

Managed Care

Trend Tracker: Initial Q1 est +0.6%, worse than Q4

Industry Overview

Q1 trend accelerated vs Q4 overall

All-in, we estimate 'same store' trend accelerated in Q1 to date to +0.6% vs flat in Q4. M/m, January trend decelerated, driven by lower physician and pharmacy utilization. However, compared to Q4 overall, PMPM physician trend accelerated (+1.1% in Q1 vs -1.8% in Q4) and PMPM pharmacy trend accelerated (+0.8% in Q1 vs -0.5% in Q4). Meanwhile, PMPM inpatient trend (-0.6% in Q1 vs -0.1% in Q4) and PMPM outpatient trend (+0.6% vs +2.4%) both decelerated q/q. Overall, the q/q acceleration bears watching and we acknowledge that Market concerns about trend will likely remain until at least Q1 (and probably Q2).

Jan data mixed, physician and pharmacy decelerated m/m

Our monthly Trend Tracker report tracks utilization through an indicator based on our propriety hospital volume survey, along with high-level industry data sources from hundreds of hospitals, thousands of providers and billions of prescription drugs scripts. To track this more granularly, below we break down our monthly data inputs, which show that m/m, trend largely decelerated in January, driven by physician and pharmacy trend.

Exhibit 1: Physician and pharmacy utilization decelerated in January, while inpatient and outpatient accelerated based on the data points available currently

Year over year growth in volume metrics by component of trend, most recent datapoint highlighted based on improving (green) or worsening (red) trend vs prior month.

Trend Tracker Components	Q123	Q223	Q323	Dec-23	Q423	Jan-24
Public Hospital Admissions (estimate in Jan-24)	5.2%	4.3%	3.5%	2.1%	2.1%	2.0%
HHS Hospital Admissions (all-in y/y increase)	0.3%	-0.5%	-1.6%	-1.3%	-1.5%	0.6%
Kaufman Hall Hospital Admissions	4.3%	4.0%	2.7%	2.0%	3.3%	
Stratadecision Hospital Admissions	6.4%	4.8%	4.1%	4.5%	4.1%	
BofA Survey Hospital Admissions	2.6%	2.3%	2.3%	2.2%	2.2%	2.1%
Inpatient (17% of spend)	3.8%	3.0%	2.2%	1.9%	2.0%	1.5%
Implied Public Hospital Outpatient Volumes (estimate in Jan-24)	13.9%	6.5%	5.1%	2.5%	2.5%	2.0%
Kaufman Hall Implied Outpatient	17.3%	8.4%	7.0%	6.4%	8.5%	
Stratadecision Outpatient	0.6%	2.5%	1.6%	0.9%	3.4%	
BofA Survey Outpatient	3.5%	4.0%	4.0%	2.8%	4.1%	3.6%
Outpatient (29% of spend)	8.8%	5.3%	4.4%	3.2%	4.6%	2.8%
CDC Patient Volumes per Provider	16.1%	5.6%	4.6%	4.1%	-2.1%	2.0%
New Pharmacy Scripts ex-COVID	5.4%	3.6%	2.5%	5.0%	2.9%	4.5%
Physician (30% of spend)	10.7%	4.6%	3.6%	4.6%	0.4%	3.2%
Total Pharmacy Scripts ex-COVID	3.0%	2.1%	1.4%	3.5%	1.7%	3.0%
Drugs (22% of spend)	3.0%	2.1%	1.4%	3.5%	1.7%	3.0%
Cost Trend PMPM	6.3%	1.8%	0.9%	1.3%	0.0%	0.6%

Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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15 February 2024

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Key Definitions:

CDC = Centers for Disease Control

HHS = Health and Human Services

HUM = Humana

LT = Long term

MCO = Managed Care Organization

PMPM = Per member per month

UNH = UnitedHealth Group

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Refer to important disclosures on page 15 to 16.

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Timestamp: 15 February 2024 12:05AM EST

Initial Q1 trend est +0.6%; +60bps q/q

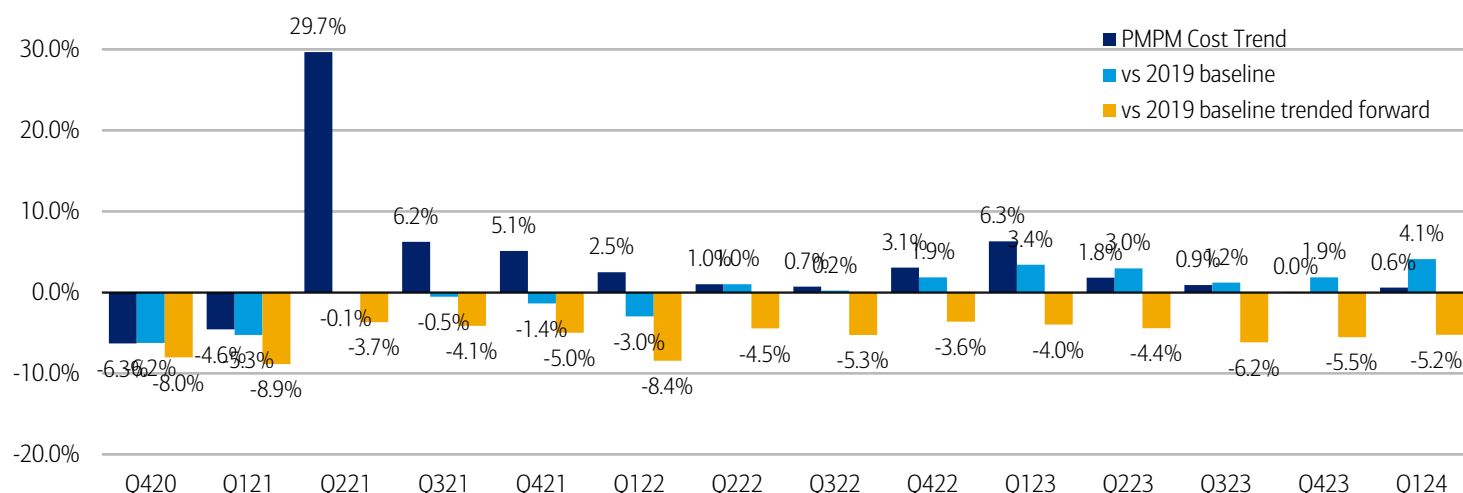
Below, we show our proprietary BofA Composite PMPM Utilization Indicator, how it compares to 2019 levels, as well as a trended forward baseline. In past years, we have typically looked at y/y growth and compared it to historical averages to determine inflection points in utilization beyond what an MCO would reasonably price for. However, COVID-19 has significantly skewed utilization (from the initial 20% drop off in April 2020 to subsequent spikes) making it harder to draw conclusions from y/y growth.

All-in, we estimate healthcare utilization on a per member “same store” basis increased +0.6% y/y in Q1 to date. This is an acceleration from flat y/y in Q4.

Meanwhile, when compared to 2019 (the last year with normal seasonality), Q1 to date utilization was +4.1% above the 2019 baseline. Finally, when trending the 2019 base forward by the LT growth rate of each component (the way MCOs generally talk about pricing), all-in trend appears below that benchmark (-5.2%).

