US Pharmaceutical Trends, Issues & Outlook for NACDS Regional Chain

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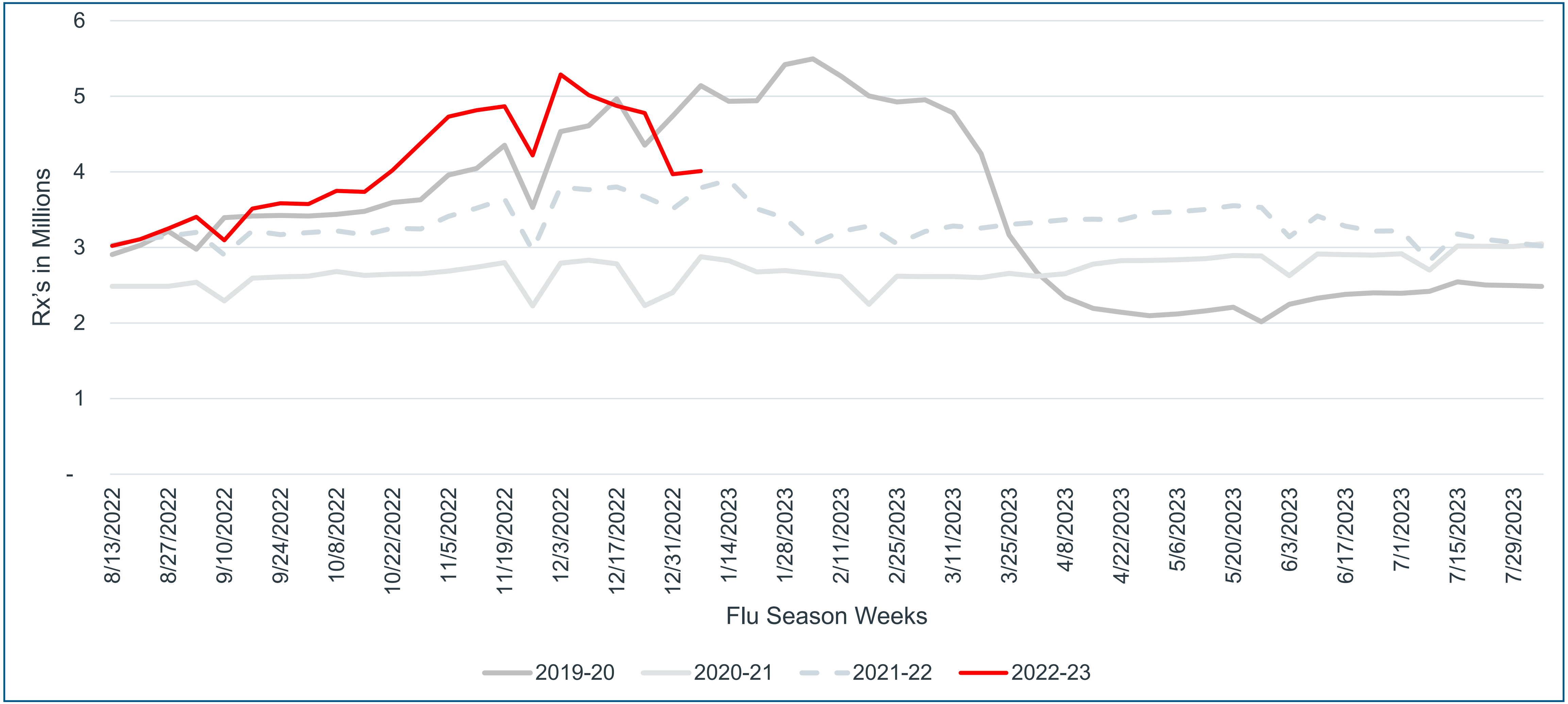
January 30, 2023

Agenda

+ Covid, Flu, RSV, Colds, Etc.
+ Market Trends: Utilization
+ Where are we now?
+ Retail Class of Trade and Method of Payment Performance
+ Opioids
+ Generics and Biosimilars
+ Product Launches
+ Outlook

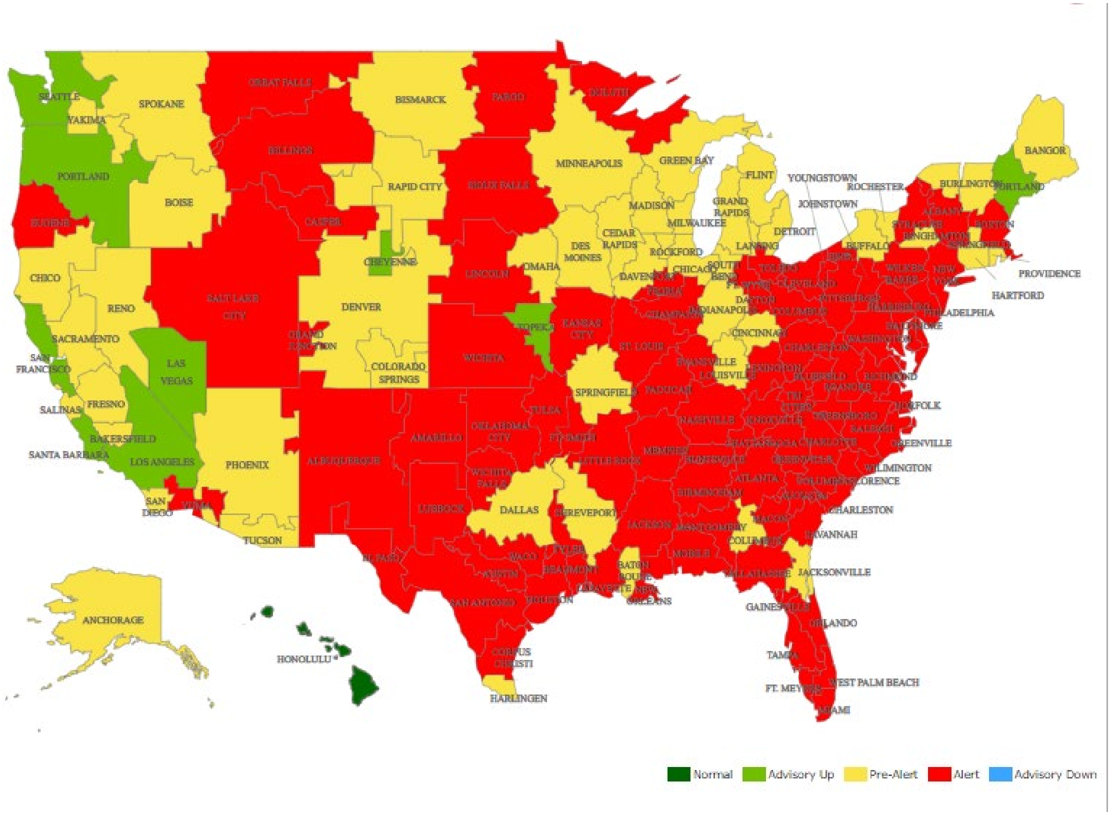
COVID, Flu, RSV, Colds, Etc.

Cough, Cold and Flu Rx's are slowing as symptoms are slowing

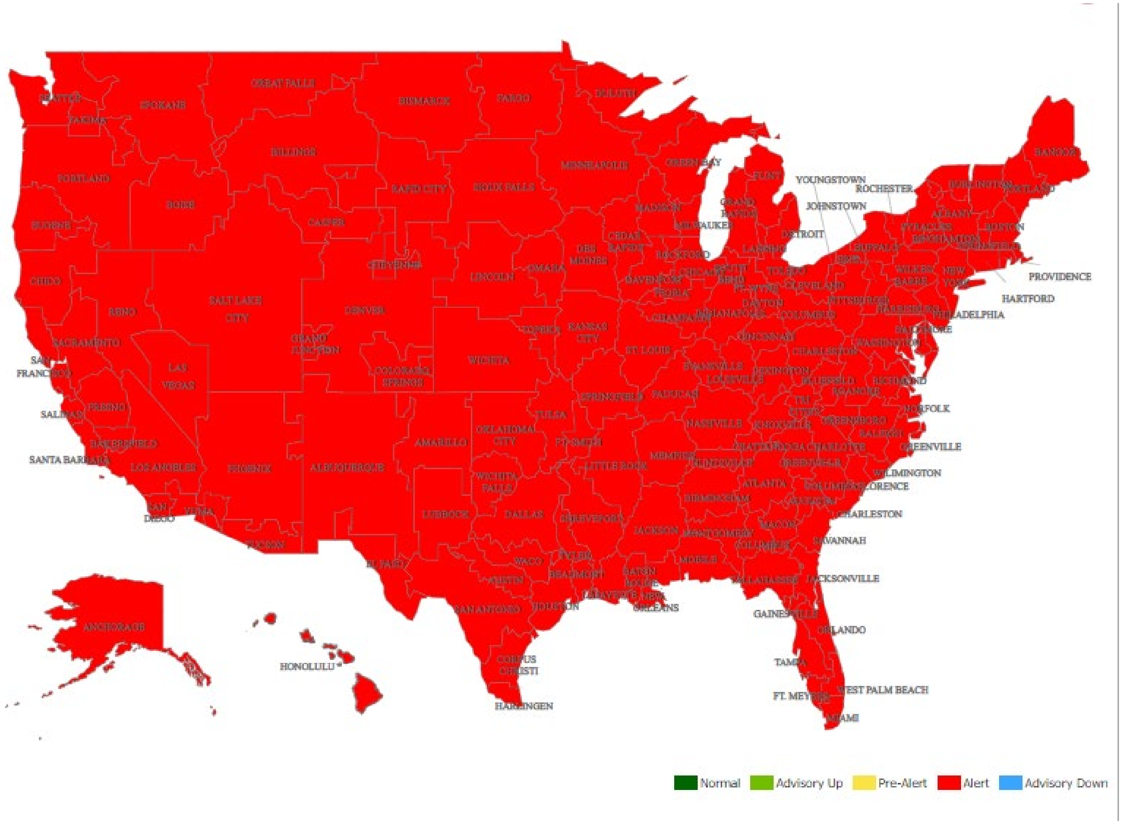


FAN® reports are showing the entire country is in Alert status, a much different picture than this time last year

Last Season – Week-ending 1/1/22



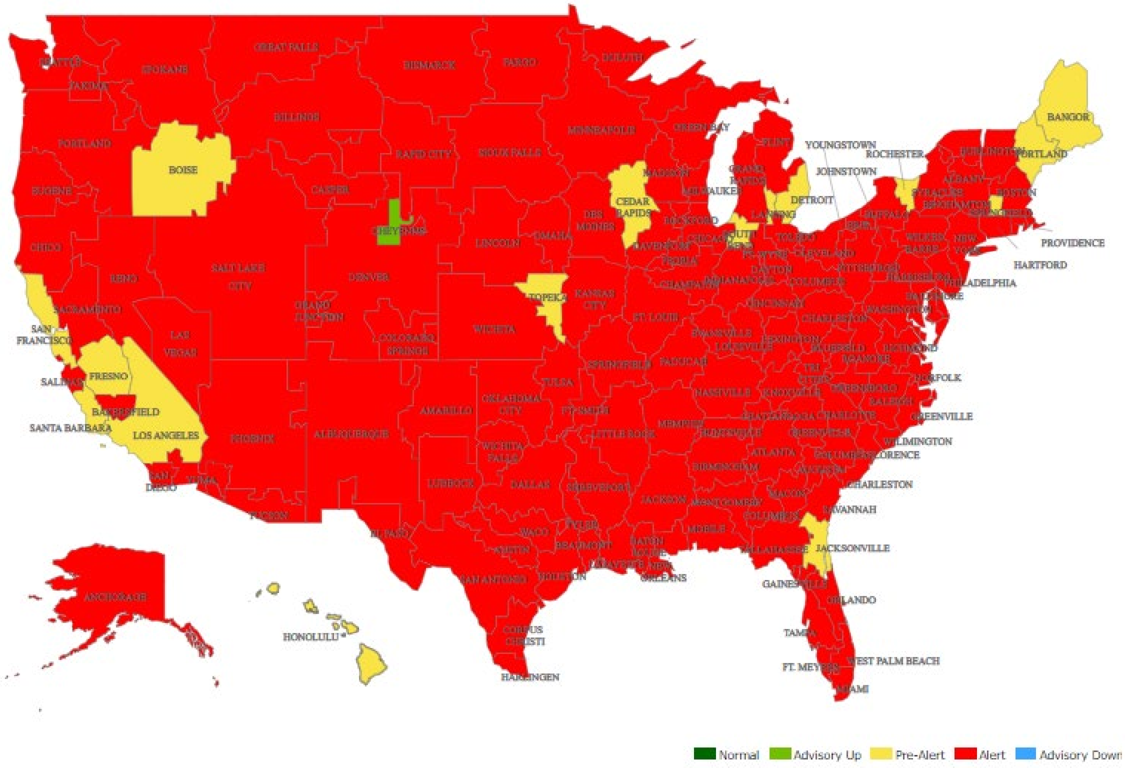
Current Season – Week-ending 12/31/22



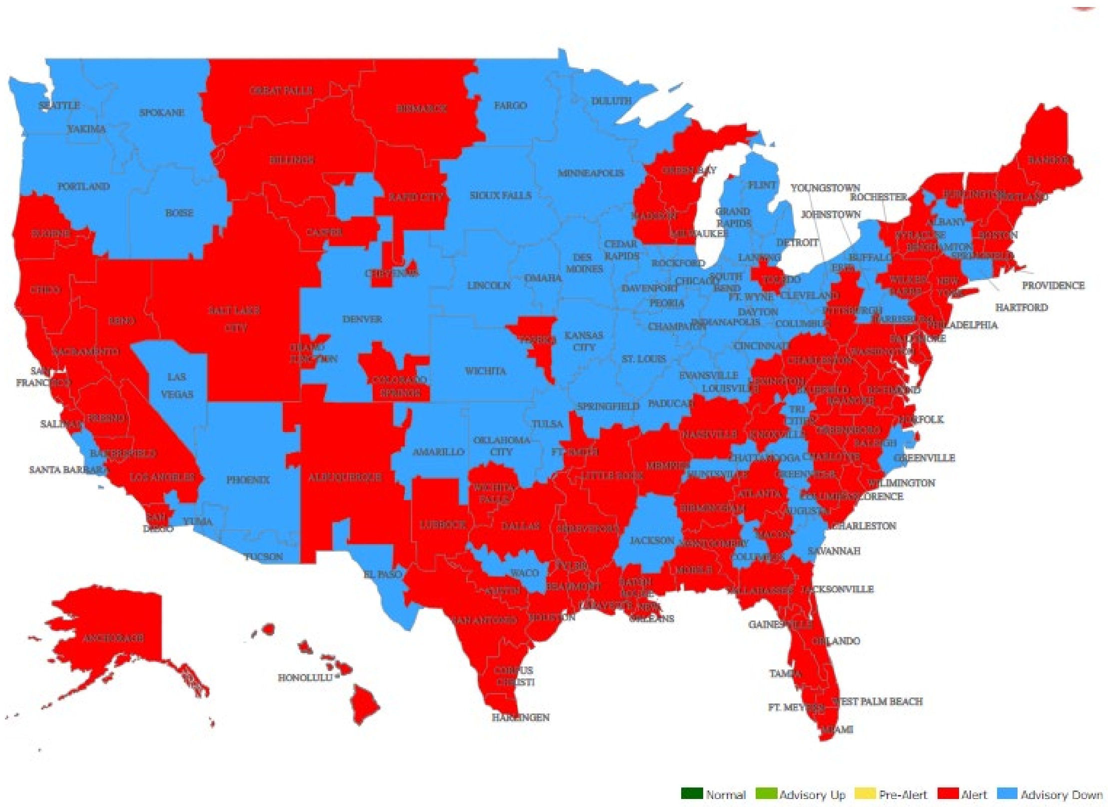
IQVIA

FAN® reports reflect that much of the country is in “Advisory Down” status, a much different picture than this time last year

Last Season – Week-ending 1/14/22

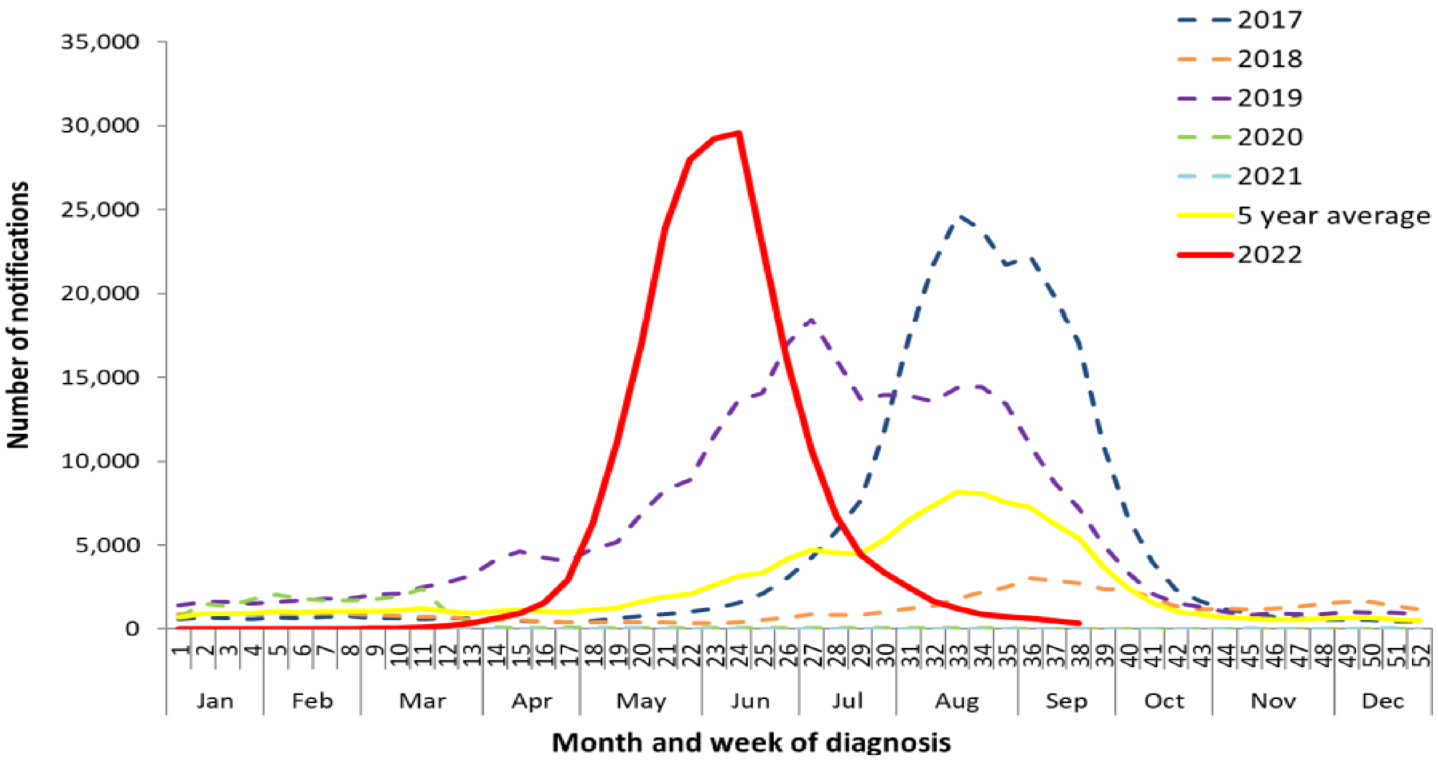


Current Season – Week-ending 1/14/22

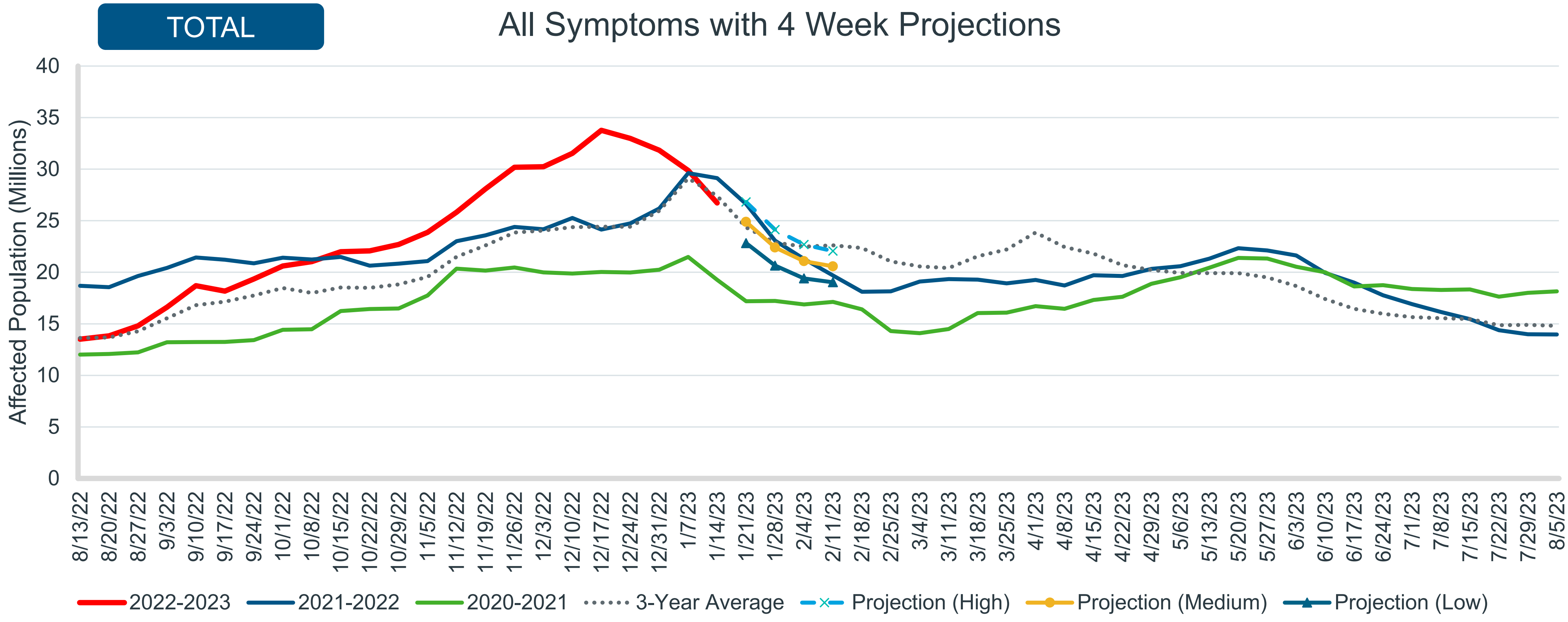


The Australia Flu Season can be a predictor of the US season; trends are showed a strong season

Figure 4. Notifications of laboratory-confirmed influenza, Australia, 01 January 2017 to 25 September 2022, by month and week of diagnosis*

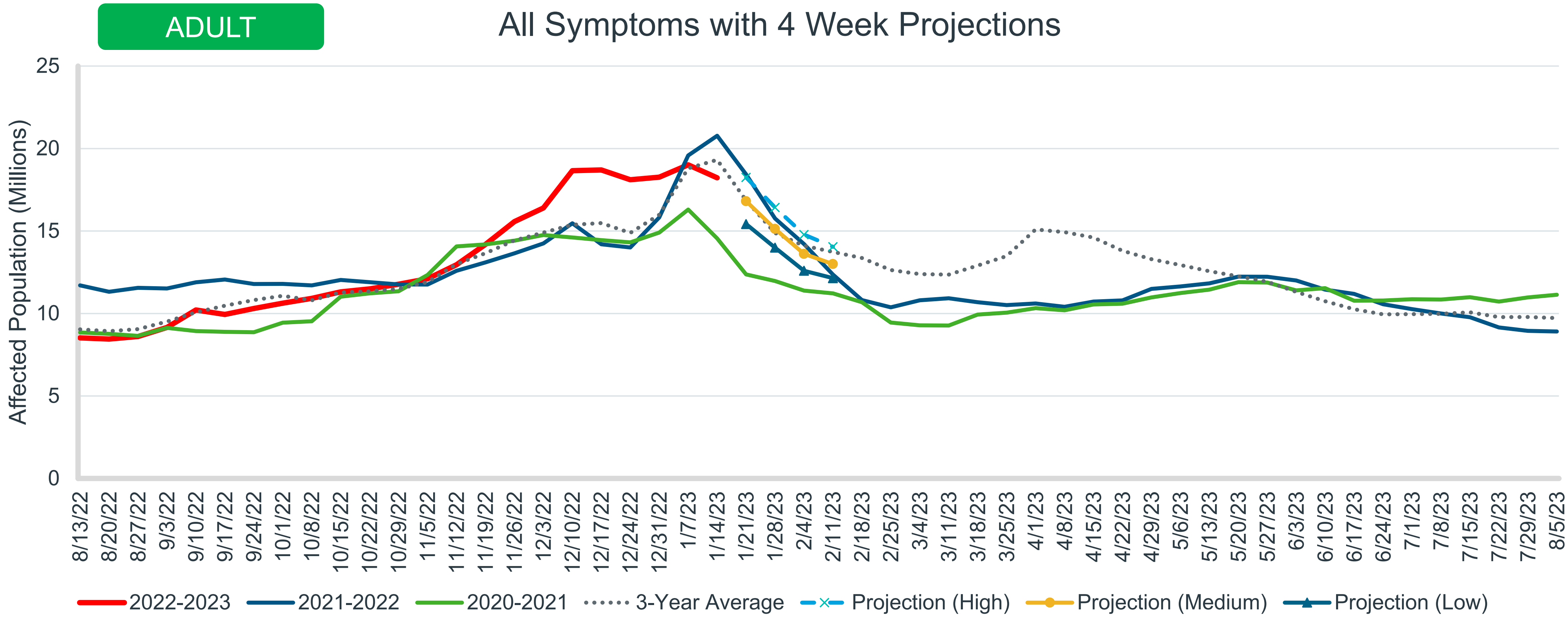


All symptoms run above historical trends and projections anticipate declines



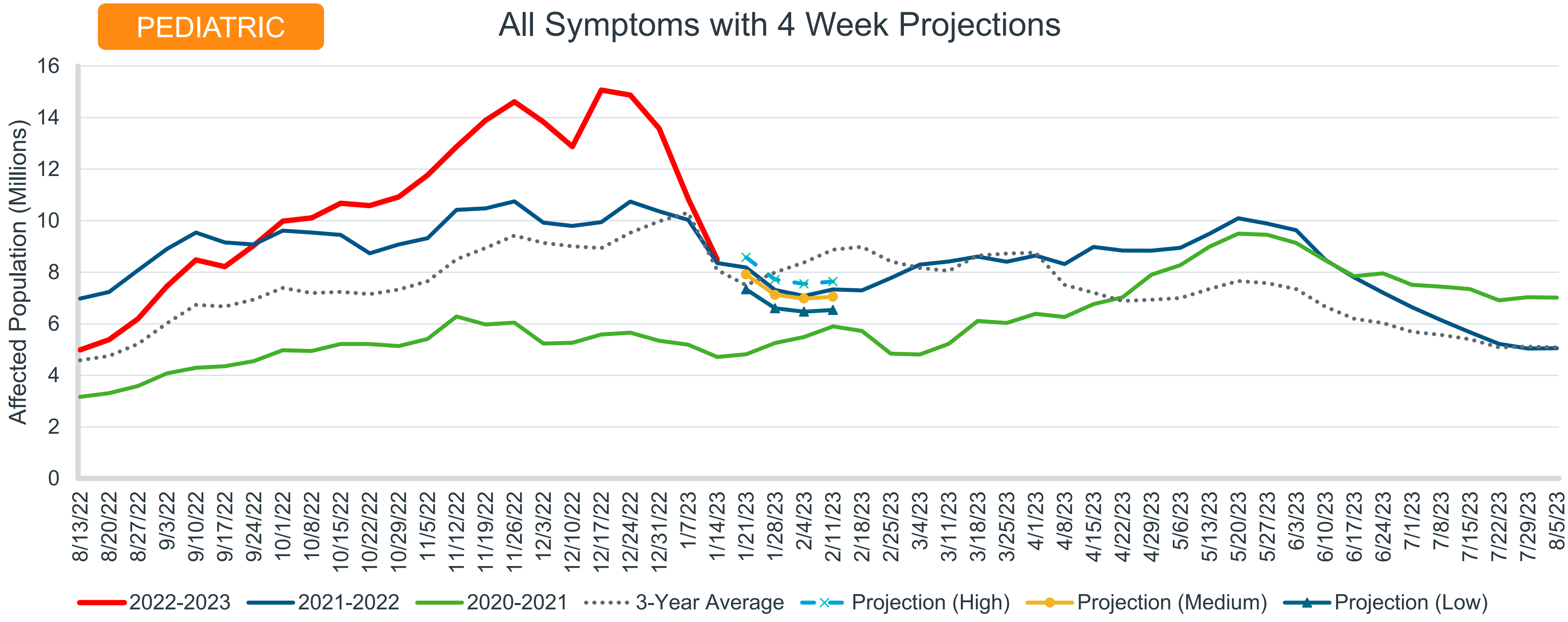
Updated through January 14, 2023

Adults ran above historical trends but are in decline



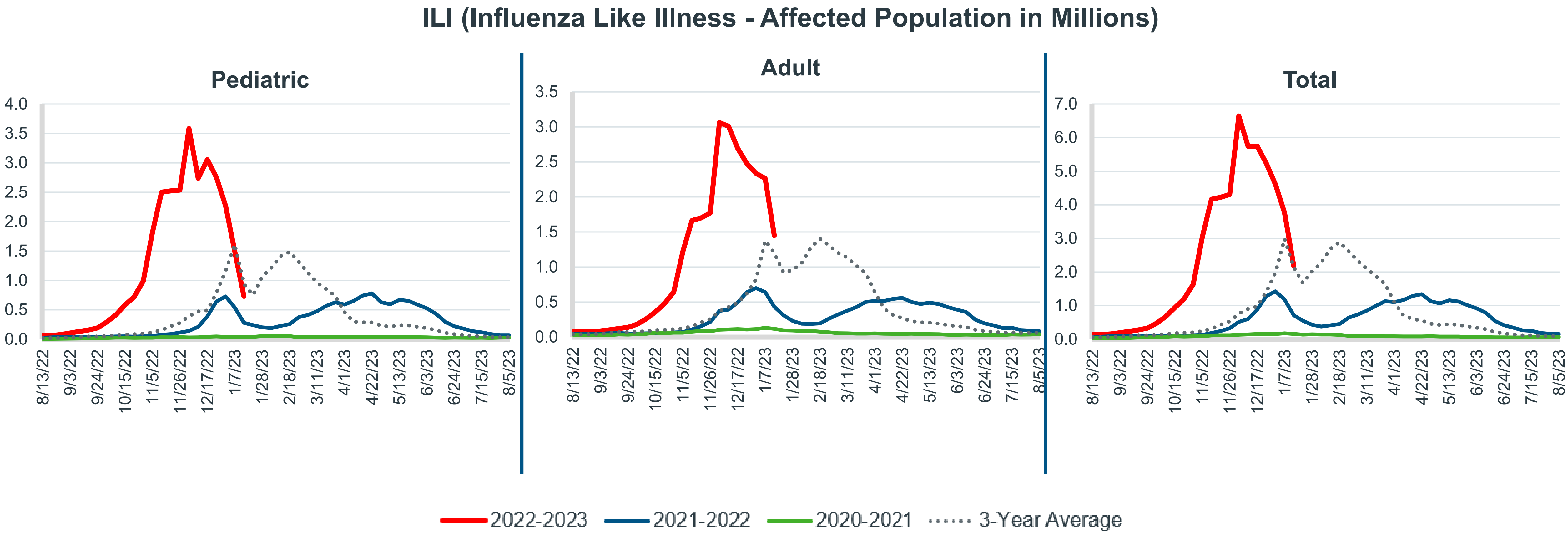
Updated through January 14, 2023

Pediatrics numbers are decreasing



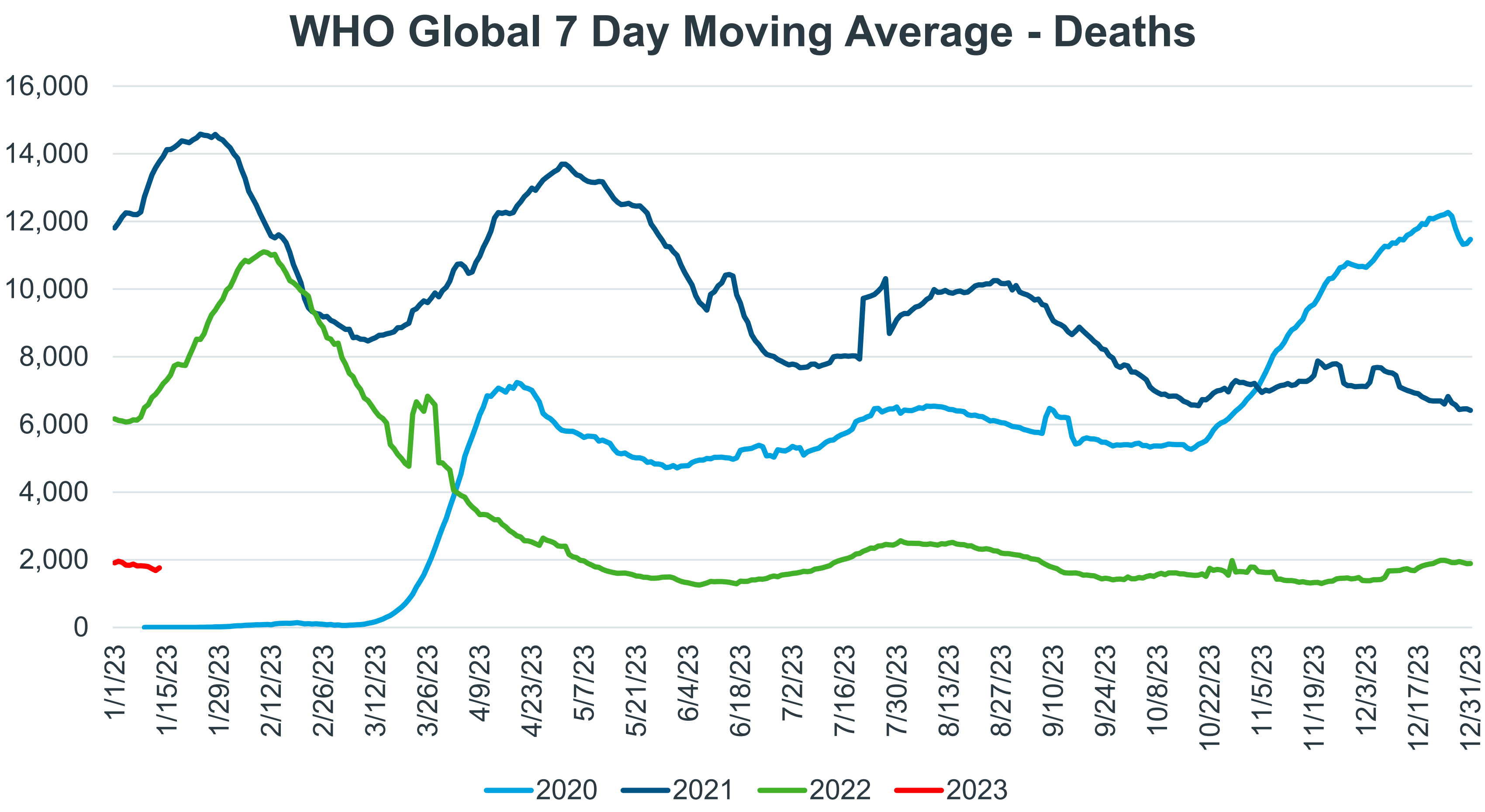
Updated through December 31, 2022

ILI: Cases peaked in early December 2022 but are declining rapidly



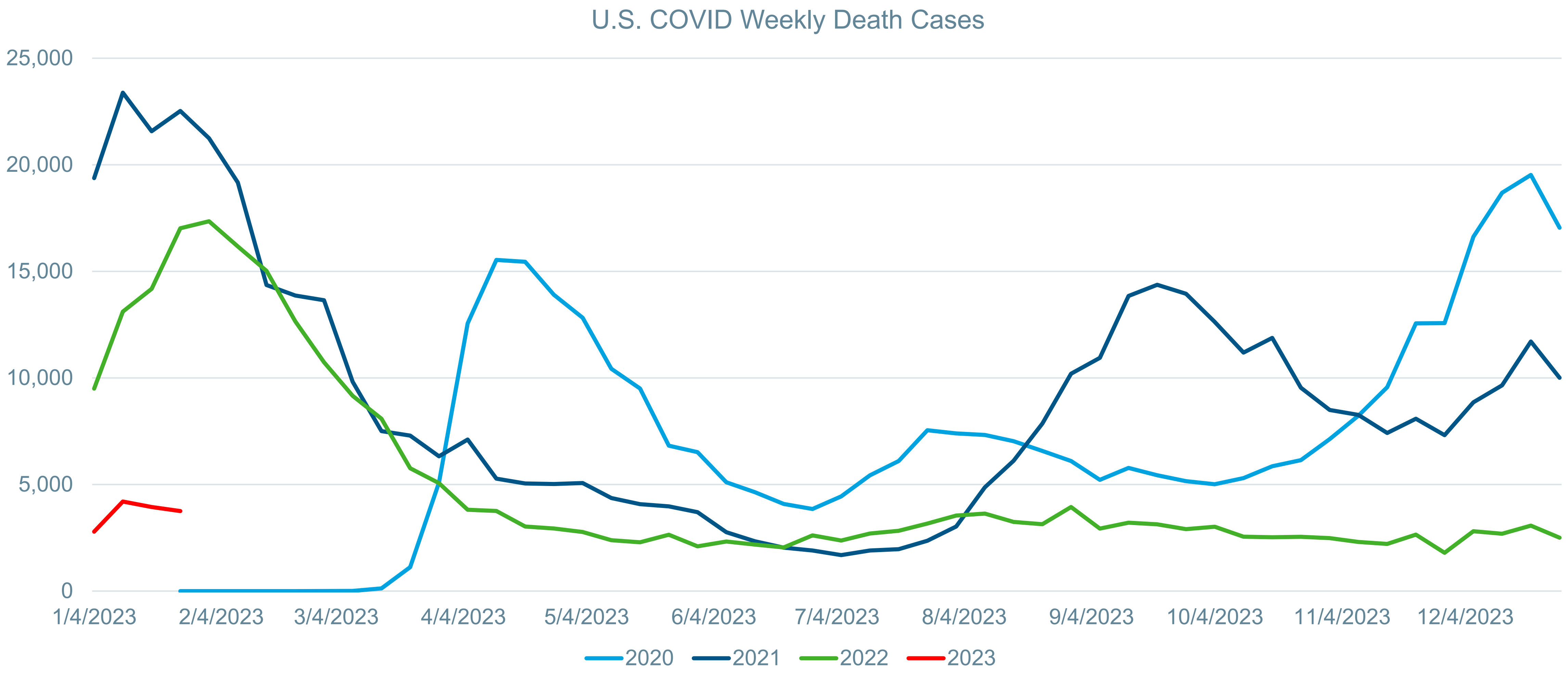
Updated through January 14, 2023

According to the WHO, global deaths continue to decline



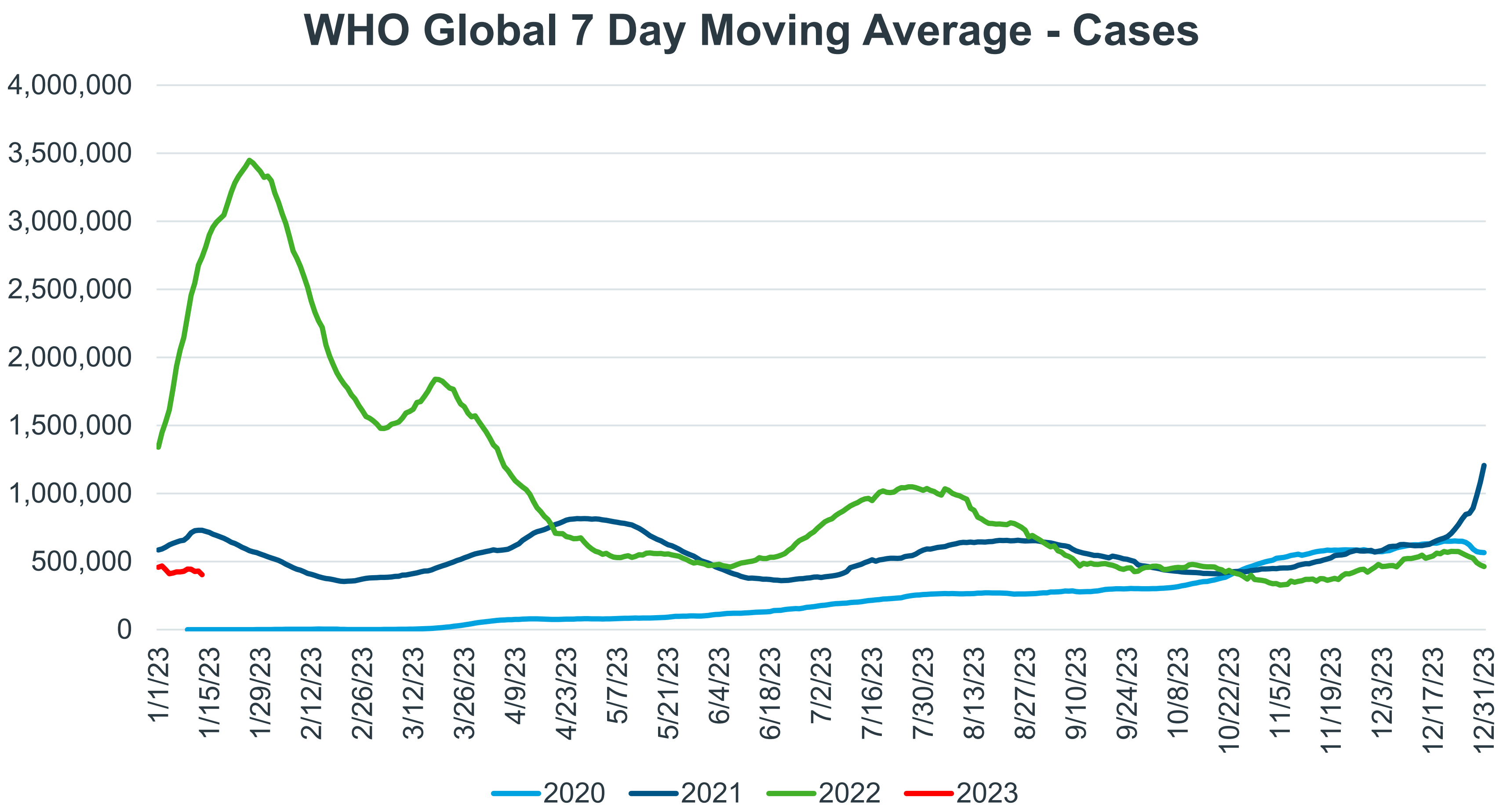
Data Source: https://covid19.who.int/WHO-COVID-19-global-data.csv, updated through 1/13/23

