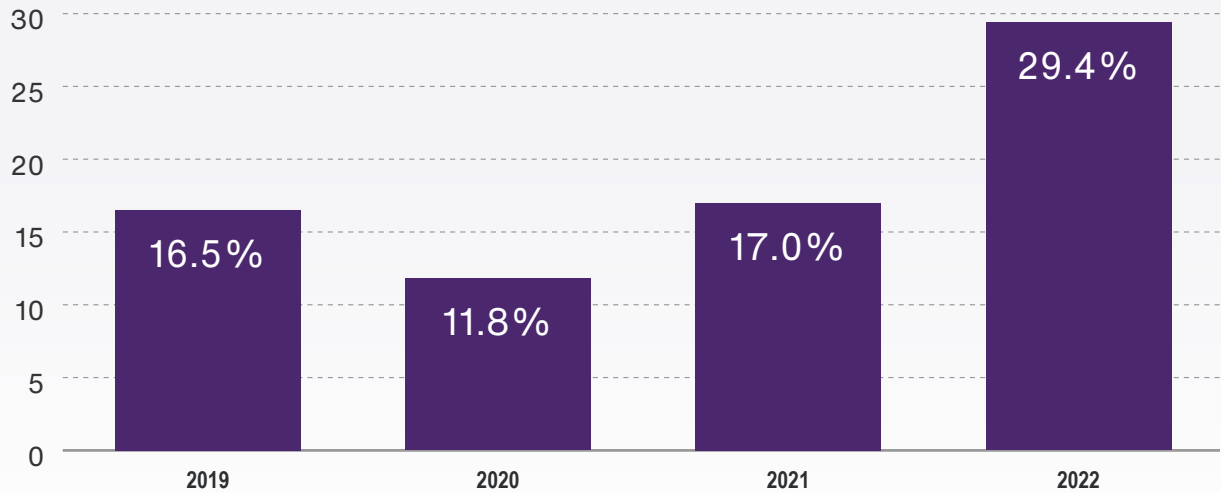
CHART 4 | Diabetes drugs: Change in number of claims, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



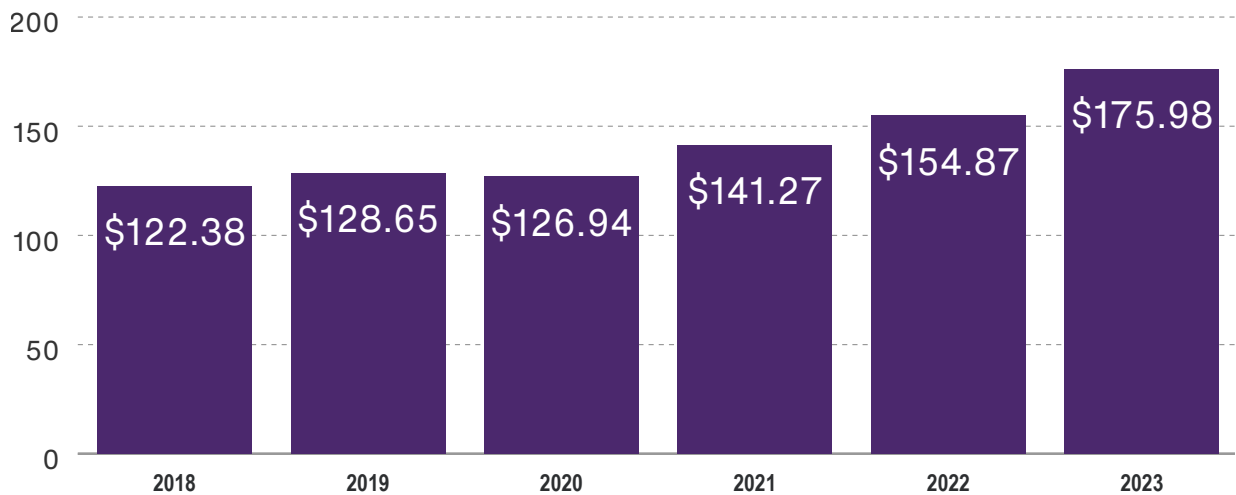
CHART 5 | Diabetes drugs: Change in total eligible amount, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.

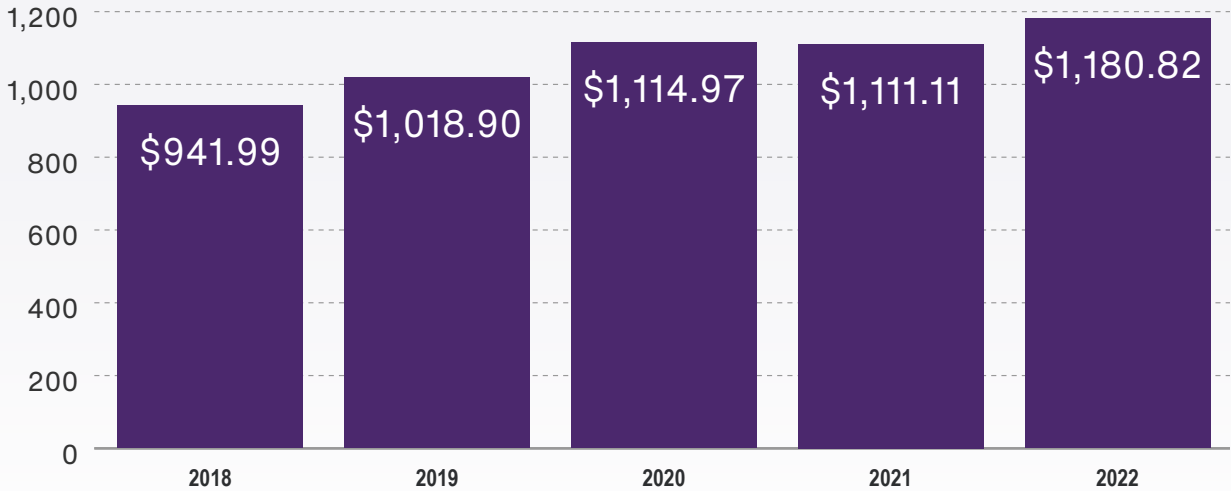


CHART 6 | Diabetes drugs: Average eligible amount per claim, 2018 – 2023.



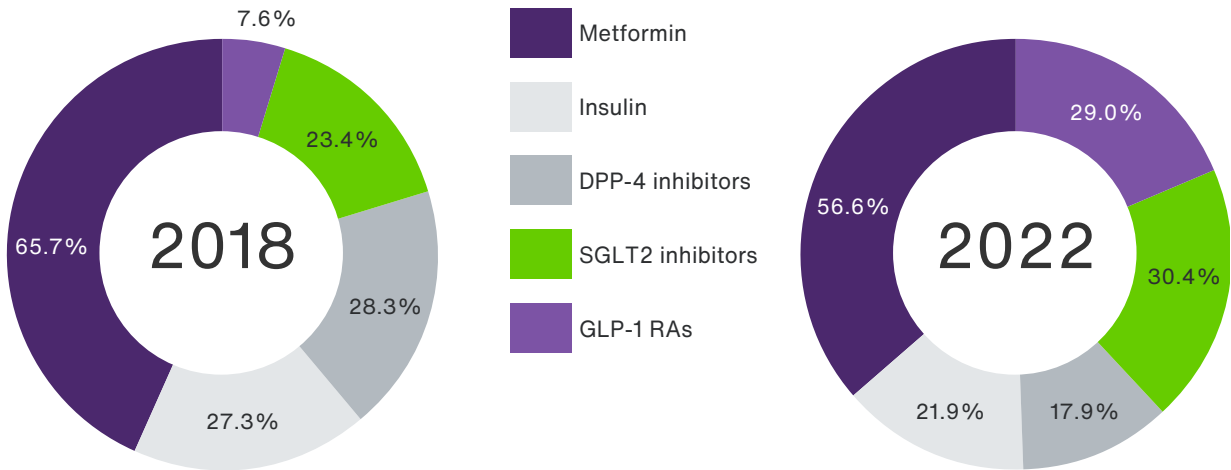
Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.