Exhibit 2: All-in PMPM trend above 2019 levels

BofA Composite PMPM Healthcare Utilization Indicator vs 2019 baseline



Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

Disclaimer: The Indicator identified as BofA Composite PMPM Healthcare Utilization Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

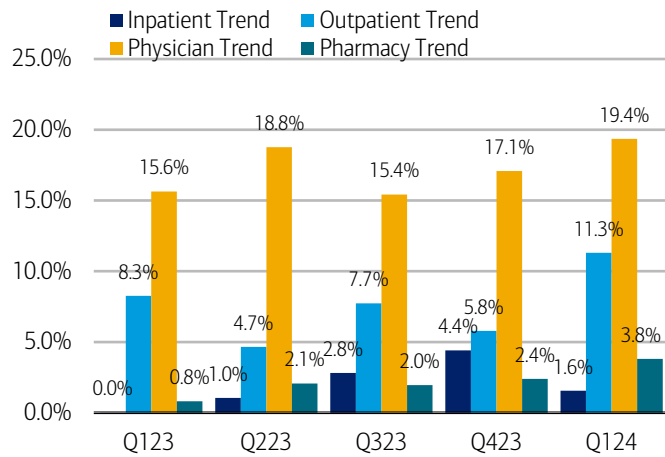
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Physician above 2019 trended forward

Below we show how each of the major components of our utilization tracker are trending. Currently, physician, pharmacy, inpatient, and outpatient volumes are all tracking ahead of 2019 levels on an absolute basis. On a per member basis (the way MCOs usually talk about trend), only physician and outpatient volumes are ahead of 2019 levels.

Exhibit 3: From a total utilization perspective, in Q1 to date, all components are trending above 2019

BofA Composite Healthcare Utilization Indicator components vs 2019 baseline



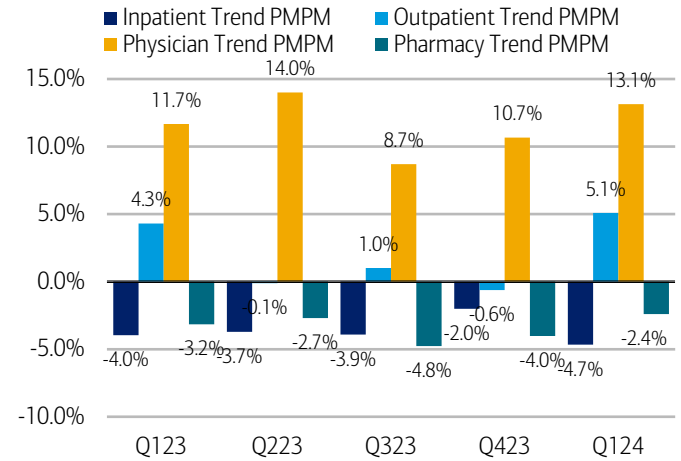
Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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Physician and pharmacy are above 2019 when trending that baseline forward by the LT growth rates. On a PMPM basis, only physician is above 2019 trended forward. We note that certain inputs to our tracker are on a delay, which may cause certain components of this analysis to lag recent MCO commentary.

Exhibit 4: On a PMPM basis, in Q1, only physician and outpatient above 2019 levels

BofA Composite Healthcare Utilization Indicator components PMPM vs 2019 baseline

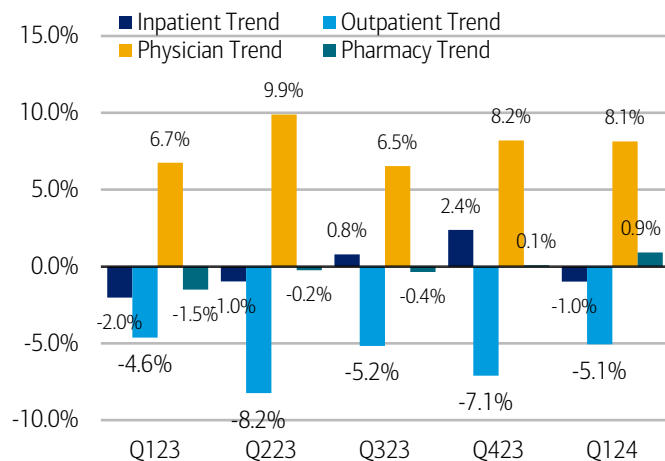


Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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Exhibit 5: From a total utilization perspective, physician and pharmacy are above 2019 trended forward, while inpatient and outpatient remain below

BofA Composite Healthcare Utilization Indicator components vs 2019 baseline trended forward

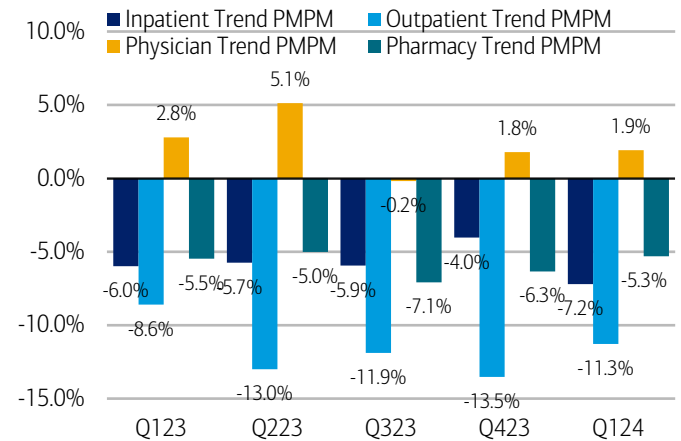


Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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Exhibit 6: On a PMPM basis, only physician is above 2019 trended forward, while all other components remains below

BofA Composite Healthcare Utilization Indicator components PMPM vs 2019 baseline trended forward



Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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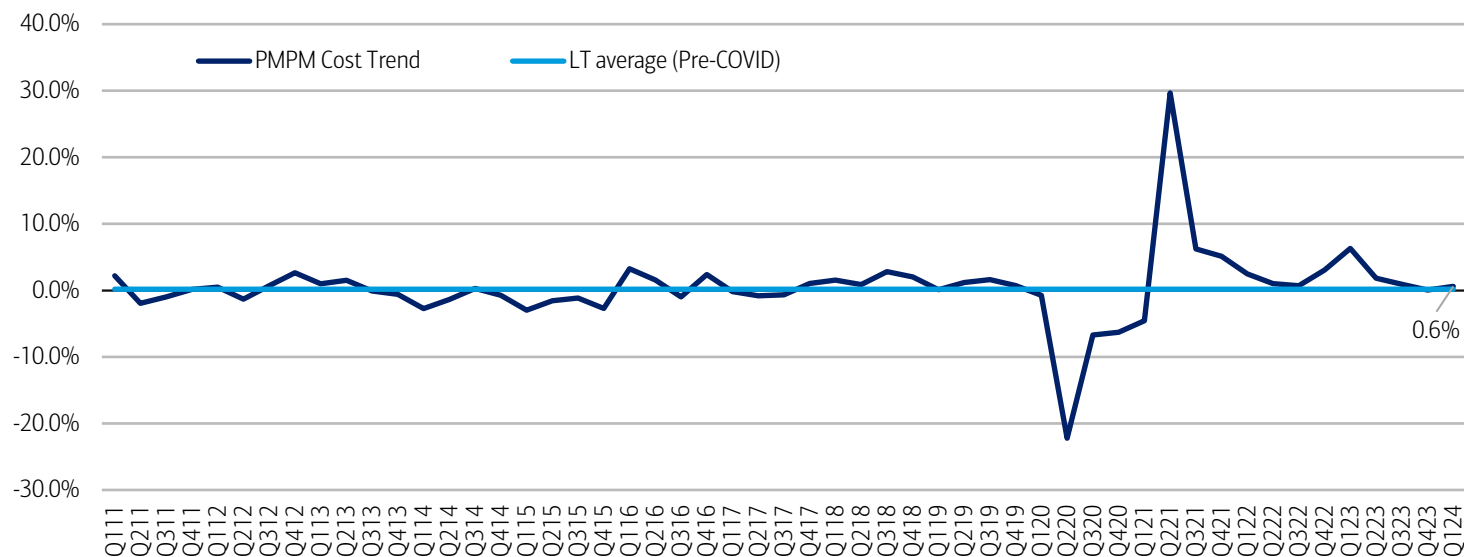
Y/Y PMPM trend growth above LT, but metrics skewed by COVID disruptions

Y/Y PMPM trend growth of +0.6% in Q1 to date is above the historical average of 0.2%, but it is difficult to draw conclusions from the y/y growth. We've been publishing this monthly trend tracker since 2011, relying on y/y growth trends vs historical averages to identify inflection points in utilization. However, ever since 2020 when COVID emerged,

utilization trends have been thrown off normal seasonality, making it harder to draw conclusions from changes in y/y growth rates. With time, as COVID continues to fade, y/y growth metrics will become more reliable indicators, rather than comparing to the 2019 baseline.