Weekly COVID death cases in the U.S. continue to decline, mirroring global trends



Data Source: https://covid.cdc.gov/covid-data-tracker/#trends_weeklydeaths_select_00

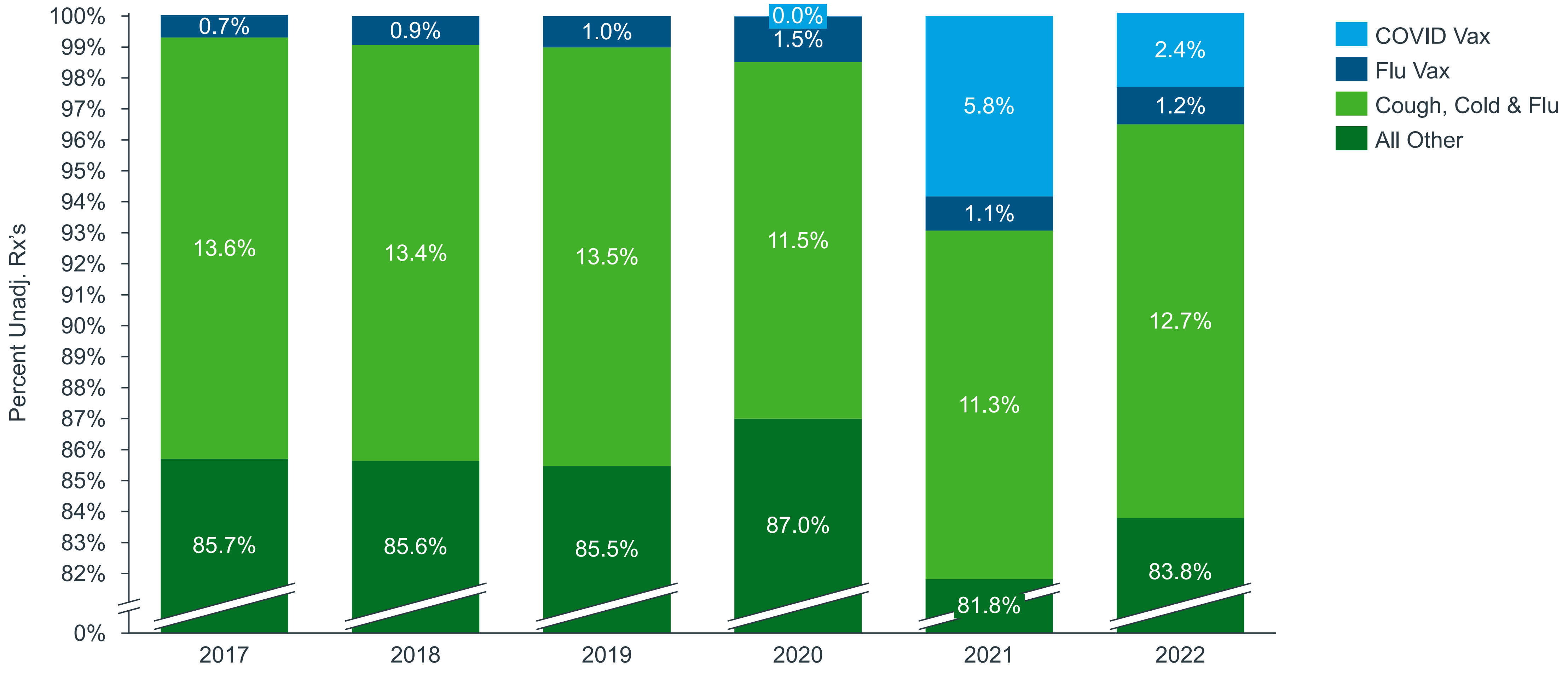
Global cases of COVID are in decline



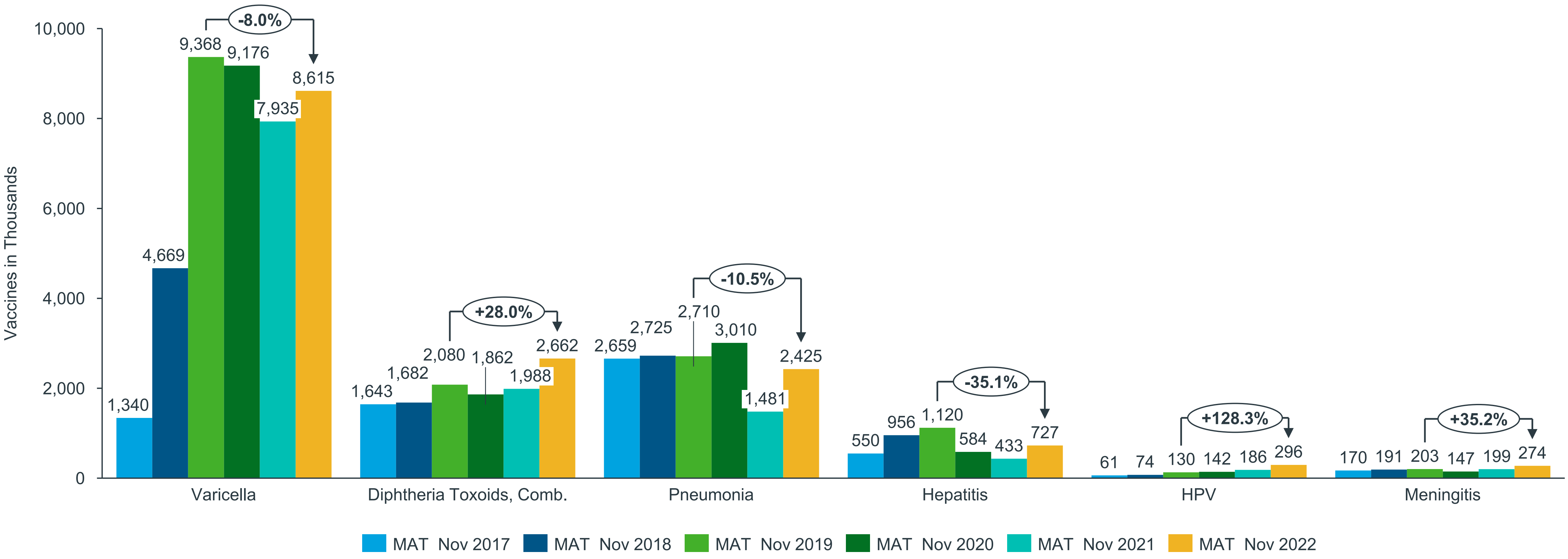
Data Source: https://covid19.who.int/WHO-COVID-19-global-data.csv, updated through 1/13/23

In 2022, COVID-19 vaccines make up two of every 100 Retail Rx's, down from six in 2021

TOTAL RETAIL – UNADJUSTED RX's



Varicella and Pneumonia vaccinations at Retail are recovering but have yet to return to pre-COVID levels



A large majority of vaccine administration took place at the pharmacy level compared to a non-pharmacy medical setting

- Overall, across all vaccines for adults in-scope, a large majority of the administration took place at the pharmacy level compared to medical offices.
- As a result, 2020 and 2021 saw a steep increase in vaccine administration at pharmacies due to the COVID-19 vaccine

- The shingles vaccine also saw a similar trend, with a large majority of administration taking place at the pharmacy level across all of the years analyzed

- Pharmacies serve as an important part of the overall flu vaccination process.
- Notably, 60–70% of vaccination during flu season (third and fourth quarters) takes place at pharmacies.
- The trends in flu vaccine administration at pharmacies also indicate a 30–40% increase in claims for flu vaccines between 2018/19 and 2020

- A large proportion of pneumococcal vaccine administration also took place at pharmacies and the proportion. In the third and fourth quarters of any given year, around 40–50% of the administration occurs in a pharmacy setting.
- The overall number of claims also consistently increases in these quarters compared to the first and second quarters

- Previous studies have found that the median number of visits to community pharmacies was significantly higher than encounters with primary care physicians for Medicare patients
- A recent study noted that there were 15.1% more pharmacy locations within low-income communities than the availability of physician practices

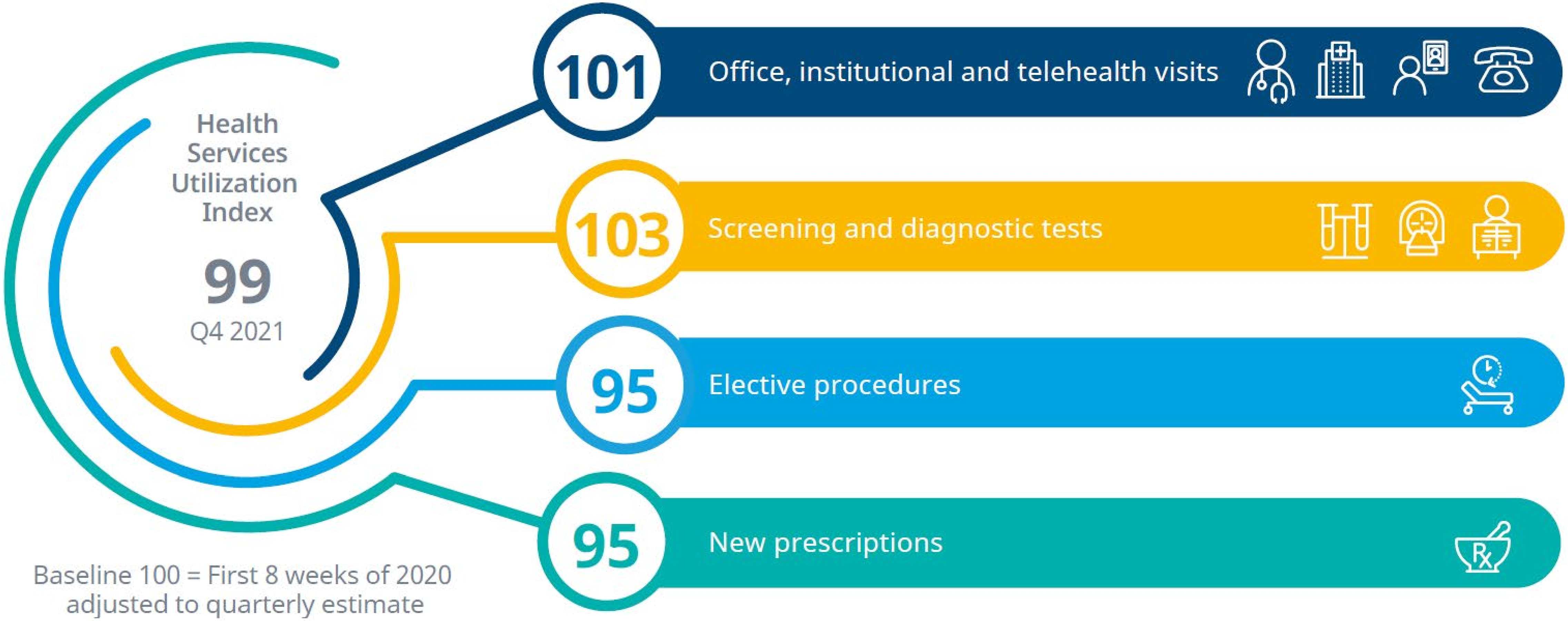
Data Source: IQVIA Institute Report, "Trends in Vaccine Administration in the United States

Market Trends: Utilization

Medical claims/activity

The Health Services Utilization Index indicates the U.S. is operating at nearly pre-COVID-19 levels

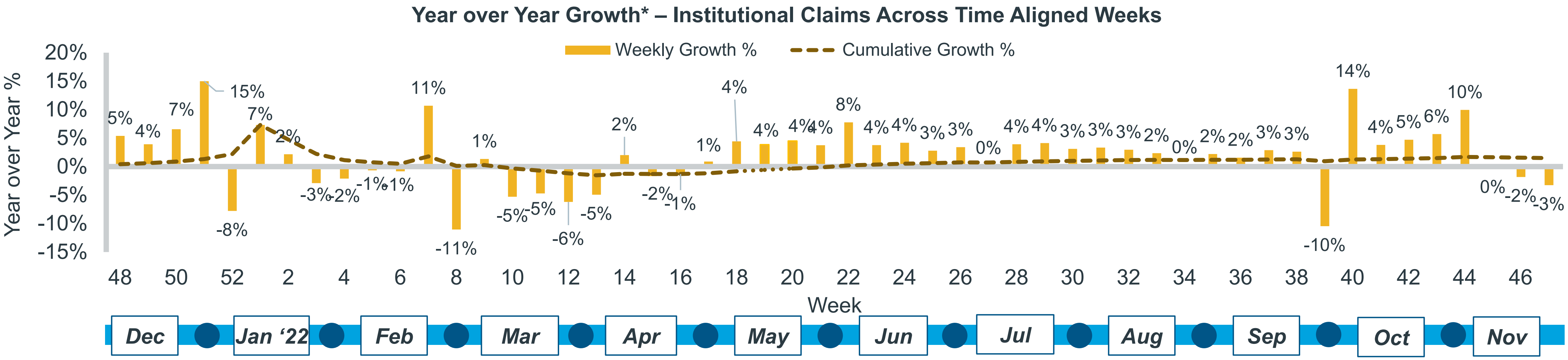
Overview of Health Services Utilization Index

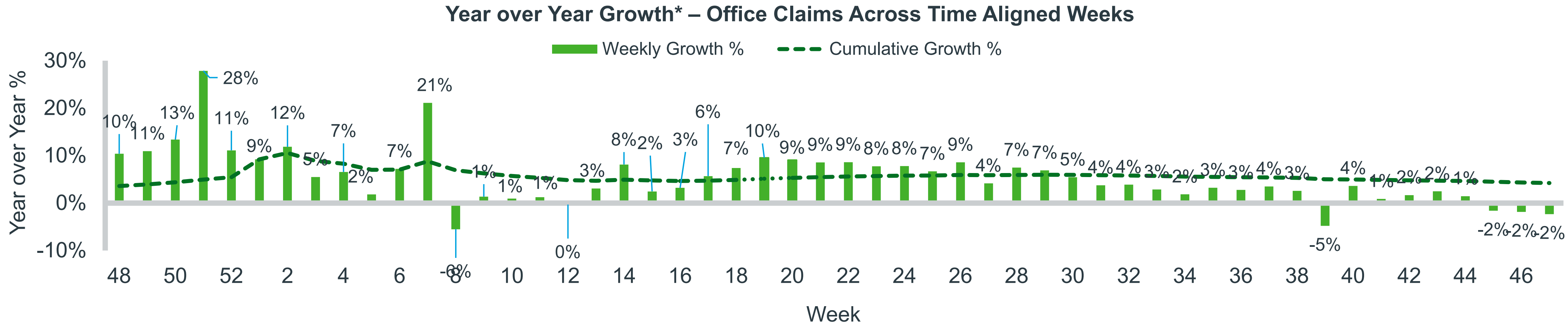


Source: IQVIA Institute; IQVIA Medical Claims Data; LAAD Prescription data, week ending 12/31/2021.
The Use of Medicines in the U.S.: Usage and Spending Trends and Outlook to 2026. Report by the IQVIA Institute for Human Data Science.

IQVIA INSTITUTE FOR HUMAN DATA SCIENCE

Cumulative institutional claim trend is flat in 2022 compared to 2021, while office claims increase over 2021

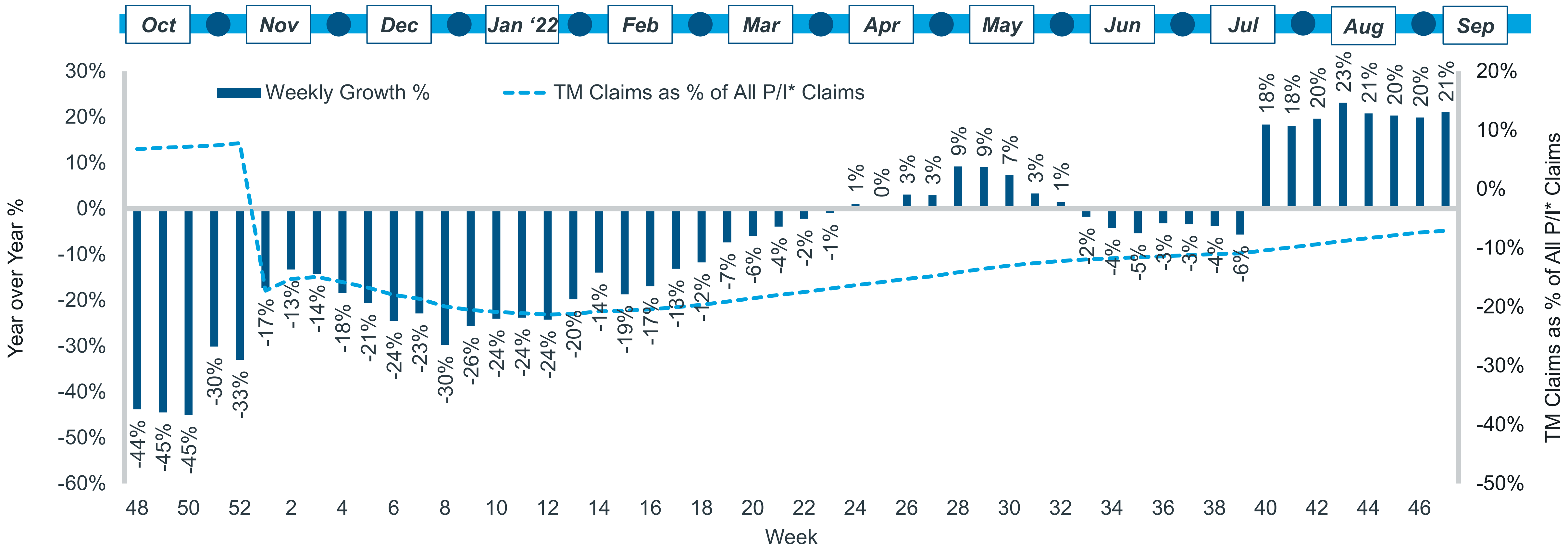




Source: IQVIA: Medical Claims Data Analysis, 2022
Notes: Week 52 2021 = 12/31/2021; Week 47 2022 = 11/25/2022

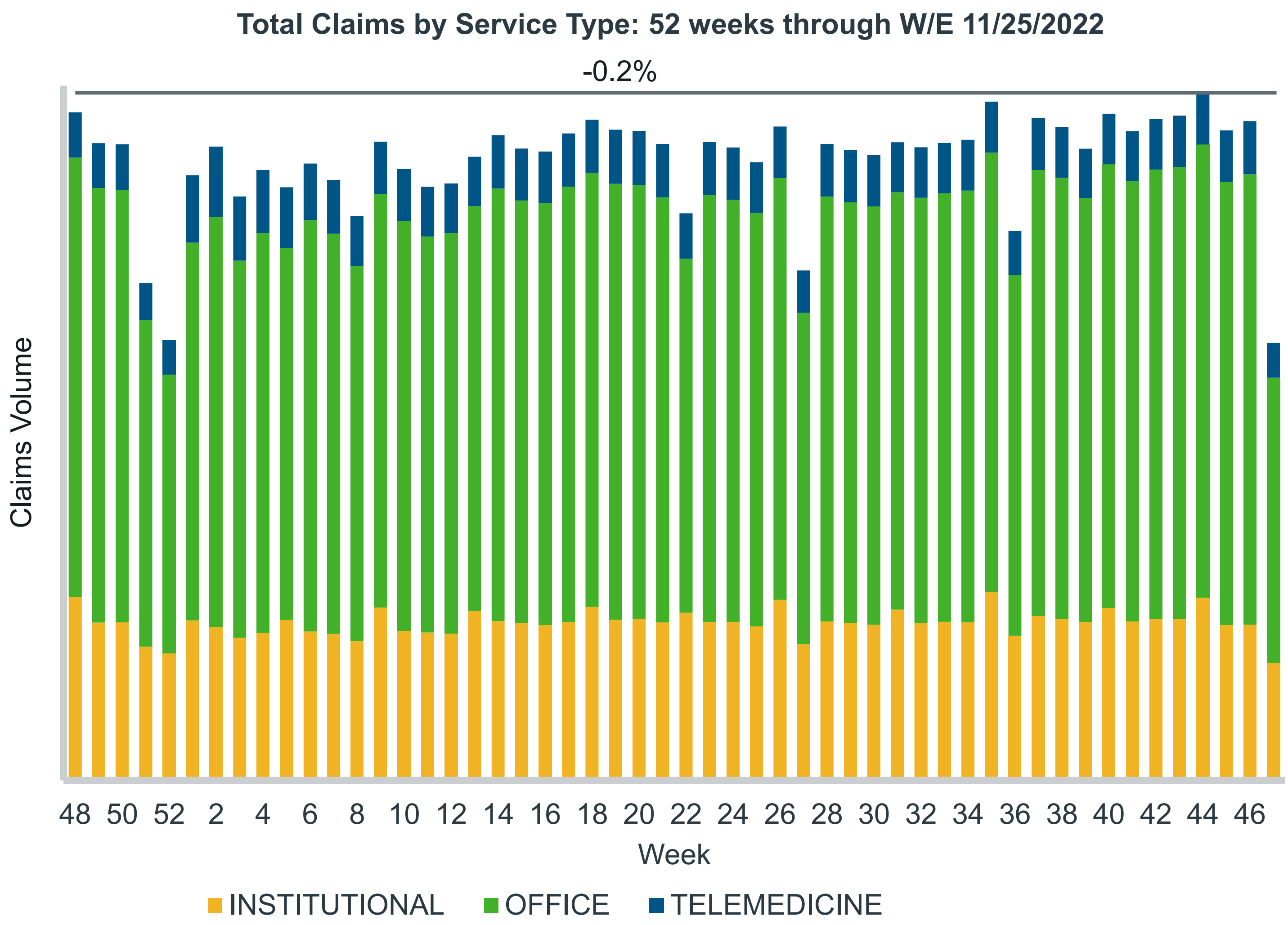
After a dramatic entrance, telemedicine use slows overall, though a slight increase in usage in Nov 2022 compared to Nov 2021

Slight increases in telemedicine visits occurs in August and November 2022



Source: IQVIA: Medical Claims Data Analysis, 2022
Week 47 2022 = 11/25/2022; Week 52 2021 = 12/31/2021
*All P/I Claims total indicates Telemedicine, Office, and Institutional claims

Telemedicine contribution to weekly medical claims growth continues to diminish, settling on 7% of total claims through 2022

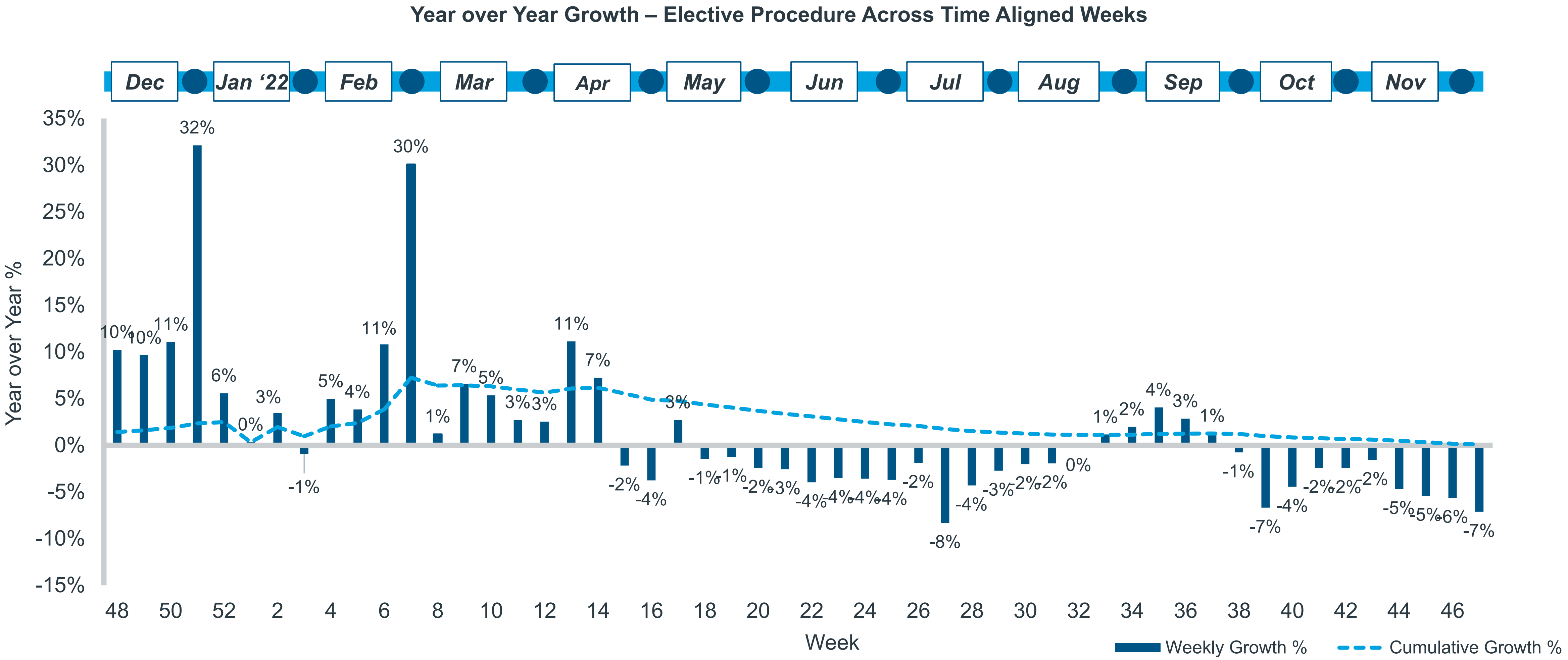


Potential Implications

- Overall, claims volume saw an average -0.2% weekly increase over the last 52 weeks.
- Throughout 2022, telemedicine claims dropped by an average -0.7% per week, while Institutional and Office claims remain largely stable.

Source: IQVIA: Medical Claims Data Analysis, 2022
Week 47 2022 = 11/25/2022; Week 52 2021 = 12/31/2021

Elective procedures in 2022 are declining in recent weeks, but cumulatively 2022 is flat compared to 2021



Source: IQVIA: Medical Claims Data Analysis, 2022

Notes: Week 47 2022 = 11/25/2022; Week 52 2021 = 12/31/2021; Elective procedures based on IQVIA custom analysis; Data includes claims from inpatient and outpatient sites of care. Trend break occurs at the beginning of 2022 as the cumulative calculations are performed on the beginning of the year period.

Reluctant patient engagement signals space for change

Economic factors can impact choice to seek care, but a new normal has arrived

RX Volume

-0.2% YoY growth in TRx vs ‘21

-1.8% YoY growth in NBRx vs ‘21

Utilization

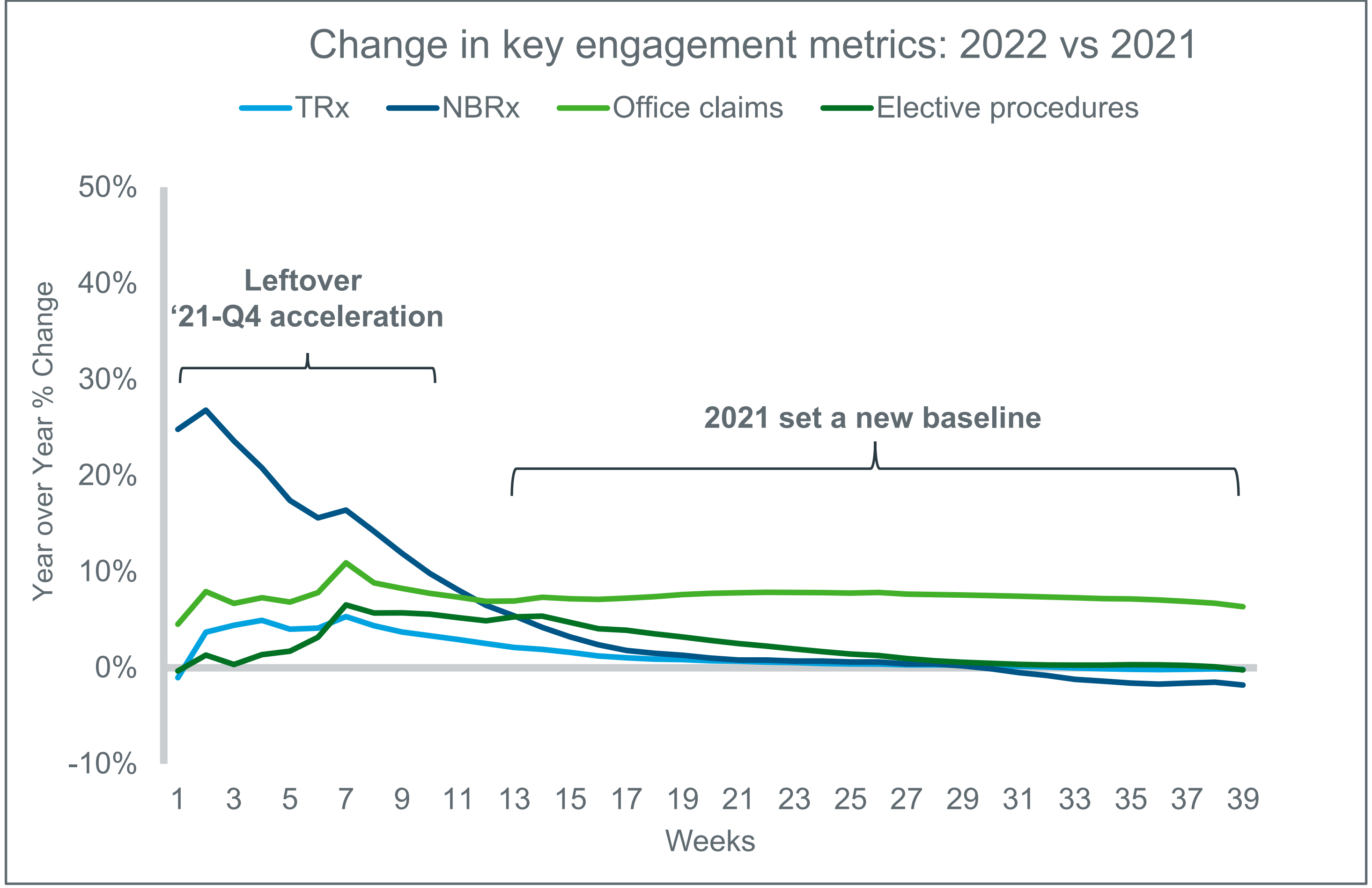
+6.3% Office visits vs ‘21

-0.2% Elective proc. vs ‘21

Economy

9.1% Inflation rate peak (June 22)

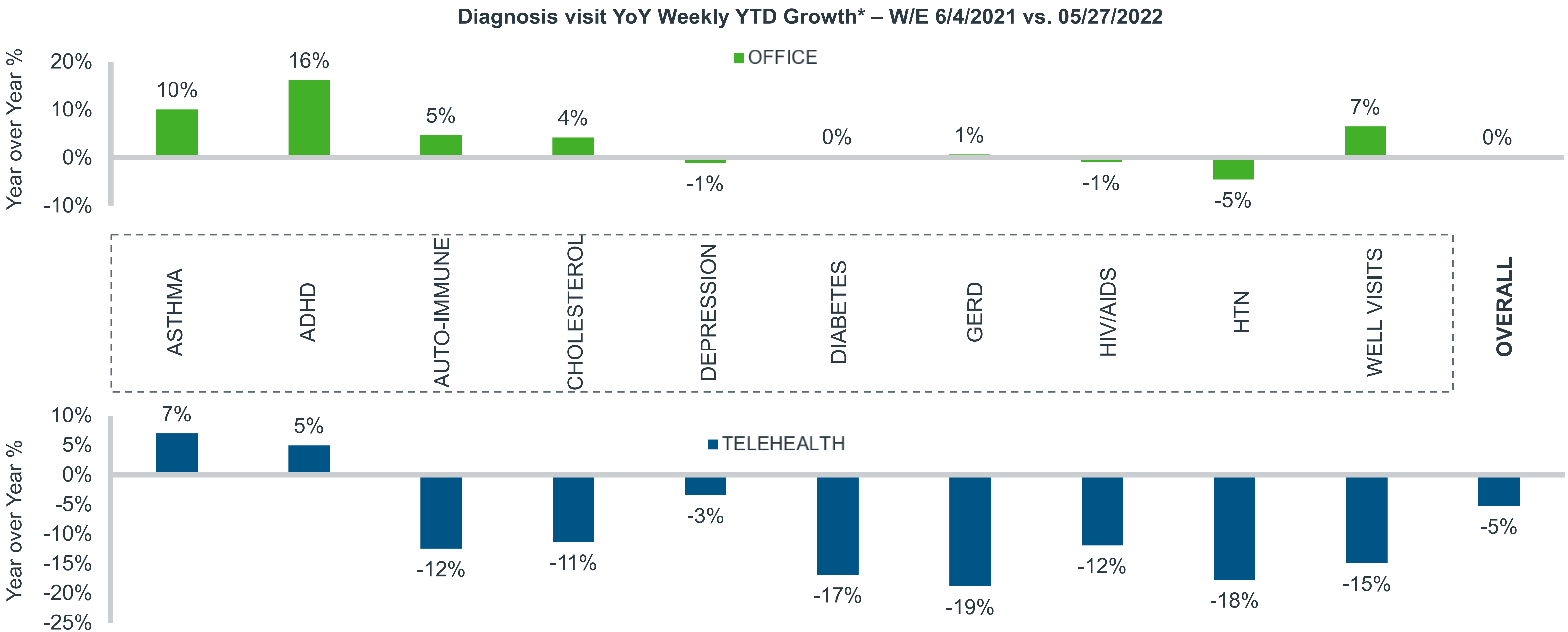
3.5% Unemployment rate (Nov ’22)



Here's the inflation breakdown for December 2022 — in one chart (cnbc.com); Source: National Prescription Audit (NPA); Medical claims data, IQVIA

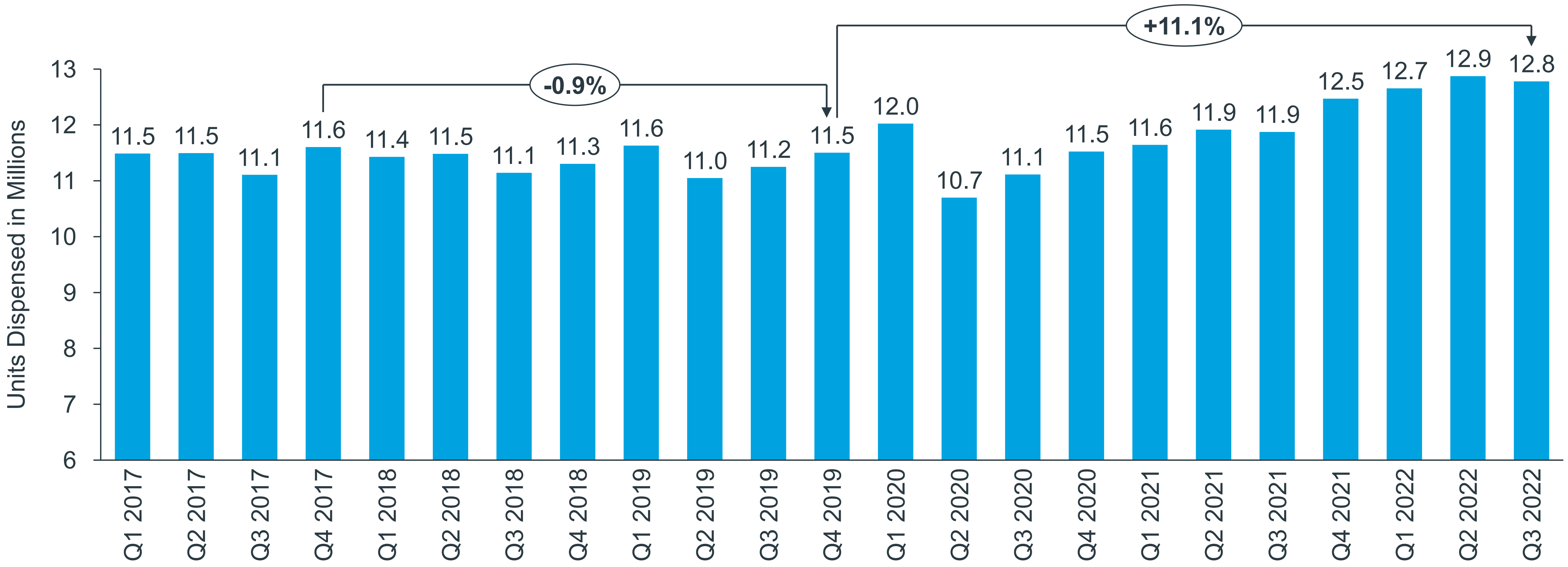
Notes: Channel prescriptions not normalized for Rx size. Week 39 2022 = 09/30/2022; Week 39 2021 = 10/01/2022; Health services: 5Deals 2022 midyear outlook: PwC; The Economics Daily: U.S. Bureau of Labor Statistics (bls.gov)

Compared to 2021, diagnosis visits have shifted from telemedicine to in-office as COVID-19 becomes endemic

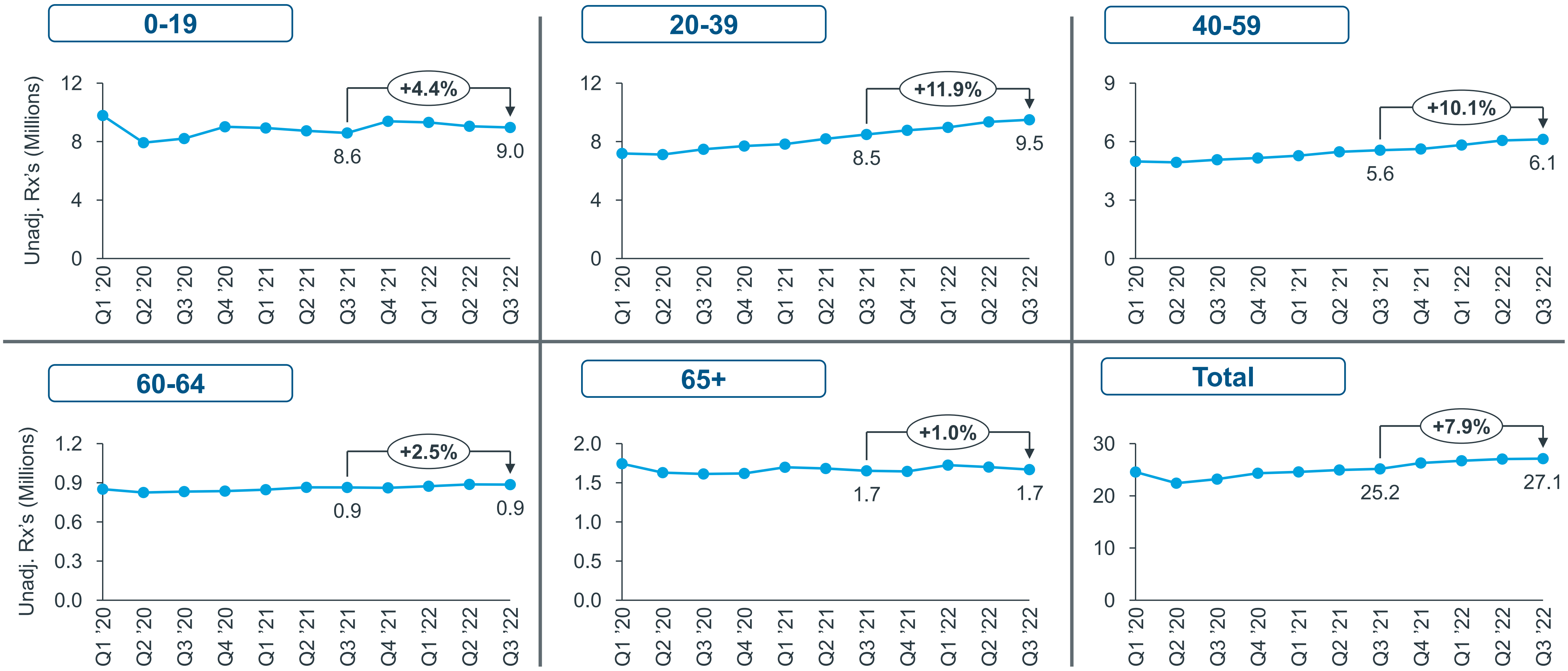


Source: IQVIA: Medical Claims Data Analysis, 2022; Week 52 2021 = 12/31/2021; Week 21 2022 = 05/27/2022

ADHD dispensing has increased since the beginning of the pandemic



Age Groups 20-59 increase ADHD usage over 10%, driving total market increases

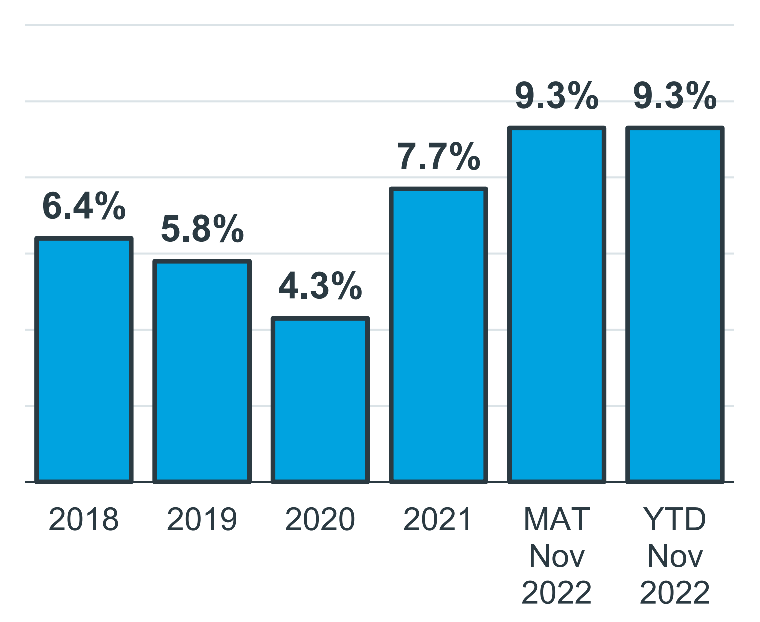


Where Are We Now?