CHART 7 | Diabetes drugs: Average annual eligible amount per claimant, 2018 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.

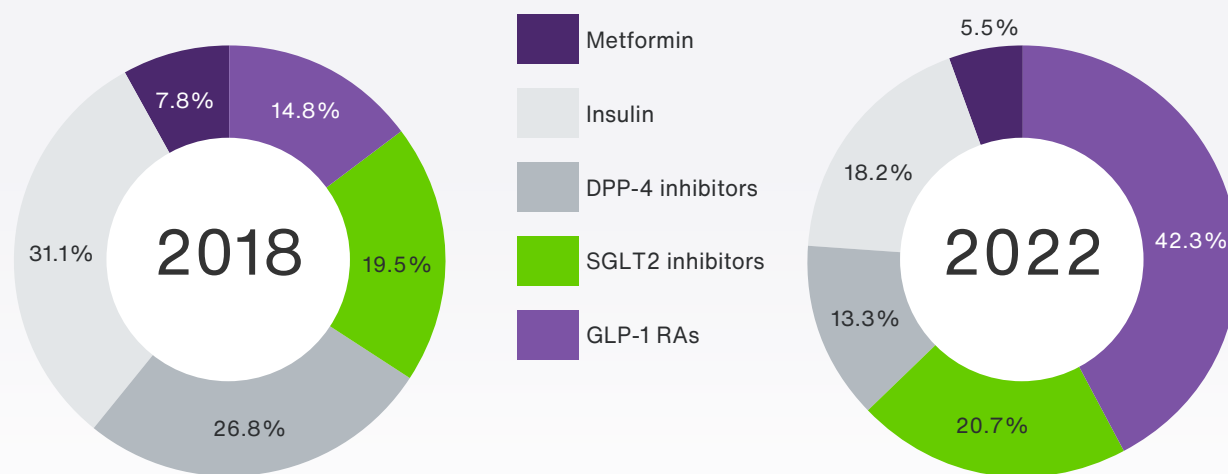
CHART 8 | Diabetes drugs: Share of distinct claimants by drug class, 2018 versus 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023. Numbers do not add up to 100% since claimants may be taking more than one diabetes drug.



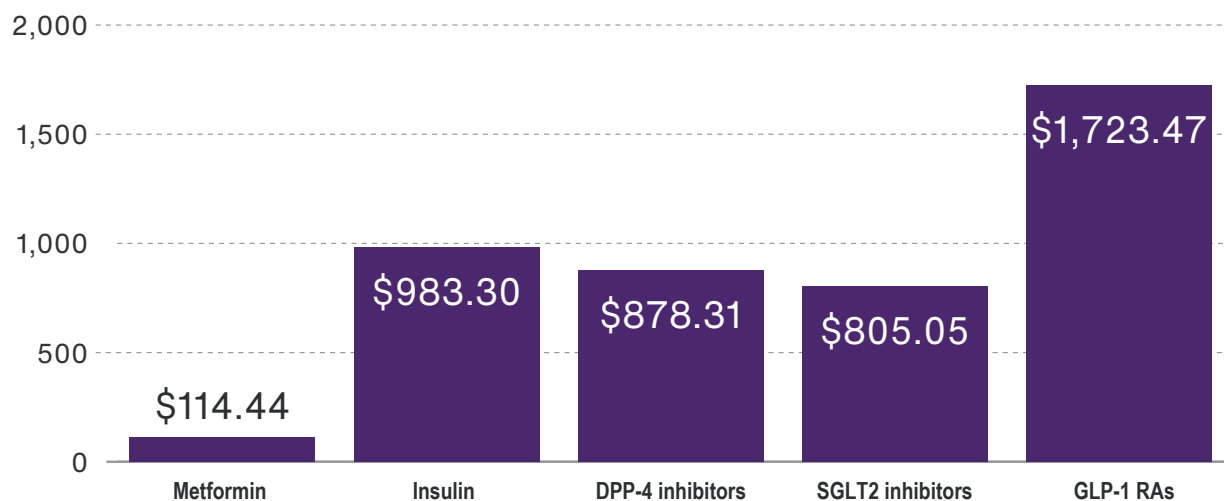
CHART 9 | Diabetes drugs: Share of total eligible amount by drug class, 2018 versus 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



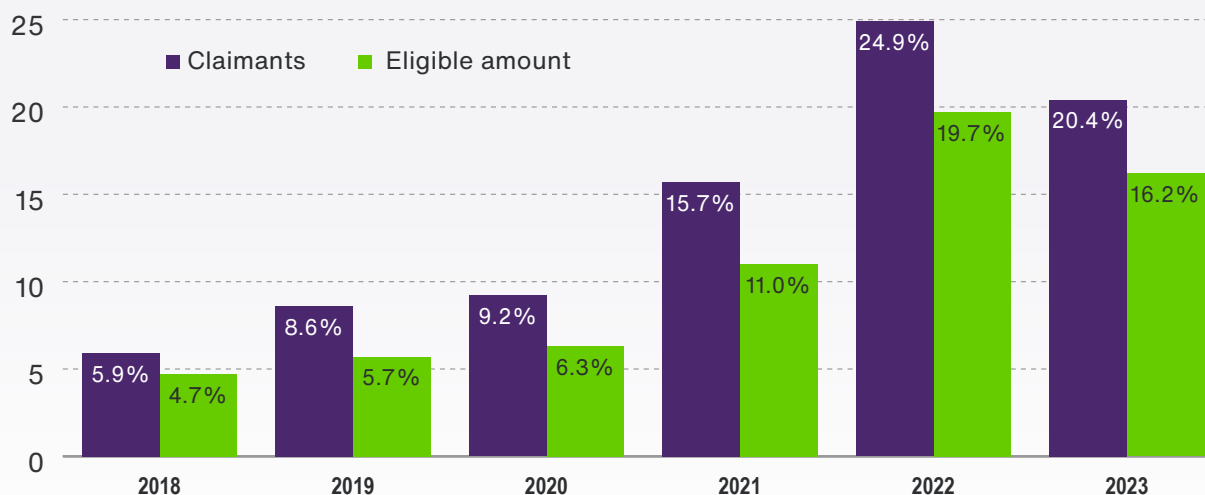
CHART 10 | Diabetes drugs: Average annual eligible amount per claimant by drug class, 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



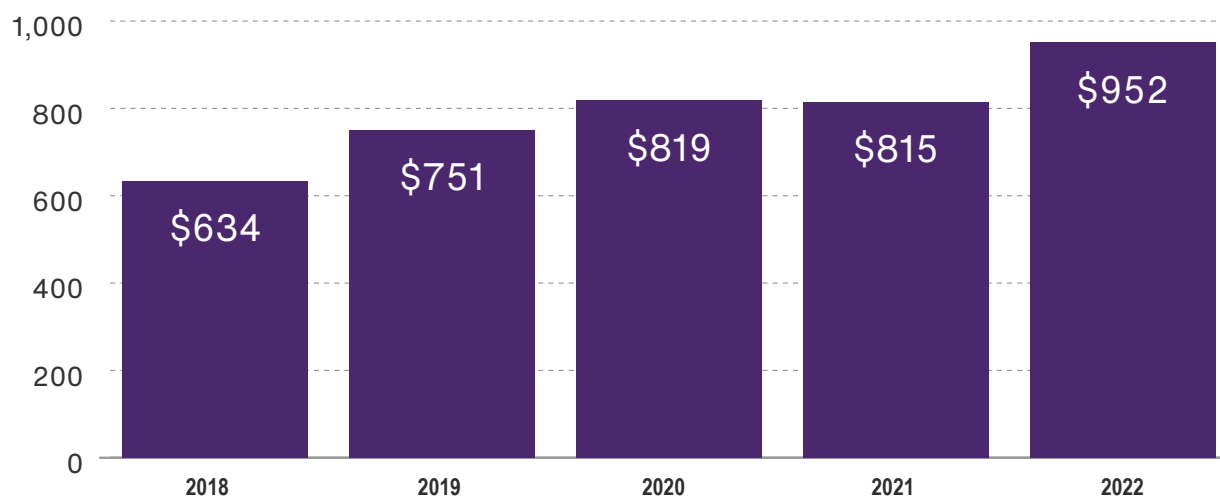
CHART 11 | Diabetes drugs: Ozempic used as monotherapy by share of claimants and total eligible amount, 2018 – 2023.



Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.



CHART 12 | Diabetes drugs: Average annual eligible amount per claimant using Ozempic as monotherapy, 2018 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



Diagnoses climb for **attention deficit hyperactivity disorder.**

Among the top drug categories by eligible amount, drugs for attention deficit hyperactivity disorder (ADHD) are the fastest growing due to significantly more claimants year after year, especially among adults. Ranking sixth on TELUS Health's top-10 list in 2022 with a 5.1% share of the total eligible amount, the ADHD category appears poised to overtake depression (5.2%) and asthma (5.3%).

ADHD drugs' share of claimants almost doubled in the past five years, from 3.4% in 2018 to 6.2% in 2022 (chart 13). For the first six months of 2023, 7.0% of claimants submitted claims for ADHD drugs.

When these numbers are spread out across all insured individuals, ADHD drugs represented 3.6% of TELUS Health's book of business in 2022, compared to 1.9% in 2018. The first half of 2023 saw that share climb to 4.5%.

ADHD drugs accounted for 3.7% of all claims submitted in 2022, climbing to 4.1% by the end of the first half of 2023 (chart 14). Five years ago, their share was 2.3%.

The number of claims and claimants has grown by double digits for at least the past four years—except for 2020, the first year of the COVID-19 pandemic (charts 15 and 16). In each of 2022 and 2021, the number of claimants grew by a third. When 2022 is compared to 2018, the number of claimants grew by an astonishing 151.3%.

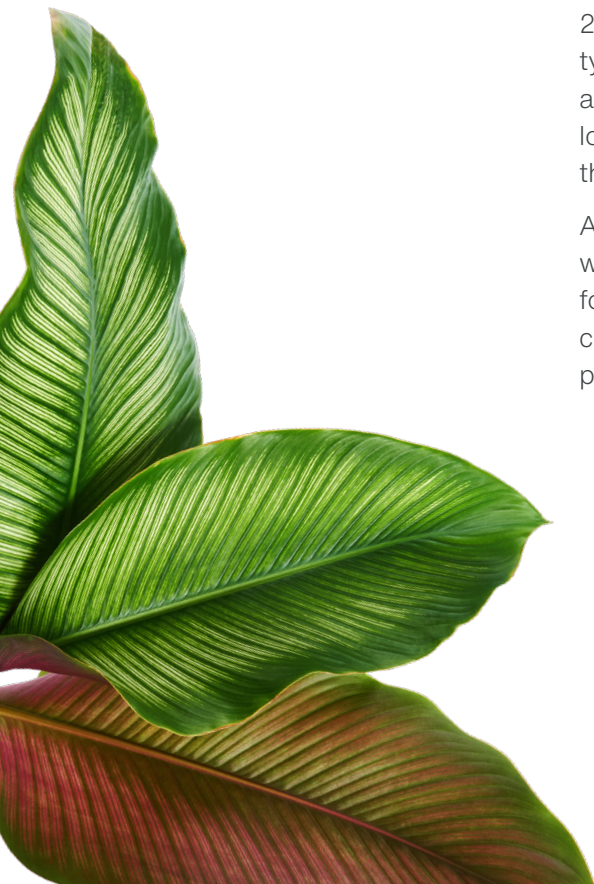
Year-over-year growth rates for the total eligible amount closely mimic the rates for claimants and claims (chart 17), further demonstrating that the main driver of growth is an expanding patient population rather than higher drug costs.

Over the past five years, the average eligible amount per claim increased moderately, by 6.2%, to reach \$117.29 in 2022 (chart 18). That said, the average annual eligible amount per claimant barely changed: it was \$752.04 in 2018 and \$747.41 in 2022 (chart 19).

“Utilization of some single-source brands like Vyvanse is increasing. They are higher in cost than the alternatives,” says Lee. “At the same time, many brands were genericized over the last two to three years, and that would have had a deflationary impact.”

The lion’s share of volume in the ADHD category comes from two drugs: Concerta and Vyvanse, which were used by 71.3% of claimants in 2022 and accounted for 70.2% of the total eligible amount. “These two typically have longer duration of action, which is better for adherence and consistency of effect throughout the day. Studies also confirm that longer-acting stimulants are less likely to be abused and diverted, and therefore physicians may prefer to prescribe these options,” says Lee.

A deeper dive into claims data for Concerta and Vyvanse reveals that, while growth has been strong across all age groups, adults are at the forefront—so much so that they now represent 60.7% of all claimants, compared to 48.4% five years ago (chart 20). Accordingly, the pediatric population’s share declined to 39.3% from 51.6%.



Among adults, those aged 20 to 39 were most likely to start taking Concerta and Vyvanse in the past five years. The number of claimants skyrocketed by 244.4% from 2018 to 2022, resulting in a 40.3% share of all claimants versus 29.4% in 2018. In the remaining age groups, the number of claimants climbed by 168.8% among those aged 40 to 64, and by 91.8% among those aged 19 or younger.

Two factors likely contribute to the higher incidence of ADHD among adults. First, clinicians are identifying previously undiagnosed individuals. “ADHD has a hereditary component. A parent may have a late diagnosis following the diagnosis of their child,” explains Lee.

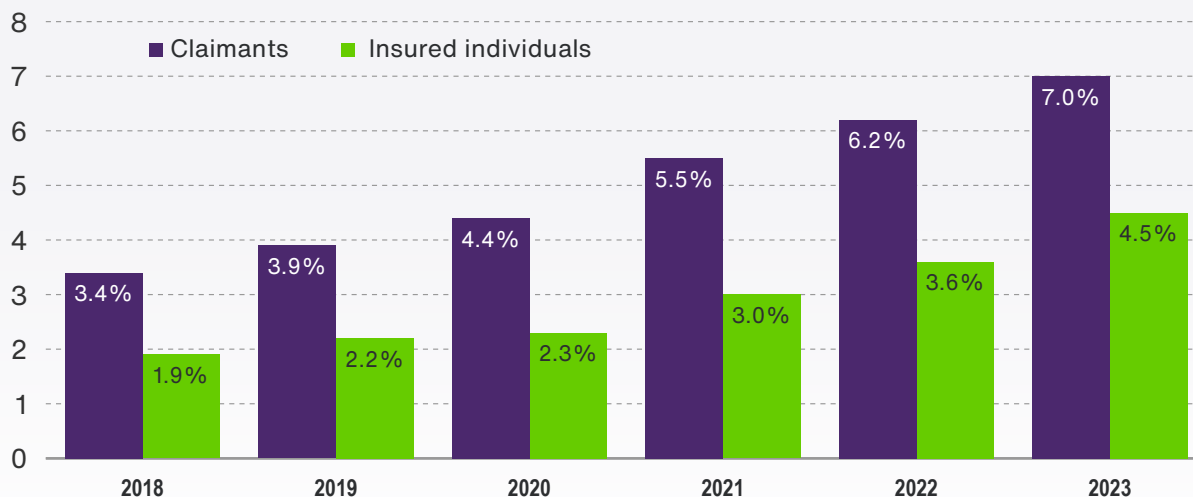
Second, the COVID-19 pandemic led to a rise in mental-health conditions. “The effects of working from home on adults may have caused ADHD symptoms to manifest in more working-age individuals,” observes Lee.



A higher average annual eligible amount for adults compared to the pediatric population is also a factor in the growing impact of ADHD drugs on private drug plans—but not significantly so. Adult utilization of Concerta or Vyvanse added up to a total of \$762.87 in average annual eligible amount per claimant in 2022, 9.7% more than the average for claimants aged 19 or younger (\$695.57).



