

Home Health

Survey: Q1 Home Health, Hospice vols decelerated on worse labor shortages

Industry Overview

Q1 vols below Q4, labor/wage cost outlook worsened

As per our surveys, home health vols accelerated in March from February but 1Q23 average is below 4Q22 as the impact to vols from labor shortages worsened. Hospice census decelerated in 1Q23 from 4Q22. The use of temp staff in Q1 was below Q4. However, the outlook for wages and total labor costs in 2023 worsened vs our prior survey. While the labor cost growth is expected to decelerate in 2023, the +8.1% y/y growth is well above +0.7% Medicare rates. Meanwhile, Medicare Advantage continues to outpace Medicare volume growth, a negative mix shift.

Cost growth to decelerate but still high, +8% y/y

Respondents expect cost growth in 2023 to decelerate vs 2022, and the outlook worsened vs prior survey. Wage growth to be +6.7% y/y in 2023, worse than +6.4% in our prior survey. Total labor costs (including contract labor) are expected to increase +8.1% y/y in 2023, worse than +7.5% in our Feb. survey. In positive, respondents expect deceleration from 2022 trends (wages +9.5%, total labor +9.4%). The staff turnover improved to 14% vs 15% in prior survey, but above 9% pre-COVID.

Labor shortages more of a headwind to volumes

42% of respondents limited admits due to labor shortages in March, in line with our Feb survey. On average, 15% of patients were not admitted due to shortages, above our prior survey, with the Q1 average of 14%, worse than 13% in 4Q22.

Temp staff use up m/m, Q1 below Q4

About 15% of hours were provided by temp labor (more expensive) in March, above our Feb survey with Q1 average of 14% better than 15% in 4Q22 – still, this is well above 6% in 2019. The outlook for the need to rely on temp labor has been generally improving, although this month it worsened m/m: 24% expect the use to rise.

HH vol growth accelerated 50bps m/m; Q1 below Q4

Organic HH volumes (admissions + recertifications) accelerated in March 2023 to +12.6% y/y, but the 1Q23 average was +12.8% y/y, below +14.6% in 4Q22.

MA grows faster than FFS, rate discount improved

In 1Q23, Medicare Advantage (MA) admissions grew faster than Medicare, +10.3% y/y vs +7.5% for fee-for-service (FFS). MA rate is 13% below FFS, better than recent surveys.

VBC expected to be about 39% of revs in 3-5 yrs

On a weighted average basis, respondents reported 24% of revenues from value-based care (VBC) in 2022; expect 39% from VBC in the next 3-5 years (37% in prior survey).

Hospice ADC, admits growth decelerated in Q1 vs Q4

Organic hospice ADC decelerated in March from Feb (+9.5% vs. +11.0%) and 1Q23 was +8.8% y/y, below +9.1% in 4Q22. In a appositive, Admission growth in March was above Feb. (+7.3% vs. +5.3%). LOS continues to improve, up +4.4% in Q1 (+3.9% in Q4).

13 April 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

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 25 to 27.

12543582

Timestamp: 13 April 2023 12:05AM EDT

Amedisys (AMED) best positioned in our survey

Our survey results are most relevant for AMED and EHAB as most of their revenues come from home health and hospice. Hospice results are the most relevant for CHE (56% of revs) and AMED (35% of revs), followed by ADUS and EHAB (20% of revs for both).

Exhibit 1: Exposure to Home health and hospice – Revenue mix as % of total revs, as of 4Q22

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

Category	AMED	EHAB	ADUS	CHE
Home Health	61%	80%	5%	-
Hospice	35%	20%	20%	56%
Personal Care	3%	-	74%	-
Other	-	0%	-	44%

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 22 states (% of centers in each state). This survey's results are relevant for EHAB and AMED as the 22 states included in the survey cover 63% of home health agencies operated by both companies. AMED is better positioned in this survey, with +15.5% weighted average growth in its markets in March, above the overall survey average and above EHAB's average.

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

AMED is better positioned in this survey, with +15.5% weighted average growth in its markets in March

State	# of agencies	Mar '23 Organic Vols	Company exposure (% of agencies)	
		Y/Y Average	AMED	EHAB
California	8	5.8%	1.2%	0.0%
Colorado	1	5.0%	0.0%	2.4%
Delaware	1	15.0%	0.6%	0.0%
Florida	5	23.8%	5.5%	8.3%
Georgia	4	10.3%	18.2%	8.3%
Illinois	3	4.7%	0.9%	1.2%
Indiana	2	56.5%	1.8%	0.4%
Iowa	1	20.0%	0.0%	0.0%
Kansas	1	40.0%	0.0%	1.6%
Kentucky	1	30.0%	5.2%	1.2%
Louisiana	2	9.0%	2.7%	0.4%
Maryland	1	3.0%	2.7%	1.2%
Nebraska	1	9.0%	0.3%	0.0%
New Hampshire	1	0.0%	0.9%	0.0%
New York	1	4.0%	1.5%	0.0%
Ohio	5	6.4%	0.3%	0.4%
Oklahoma	1	5.0%	1.8%	7.5%
Tennessee	1	20.0%	13.6%	2.8%
Texas	6	11.8%	1.2%	20.2%
Utah	1	5.0%	0.0%	2.4%
Virginia	1	11.0%	3.9%	4.4%
Washington	2	4.0%	0.6%	0.4%
Total	50		63.0%	63.1%
Weighted Average		12.6%	15.5%	13.1%

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

BofA GLOBAL RESEARCH

Home health/hospice survey

We surveyed 50 home health agencies in 22 states. We focused on the most populous states with 16% of respondents based in CA, 12% in TX and 10% in FL - see Exhibit 46 for a full breakout.

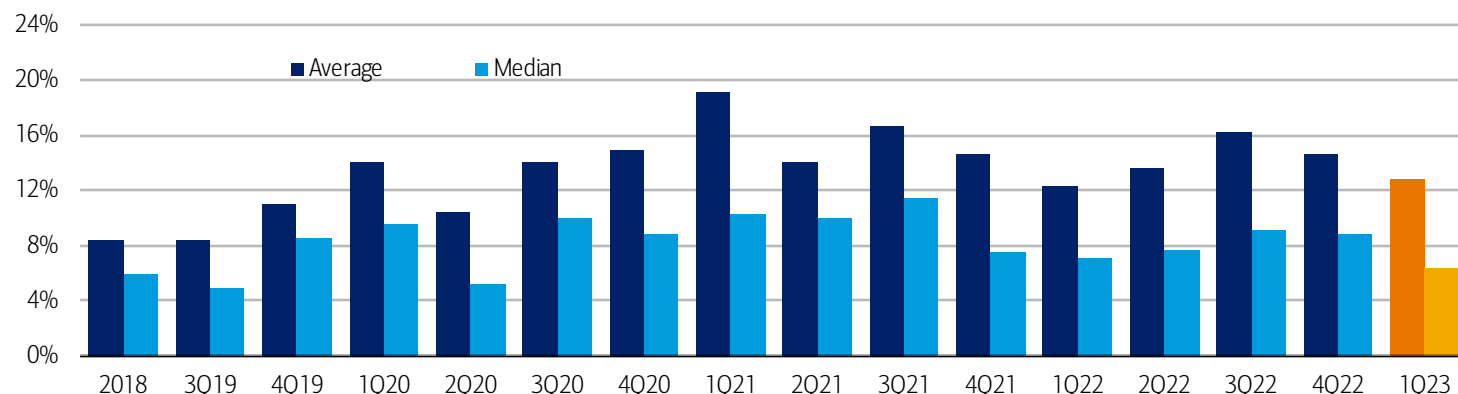
Organic home health vols accelerated in March, 1Q23 below 4Q22

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 +12.6% y/y (median of +6.5%) in March. This is an acceleration from +12.1% in February and a deceleration from +13.6% in January. The average growth in 1Q23 was +12.8%, which is below +14.6% in 4Q22, and below +16.3% y/y in 3Q22. Median growth of +6.5% this month was above with the median growth we saw in February.

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

Home health vols decelerated in 1Q23 vs 4Q22, but continue to grow faster than prior to pandemic

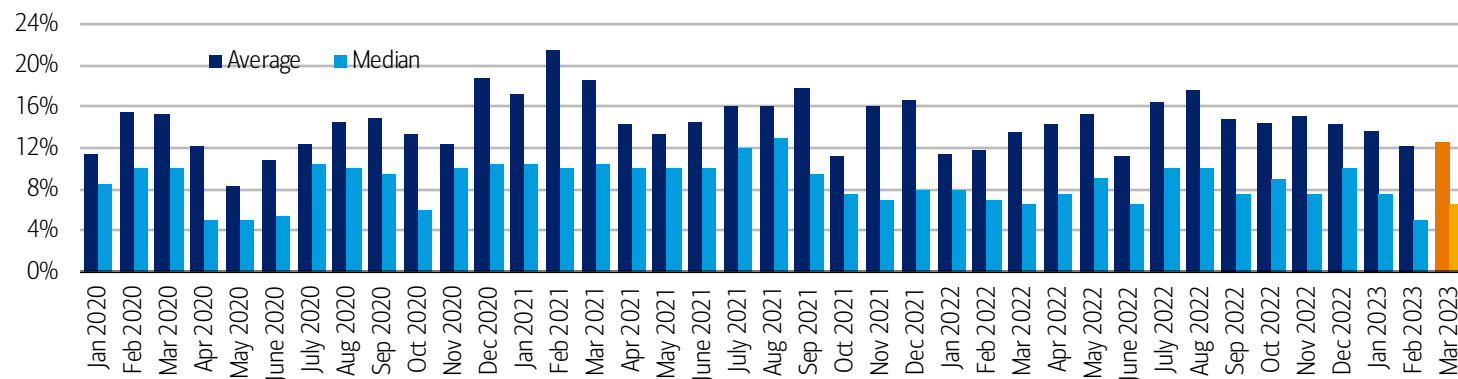


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

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

February volumes were on average below the growth in January 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 UNH), the changes are useful to assess the direction of trends.



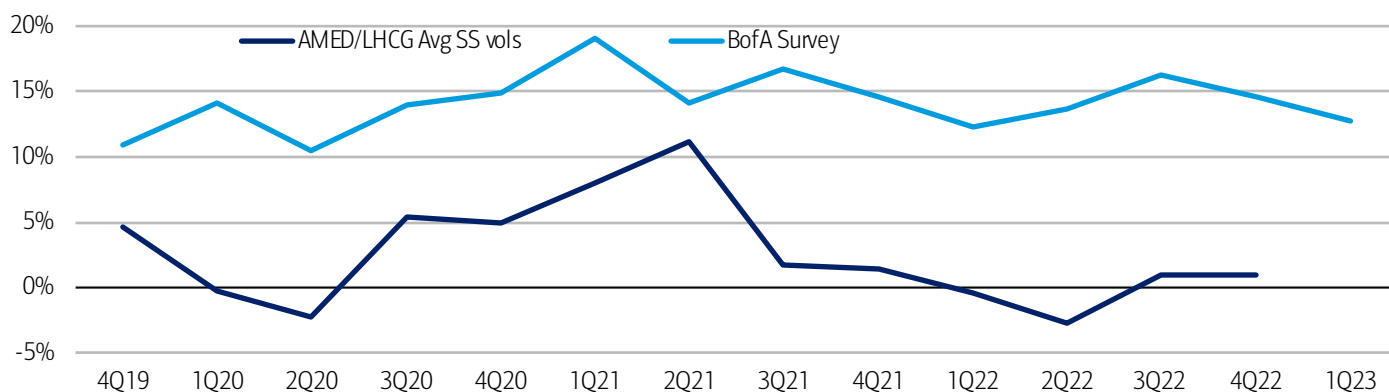
For example, the surveys implied a volume slowdown in 4Q21 vs 3Q21, and the companies reported the average same store (SS) volumes slowing down to +1.4% in 4Q21 from +1.8% in 3Q21. Similarly, for 1Q22, the surveys indicated volumes slowing down further (to +12.3% in 1Q22 vs +14.6% in 4Q21) and the average 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%) 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 indicate that volumes in 1Q23 decelerated from 4Q22.