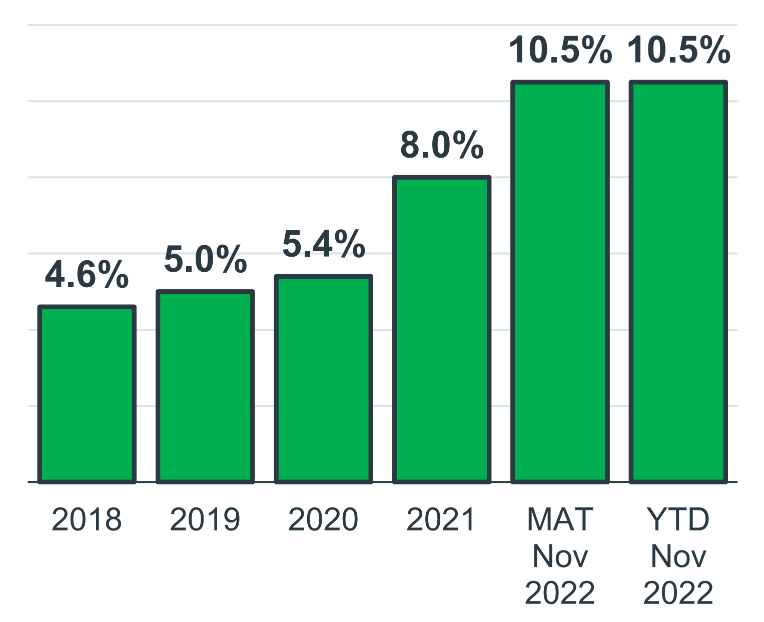
The Non-Retail channel is recovering from effects of COVID-19

Growth (%) of Sales

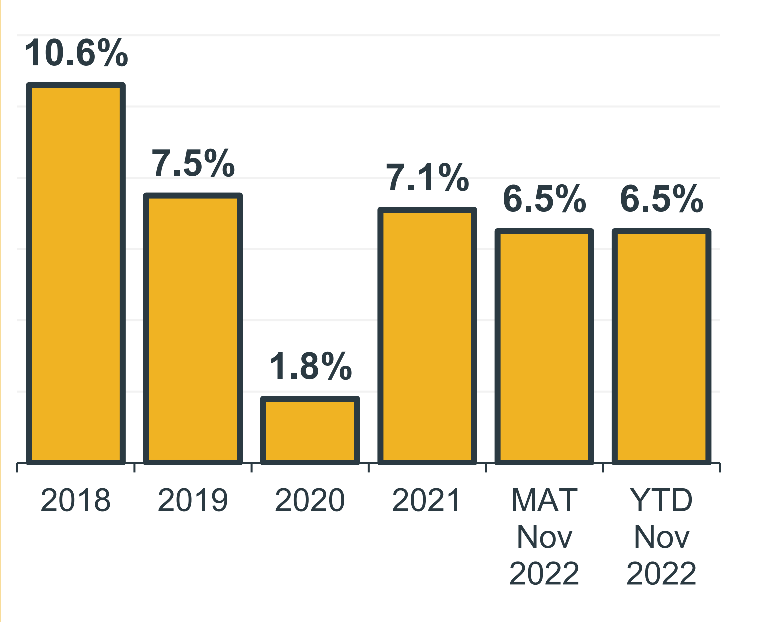
Total Market (Retail, Non-Retail and Mail)



Retail and Mail

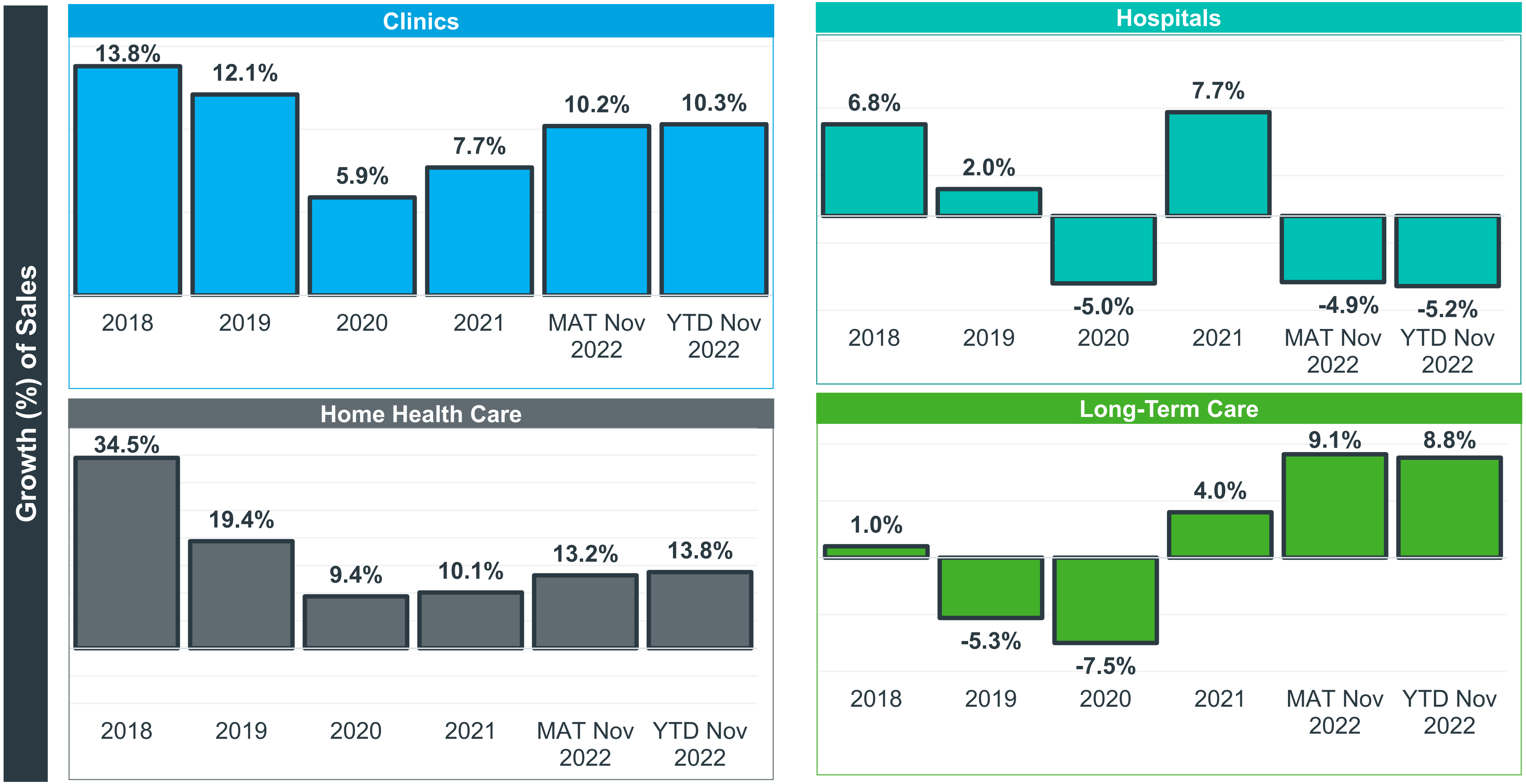


Non-Retail



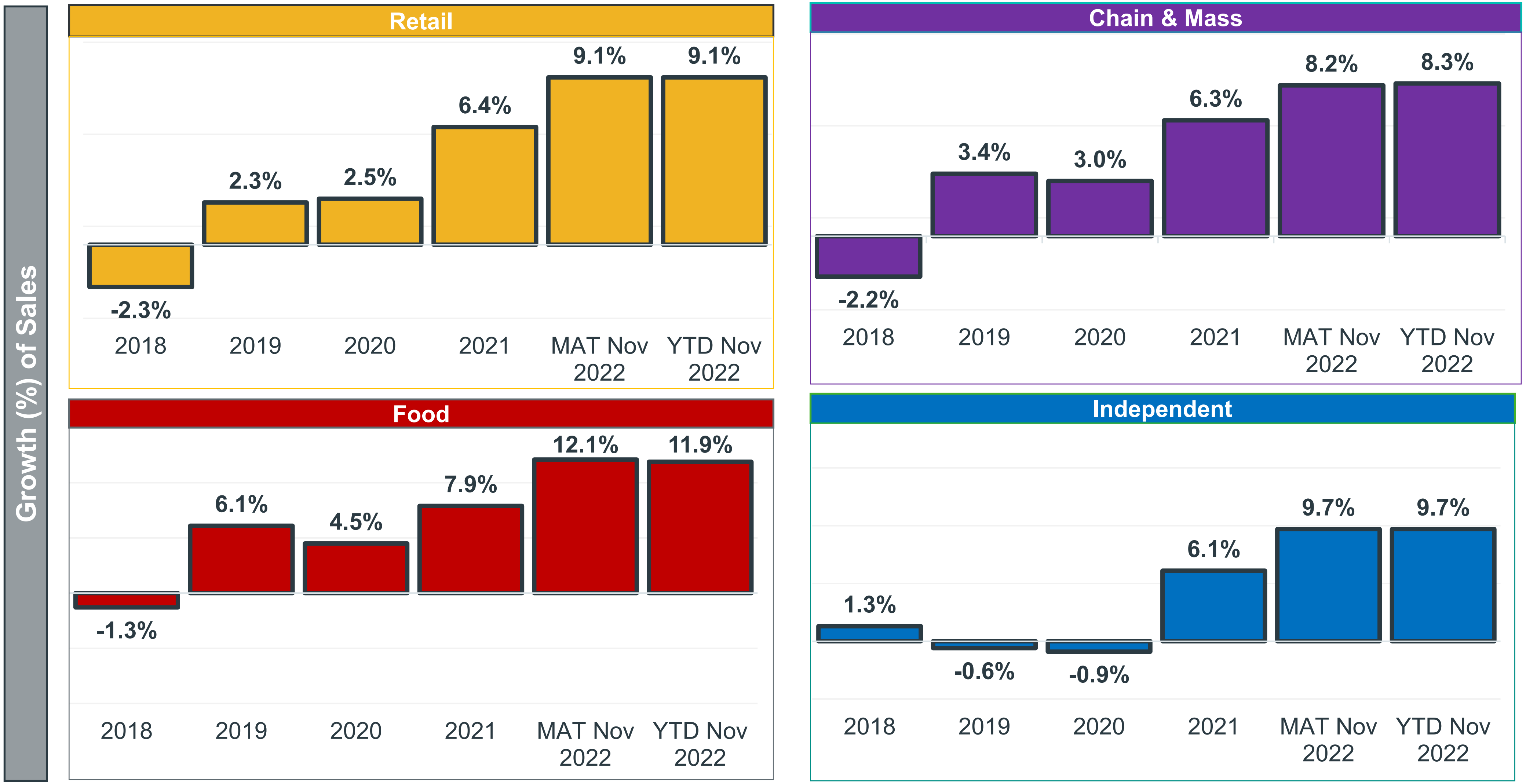
Source: IQVIA, National Sales Perspectives, November 2022
Note: Limited to Rx and OTC Insulins; Includes Retail, Non-Retail and Mail

COVID-19 has affected Hospital sales more than other Non-Retail



Source: IQVIA, National Sales Perspectives, November 2022
Note: Limited to Rx and OTC Insulins; Includes Retail, Non-Retail and Mail

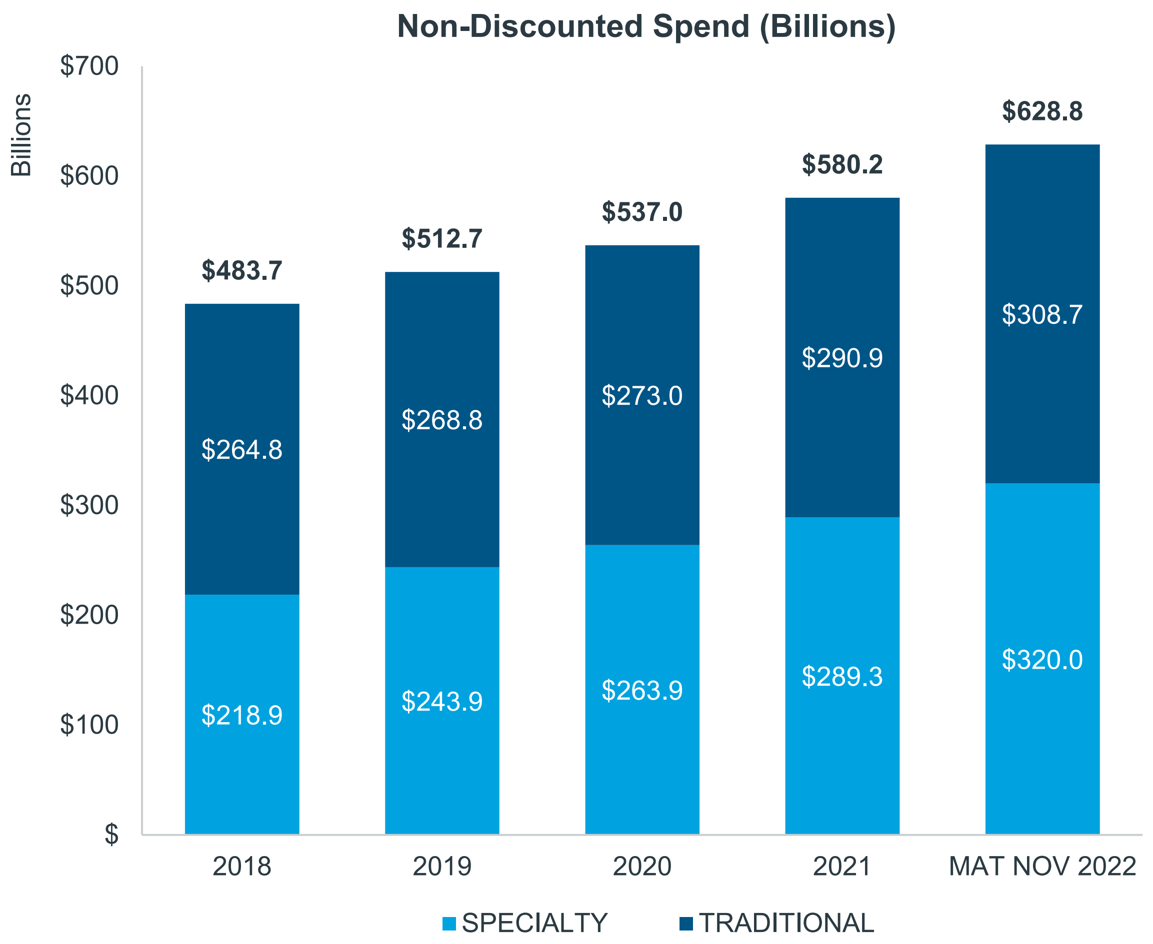
Food shows strongest growth

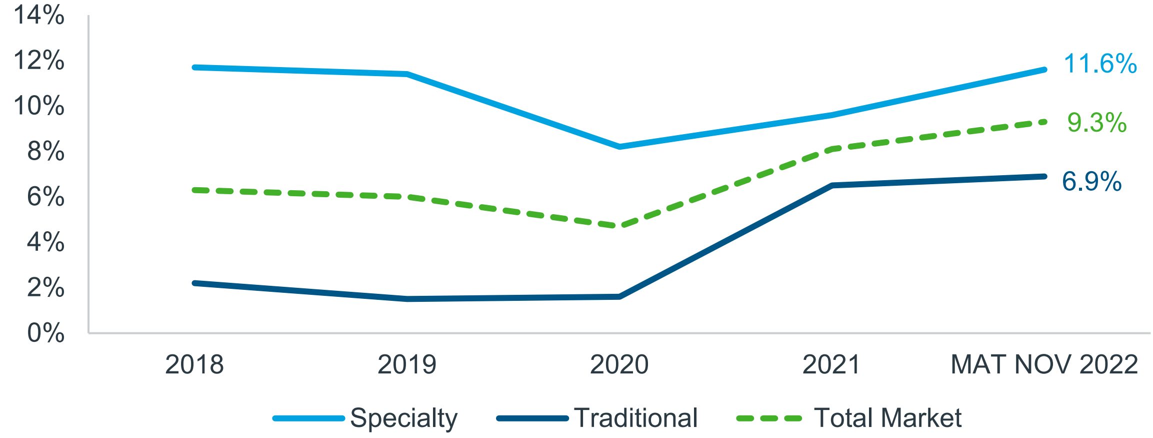


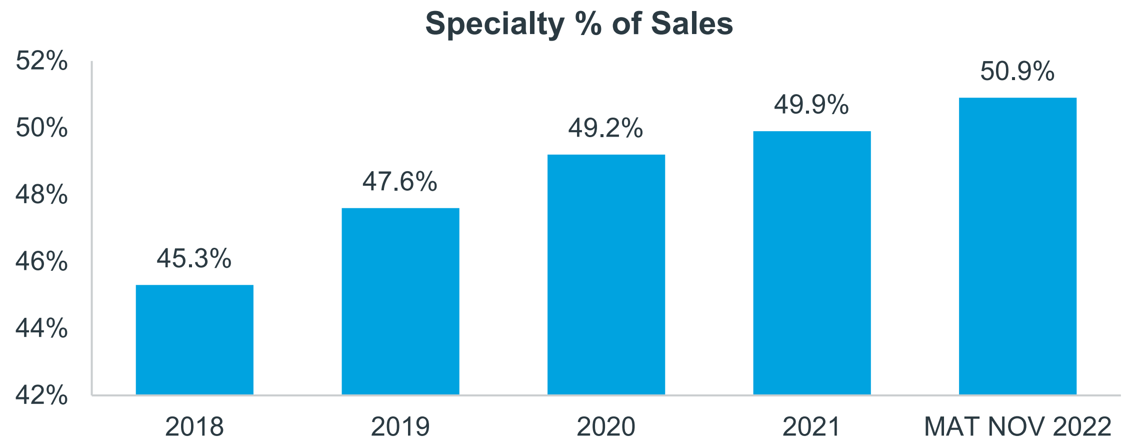
Source: IQVIA, National Sales Perspectives, November 2022
Note: Limited to Rx and OTC Insulins; Includes Retail

For the total market, specialty growth outpaces traditional growth and now has ~51% share of total non-discounted spend

In MAT November 2022, specialty spend grew by 11.6% while traditional growth grew 6.9%



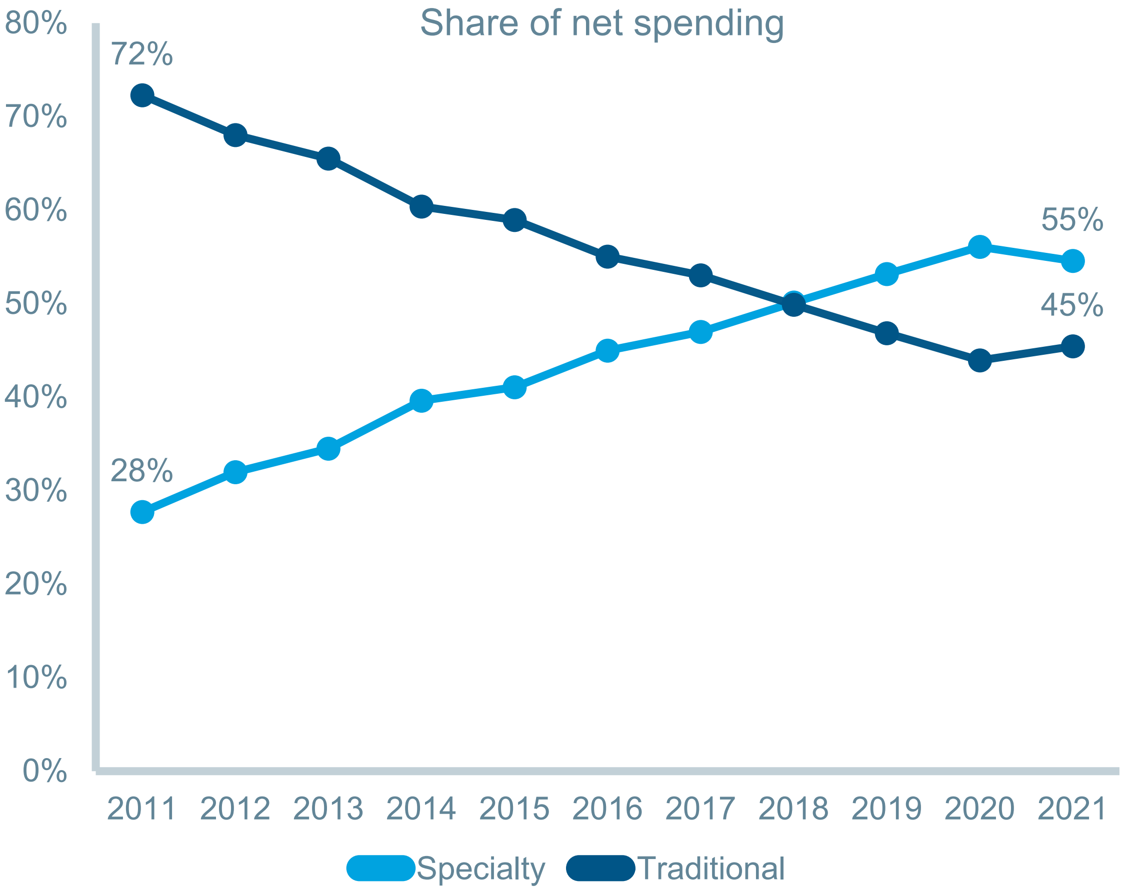


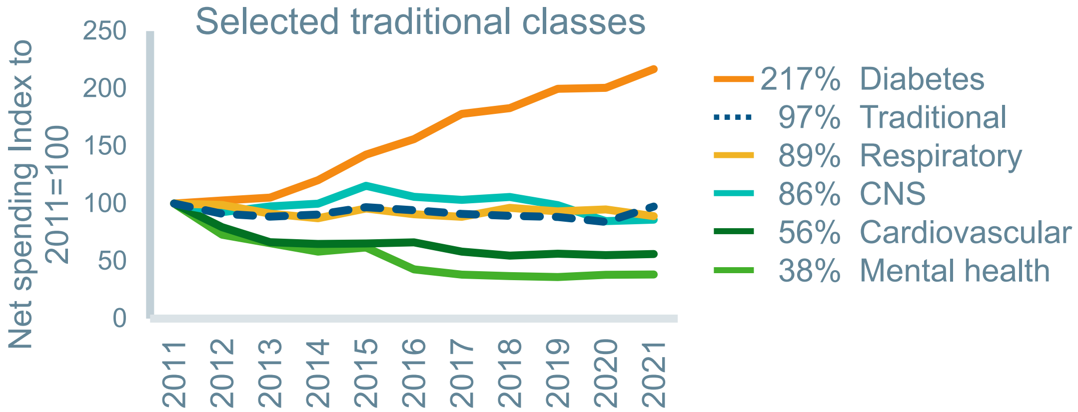


Source: IQVIA, National Sales Perspectives, November 2022

Specialty medicines now account for 55% of net spending, up from 28% in 2011, driven by growth in auto-immune and oncology

Share of spending at estimated net manufacturer prices





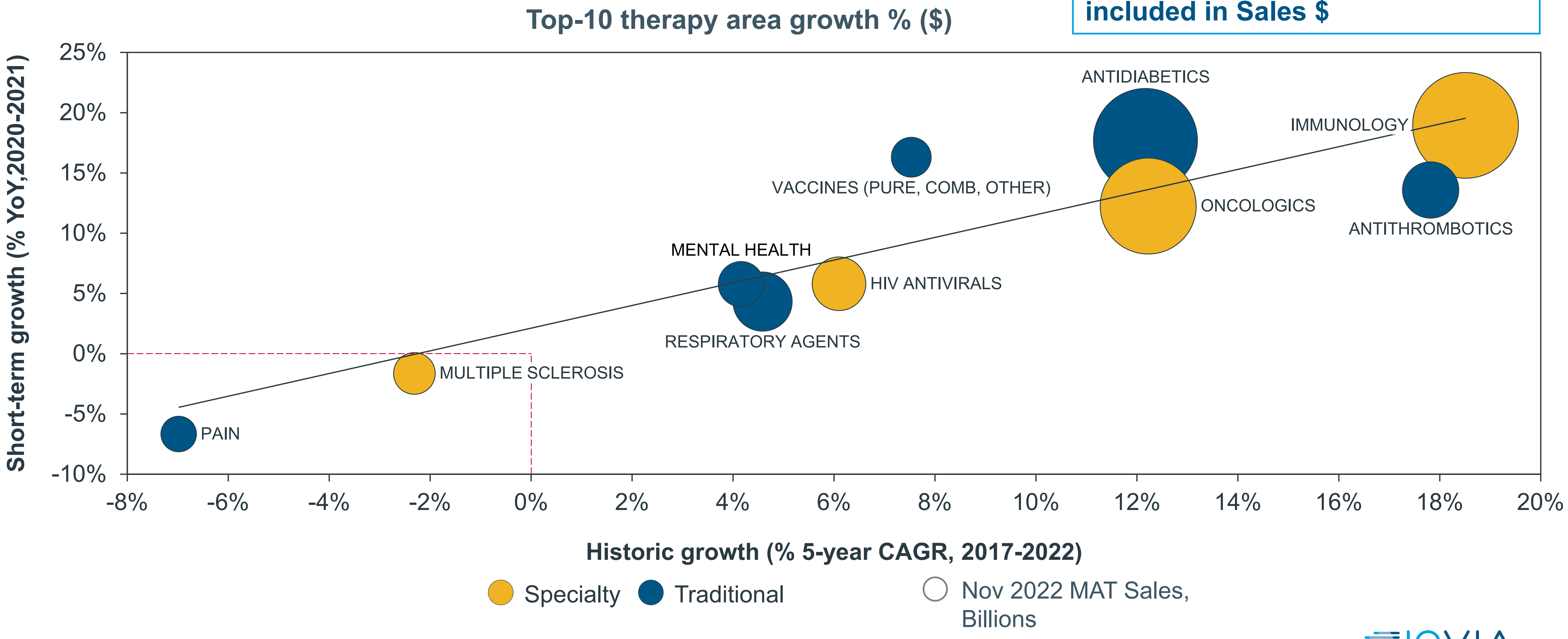
Source: IQVIA Institute, Mar 2022.
The Use of Medicines in the U.S.: Usage and Spending Trends and Outlook to 2026. Report by the IQVIA Institute for Human Data Science.

IQVIA INSTITUTE

Immunology and Antithrombotics lead short and long-term growth

Slowing growth was occurring prior to COVID-19, and is not the sole contributor

COVID-19 Vaccines are not included in Sales $



IQVIA National Sales Perspectives, June 2022, Rxs and OTC Insulins Only

The top 10 therapy areas are growing at 12.2% and account for 71.2% market share

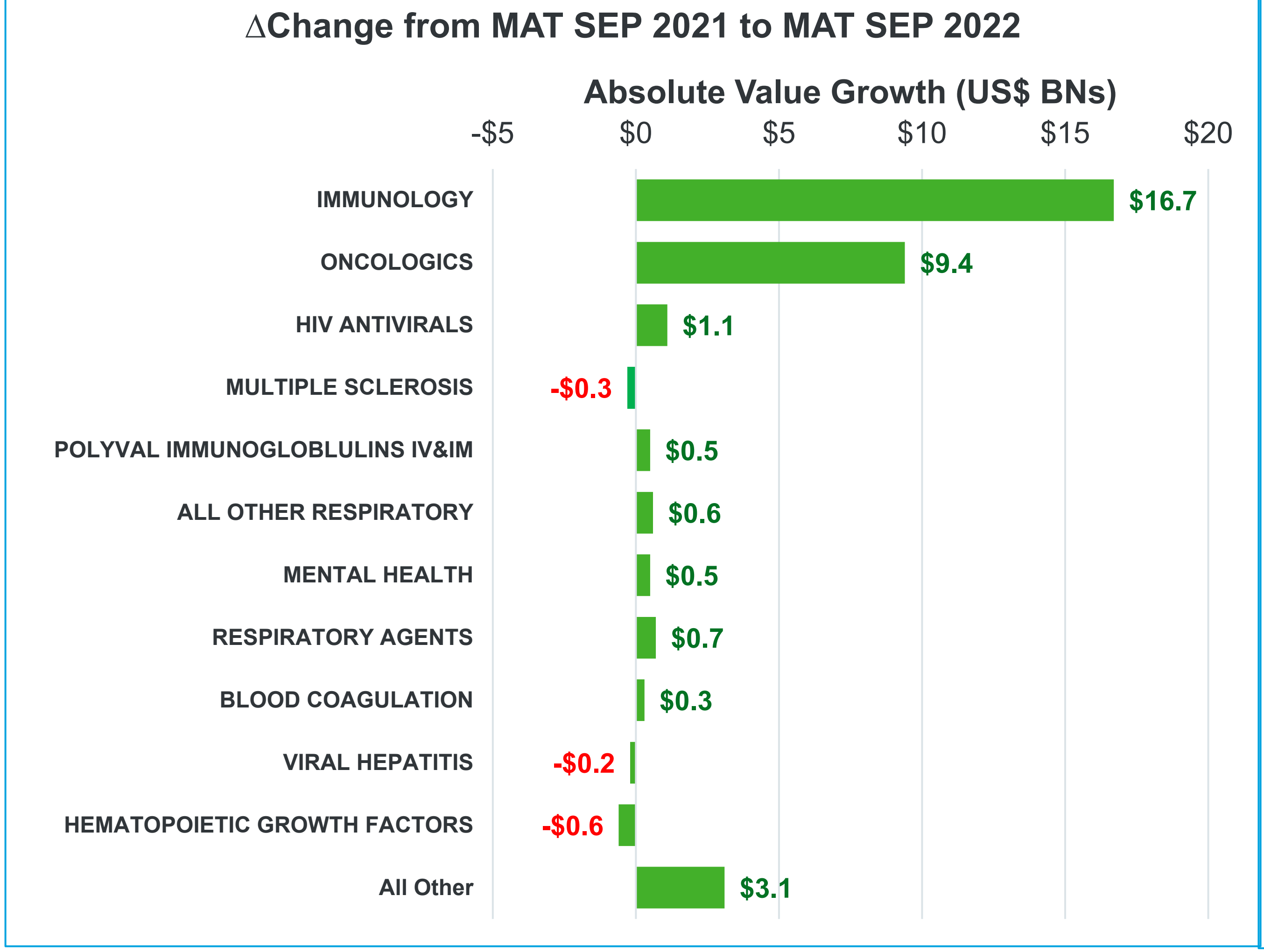
Rank	Therapy Area	Non-Discounted Spend (US$ BNs)			
		MAT SEP 2022	Market Share	ABS Growth	Growth
1	IMMUNOLOGY	$104.7	16.9%	$16.7	19.0%
2	ANTIDIABETICS	$97.2	15.7%	$14.5	17.6%
3	ONCOLOGICS	$87.0	14.1%	$9.4	12.1%
4	RESPIRATORY AGENTS	$33.1	5.4%	$1.3	4.1%
5	ANTITHROMBOTICS	$29.6	4.8%	$3.8	14.6%
6	HIV ANTIVIRALS	$27.1	4.4%	$1.1	4.1%
7	MENTAL HEALTH	$19.3	3.1%	$0.9	4.7%
8	MULTIPLE SCLEROSIS	$16.7	2.7%	-$0.3	-1.9%
9	VACCINES (PURE, COMB, OTHER)	$14.9	2.4%	$1.6	11.9%
10	PAIN	$11.1	1.8%	-$1.0	-8.2%
TOP 10		**$440.6**	**71.2%**	**$47.9**	**12.2%**

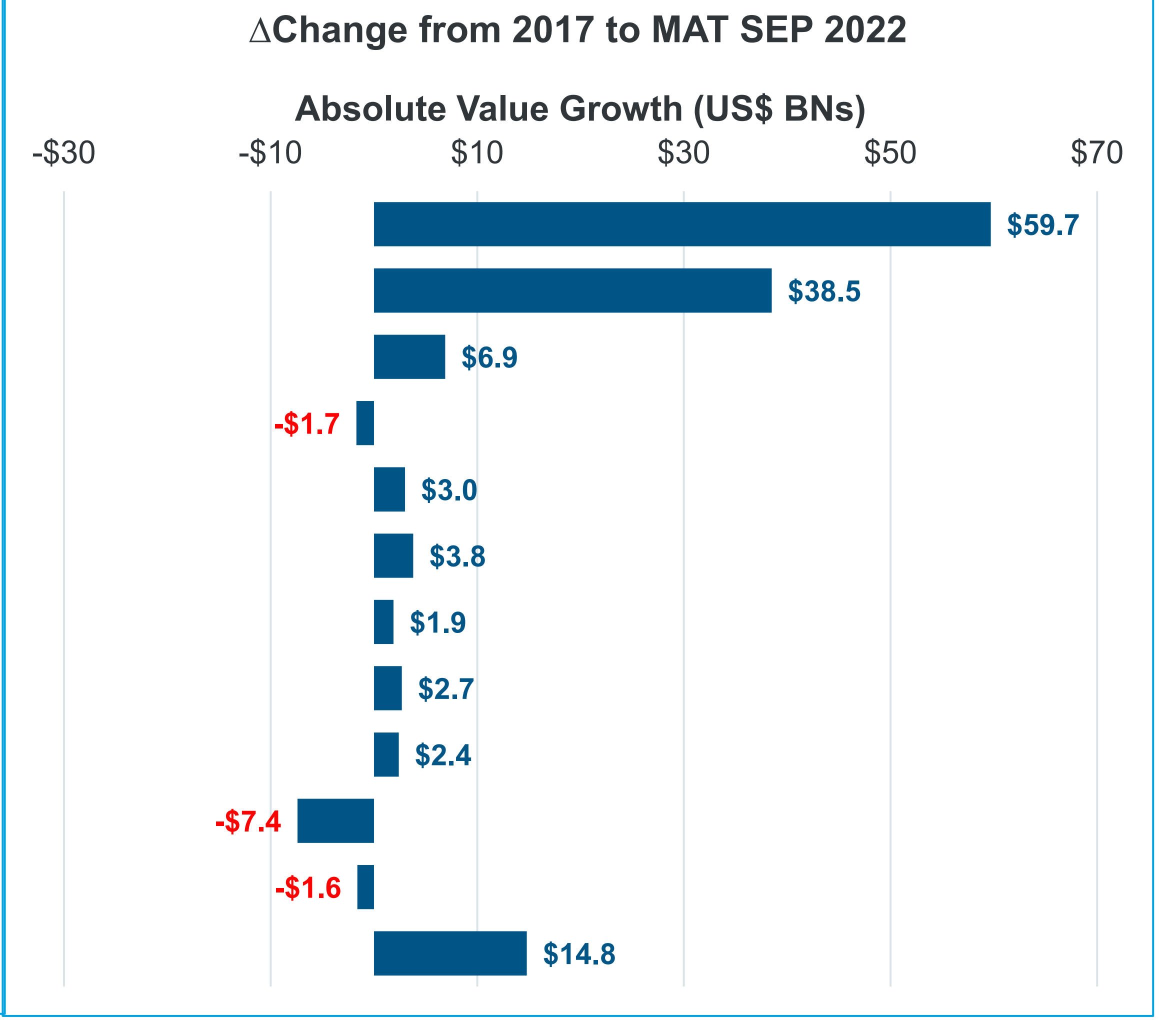
The top 20 therapy areas are growing at 10.5% and account for 84.0% market share

Rank	Therapy Area	Non-Discounted Spend (US$ BNs)			
		MAT SEP 2022	Market Share	ABS Growth	Growth
11	ADHD	$9.7	1.6%	$0.8	9.1%
12	GI PRODUCTS	$9.3	1.5%	$0.1	0.7%
13	OTHER CARDIOVASCULARS	$8.8	1.4%	-$2.3	-20.4%
14	NERVOUS SYSTEM DISORDERS	$8.8	1.4%	-$0.7	-7.3%
15	ANTIHYPERTENSIVES, PLAIN & COMBO	$8.7	1.4%	$0.2	1.9%
16	OTHER CNS	$8.6	1.4%	$1.2	16.3%
17	MIGRAINE	$7.5	1.2%	$2.2	42.2%
18	DERMATOLOGICS	$6.2	1.0%	-$0.3	-4.5%
19	OPHTHALMOLOGY, GENERAL	$5.8	0.9%	-$0.1	-1.1%
20	POLYVAL IMMUNOGLOBLULINS IV&IM	$5.8	0.9%	$0.5	8.6%
TOP 20		$519.7	84.0%	$49.5	10.5%