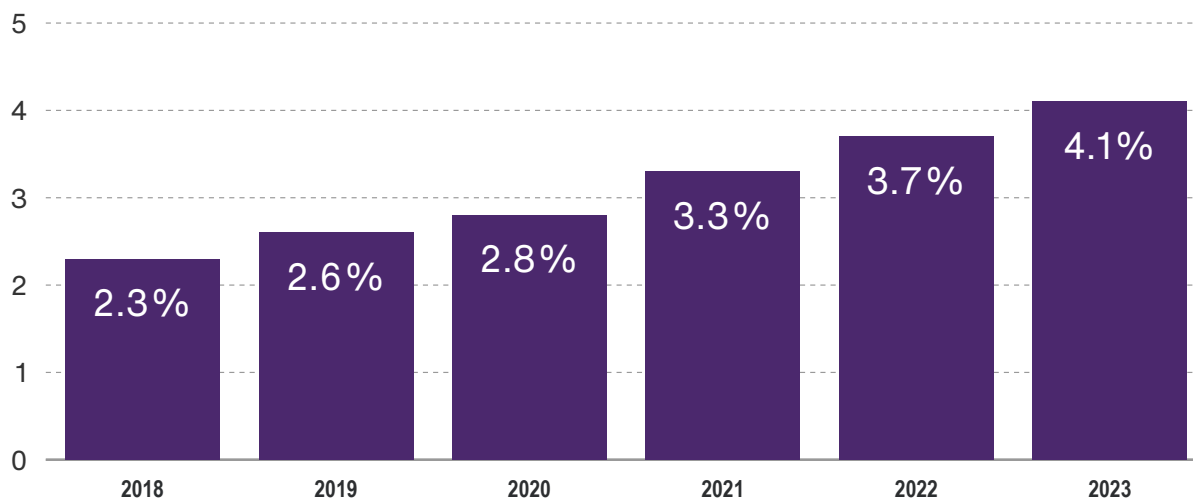
CHART 13 | ADHD drugs: Share of all claimants and all insured individuals, 2018 – 2023.



Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.



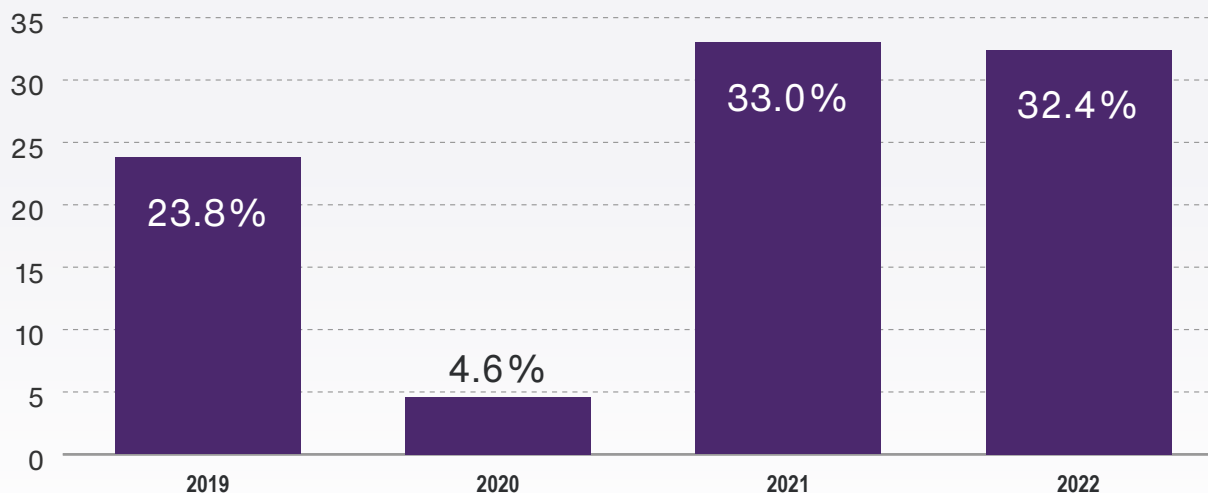
CHART 14 | ADHD drugs: Share of all claims, 2018 – 2023.



Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.



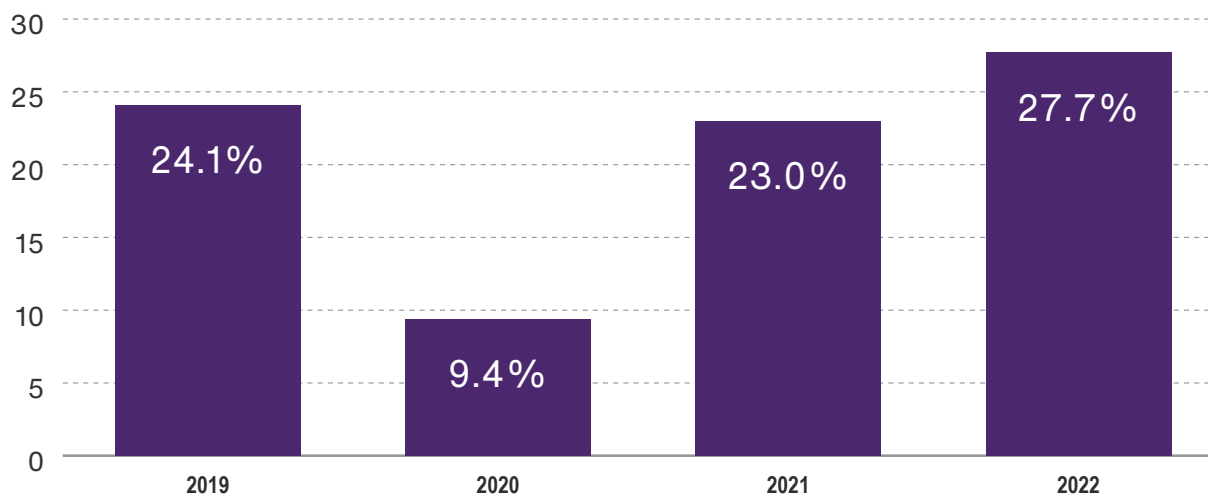
CHART 15 | ADHD drugs: Change in number of claimants, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



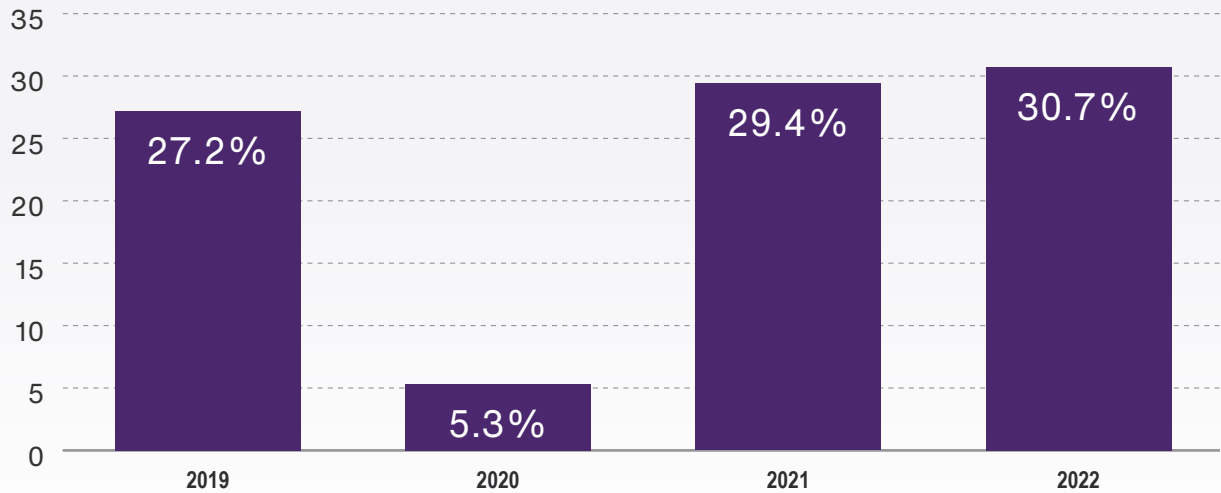
CHART 16 | ADHD drugs: Change in number of claims, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