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

As per Surveys, Q4 vols decelerated from Q3 and 1Q23 further decelerating from Q4



Source: BofA Global Research survey, Company reports

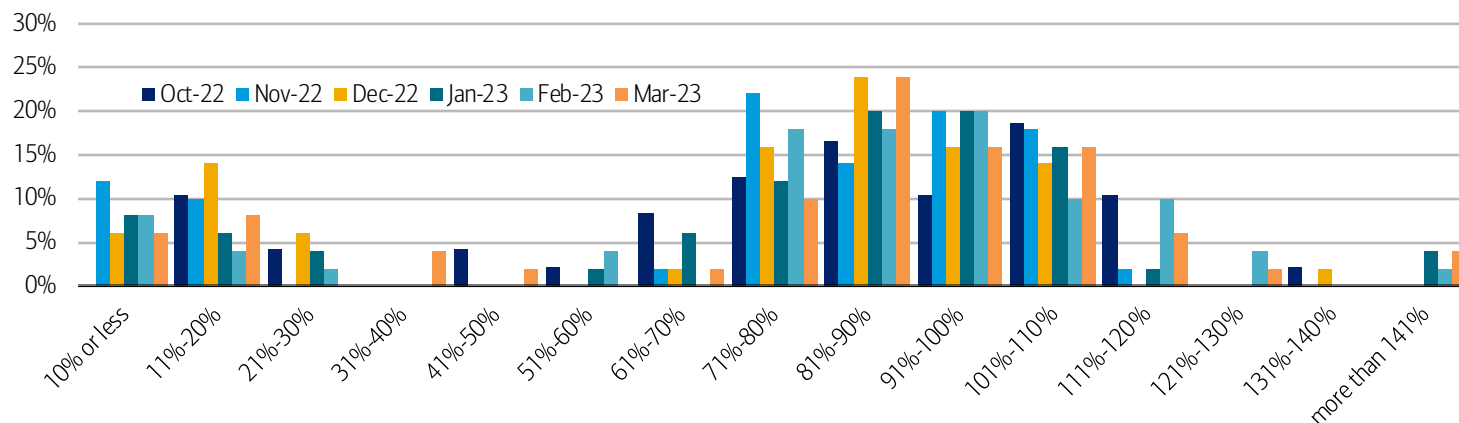
BofA GLOBAL RESEARCH

Census is tracking below 2019 levels

We added a question in September 2022 where we asked respondents how census compares to 2019 levels. In March 2023, on average, respondents said their census is now at 82% of the 2019 levels, ranging from 0% to 150%. This is worse than the average of 85% we saw in February. Of note, 28% of respondents said their census is above 2019 levels compared to 26% in the prior survey.

Exhibit 6: Census is below the 2019 levels

Census as a percentage of 2019



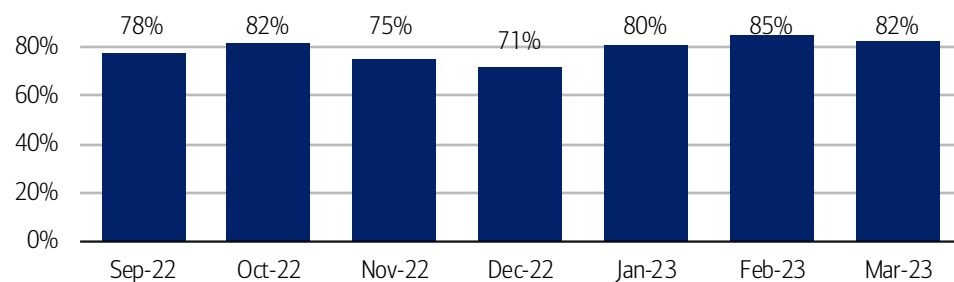
Source: BofA Global Research survey

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 worsened compared to results in the prior month.

Exhibit 7: Respondents' census is at 82% of 2019 levels, below the Feb average but above Dec average

Average of respondents' census as a percentage of 2019



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

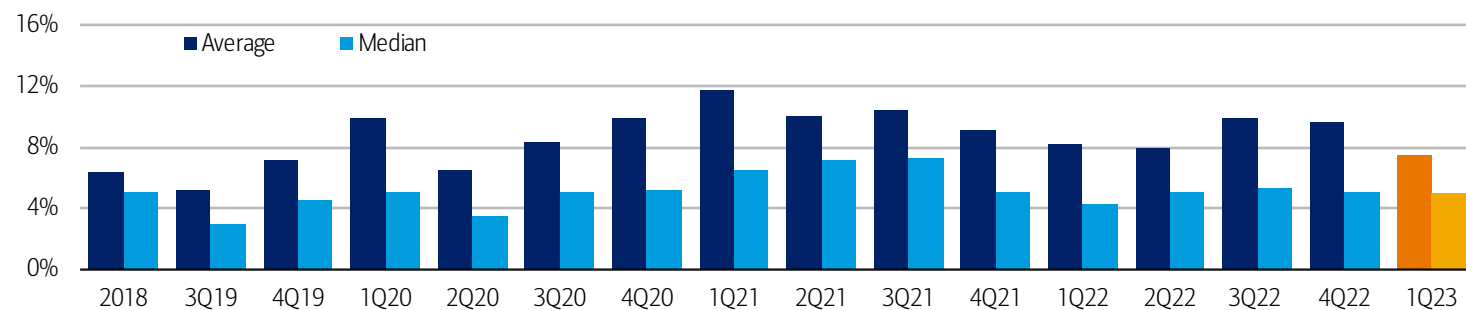
Medicare admission growth accelerated in March, 1 Q23 below 4Q22

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 +8.1% in March 2023, accelerating from +7.1% y/y in February. In 1Q23, Medicare vols were up +7.5%, below the +9.7% growth in Q4. Still, this is above the pre-pandemic trends. Median growth of +5.0% this month was in line with the median growth we saw in February.

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

Medicare admits growth in 1Q23 were below 4Q22

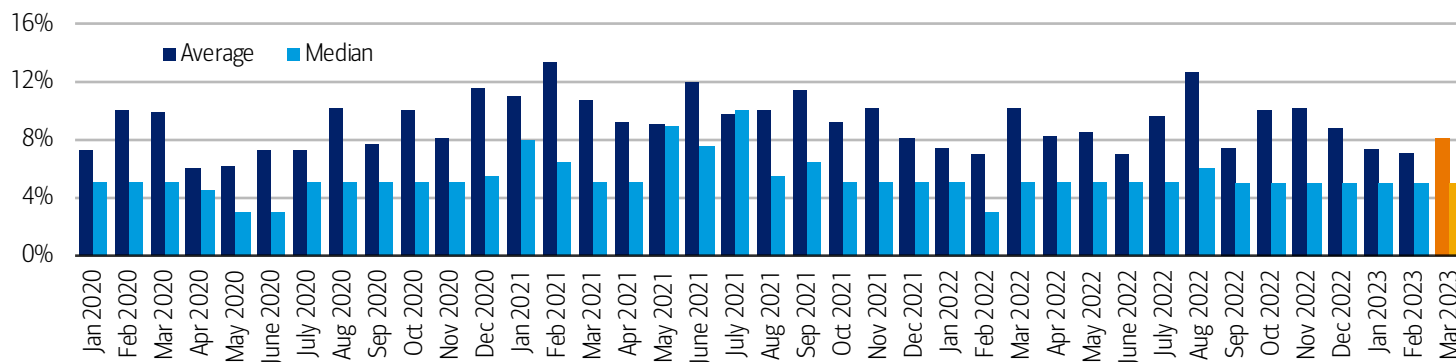


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

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

Medicare admissions growth accelerated +100bps m/m in March and are above trends observed prior to the pandemic



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

MA admits decelerated slightly m/m in March, 1Q23 below Q4

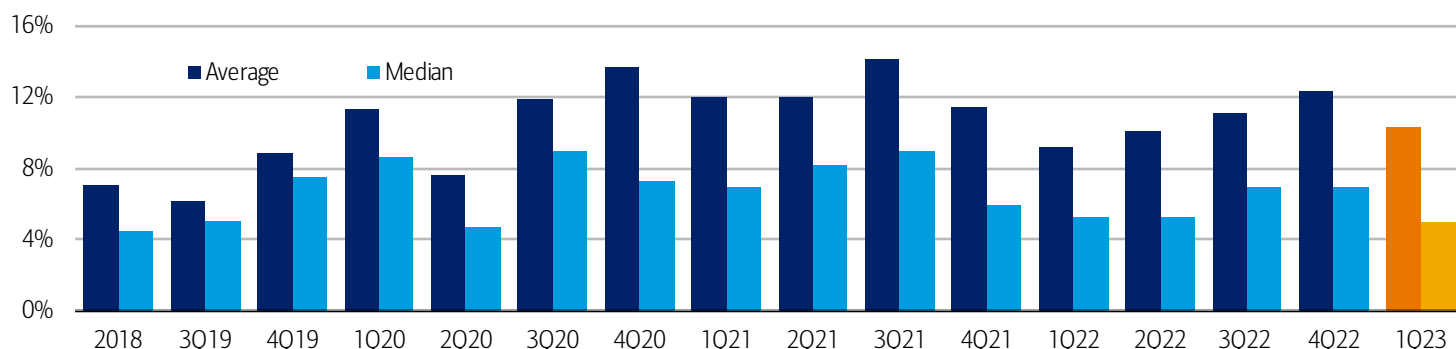
Please describe (quantify % change) actual Medicare Advantage admissions year-over-year at your agency at each of the following points in time?

Organic Medicare Advantage (MA) admissions grew +9.9% y/y in March 2023, below the 10.6% y/y growth in February and the 10.5% y/y growth in January. The average MA admission growth in 1Q23 was +10.3% y/y, below the 4Q22 growth of 12.4%. But this growth is generally above the trends observed prior to the pandemic. The median of +5.0% was in line with the median growth we saw in February.

Of note, this month's average MA growth is +180bps above the Medicare volume growth, continuing with the trend we have seen in prior months, although the delta is much smaller.

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

Average MA admission growth decelerated in 1Q23 from 4Q22

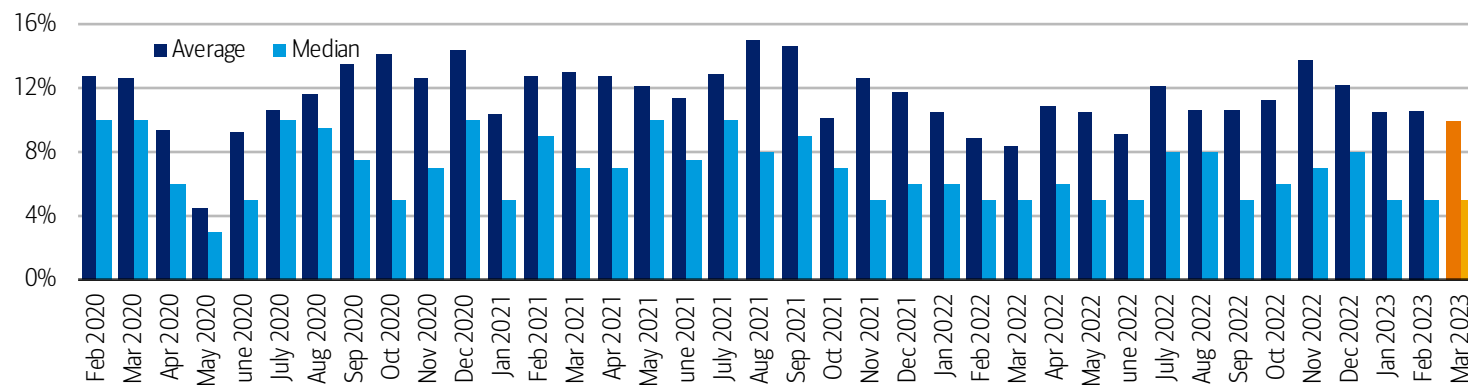


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

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

Medicare Advantage admission growth in March was slightly below the growth in Feb.



