HEALTHCARE INDUSTRY GROUP

BAROMETER OF THE POST-COVID HEALTHCARE ECONOMY

Update: Q4 2021

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ALVAREZ & MARSAL LEADERSHIP. ACTION. RESULTS

Executive Summary

INTRODUCTION AND OBJECTIVE

Alvarez & Marsal's (A&M) Healthcare Industry Group (HIG) helps health systems navigate local, state and federal market dynamics. The COVID-19 pandemic, and its accompanying economic and social disruptions, led A&M to investigate the impact of these forces on the healthcare economy. A&M analyzed the financial and operating performance of the top 25 U.S. not-for-profit health systems, with publicly available datasets. Our previous reports told the story through Q3 2021. In this report, we are aggregating the Q4 2021 data and have included a detailed analysis. The timeframe ends amid the Omicron surge that would again overwhelm hospitals which were already coping with staffing issues. This report contains executable insights for healthcare leaders, investors and lenders, as they continue to navigate the changes and evolutions of the COVID-19 healthcare environment.

SUMMARY OF TRENDS

While our Q2 2021 report found that net patient revenue and operating income had bounced back in the summer of 2021, by September 2021operating expenses dangerously increased due to supply and staffing problems. Expenses in Q3 2021 ended 14% above pre-pandemic levels, effecting operating income in the Q4 2021 reporting period analyzed in this report. In addition, as we move into Q4 2021, the most transmissible SARS-CoV-2 variant yet, Omicron, began to emerge across the United States.

In Q4, net patient revenue continued to rise (+4.5% increase from Q3 2021 to Q4 2021) and the number of surgeries picked back up (+2% increase from Q3 2021 to Q4 2021) yet expenses continued to increase across the not-for-profit hospital world. Operating expenses surged by 18% above pre-pandemic levels, with a steep increase notably in Q4 2021 (+7.3% increase from Q3 2021 to Q4 2021). As predicted, operating income, tumbled -38.9% between Q3 and Q4 2021.

An upward trend in the number of surgeries from Q3 2021 to Q4 2021 was not evenly spread over the nation. Surgery volumes notably increased in the Southeast, where operating expenses also saw the greatest increase in the country. Furthermore, the aggregate number of procedures across the entire U.S. remained 2.9% below pre-pandemic levels. In the Northeast, in the subsequent quarter (Q1 2022), many hospitals had to suspend or curtail elective surgeries due to the Omicron surge. Notably in this region, surgical volumes had not increased much to begin with, as we see in this analysis. That renewed elective surgical shutdown in Q1 2022 could be predicted through the relatively large percentage increase in patient days in the Northeast in Q4 2021 and its effect will be clear in the next iteration of this report (Q1 2022). In this Q4 2021 publication, we already saw decreasing emergency room visits across the board (-5% decrease from Q3 2021 to Q4 2021), as harbinger of that new downward trend and renewed heightened anxiety across the nation.

The Omicron variant is known to be more transmissible than previous SARS-CoV-2 variants, while causing less severe disease. However, the sheer number of infections caused by Omicron, meant that more people at risk of severe disease ended up in the hospital. We see that borne out in the Q4 2021 data. In the last quarter of 2021, the number of discharges remained stable while length of stay and total number of patient days grew, showing a rise in patient acuity that has been visible throughout the previous iterations of this report. An additional factor in the elevated length of stay (5.2 to 5.7 days) could be the previously mentioned staffing issues, impacting patient flow.