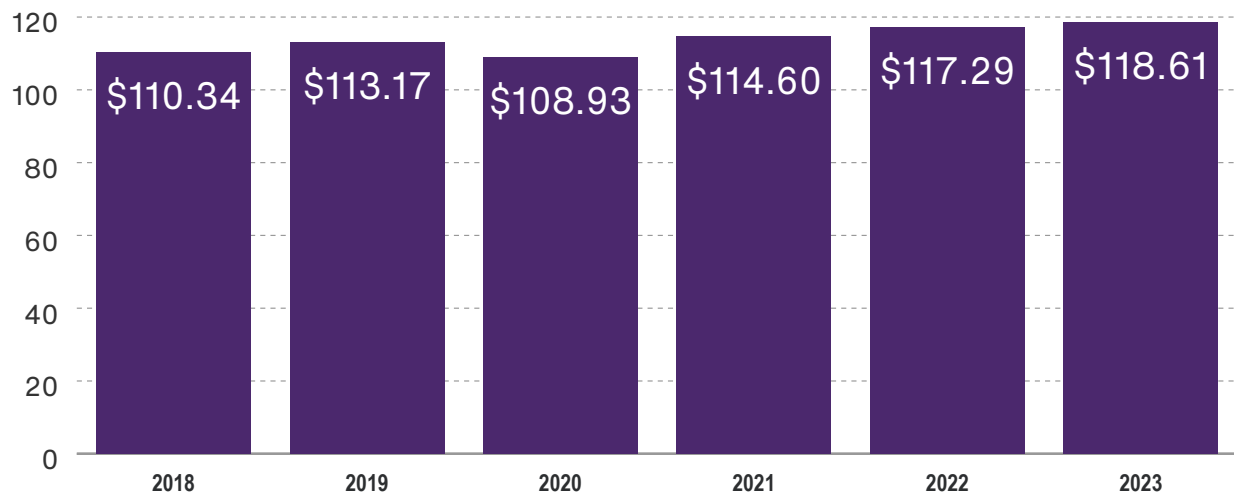
CHART 17 | ADHD drugs: Change in total eligible amount, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.

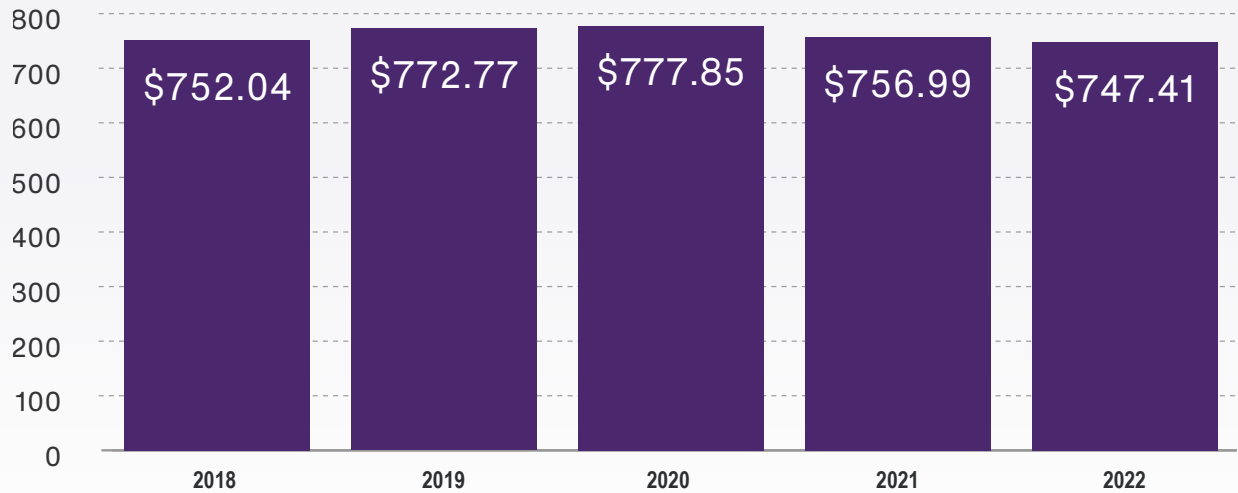


CHART 18 | ADHD drugs: Average eligible amount per claim, 2018 – 2023.



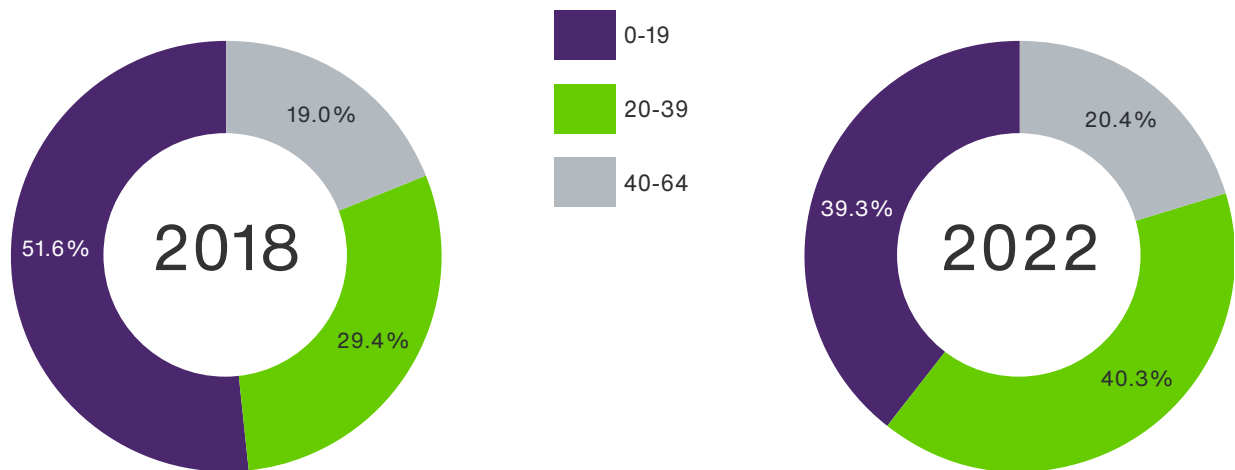
Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.

CHART 19 | ADHD drugs: Average annual eligible amount per claimant, 2018 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.

CHART 20 | ADHD drugs: Share of distinct claimants by age group for Concerta and Vyvanse, 2018 versus 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



New drug **revolutionizes** **treatment of cystic fibrosis.**

Canadians with cystic fibrosis (CF) are literally breathing easier—and living longer—thanks to a single new drug, Trikafta. Launched in 2021 in Canada, it acts upon the genetic mutations that cause CF rather than just treating symptoms. What truly sets it apart is its potential to treat up to 90% of patients, including children, whereas previous medications in the drug class are indicated for much smaller patient populations.

Claims data help tell the story of Trikafta’s dramatic impact on both patients and drug plans.

For 2022, TELUS Health’s book of business recorded 905 claimants for CF drugs, more than double the number five years ago (395 in 2018). The total eligible amount in 2022 was \$122.9 million, more than quadruple the \$28.2 million reported for 2018. Trikafta accounted for 50.1% of claimants and 80.3% of the eligible amount in 2022.

“ Prior treatment options were approved for specific genetic mutations associated with CF whereas Trikafta has been approved with a much broader indication. Trikafta also received an expanded indication for children in 2022 and is now approved for children as young as six years old, ”
says Lee.

Stepping back, claimants for CF drugs represented just 0.012% of all claimants in 2022 (chart 21). When spread out across all insured individuals, their number is even more negligible, at just 0.007%. Similarly, CF drugs accounted for just 0.022% of all claims in 2022 (chart 22). Nonetheless, these numbers have steadily grown over the past five years following the introduction of a new class of medications, called modulators, including Trikafta.



In 2019 the number of claimants jumped by 26.1% to 498 following the launch of Symdeko, another modulator drug (chart 23). It increased by 26.1% again in 2021 in response to Trikafta's launch, and then rose steeply in 2022, by 43.2%, as Trikafta gained momentum. Interestingly, the number of claimants for Symdeko and Orkambi, another modulator, declined in 2022, which likely reflects that these patients switched to Trikafta.