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

MA accounts for 41% of home health patients, below last month

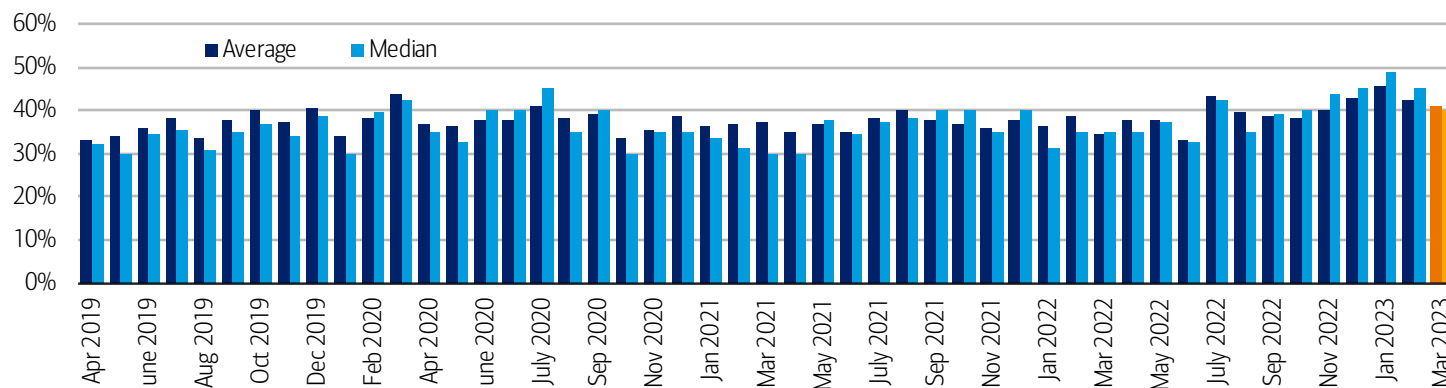
What percentage of your home health patients are/were on Medicare Advantage at each of the following points in time, if any?

On average, Medicare Advantage (MA) accounted for 41% of our respondents' home health patients as of March 2023, below the 42% in February but above the 35% in our March 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 41% of home health patients are in MA plans



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

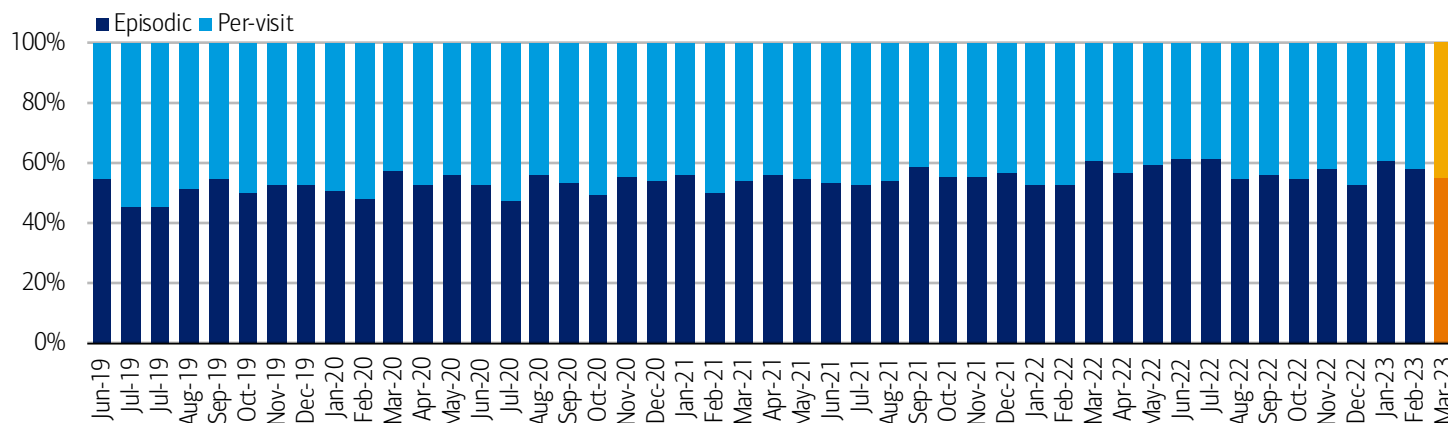
55% of MA admits are being paid on an episodic basis

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 March 2023, 55% of MA admissions on average are paid on an episodic basis as per our survey. This is below the 60% a year ago, and above the 50% range observed through 2019 on average. The remaining 45% of MA admits are paid on a per visit basis.

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

55% of MA admissions are paid on an episodic basis as of March 2023, above 50% on average in 2019



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

MA rate 13% below FFS in March 2023

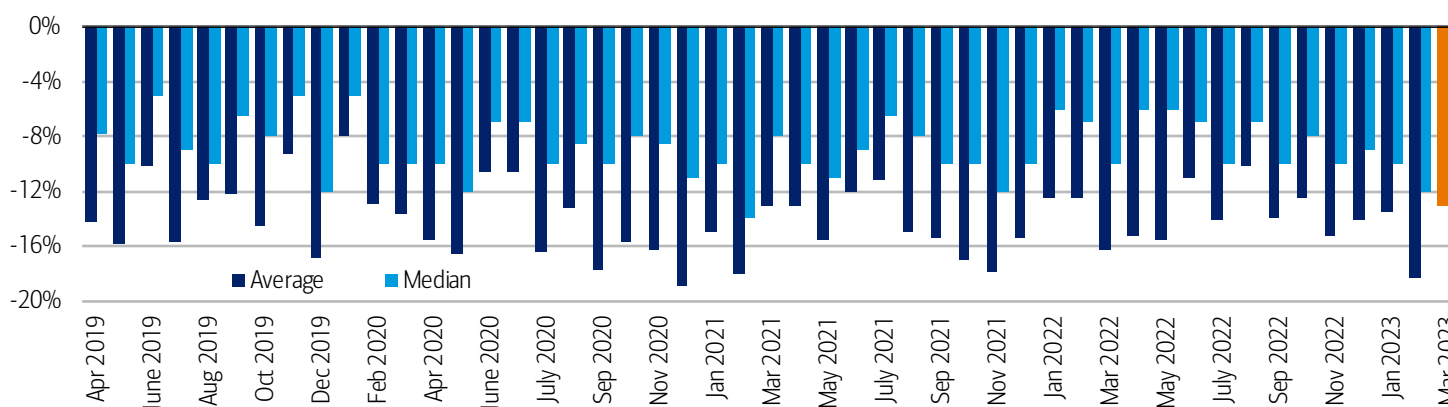
What is the difference between the average rate per visit for Medicare Advantage vs. Medicare Fee-for-service for your agency?

72% of respondents said their MA rate per visit is below the comparable FFS rate, above the 70% 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 +73% among respondents. The remaining 2% of respondents said their MA rate per visit is in-line with the FFS rate.

As of March 2023, the MA rate per visit is 13% below Medicare FFS rates on average, with a median 10% discount to FFS rates. This average discount is higher than the value a year ago (12% discount). The 13% discount in March 2023 is better than the 18% discount we surveyed in February.

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 -13% on average as of March 2023



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

72% of agencies saw MA vs FFS rate gap improving

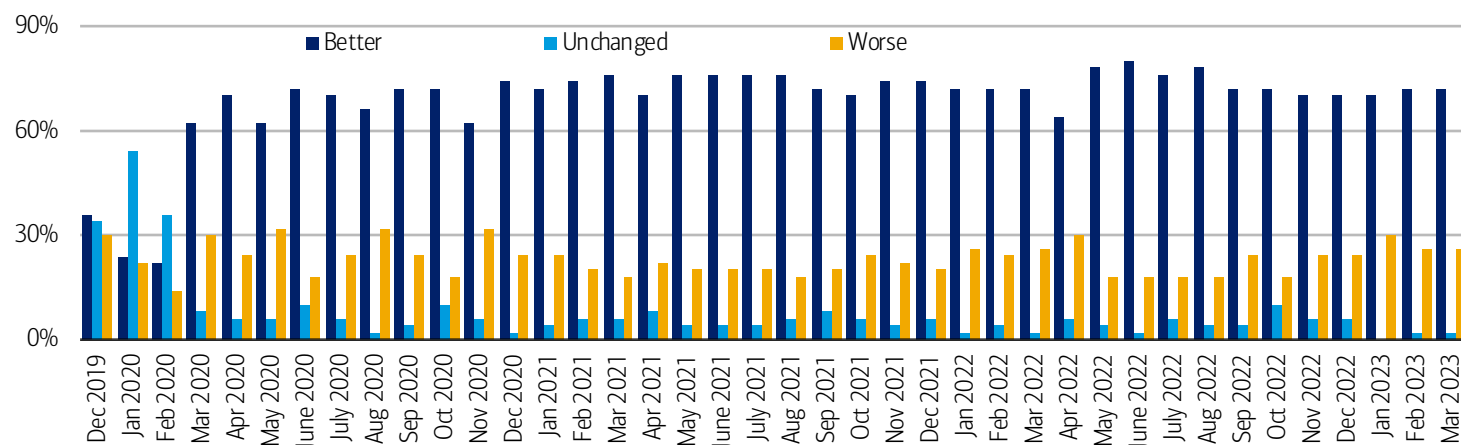
This month, 72% of respondents said the delta between the MA rate and FFS rate improved year over year, while 26% said the delta worsened and 2% said the delta remained unchanged.

The percentage of those who think the rate is improving is in-line with what we saw in our February survey. The % who think the rate is unchanged was also in-line with the

result of last month and the % who think it worsened was in-line with last month. That said, it is important to note that this is the 32nd straight survey in which over half of respondents said the rates were improving.

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 slightly above 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'.

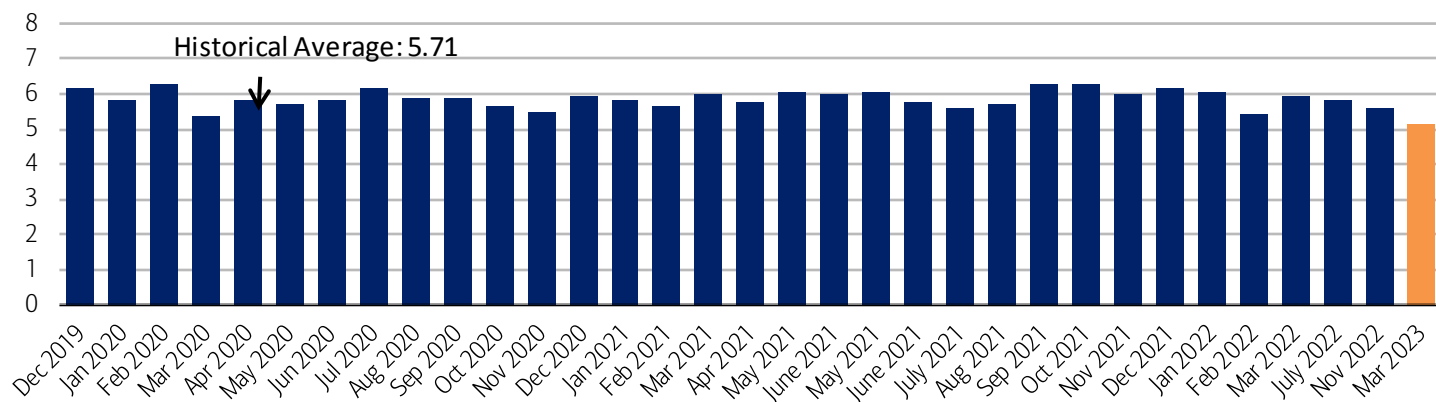
We asked respondents about their outlook for industry consolidation on the scale of 1 to 10, with 1 being 'no consolidation activity' and 10 being 'extremely robust consolidation activity'.

