

Home Health

Survey: Home health, Hospice volumes accelerated in Q2, labor remains a pressure

Industry Overview

Surveys imply vols accelerated in Q2 from Q1

Home health volumes and hospice census accelerated in 2Q23 from 1Q23, according to our surveys. However, Medicare Advantage continues to outpace Medicare volume growth, a negative mix shift given the rate discount. Meanwhile, wage growth is expected to be +7% which combined with contract labor costs could drive total costs up 11% y/y in 2023. The cost inflation will be hard to offset given the Medicare rate update of +0.7%. The outlook for consolidation has been slowing down.

Wages expected to grow +7%, total labor costs + 11% y/y

Survey respondents expect wage growth of +7.2% y/y in 2023 (vs +7.7% in our prior survey), a deceleration from +10% they saw in 2022. Total labor costs (including contract labor) are expected to increase +10.7% y/y in 2023 (worse than +9% in our May survey), a deceleration from +13.6% in 2022, but well above the historical average. The staff turnover in Q2 was 17%, worse than 14% in Q1 and 11% pre-COVID.

Labor shortages' impact to vols stable Q/Q

40% of respondents limited admits due to labor shortages in June, an improvement from May and April. On average, 17% of patients were not admitted due to shortages, worse than our prior survey; the Q2 average was in line with 14% in Q1.

Temp labor use declined in Q2 from Q1

11% of hours were provided by temp labor in June, below our May survey, with Q2 average at 13%, better than 14% in 1Q23 but well above 7% in 2019.

HH volumes accelerated 340bps in Q2 from Q1

Organic HH volumes (admissions + recertifications) decelerated in June 2023 to +17.0% y/y, but the Q2 avg was +16.2% y/y, 340bps above the 1Q23 avg.

MA grew 480bps faster than FFS in Q2

In Q2, Medicare Advantage (MA) admissions grew faster than Medicare, +13.0% y/y vs +8.2% for fee-for-service (FFS). On average, the MA rate is 11% below FFS; the majority of respondents see MA rates improving; 26% see delta vs FFS getting worse.

Hospice ADC and admits accelerated in Q2 from Q1

Organic hospice ADC accelerated in June from May (+12.8% y/y vs +12.1%) and the growth in Q2 was +11.1%, above +8.8% in 1Q23. Admission growth in June was comparable to May, and the Q2 average was +7.6%, accelerating from +6.0% in Q1. LOS increased +5% in Q2 (vs +4.4% in Q1).

Rates in hospice carve-in demo are 11% below Medicare

About 40% of hospice providers in the survey contract with MA for hospice services. These respondents said the average daily rate for MA was 11% below the average Medicare daily rate (-12% median), comparable to the 10% discount in the May survey.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Refer to important disclosures on page 26 to 28.

12578134

Timestamp: 12 July 2023 12:05AM EDT

12 July 2023

Equity
United States
HC Facilities

BofA

Data
Analytics



Joanna Gajuk
Research Analyst
BofAS
+1 646 855 3961
joanna.gajuk@bofa.com

Kevin Fischbeck, CFA
Research Analyst
BofAS
+1 646 855 5948
kevin.fischbeck@bofa.com

Nabil Gutierrez
Research Analyst
BofAS
+1 646 556 2974
nabil.gutierrez@bofa.com

Mia Munoz
Research Analyst
BofAS
+1 646 855 0735
mia.munoz2@bofa.com

HH = home health

ADC = average daily census

LOS = Length of stay

PDGM = Patient Driven Groupings Model

RAP = Request for Advance Payment

Amedisys (AMED) better positioned in our survey

Our survey results are most relevant for AMED and Enhabit (EHAB) as most of their revenues come from home health and hospice. Hospice results are the most relevant for Chemed (CHE, 57% of revs) and AMED (35% of revs), followed by Addus (ADUS, 20% of revs), and EHAB (19% of revs).

Exhibit 1: Exposure to home health and hospice – Revenue mix as % of total revs, as of 1Q23

Our survey is most relevant for EHAB, ADUS, and AMED, also applicable for CHE

Category	AMED	EHAB	ADUS	CHE
Home Health	62%	82%	5%	-
Hospice	35%	19%	20%	57%
Personal Care	3%	-	76%	-
Other	1%	-	-	46%

Source: BofA Global Research survey, company reports

BofA GLOBAL RESEARCH

In order to look at the exposure of each company to home health organic volume (admissions + recertifications) trends, we calculated a weighted average for AMED and EHAB based on their exposure to the 25 states (% of centers in each state). This survey's results are relevant for EHAB and AMED as the 25 states included in the survey cover 55% of home health agencies operated by AMED and 59% of home health agencies operated by EHAB.

AMED is better positioned in this survey, with +16.1% weighted average growth in its markets in June, below the overall survey average but above EHAB's average.

Exhibit 2: Company exposure to Home Health Organic Volume (admits + recertifications) Average y/y growth in June 2023

AMED is better positioned in this survey, with +16.1% weighted average growth in its markets

State	# of agencies	June '23 Organic		
		Vols Y/Y Average	Company exposure (% of agencies)	
			AMED	EHAB
California	8	8.5%	1.2%	0.0%
Florida	5	18.0%	4.6%	8.3%
Texas	5	7.6%	4.9%	20.2%
Georgia	5	16.0%	16.1%	8.3%
Ohio	3	35.3%	1.2%	0.4%
Indiana	3	18.3%	1.4%	0.4%
Iowa	2	6.0%	0.0%	0.0%
Tennessee	2	20.0%	13.0%	2.8%
New Jersey	1	5.0%	0.6%	0.0%
Virginia	1	10.0%	4.0%	4.4%
Connecticut	1	25.0%	0.3%	0.4%
Illinois	1	3.0%	0.6%	1.2%
New York	1	4.0%	1.4%	0.0%
Washington	1	0.0%	0.6%	0.4%
Missouri	1	0.0%	1.7%	0.4%
Delaware	1	15.0%	0.6%	0.0%
Arizona	1	60.0%	0.9%	2.0%
Oklahoma	1	25.0%	2.0%	7.5%
Utah	1	10.0%	0.0%	2.4%
South Carolina	1	15.0%	7.5%	1.2%
Minnesota	1	4.0%	0.0%	0.0%
Maryland	1	2.0%	2.6%	1.2%
Kansas	1	60.0%	0.0%	1.6%
Massachusetts	1	85.0%	1.7%	2.0%
Nebraska	1	37.0%	0.3%	0.0%
Total	50		55.0%	59.1%
Weighted Avg		17.0%	16.1%	15.3%

Source: BofA Global Research survey, % exposure by state from company reports

BofA GLOBAL RESEARCH

Home health survey

We surveyed 50 home health agencies in 25 states. We focused on the most populous states with 16% of respondents based in CA, 10% in FL and 10% in TX – see Exhibit 44 for a full breakout.

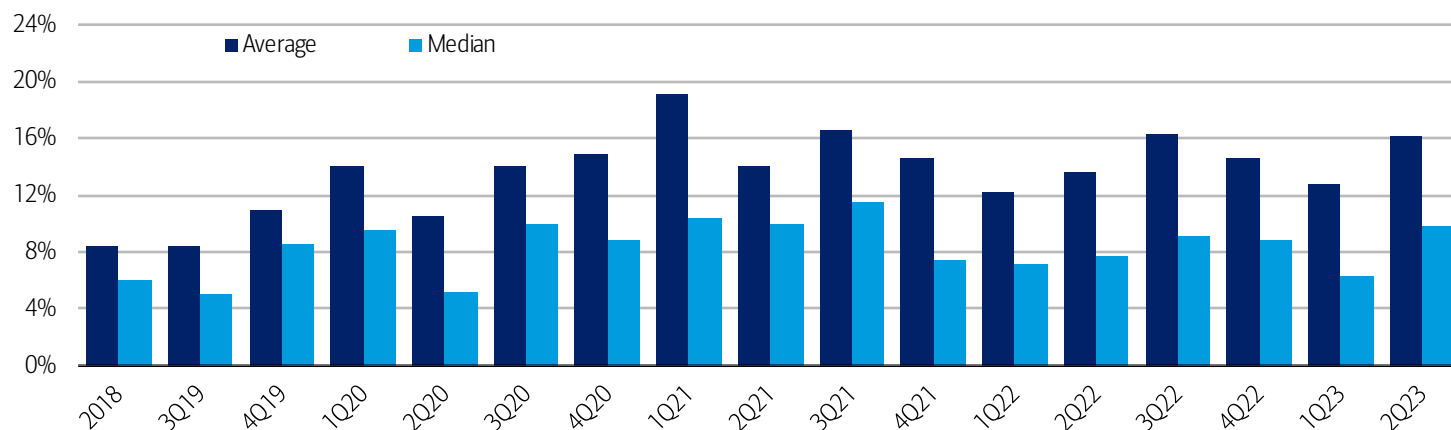
Organic home health vols decelerated m/m in June, 2Q23 was above 1Q23

Please describe (quantify % change) organic Total home health volume (admissions + recertifications) for Medicare + Medicare Advantage year-over-year, at your agency at each of the following points in time?

On average, our survey's respondents saw organic home health volumes (admissions and recertification) grow +17.0% y/y (median of +9%) in June, decelerating from +17.6% in May. Still, this is above the growth in April. Based on the three months of data, 2Q23 volumes were up +16.2% y/y, which is above +12.8% in 1Q23, and above +14.6% y/y in 4Q22. Median growth of +9% this month was below the median growth in May and April.

Exhibit 3: Quarterly trends in average organic home health volume (admissions + recertifications)

Home health vols are in 2Q23 were above 1Q23, and continue to grow faster than prior to pandemic

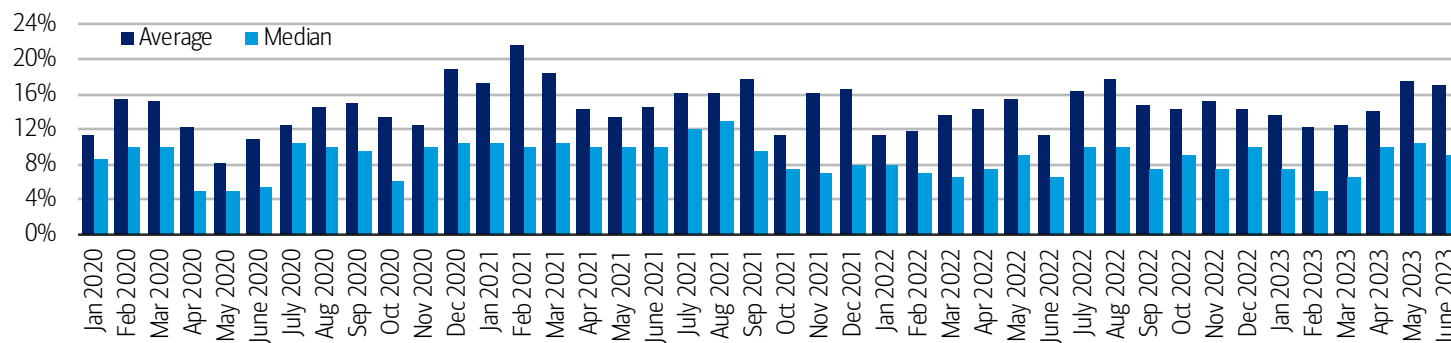


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 4: Monthly trends in organic home health volume (admissions + recertifications)

June volumes decelerated from May but were above the growth in April, and above pre-pandemic trends



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Surveys directionally consistent with company trends

While our BofA survey results for total home health volume trends are only modestly



correlated with the average same store volumes at the publicly traded companies, AMED and LHC Group (now owned by UnitedHealth/UNH), the changes are useful to assess the direction of trends.

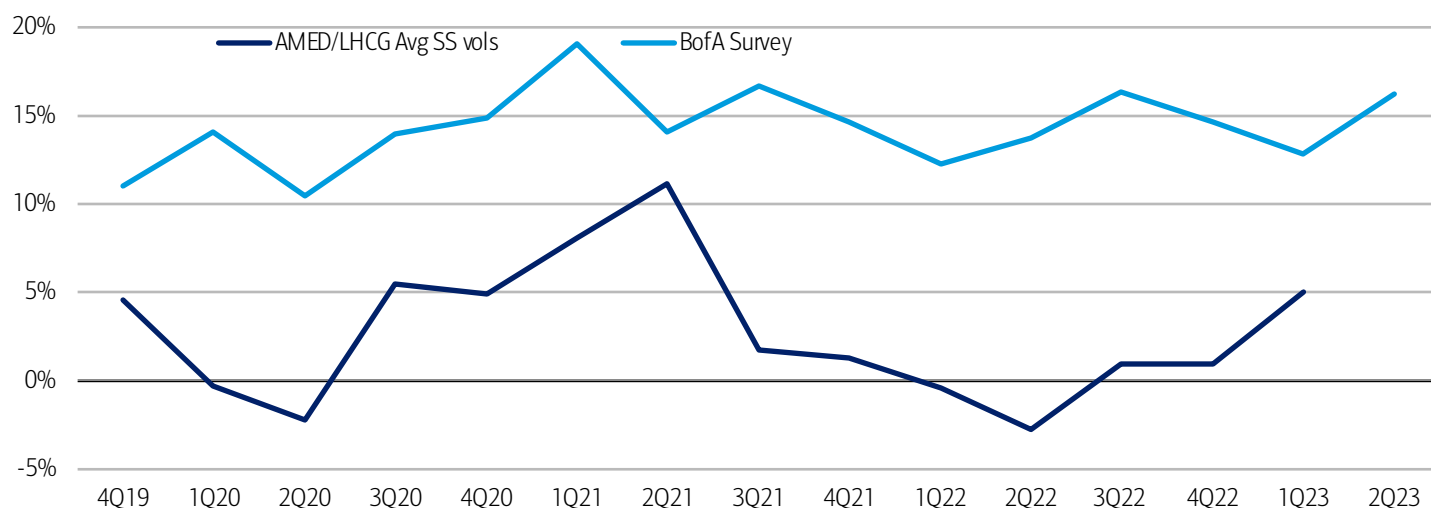
For example, the surveys implied a volume slowdown in 4Q21 vs 3Q21, and the companies reported the average same store (SS) volumes slowing down to +1.4% in 4Q21 from +1.8% in 3Q21. Similarly, for 1Q22, the surveys indicated volumes slowing down further (to +12.3% in 1Q22 vs +14.6% in 4Q21) and the average home health vols for AMED and LHCG decelerated to -0.4% in 1Q22 from +1.4% in 4Q21.