Immunology and Oncologics contributed the most absolute value growth for specialty therapy areas

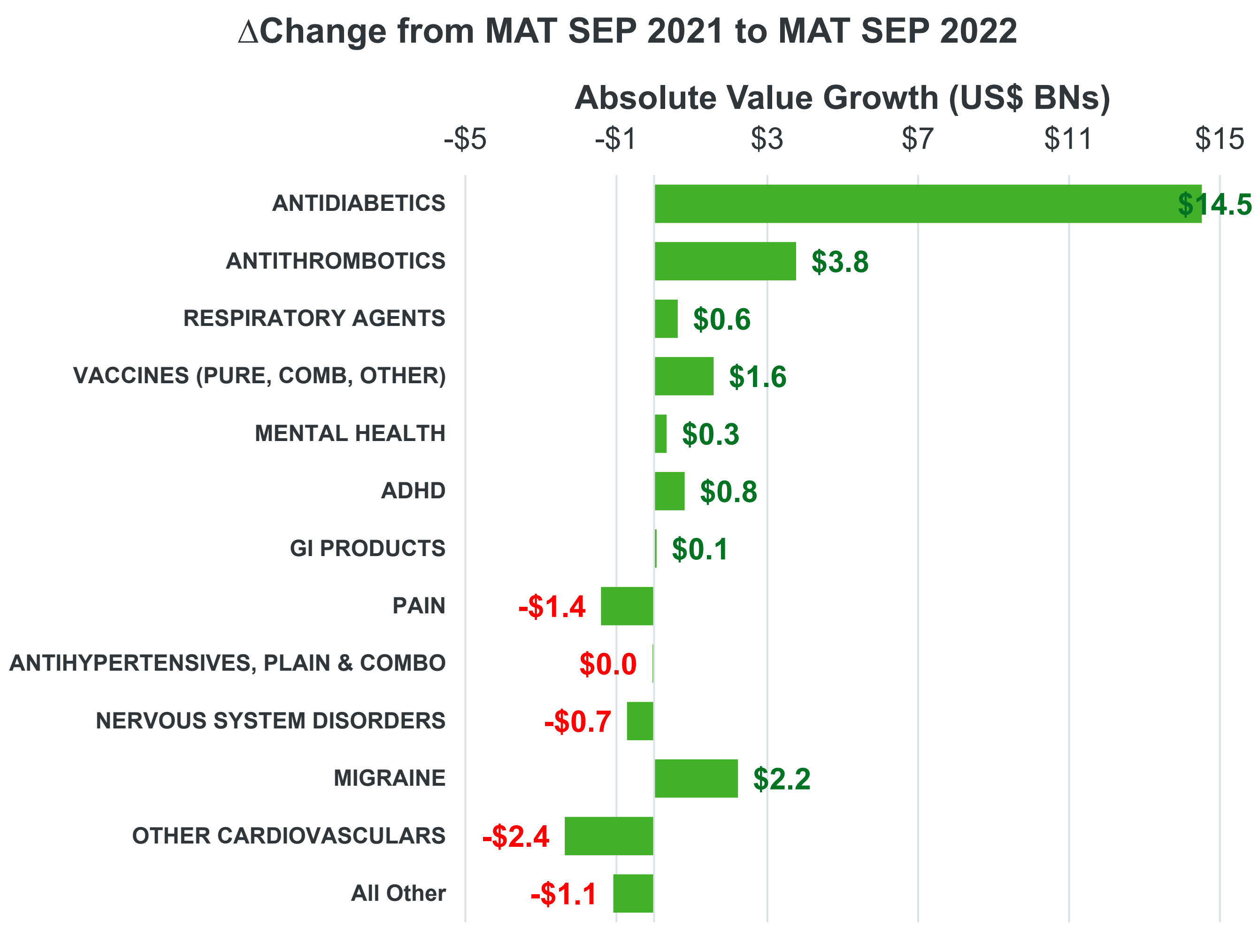
Absolute Value Growth for Top Specialty Therapy Areas

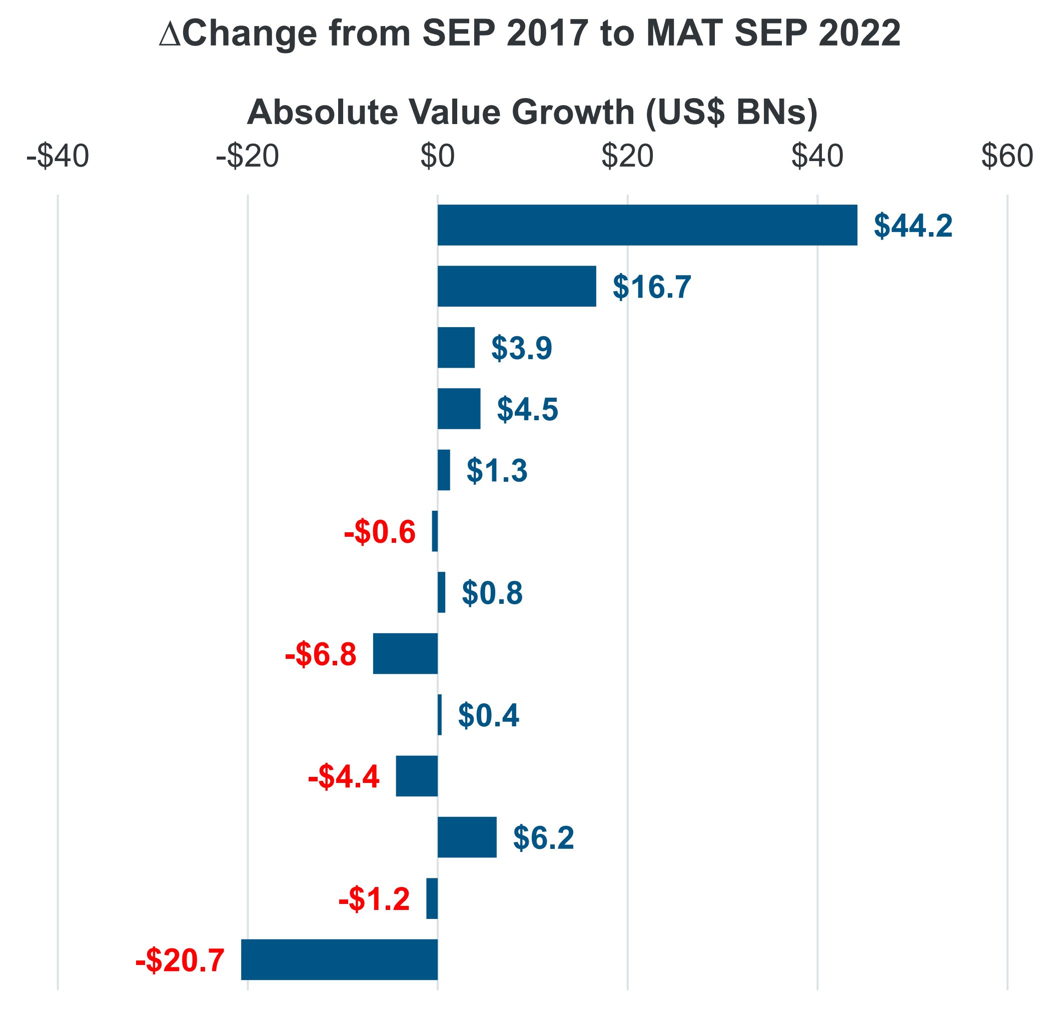




Antidiabetics and Antithrombotics lead absolute value growth for traditional therapy areas

Absolute Value Growth for Top Traditional Therapy Areas





The top 10 products are growing at 26.2% and account for 22.7% market share

Rank	Product	Non-Discounted Spend (US$ BNs) MAT SEP 2022	Market Share	ABS Growth	Growth
1	**HUMIRA**	$30.3	4.9%	$4.0	15.2%
2	**ELIQUIS**	$18.1	2.9%	$3.0	20.3%
3	**TRULICITY**	$15.0	2.4%	$3.7	32.6%
4	**OZEMPIC**	$13.3	2.2%	$5.8	76.9%
5	**STELARA**	$13.1	2.1%	$3.0	29.8%
6	**KEYTRUDA**	$12.1	2.0%	$2.7	29.0%
7	**BIKTARVY**	$11.0	1.8%	$1.9	20.5%
8	**JARDIANCE**	$10.8	1.7%	$3.5	47.3%
9	**ENBREL**	$8.7	1.4%	$0.7	8.9%
10	**XARELTO**	$7.9	1.3%	$0.9	12.5%
TOP 10		**$140.1**	**22.7%**	**$29.1**	**26.2%**

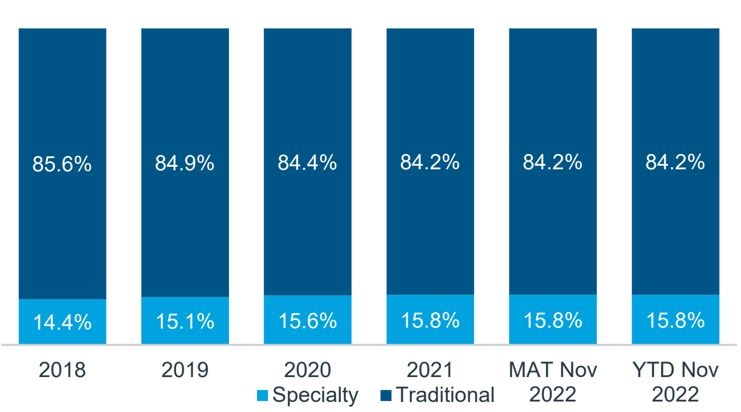
The top 20 products are growing at 24.6% and account for 30.7% market share

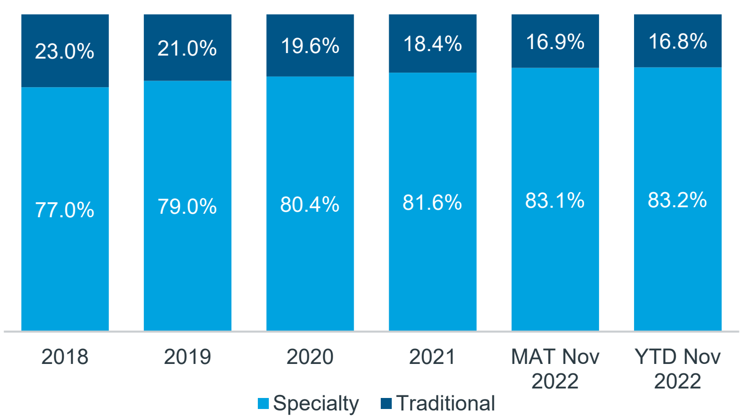
Rank	Product	Non-Discounted Spend (US$ BNs)			
		MAT SEP 2022	Market Share	ABS Growth	Growth
11	**DUPIXENT**	$7.3	1.2%	$2.2	43.7%
12	**JANUVIA**	$6.4	1.0%	$0.0	-0.1%
13	**FARXIGA**	$5.1	0.8%	$1.8	55.0%
14	**OPDIVO**	$4.7	0.8%	$0.6	15.8%
15	**LANTUS SOLOSTAR**	$4.6	0.8%	-$0.4	-8.6%
16	**OCREVUS**	$4.6	0.7%	$0.7	16.6%
17	**VYVANSE**	$4.5	0.7%	$0.5	13.4%
18	**TALTZ**	$4.5	0.7%	$0.9	26.1%
19	**LATUDA**	$4.2	0.7%	$0.2	5.7%
20	**SKYRIZI**	$4.2	0.7%	$1.9	82.3%
TOP 20		**$190.2**	**30.7%**	**$38.5**	**24.6%**

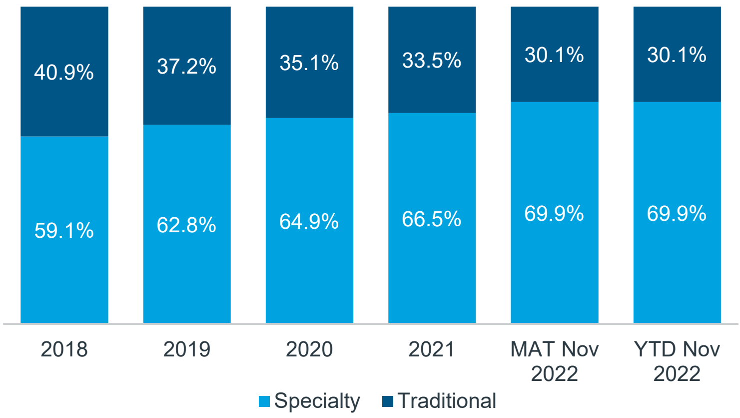
Specialty sales increase in all channels over time

Retail	Mail	Non-Retail

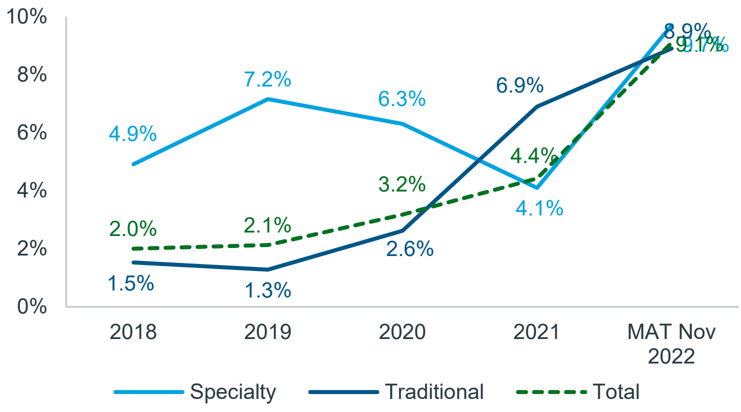
% of sales $

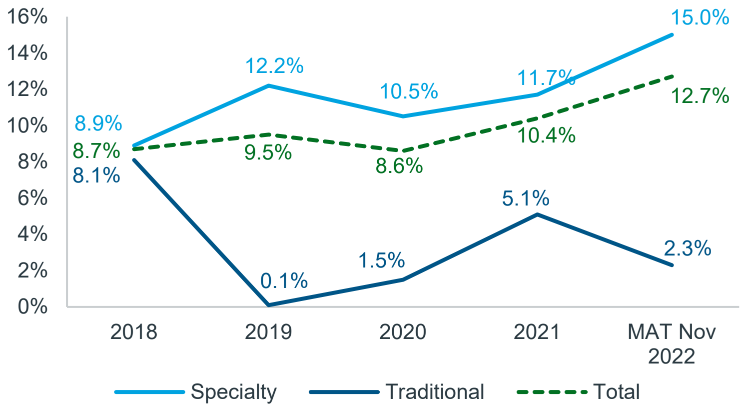


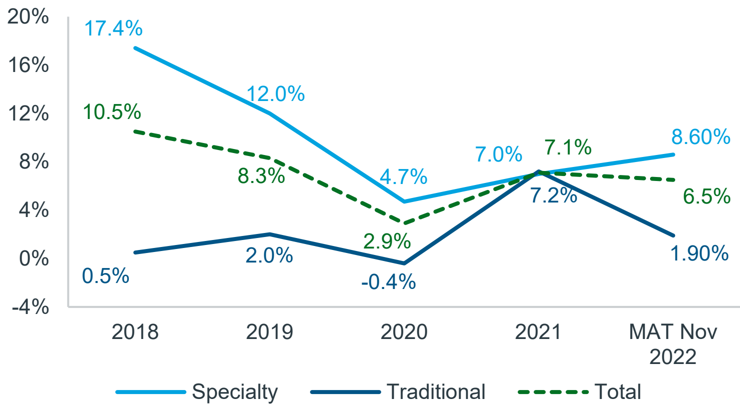




YOY sales $ growth







Data is based on Rx and OTC Insulins only

HIV Antivirals is the largest specialty category in Retail

Top 10 Specialty Therapies for Retail, Mail, and Non-Retail
MAT November 2022 (in $ Billions)

RETAIL

Therapy	MAT Nov 2022	YoY Growth
HIV ANTIVIRALS	17.0	4.4%
IMMUNOLOGY	9.5	17.8%
MENTAL HEALTH	2.5	8.5%
ONCOLOGICS	2.5	3.0%
ANTI-INFLAMMATORY AND DIGESTIVE ENZYMES AND MODULA	2.3	11.3%
LIPID REGULATORS	1.6	40.9%
VIRAL HEPATITIS	1.3	3.8%
OTHER CNS	0.8	51.1%
SEX HORMONES (ANDROGENS, OESTROGENS, PROGESTOGENS)	0.7	1.4%
MULTIPLE SCLEROSIS	0.6	-7.6%

MAIL

Therapy	MAT Nov 2022	YoY Growth
IMMUNOLOGY	79.5	21.5%
ONCOLOGICS	24.1	14.6%
MULTIPLE SCLEROSIS	10.0	-6.3%
HIV ANTIVIRALS	5.4	5.6%
ALL OTHER RESPIRATORY	4.4	8.7%
RESPIRATORY AGENTS	2.8	22.0%
OTHER CARDIOVASCULARS	2.4	5.8%
GROWTH HORMONES	2.4	2.8%
BLOOD COAGULATION	2.2	10.4%
VIRAL HEPATITIS	2.0	-5.5%

NON-RETAIL

Therapy	MAT Nov 2022	YoY Growth
ONCOLOGICS	61.7	11.9%
IMMUNOLOGY	18.4	9.6%
MULTIPLE SCLEROSIS	6.0	9.1%
POLYVAL IMMUNOGLOBLULINS	5.2	8.5%
HIV ANTIVIRALS	5.2	10.9%
HEMATOPOIETIC GROWTH FACTORS	3.1	-13.2%
ERYTHROPOIETINS	2.6	-4.1%
MENTAL HEALTH	2.6	16.7%
IMMUNOSUPPRESSANTS	2.3	24.3%
RESPIRATORY AGENTS	2.1	8.2%

Source: IQVIA, National Sales Perspectives, 2022. Limited to Rx and OTC Insulins

Biktarvy and Descovy show strong retail growth in Specialty

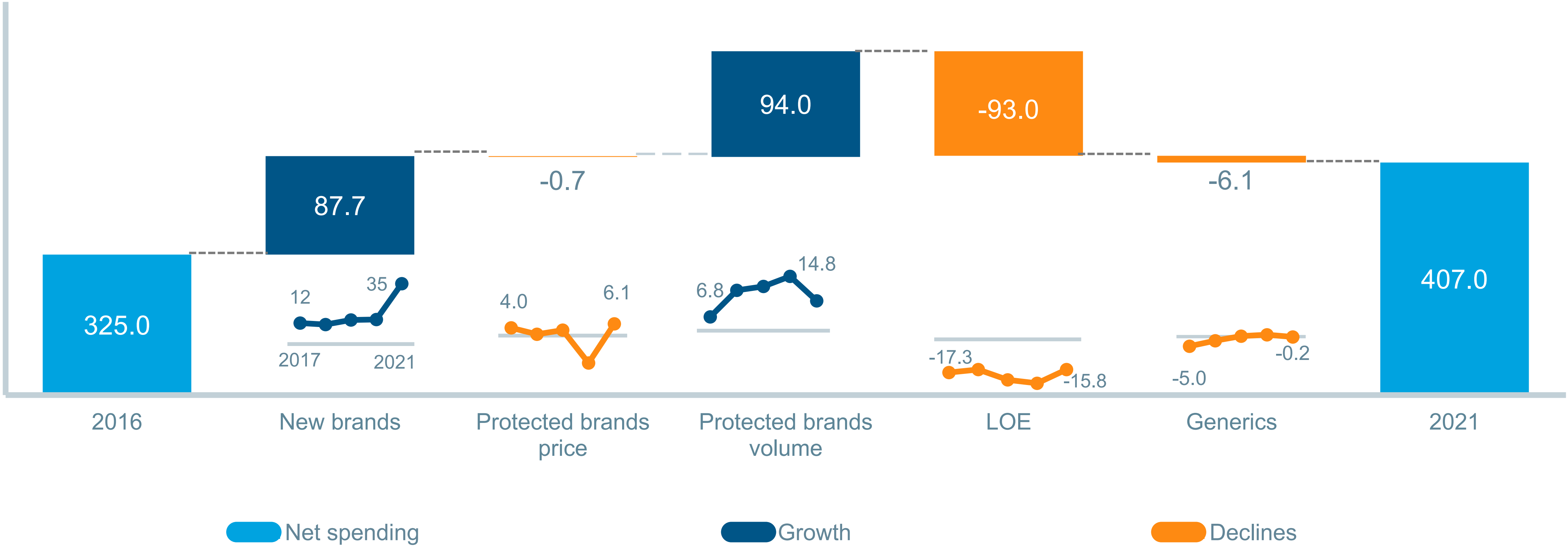
Specialty Retail Market

Rank	Therapy Area	Sales ($) in Billions			
		MAT JUN 2022	Market Share	ABS Growth	Growth
1	**BIKTARVY**	6.4	16.0%	1.2	21.9%
2	**HUMIRA**	3.2	8.0%	0.3	11.8%
3	**DESCOVY**	2.2	5.4%	0.4	20.7%
4	**GENVOYA**	1.7	4.3%	-0.2	-10.1%
5	**TRIUMEQ**	1.2	3.1%	-0.1	-9.2%
6	**ENBREL**	1.2	2.9%	0.0	2.8%
7	**INVEGA SUSTENNA**	1.1	2.8%	0.1	4.9%
8	**CREON 36**	1.0	2.4%	0.2	18.6%
9	**STELARA**	0.9	2.3%	0.2	33.3%
10	**TIVICAY**	0.9	2.1%	0.0	-3.3%
TOP 10		**19.8**	**49.3%**	**2.0**	**11.1%**

Sales in Billions

Spending increased by $82Bn over the past five years driven by new products and brand volume, offset by expiries

Spending and growth at estimated net manufacturer prices 2015–2020, all channels, US$Bn

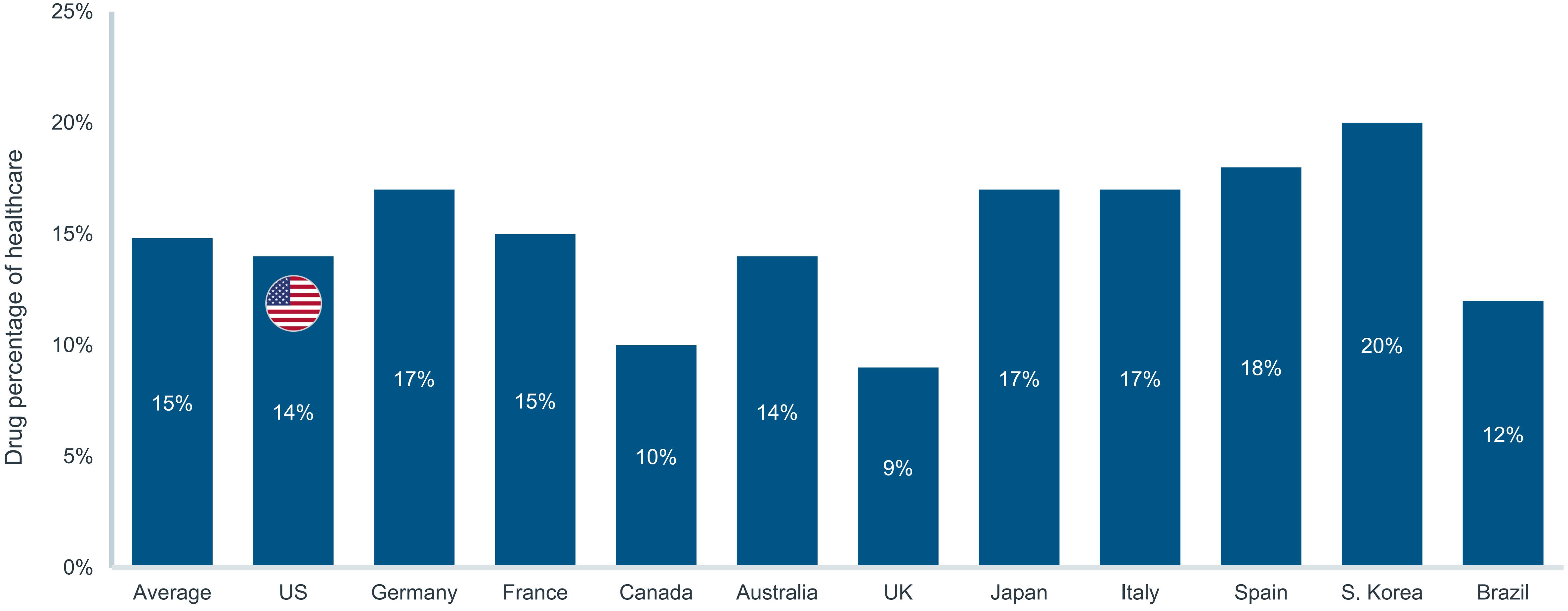


IQVIA© 2022
Source: IQVIA Institute, Mar 2022.
The Use of Medicines in the U.S.: Usage and Spending Trends and Outlook to 2026. Report by the IQVIA Institute for Human Data Science.

IQVIA INSTITUTE FOR HUMAN DATA SCIENCE

Total drug spending averages 15% of healthcare with countries ranging from 9-20%

Real net drug percentage of healthcare, 2018



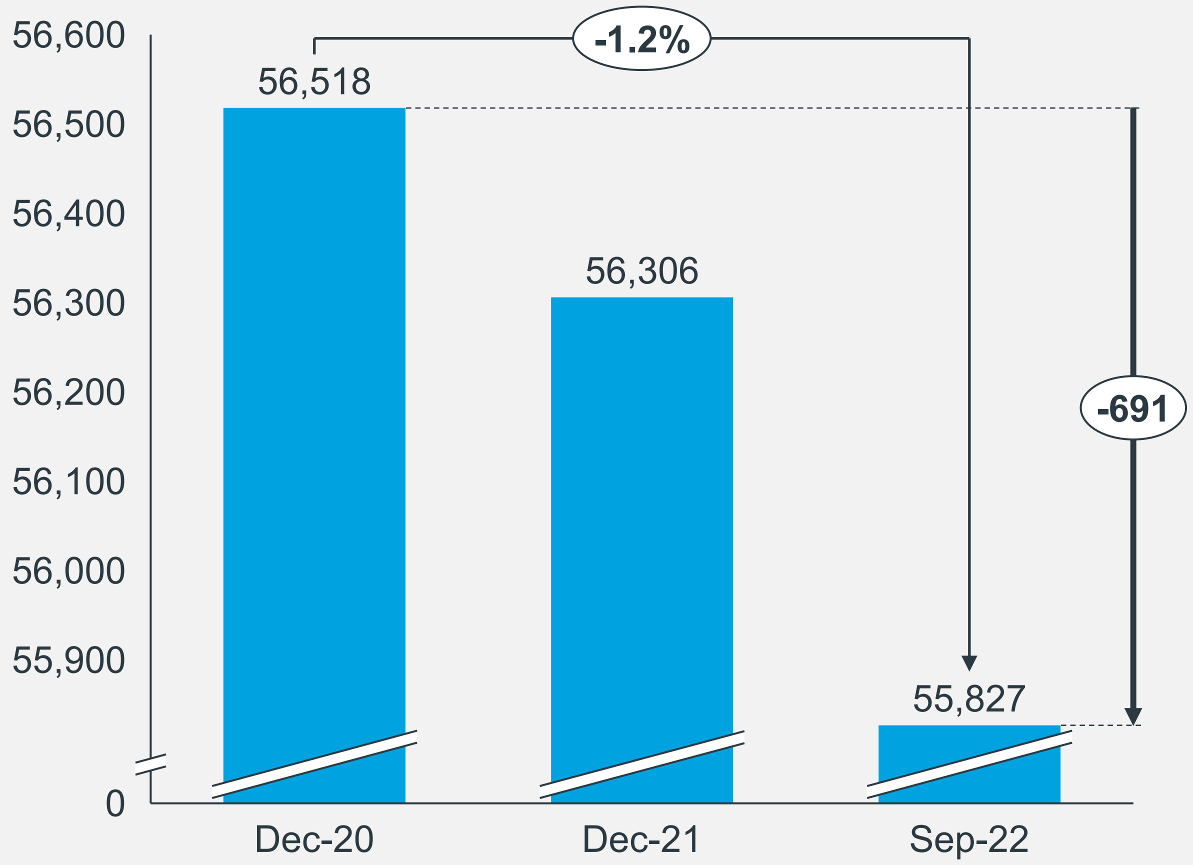
Source: IQVIA Institute for Human Data Science, Sep 2021

Drug Expenditure Dynamics 1995–2020: Understanding medicine spending in context. Report by the IQVIA Institute for Human Data Science

Retail Class of Trade and Method of Payment Performance

Almost 700 pharmacies have disappeared within the last 2 years

of Retail Pharmacies



The number of store fronts will continue to decrease

Rite Aid, CVS and Walgreens are still closing store fronts

- CVS is 1 year into their announcement to close 900 over 3 years
- Rite Aid and Walgreens announced more store closings in the last 12 months

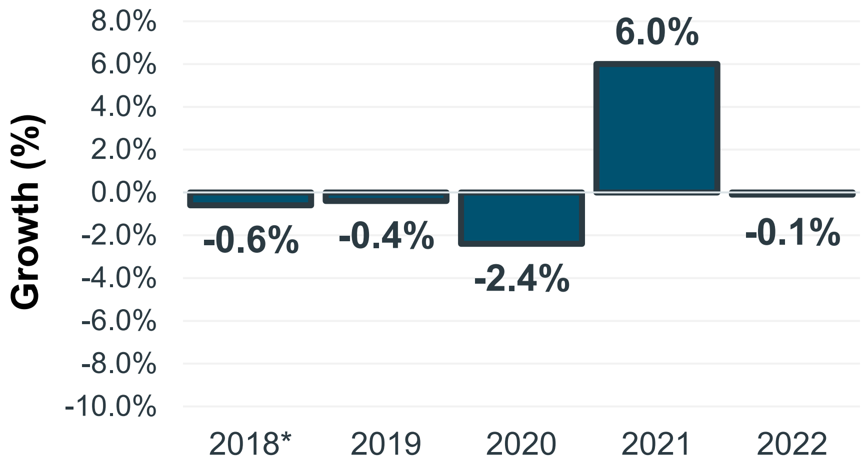
Headlines that could be impactful to Retail

- Kroger and Albertsons announced their planned merger
- Amazon Pharmacy rolls out service for unlimited generic drug prescriptions for $5 a month
- CVS, Walmart article in WSJ references reduced store hours

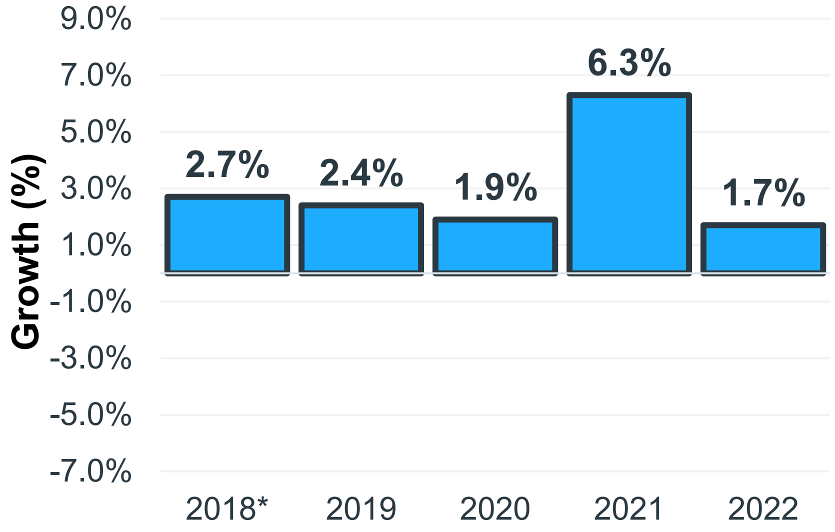
Unadjusted Rx growth for MAT and YTD December is negative, but Adjusted growth is higher

Growth (%) of Dispensed Rx

Unadjusted Rx



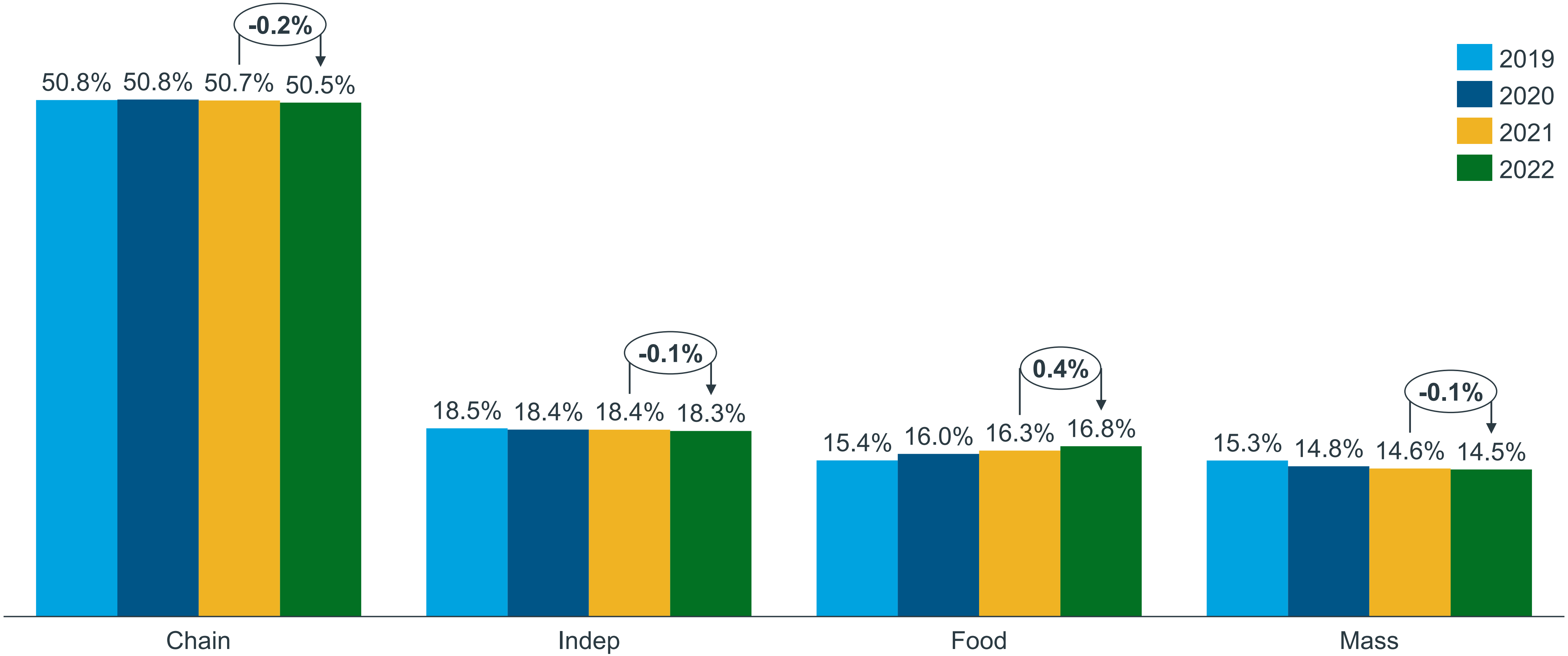
Adjusted Rx



Source: IQVIA, National Prescription Audit & RxInsight, December 2022; Retail, Mail, and LTC limited to Rx and OTC Insulins
*Note: Declines between 2018 and 2019 are due to VRAF enhancement from 2020 onwards

Food gained YoY again while Chain lost slightly, and Independents and Mass were relatively unchanged

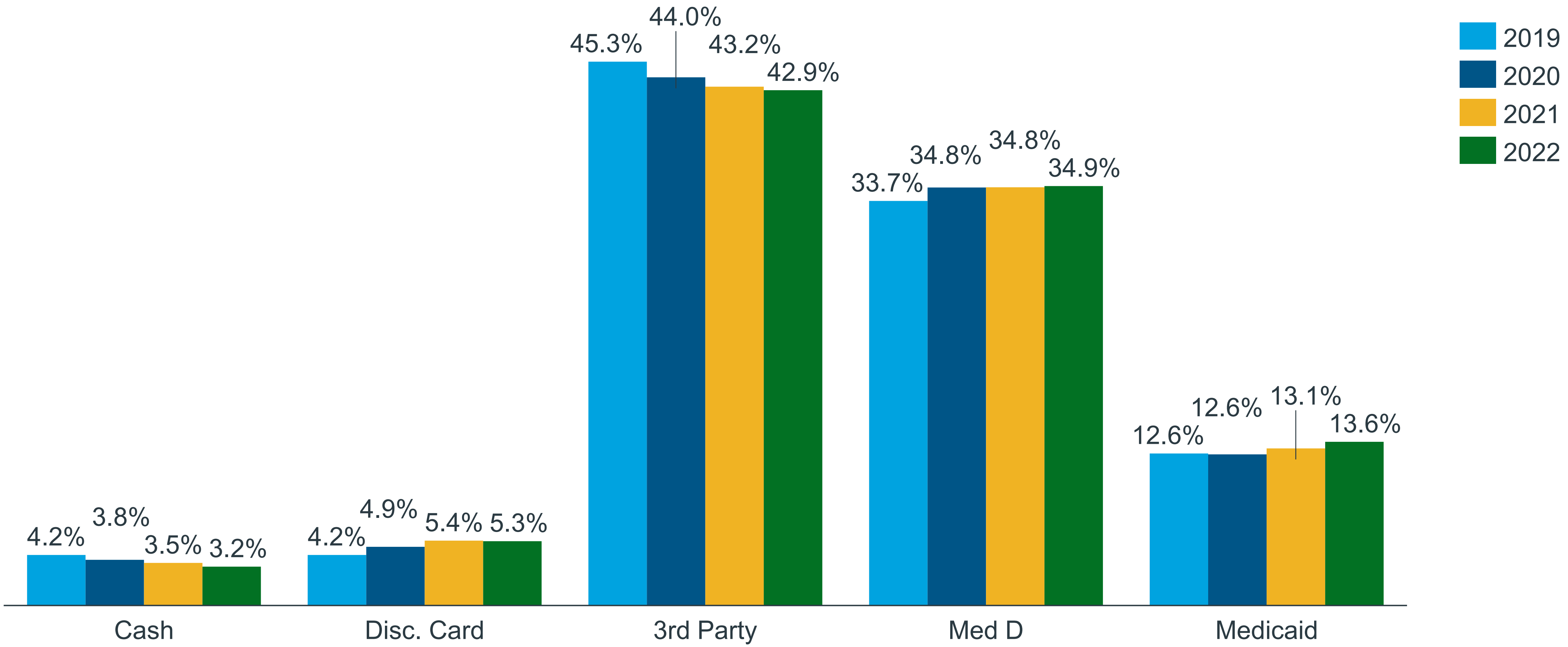
Market Share – Class of Trade - Total Retail



3rd Party still has the largest market share but that has been diminishing in recent years as Med D grows