Exhibit 7: Y/y data from our trend tracker has been heavily disrupted by COVID

BofA Composite PMPM Healthcare Utilization Indicator



Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research 2011-2014 relies on data from Publicly traded Hospital Volumes, BofA's Volume Survey, and IQVIA exclusively. Starting in 2015 we started to incorporate CDC sentinel provider data. Starting in 2020 we also include Kaufman Hall's National Hospital Flash Report and HHS's inpatient occupancy tracker.

Disclaimer: The Indicator identified as BofA Composite PMPM Healthcare Utilization Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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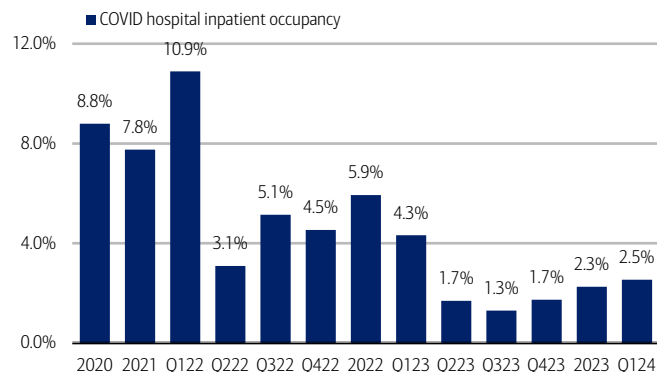
COVID testing & occupancy down y/y in Q124

One area of spending worth taking a closer look at is COVID. Even though it is generally accounted for in the overall utilization tracker, it is still difficult to tell how much volume growth in general was built into pricing at such a high level. For COVID spending specifically, 2021 was clearly above expectations, with both COVID hospitalizations and testing volumes ending above 2020 levels. COVID costs peaked in Q1 2022, but declined meaningfully since then.

In Q1 to date, COVID tests per day increased sequentially from Q4 but are down 72% y/y. COVID hospitalizations are also up sequentially but down y/y.

Exhibit 8: COVID hospitalizations in January above Q4 average...

% of hospital occupancy attributed to COVID

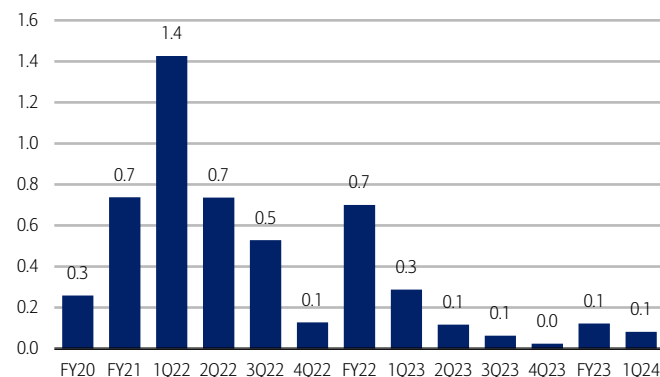


Source: HHS, BoFA Global Research

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Exhibit 9: COVID tests in Q1 to date also up sequentially

Recorded COVID tests per day in a given period



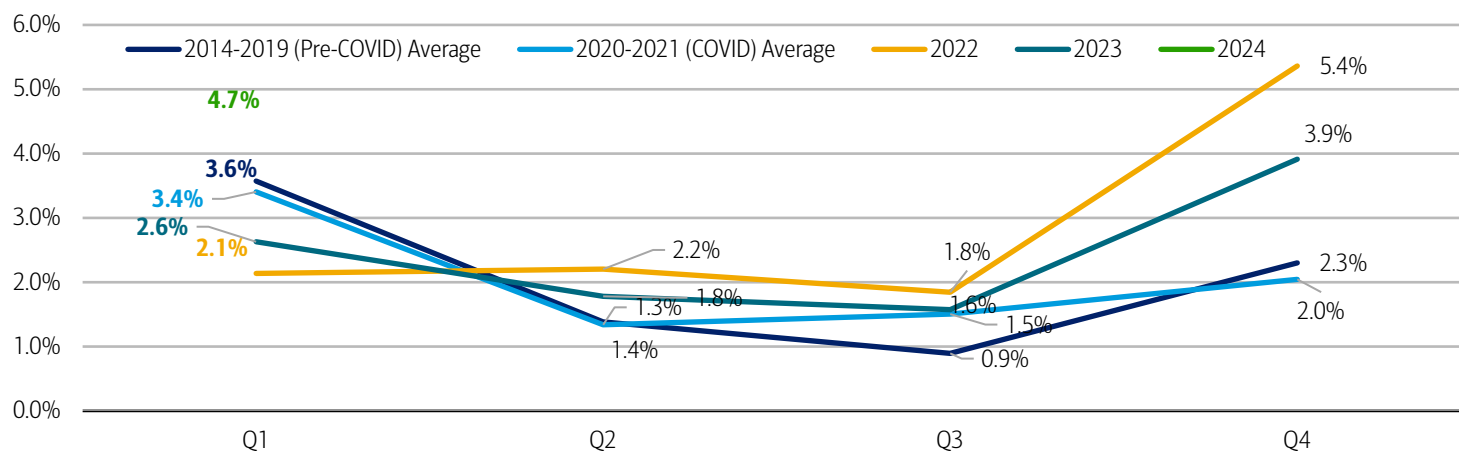
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Flu volumes elevated in January

Flu volumes in January are higher than pre-COVID, higher than the Q123 average, and higher than the Q423 average.

Exhibit 10: CDC data indicating January flu volumes above pre-COVID averages

Weighted percentage of visits related to influenza like illness reported by the CDC sentinel providers



Source: CDC, BoFA Global Research

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MCO commentary on utilization trends

Broadly, Q4 Medicare utilization came in worse vs company expectations while Medicaid was in line and Commercial was better.

Exhibit 12: MCOs with less Medicare exposure content with trend into Q4/2024

Recent commentary and color around utilization by MCO

Ticker Q423 commentary

CI	Our medical care ratio of favorability was primarily driven by our US commercial employer business, particularly within our stop-loss products, which outperformed expectations due to lower cost trends on high dollar claimants. Additionally, we saw lower-than-expected viral costs in the quarter, with the combination of Flu, COVID and RSV running below projections.
CNC	Medicaid at 90.0% for the full year was slightly higher than our expectations. [...] As we mentioned at our Investor Day in December, there were some open Medicaid retro rate adjustments. At year-end, had we received those adjustments, our full year 2023 Medicaid HBR would have been about 10 basis points better. [...] Medicare full-year HBR was 87.1%, which includes the \$250 million premium deficiency reserve recorded in the fourth quarter that we first discussed with you back in April of 2023. On Medicare trend, we continue to see steady but elevated levels of outpatient trend consistent with what we began to see in Q2 and consistent with our forecast. We also saw a pickup of COVID costs in December, as we mentioned in early January, though not alarming compared to prior COVID cycles.
CVS	Our medical benefit ratio of 88.5% increased 270 basis points from the prior year quarter, primarily reflecting higher Medicare Advantage utilization and a lower contribution from positive prior period developments. Utilization pressure continues to be attributable to the same categories we highlighted in the previous quarter, including outpatient and supplemental benefits, such as dental and vision.