However, the correlation was not as strong in 2Q22. Our surveys indicated volumes accelerated (to +13.7% in 2Q22 from +12.3% in 1Q22). Meanwhile, average home health vols for AMED and LHCG decelerated to -2.8% in 2Q22 from -0.4% in 1Q22.

3Q22 was much more directionally consistent as the survey indicated volumes would accelerate (+16.3%, up from +13.7% in Q2) and the average home health vols did, in fact, accelerate (from -2.5% to +1% in 3Q22). Our surveys indicated that volumes decelerated in 4Q22 from 3Q22 while AMED total vols remained stable Q4 vs Q3. Our surveys indicated that volumes in 1Q23 decelerated from 4Q22 while AMED reported volumes accelerated significantly in 1Q23. Currently, our surveys are indicating an acceleration in 2Q23.

Exhibit 5: AMED/LHCG home health same store volumes average vs BofA survey's home health volumes % change

As per Surveys, Q1 vols decelerated from Q4 but are accelerating in 2Q23



Source: BofA Global Research survey, Company reports

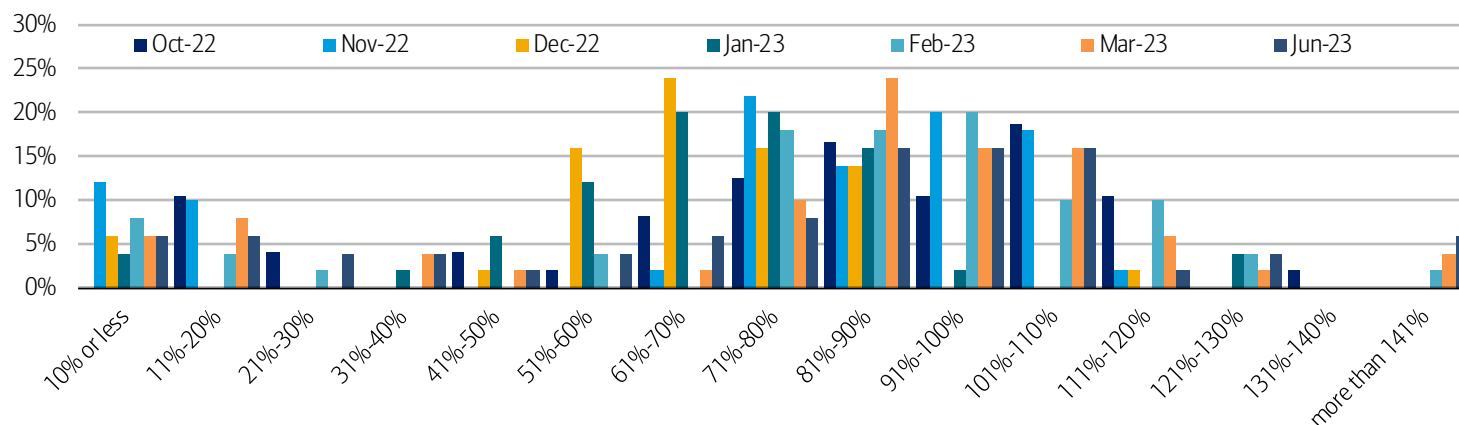
BofA GLOBAL RESEARCH

Census below 2019 levels, view improved vs prior survey

We added a question in September 2022 where we asked respondents how census compares to 2019 levels. In June 2023, on average, respondents said their census was at 82% of the 2019 levels, ranging from 0% to 200%. This is better than the average of 79% in our May survey and worse than 86% we saw in April. Of note, 28% of respondents said their census is above 2019 levels, better than 22% in the prior survey.

Exhibit 6: Home Health Census is below the 2019 levels

Census as a percentage of 2019



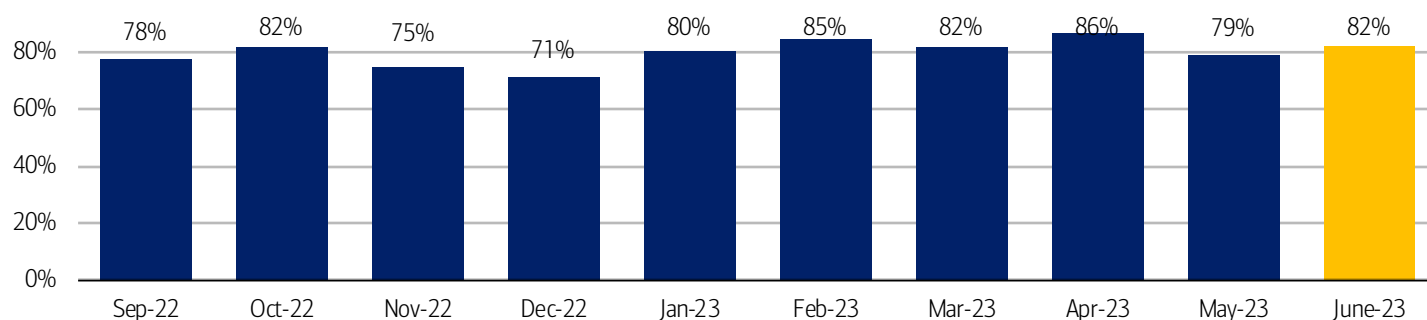
Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Generally, the view of census recovery to pre-COVID levels improved so far this year from the Dec 2022 lows. This month, it improved from the May survey.

Exhibit 7: In June, Respondents' census was at 82% of 2019 levels, above the May average

Average of respondents' census as a percentage of 2019



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

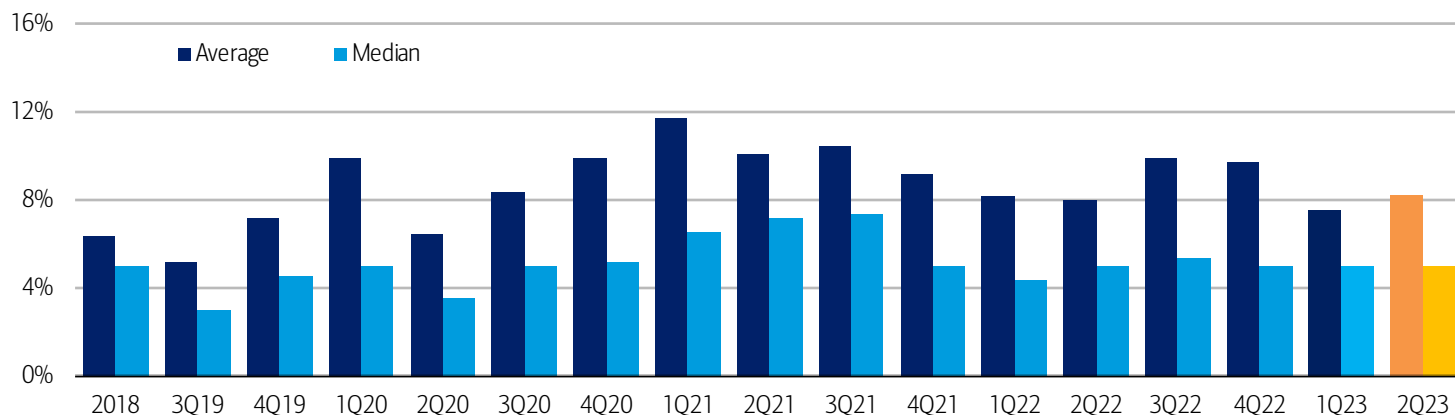
Medicare admission growth decelerated in June, but 2Q23 above 1Q23

Please describe (quantify % change) organic Medicare admissions year-over-year, at your agency at each of the following points in time?

On average, organic Medicare admissions increased +7.2% y/y in June 2023, deceleration from +9.9% in May 2023, and +7.4% y/y in April. In 2Q23, Medicare vols increased +8.2% y/y, above the +7.5% growth in Q1. This is above the pre-pandemic trends. Median growth of +5.0% this month was in line with the median growth we saw in May.

Exhibit 8: Quarterly trends in average organic home health Medicare admissions y/y growth

Medicare admits growth in 2Q23 was above 1Q23

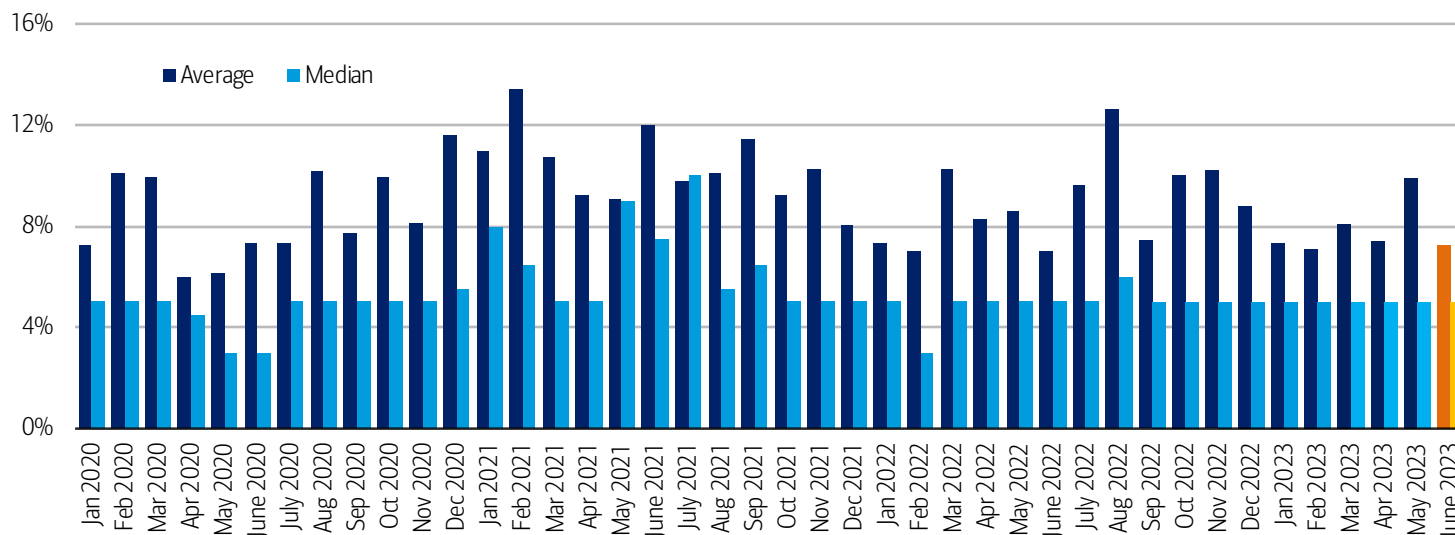


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 9: Monthly trends in organic home health Medicare admissions y/y growth

Medicare admissions growth decelerated m/m in June, but the growth is above trends observed prior to the pandemic



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

MA admits decelerated m/m in June, Q2 well above Q1

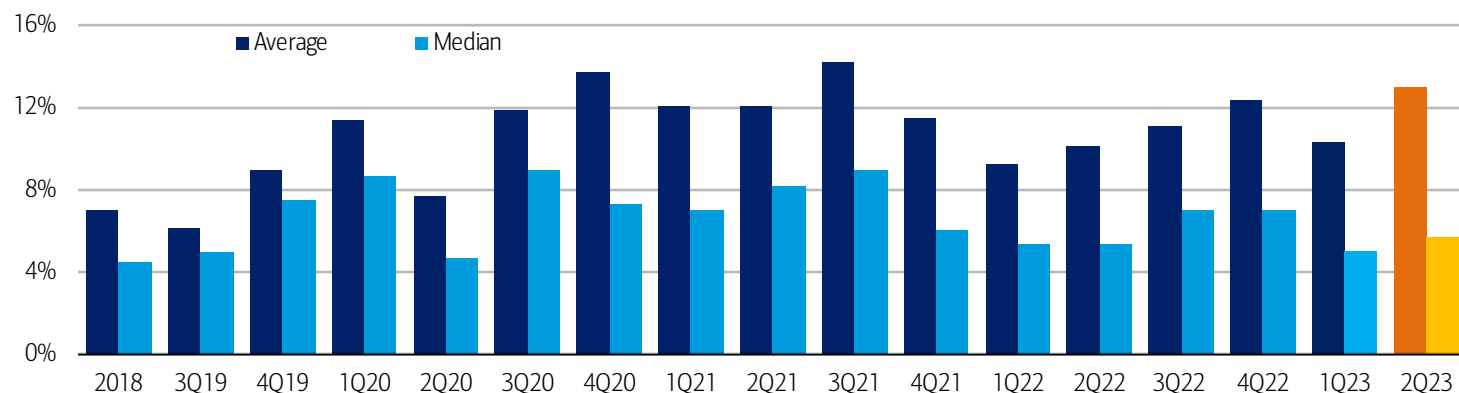
Please describe (quantify % change) actual Medicare Advantage admissions year-over-year at your agency at each of the following points in time?

Organic Medicare Advantage (MA) admissions grew +12.6% y/y in June 2023, below the +13.8% y/y growth in May 2023, and in line with the growth in April. The average MA admission growth in Q2 was +13.0% y/y, above the 1Q23 growth of 10.3%. This growth is generally above the trends observed prior to the pandemic. The median of +6.0% in June was in line with the median growth in May.

Of note, this month's average MA growth is +540bps above the Medicare volume growth, continuing with the trend we have seen in prior months, although the delta is much larger.