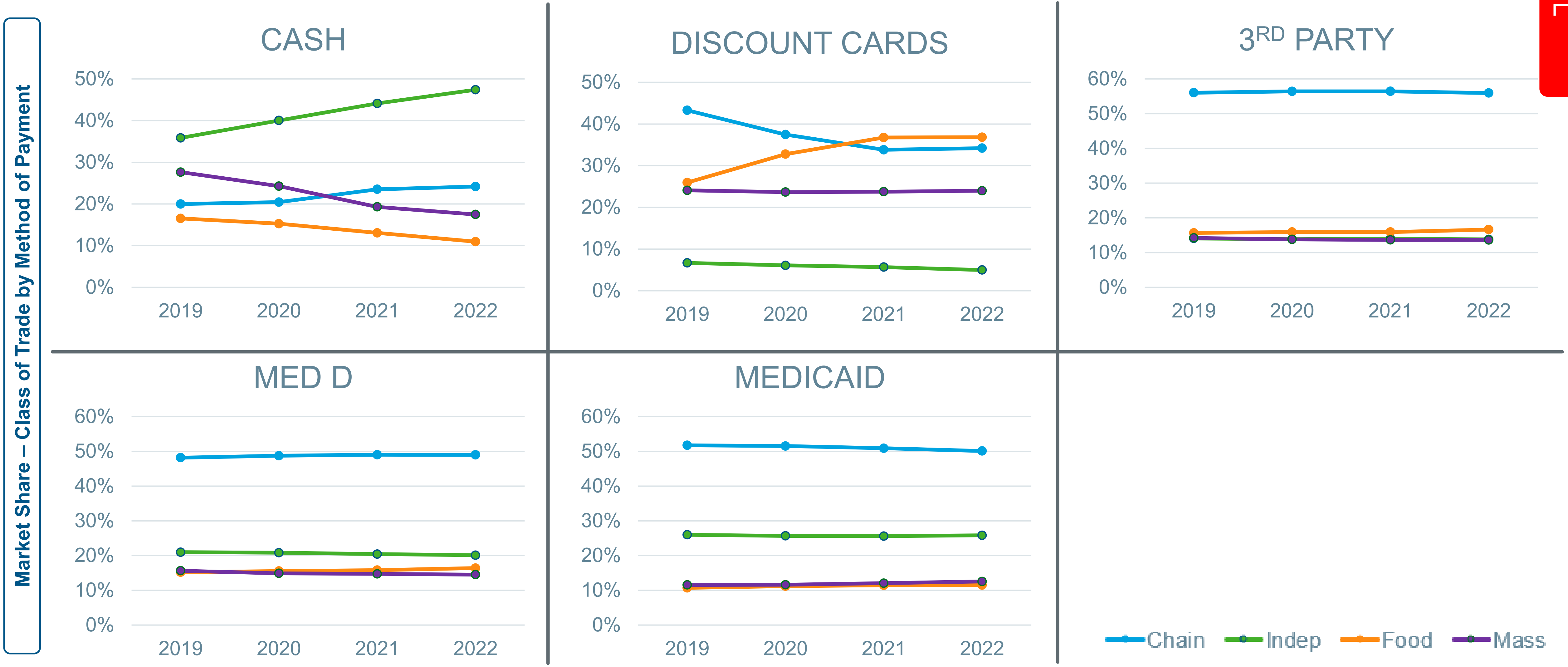
RETAIL

Market Share - Method of Payment - Total Retail



Note: Method of Payment is defined based on IQVIA's business rules

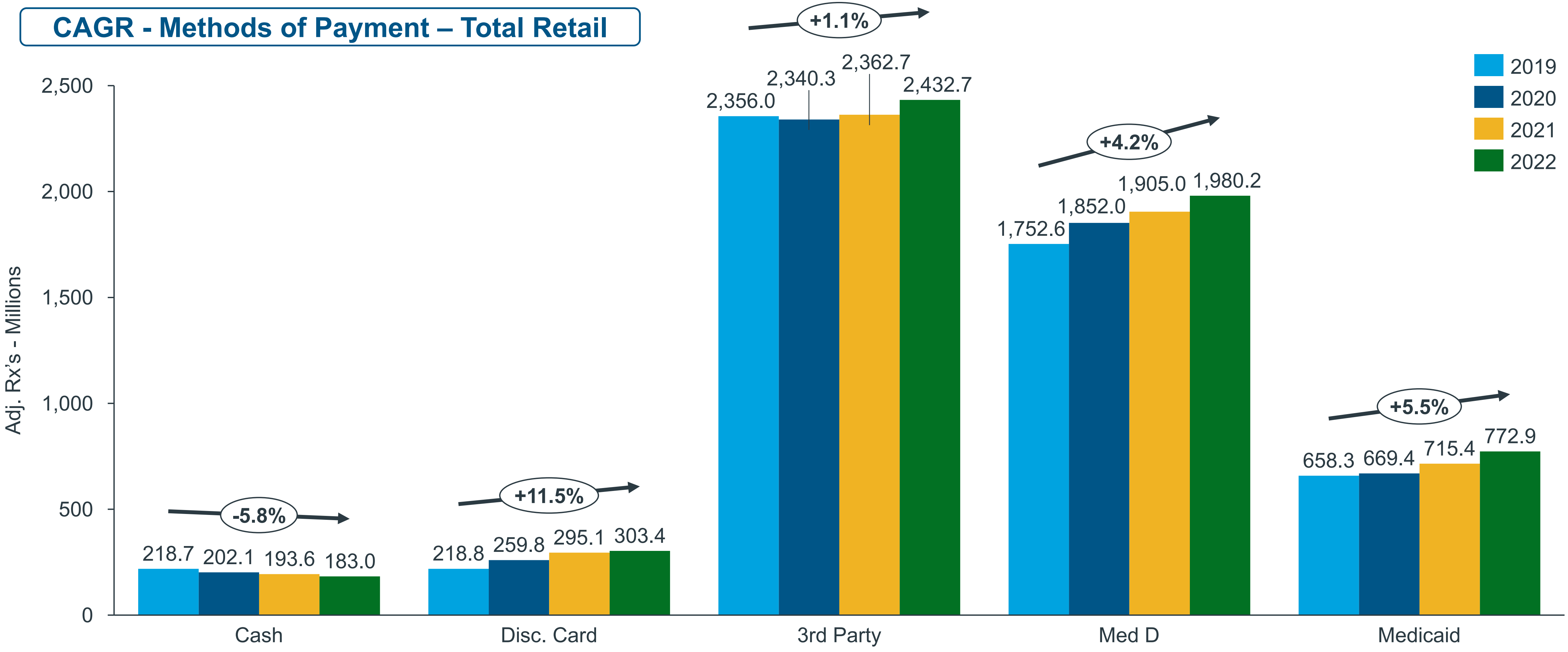
While Chain has the largest share of 3rd Party, Med D and Medicaid, Food has the largest Discount Card And Independents have the largest Cash shares



Note: Method of Payment is defined based on IQVIA's business rules

Med D has the largest volume growth over the last 4 years while Discount Cards have the largest CAGR during this time

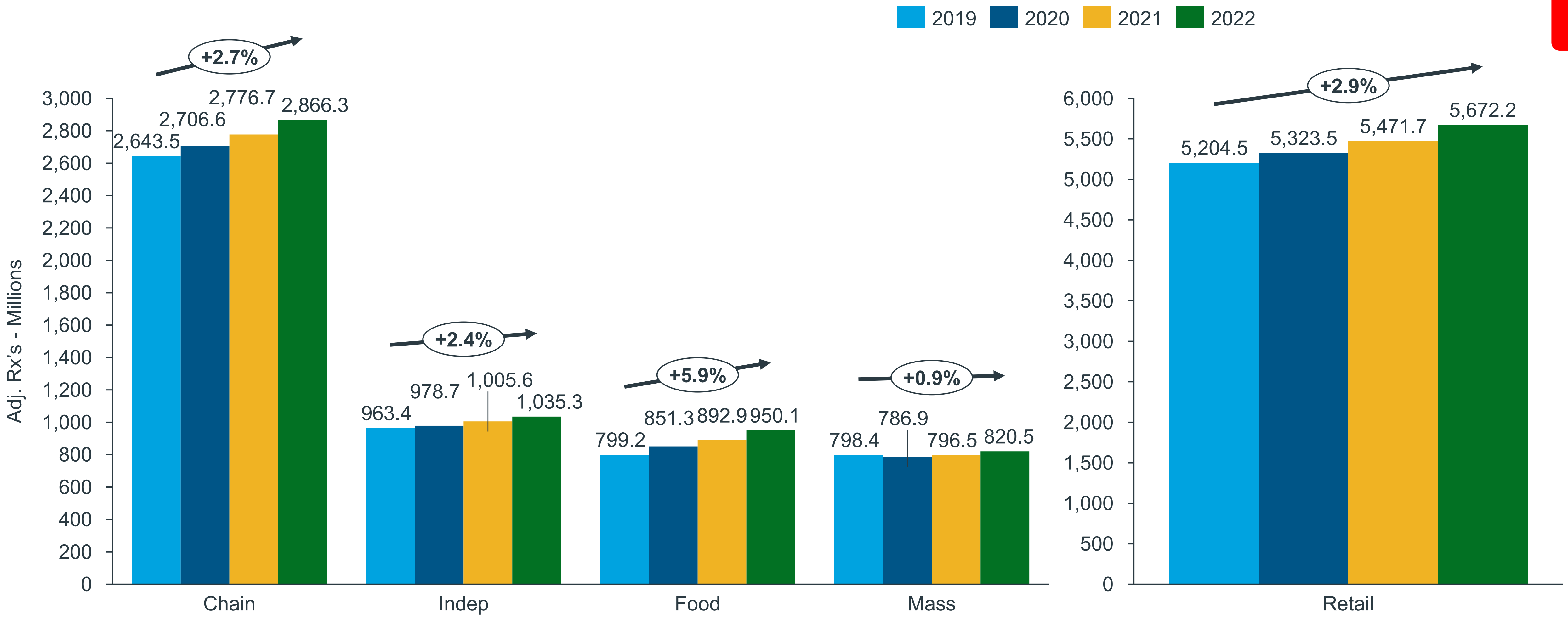
CAGR - Methods of Payment – Total Retail



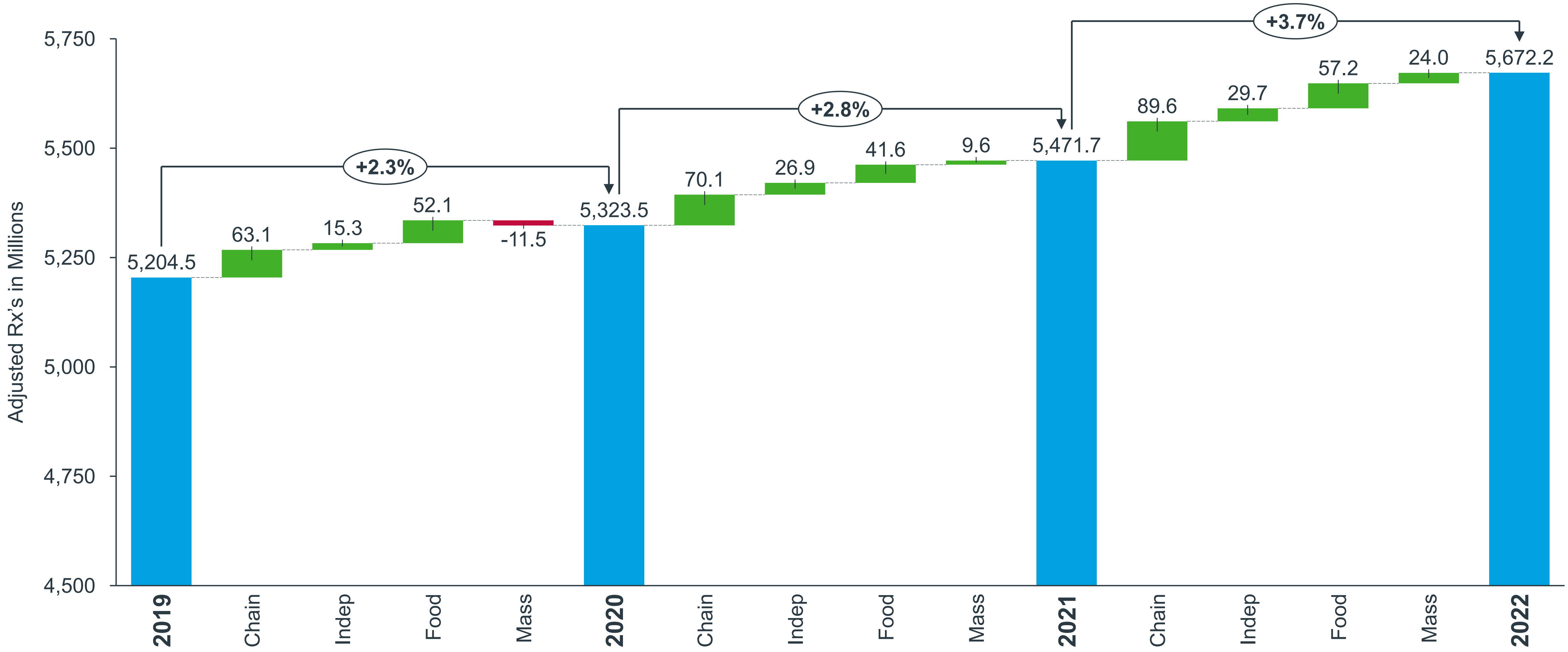
Note: Method of Payment is defined based on IQVIA's business rules

Food has the largest CAGR at 5.9% while Mass has the lowest at 0.9%

CAGR by Class of Trade

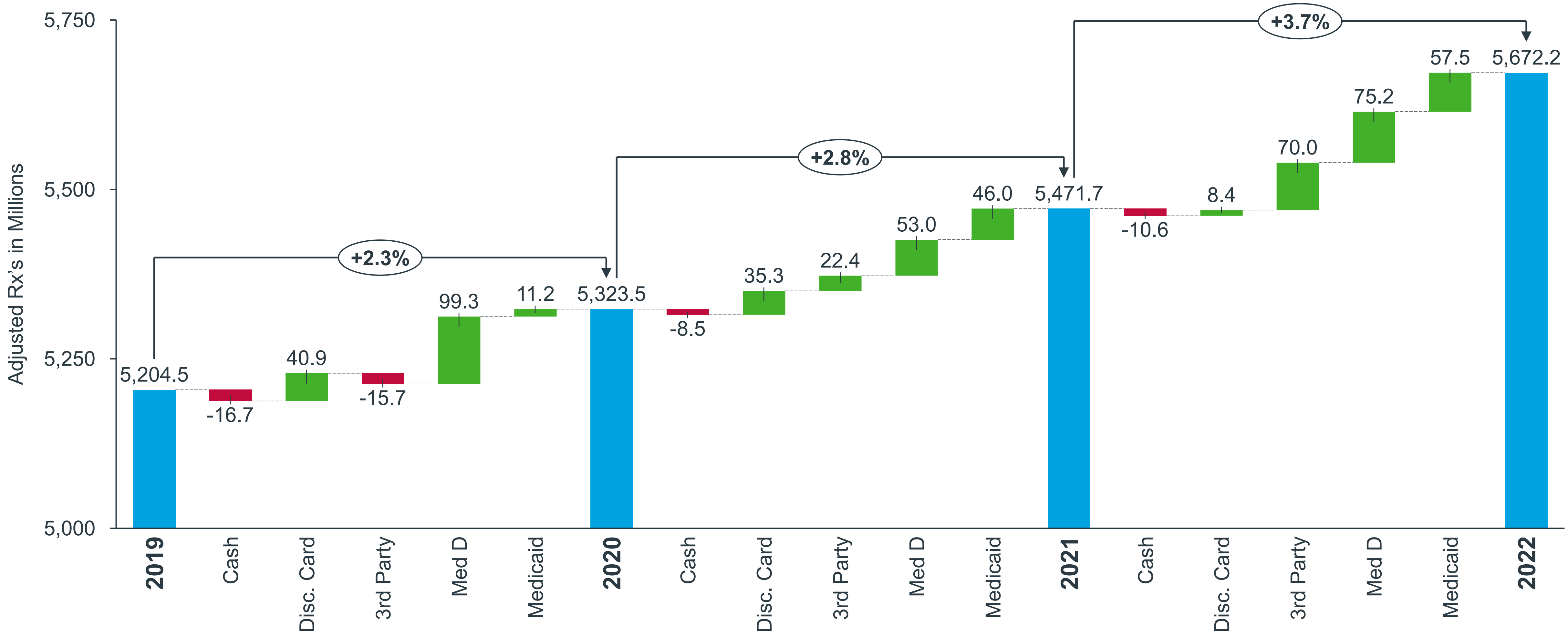


Growth in Retail is being driven by Chain and Food in recent years



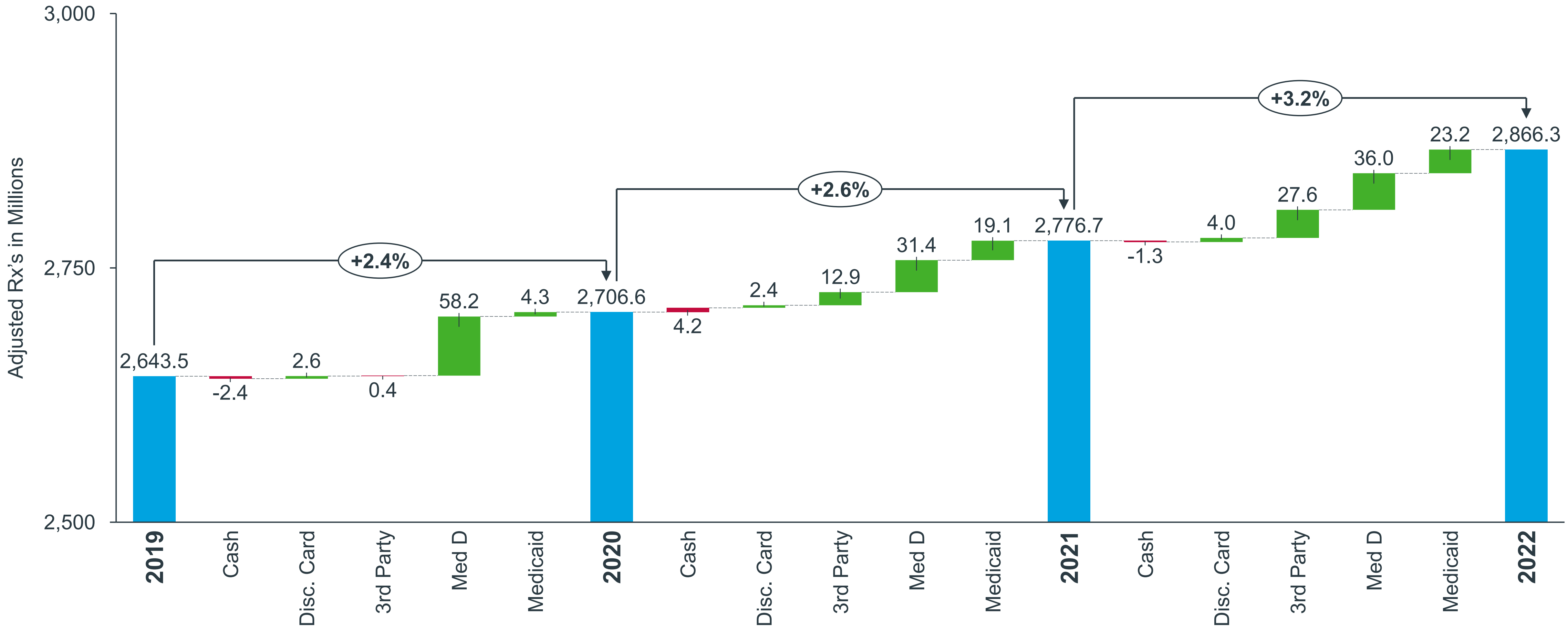
Med D has consistently been the largest growth driver in retail in recent years

RETAIL



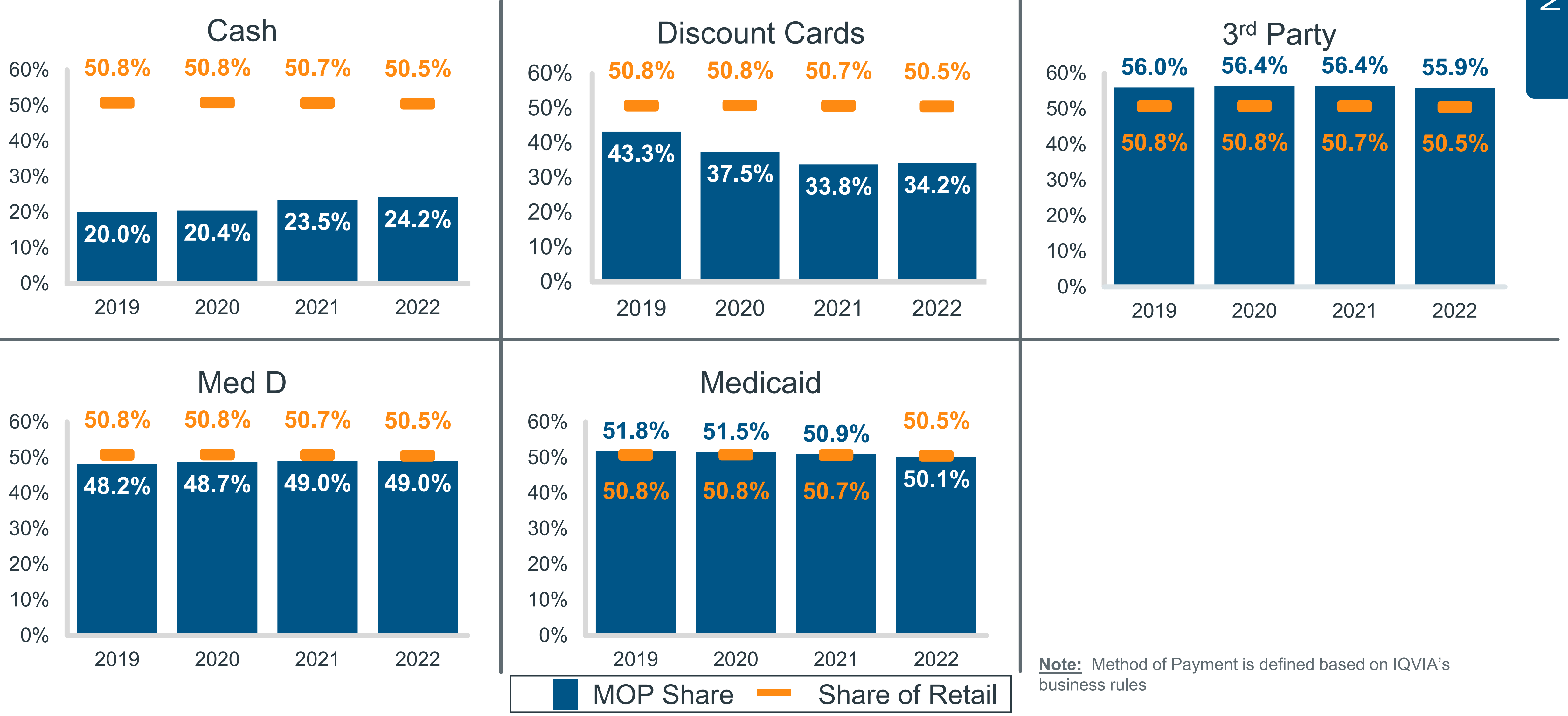
Note: Method of Payment is defined based on IQVIA's business rules

Med D has also consistently driven growth in Chain



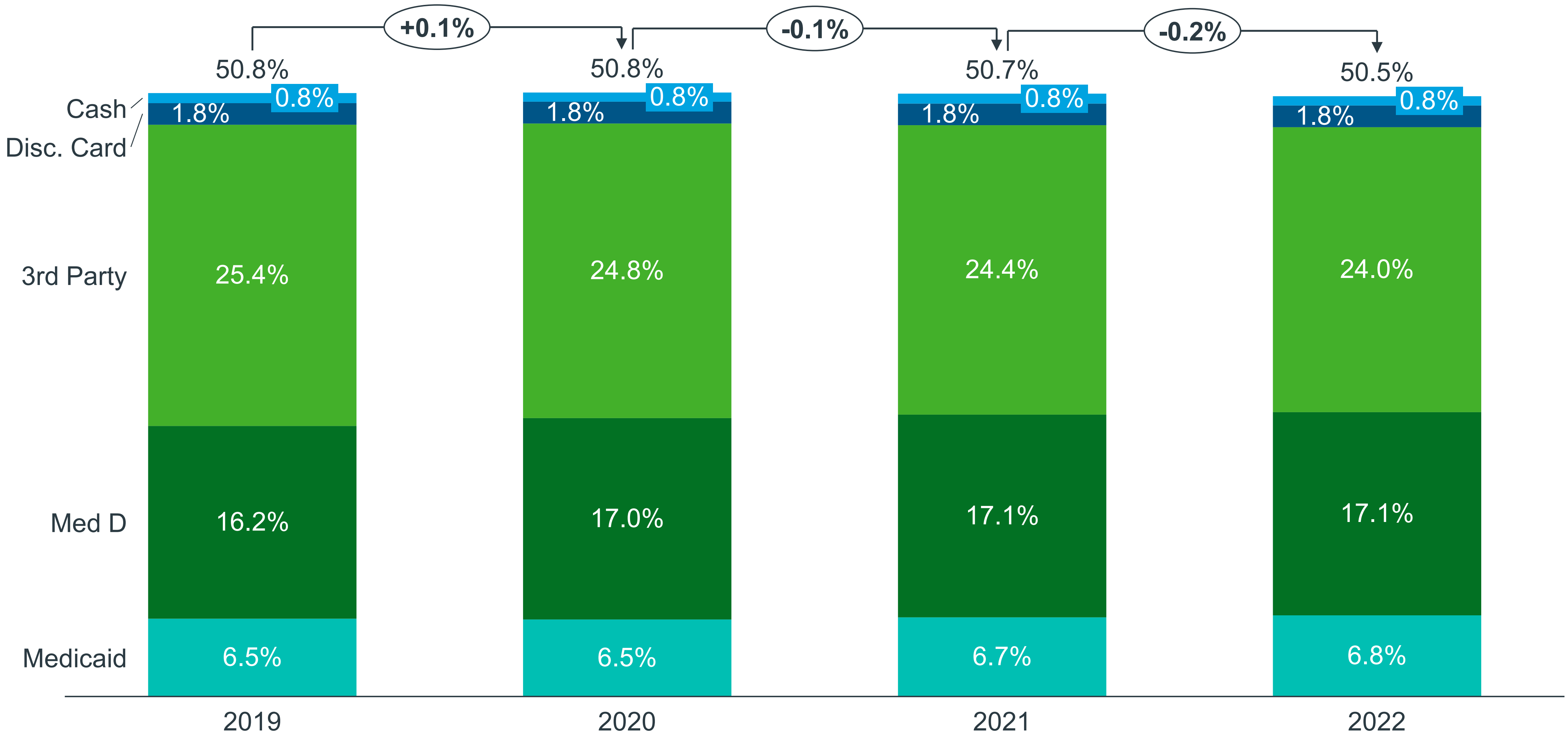
Note: Method of Payment is defined based on IQVIA's business rules

Chain under-indexes with Cash and Discount Cards while over-indexing with 3rd Party



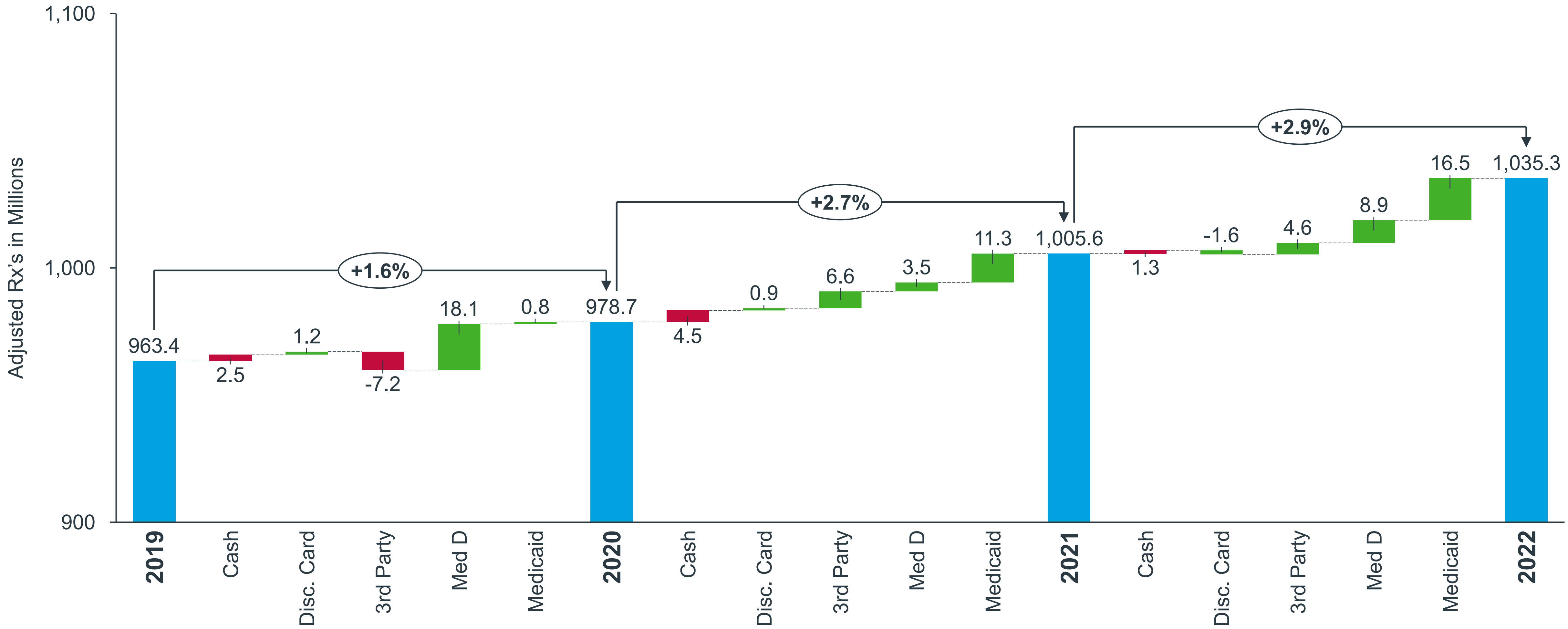
Note: Method of Payment is defined based on IQVIA's business rules

Chain shares have not shifted significantly; however, the contribution of 3rd Party has declined while Med D has increased



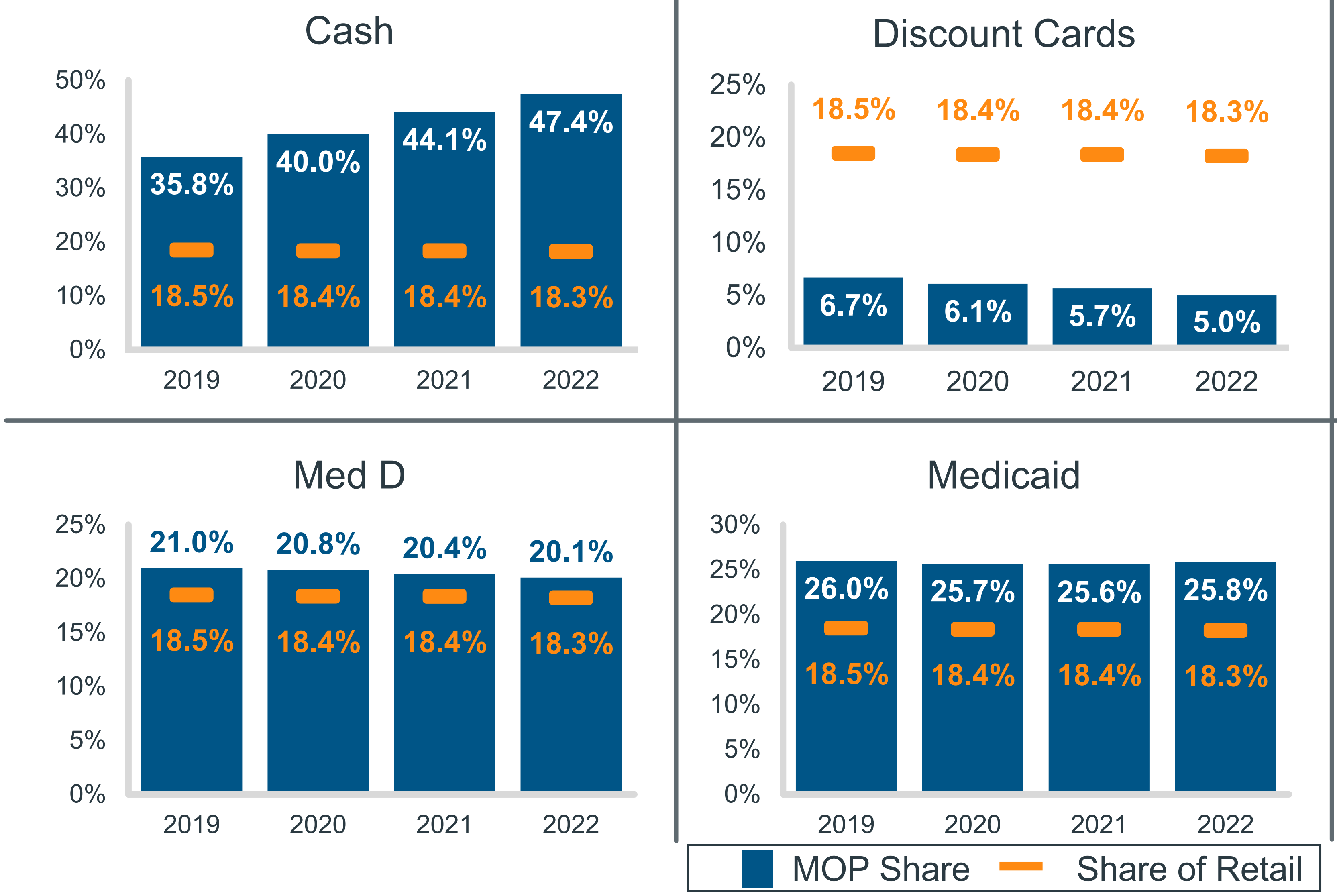
Note: Method of Payment is defined based on IQVIA's business rules

Growth in Independents has been driven by Medicaid over the last two years



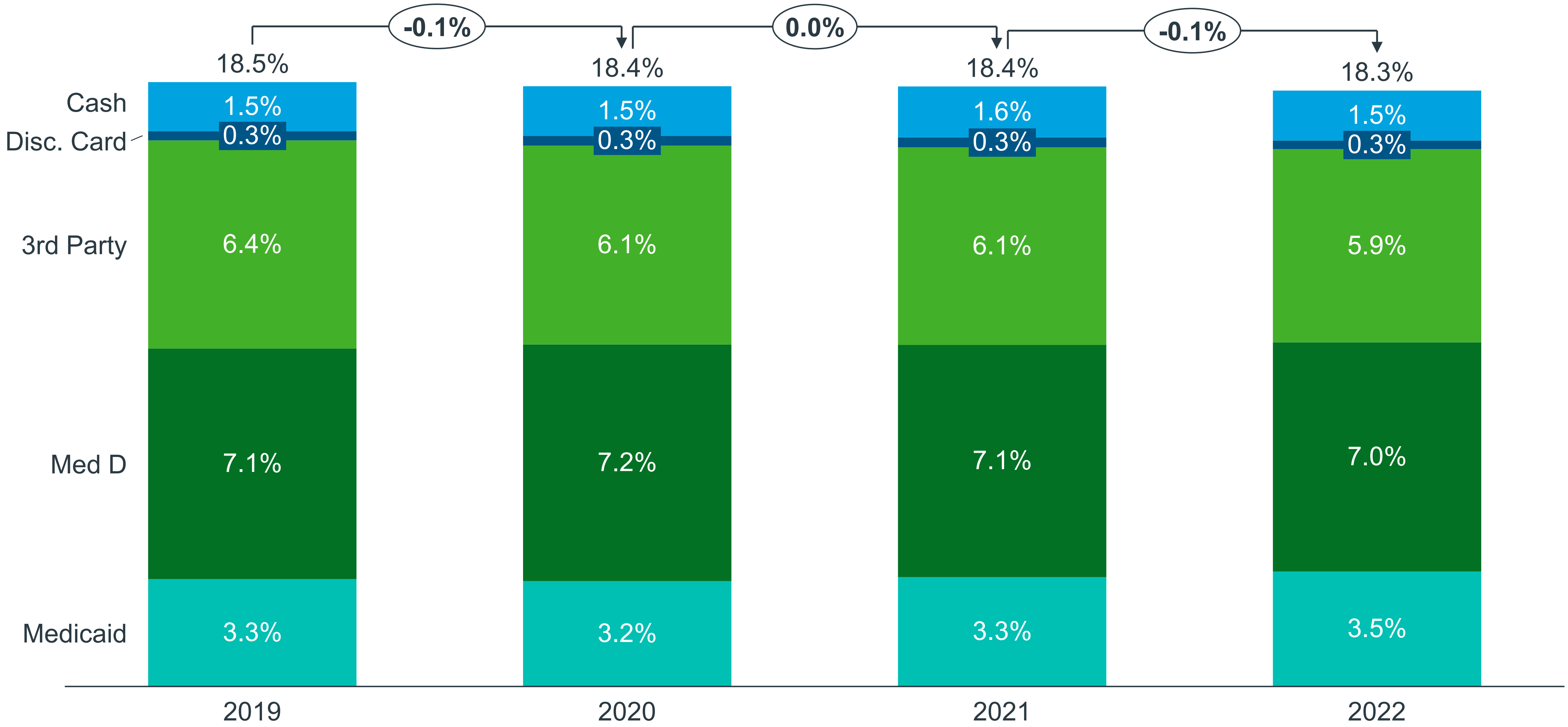
Note: Method of Payment is defined based on IQVIA's business rules

Independents over-index with Cash, Med D and Medicaid



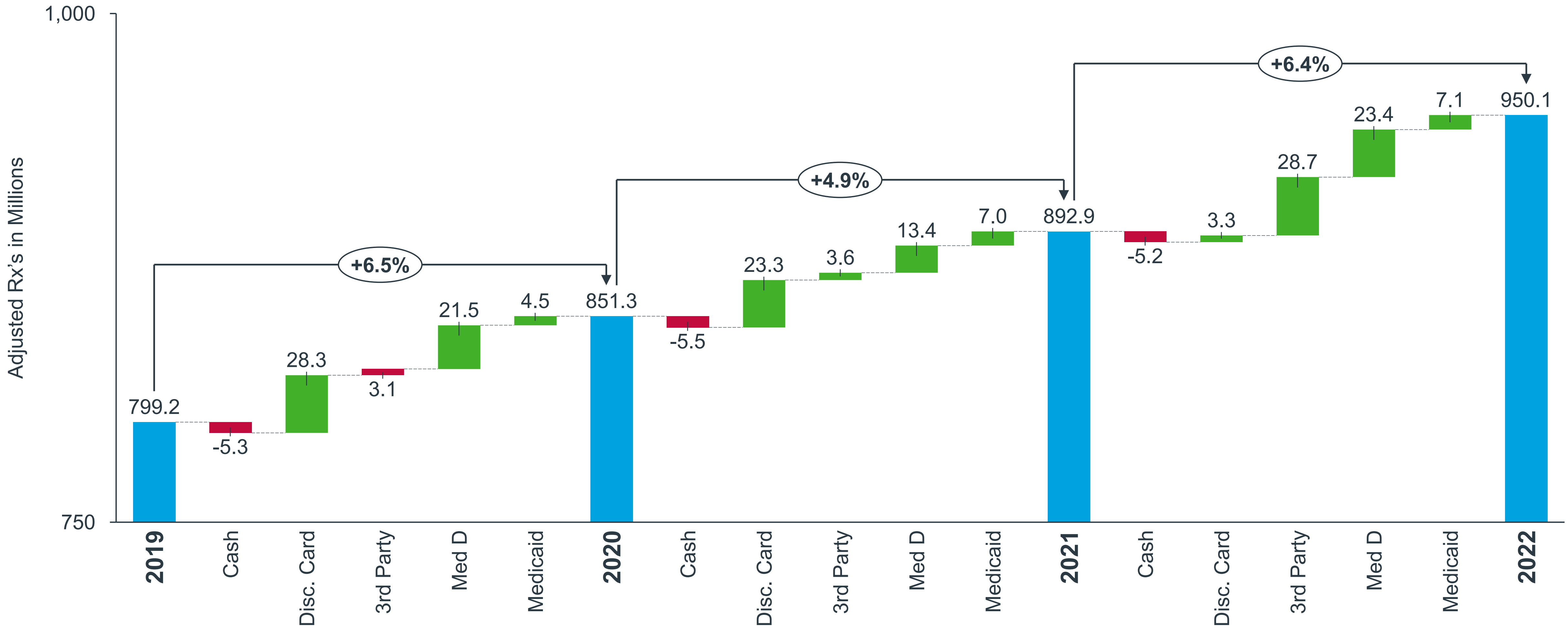
Note: Method of Payment is defined based on IQVIA's business rules

Independents share declined slightly with the largest impacts coming from 3rd Party