The pattern for the number of claims is similar, capped with a growth spurt of 65.5% in 2022 (chart 24).

The total eligible amount of claims submitted to private drug plans almost doubled in 2022 (97.6%) (chart 25), while the average eligible amount per claim increased by 19.4% to \$7,193.42 (chart 26) and the average annual eligible amount per claimant rose by 38.0% to \$135,848.25 (chart 27).

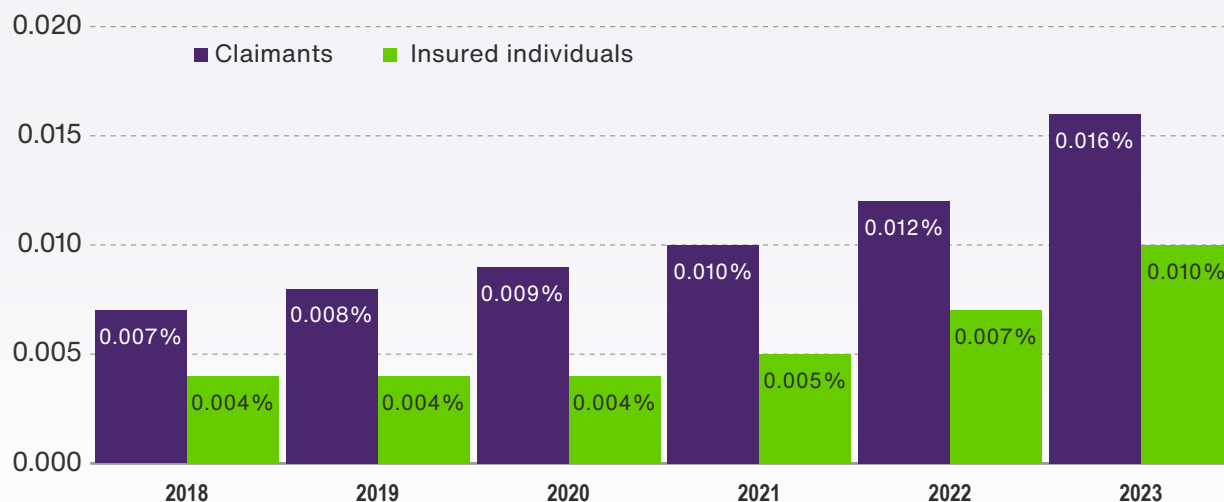
In summary, in less than two years Trikafta has captured half (50.1%) of the market in terms of claimants (chart 28) and 80.3% of the total eligible amount (chart 29). In contrast, Orkambi's shares of 25.5% of claimants and 71.1% of the total eligible amount in 2018 dropped to 6.1% and 8.7%, respectively, by 2022.

When the average annual eligible amount per claimant is broken down by drug, Trikafta is the highest at \$163,645.33 (chart 30). Other therapies outside of the modulator drug class carried an average eligible amount of \$19,599.50 annually.

“New treatment options like Trikafta and Symdeko have changed the landscape for patients, but their high costs are still very much a concern for private payers,” says Lee. “Coverage by provincial and federal public plans, fully in place since Fall 2022, may work to alleviate the pressures on private payers by taking on some of the costs.”



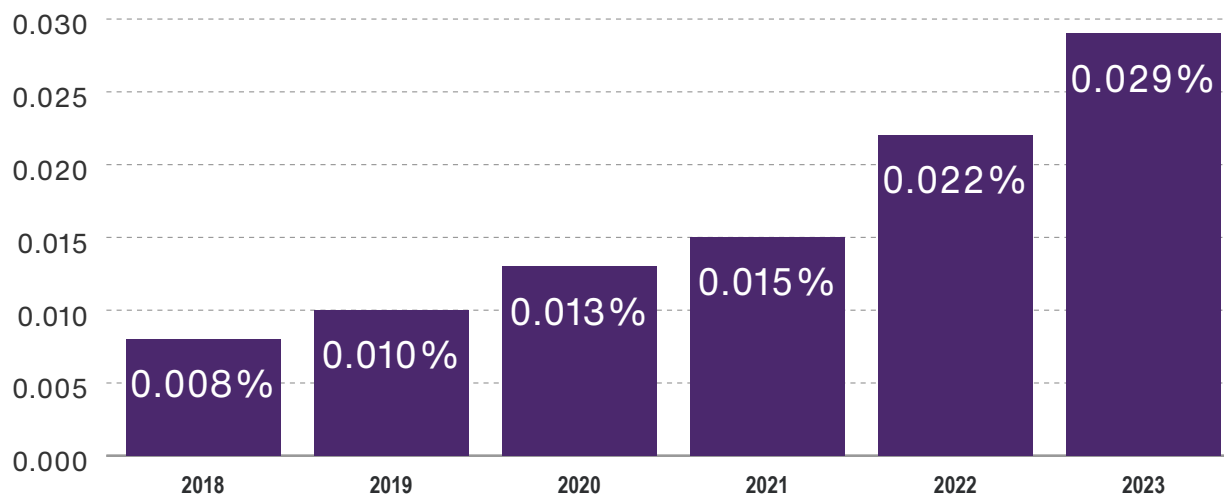
CHART 21 | Cystic fibrosis drugs: Share of all claimants and all insured individuals, 2018 – 2023.



Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.



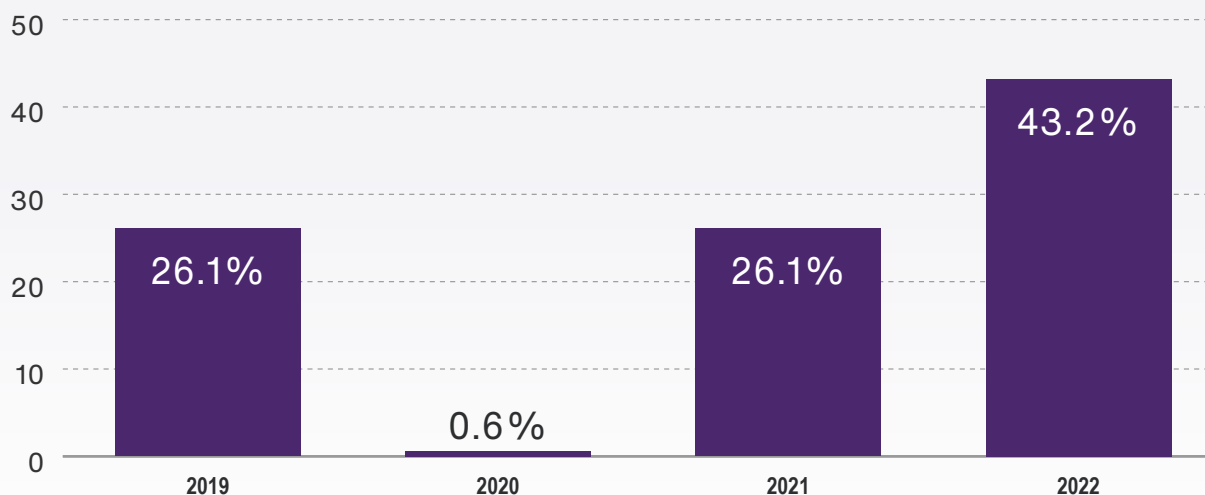
CHART 22 | Cystic fibrosis drugs: Share of all claims, 2018 – 2023.



Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.