Exhibit 12: MCOs with less Medicare exposure content with trend into Q4/2024

Recent commentary and color around utilization by MCO

ELV	[...] Overall utilization in the fourth quarter developed largely in line with our expectations, and that's evidenced by a reported benefit expense ratio, which came in favorable, as you know to consensus and really to the midpoint of our initial full-year 2023 guidance range. We did see pockets of high utilization specifically in Medicare related to orthopedics, such as knee and hip replacements and other outpatient procedures, but this was broadly planned for as part of our underlying cost-trend assumptions. Similarly, we saw a seasonal uptick in respiratory ailments, including the flu and COVID, as well as increased RSV vaccinations, but again, utilizations were aligned with what we planned.
HUM	Actual fourth quarter results reflect an additional increase in Medicare Advantage medical cost trends, driven by higher than anticipated inpatient utilization, primarily for the months of November and December, as well as a further increase in non-inpatient trends, predominantly in the categories of physician, outpatient surgeries and supplemental benefit [...]
MOH	Across our Medicaid segment, the major medical cost categories were largely in line with our expectation and normal quarter-to-quarter trend fluctuations. Our full year Medicaid MCR was 88.7%, within our long-term target range and consistent with our expectations. In Medicare, our fourth quarter reported MCR was 93.3% and our full year was 90.7%. 90.7%, both above our long-term target range and impacted by increased utilization of supplemental benefits, in-home services, and high-cost drugs. [...] In Marketplace, our reported fourth quarter MCR was 79.8%, reflecting our continued success in returning this business to target margins.
UNH	Care patterns remain consistent with those we shared with you in the first half of '23. Activity levels continue to be led by outpatient care for seniors with orthopedic and cardiac procedure categories among the more prominent. As we've noted, our benefit design approach assumed these activity levels persist throughout '24. And the care patterns we observed exiting '23 reconfirmed that decision. On the margin, we saw some modest late-year seasonal activity, such as strong and welcome response from seniors to scheduled physicians at this to receive RSV vaccinations. In some cases, these were accompanied by additional care being obtained, especially for people that had not seen a physician in some time.

Source: Bloomberg, company commentary

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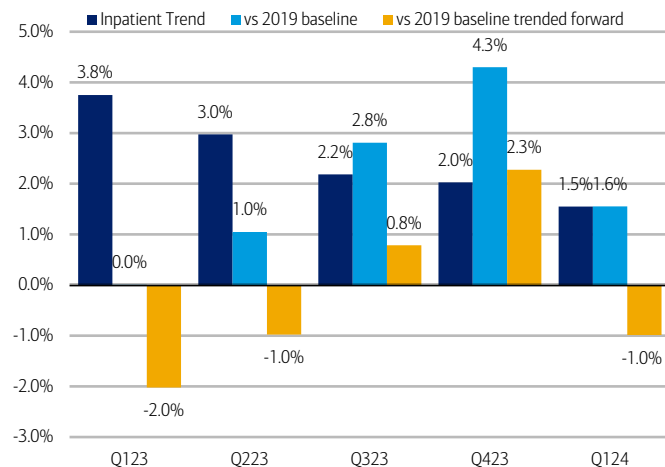
PMPM inpatient below 2019 trended forward

Inpatient spending is 17% of total trend according to Milliman. In Q1 to date, total inpatient volumes are tracking up +1.5% y/y and +1.6% above 2019 levels. Meanwhile, inpatient volumes are tracking -1.0% below 2019 levels if trended forward by the LT growth rate (+0.5%).

On a PMPM basis, inpatient volumes are down -0.6% y/y in Q1 to date. Meanwhile, inpatient volumes are -4.7% below 2019 levels and -7.2% below 2019 trended forward.

Exhibit 12: On an absolute basis, inpatient utilization above 2019 levels

BofA Composite Healthcare Utilization Indicator – Inpatient Trend component vs 2019 baseline

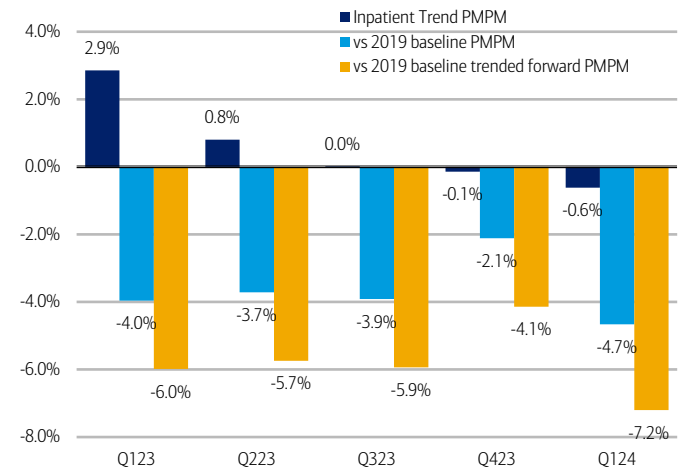


Source: HHS, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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Exhibit 13: On a PMPM basis, inpatient utilization below 2019 levels

BofA Composite Healthcare Utilization Indicator – Inpatient Trend component PMPM vs 2019 baseline



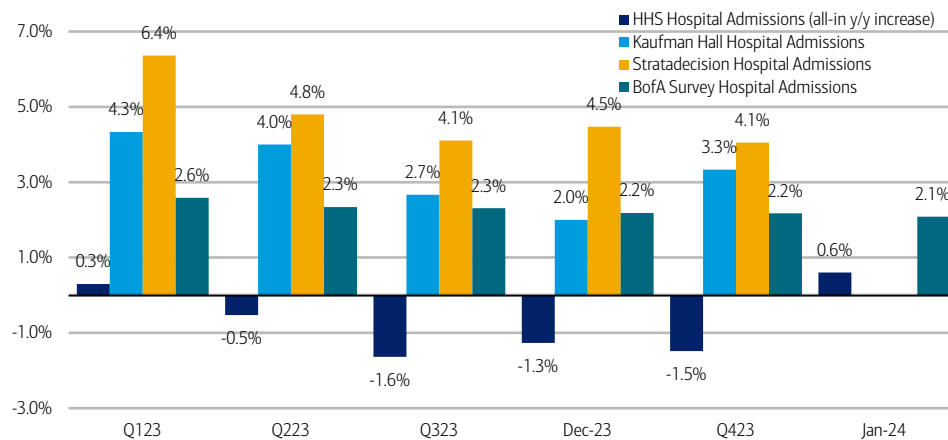
Source: HHS, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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Looking at the y/y growth on a m/m basis, inpatient utilization in January accelerated based on the data points we have currently. Our proprietary volume survey pointed to slower inpatient volume growth m/m ([see our January Hospital Survey here](#)), but hospital admissions as per HHS accelerated significantly m/m.

Exhibit 14: Inpatient trend in January accelerated m/m

Breaking down the components of inpatient trend calculation by monthly inputs



Source: HHS, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research. Some data is reported on a lag, and may be blank for the current month.