Exhibit 10: Quarterly trends in average home health organic MA admits y/y growth

Average MA admission growth in 2Q23 were above 1Q23

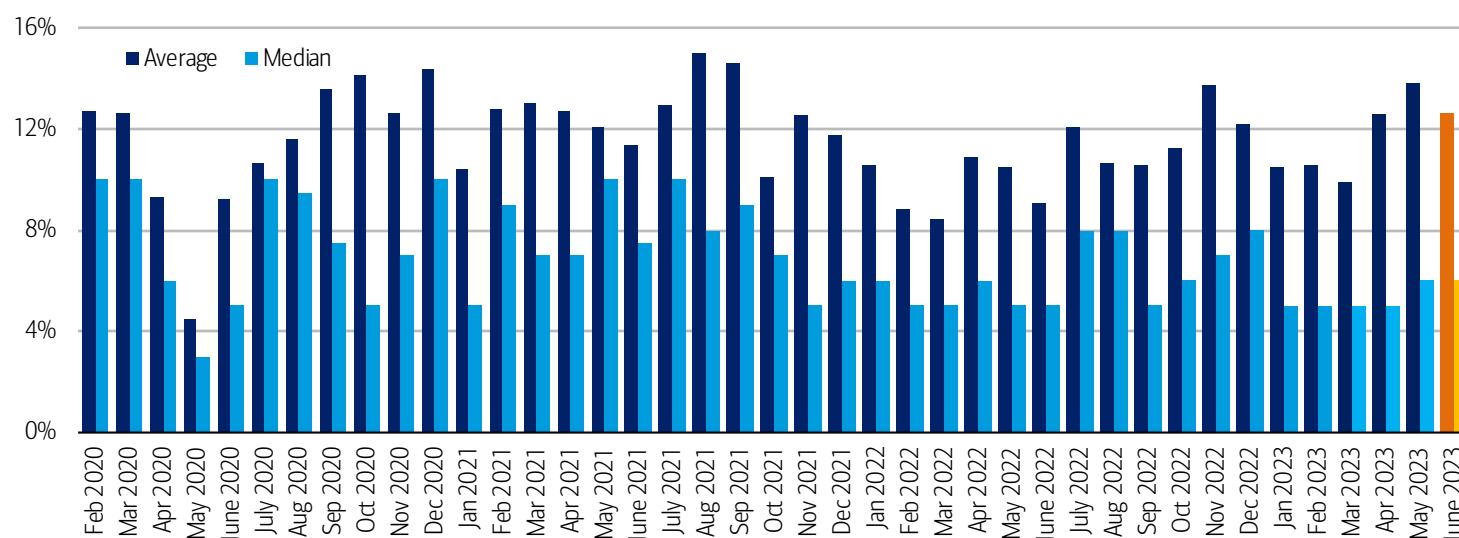


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 11: Monthly trends in average organic home health MA admits y/y growth

Medicare Advantage admission growth in June was below the growth in May



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

MA accounts for 39% of home health patients, below last month

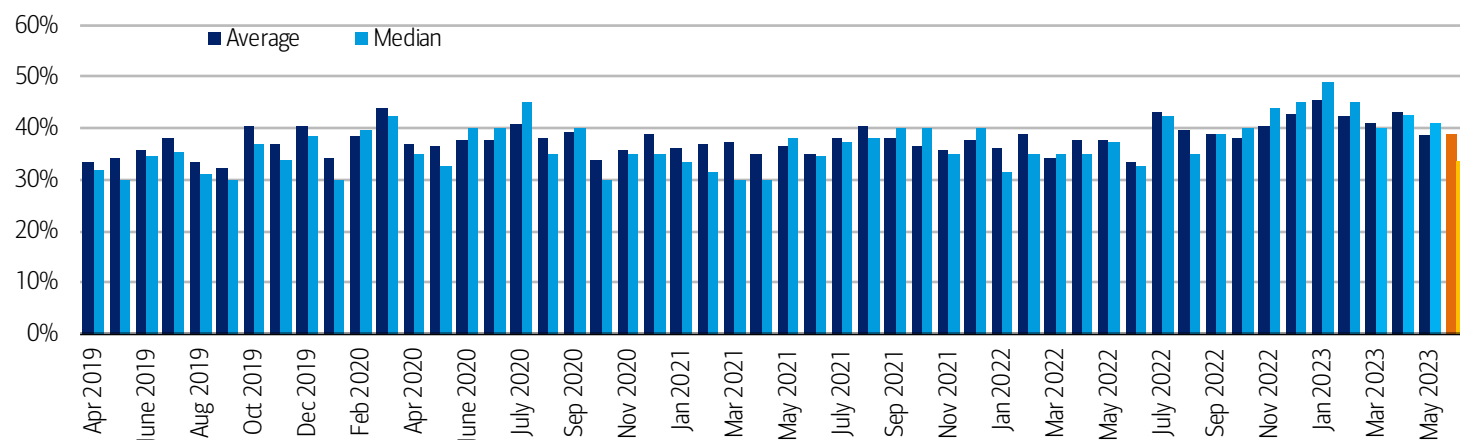
What percentage of your home health patients are/were on Medicare Advantage at each of the following points in time, if any?

On average, Medicare Advantage (MA) accounted for 33.5% of our respondents' home health patients as of June 2023, below the 39% in May and 43% in April and in line with the 33% year ago in our June 2022 survey.

The respondents' penetration in this month's survey is below the 45% MA penetration within Medicare beneficiaries overall in 2022 (according to Kaiser). The overall MA market penetration varies by state. For example, the overall penetration of MA is 53% in Florida, 50% in Georgia, and 49% in Texas, but only 33% in Virginia. As such the location of respondents can influence the results of the survey.

Exhibit 12: Medicare Advantage as % of home health patients

About 39% of home health patients are in MA plans



Source: BoFA Global Research survey

BoFA GLOBAL RESEARCH

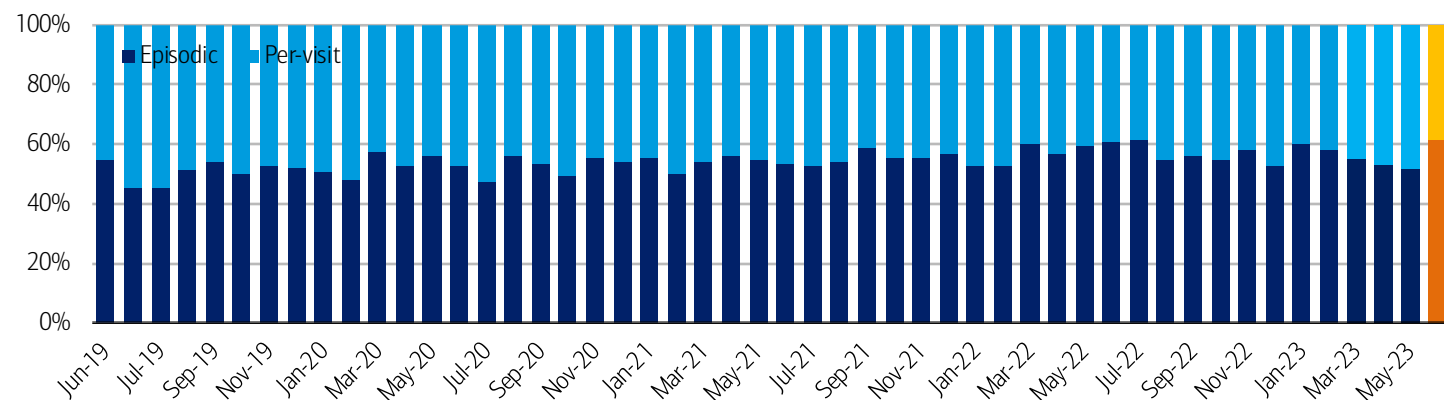
62% of MA admits are being paid on an episodic basis

What percentage of your Medicare Advantage admissions are/were paid on an episodic vs. per-visit basis at each of the following points in time?

As of June 2023, 62% of MA admissions on average are paid on an episodic basis as per our survey. This is above the 61% a year ago, and above recent trends (52% in May 2023) as well as above the 50% range observed through 2019 on average. The remaining 38% of MA admits are paid on a per visit basis.

Exhibit 13: MA admission mix by payment structure (episodic vs per-visit)

62% of MA admissions are paid on an episodic basis as of June 2023, above 50% on avg in 2019



Source: BoFA Global Research survey

BoFA GLOBAL RESEARCH

MA rate 11% below FFS in our June 2023 survey

What is the difference between the average rate per visit for Medicare Advantage vs. Medicare Fee-for-service for your agency?

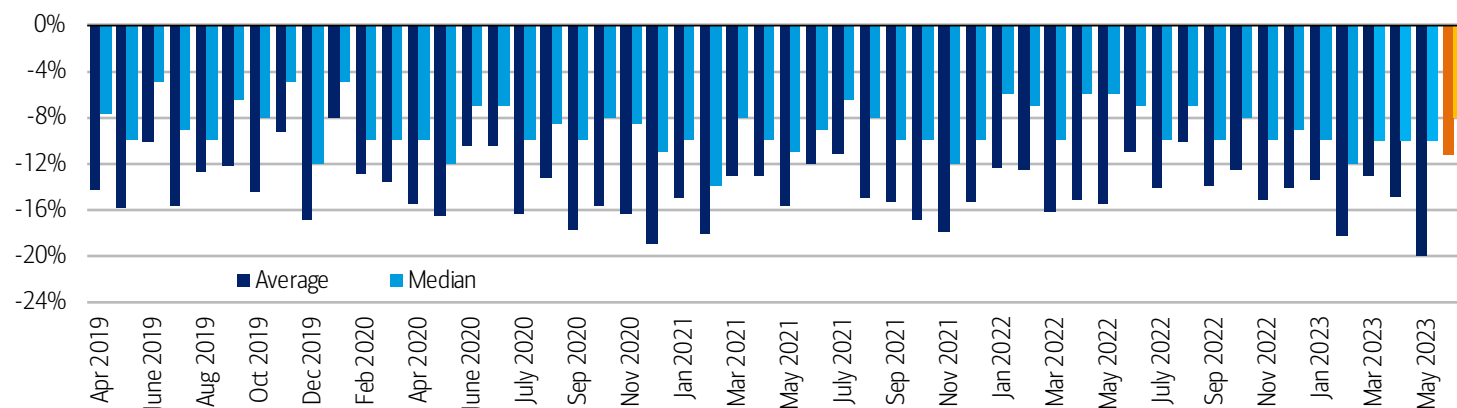
66% of respondents said their MA rate per visit is below the comparable FFS rate, below the commentary from the publicly traded companies. Meanwhile, 26% of respondents said their MA rate per visit was above the comparable FFS rate with the premium ranging from +1% to +65% among respondents. The remaining 8% of respondents said their MA rate per visit is in-line with the FFS rate.

As of June 2023, the MA rate per visit is 11% below Medicare FFS rates on average, with a median 8% discount to FFS rates. This average discount is in line with the value a year

ago (11% discount). The 11% discount in June 2023 is worse than the 20% discount we surveyed in May.

Exhibit 14: Average rate per visit for Medicare Advantage vs. Medicare Fee-for-service

The MA rates remain at a discount to traditional Medicare, with a variance of -11% on average as of June 2023



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

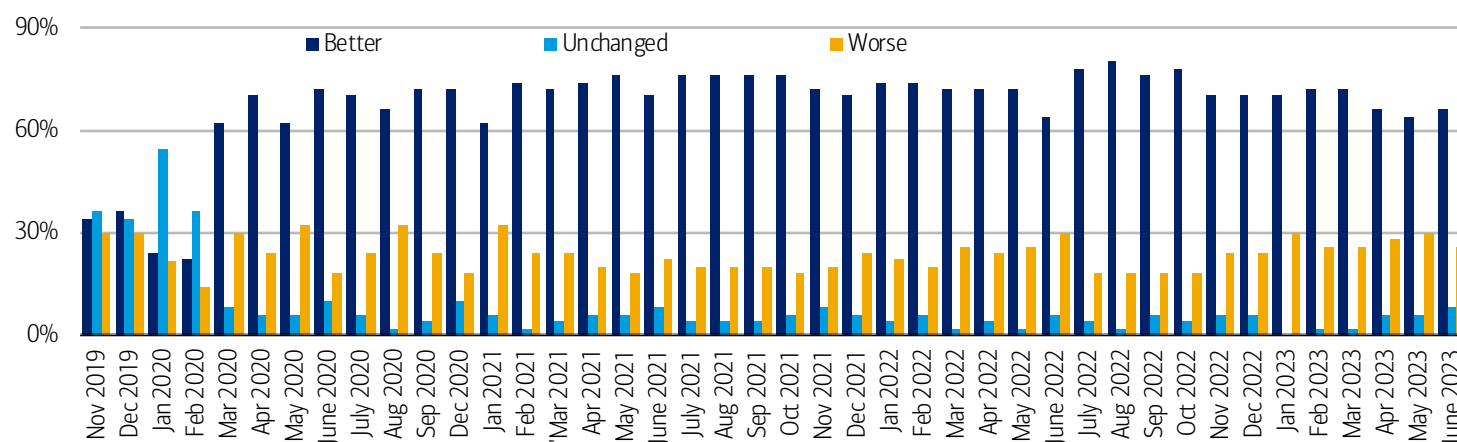
Majority see MA rates improving; 26% see delta vs FFS getting worse

This month, 66% of respondents said the delta between the MA rate and FFS rate improved year over year, while 26% said the delta worsened and 8% said the delta remained unchanged.

The percentage of those who think the rate is improving is above what we saw in our May survey. The % who think the rate is unchanged also increased compared to the result of last month. The % who think it worsened was below last month's result. That said, it is important to note that this is the 35th straight survey in which over half of respondents said the rates were improving. Nevertheless, the percentage of respondents with worsening MA rates was higher vs. mid-2022.

Exhibit 15: Change in delta between MA and FFS rate

Most of respondents see MA rates improving, consistent with our prior surveys



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Industry consolidation to be below average, outlook below prior surveys

What do you think the pace of the industry consolidation would be over the next year?

Please rate on the scale from 1 to 10, with 1 being 'no consolidation activity' and 10 being 'extremely robust consolidation activity'.