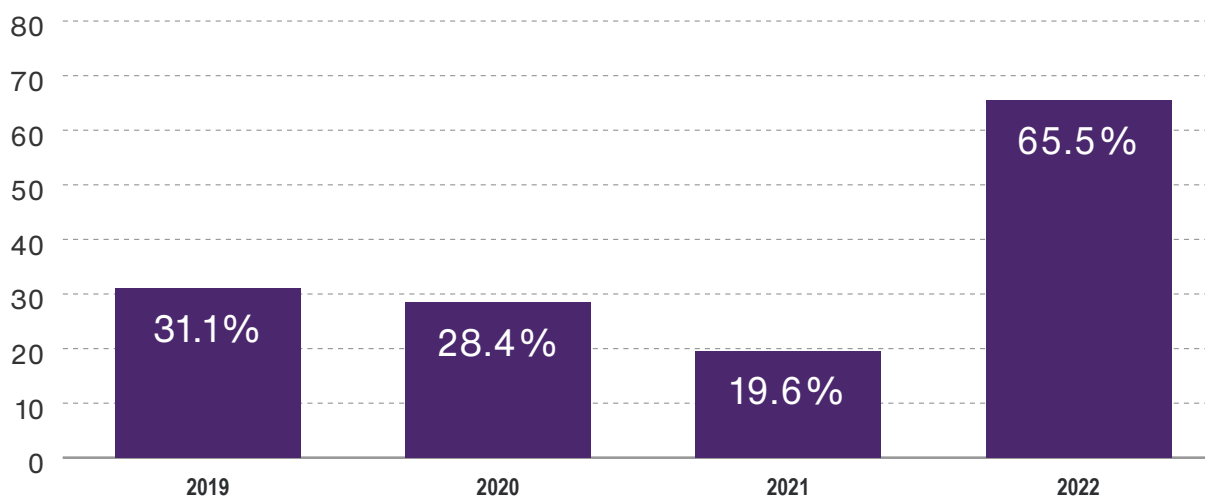
CHART 23 | Cystic fibrosis drugs: Change in number of claimants, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



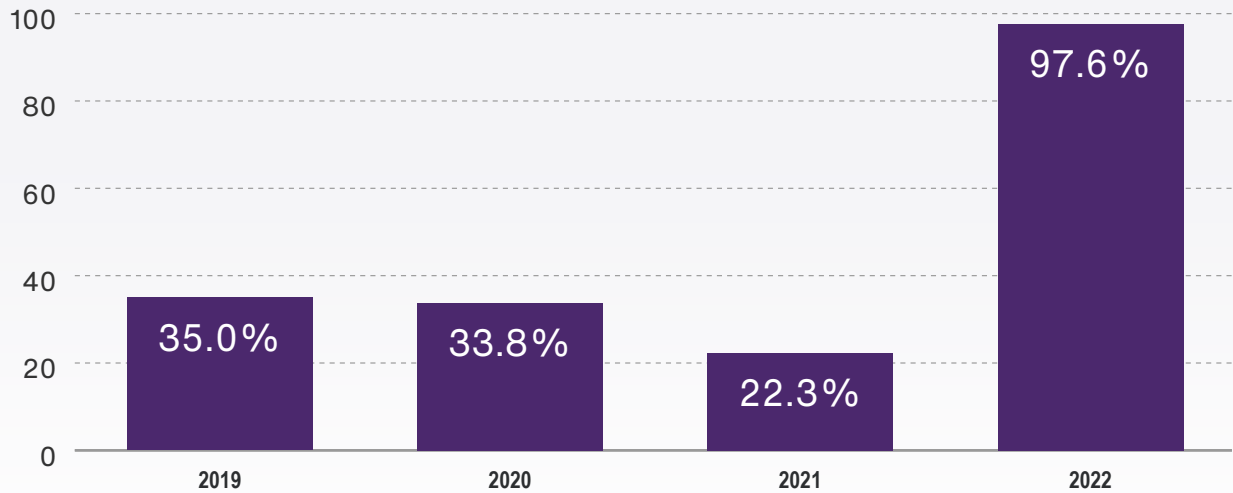
CHART 24 | Cystic fibrosis drugs: Change in number of claims, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



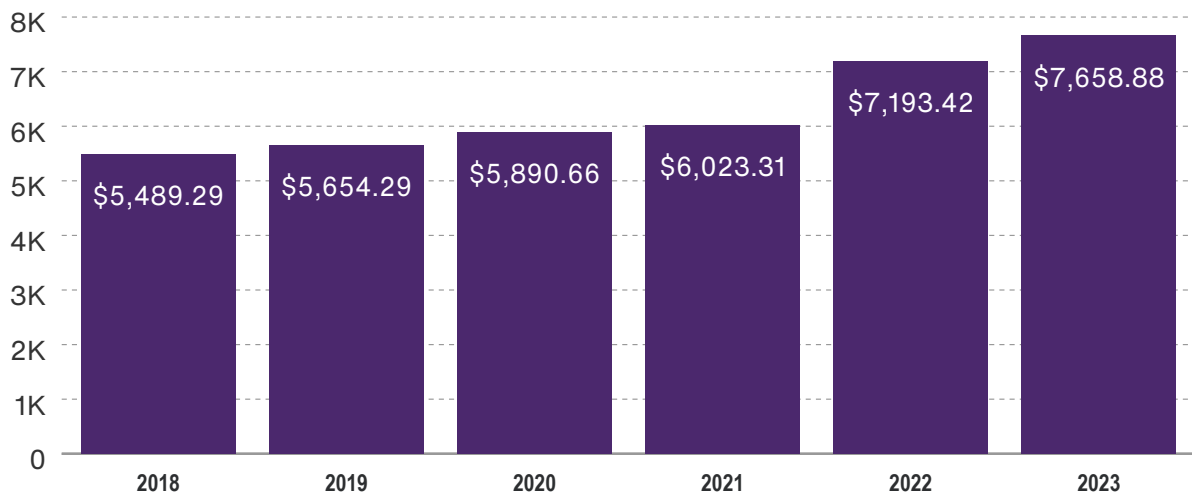
CHART 25 | Cystic fibrosis drugs: Change in total eligible amount, 2019 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



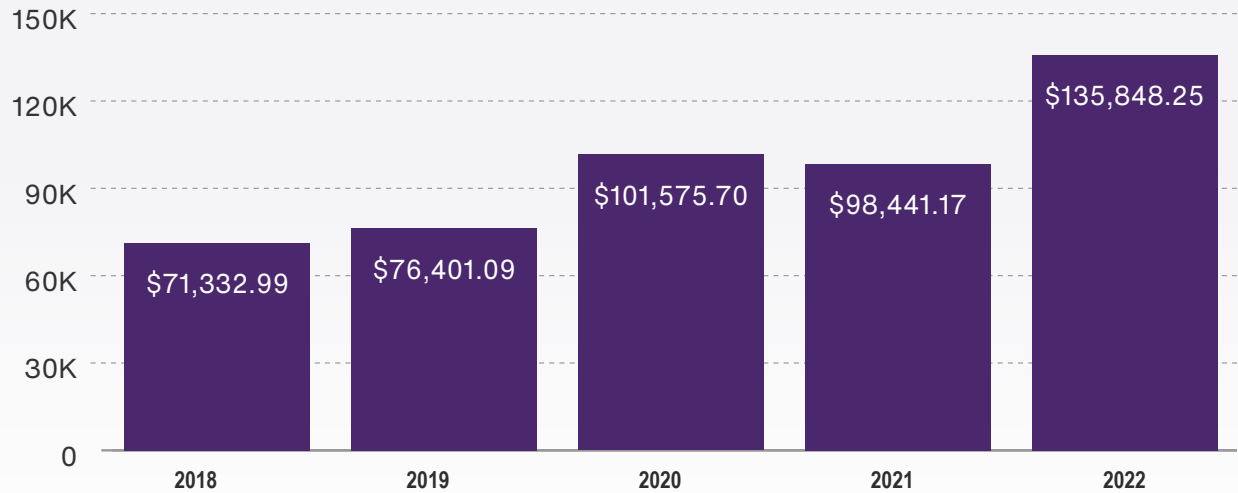
CHART 26 | Cystic fibrosis drugs: Average eligible amount per claim, 2018 – 2023.



Source: TELUS Health database for private drug plans; year ending December 31 except for 2023 (first six months). Data pulled August 22, 2023.