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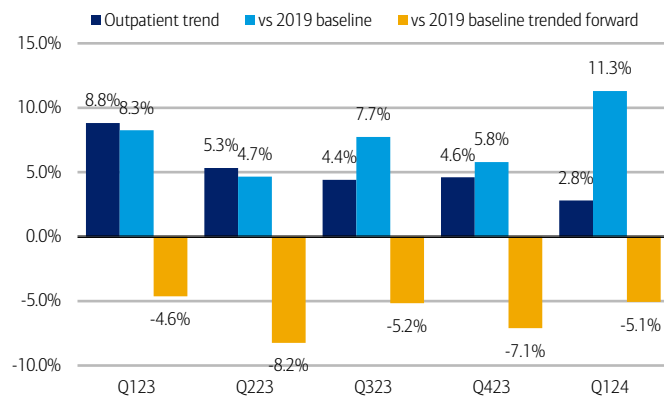
Outpatient tracking below 2019 trended forward

Outpatient spending is weighted at 29% of trend according to Milliman. In Q1 to date, outpatient volumes were up +2.8% y/y and +11.3% above 2019 levels, but -5.1% below 2019 levels if trended forward by the LT growth rate (+3.1%).

On a PMPM basis, Q1 outpatient volumes were up +0.6% y/y and +5.1% above 2019 levels. Meanwhile, PMPM outpatient volumes were -11.3% below 2019 trended forward.

Exhibit 15: Total outpatient well above 2019 levels

BofA Composite Healthcare Utilization Indicator – Outpatient Trend component vs 2019 baseline

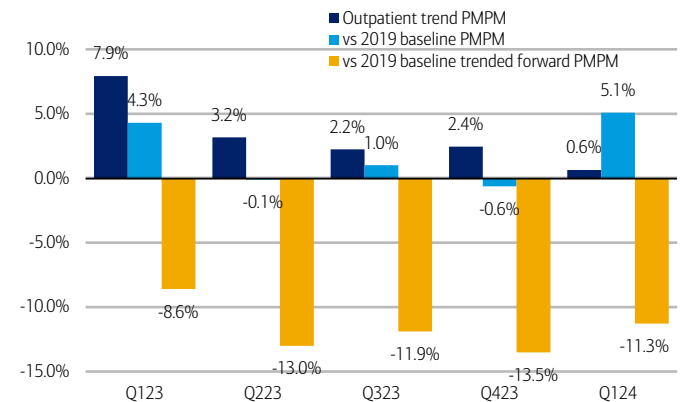


Source: Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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Exhibit 16: PMPM outpatient also above 2019 levels

BofA Composite Healthcare Utilization Indicator – Outpatient Trend component PMPM vs 2019 baseline



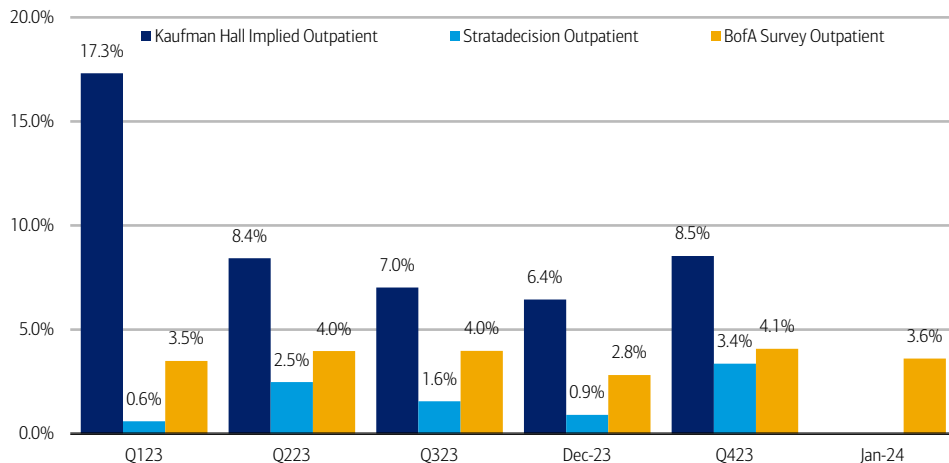
Source: Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research

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Looking at the y/y growth on a m/m basis, outpatient utilization accelerated in January based on our hospital volume survey data.

Exhibit 17: Outpatient trend into January accelerated m/m based on our survey

Breaking down the components of outpatient trend calculation by monthly inputs



Source: HHS, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, Strata Decision Technology, StrataSphere data, StrataDecision.com, BofA Global Research. Some data is reported on a lag, and may be blank for the current month.

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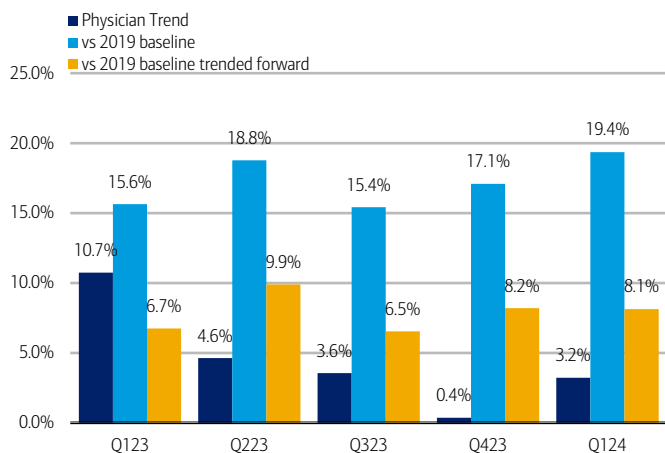
Physician above 2019 trended forward

Physician spending is weighted at 30% of total trend according to Milliman. In Q1 to date, physician volumes are tracking +3.2% y/y. Although, that is +19.4% above 2019 levels and +8.1% above 2019 levels if trended forward by the LT growth rate (+2.2%).

On a PMPM basis, physician volumes were up +1.1% y/y but +13.1% above 2019 levels and +1.9% above 2019 trended forward.

Exhibit 18: Physician trend up +3.2% y/y in Q1 to date

BofA Composite Healthcare Utilization Indicator – Physician Trend component vs 2019 baseline

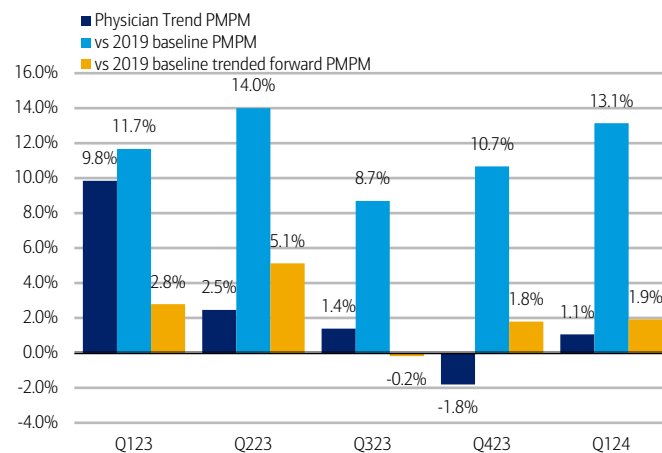


Source: CDC, IQVIA, BofA Global Research

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Exhibit 19: PMPM physician trend up +1.1% y/y in Q1 to date

BofA Composite Healthcare Utilization Indicator – Physician Trend component PMPM vs 2019 baseline



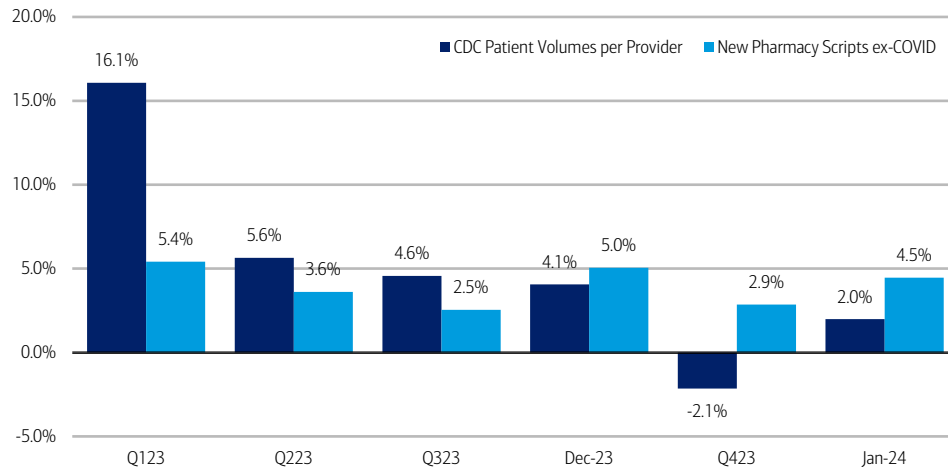
Source: CDC, IQVIA, BofA Global Research

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Looking at the y/y growth on a m/m basis, in January, physician utilization decelerated driven by decelerating patient volumes per provider and decelerating new pharmacy scripts ex-COVID.