We asked respondents about their outlook for industry consolidation on the scale of 1 to 10, with 1 being 'no consolidation activity' and 10 being 'extremely robust consolidation activity'.

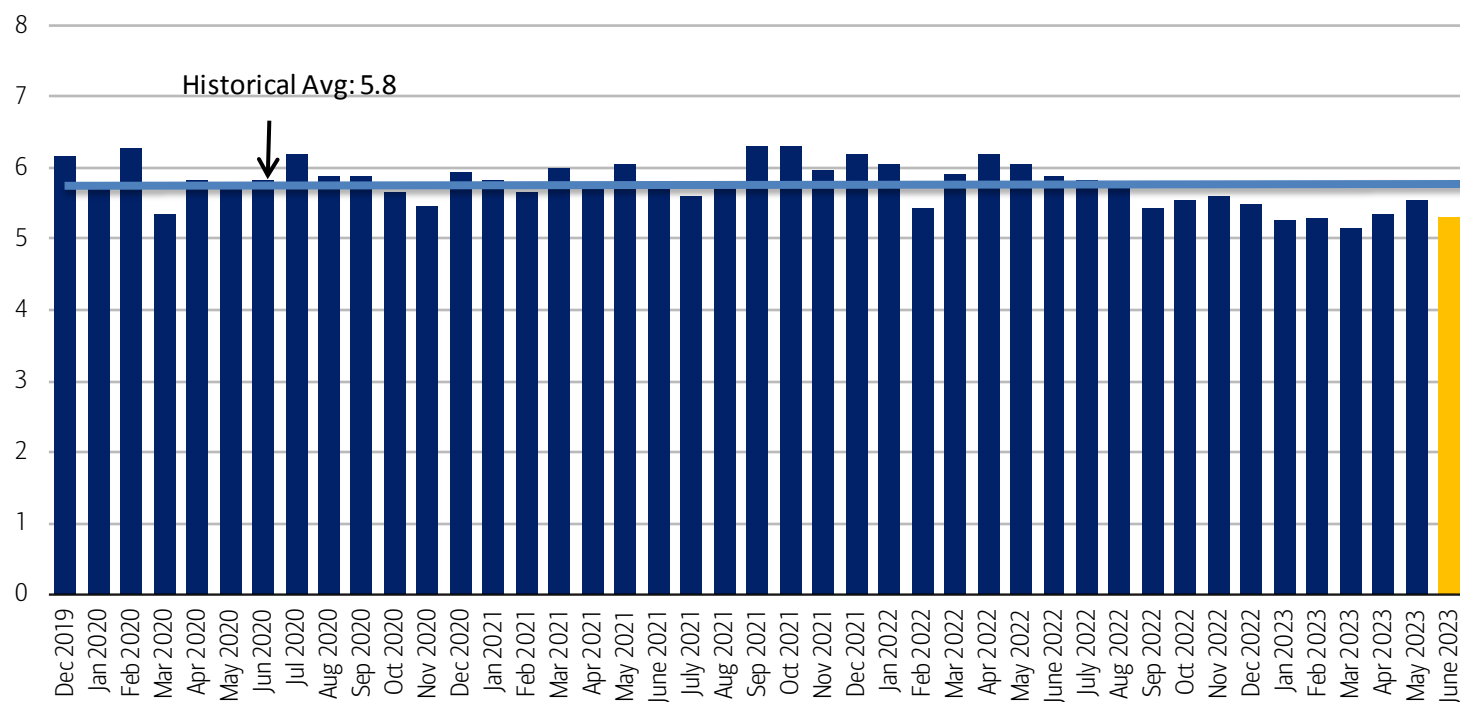
Respondents expect the industry consolidation to be slightly above average (5.3) but below the survey average of 5.8. Of note, the expectations have been declining from the peak in the late 2022.

On average, agencies rate the pace of consolidation activity at 5.3 implying expectations for consolidation activity to be slightly above the average and below the historical average for the survey of 5.8. This is below the 5.5 avg in our prior survey.

4% of respondents expect robust consolidation activity (selected "10"); meanwhile, 40% of respondents expect moderate/high consolidation (selected "6-9"). Publicly traded companies expect more M&A after some increased reimbursement visibility post the 2024 proposal. Overall, PDGM, RAP removal, and pandemic disruption should be driving more consolidation in the industry.

Exhibit 16: Expectations for industry consolidation, weighted average (scale of 1 to 10; 1="no consolidation activity", 10="extremely robust")

Industry consolidation expected to be below historical average



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Labor costs

Wage/ labor costs to decelerate in 2023 vs 2022; total labor outlook worse

What year-over-year percentage change in wages did you experience in 2022 vs. 2021, and what are you expecting in 2023 vs 2022?

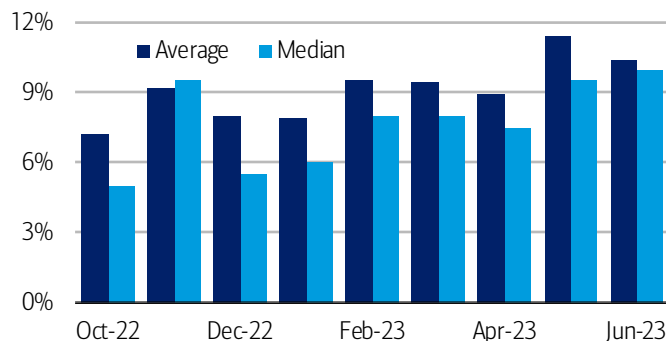
What year-over-year labor cost (wages and contract labor) growth did you experience in 2022 vs. 2021, and what are you expecting in 2023 vs 2022?

In October 2022, we changed how we asked for the outlook for labor costs: instead of selecting a range of increases, we ask respondents to provide an exact rate of increase they expect.

In our June survey, agencies said they saw an average +10.4% y/y increase in wages in 2022. This is below the +11.5% y/y increase agencies described in our May 2023 survey. Meanwhile, agencies expect wage inflation in 2023 to be below 2022 at +7.2% y/y in 2023. The outlook worsened: respondents expect +7.2% y/y in 2023, slightly better than the +7.7% expected growth in our May survey.

Exhibit 17: Wage growth in 2022

On average, wages increased +10% y/y in 2022

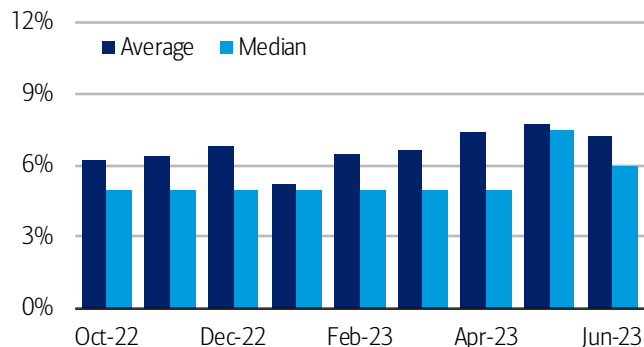


Source: BofA Global Research Survey

BofA GLOBAL RESEARCH

Exhibit 18: Wage outlook for 2023

Wage growth to decelerate in 2023 (+7% y/y) from +10% in 2022



Source: BofA Global Research Survey

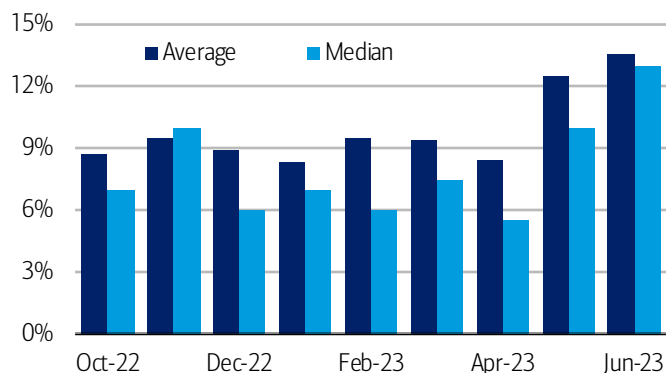
BofA GLOBAL RESEARCH

Meanwhile, agencies said that the total labor costs (wages and contract labor) grew +13.6% y/y in 2022.

Similar to the wage outlook for 2023, respondents expect the total labor cost growth to decelerate in 2023. The average outlook is for an +10.7% labor cost growth in 2023, below the +13.6% growth experienced in 2022. The 2023 labor cost outlook deteriorated vs our prior survey: +10.7% expected in the June survey, worse than the +9.4% average expected in our May survey.

Exhibit 19: Labor cost growth in 2022

Labor costs increased +13.6% y/y in 2022

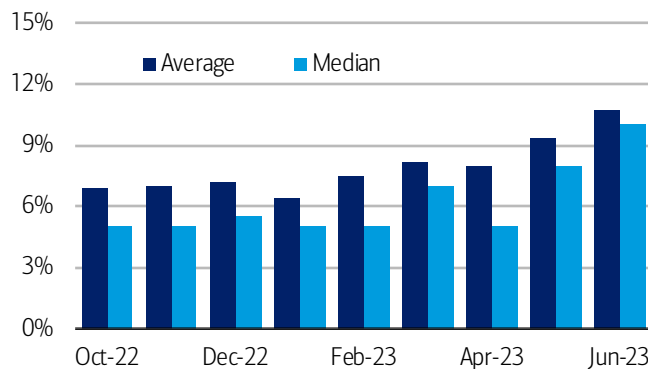


Source: BofA Global Research Survey

BofA GLOBAL RESEARCH

Exhibit 20: Labor cost outlook for 2023

Labor cost growth to decelerate in 2023 to +11% y/y from +14% in 2022



Source: BofA Global Research Survey

BofA GLOBAL RESEARCH

Labor costs to pressure margins, but impact to volumes is smaller

What do you expect the impact of the higher labor costs to be to 1) your margins next year and 2) your volume growth next year? Please rank each 1) and 2) from -10 to +10 with 0 being "no impact" and -10 being "significantly negative impact" and +10 being "significantly positive impact"

We asked how the labor shortages/cost pressures are expected to impact margins and the volume growth next year. In our June survey, on average, respondents expect a negative impact to margins next year with the average impact of -2.3 on a scale from -10 (significantly negative impact) to +10 (significantly positive impact) with a median of -2.0. This implies the providers expect labor costs to be a headwind to margins but it

would be rather modest. Of note, the responses ranged from -10 to +5, implying a very diverse impact.

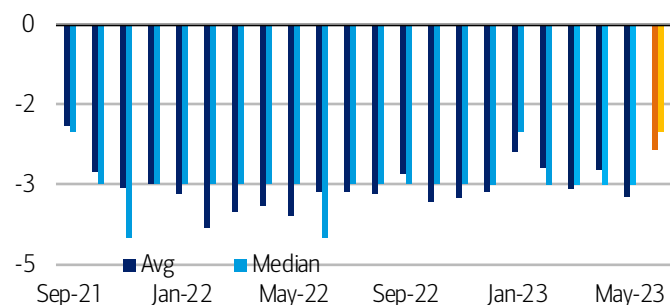
In our June survey, on average, respondents expect a negative impact to volumes next year with the average impact of -0.7 (median of 0.0) on a scale from -10 to +10. The responses ranged from -10 to +5. This implies that providers are more worried about margins than the ability to take on new patients with the impact to volumes viewed as very minimal.

The outlook for the impact to margins (-2.3) is better vs the prior survey where the avg impact to margins was expected to be -3.2 (median of -3.0). The impact to volumes (-0.7) is better than the -1.7 average in the prior survey.

Some of the respondents who do not expect labor shortages to have a negative impact to volumes said that they do not see staff shortages, and some sacrifice margins to gain market share.

Exhibit 21: Labor cost impact to margins next year on a scale from -10 (significantly negative) to +10 (significantly positive)

Respondents expect some pressure to margins

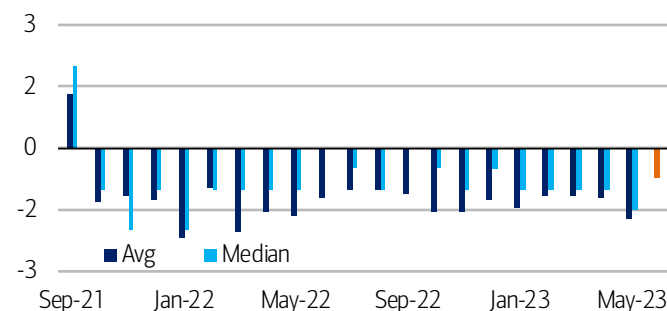


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 22: Labor cost impact to volumes next year on a scale from -10 (significantly negative) to +10 (significantly positive)

Respondents expect some pressure to volumes



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

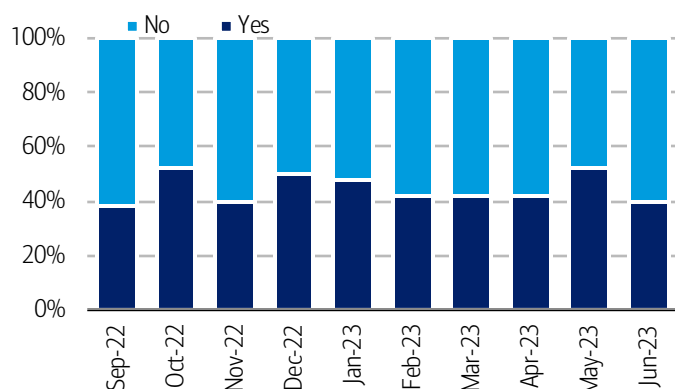
Fewer respondents limited admits due to labor shortages, 17% of admits lost

In September 2022, we began asking our respondents if they had to limit admissions because of labor shortages. In June 2023, 40% of respondents said they had to limit admissions because of labor shortages, below 52% in the prior survey (and below 42% in our April survey). The remaining 60% affirmed they did not limit vols, better than in the prior survey.

On average, 17% of patients were not admitted due to shortages, ranging from 1% to 50%. This is worse than our May survey, and implies the average impact in 2Q23 was 14.2%, roughly in line with the 14.3% average in 1Q23.