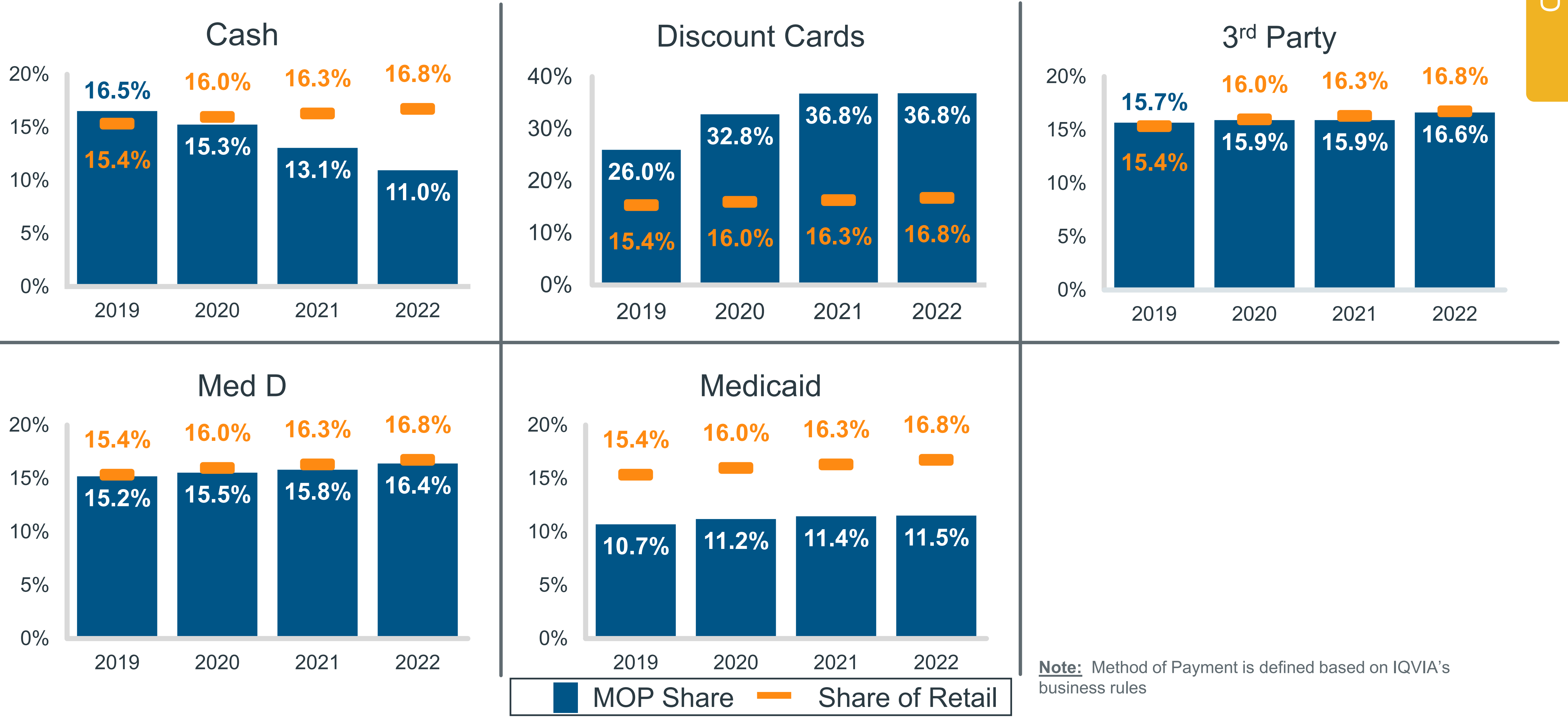
Note: Method of Payment is defined based on IQVIA's business rules

In 2020 and 2021 Discount Cards drove growth at Food and then in 2022 it was driven by 3rd Party



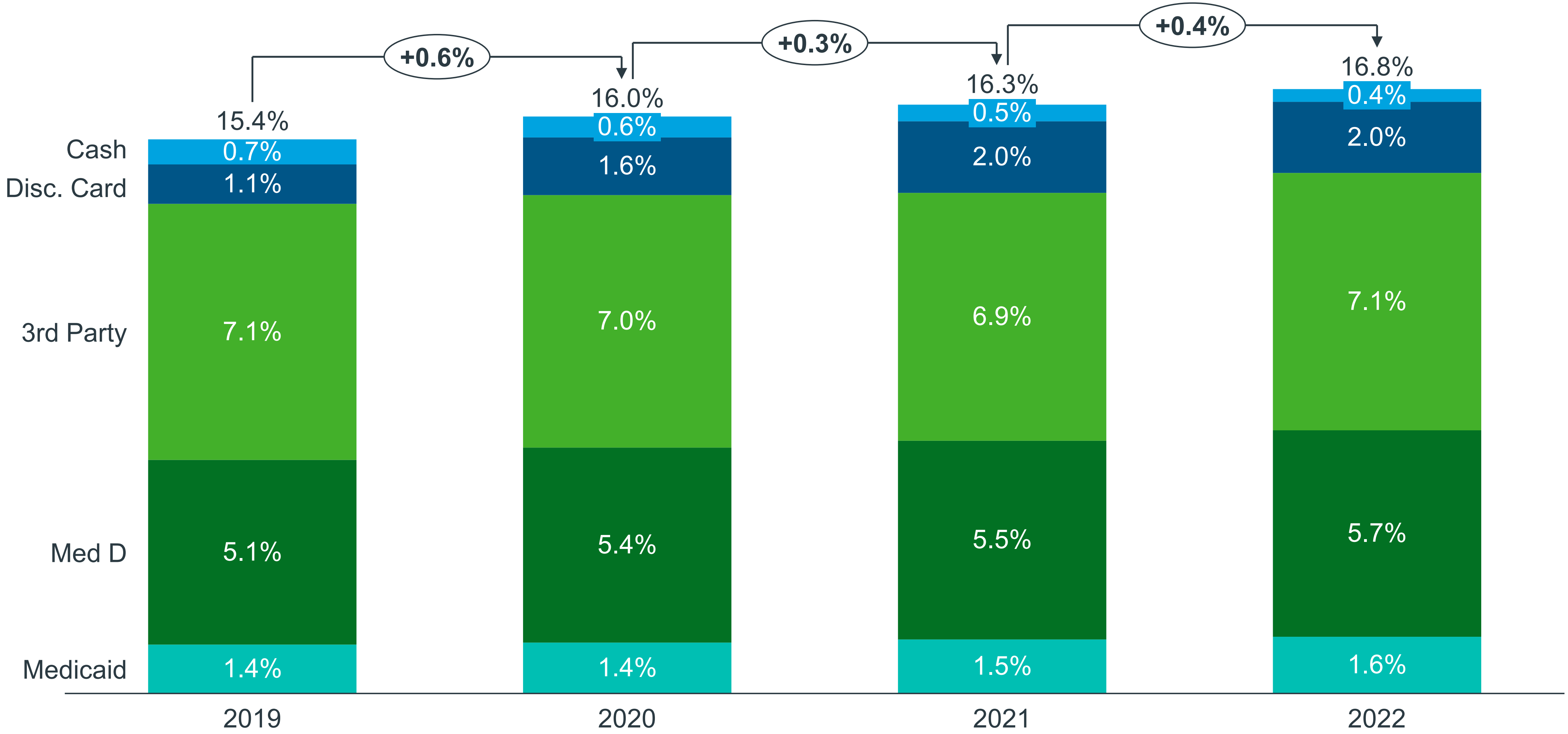
Note: Method of Payment is defined based on IQVIA's business rules

Food over-indexes with Discount Cards while under-indexing with Medicaid



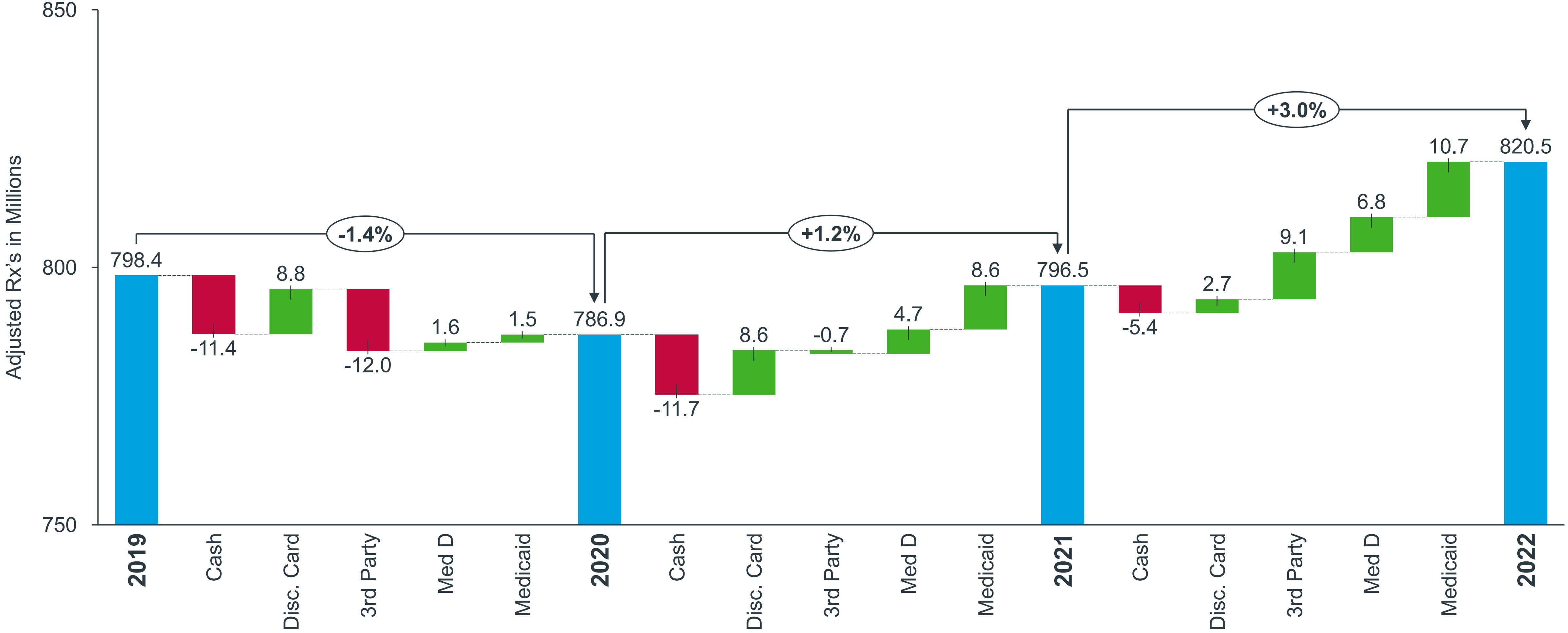
Note: Method of Payment is defined based on IQVIA's business rules

In Food Discount Cards have driven share gains, but so has Med D



Note: Method of Payment is defined based on IQVIA's business rules

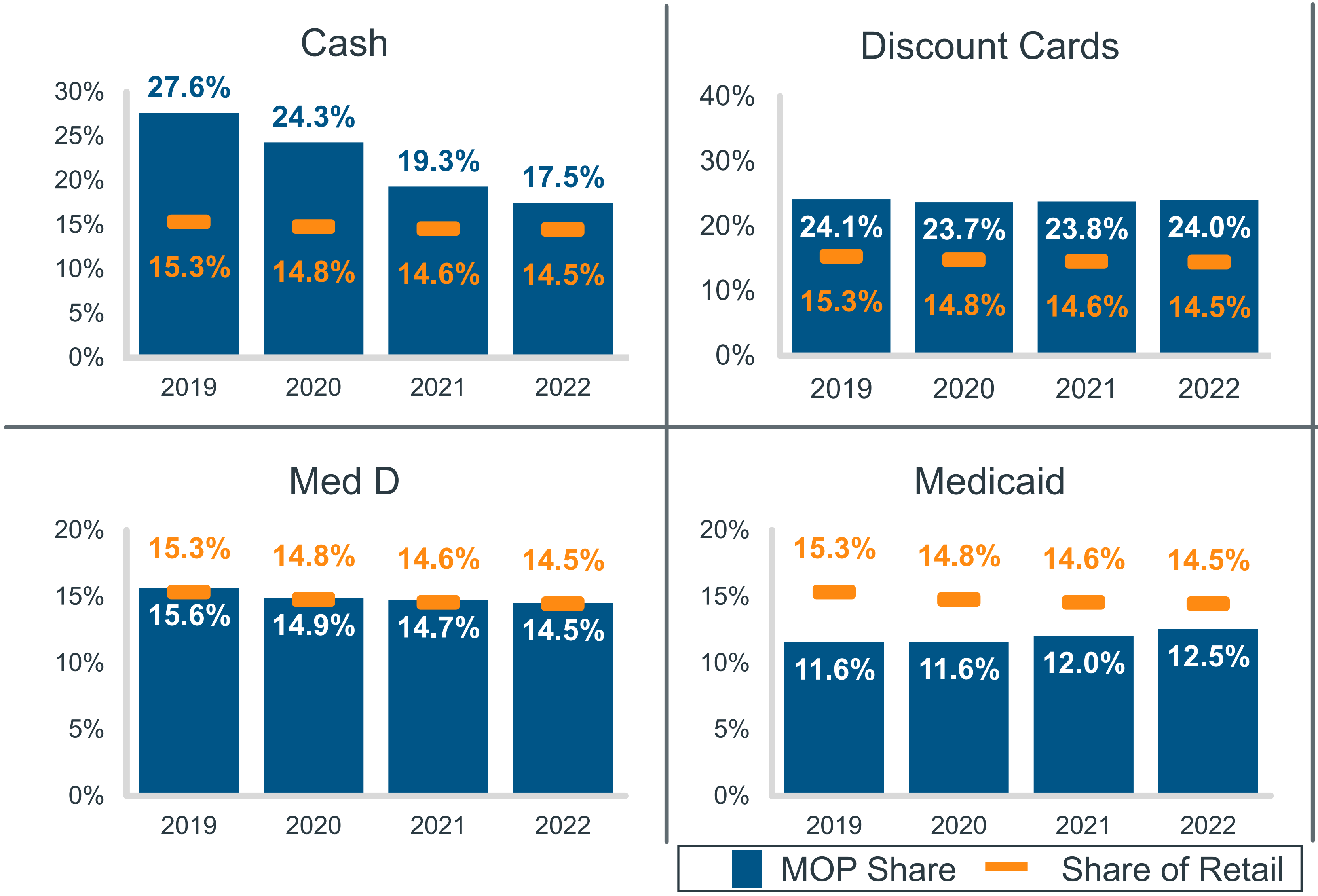
After two rough years Mass is regaining volumes through Medicaid



Note: Method of Payment is defined based on IQVIA's business rules

Mass over-indexing with Cash has changed in recent years while they under-index with Medicaid

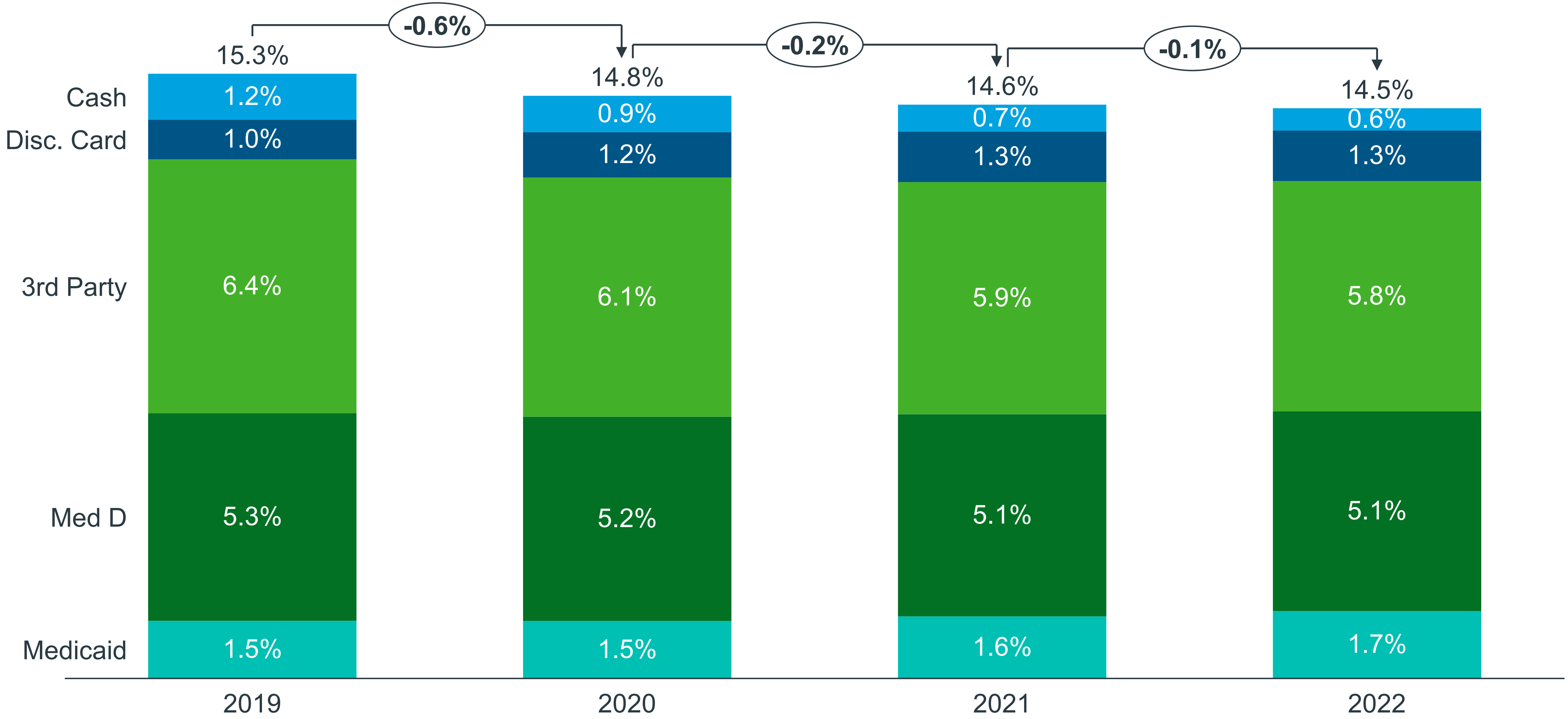
MASS



Note: Method of Payment is defined based on IQVIA's business rules

IQVIA

Share in Mass has been negatively impacted by Cash and 3rd Party



Note: Method of Payment is defined based on IQVIA's business rules

On a script basis, the top 10 therapy areas are growing at 3.2% adjusted and at 1.9% unadjusted

Rank	Therapy Area	Adjusted Scripts (MNs)				Unadjusted Scripts (MNs)			
		MAT DEC 2022	Market Share	ABS Growth	Growth	MAT DEC 2022	Market Share	ABS Growth	Growth
1	ANTIHYPERTENSIVES, PLAIN & COMBO	1,288.6	19.8%	22.3	1.8%	634.2	14.6%	-2.4	-0.4%
2	MENTAL HEALTH	632.9	9.7%	25.1	4.1%	420.1	9.7%	8.4	2.0%
3	LIPID REGULATORS	556.1	8.5%	25.2	4.8%	257.4	5.9%	6.1	2.4%
4	ANTIDIABETICS	403.9	6.2%	23.5	6.2%	230.5	5.3%	11.4	5.2%
5	PAIN	378.1	5.8%	-3.8	-1.0%	343.6	7.9%	-4.6	-1.3%
6	ANTI-ULCERANTS	273.1	4.2%	10.0	3.8%	154.8	3.6%	1.7	1.1%
7	NERVOUS SYSTEM DISORDERS	265.8	4.1%	4.9	1.9%	199.1	4.6%	1.5	0.8%
8	ANTIBACTERIALS	233.4	3.6%	24.7	11.8%	229.7	5.3%	24.5	12.0%
9	THYROID ANTI-THYROID AND IODINE PREPS	231.7	3.6%	1.3	0.5%	115.4	2.7%	-2.6	-2.2%
10	RESPIRATORY AGENTS	225.7	3.5%	7.5	3.5%	177.1	4.1%	6.6	3.9%
TOP 10		**4,489.3**	**68.9%**	**140.8**	**3.2%**	**2,762.0**	**63.8%**	**50.6**	**1.9%**

On a script basis, the top 20 therapy areas are growing at 0.8% adjusted and declining at 1.4% unadjusted

Rank	Therapy Area	Adjusted Scripts (MNs)				Unadjusted Scripts (MNs)			
		MAT DEC 2022	Market Share	ABS Growth	Growth	MAT DEC 2022	Market Share	ABS Growth	Growth
11	OTHER CNS	194.4	3.0%	3.3	1.7%	174.2	4.0%	1.7	1.0%
12	VACCINES (PURE, COMB, OTHER)	156.7	2.4%	-117.6	-42.9%	155.2	3.6%	-119.0	-43.4%
13	DERMATOLOGICS	127.5	2.0%	4.7	3.9%	121.8	2.8%	4.2	3.6%
14	ANTITHROMBOTICS	123.5	1.9%	1.3	1.1%	73.1	1.7%	-0.2	-0.3%
15	ADHD	120.0	1.8%	8.1	7.3%	108.7	2.5%	7.3	7.2%
16	HORMONAL CONTRACEPTION, SYSTEMIC&TOPICAL	117.3	1.8%	-7.6	-6.1%	61.4	1.4%	-5.7	-8.5%
17	VITAMINS & MINERALS	105.8	1.6%	-3.0	-2.7%	62.4	1.4%	-3.3	-5.1%
18	BPH (BENIGN PROSTATIC HYPERTROPHY)	93.4	1.4%	4.9	5.5%	46.0	1.1%	1.4	3.1%
19	CORTICOSTEROIDS, PLAIN & COMBO	83.9	1.3%	8.0	10.6%	78.3	1.8%	7.9	11.3%
20	GI PRODUCTS	68.7	1.1%	3.1	4.7%	58.5	1.4%	2.2	4.0%
TOP 20		**5,680.5**	**87.2%**	**46.0**	**0.8%**	**3,701.5**	**85.5%**	**-52.8**	**-1.4%**

IQVIA

On a script basis, the top 10 products are growing at 3.8% adjusted and growing at 1.4% unadjusted

Rank	Product	Adjusted Scripts (MNs)				Unadjusted Scripts (MNs)			
		MAT DEC 2022	Market Share	ABS Growth	Growth	MAT DEC 2022	Market Share	ABS Growth	Growth
1	**ATORVASTATIN CA**	274.8	4.2%	14.0	5.4%	128.9	3.0%	3.6	2.9%
2	**AMLODIPINE BESY**	189.1	2.9%	6.8	3.7%	91.1	2.1%	1.0	1.2%
3	**LISINOPRIL**	176.7	2.7%	-3.1	-1.7%	84.6	2.0%	-3.8	-4.3%
4	**LEVOTHYROXINE SOD**	166.7	2.6%	3.7	2.2%	83.2	1.9%	-0.2	-0.2%
5	**LOSARTAN POT**	132.3	2.0%	6.9	5.5%	62.4	1.4%	2.3	3.8%
6	**METFORMIN HCL**	114.3	1.8%	-0.3	-0.3%	56.6	1.3%	-1.6	-2.8%
7	**METOPROLOL SUCCIN**	110.3	1.7%	5.6	5.3%	52.4	1.2%	1.6	3.1%
8	**ROSUVASTATIN CAL**	104.3	1.6%	17.2	19.7%	46.9	1.1%	6.8	16.9%
9	**GABAPENTIN**	97.2	1.5%	2.8	3.0%	72.2	1.7%	1.5	2.2%
10	**HYDROCHLOROTHIAZIDE**	95.0	1.5%	-0.4	-0.4%	44.1	1.0%	-1.5	-3.3%
TOP 10		**1,460.7**	**22.4%**	**53.1**	**3.8%**	**722.4**	**16.7%**	**9.7**	**1.4%**

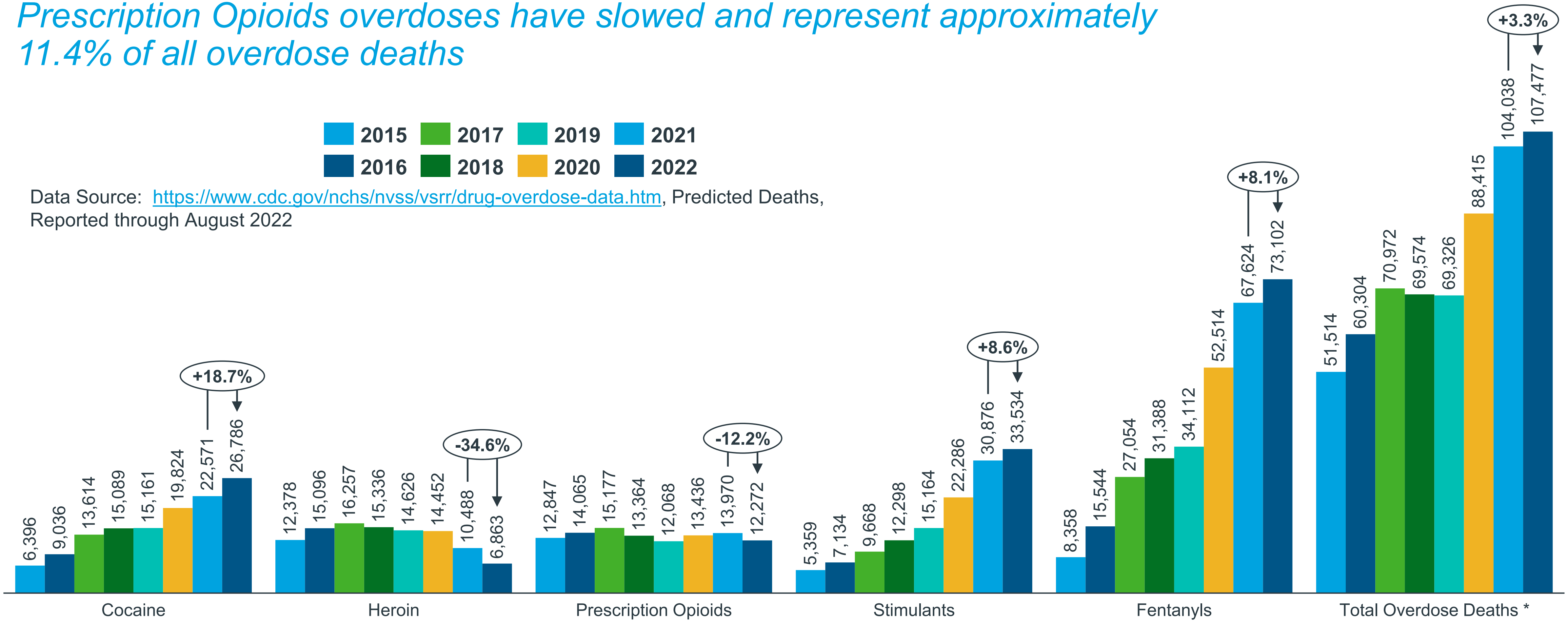
On a script basis, the top 20 products are declining at 0.6% adjusted and at 5.4% unadjusted

Rank	Product	Adjusted Scripts (MNs)				Unadjusted Scripts (MNs)			
		MAT DEC 2022	Market Share	ABS Growth	Growth	MAT DEC 2022	Market Share	ABS Growth	Growth
11	SERTRALINE HCL	87.6	1.3%	4.2	5.0%	55.0	1.3%	1.4	2.6%
12	OMEPRAZOLE (RX)	85.6	1.3%	-11.1	-11.5%	46.9	1.1%	-7.3	-13.5%
13	PANTOPRAZOLE SOD	83.9	1.3%	5.2	6.6%	47.2	1.1%	1.7	3.8%
14	ESCITALOPRAM OXAL	76.5	1.2%	5.4	7.6%	46.9	1.1%	2.0	4.5%
15	MONTELUKAST SOD	65.3	1.0%	0.5	0.8%	36.0	0.8%	-0.9	-2.5%
16	SIMVASTATIN	63.8	1.0%	-6.3	-8.9%	27.9	0.6%	-3.4	-10.8%
17	FUROSEMIDE	62.7	1.0%	-1.0	-1.6%	36.1	0.8%	-1.1	-3.0%
18	TAMSULOSIN HCL	60.7	0.9%	3.7	6.5%	30.8	0.7%	1.1	3.9%
19	TRAZODONE HCL	60.6	0.9%	3.2	5.6%	40.6	0.9%	1.3	3.4%
20	COMIRNATY	58.8	0.9%	-70.0	-54.3%	58.8	1.4%	-70.0	-54.4%
TOP 20		**2,166.0**	**33.3%**	**-13.1**	**-0.6%**	**1,148.6**	**26.5%**	**-65.4**	**-5.4%**

Opioids

Fentanyls continue to be the leading cause of overdose deaths

Prescription Opioids overdoses have slowed and represent approximately 11.4% of all overdose deaths

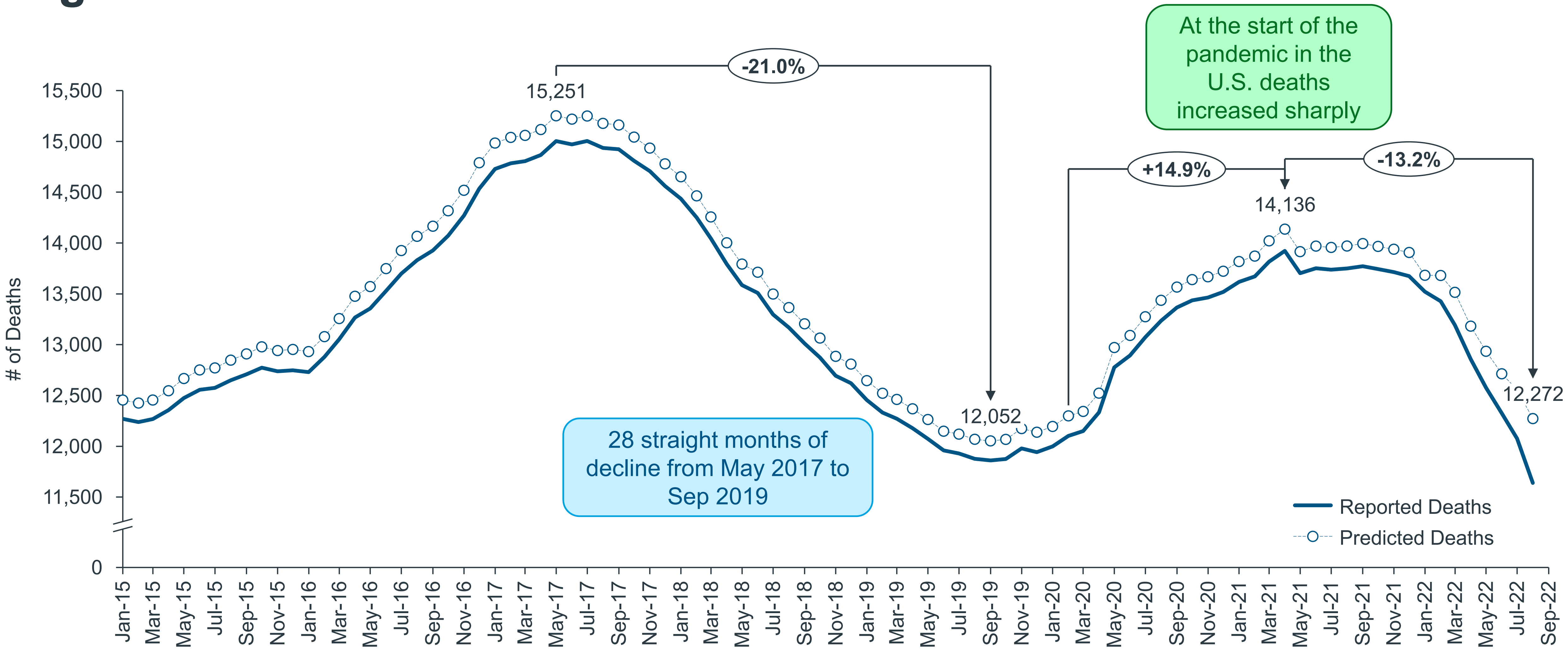


Data Source: https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm, Predicted Deaths, Reported through August 2022

Notes: Data is based on 12 months ending August 2022, Cocaine = Cocaine (T40.5), Heroin = Heroin (T40.1), Prescription Opioids = Natural & Semi-synthetic Opioids (T40.2), Stimulants = Psychostimulants with abuse potential (T43.6) and Fentanyls = Synthetic Opioids, Excl. Methadone (T40.4)

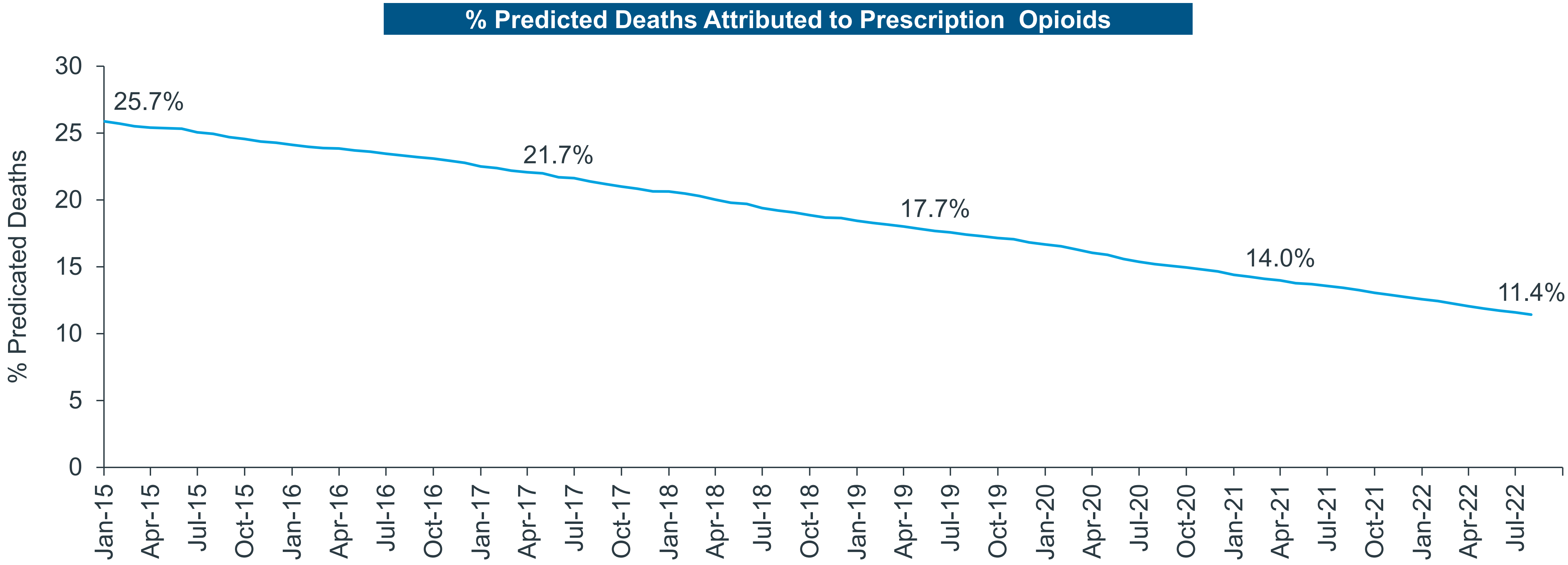
* - Drug overdose deaths may involve multiple drugs; therefore, a single death might be included in more than one category when describing the number of drug overdose deaths involving specific drugs

Prescription Opioid overdose deaths have begun to decline once again



Data Source: https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm, data reported as of August 2022

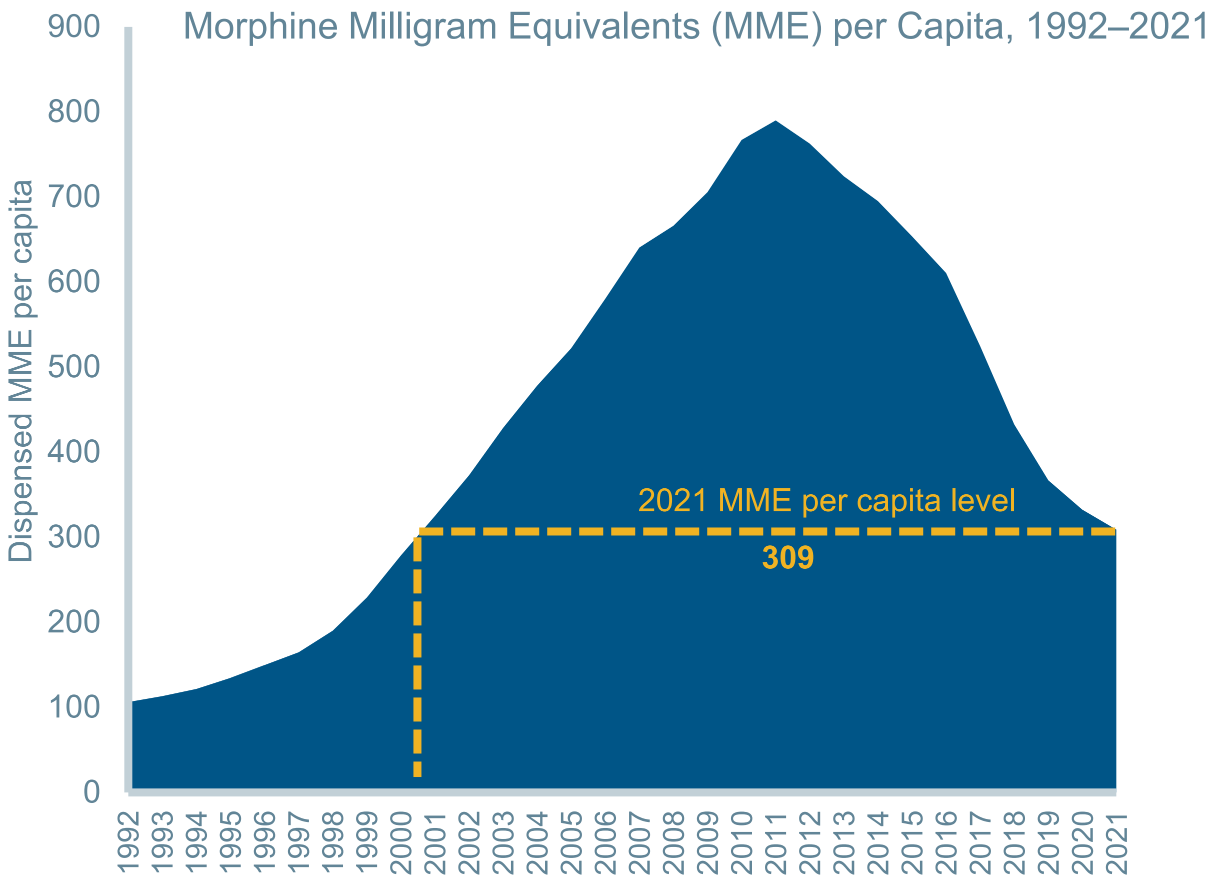
The percentage of prescription opioids attributed to predicted deaths continues to decline

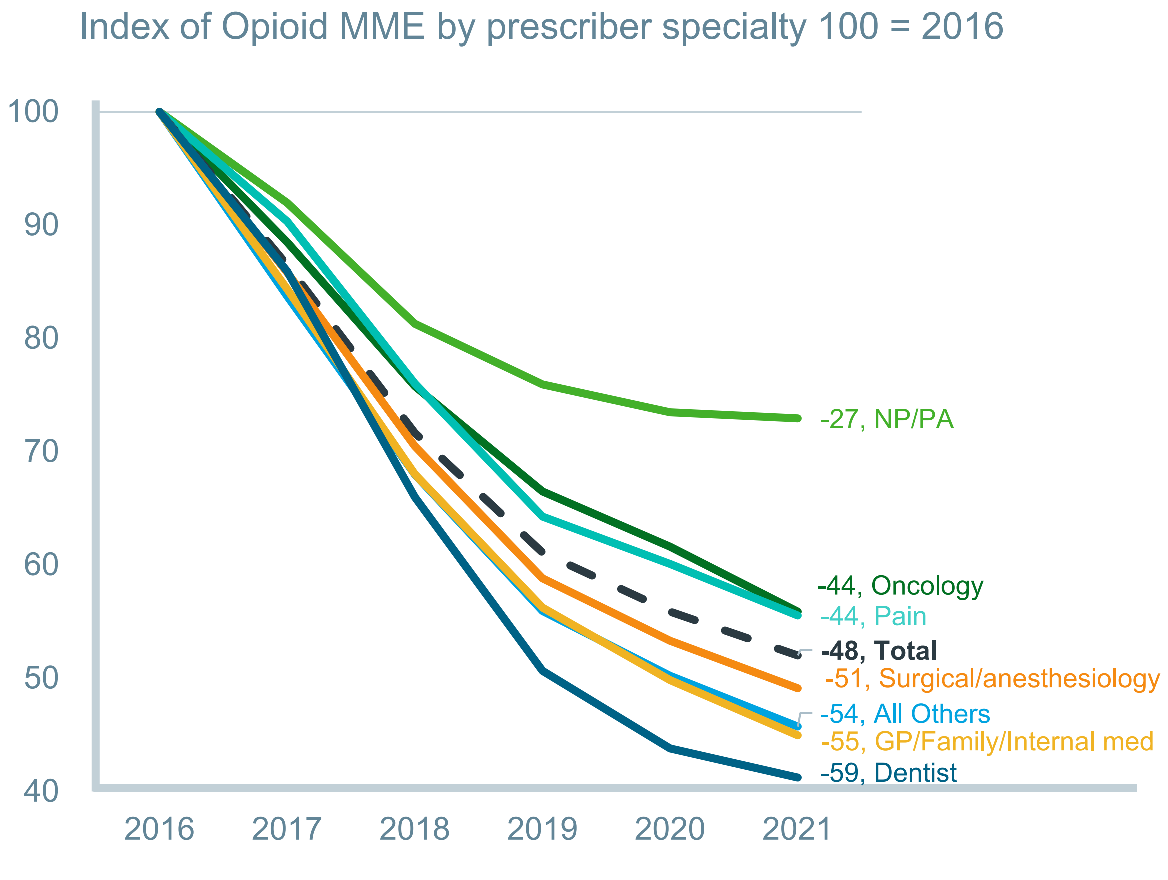


Data Source: https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm, data reported as of February 2022

Per capita prescription opioid use continues to decline to levels seen in 2000, with varying decreases across specialties

Prescription opioid use overall and by prescriber specialty

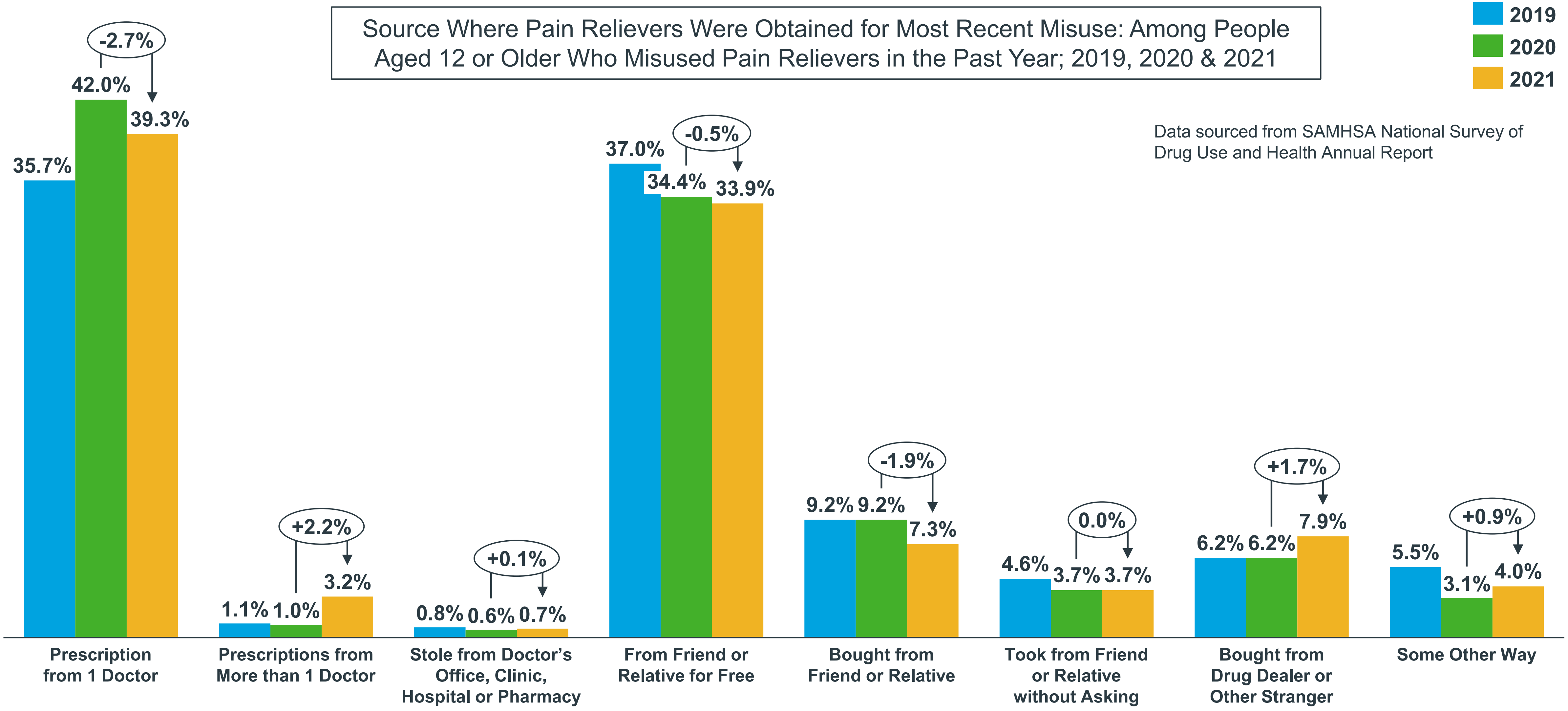




IQVIA© 2022
Source: IQVIA Xponent, Feb 2022; IQVIA National Prescription Audit, IQVIA Institute, Mar 2022.
The Use of Medicines in the U.S.: Usage and Spending Trends and Outlook to 2026. Report by the IQVIA Institute for Human Data Science.