Exhibit 20: Physician trend data decelerated m/m in January

Breaking down the components of physician trend calculation by monthly inputs



Source: CDC, IQVIA, BofA Global Research

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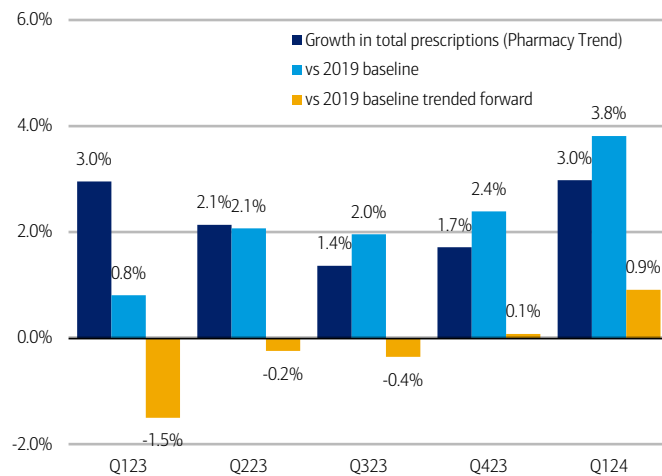
Pharmacy below 2019 on a PMPM basis

Pharmacy spending is weighted at 22% of total trend according to Milliman. In Q1 to date, pharmacy volumes are tracking +3.0% y/y, which is +3.8% above 2019 levels. Meanwhile, that is +0.9% above 2019 levels if trended forward by the LT growth rate (+0.6%).

PMPM pharmacy volumes were up +0.8% y/y in Q1 to date, which is -2.4% below 2019 levels and -5.3% below 2019 trended forward.

Exhibit 21: Pharmacy trend slightly above 2019 trended forward

BofA Composite Healthcare Utilization Indicator – Pharmacy Trend component vs 2019 baseline

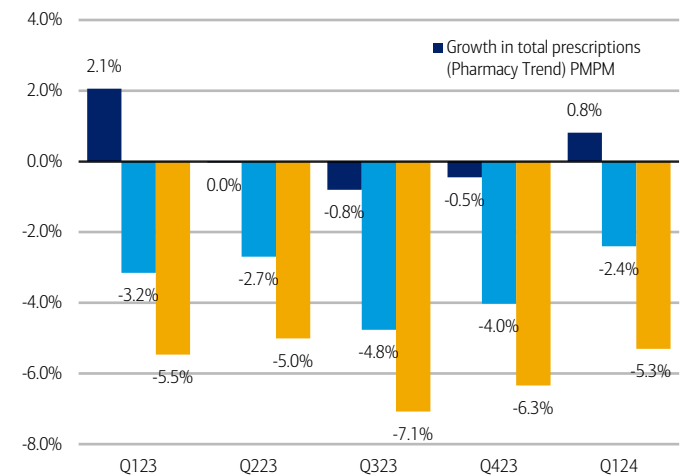


Source: IQVIA, BofA Global Research

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Exhibit 22: PMPM pharmacy trend below 2019 trended forward

BofA Composite Healthcare Utilization Indicator – Pharmacy Trend component PMPM vs 2019 baseline



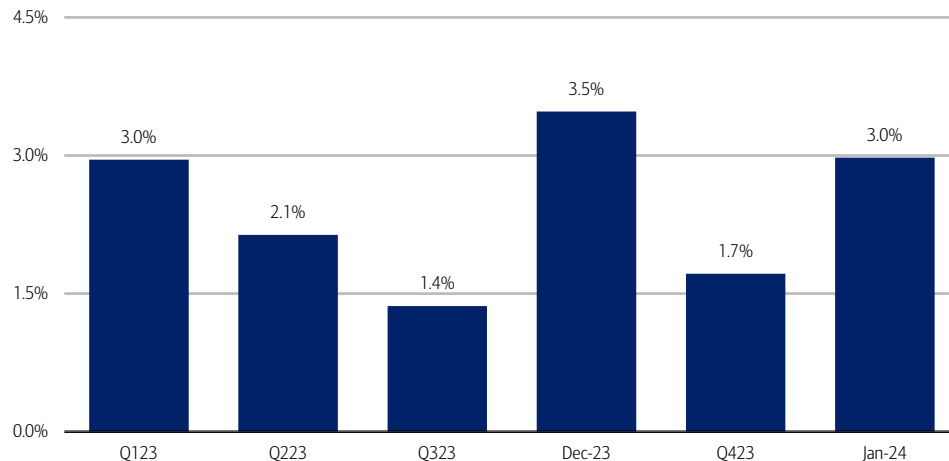
Source: IQVIA, BofA Global Research

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Looking at the y/y growth on a m/m basis, pharmacy utilization decelerated in January.

Exhibit 23: Pharmacy trend decelerated m/m in January

Breaking down the progression of pharmacy trend calculation by monthly inputs



Source: IQVIA, BofA Global Research

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Methods, historical results, limitations

Managed care companies almost always include MLR assumptions as part of their guidance, and how that metric tracks throughout the year vs initial expectations is the single largest driver of financial performance. Within MLR changes y/y are a number of factors including **1) Premiums, 2) Underlying margin targets, 3) Benefit designs, 4) Provider/drug unit cost changes, 5) Product mix shifts, 6) Reserve assumptions, and 7) Underlying utilization of healthcare services.** Across all of these MLR components, **most of the factors can be either be entirely controlled by or known by MCOs ahead of time, with the notable exception of underlying utilization.** Therefore, the biggest delta vs initial expectations (and therefore financial performance) generally stems from unexpected changes to utilization, which has been even more difficult for MCOs to forecast since the onset of COVID. For more background information on cost trend in the commercial, Medicare, and Medicaid businesses, including how companies price, and historical trend by product, please [see our 12th annual MCO primer](#).

First, we calculate volume trends by component

As described above and highlighted throughout this report, we track 4 major buckets of trend. Below we walk through exactly how each of those metrics is calculated, and break out our most recent calculations for greater transparency.

Inpatient & Outpatient Trend: We follow largely the same approach for inpatient and outpatient trend. First, we average the reported y/y growth in volumes across the four publicly traded hospitals (CYH, HCA, THC & UHS). For the upcoming fiscal quarter (but current calendar quarter) we would not yet have reported data for these companies as financial reporting happens on a lag, therefore we use a 'forecasted' average that is calculated from the prior quarter's y/y growth and q/q change in the average of the other three or four data inputs (highlighted in red). We do this to smooth the data because all of our historical data include public hospital volumes, is necessary for apples-apples comparison. Then we pull data from our proprietary BofA Hospital Volume Survey of 50 hospitals and Kaufman Hall's National Hospital Flash Report which tracks volume data from more than 1,300 hospitals, and Stratadecision's Stratasphere data which tracks volume data for 400+ hospitals. For inpatient, we include one additional data source from HHS's inpatient hospital occupancy data which includes every CMS registered hospital to track changes in hospital occupancy levels. Finally, we take a simple average for all y/y changes reported across all our data sources for the quarter. If data is not available (such as in the first month of the quarter) we show the linear change in each reported component of trend and subtract it from the previous month.