Respondents expect the industry consolidation to be above average but the expectations have been declining from the peak in the late 2022.

On average, agencies rate the pace of consolidation activity at 5.1 implying expectations for consolidation activity to be slightly above average (5 is the average), but below the historical average of the survey responses. This is below the 5.3 average in our prior survey. 4% of respondents expect robust (selected "10") consolidation activity; meanwhile, 44% of respondents expect moderate/high consolidation (selected "6-9"). Publicly traded companies expect consolidation in the industry given PDGM, RAP removal, and pandemic disruption. With some visibility post the final home health reg, the companies expect more M&A.

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, outlook worsened vs prior**

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

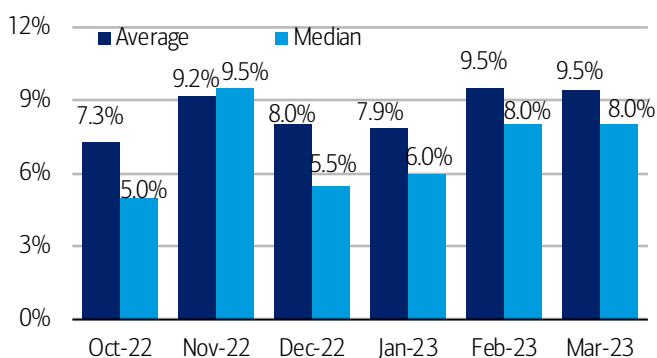
What year-over-year labor cost (wages and contract labor) growth did you experience in 2022 vs. 2021, and what are you expecting in 2023 vs 2022?

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 March survey, agencies said they saw an average +9.5% y/y increase in wages in 2022. This is in-line with the y/y increase agencies described in our Feb 2023 survey. Meanwhile, agencies expect wage inflation in 2023 to be below 2022 at +6.7% y/y in 2023. The outlook worsened: now expect +6.7% y/y in 2023, worse than the +6.4% growth in our Feb survey.

Exhibit 17: Wage growth in 2022

On average, wages increased +9.5% y/y in 2022

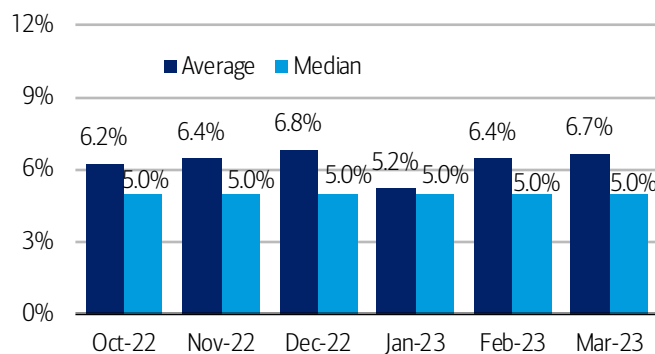


Source: BofA Global Research Survey

BofA GLOBAL RESEARCH

Exhibit 18: Wage outlook for 2023

Wage growth to decelerate in 2023 (+6.7% y/y) from +9.5% growth in 2022



Source: BofA Global Research Survey

BofA GLOBAL RESEARCH

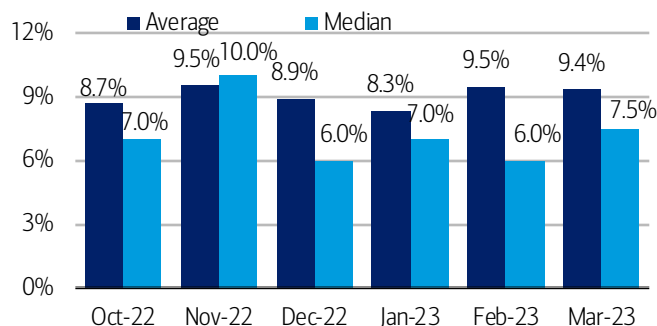
Meanwhile, agencies said that the total labor costs (wages and contract labor) grew +9.4% y/y in 2022.

Similar to the wage inflation outlook for 2023, respondents expect the total labor cost growth to decelerate in 2023. The average outlook is for an +8.1% labor cost growth in 2023, below the +9.4% growth experienced in 2022. The 2023 labor cost outlook also

worsened: +8.1% expected in the March survey, worse than the +7.5% average expected in our February survey.

Exhibit 19: Labor cost growth in 2022

Labor costs increased +9.4% y/y in 2022

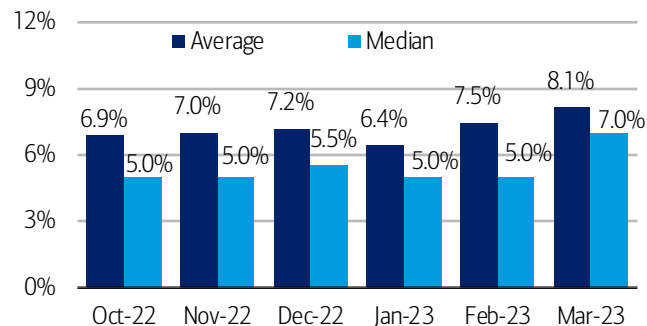


Source: BofA Global Research Survey

BofA GLOBAL RESEARCH

Exhibit 20: Labor cost outlook for 2023

Labor cost growth to decelerate in 2023 to +8% y/y from +9.4% in 2022



Source: BofA Global Research Survey

BofA GLOBAL RESEARCH

Labor costs to pressure margins, volumes not as much

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. On average, respondents expect a negative impact to margins next year with the average impact of -3.1 on a scale from -10 (*significantly negative impact*) to +10 (*significantly positive impact*) with a median of -3.0. 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 +8, implying a very diverse impact.

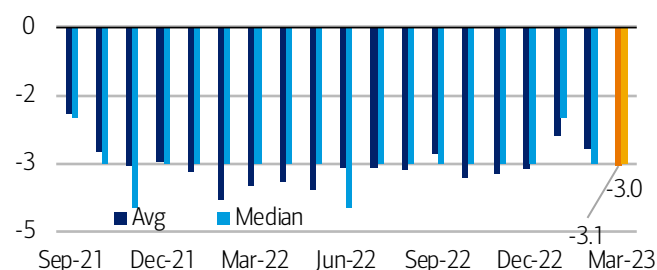
In our March survey, on average, respondents expect a negative impact to volumes next year with the average impact of -1.2 (median of -1.0) on a scale from -10 to +10. The responses ranged from -10 to +10. This implies that providers are more worried about margins than the ability to take on new patients with the impact to volumes viewed as very minimal.

The outlook for the impact to margins (-3.1) was worse vs the prior survey where the average impact to margins was expected to be -2.7 (median of -3.0). The impact to volumes (-1.2) was in-line with the -1.2 average in the prior survey (the median of -1.0 was in line with the prior survey.)

Some of the respondents who do not expect labor shortages to have a negative impact to volumes said that they are using tele-medicine and other ways to reduce labor shortage as well as retaining employees with higher wages.

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

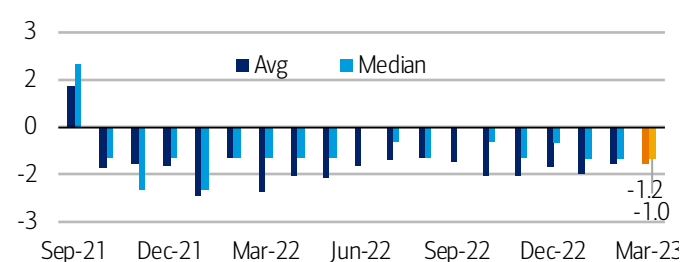


Source: BofA Global Research survey

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

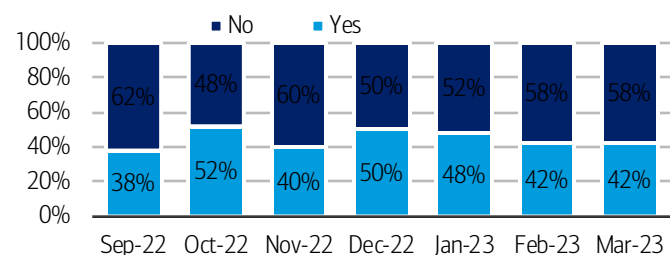
Respondents that limited admits due to labor shortages flat, 15% of admits lost

In September 2022, we began asking our respondents if they had to limit admissions because of labor shortages. In March 2023, 42% of respondents said they had to limit admissions because of labor shortages, in-line with the prior survey (and better than 48% in our Jan survey). The remaining 58% affirmed they did not limit vols, in-line with the prior survey.

On average, 15% of patients were not admitted due to shortages, ranging from 1% to 50%. This is above the 14% average in our Feb. survey and our Jan survey. This implies the average impact in 1Q23 was 14%, worse than the 13% average in 4Q22.

Exhibit 23: About 42% of respondents had to limit admits

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

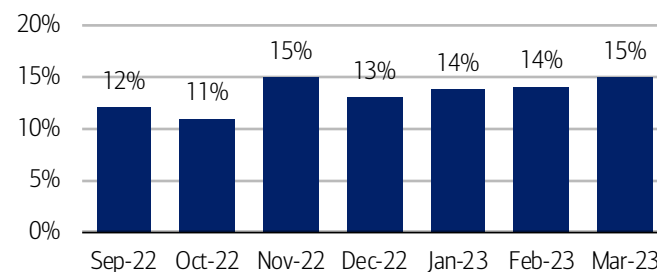


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 24: % of lost admits due to labor shortages was above Feb.

Average % of patients not admitted due to labor shortages



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

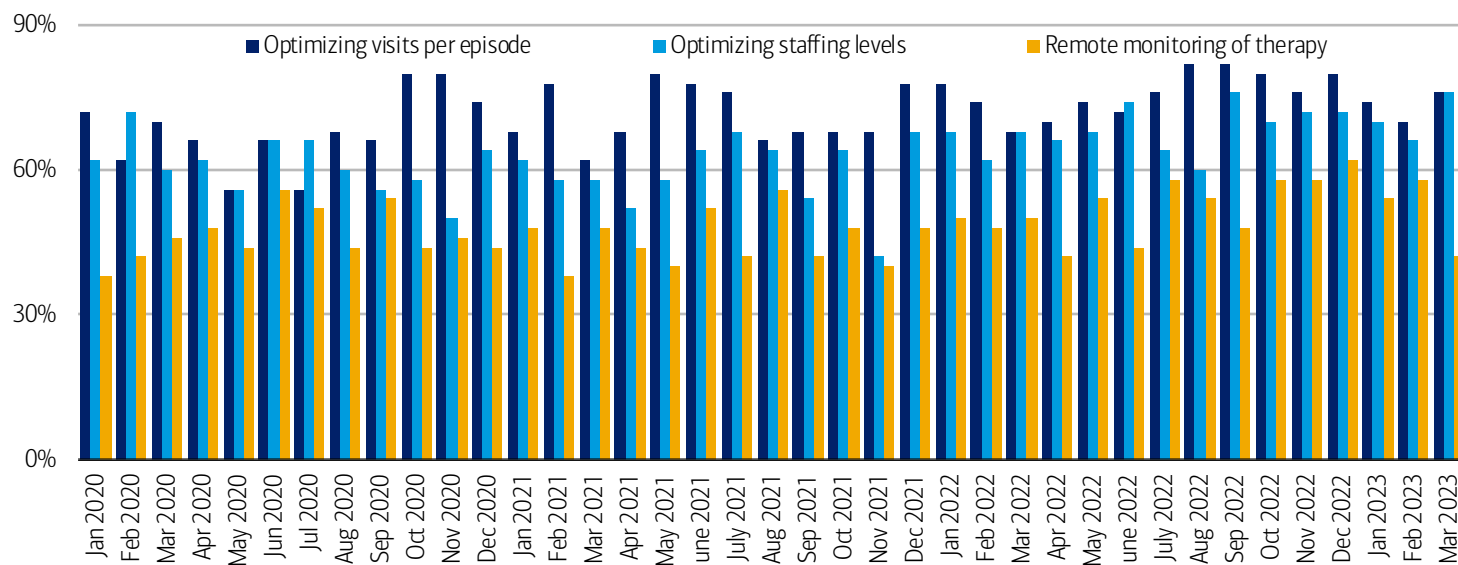
Majority looking to optimize visits and staffing levels to offset headwinds

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, higher than our February survey. Similarly, respondents plan to optimize staffing levels, a priority for 76% of respondents, also higher than our February survey. Meanwhile, about 42% of respondents plan to use remote monitoring of therapy (below the 58% in our February survey) signaling a shift toward visit per episode/staffing optimization cost savings and away from remote monitoring.