Exhibit 23: About 40% of respondents had to limit admits in June

Answer to the question "Did you have to limit admissions because of labor shortage?"; % of respondents

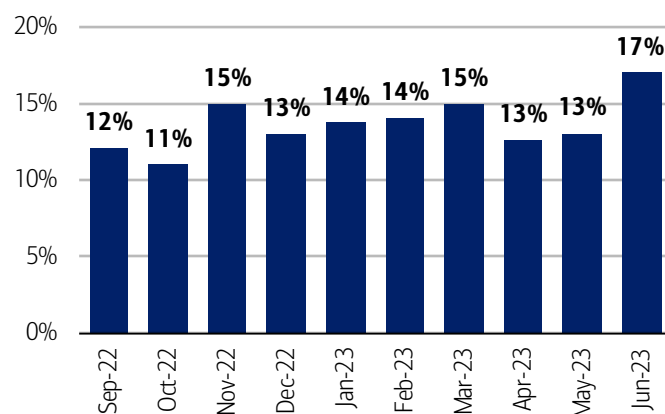


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 24: % of lost admits due to labor shortages worsened in June vs prior surveys

Average % of patients not admitted due to labor shortages



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

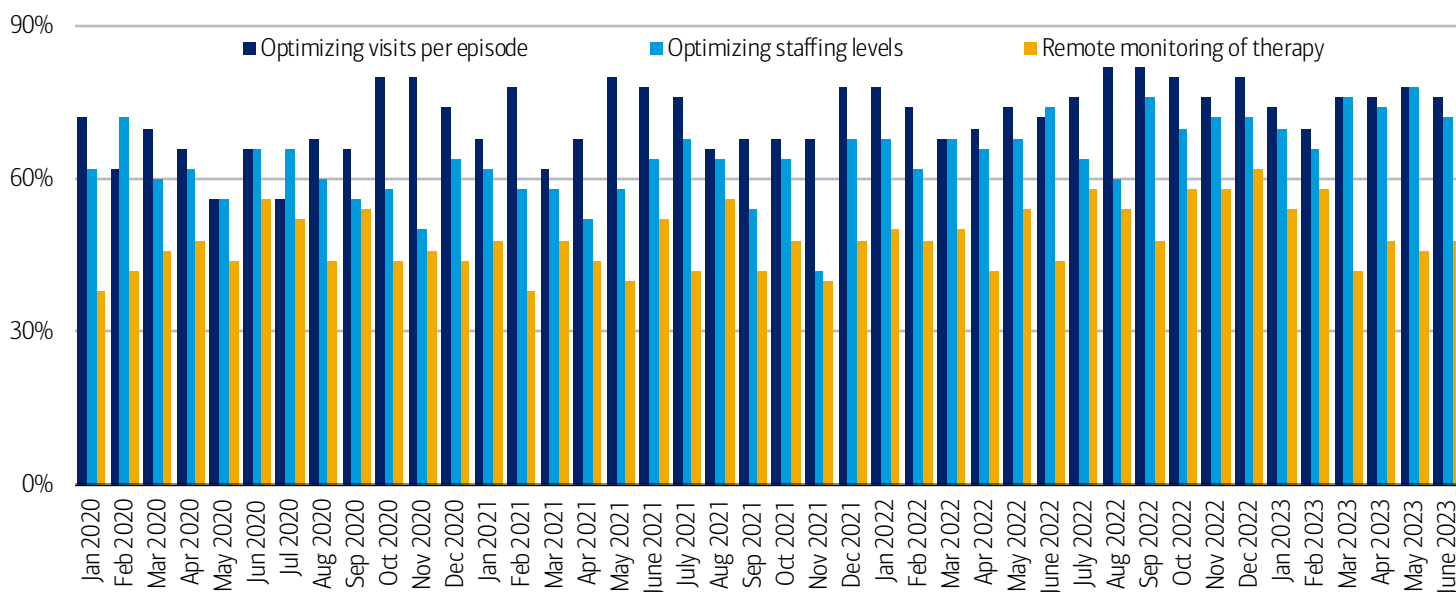
Majority looking to optimize visits and staffing levels to offset headwinds

Which areas are the biggest focuses for cost savings in 2023?

Given the expected pressures, we asked respondents how they plan to offset the headwinds. The main area of cost savings is optimizing visits per episode, a priority for 76% of respondents, slightly below our May survey. Similarly, respondents plan to optimize staffing levels, a priority for 72% of respondents, below our May survey. Meanwhile, about 48% of respondents plan to use remote monitoring of therapy (above the 46% in our May survey).

Exhibit 25: Main cost saving areas in focus

Majority look to optimize visits and staffing levels as a way to save costs



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

The use of temp labor was lower in June, but well above 2019 levels

What share of hours of Home health care provided to patients were filled by contracted or temporary staff in: a) April 2023 b) before the pandemic (2019)?

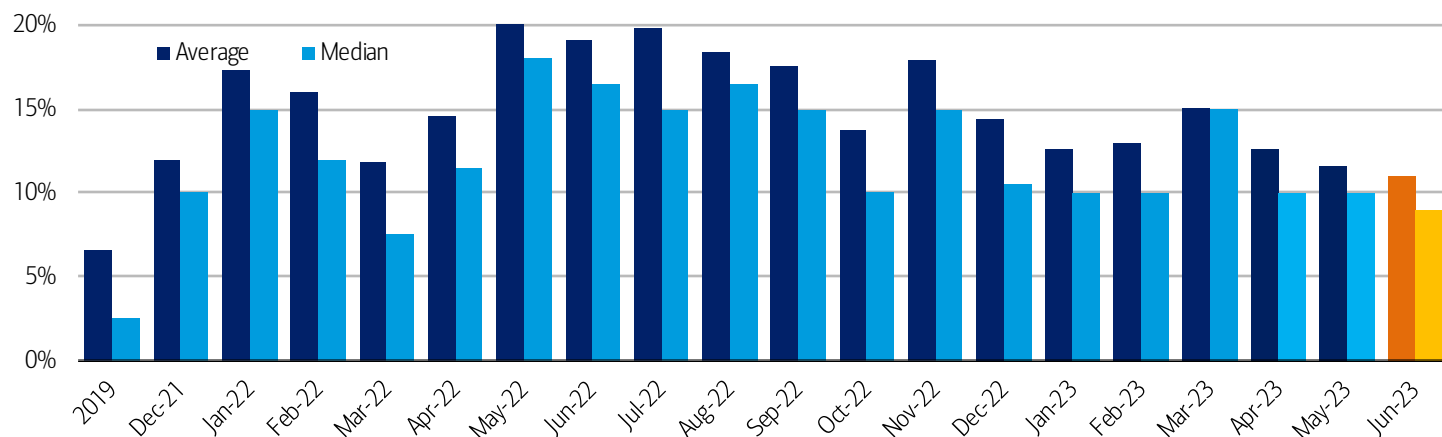
In the January 2022 survey we added a new question. We asked what share of hours of Home health care provided to patients was filled by contracted or temporary staff. The

trends have generally been improving since the peak in May 2022. Most recently, the percentage of respondents using agency labor declined in April from March and further in May 2023, followed by a decline in June.

In June 2023, on average, respondents said that 11% of provided hours was temp labor, ranging from 0 to 50%. This is below the 12% of hours filled with temp labor in the May 2023 survey (ranging from 0 to 60%). The 2Q23 average of 13% is better than the 14% average in 1Q23. However, it is well above the avg of 7% before the pandemic (ranging from 0 to 50%). The ratio is below the most recent peak in May 2022 of 20%. The median was 9% in May '23, below the 10% in April 2023 and well above 3% in 2019.

Exhibit 26: Share of Home health hours of care delivered by temp staff (% of respondents)

Providers have gradually relied on less temp labor in recent months but still more than pre-pandemic



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Outlook for the need to use temp labor improved vs our prior survey

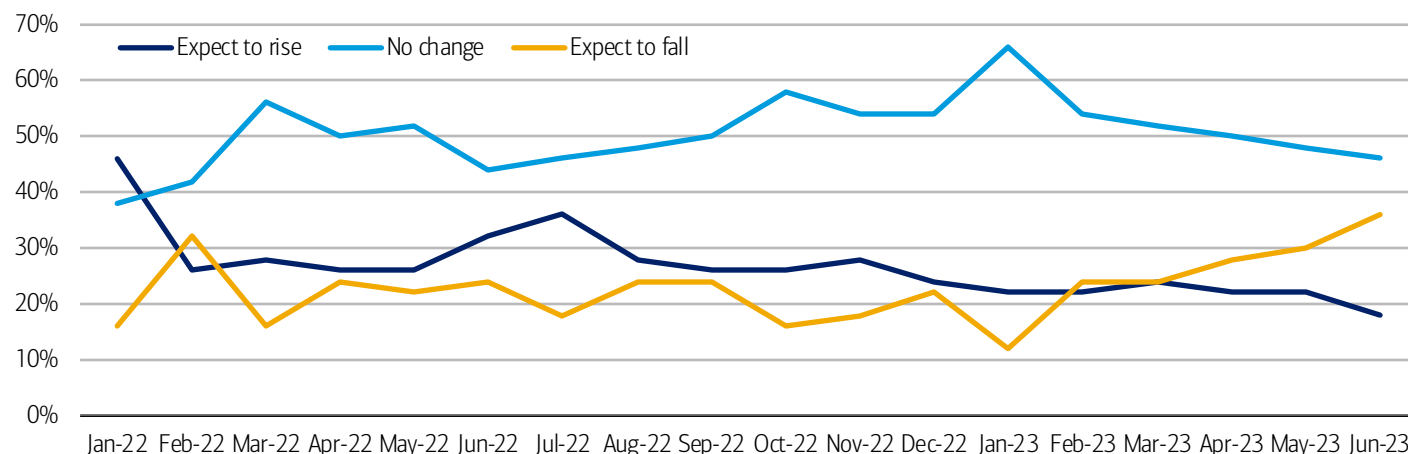
Do you expect the use of contracted/temp staff to rise or fall in the next 3 months?

In our June 2023 survey, 18% of respondents said they are expecting the use of contracted/temp staff to rise in the next 3 months, below the 22% in our prior survey. Meanwhile, 36% of respondents are expecting the use to fall, above 30% in our prior survey. The remaining 46% are expecting no change, below the 48% in the prior survey.

Overall, the outlook for the need to rely on temp labor has been generally improving since the summer 2022: % expecting the use to rise is 18% vs 36% in July 2022.

Exhibit 27: Outlook for the use of contracted/temp staff in the next 3 months (% of respondents)

About 20% of respondents expects use of temp staff to rise, an improvement from the 36% peak in July 2022



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Majority increased wages, offered sign-on bonuses and paid time-off

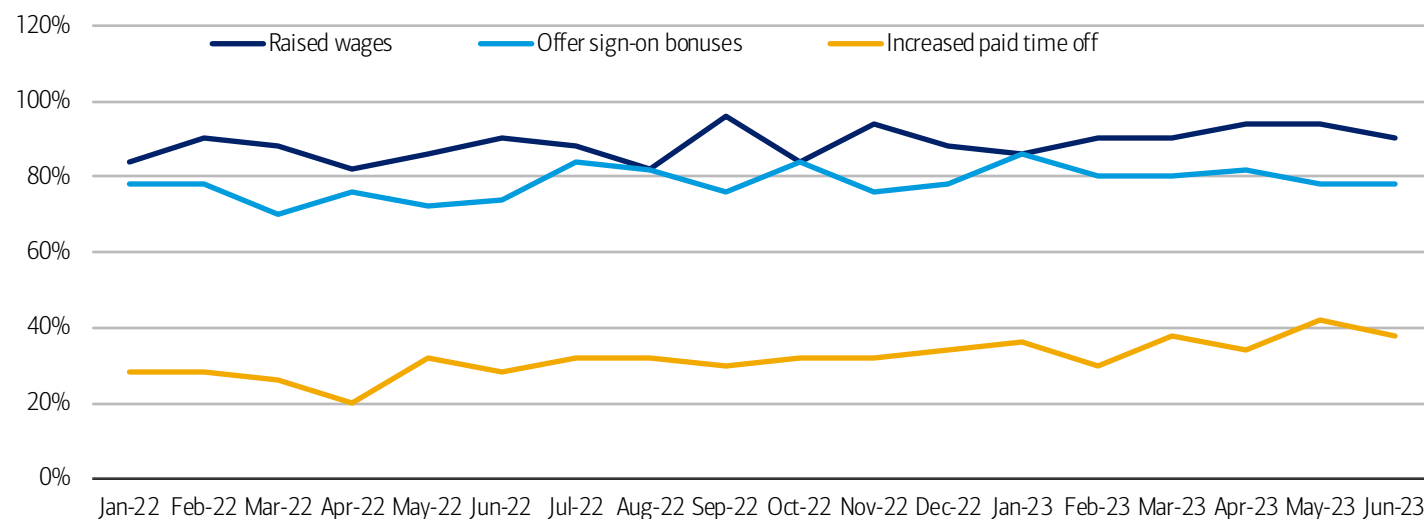
What efforts have you taken recently to improve recruiting and retention of clinical staff?

We also asked respondents about the efforts they have recently undertaken in order to improve recruiting and retention of clinical staff. 90% increased wages, below the 94% in our prior survey. 78% of respondents said they are offering sign-on bonuses, in line with our prior survey. Lastly, 38% increased paid time off, below the 42% in our prior survey and higher than levels seen in 2022.

Respondents noted the following additional actions they took: flexible work day sharing, reimbursing lunches, and tuition reimbursement.