IQVIA INSTITUTE

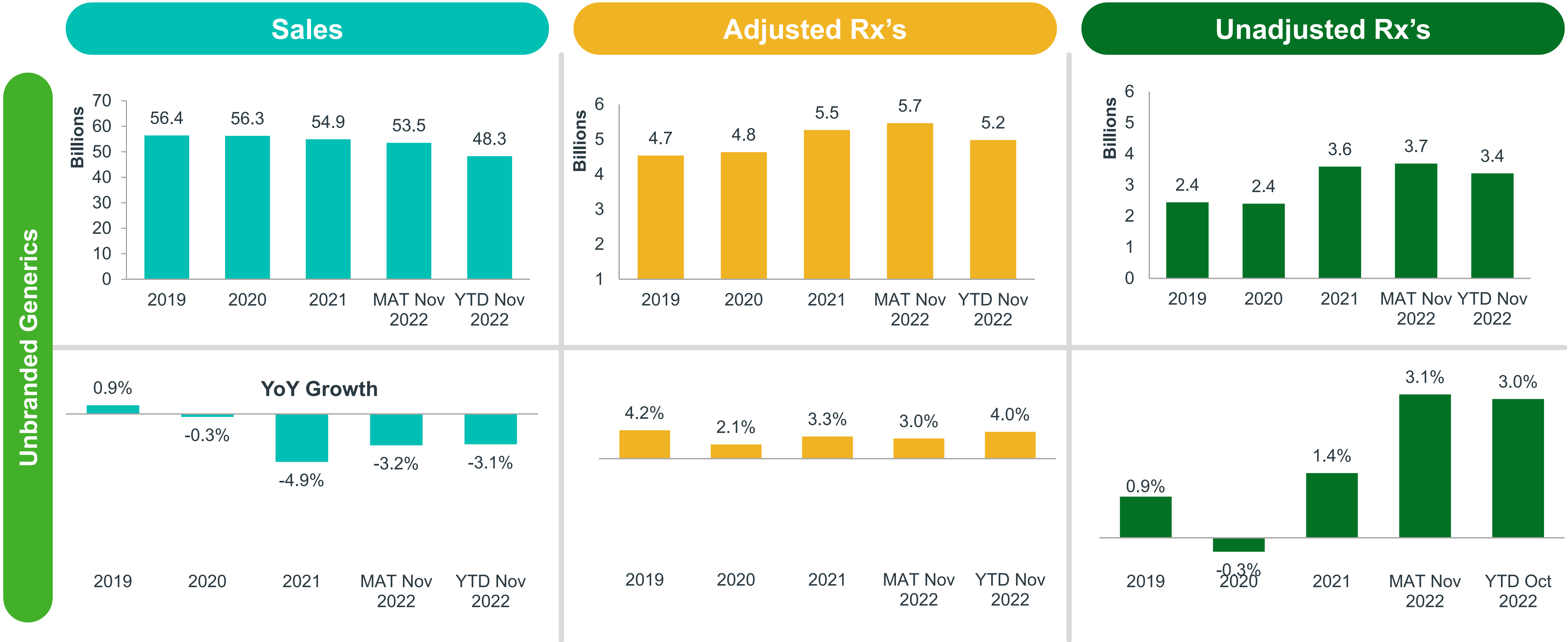
39% of individuals who use pain relievers got them from one doctor in SAMHSA's 2021 survey



Data sourced from SAMHSA National Survey of Drug Use and Health Annual Report

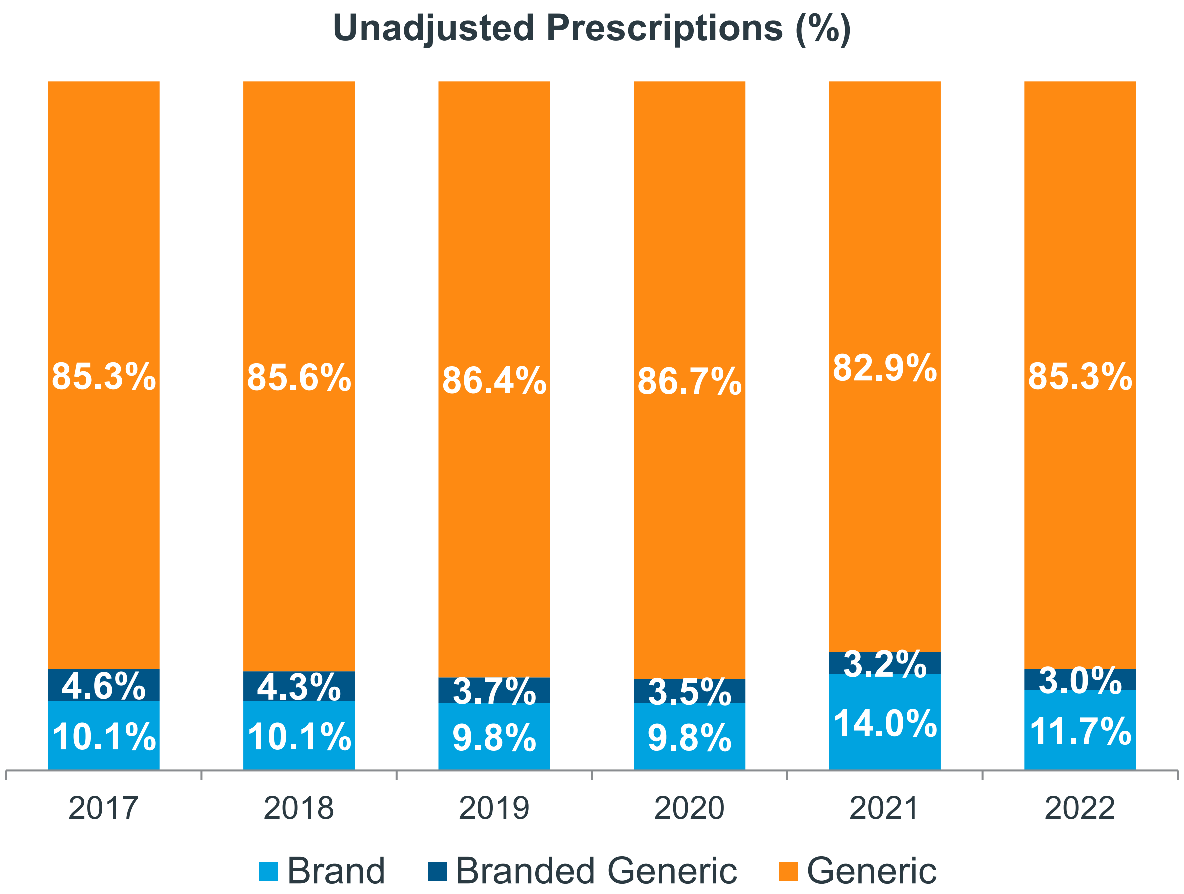
Generics & Biosimilars

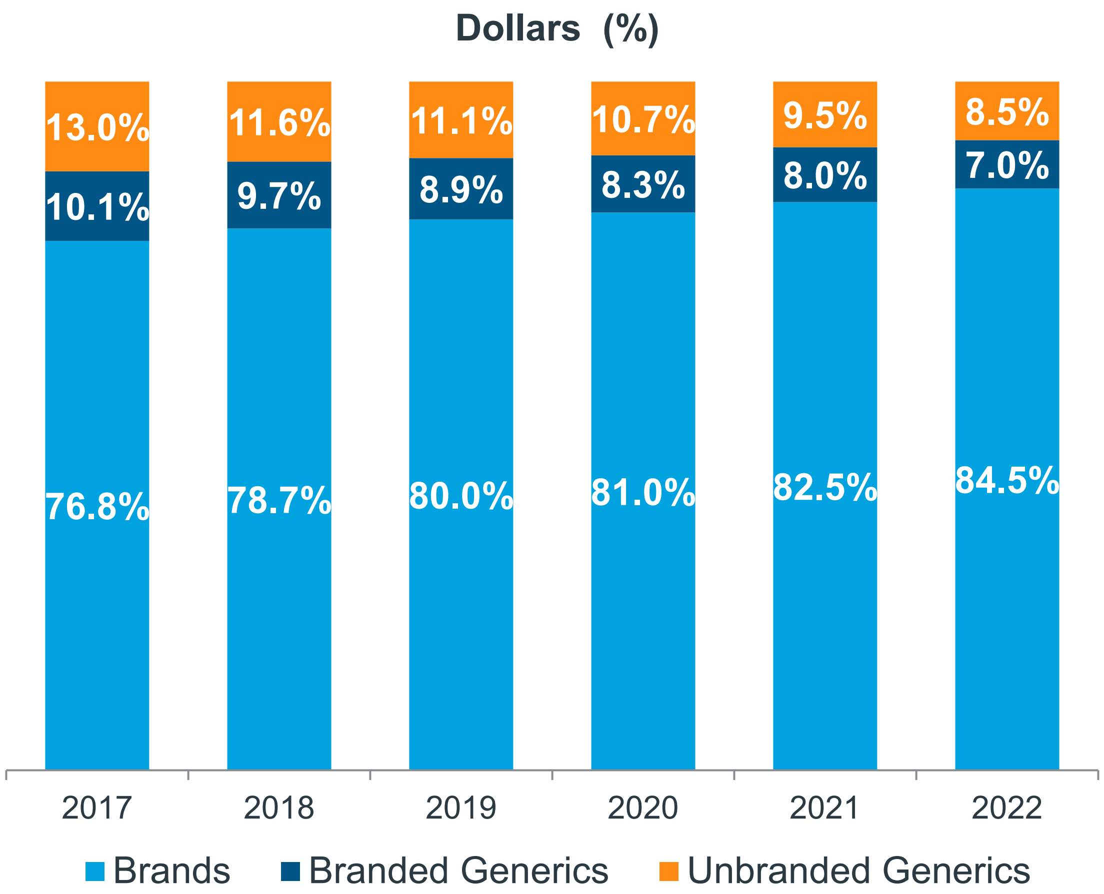
Unbranded Generics sales are negative by Rx's are positive



Source: IQVIA, National Sales Perspectives and RxInsights, 2022
Note: Limited to Rx and OTC Insulins; Includes Retail, Non-Retail and Mail

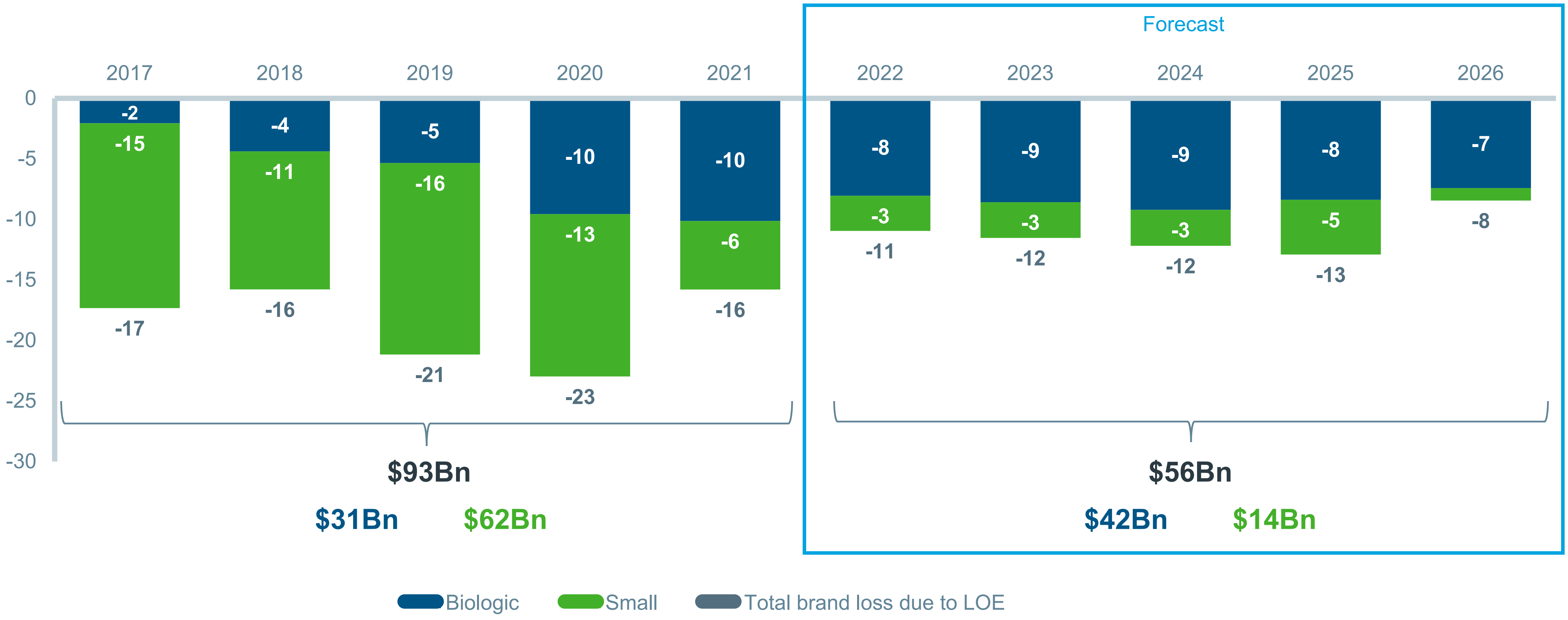
85.3% of prescriptions are dispensed as unbranded generics for 2022 (unadjusted)





The impact of exclusivity losses will drop to $56Bn over five years including significant biosimilars impact through the period

U.S. impact of brand losses of exclusivity 2017–2026, US$Bn



Source: IQVIA Market Prognosis, Sep 2021; IQVIA Institute, Mar 2022.
The Use of Medicines in the U.S.: Usage and Spending Trends and Outlook to 2026. Report by the IQVIA Institute for Human Data Science.

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Product Launches

Executive summary

***Through December, there have been 54 launches in 2022 which is down compared to 76 launches for the same period in 2021;** Oncology is the top therapy area in 2022, accounting for 19% of the product launches*

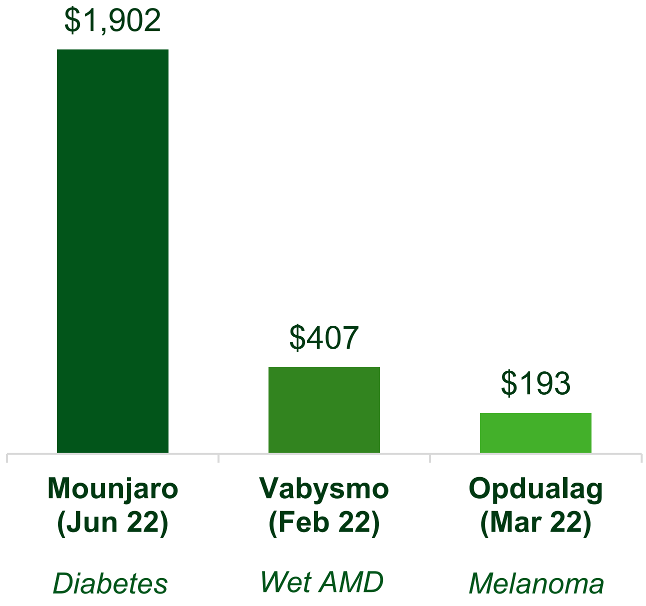
54

Launches in 2022

Top Therapy Areas of 2022 Launches

Oncology	Dermatology	Infectious
19%	17%	15%

Top 2022 Launches by Sales (millions)



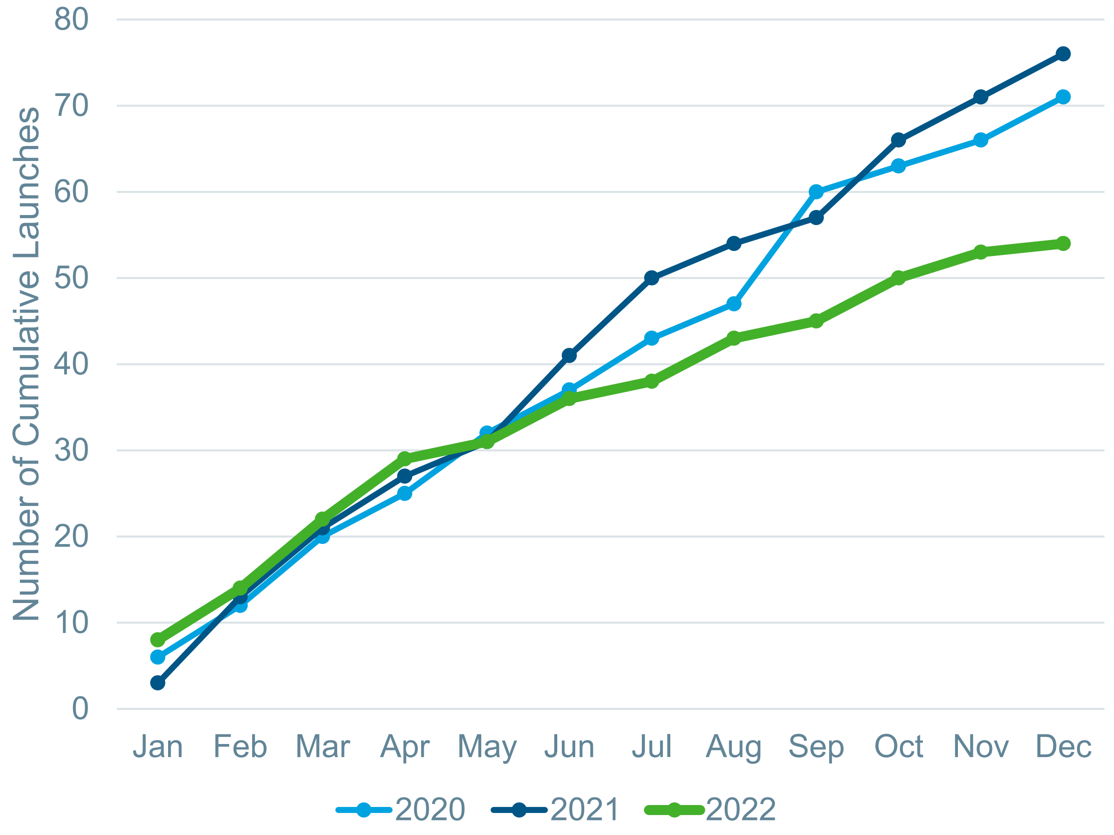
33

Of the 36 FDA approved New Molecular Entities (NMEs) in 2022 show evidence of launch based on supply in channel or active websites

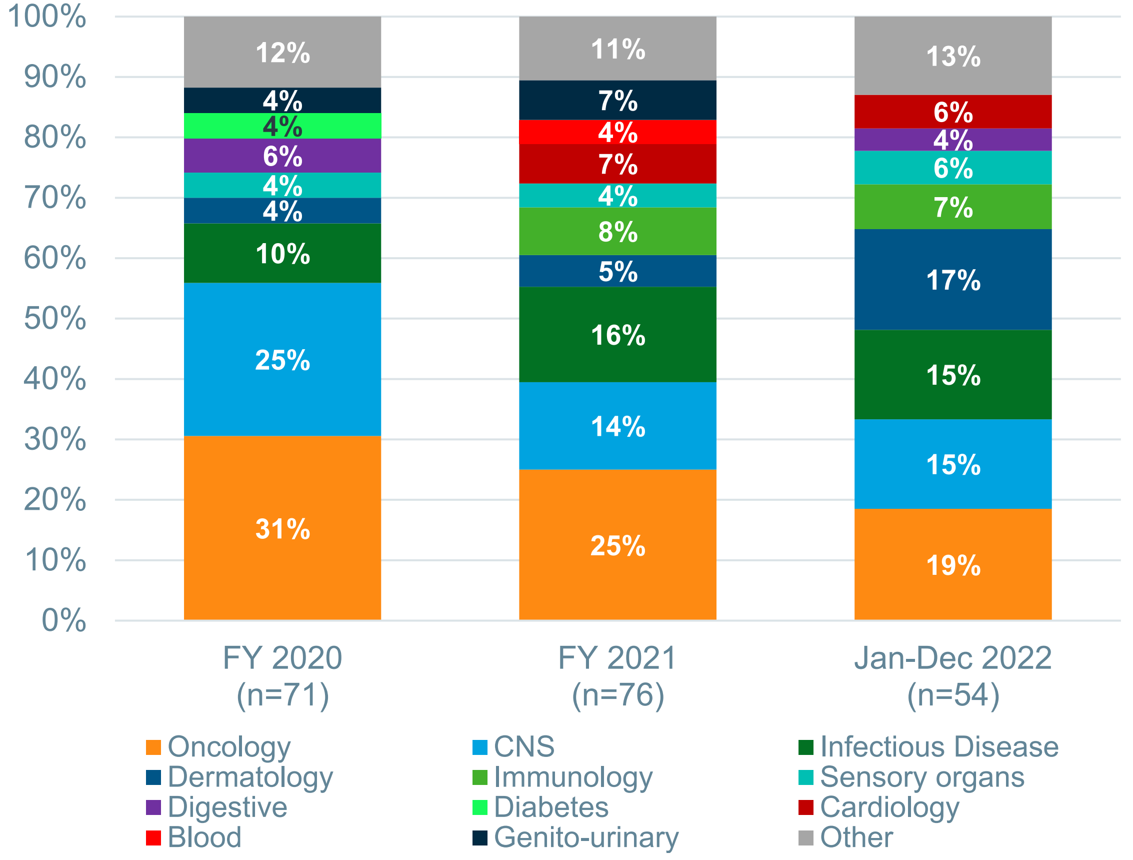
In 2021, the FDA approved 49 New Molecular Entities (NMEs). Of those 48 show evidence of launch.

Through December, the number of launches in 2022 is down compared to previous years

Time Aligned Cumulative Launches: 2020 vs 2021 and 2022



Launches by Therapy Area Jan 2020 – Dec 2022



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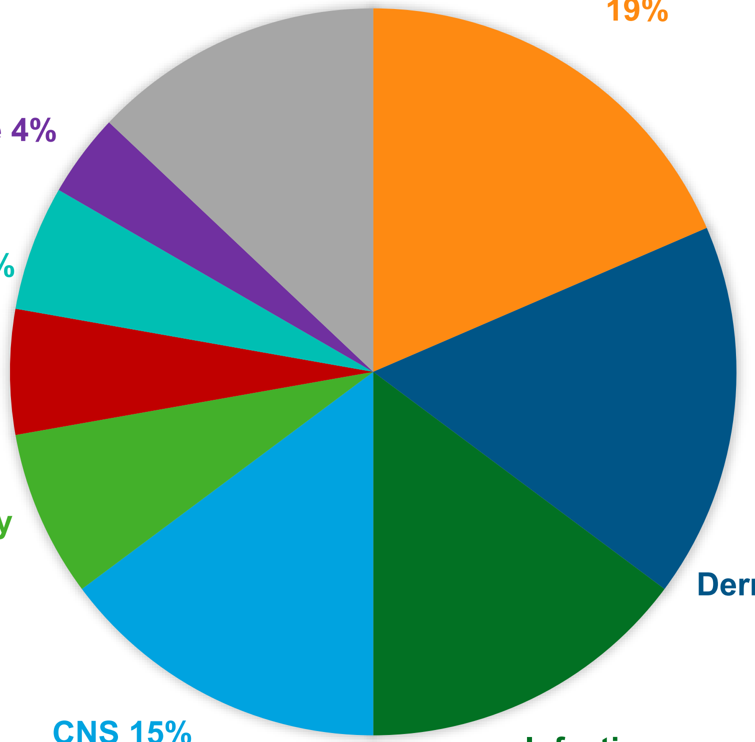
Lilly's Mounjaro for diabetes leads the 2022 launches in sales followed by Genentech's Vabysmo for wet AMD and diabetic macular edema

2022 – 54 Launches



2022 – Top 10 Performers

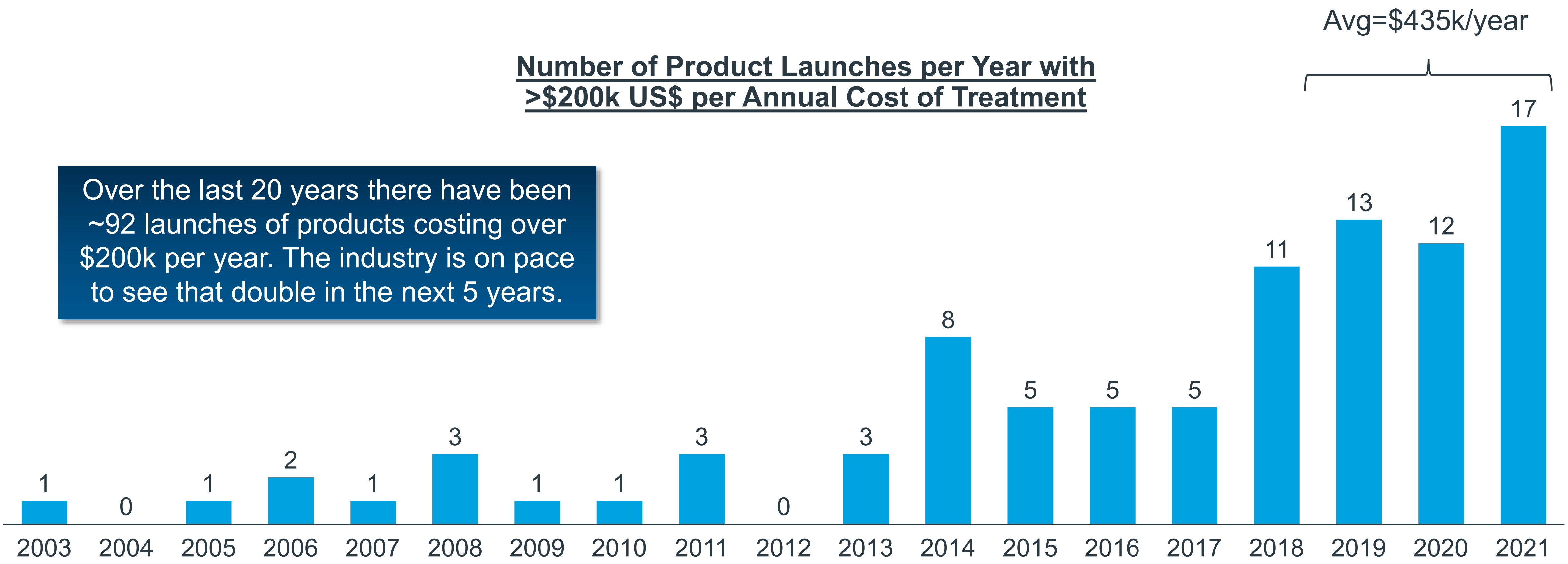
Product	Company	Indication	Launch	Yr 1 Sales to 11/2022	Yr 1 NBRx to 1/6/23
Mounjaro	Lilly	Diabetes	Jun-22	$1.9B	923.6K
Vabysmo	Genentech	Wet AMD	Feb-22	$407.2M	N/A
Opdualag	BMS	Metastatic melanoma	Mar-22	$192.6M	N/A
Bebtelovimab	Lilly	COVID	Aug-22	$152.5M	N/A
Vyvgart	Argenx	gMG	Jan-22	$139.3M	N/A
Tezspire	Amgen	Severe asthma	Jan-22	$123.1M	3.8K
Adbry	Leo Pharma	Atopic dermatitis	Feb-22	$97.2M	4.8K
Kimmtrak	Immunocore	Uveal melanoma	Feb-22	$78.0M	N/A
Radicava	Mitsubishi Tanabe	ALS	Jun-22	$58.8M	1.9K
Leqvio	Novartis	Atherosclerosis	Jan-22	$46.8M	N/A

N/A: NBRx unavailable or likely understated owing to non-retail and non-mail channel distribution

As the frequency of high-cost treatment launches accelerates, pressure is put on the rest of the market to contain cost

Number of Product Launches per Year with >$200k US$ per Annual Cost of Treatment

Over the last 20 years there have been ~92 launches of products costing over $200k per year. The industry is on pace to see that double in the next 5 years.

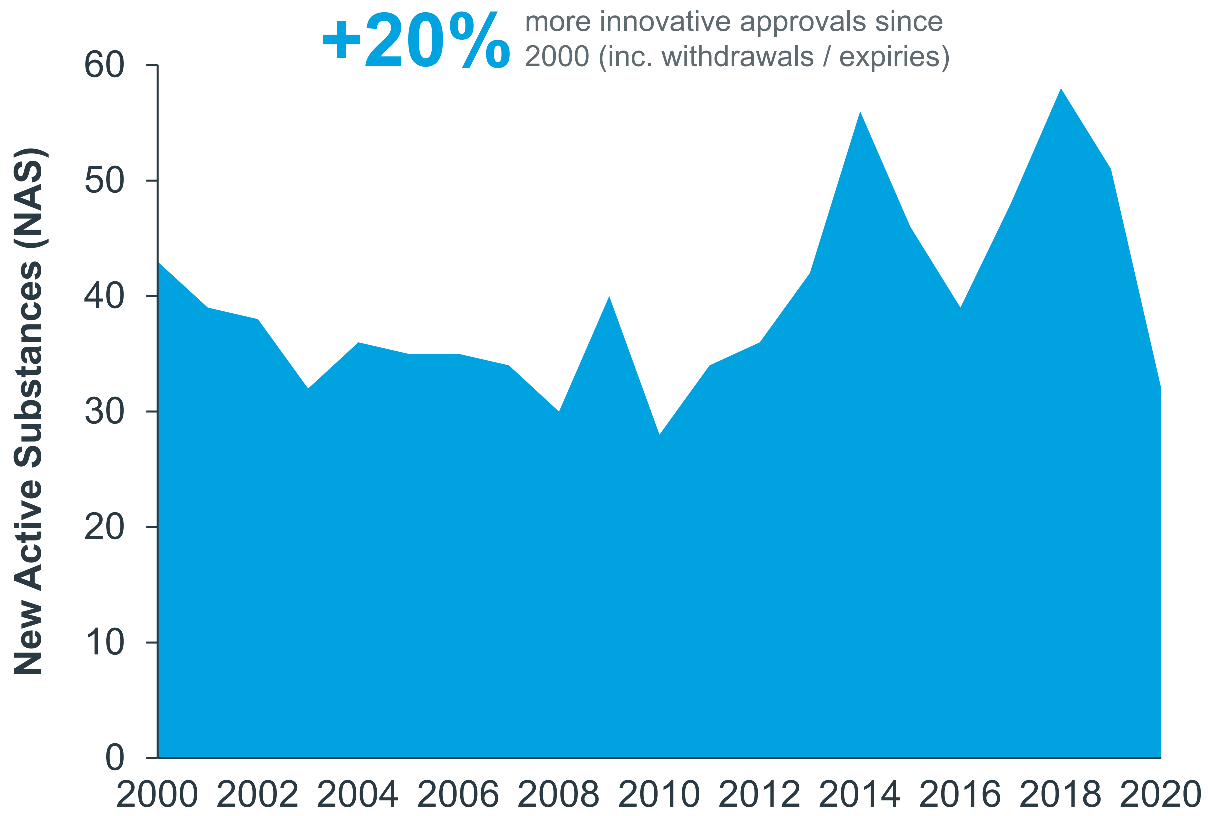


Notes: Annual costs based on invoice prices, with overall invoice-level spending divided by estimated numbers of patients. Patient estimates are based on audited volumes assuming all patients use the drug according to the approved label. Products are included in medians based on segment assignments. Oncology includes both orphan and non-orphan products. All other products which have orphan indications are grouped together and some products have both orphan and non-orphan indications in this group. Specialty and Traditional products exclude orphan or oncology products but are otherwise defined according to IQVIA definitions.

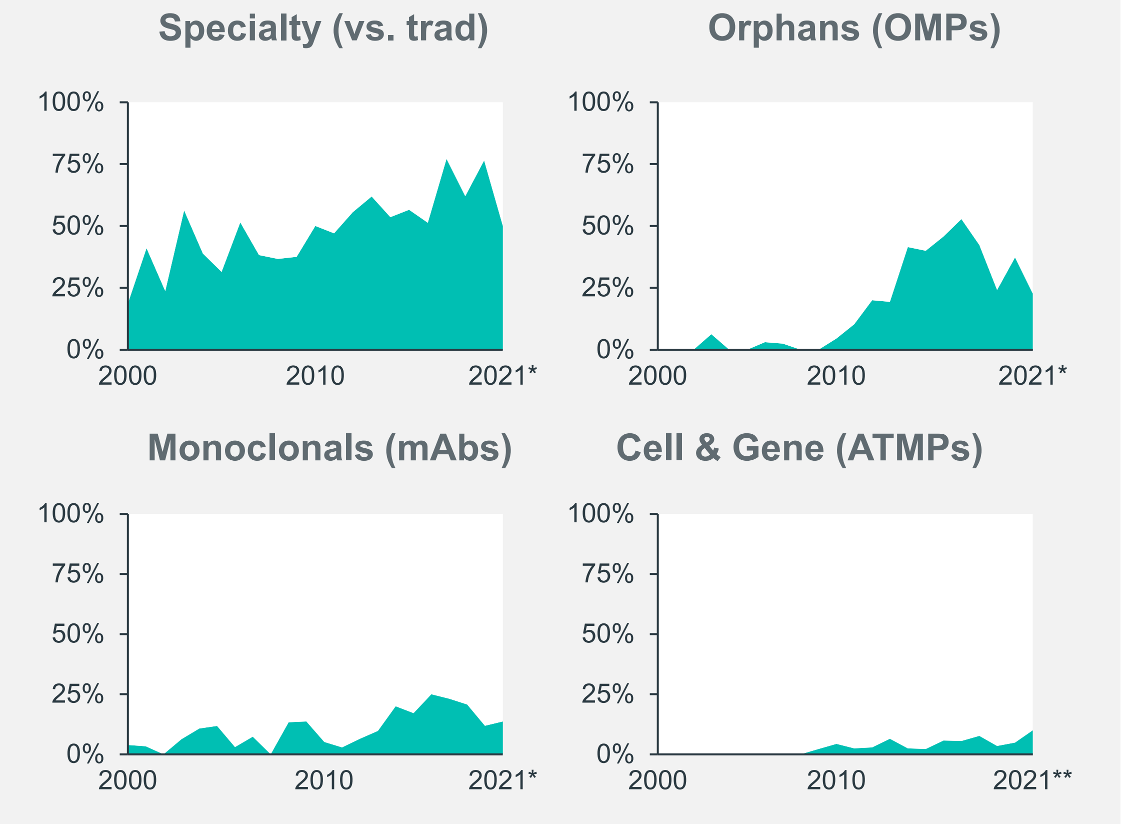
Innovation is at an all-time high and is increasingly complex

Medicines with immature data play a larger role, creating issues for all stakeholders

The NAS innovation wave

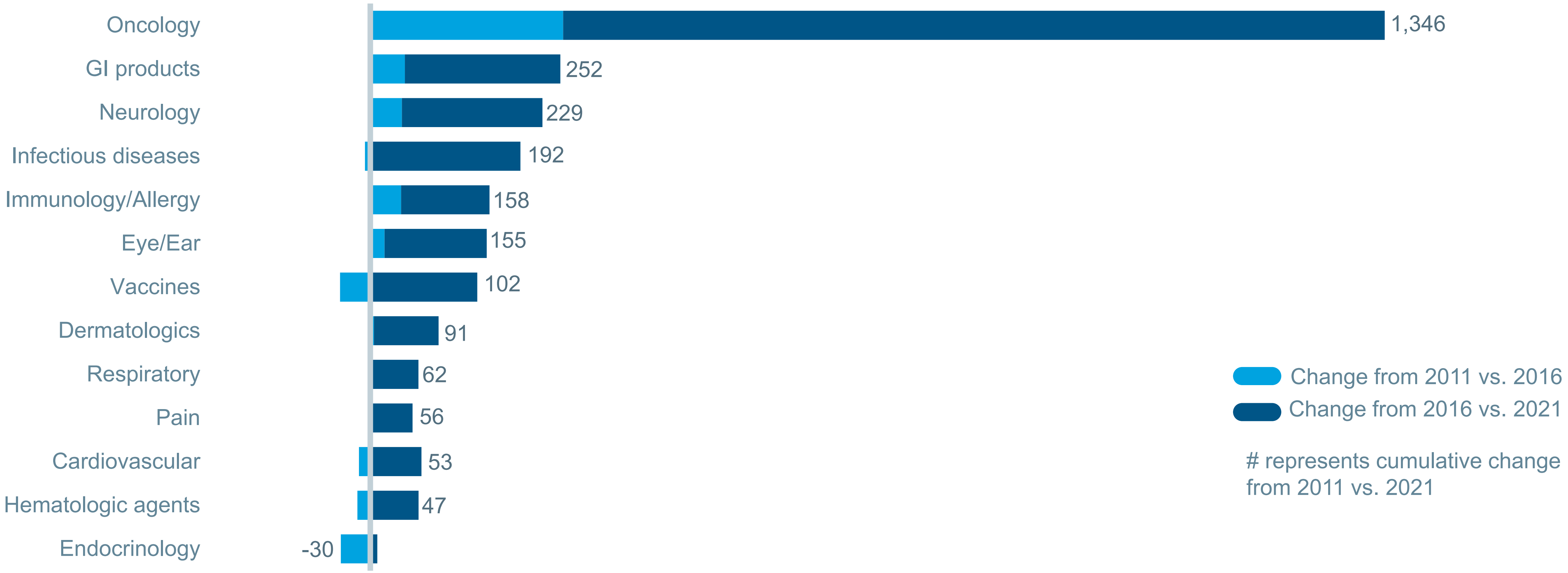


Changing profile of NAS (EU)



The pipeline has grown across therapy areas in the last decade, with significant growth in oncology in the past 5 years

Pipeline product changes Phase I to regulatory submission in selected classes, 2011 vs. 2021



Source: IQVIA Pipeline Intelligence, Dec 2021; IQVIA Institute, Jan 2022.
Global Trends in R&D: Overview through 2021. Report by the IQVIA Institute for Human Data Science.