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 higher in March, well above 2019 levels

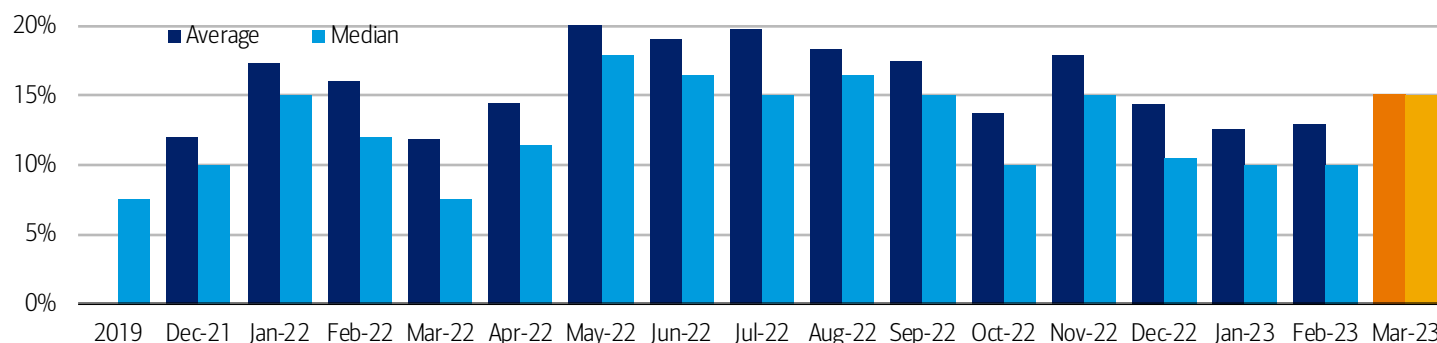
What share of hours of Home health care provided to patients were filled by contracted or temporary staff in: a) March 2023 b) before the pandemic (2019)?

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 worsened in April 2022 and further in May as a higher percentage of respondents used agency labor. Meanwhile, trends were generally improving since the peak in May 2022.

In March 2023, on average, respondents said that 15% of provided hours was temp labor, ranging from 0 to 60%. This is above the 13% of hours filled with temp labor in the February 2023 survey (ranging from 0 to 40%). Q1 average of 14% was better than 15% average in 4Q22. However, it is well above the average of 6% before the pandemic (ranging from 0 to 50%). The ratio is below the most recent peak in May 2022 of 20%. The median was 15% in March '23, above the 10% in February 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 worsened vs prior survey

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

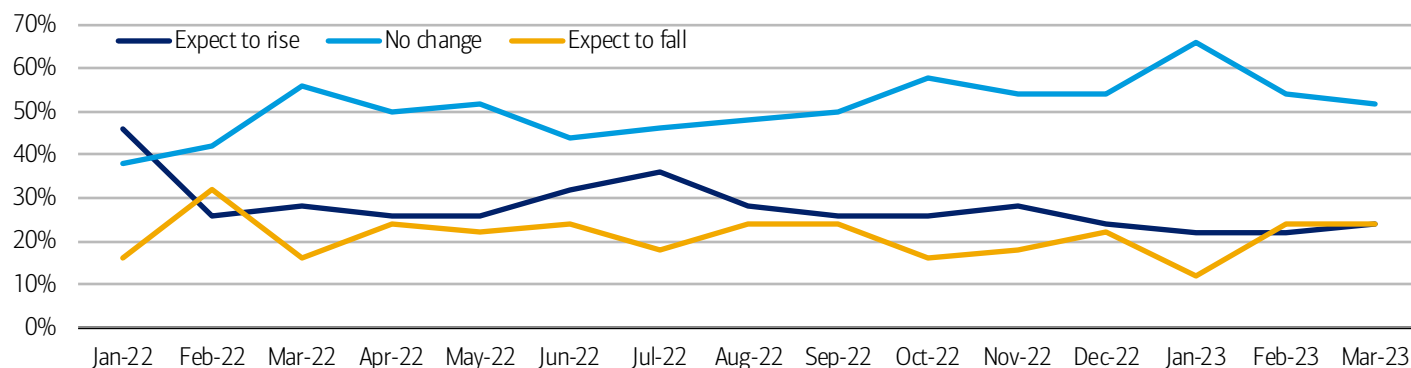


In our March 2023 survey, 24% of respondents said they are expecting the use of contracted/temp staff to rise in the next 3 months, above our prior survey. Meanwhile, 24% of respondents are expecting the use to fall, in line with our prior survey. The remaining 52% are expecting no change, below the 54% 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 24% vs 36% in July.

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

24% of respondents expects use of temp staff to rise, above the 22% in our previous survey



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Majority increased wages and offered sign-on bonuses

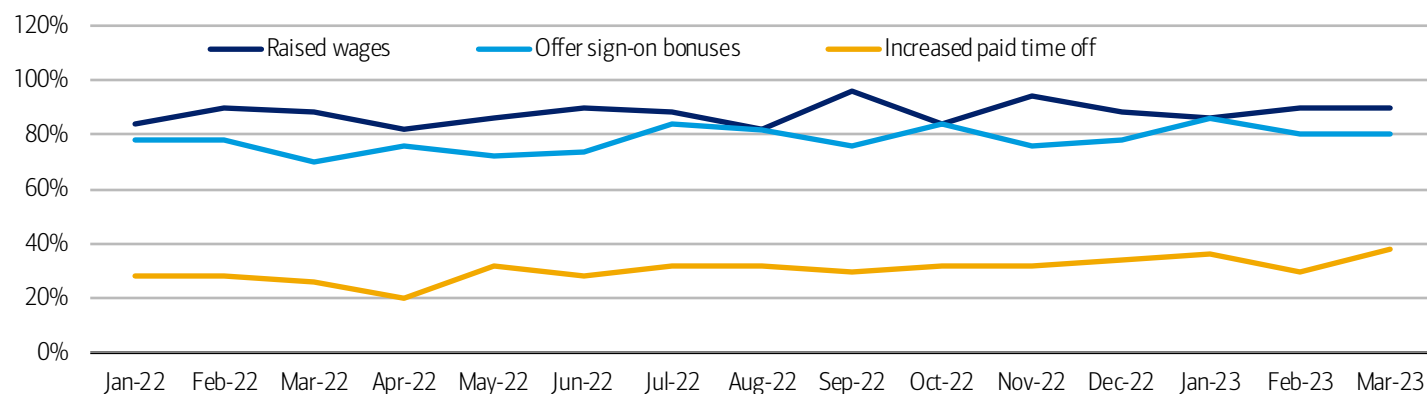
What efforts have you taken recently to improve recruiting and retention of clinical staff?

We also asked respondents about the efforts they have recently undertaken in order to improve recruiting and retention of clinical staff. 90% increased wages, in line with our prior survey. 80% of respondents said they are offering sign-on bonuses, in line with the February survey. Lastly, 38% increased paid time off, above the 30% in our prior survey and higher than levels seen in 2022.

Respondents noted the following additional actions they took: flexible work day sharing, four-day work week, and increasing mileage 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 improved, still well above pre-pandemic

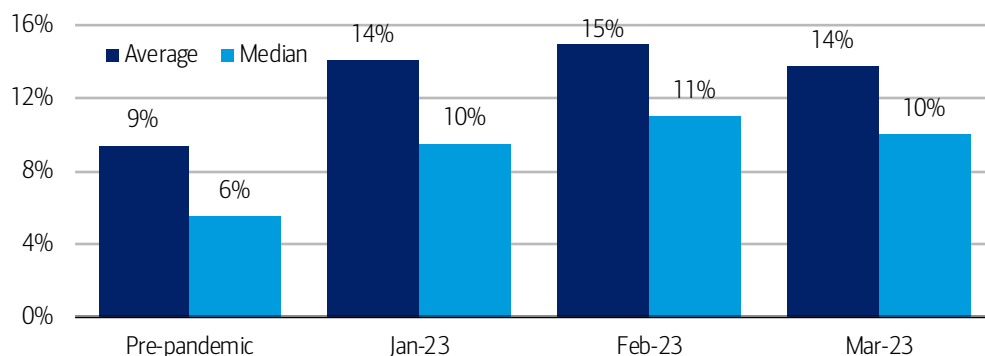
What was the turnover of your clinical staff in February 2023 and pre-pandemic (2019)?

In January 2023, we began asking respondents about their clinical staff turnover. On average, respondents reported clinical staff turnover at 14% in our March survey, well above the 9% clinical staff turnover before the pandemic. The turnover ratio improved

compared to 15% in the February survey. Median clinical staff turnover in March (10%) was also well above 6% turnover pre-pandemic.

Exhibit 29: Clinical staff turnover (%)

On average, respondents saw clinical staff turnover at 14% in March, above 9% pre-pandemic (2019)



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

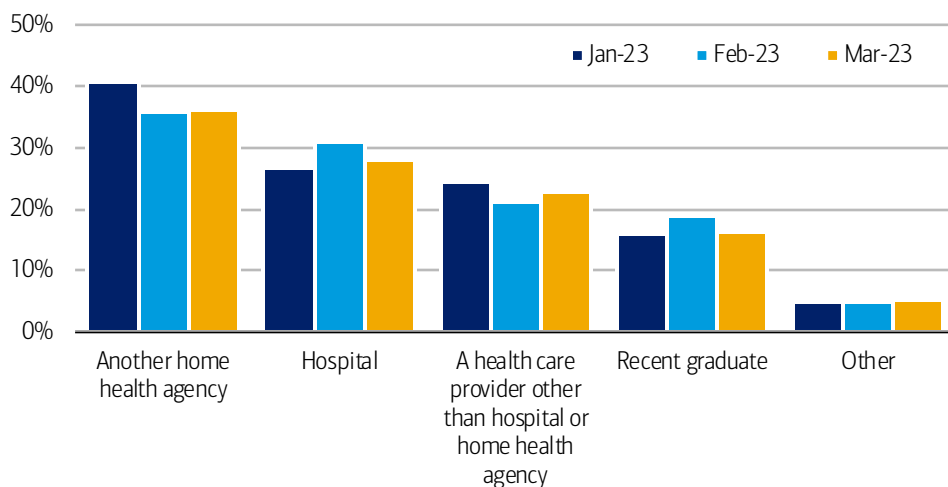
Most recently hired nurses come from other home health agencies or hospitals

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 March survey, on average, respondents reported most of recently hired nurses have been coming from other home health agencies (36% of nurses), followed by hospitals (28% of nurses) and other non-hospital/non-home-health-agency healthcare providers (23% of nurses). 16% of nurses, on average, that were recently recruited are recent graduates, while 5% of nurses were hired from other types of employers. Of note, compared to our prior survey, a lower % of hires came from hospitals and less were recent graduates.