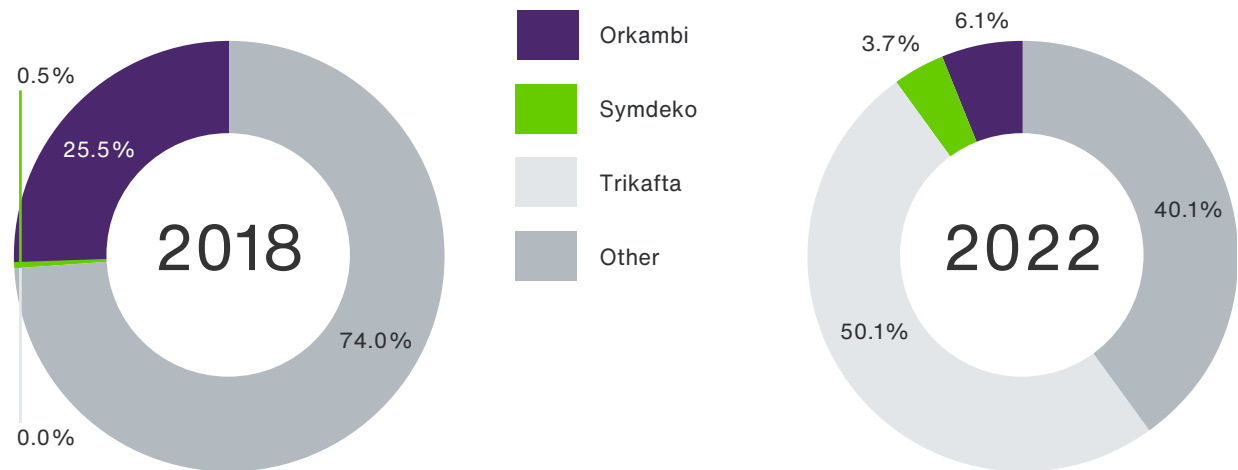
CHART 27 | Cystic fibrosis drugs: Average annual eligible amount per claimant, 2018 – 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



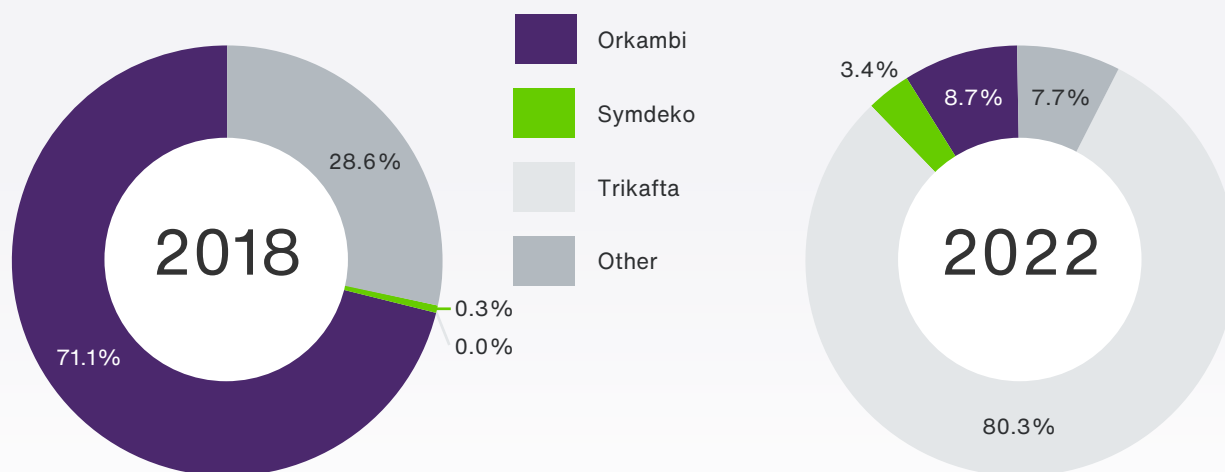
CHART 28 | Cystic fibrosis drugs: Share of distinct claimants by drug, 2018 versus 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



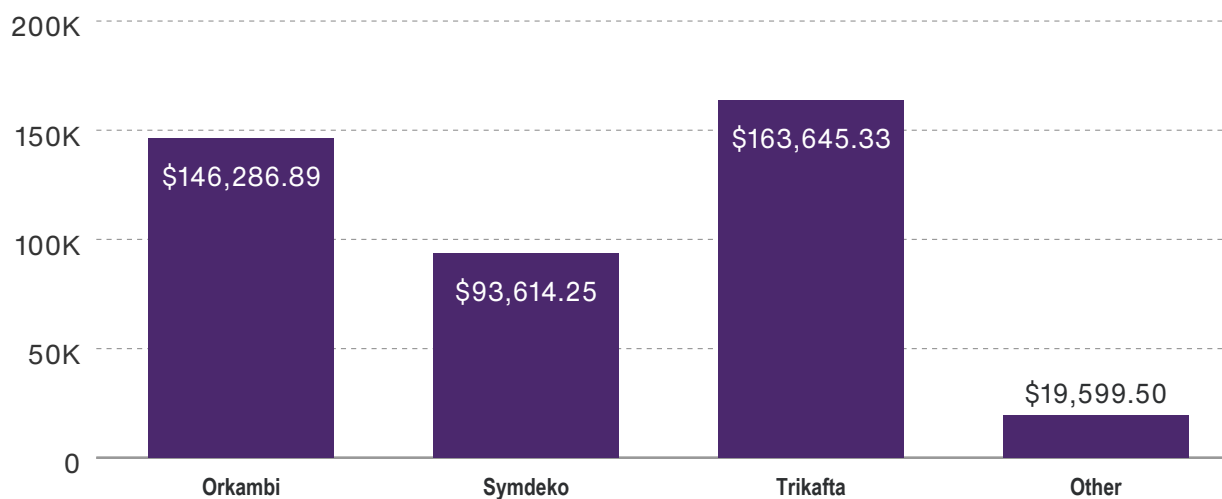
CHART 29 | Cystic fibrosis drugs: Share of total eligible amount by drug, 2018 versus 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



CHART 30 | Cystic fibrosis drugs: Average annual eligible amount per claimant by drug, 2022.



Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



Summary

All three categories analyzed in the TELUS Health 2023 Category Watch report posted large gains in claimants in the past five years (chart 31). Eligible amounts submitted to private drug plans increased accordingly, and in some cases at a higher rate due to higher drug costs or more claims per claimant.

Diabetes – Among all drug categories, private drug plans spent the most for diabetes drugs and devices in 2022, for 7.4% of all claimants. The claimant count increased by double digits in the past two years, propelled in large part by the off-label prescribing of one drug, Ozempic, for weight management. The impact of such off-label activity is exacerbated by the fact that Ozempic is part of a drug class (GLP-1 RAs) with an average annual eligible amount per claimant that is significantly higher than it is for other drug classes. That said, GLP-1 RAs and other second- and third-line therapies are proving their clinical value in the management of diabetes.

Attention deficit hyperactivity disorder (ADHD) – Many more Canadians, particularly those aged 20 to 39, are taking drugs to treat ADHD. While a heavily genericized market means that higher drug costs are not a factor, volume growth alone has driven double-digit increases in eligible amount—so much so that the category is now vying with depression and asthma to break into TELUS Health’s top-five list of categories by eligible amount.

Cystic fibrosis (CF) – Without doubt, CF patients are celebrating the launch of Trikafta in 2021. With potentially life-changing outcomes for as many as nine out of 10 patients, the drug has greatly accelerated the number of claimants—although their number is still infinitesimal compared to high-volume drug categories. However, with an average annual eligible amount of more than \$163,000 per claimant, Trikafta punches well above its weight in terms of potential impact on a private drug plan.

CHART 31 | Summary of drugs to treat diabetes, ADHD and cystic fibrosis, 2022.



| Category | Change in total eligible amount compared to 2021 | Average annual eligible amount per claimant | Change in number of claimants compared to 2021 | Share of all claimants |
|-----------------|--|---|--|------------------------|
| Diabetes | 29.4% | \$1,180.82 | 21.8% | 7.4% |
| ADHD | 30.7% | \$747.41 | 32.4% | 6.2% |
| Cystic fibrosis | 97.6% | \$135,848.25 | 43.2% | 0.01% |

Source: TELUS Health database for private drug plans; year ending December 31. Data pulled August 22, 2023.



2023

Category watch:
A closer look at disruption.

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