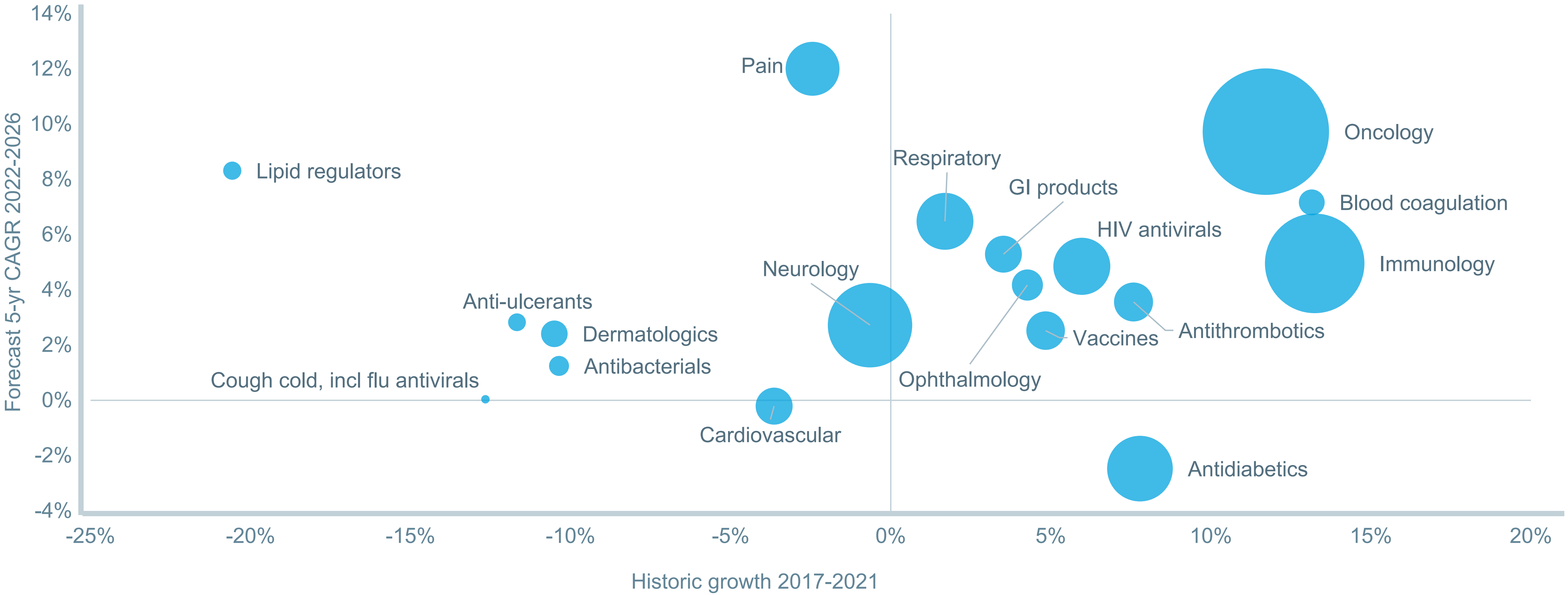
Outlook

Things to Remember

1. Global COVID deaths continue to decline
2. Flu and RSV were big
3. Retail Pharmacies are establishing themselves as vaccine centers
4. Telehealth has settled at 7% of medical claims
5. Elective procedures still have not recovered but new prescriptions have
6. Generic prescriptions are growing but dollars are not due to price deflation
7. Prescription opioids are about 11.4% of the overdose deaths
8. Discount Card growth has moderated
9. Food stores gained the most through the pandemic while Mass Merchandisers lost
10. Retail pharmacy store counts continue to decline due to mergers, acquisitions and closures
11. Pharmacists see patients 10x more often than other healthcare providers
12. Role of the pharmacist has expanded

Immunology, oncology, neurology drive growth through 2026 along with COVID-19 vaccines

Historic and forecast net spending growth for leading therapy areas



Source: IQVIA Institute, Mar 2022.
The Use of Medicines in the U.S.: Usage and Spending Trends and Outlook to 2026. Report by the IQVIA Institute for Human Data Science.

Dates to remember as CMS readies its new program for lowering drug costs

2023 — 2026

Now thru May 31, 2023
- CMS will comb through Medicare Part D drug expenditures and make a list of drugs that meet the criteria for negotiation

Sep 1, 2023
- CMS will announce its list of 10 drugs targeted for negotiation in 2026

Oct 1, 2023
- Companies with drugs selected for negotiation must submit signed agreements to participate in the negotiation program.
- The following day those same companies must submit manufacturer-specific data to help the CMS determine the maximum fair price (MFP) for the drug.

Feb 1, 2024
- CMS will inform companies about the maximum fair price selected for the drug
- From this point until Aug. 1, 2024, companies can either accept the price set by the CMS or submit a counteroffer and negotiate changes

Sep 1, 2024
- CMS will announce the final maximum fair price for drugs on the 2026 list

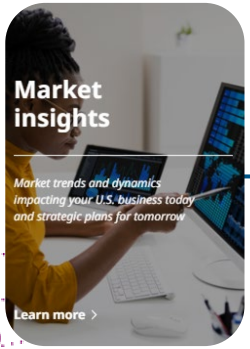
Jan 1, 2026
- These prices will go into effect

Source: https://tinyurl.com/5acf4d66, PharmaVoice, Drug Price Negotiations: 5 key dates to watch

U.S Progress Point

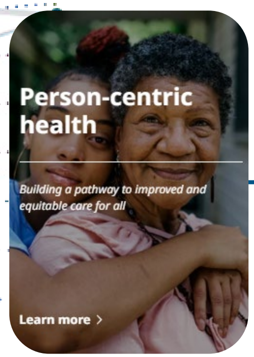
https://www.iqvia.com/progresspoint

*A curation of **IQVIA's best thinking** on **topics** and **trends** driving change, disruption, and **progress** in the United States healthcare market.*



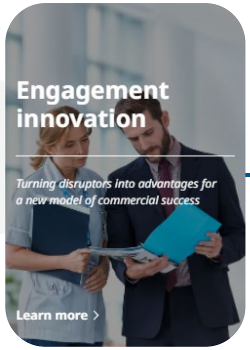
Market insights

- The IQVIA U.S. Launch Quarterly
- The IQVIA Monthly Launch Tracker
- Pharmaceutical Market and MedTech Trends
- Next Generation Payor Segmentation



Person-centric health

- Impact of Medicare Part D Cost Sharing
- Health Equity in the Time of COVID-19
- Advancing Outcomes with Home Healthcare



Engagement innovation

- HCP Consent at Scale
- Hidden Peer-to-Peer Learning Communities
- Importance of End-to-End Data in Physician Marketing

Thank you

Disclaimer:

- The analyses, their interpretation, and related information contained herein are made and provided subject to the assumptions, methodologies, caveats, and variables described in this report and are based on third party sources and data reasonably believed to be reliable. No warranty is made as to the completeness or accuracy of such third party sources or data.
- As with any attempt to estimate future events, the forecasts, projections, conclusions, and other information included herein are subject to certain risks and uncertainties, and are not to be considered guarantees of any particular outcome.
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Doug Long is Vice President of Industry Relations at IQVIA (formerly QuintilesIMS), the world’s largest pharmaceutical information company. IQVIA offers services to the pharmaceutical industry in over 100 countries around the globe. Doug has been with IQVIA since 1989.

His fundamental task is to help secure data for all existing and new databases supported by IQVIA, manage supplier, manufacturer & association relationships, and develop information for data partners. As direct consequence of his involvement in these areas, Doug has considerable experience with, and a unique perspective on, the changing U.S. and global healthcare marketplace and pharmaceutical distribution.

Doug is a frequent industry speaker and the recipient of many awards from trade groups. Before joining IQVIA Doug held positions at Nielsen Market Research for 16 years in various sales and marketing capacities. A native of Illinois, Doug received a BA from DePauw University and holds an MBA in management from Fairleigh Dickinson University.

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Scott Biggs, *Director, Supplier Services*

Scott Biggs is Director of Supplier Services at IQVIA (previously known as QuintilesIMS), the world's largest pharmaceutical information company, serving over 101 countries. He has been with IQVIA since 2011.

Prior to IQVIA Scott worked for other pharmaceutical information companies for several years and worked at Rite Aid Corporation in multiple roles for over 10 years. Scott received a BS degree from Penn State University in Accounting and has been working with pharmacy data for over 25 years.

In his role at IQVIA Scott has worked with retailers, software vendors and other data suppliers where he has helped them to understand their performance in the marketplace through business reviews and market analysis.

APPENDIX

IQVIA Definition of a Specialty Drug

Specialty drugs at IQVIA are classified as products that meet the following criteria

- Treats chronic, rare and/or complex diseases
- Expensive (USD $6K annual cost of therapy)
- Initiated and maintained by a specialist
- Unique distribution
- Generally injectable and/or not self-administered
- Requires extensive or in-depth monitoring/patient counseling
- Products that require an additional level of care in their chain of custody
- Requires reimbursement assistance

Darzalex Faspro shows tremendous growth

Specialty Non-Retail Market

Rank	Therapy Area	Sales ($) in Billions			
		MAT JUN 2022	Market Share	ABS Growth	Growth
1	KEYTRUDA	11.2	8.9%	2.3	25.9%
2	OPDIVO	4.5	3.6%	0.6	14.5%
3	OCREVUS	4.0	3.2%	0.5	14.9%
4	ENTYVIO	3.4	2.7%	0.5	16.9%
5	VEKLURY	3.2	2.5%	0.6	21.4%
6	DARZALEX FASPRO	2.9	2.3%	1.5	112.3%
7	BIKTARVY	2.2	1.8%	0.5	27.5%
8	REMICADE	2.1	1.6%	-0.8	-27.8%
9	HUMIRA	2.0	1.6%	0.4	26.0%
10	TECENTRIQ	2.0	1.6%	0.2	10.9%
TOP 10		37.5	29.8%	6.3	20.1%

Tremfya and Dupixent show strong growth

Specialty Mail Market

Rank	Therapy Area	Sales ($) in Billions			
		MAT JUN 2022	Market Share	ABS Growth	Growth
1	**HUMIRA**	23.9	17.1%	2.8	13.4%
2	**STELARA**	9.6	6.8%	2.0	26.2%
3	**ENBREL**	6.8	4.8%	0.4	7.0%
4	**DUPIXENT**	5.6	4.0%	1.8	45.3%
5	**TALTZ**	4.0	2.8%	0.9	31.1%
6	**COSENTYX 2 PEN**	3.4	2.4%	0.2	7.8%
7	**SKYRIZI**	3.1	2.2%	1.3	75.9%
8	**TREMFYA**	3.1	2.2%	1.2	66.1%
9	**OTEZLA**	2.8	2.0%	0.3	11.8%
10	**IMBRUVICA**	2.6	1.8%	0.0	0.7%
TOP 10		**64.6**	**46.3%**	**11.0**	**20.6%**

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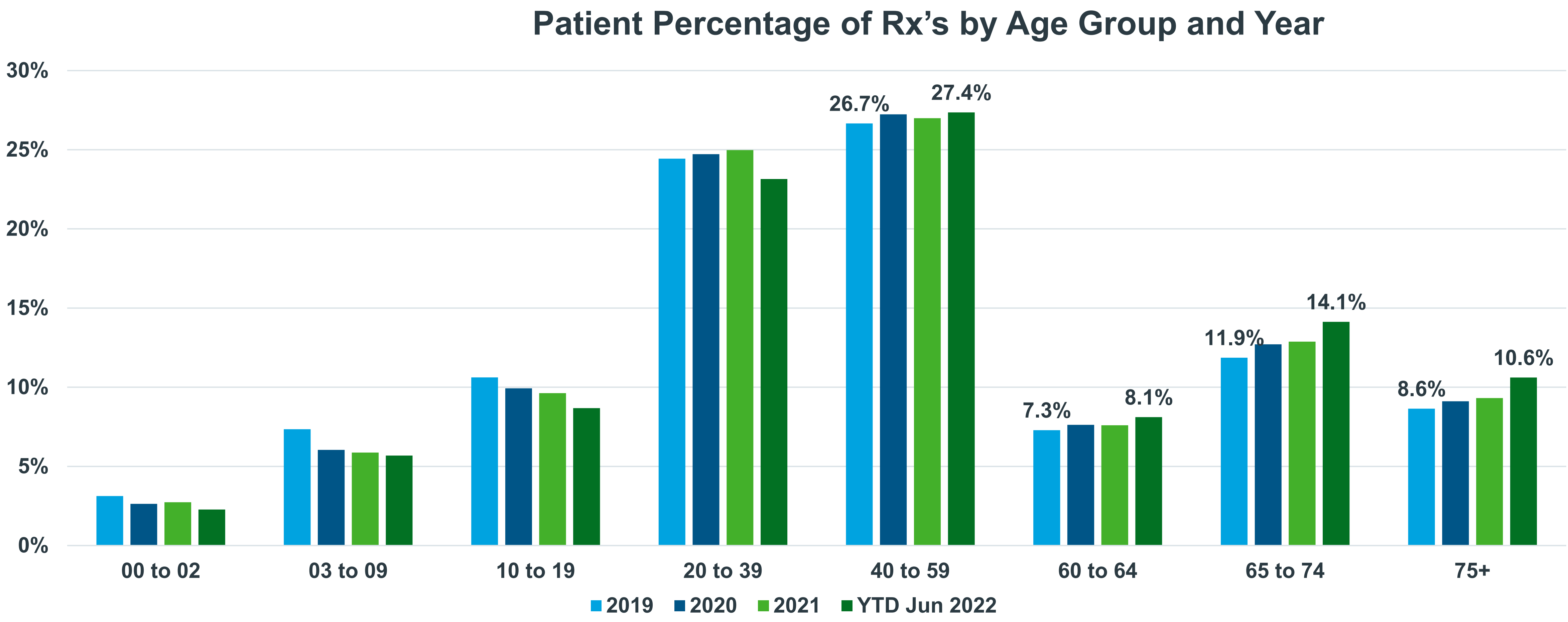
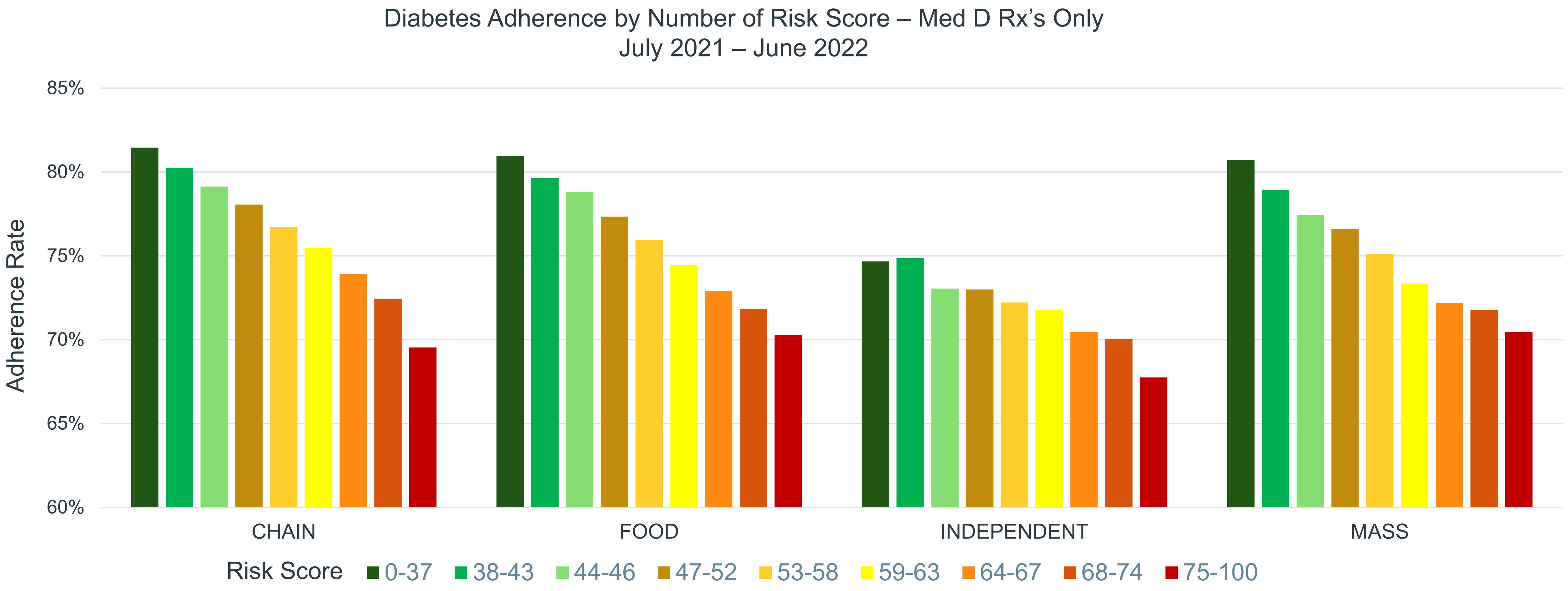
Patients & Adherence

For 40 and above, percent of Rx's is increasing



Adherence declines as IQVIA's Risk Score increases



Source: IQVIA, Longitudinal Patient Data, MAT June 2022

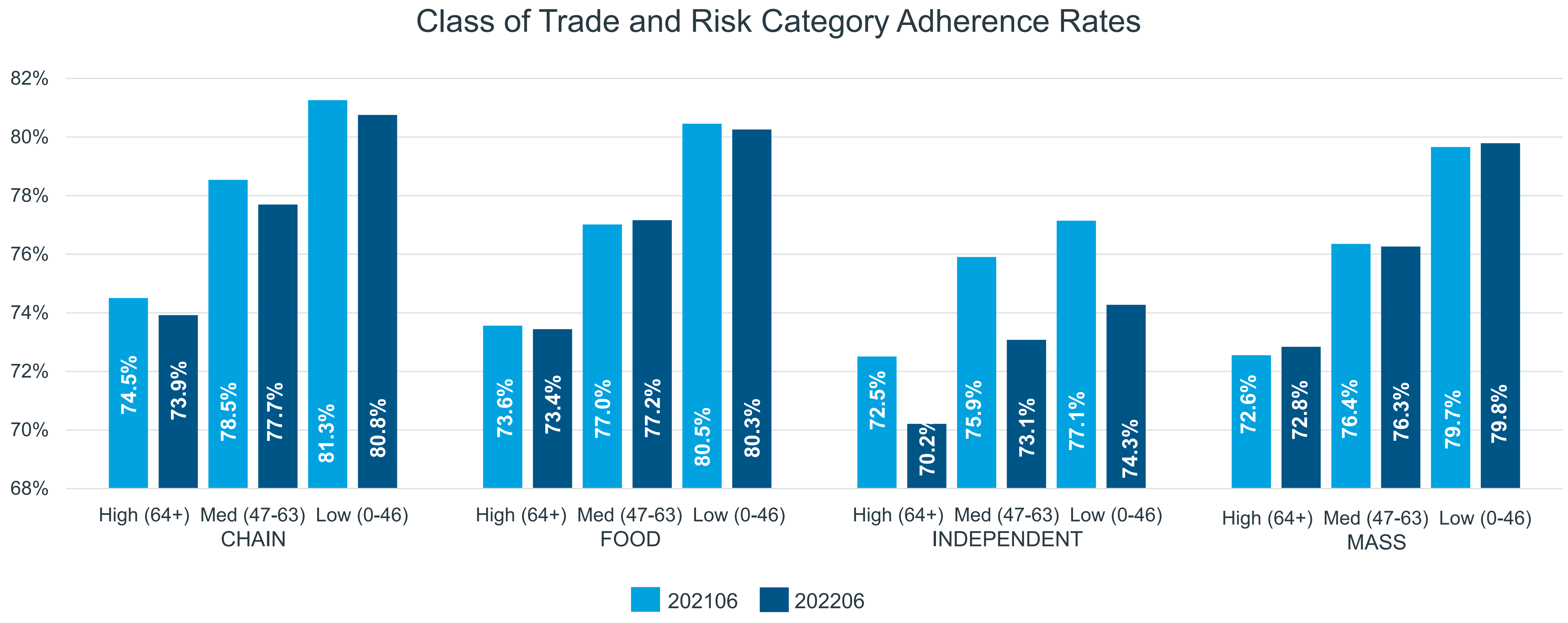
Patient behavior for Adherence in STAR therapy requires an understanding of socio-demographic characteristics risk factors

Applying IQVIA's knowledge of risk factors (identified through Census Data) to standard adherence performance metrics reveals insights to those patients at greatest risk

Risk Factor Dimension	Socio-Demographic Risk factors (sample)	Contribution to Risk Score*
Unmet needs groups	Proportion of population with disability, elderly, children	Low
Cost of medication / affordability	Uninsured, type of coverage	Mid
Cultural and Literacy Elements	Ancestry, highest education level, internet access	High
Food Security and Income	Unemployed, occupation, income	High
Housing	Year built, occupied units, renters	Low
Social Isolation	Recently moved, single parents, living alone	Mid
Transportation	Access to a car, drives alone, no-vehicle households	Mid

* Risk Scores are assigned to patients by ZIP code, these are based on all socio-demographic variables analyzed.
0 = No risk identified, 100 = Maximum risk for Adherence identified.

Med D Diabetes adherence decreased year-over-year for Chain (slightly) and Independents (significantly) and stayed flat for Food and Mass across most risk categories

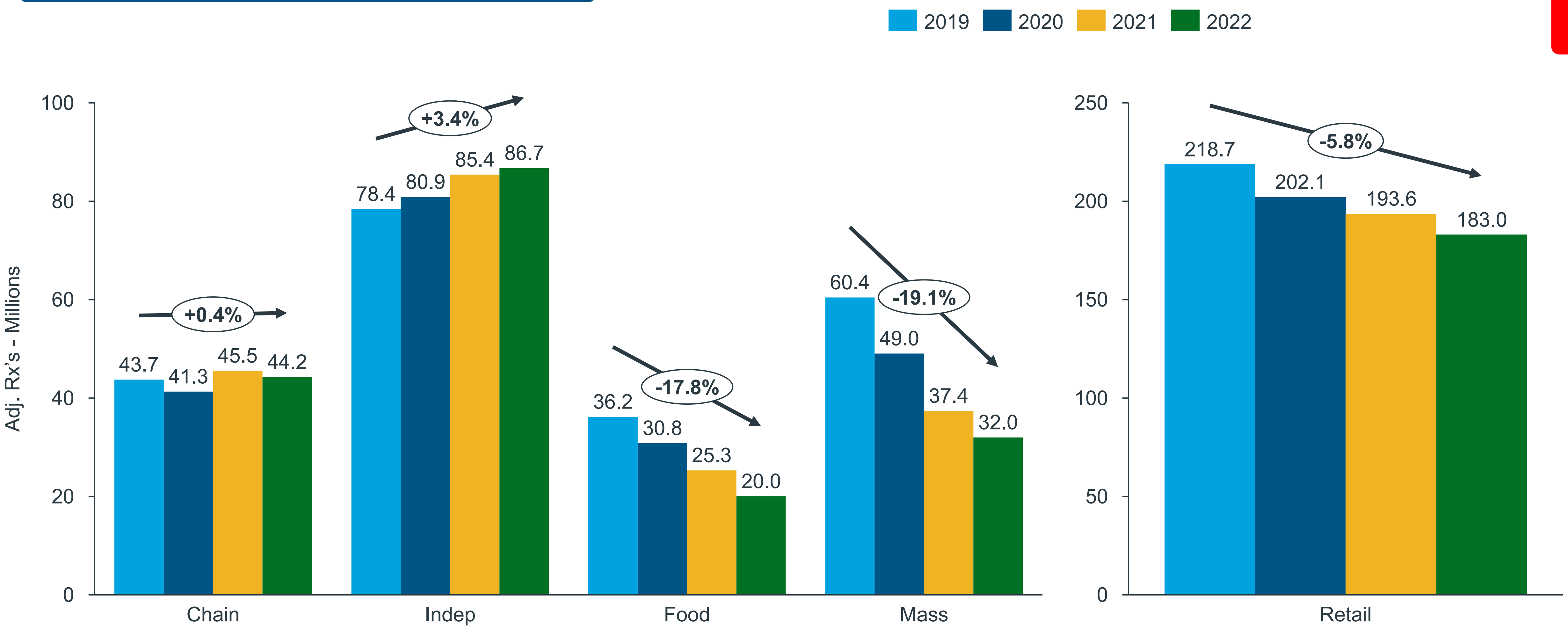


Source: IQVIA, Longitudinal Patient Data, MAT June 2022

Independents are the only class of trade with positive CAGR for Cash

RETAIL

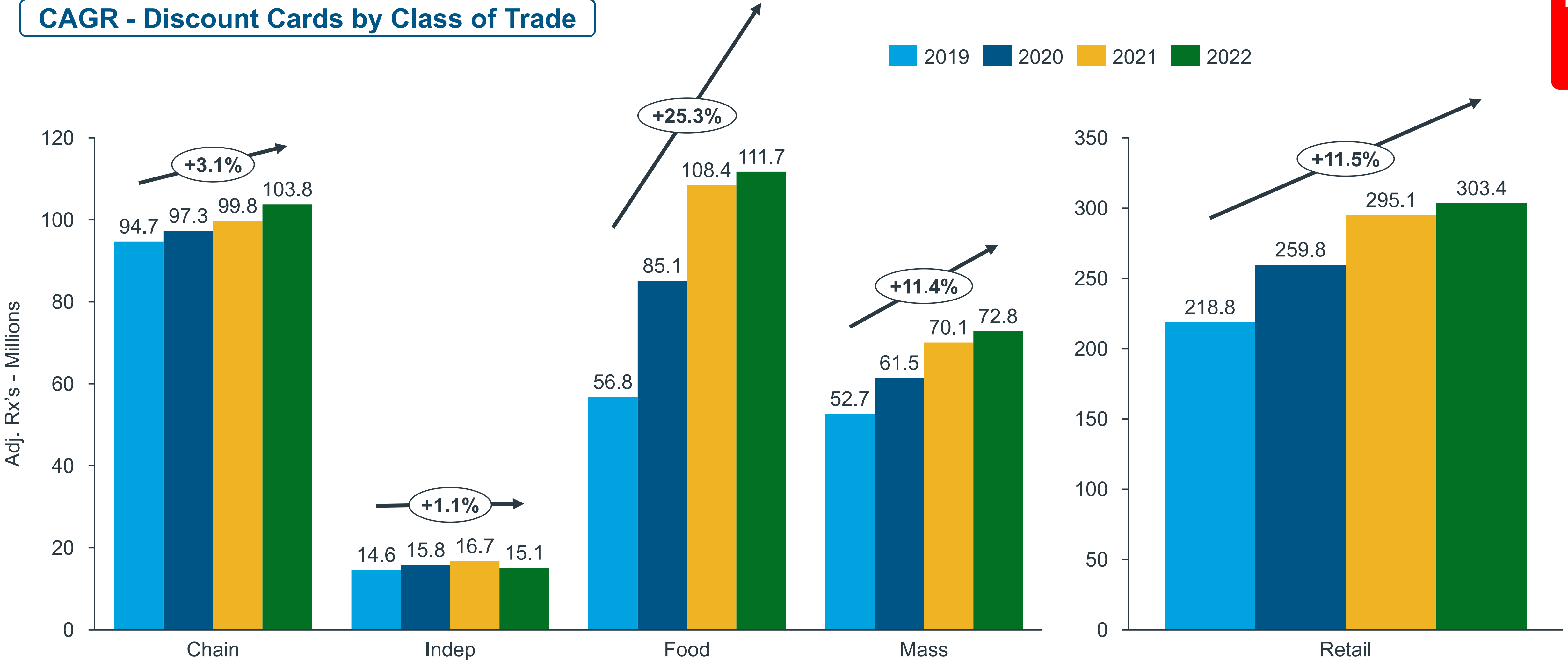
CAGR – Cash by Class of Trade



Note: Method of Payment is defined based on IQVIA's business rules

Food has the largest volume of Discount Cards with a 25.3% CAGR while the overall Retail CAGR is 11.5%

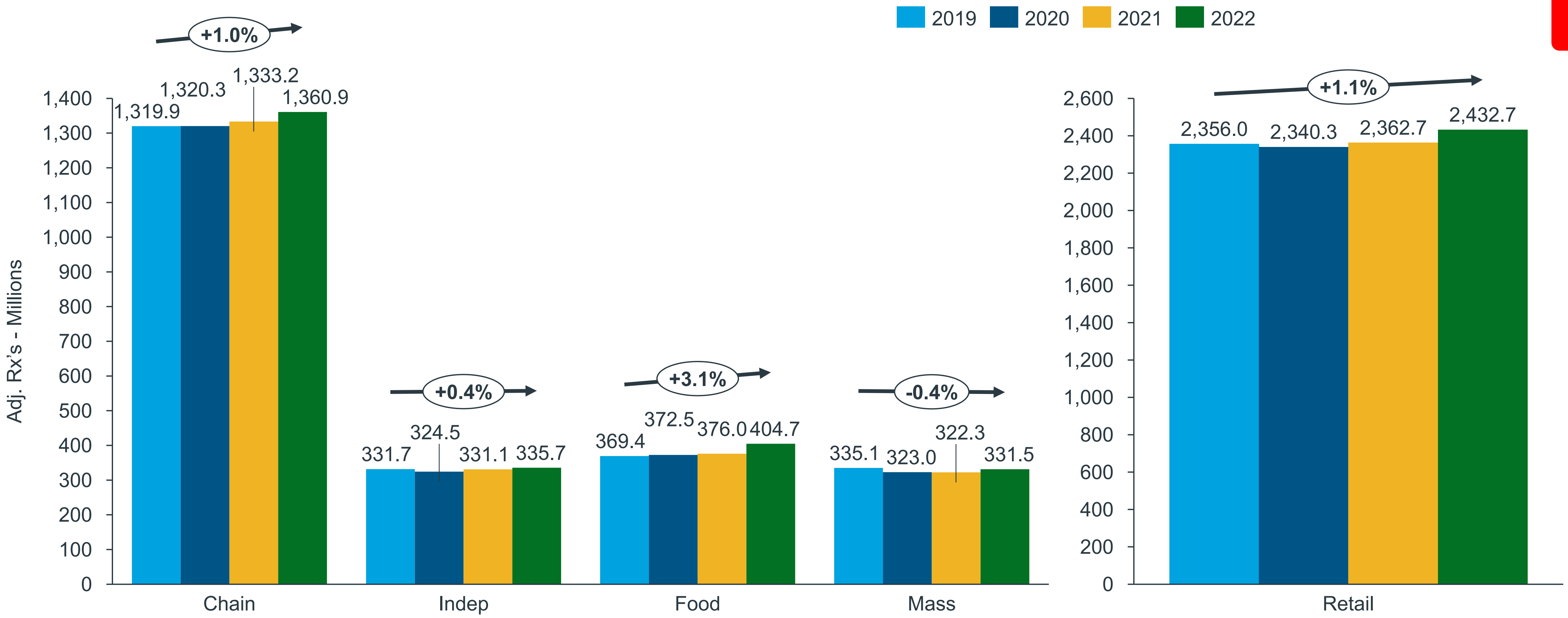
CAGR - Discount Cards by Class of Trade



Note: Method of Payment is defined based on IQVIA's business rules

Food shows the highest CAGR with 3rd Party

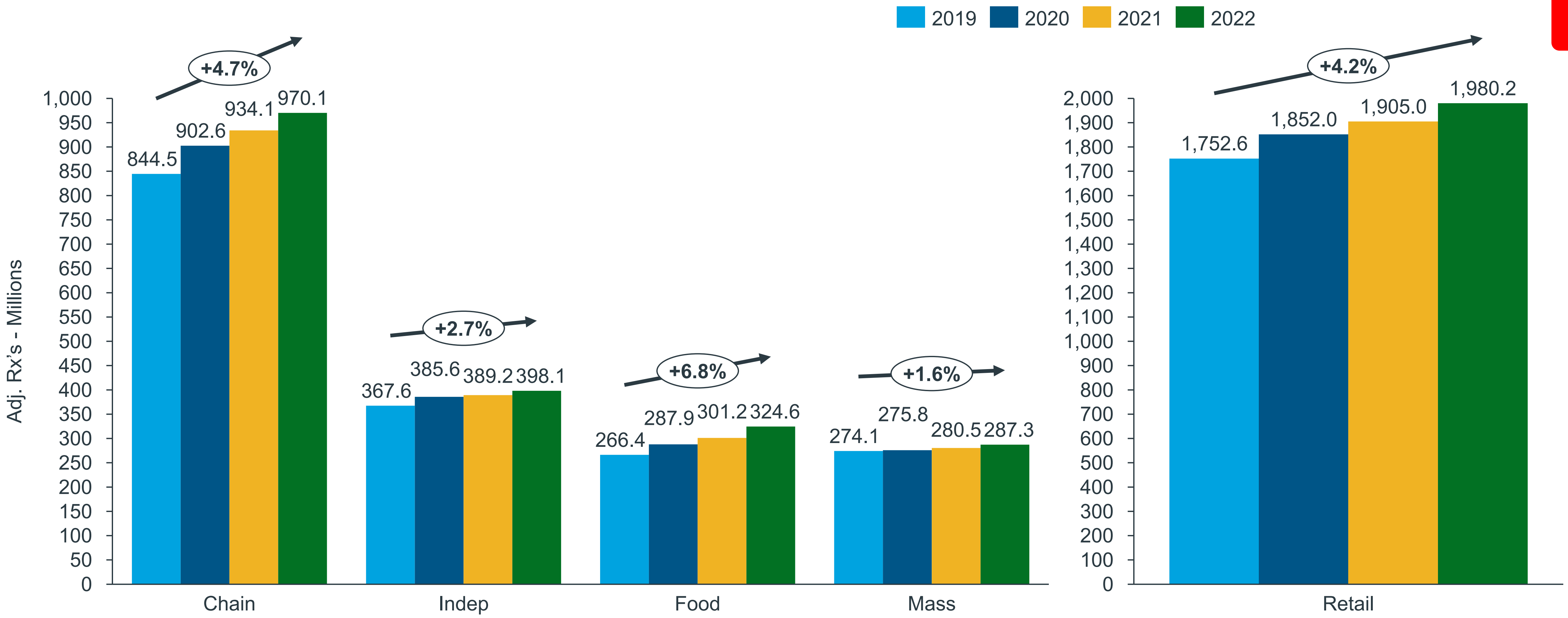
CAGR – 3rd Party by Class of Trade



Note: Method of Payment is defined based on IQVIA's business rules

Food has the highest CAGR for Med D followed by Chain

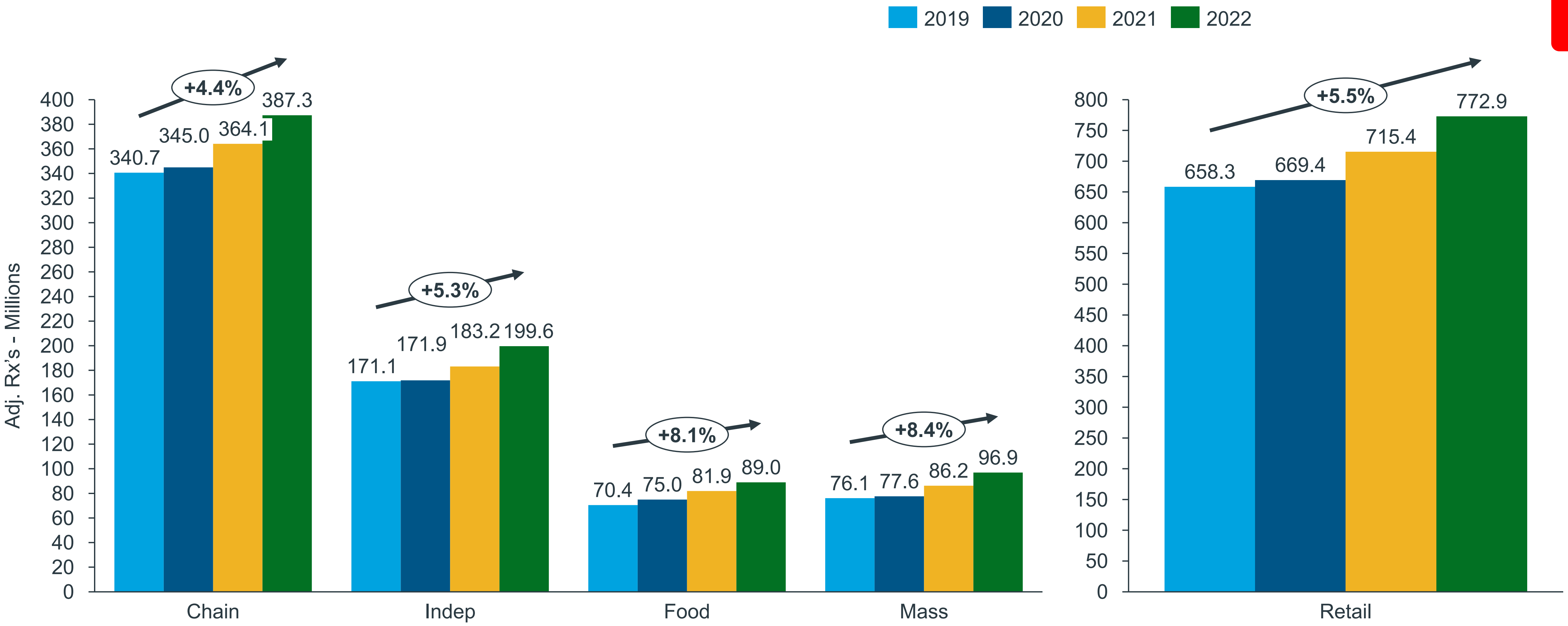
CAGR – Med D by Class of Trade



Note: Method of Payment is defined based on IQVIA's business rules

Mass and Food have the highest CAGR with Medicaid while Chain has the highest volume gains

CAGR – Medicaid by Class of Trade



Note: Method of Payment is defined based on IQVIA's business rules