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

About 36% of recently hired nurses came from another home health agency and 28% came from a hospital



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

VPE was 7.7 in Mar 2023, below 8.3 in 2019

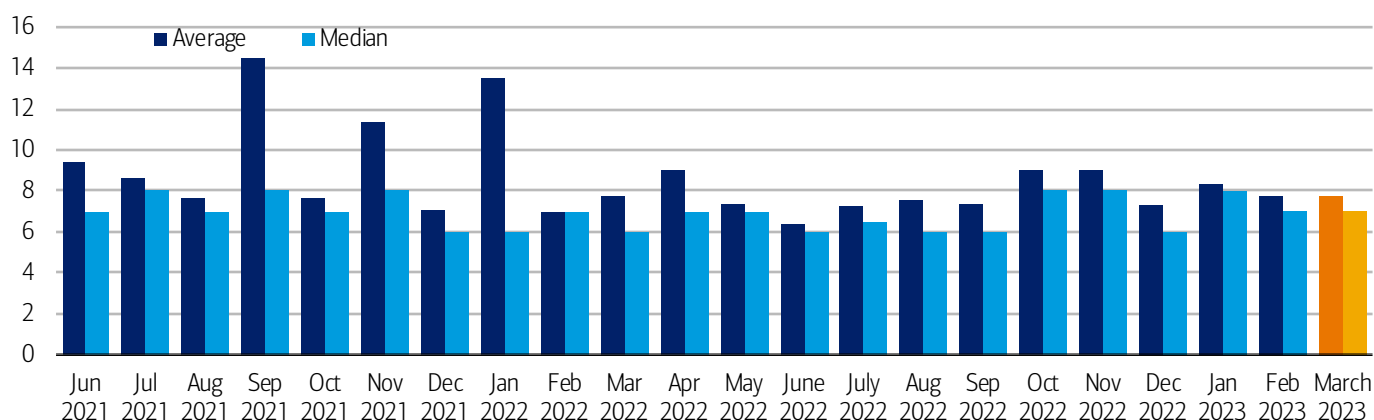
What was the average number of visits per episode in March 2023?

We also asked agencies about the number of visits per episode (VPE). In our March survey, the average number of VPE was 7.7 (median of 7.0), in line with the 7.7 in our

previous survey. Respondents saw a wide distribution of VPE this month, ranging from 1 to 18. Of note, the median number of tele-visits per episode was 2.0.

Exhibit 31: Number of visits per episode

In the March 2023 survey, the average number of visits per episode was 7.7, in line with 7.7 in February 2023



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 60% of patients come to home health from a hospital, 22% from SNFs

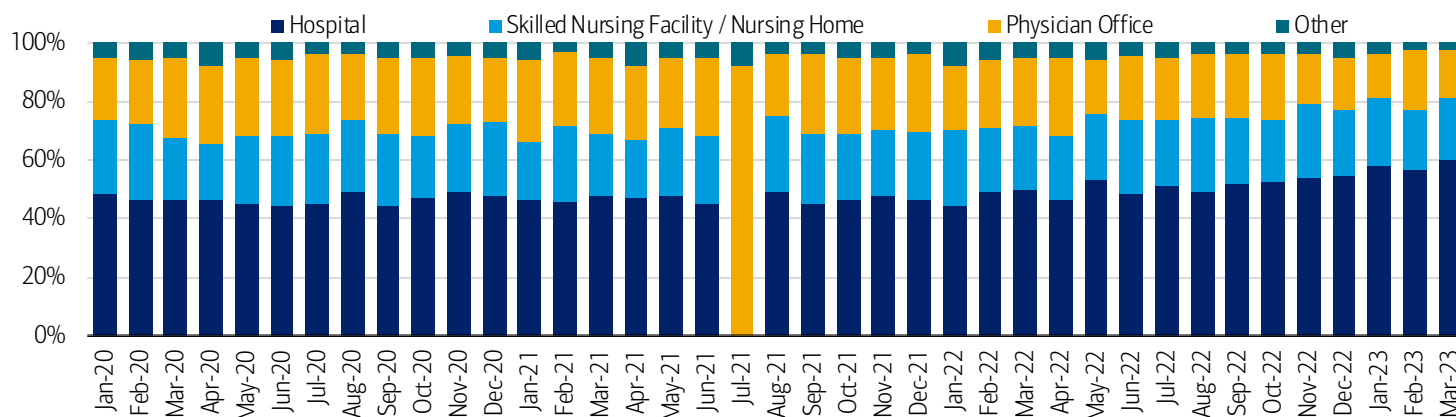
Please provide a percentage (%) of your home health patients that came from the following settings in March 2023 and March 2022.

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 (60% vs 50% last year), same % came from Skilled Nursing Facilities (SNFs) or nursing homes (22% vs 22% year ago), fewer came from a physician office (16% vs 23% prior year), and fewer came from other settings, such as assisted living, internet searches or insurance contracts (2% vs 5% a year ago).

Vs last month, more patients came from Hospitals (60% vs 57% prior month), more came from Nursing homes (22% vs 21% prior month), and less came from Physician offices (16% vs 20%).

Exhibit 32: Admission source of home health patients

In Mar compared to Feb, the share of patients coming from Hospitals was higher, the share coming from doctor's offices decreased



Source: BofA Global Research survey.

Exhibit 32: Admission source of home health patients

In Mar compared to Feb, the share of patients coming from Hospitals was higher, the share coming from doctor's offices decreased

BofA GLOBAL RESEARCH

Most respondents think 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 72% of respondents believe they are getting more patients that previously would have been discharged to a SNF. This is above the 70% in the summer months of 2022.

Those who are seeing this trend noted:

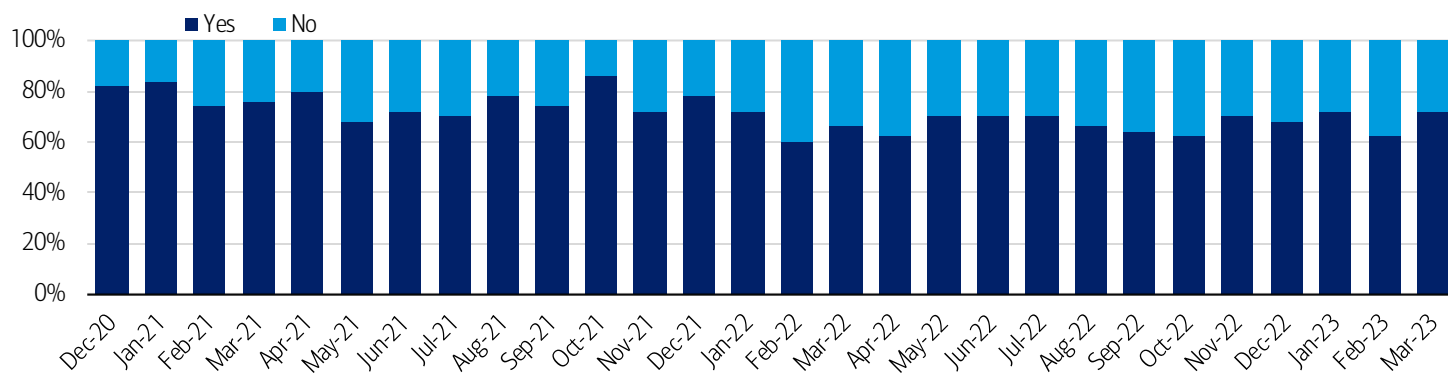
- COVID continues to send patients from those facilities
- Our caseload continues to be medically complex and often unstable
- Patient preference to be at home
- Better skills and options for home care and monitoring

Meanwhile, the 28% of respondents who are not seeing this trend noted:

- Little Covid impact currently
- Referral patterns unchanged
- Lack a strong relationship with SNFs

Exhibit 33: Responses to a question about SNF diversion

72% of respondents believe they're seeing patients that previously would have gone to SNFs



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

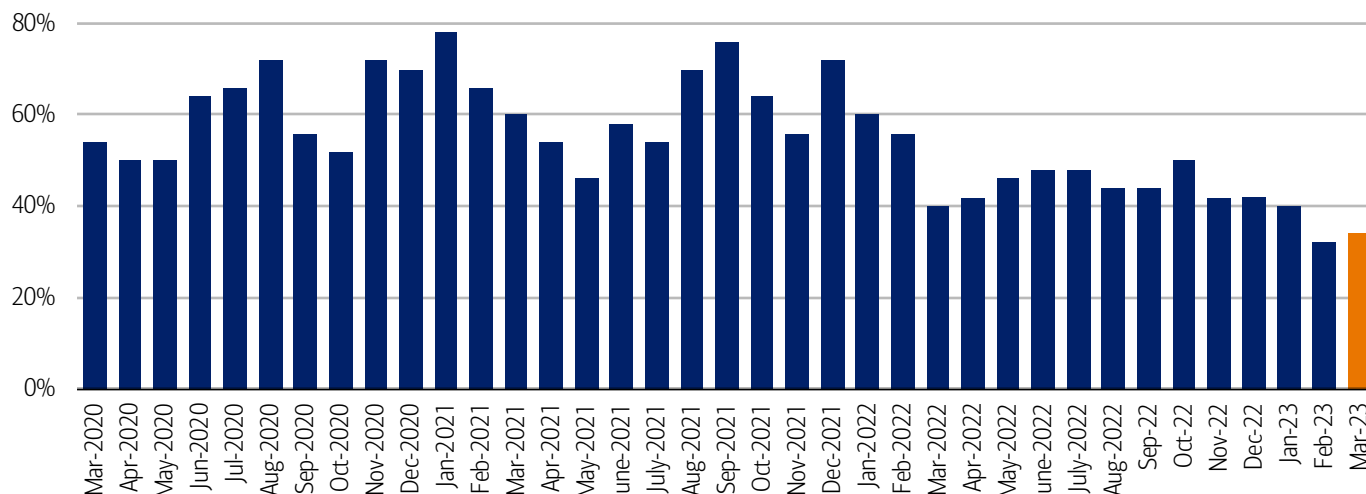
1/3 of agencies see higher admissions from hospitals due to COVID

Have you seen an increased number of home health admissions from hospitals as they discharge patients faster to free up beds for COVID-19 patients?

In our survey, 34% of respondents were seeing higher admissions from hospitals due to a faster patient discharge turnover. This is above the 32% in our February and below 40% in the January survey. It began decreasing in Oct 2022 and in February 2023 it reached its lowest point since we started tracking. Fluctuations can potentially be attributed to the changing survey respondents' m/m.

Exhibit 34: 34% of survey respondents saw higher admissions from hospitals

The share of agencies seeing higher admissions from hospitals was above 32% as of last month



Source: BofA Global Research

BofA GLOBAL RESEARCH

Of those who were seeing higher admissions from hospitals, they noted:

- Increase due to COVID
- Home health becoming preferred setting
- Hospitals trying to free up beds

The other 66% of respondents who are not seeing this trend noted that:

- COVID impact subsided
- Admissions stabilizing in the past couple months
- Less COVID in the public eye

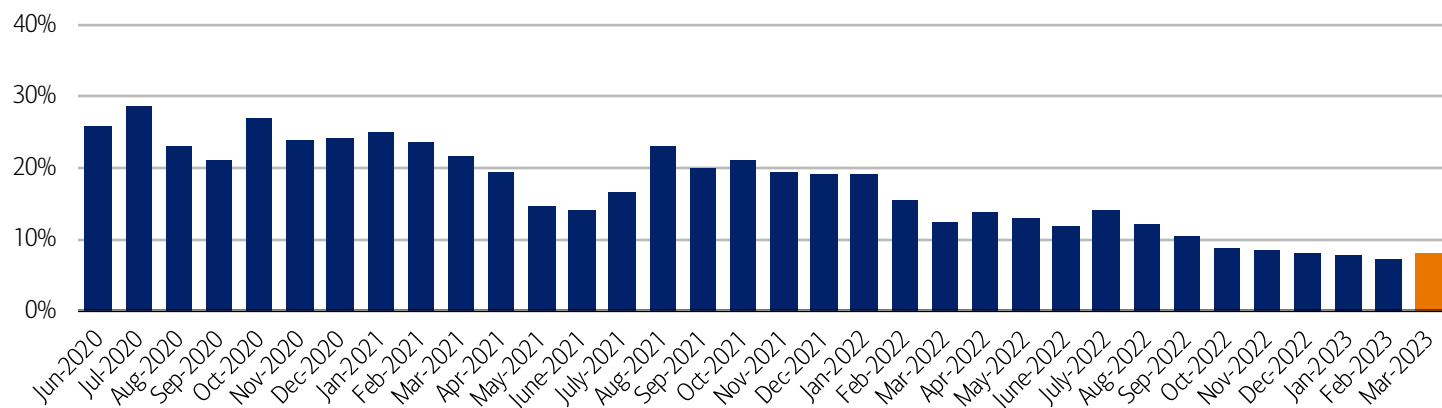
8% of monthly admissions delayed due to COVID-19

What percentage of your monthly home health admissions is being delayed due to COVID-19 causing hospitals to delay elective procedures?