Exhibit 28: Efforts undertaken to improve recruiting & retention of clinical staff (% of respondents)

To improve retention/recruiting, most respondents increased wages and offered bonuses



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Clinical staff turnover worse in Q2 vs Q1, well above pre-pandemic

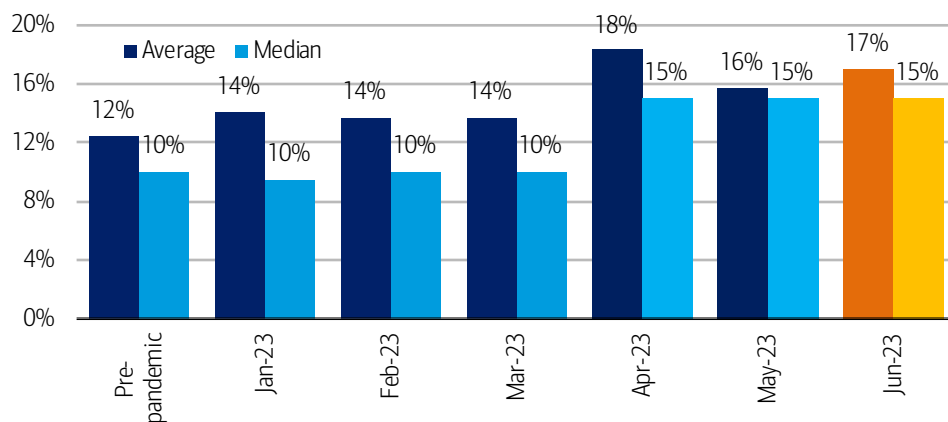
What was the turnover of your clinical staff in May 2023 and pre-pandemic (2019)?

In January 2023, we began asking respondents about their clinical staff turnover. On average, respondents reported clinical staff turnover at 17% in our June survey, well above the 12% turnover before the pandemic. The ratio is worse than 16% in our May

survey but better than 18% in the April survey. The average turnover in 2Q23 was 17%, worse than the 14% avg in 1Q23, and worse than 12% pre-COVID. Median clinical staff turnover in June of 15% was well above the 10% median turnover pre-pandemic.

Exhibit 29: Clinical staff turnover (%)

On average, respondents saw clinical staff turnover at 17% in June. Q2 avg of 17% is worse than 14% in Q1



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Most of the recently hired nurses come from home health & hospitals

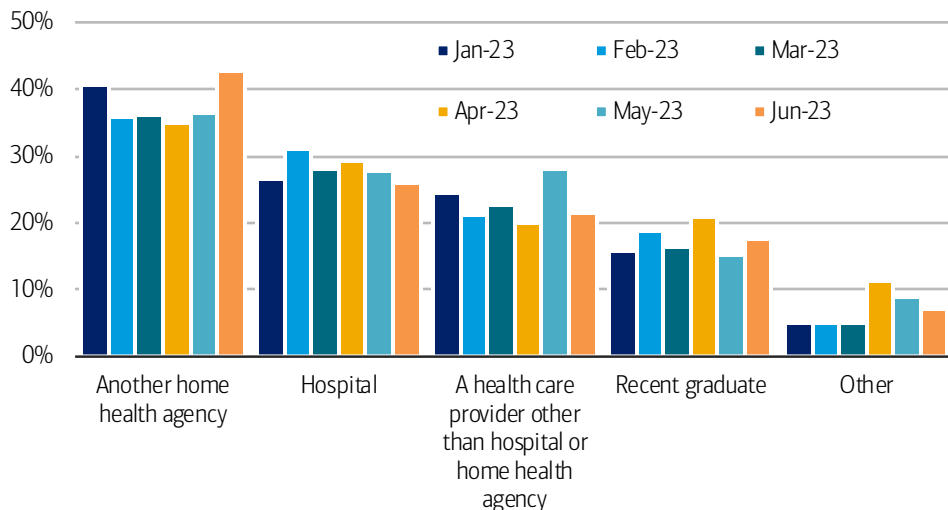
Please provide an approximate breakdown (%) of nurses you hired over the last few months by the area they came from (prior employment)?

In January 2023, we began asking respondents about the breakdown of previous employers for nurses that were recently hired (last few months). In our June survey, on average, respondents reported most of recently hired nurses have been coming from other home health agencies (43% of nurses), followed by hospitals (26% of nurses) and other non-hospital/non-home-health-agency healthcare providers (21% of nurses). 17% of nurses, on average, that were recently recruited are recent graduates, while 7% of nurses were hired from other types of employers.

Compared to our prior survey, a higher % of hires came from other home health agencies and fewer came from non-hospital/non-home-health providers.

Exhibit 30: Previous employer of recently hired nurses (% of nurses)

About 43% of recently hired nurses came from another home health agency and 26% came from a hospital



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

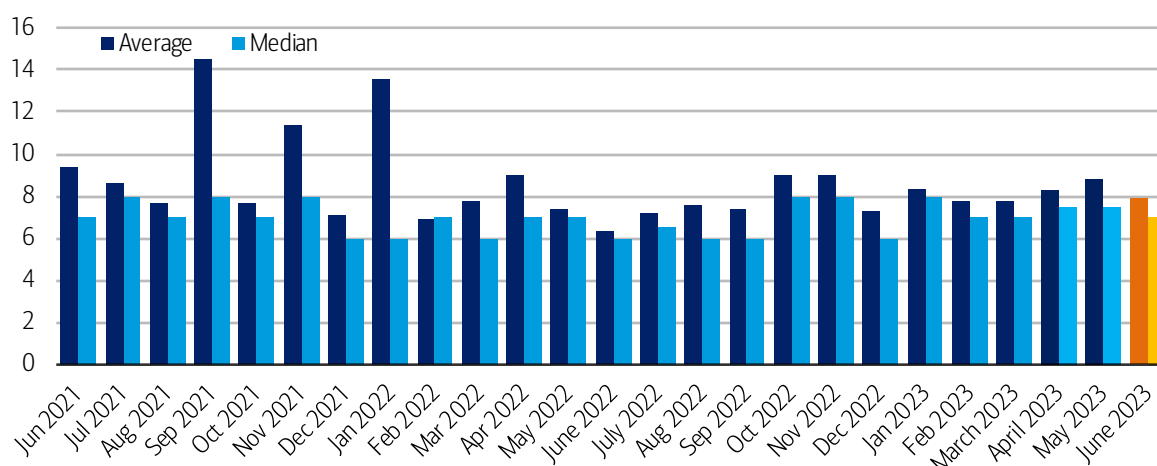
VPE was 8.8 in May 2023, above the 8.3 in 2019

What was the average number of visits per episode in May 2023?

We asked agencies about the number of visits per episode (VPE). Generally, the average VPE has been increasing from the lows observed in June 2022, likely aided by the improving labor availability. In our June survey, the average number of VPE was 7.9 (median of 7), below 8.8 in our previous survey, and up from 6.4 in June 2022. Respondents saw a wide distribution of VPE this month, ranging from 2 to 25. Of note, the median number of tele-visits per episode was 2.0.

Exhibit 31: Number of visits per episode

The average VPE has been improving from the low in June 2022 of 6 visits



Source: BofA Global Research survey

COVID-19 impact

We asked a series of questions about how the pandemic impacts operations and admission trends in home health agencies.

About 50% of patients come to home health from a hospital, 22% from SNFs

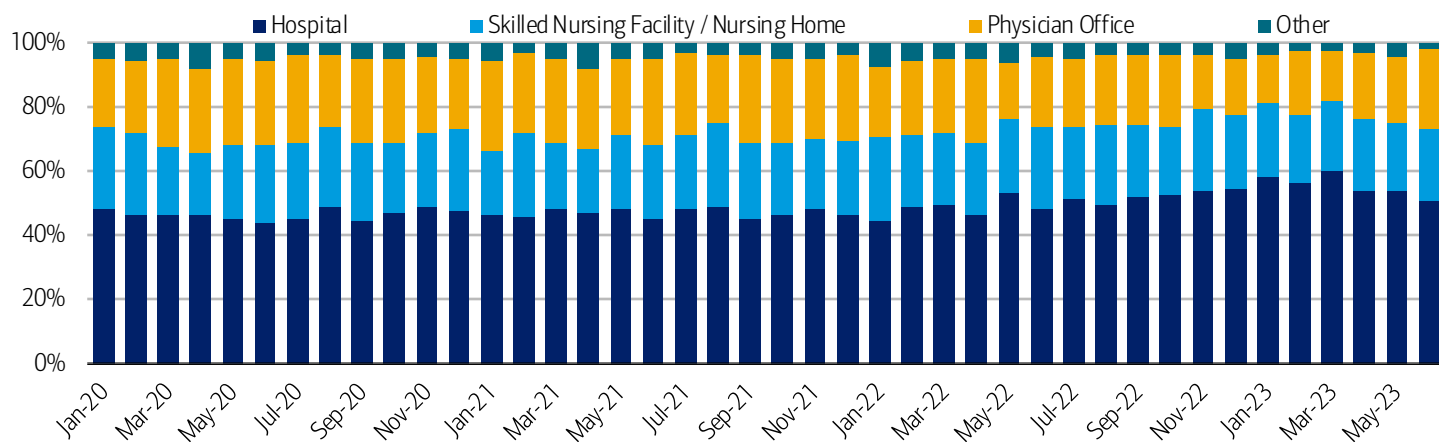
Please provide a percentage (%) of your home health patients that came from the following settings in May 2023 and May 2022.

We asked respondents to estimate a percentage of home health patients coming from different settings. Comparing to the prior year's mix, more patients came from a hospital (50% in June 2023 vs 48% last year), more came from a physician office (25% vs 22% prior year), while fewer came from Skilled Nursing Facilities (SNFs) or nursing homes (22% vs 25% year ago), and fewer came from other settings, such as assisted living, internet searches or insurance contracts (2% vs 5% a year ago).

Compared to the last month's survey, fewer patients came from Hospitals (50% vs 54%), the same % came from Nursing homes (22%), and more came from Physician offices (25% vs. 20%).

Exhibit 32: Admission source of home health patients

About half of patients come from Hospitals, about 20% from nursing homes, and 25% from doctor's offices



Source: BofA Global Research survey.

BofA GLOBAL RESEARCH

More agencies see patients being diverted from SNFs to home health

Do you think you are getting more patients that previously would have been discharged to a skilled nursing facility?

About 70% of respondents believe they are getting more patients that previously would have been discharged to a SNF. This is above 50% in our May survey and in line with the 70% range in the summer months of 2022. Those who are seeing this trend noted:

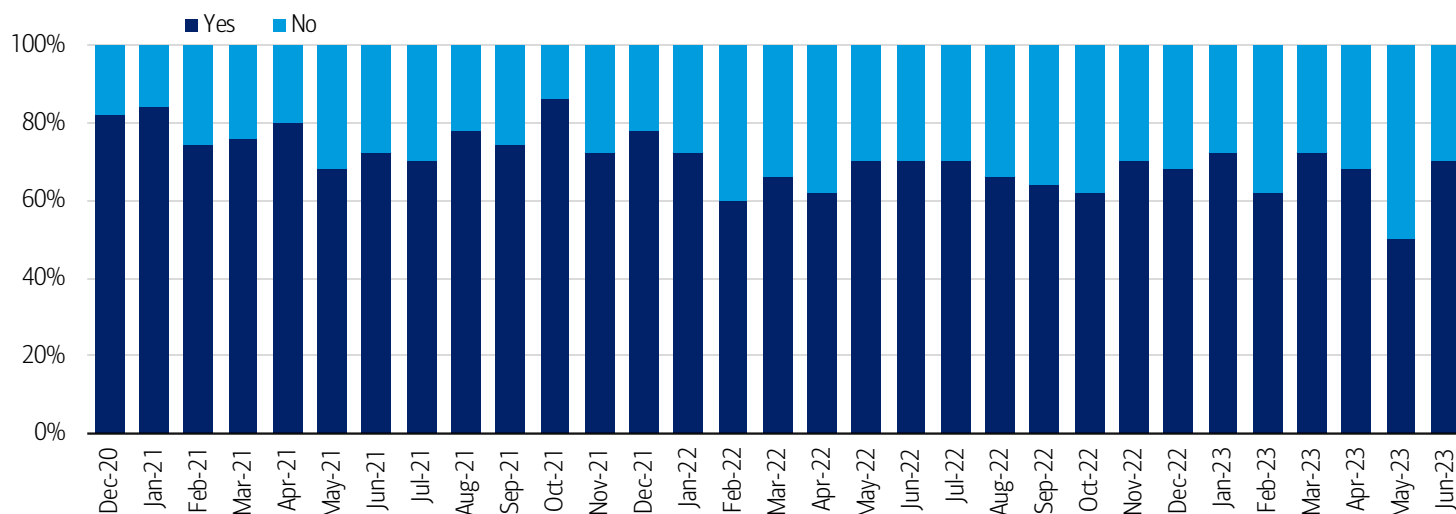
- We have piloted SNF at home and have had success with the program, this will allow us to expand and capture more higher acuity patients.
- Difficulty with SNF placement.
- Site of service redirection and UM by managed care plans.
- Hospitals are actively looking to circumvent SNFs.
- Hospitals must move patients out quickly to open beds. SNFs cannot always move quickly enough to open beds and obtain necessary authorizations.

Meanwhile, the 30% of respondents who are not seeing this trend noted:

- COVID is over
- During 2020-2022, yes. Currently, no.