Physician Trend: To calculate Physician trend or volume growth we utilize data from more than two billion in annual Rx scripts tracked by IQVIA's Nx volumes (y/y change in new prescriptions), adjusting out COVID vaccines which patients can get without seeing a doctor first. We use new script data as a proxy for physicians visits since patients generally need to see a physicians to get written a new prescription (while total prescriptions include refills that may not need a doctor visit). Additionally, we blend per/provider volume data (closest we can get to 'same store') from the CDC's 3,000+ Sentinel providers, which captured more than 90 million patient visits in 2021. Finally, we take a simple average for all y/y changes reported across all of our data sources for the quarter. If data is not available (such as in the first month of the quarter) we show the linear change in each reported component of trend and subtract it from the previous month.

Pharmacy Trend: To calculate pharmacy trend or script volume growth we utilize data from more than four billion in annual Rx scripts tracked by IQVIA's Trx volumes (y/y change in total prescription volumes) adjusting out COVID vaccines (non-core scripts and a discreet cost that MCOs likely priced for). IQVIA is a widely followed and reputable data source within the pharmacy industry, and therefore we do not blend it with any other sources.

Other: We note that for the 'other' bucket which represents just 2% of spending, we simply average the trend calculated for the 4 major trend buckets.

We note that if a metric isn't available at the time of the report, we compare the y/y change in metrics that we do have and then apply that sequential change in the growth rate to last quarter's absolute trend estimate to determine the growth rate in the current quarter.

Exhibit 25: Breaking out the calculation of each trend component by data source inputs

Below we break out all of the data sources we use to calculate overall cost trend, for each we take a simple average of all our respective inputs

Calculating buckets of trend					
Inputs & trend by component					
	1Q23	2Q23	3Q23	4Q23	1Q24
Public hospital average y/y change in inpatient volumes (CYH, HCA, THC, UHS)	5.2%	4.3%	3.5%	2.1%	2.0%
BofA's Hospital Volume Survey y/y change in inpatient volumes	2.6%	2.3%	2.3%	2.2%	2.1%
HHS reported y/y change in inpatient occupancy levels	0.3%	-0.5%	-1.6%	-1.5%	0.6%
Kaufman Hall's National Hospital Flash Report y/y change in inpatient admissions volumes	4.3%	4.0%	2.7%	3.3%	
Stratadecision StrataSphere data y/y change in inpatient admissions volumes	6.4%	4.8%	4.1%	4.1%	
Inpatient Trend (average)	3.8%	3.0%	2.2%	2.0%	1.5%
Public hospital average y/y implied change in outpatient volumes (CYH, HCA, THC, UHS)	13.9%	6.5%	5.1%	2.5%	2.0%
BofA's Hospital Volume Survey y/y change in outpatient volumes	3.5%	4.0%	4.0%	4.1%	3.6%
Kaufman Hall's National Hospital Flash Report y/y implied change in outpatient volumes	17.3%	8.4%	7.0%	8.5%	
Stratadecision StrataSphere data y/y implied change in outpatient volumes	0.6%	2.5%	1.6%	3.4%	
Outpatient trend (average)	8.8%	5.3%	4.4%	4.6%	2.8%
IQVIA y/y change in new prescription volumes or Nx	5.4%	3.6%	2.5%	2.9%	4.5%
CDC's ILI network reported y/y change in patient visits per provider	16.1%	5.6%	4.6%	-2.1%	2.0%
Physician Trend (average)	10.7%	4.6%	3.6%	0.4%	3.2%
Pharmacy Trend (IQVIA y/y change in total prescription volumes or Trx)	3.0%	2.1%	1.4%	1.7%	3.0%
Other (average of 4 other components)	6.6%	3.8%	2.9%	2.2%	2.6%

Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, BofA Global Research

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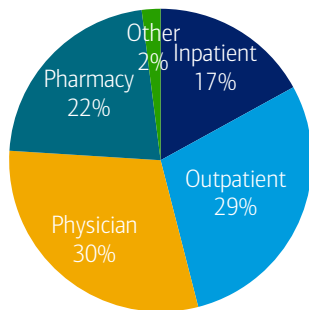
Next, we weight the importance of each component

Calculating the changes in nationwide healthcare volumes can be daunting, so we have taken a more top-down approach. Conveniently, Milliman has categorized total U.S. healthcare spending into 5 major buckets: Inpatient, Outpatient, Physician, and Pharmacy and other, which we calculated in the section above.



Exhibit 25: Physician, Outpatient, Pharmacy, and Inpatient services are the core cost components...

2023 Milliman cost index by bucket of spending



Source: Milliman Medical Index

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After estimating the average trend by component, we weight the amounts by Milliman's index weightings to arrive at an overall estimate of Composite Healthcare Utilization Trend.

Exhibit 28: Weighting each of the components gives us our estimate for overall cost trend

Breaking down the calculation of overall cost trend, we sumproduct the arrays for each quarter

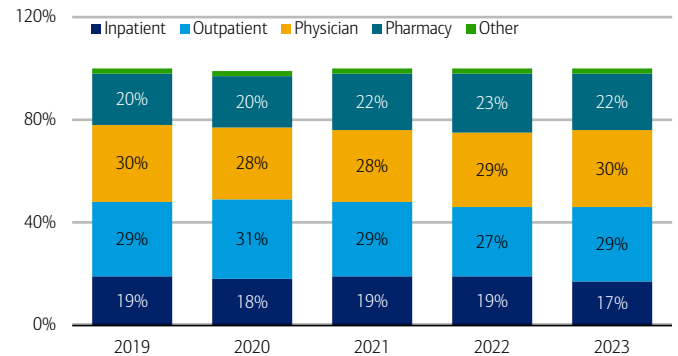
Estimated trend by component	1Q23	2Q23	3Q23	4Q23	1Q24
Inpatient Trend	3.8%	3.0%	2.2%	2.0%	1.5%
Outpatient trend	8.8%	5.3%	4.4%	4.6%	2.8%
Physician Trend	10.7%	4.6%	3.6%	0.4%	3.2%
Pharmacy Trend	3.0%	2.1%	1.4%	1.7%	3.0%
Other	6.6%	3.8%	2.9%	2.2%	2.6%
Milliman weightings					
Inpatient Facility Care	17%	17%	17%	17%	17%
Outpatient Facility Care	29%	29%	29%	29%	29%
Professional Services (Physicians)	30%	30%	30%	30%	30%
Pharmacy	22%	22%	22%	22%	22%
Other	2%	2%	2%	2%	2%
Cost Trend (sumproduct of above two arrays)	7.2%	4.0%	3.1%	2.2%	2.8%

Source: HHS, CDC, Guidepoint, Company Filings, Kaufman Hall's National Hospital Flash Report, IQVIA, Milliman, BofA Global Research

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Exhibit 26: ...have remained relatively stable in recent years