On a weighted average basis, our respondents indicated that 8% of monthly home health admissions were delayed as a result of deferred elective procedures. This is above the result in our February survey. Generally fewer volumes have been deferred the last nine months compared to the period during the Delta (Aug-Sept 2021) and Omicron (Dec 2021-Jan 2022) surges.

Exhibit 35: Percentage of home health admissions delayed as electives are deferred

About 8% of respondents' admits are delayed due to COVID on average



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

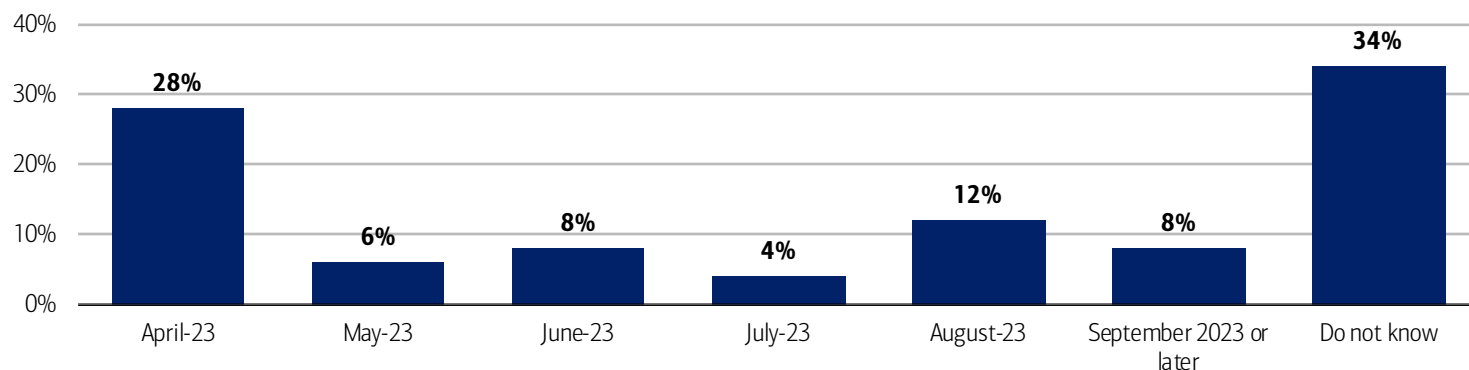
Outlook for recapturing deferred vols worsened: 28% expects return in April

When do you expect these deferred admissions to come back?

We asked respondents when they expected deferred volumes would return. 28% of respondents expect volumes will return in April 2023. A cumulative of 42% expect volumes to return over the next three months, down from 48% in the prior survey. 34% is unsure about the timing of the volume rebound, above the 30% in the February survey.

Exhibit 36: Respondents' expectations of when deferred volumes will return

28% of respondents expect volumes to return by April and 34% don't know



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exposure to VBC expected to increase

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.

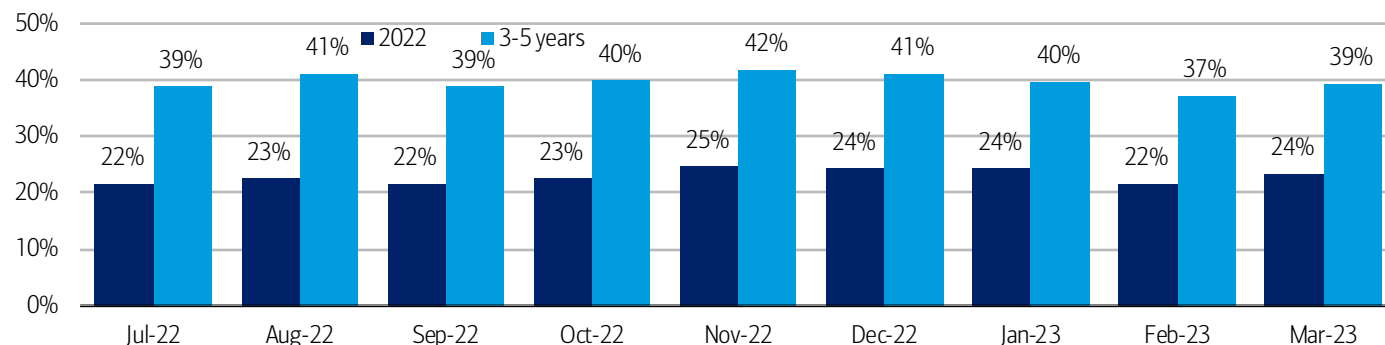
In March 2023, 66% of respondents saw less than 25% of their revenues coming from VBC (below 68% in the prior survey), 20% of respondents saw between 25%-50% (below 24% in the prior survey). On a weighted average basis, respondents reported 24% of their revenues from VBC in 2022, above the 22% in our prior survey.

In 3-5 years, 24% of respondents expect less than 25% of their revenues to come from VBC (below 32% in the prior survey), 44% of respondents expect between 25%-50% (above 32% in the prior survey). Cumulatively, 68% expect no more than 50% from VBC

in 3-5 years, which is above the 64% in the prior survey. On a weighted average basis, respondents expect 39% of revenues from VBC in the next 3-5 years, up from 37% in the prior survey.

Exhibit 37: Respondents expect VBC to be a bigger share of revs in the future, 39% vs 24% in 2022

Weighted average share of revenues coming from value-based contracts

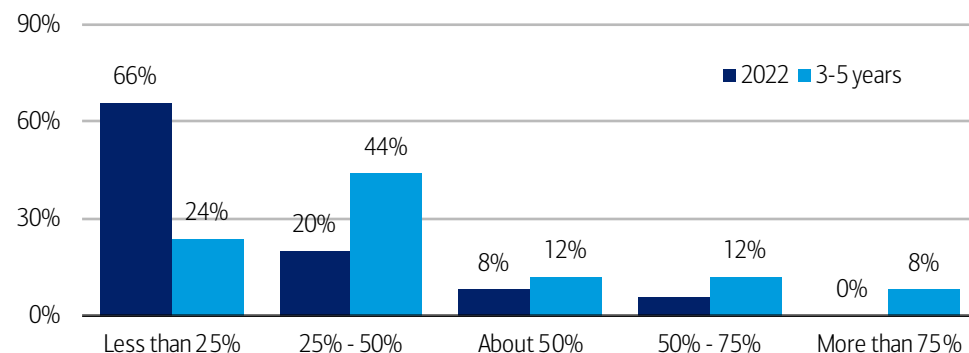


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 38: Share of revenues coming from value-based contracts, March 2022 survey

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

74% 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.

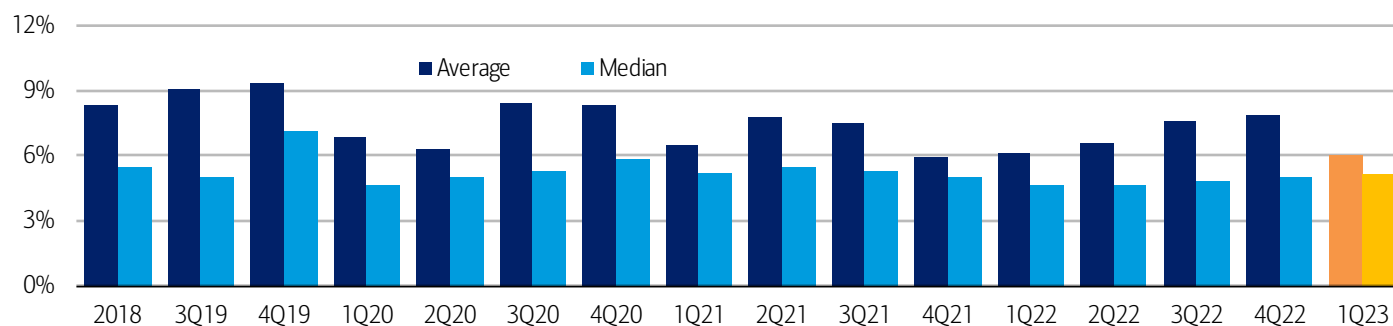
Hospice admissions accelerated in March, Q1 below 4Q22

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 +7.3% y/y in March (median of +6.0%), which is an acceleration from February 2023 growth. 1Q23 was below 4Q22: at +6.0% vs +7.9% in 4Q22. The median of +6.0% was above what we saw in February.

Exhibit 39: Quarterly trends in average organic hospice admits growth y/y

Hospice admit growth in Q1 was below 4Q22 levels

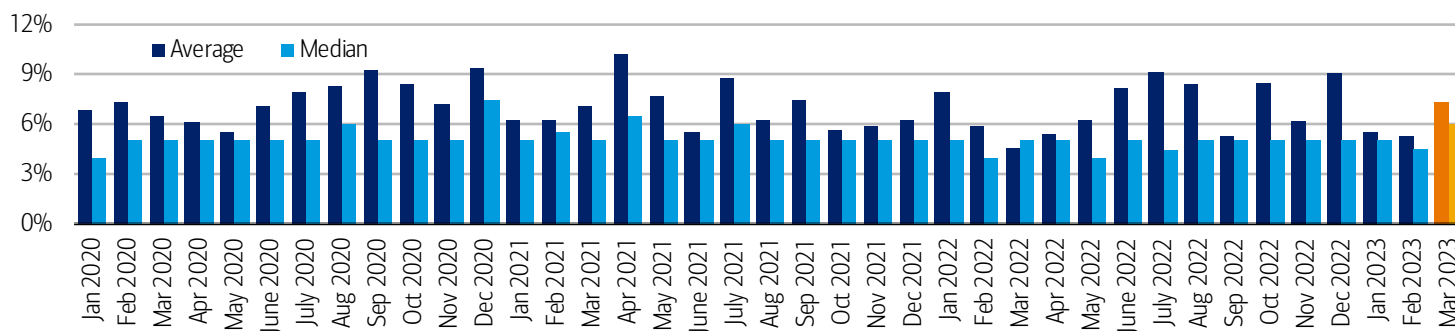


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 40: Monthly trends in average organic hospice admits growth y/y

Average hospice admission growth accelerated in March from February



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Hospice LOS increased +5.9% in March on average, median growth +4.0%

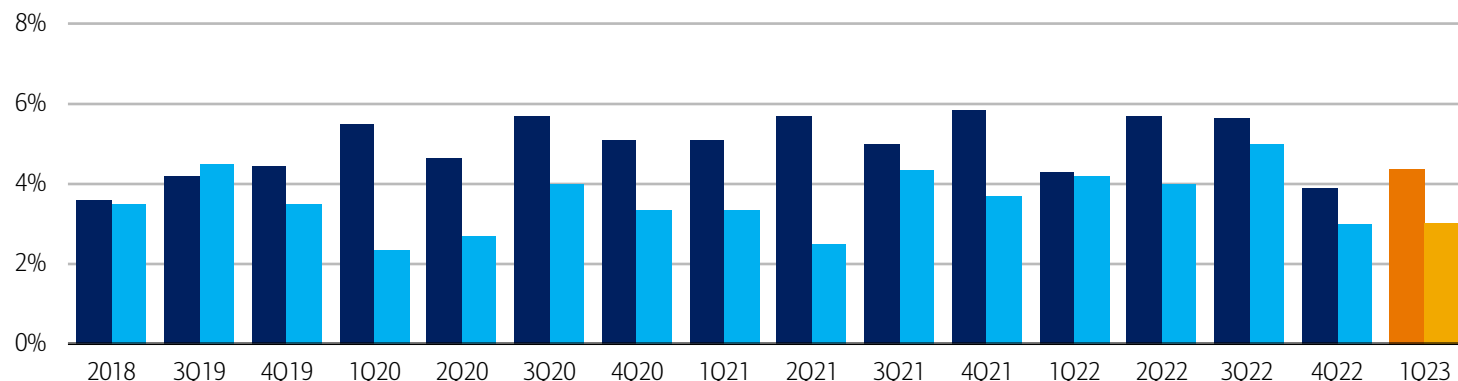
Please describe (quantify % change) actual hospice length of stay year-over-year at your agency at each of the following points in time.