Exhibit 33: Responses to a question about SNF diversion

About 70% of respondents believe they're seeing patients that previously would have gone to SNFs



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

VBC expected to be a bigger part of revs

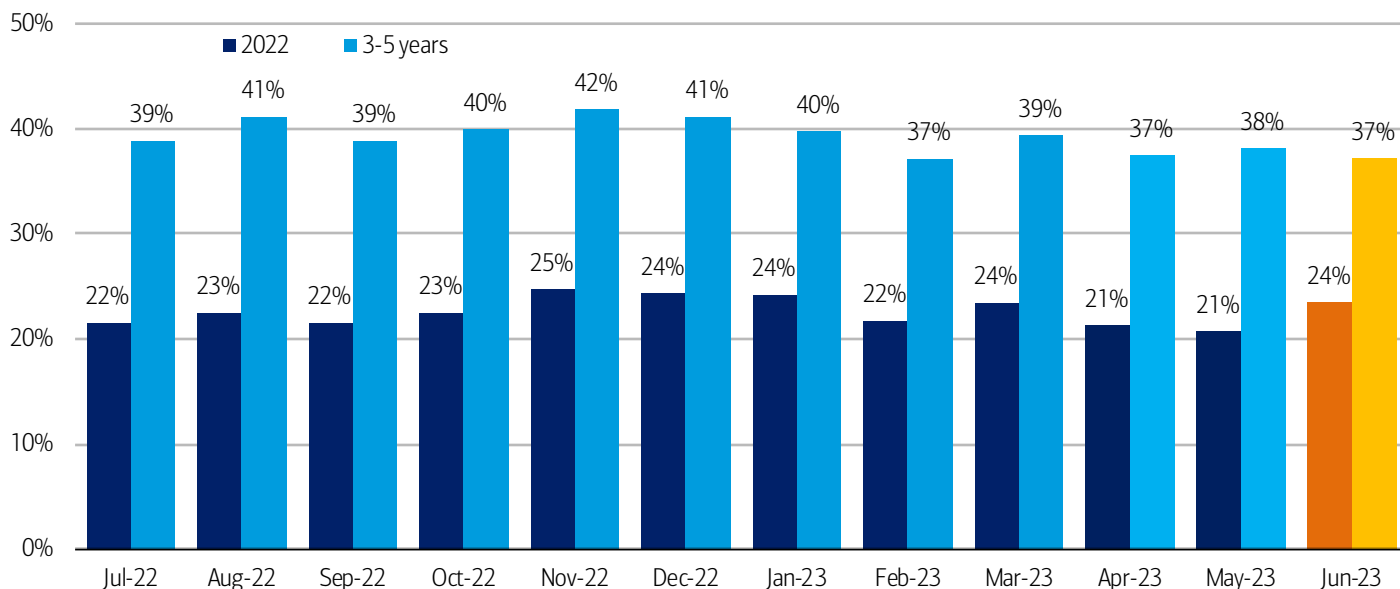
What % of your revenues comes from value-based contracts in 2022? What % of your revenues do you expect to come from value-based contracts in 3-5 years?

In the July 2022 survey, we started asking our survey respondents what share of their revenues are coming from value-based contracts (VBC) in 2022 and what share of their revenues they expect to come from VBC in 3-5 years.

In June 2023, on a weighted average basis, respondents said 24% of their revenues came from VBC in 2022, below the 21% in our prior survey. In 3-5 years, on a weighted average basis, respondents expect 37% of revenues from VBC, slightly below 38% in the prior survey.

Exhibit 34: Respondents expect VBC to be a bigger share of revs in the future, 37% vs 24% in 2022

Weighted average share of revenues coming from value-based contracts



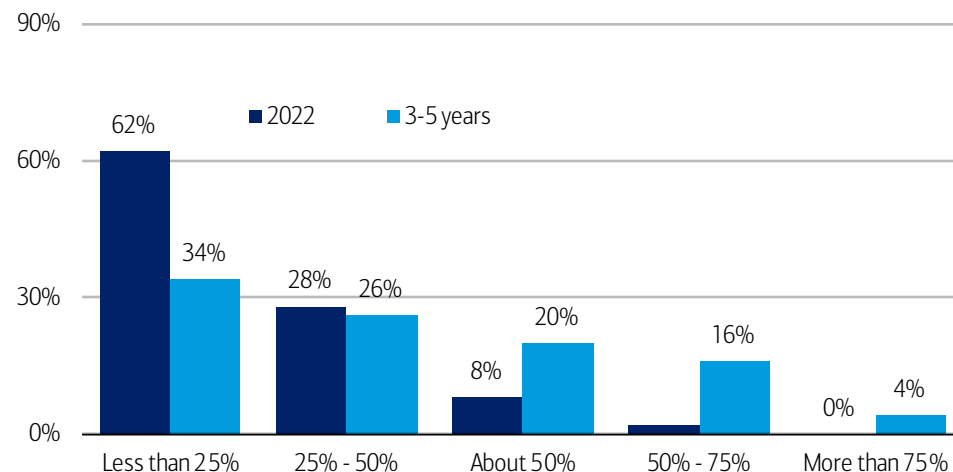
Source: BofA Global Research survey

BofA GLOBAL RESEARCH



Exhibit 35: Share of revenues coming from value-based contracts

Majority saw less than 25% of their revenues coming from value-based contracts in 2022



BofA Global Research survey

BofA GLOBAL RESEARCH

Hospice volume trends

66% of our survey's respondents also provide hospice services. We asked those respondents to provide stats on hospice admits, length of stay, and average daily census.

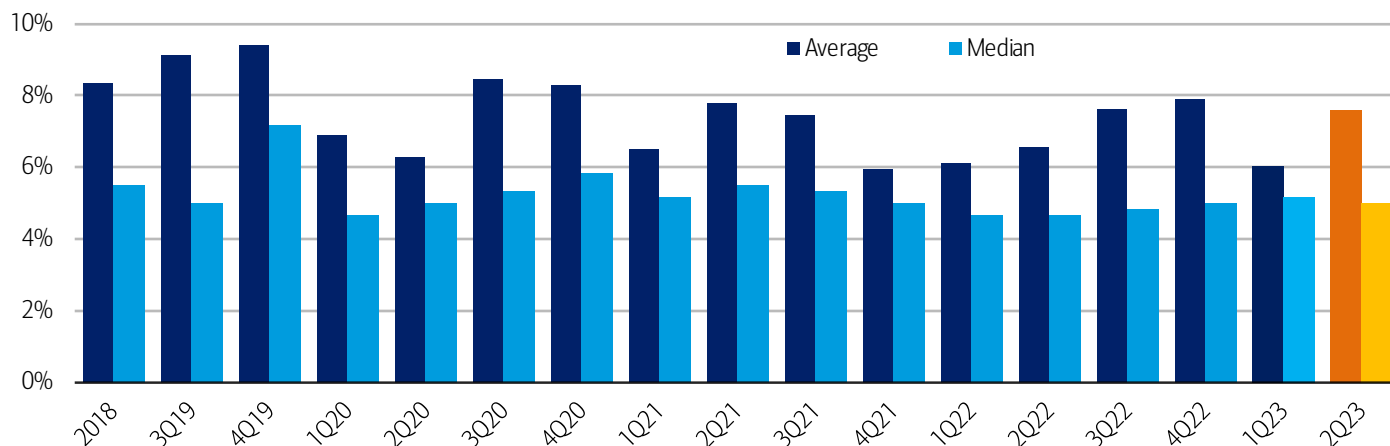
Hospice admissions growth in June comparable to May, Q2 above 1Q23

Please describe (quantify % change) actual hospice admissions year-over-year, at your agency at each of the following points in time.

At the agencies in our survey that provide hospice, organic hospice admissions increased +8.0% y/y in June (median of +5.0%), roughly in line with +7.9% in May 2023. The average growth in 2Q23 was +7.6%, above +6.0% in 1Q23. The median of +5.0% was in line with what we saw in May and April.

Exhibit 36: Quarterly trends in average organic hospice admits growth y/y

Hospice admission growth in 2Q23 accelerated from 1Q23

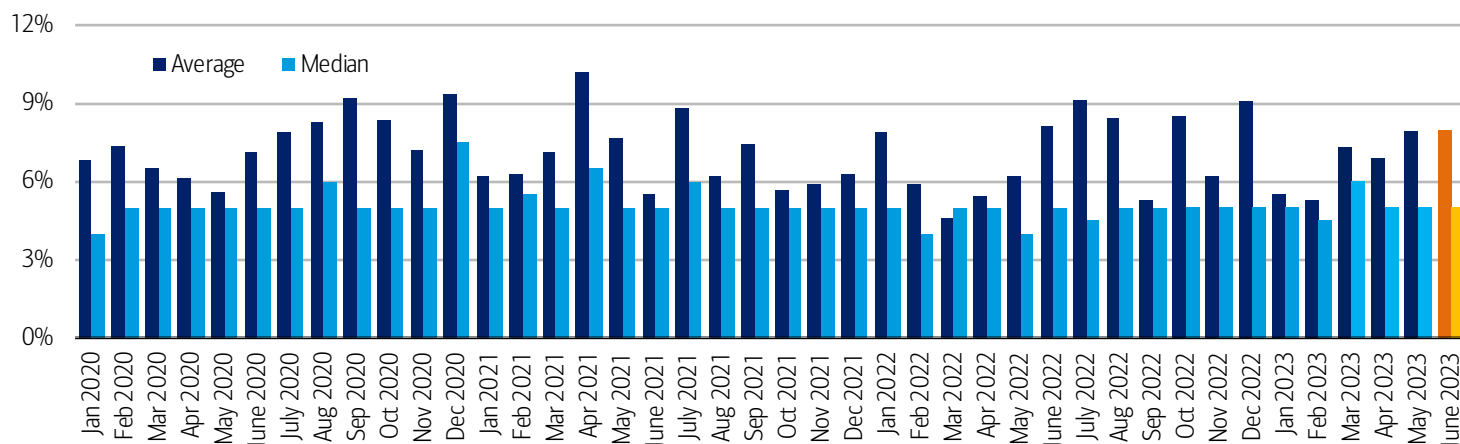


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 37: Monthly trends in average organic hospice admits growth y/y

Average hospice admission growth in June was comparable to May



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Hospice LOS increased +6% in June, Q2 growth accelerated from Q1

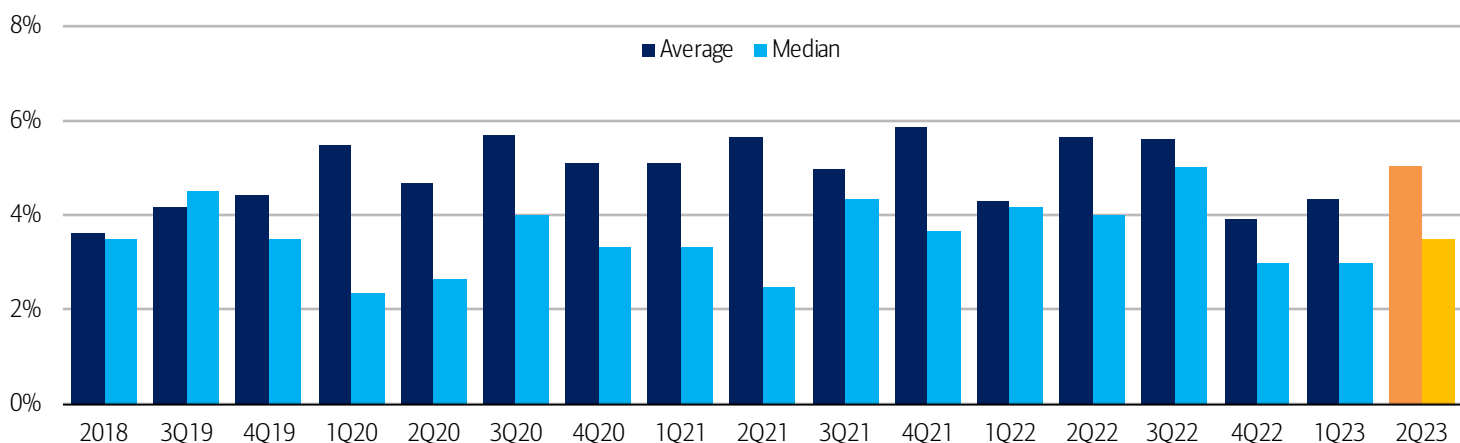
Please describe (quantify % change) actual hospice length of stay year-over-year, at your agency at each of the following points in time.

Length of stay (LOS) is another metric that we track for hospice as an indicator for average census. The average industry LOS increased 0.7% per year in 2000-2019 and was up 4.8% y/y in 2020 but declined 5.1% y/y in 2021 (the most recent data from the MedPAC 2023 Report).

According to our survey, on average, LOS increased +6% y/y in June, after growing +4.5% in May. The 2Q23 average growth was +5%, above the +4.4% y/y growth in 1Q23. The median growth in LOS of 5.0% was above the result in May survey.

Exhibit 38: Quarterly Organic Growth in Hospice length of stay

Average LOS growth in 2Q23 was above 1Q23

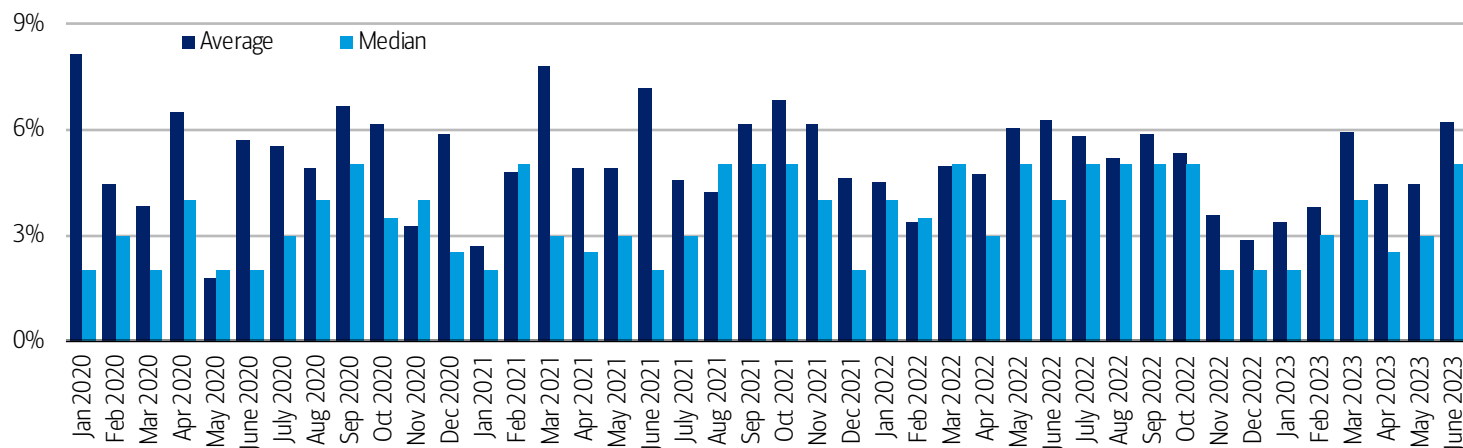


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 39: Growth in the Organic Hospice length of stay