Milliman cost index by bucket of spending over time



Source: Milliman Medical Index

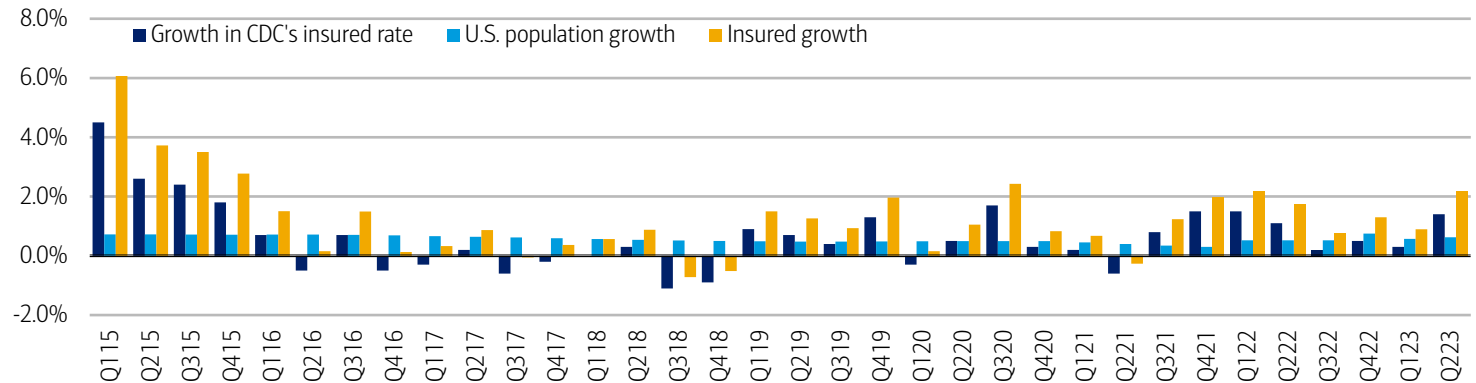
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Finally, we adjust our forecast to be 'same store'

All of the metrics we refer to within this report are aggregating overall changes in volumes. By definition, these metrics have an upward bias because it includes population growth (1% long-term annual growth) as well as increases/decreases to the insured rate, which can vary based on the economy and government regulation (eg the surge after the Affordable Care Act created the exchanges and expanded Medicaid or more recently the increased subsidies to purchase coverage through the American Rescue Plan Act). In contrast, when managed care companies forecast MLR or utilization, they are referring to the 'same store' utilization trend for a constant membership base.

Exhibit 28: Insured population has historically surged from introduction of new government programs, supported by population growth

Forecasting quarterly changes to insured population



Source: CDC, Federal Reserve, BofA Global, Research

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After weighting all our utilization components by the Milliman index, we make one last adjustment for the growth or decline in the total insured population. We do this by taking the CDC's % of uninsured estimate in each quarter and overlay it on the Federal Reserve's seasonally adjusted quarterly population estimate. We note however that the CDC's uninsured % has a couple quarters of lag, which we hold constant in-between reports (highlighted in red).

Exhibit 30: We make one final 'same store' adjustment to our forecast, changes in the insured population

Bridging between Cost Trend estimate and PMPM Cost Trend accounts for changes in the number of insured beneficiaries

	1Q23	2Q23	3Q23	4Q23	1Q24
Cost Trend					
CDC reported insured rate	7.2%	4.0%	3.1%	2.2%	2.8%
Federal Reserve reported US Population	92.3%	92.8%			
Implied # of insured beneficiaries	334,641	335,019			
y/y change in number of insured beneficiaries	0.9%	2.2%	2.2%	2.2%	2.2%
PMPM Cost Trend (cost trend - change in insured beneficiaries)	6.3%	1.8%	0.9%	0.0%	0.6%

Source: CDC, Federal Reserve, BofA Global, Research

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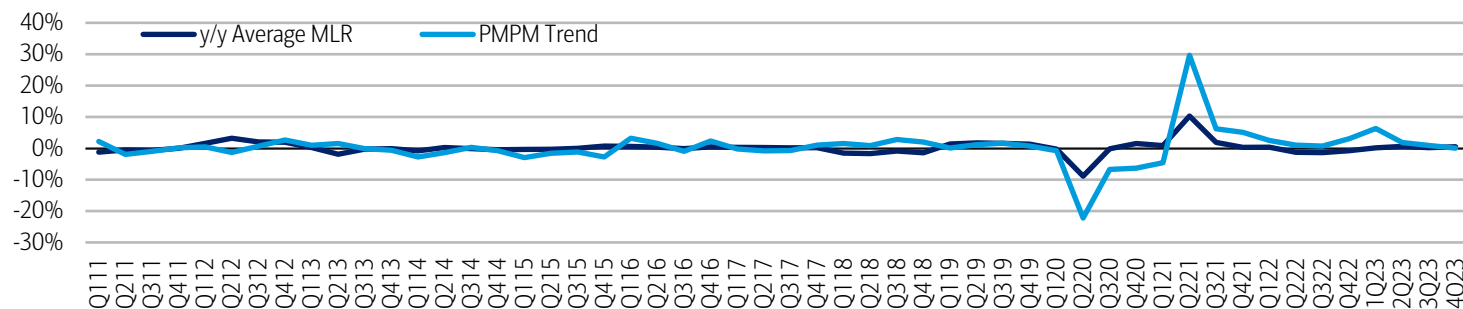
Changes in MLR directionally supportive of Indicator

There are several differences between our utilization indicator and actual utilization trend, so we do not intend for our indicator to match actual utilization on an absolute basis. However, we believe our indicator provides a good indication of utilization directionally, and we attempt to use it to determine inflection points. Looking back, we have seen y/y changes in our forecasted PMPM trend directionally supportive of changes in y/y average MLR reported across large carriers.

We note that the chart below compares two metrics: **1)** Average changes in y/y MLR reports across CI, CVS, ELV, MOH, HUM, UNH which is consistent in every period. **2)** BofA's PMPM Healthcare Utilization Tracker which has evolved in the number of inputs used over time. From 2011-2014 we only use data from the public hospitals, BofA Hospital Volume Survey and IQVIA to arrive at our trend averages (same methodology outlined above but with fewer inputs). For 2015 and onward we blend in per provider volume data from the CDC's Sentinel providers to calculate Physician trend. Finally, starting in 2020 and onward we add Kaufman Hall's National Hospital Flash Report and Stratadecision's Stratasphere volume data (which we only added as of our July 2023 report, but restated our composite trend going back to 2020 – as far back as the historical data is available) for both inpatient and outpatient trend; as well as HHS's occupancy data for inpatient trend.

Exhibit 30: We've seen a strong historical correlation in our trend tracker with MLR

BofA Composite PMPM Healthcare Utilization Trend vs. average y/y change in MLR



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Limitations of this report

As we touch on at the beginning of this section, forecasting trend is only one component of MLR and therefore the methodology in this report cannot entirely be relied on to forecast that metric. For example, the Medical Loss ratio is calculated by taking medical costs/revenue, so it is a function of both costs and pricing. This report does not try to capture MCO pricing, which can cause quarterly variance, but since companies generally try to price their products to a consistent target MLR over time, pricing should normalize over longer periods of time. In addition, MLR at the company level can change over time based on mix shift (commercial has the lowest MLR, then Medicare Advantage and finally Medicaid). As government programs become a larger portion of the revenue, all else equal there should be an upward bias towards consolidated MLR, which may explain why MLR trends on average are slightly above our trend tracker.

Another limitation to be aware of is that essentially all of our data inputs are being compiled by third parties which may make their own adjustments to the data or sampling errors, though we feel as though averaging these metrics should normalize those impacts over time. Additionally, those data sources are subject to geographic biases which may only represent the trends of specific regions in the U.S. rather than at the national level, though again using multiple sources should help fight that bias. Finally, we look at how each component has trended vs the 2019 baseline if that baseline were to grow by the LT average of our tracker with the logic being that MCOs priced each year for normal volume changes. Therefore, there is a risk our LT averages are not correct, and that MCOs priced differently. However, we think illustrating this data is still helpful to give it more context.

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