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 +5.9% y/y in March, after growing +3.8% in February. The 1Q23 average growth of +4.4% was above the +3.9% y/y growth in 4Q22. Meanwhile, the median growth in LOS of 4% was above the result in February survey.

Exhibit 41: Quarterly Organic HH Growth (Hospice length of stay)

Average LOS growth in 1Q23 was above 4Q22

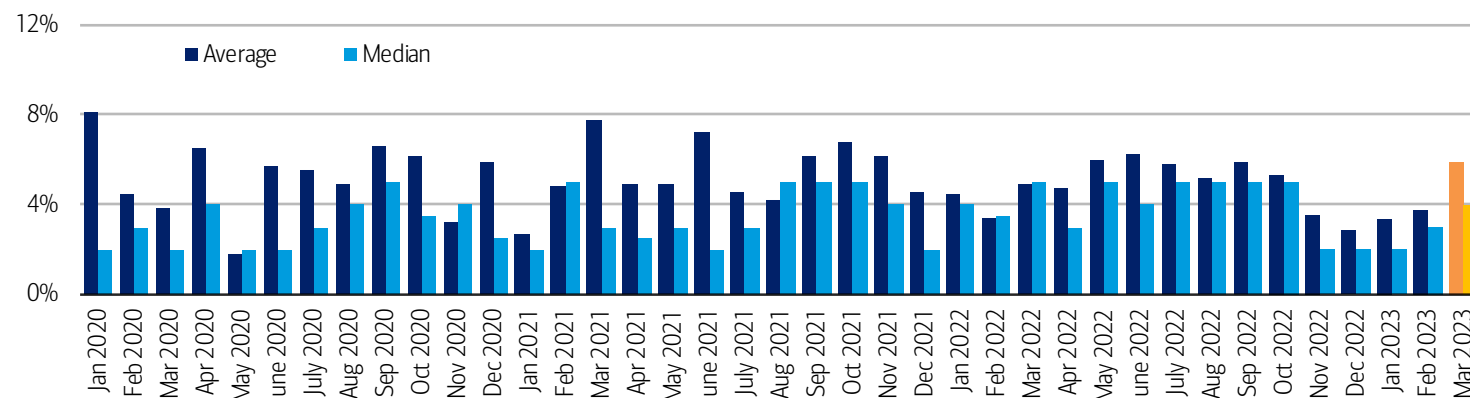


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 42: Organic Hospice Growth (Hospice length of stay)

Average LOS increased +5.9% in March, accelerating from February



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

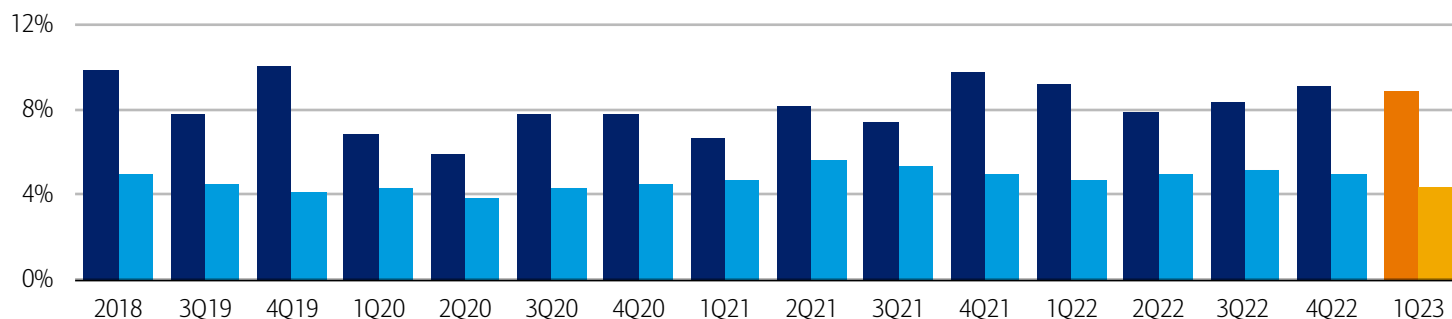
Organic Hospice ADC growth decelerated in March, 1Q23 below 4Q22

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 +9.5% y/y in March, a deceleration from the prior month (+11.0% y/y in February). The 1Q23 average growth was +8.8% y/y, below +9.1% y/y in 4Q22. The growth is currently above the trends observed in 2020. Median growth of +5.0% in March was in line with the median growth we saw in February.

Exhibit 43: Organic Hospice Average Daily Census y/y growth (Quarterly)

Organic census growth in 1Q23 below 4Q22

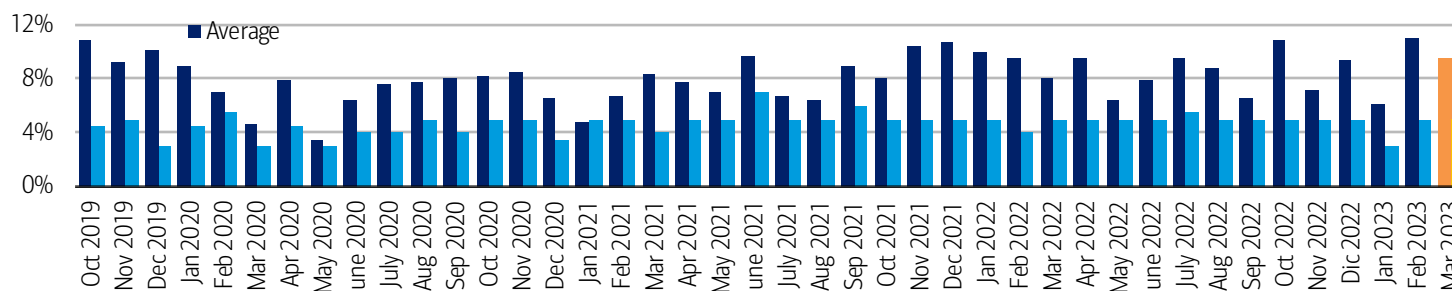


Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 44: Organic Hospice Average Daily Census y/y growth (Monthly)

Organic census growth in March below February



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

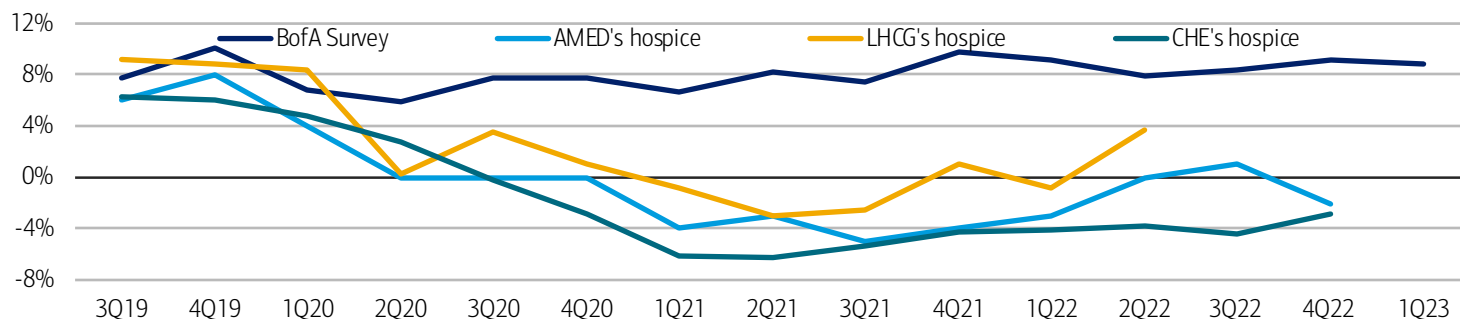
Surveys imply hospice vols decelerated in Q1

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 data was not strongly correlated: surveys showed acceleration while AMED's census decelerated, and CHE's census accelerated. The recent surveys show a deceleration in 1Q23 from 4Q22.

Exhibit 45: AMED, LHCG, CHE Hospice ADC y/y growth vs BofA surveys

Surveys imply ADC growth decelerated in 1Q23 vs 4Q22



Source: BofA Global Research survey, Company reports

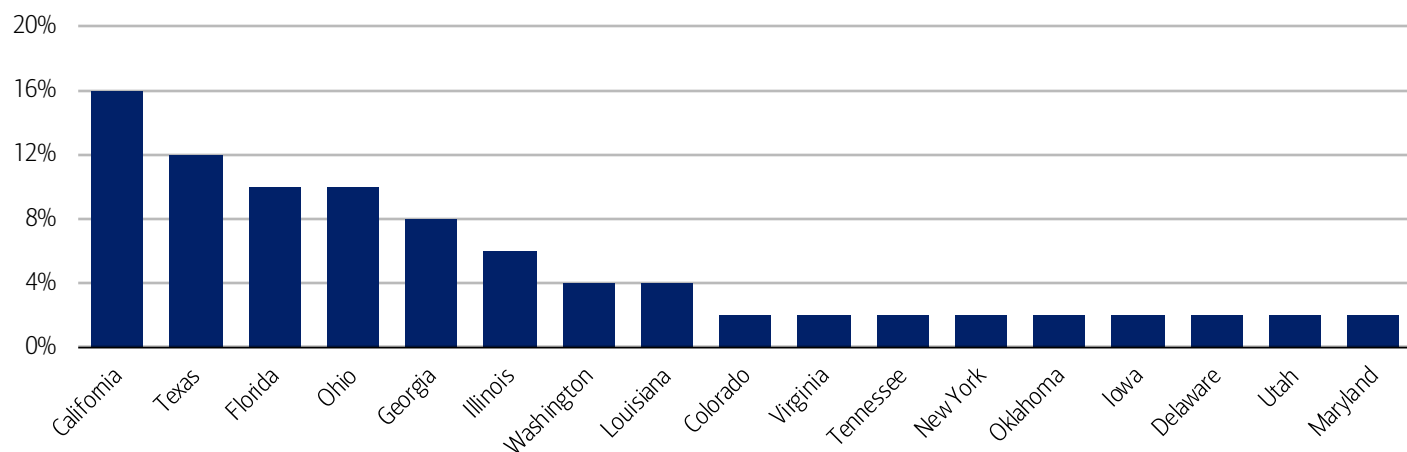
BofA GLOBAL RESEARCH

Appendix

Survey respondents came from 22 states in total, with CA, FL, TX and OH being the most represented.

Exhibit 46: Regional distribution of survey respondents

38% our respondents are from the key states of CA, FL and TX



Source: BofA Global Research survey

BofA GLOBAL RESEARCH

Exhibit 47: Companies mentioned

Companies mentioned

Ticker	Company Name	Price as of 12-Apr-23	Rating
ADUS	Addus HomeCare	\$110.94	B-1-9
AMED	Amedisys, Inc.	\$78.88	B-3-9
AVAH	Aveanna	\$1.10	C-3-9
CHE	Chemed Corporation	\$549.46	B-1-7
EHAB	Enhabit	\$13.44	C-3-9

Source: BofA Global Research

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). There are three investment ratings: 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. 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 BofA 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. ("BofA") 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:

BofA 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; BofA 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; BofA 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 BofA 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 BofA 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 or 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.