Average LOS increased +6% in June, accelerating from May



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

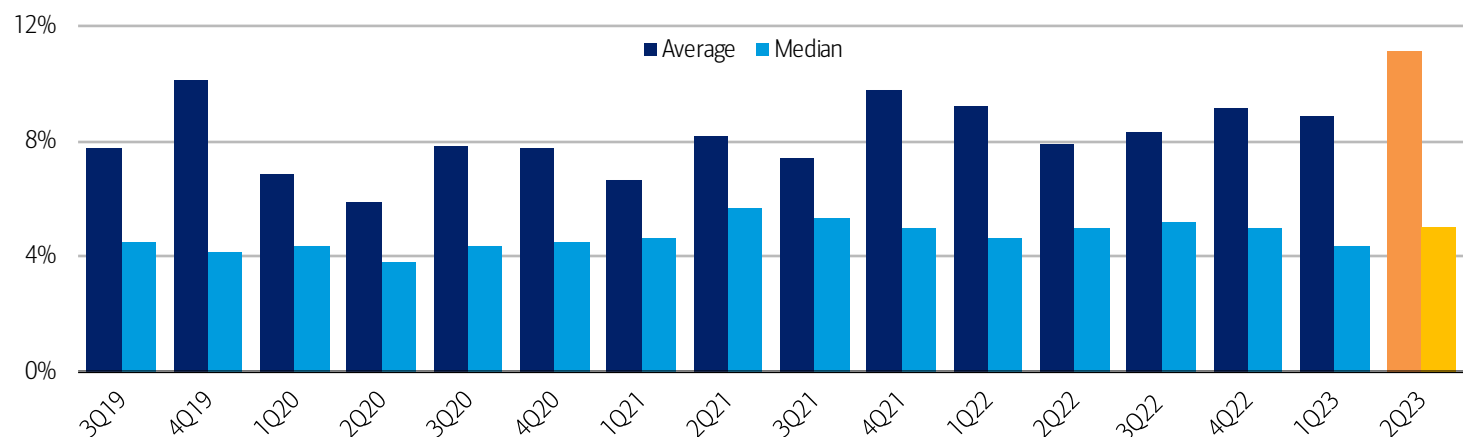
Organic Hospice ADC growth accelerated in June, Q2 was above 1Q23

Please describe (quantify % change) actual hospice average daily census year-over-year at your agency at each of the following points in time.

On average, the organic average daily census (ADC) y/y growth was +12.8% y/y in June, an acceleration from the prior month (+12.1% y/y in May). The 2Q23 average growth was +11.1% y/y, 230bps above +8.8% y/y in 1Q23. The growth is currently above the trends observed in 2020. The median growth of +5.0% in June was in line with the median growth we saw in May.

Exhibit 40: Organic Hospice Average Daily Census y/y growth (Quarterly)

Organic census growth in 2Q23 was above 1Q23

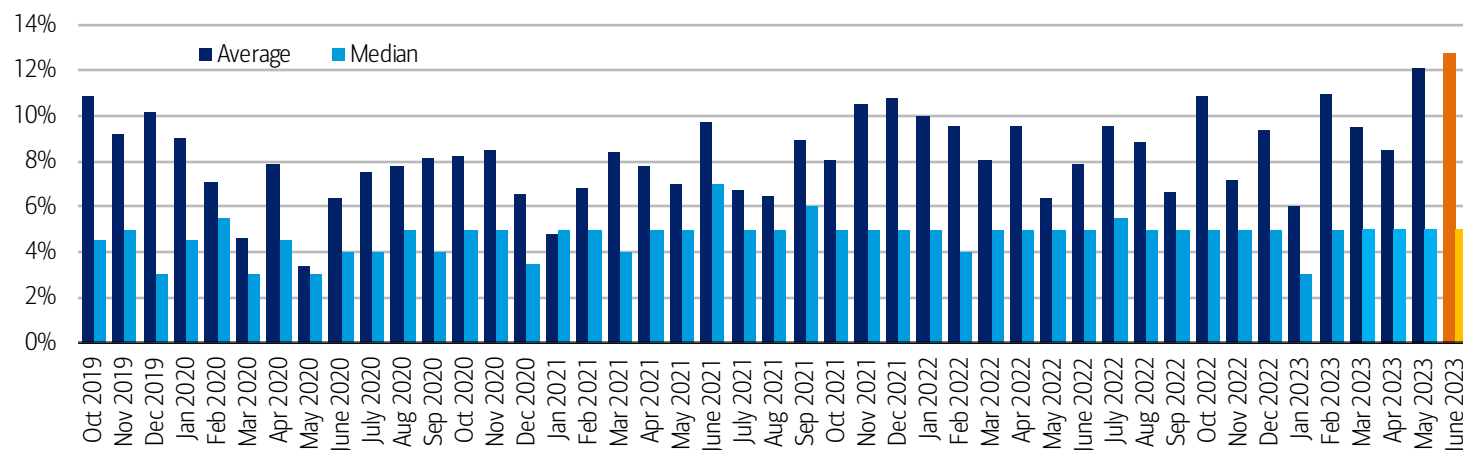


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 41: Organic Hospice Average Daily Census y/y growth (Monthly)

Organic census growth in June accelerated from May



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

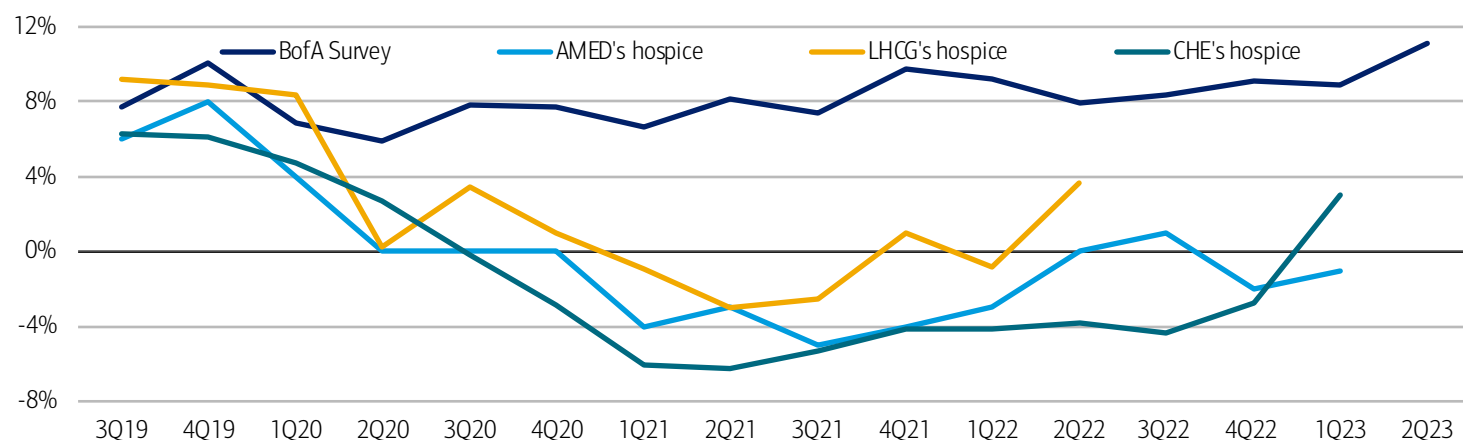
Surveys imply hospice vols to accelerate in Q2

The hospice trends captured by our BofA Survey are not strongly correlated with the growth reported by the publicly traded companies, CHE, AMED and LHCG. However, recently the survey results have been directionally consistent with the company prints. For example, the survey pointed to 4Q21 ADC growth accelerating from 3Q21 growth, and companies reported ADC growth improved in Q4 from Q3. Similarly, the surveys pointed to growth slowing down to +9.2% in 1Q22 from +9.8% in 4Q21, and LHCG and CHE reported volume trends worsening to stable Q/Q. The surveys pointed to growth accelerating to +8.3% in 3Q22 from +7.9% in 2Q22. Although CHE hospice ADC growth slightly worsened in 3Q22, AMED's positive ADC growth in the quarter was directionally consistent with the survey.

The 4Q22 and 1Q23 data was not strongly correlated: surveys showed acceleration in Q4 while AMED's census decelerated, and CHE's census accelerated in 4Q22. The surveys implied a deceleration in 1Q23 while the companies both saw accelerated census growth. The recent surveys show an acceleration in 2Q23 from 1Q23.

Exhibit 42: AMED, LHCG, CHE Hospice ADC y/y growth vs BofA surveys

Surveys imply ADC growth is accelerating in 2Q23 vs 1Q23



Source: BofA Global Research survey, Company reports

BofA GLOBAL RESEARCH

Hospice MA rates are 11% below FFS

What is your average Medicare Advantage rate vs. Medicare Fee-for-service rate?



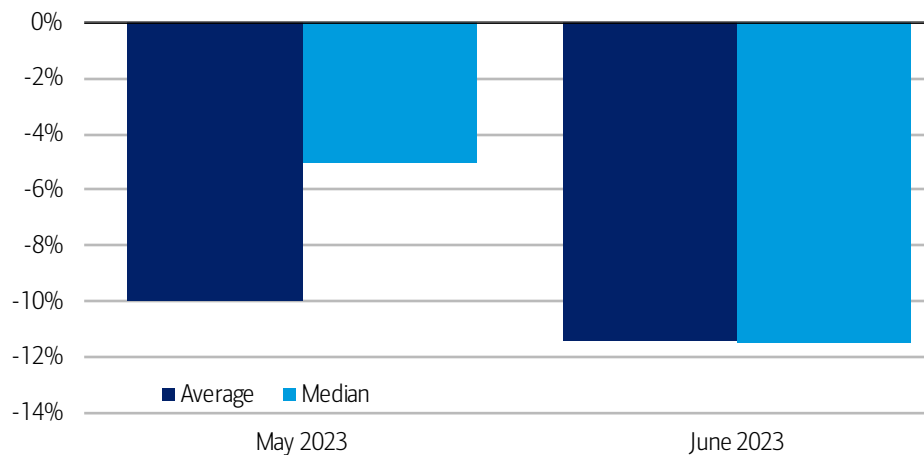
In the May 2023 survey, we started asking our survey respondents who provide hospice services whether they contract with a Medicare Advantage (MA) health plan for the provision of hospice services (under the hospice carve-in demo) and what is the average MA rate vs. Medicare Fee-for-service (FFS) rate in those contracts.

As of June 2023, 41% of hospice providers in the survey contract with an MA health plan for the provision of hospice services (vs 52% in our prior survey). These respondents reported an average daily rate for MA was 11% less than the average daily rate for Medicare FFS, with a median of -12%. This is comparable to the average 10% discount in our May survey.

The reported discounts ranged from 2% to 24%, so there are some providers that are seeing rates well below FFS while others are virtually in-line. The 11% average discount reported by the hospice providers is in line with the 11% discount reported for MA rates in Home Health in this month's survey.

Exhibit 43: Average hospice rate for Medicare Advantage vs. Medicare Fee-for-service

Hospice MA rates are -11% below FFS as of June 2023



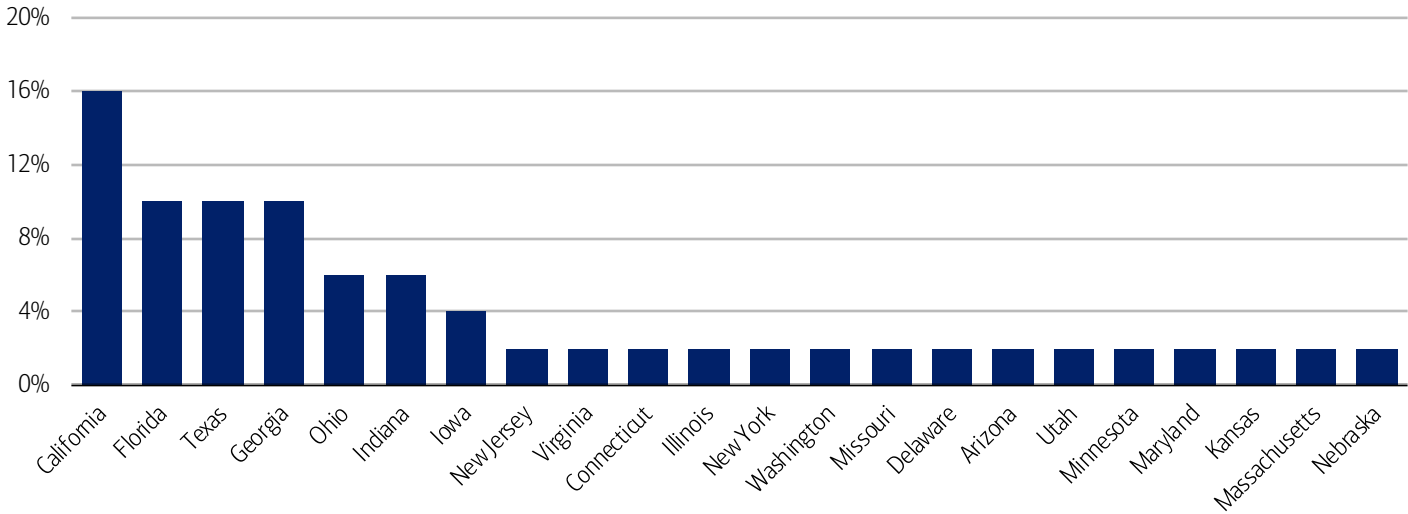
Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Appendix

Survey respondents came from 25 states in total, with CA, FL, TX, and GA being the most represented.

Exhibit 44: Regional distribution of survey respondents
(%). The 2Q23 average of 13% is better than 14% average in 1Q23.



Source: BofA Global Research survey

BofA GLOBAL RESEARCH



Disclosures

Important Disclosures

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R1}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R1} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. *Coverage Cluster* is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no. 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofam.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Investment Industry Regulatory Organization of Canada; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No

approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2023 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without

notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein. Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies. Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.