By the numbers:

- NET PATIENT REVENUE: increased 14% from 2020 to 2021 and kept growing to 12% above pre-pandemic levels* in Q4 2021.
- TOTAL OPERATING EXPENSE: increased 8.9% from 2020 to 2021 and ended 18% above pre-pandemic levels* in Q4 2021.
- **OPERATING INCOME:** increased 67% from 2020 to 2021, with large infusions of CARES Act funds. Ended 34% below prepandemic levels* in Q4 2021.
- DISCHARGES: increased 3.9% from 2020 to 2021 but were still 5.5% below pre-pandemic levels* in Q4 2021.
- PATIENT DAYS: increased 7.4% from 2020 to 2021 and were 6.5% above pre-pandemic levels* in Q4 2021.
- LENGTH OF STAY: increased 4% from 2020 to 2021 and ended up being almost 75% longer in Q4 2021 than before the pandemic.
- SURGERIES: increased 13.8% from 2020 to 2021 but was 2.9% lower than pre-pandemic levels* in Q4 2021.
- EMERGENCY ROOM VISITS: increased 10% from 2020 to 2021 and remained 5.5% below pre-pandemic volumes in Q4 2021.

*pre-pandemic level point of comparison: Q4 2019

THE DATA

To better understand the effect of COVID-19 on healthcare providers, A&M created a cross-section of health systems across the country by analyzing the publicly available financial statements of the 25 "largest" not-for-profit health systems in the United States. The initial "sizing" of health systems was defined by the number of hospitals within those health systems. Financial statements were accessed via health system websites and/or websites where bond-related information is reported publicly. The reporting of these financial statements usually occurs between three to six months post quarter-end, creating a lag in the data. However, an alternative data set does not exist in the industry that collectively models all of these health systems. The data time-period analyzed begins at the start of calendar year 2019 to establish a pre-pandemic baseline.

DEMOGRAPHICS OF THE TOP 25 "LARGEST" NOT-FOR-PROFIT HEALTH SYSTEMS STUDIED

- Out of all 6,093 hospitals in the U.S., 49% (2,960) is a non-government, not-for-profit community hospital (1).
- The top 25 largest not-for-profit health systems included in this analysis jointly own more than 1,000 hospitals, representing roughly a third of all non-profit hospitals.
- All U.S. health systems together account for more than \$1,2T in OpEx (1). This analysis covers roughly one quarter of that.
- ⁽¹⁾ Source: https://www.aha.org/statistics/fast-facts-us-hospitals, accessed June 6th, 2022. Data from the 2020 AHA Annual Survey. *AHA Hospital Statistics, 2022 Edition*

A&M will continue to generate this report quarterly, to monitor and track trends driving the health system economy leading to unique market dynamics and the continued impact of COVID-19.

THE STATE OF THE COVID-19 PANDEMIC

The trends described in this report played out against the backdrop of the COVID-19 pandemic. Our current dataset ends after Q4 2021, when the U.S. was in the midst of a COVID-19 surge, with Omicron replacing other forms of SARS-CoV-2. To summarize:



Daily cases and new hospital admissions of patients with confirmed COVID-19 in the USA 2019 - 2021

Source: www.ourworldindata.org

Q1 2020:

- The first U.S. COVID-19 patient is identified in January, leading to a public health emergency.
- The WHO declares the COVID-19 pandemic (March) and countries are restricting travel to try to contain the virus.
- · Later in March, the first major lockdowns (New York, California) are enforced.

Q2 2020 - Q3 2020:

- Ongoing lockdowns and surging cases force businesses and schools to close. Hospitals in parts of the U.S. are overwhelmed; COVID-19 becomes the third leading cause of death in the U.S.
- U.S. hospitals lost an estimated \$22.3 billion between March and May due to delays and cancellations of elective surgeries. [Sourav KB, et al. The costs of quarantine. Ann Surg 2021: 273(5); 844-9.].
- Phased re-opening in some states leads to more COVID-19 cases.

The Barometer of the Post-COVID Healthcare Economy | Report Updated Through Q4 2021

Q4 2020:

- A winter surge of the classic COVID-19 virus puts even more emphasis on social distancing and mask wearing.
- The Pfizer and Moderna mRNA vaccines receive Emergency Use Authorization (EUA) from the FDA.

Q1 2021:

- As the winter surge slowly recedes, variants like the Alpha (British) and Beta (South African) variant turn up.
- While the Pfizer and Moderna vaccines are rolled out, the J&J vaccine receives an EUA as well.

Q2 2021:

• The spring and early summer of 2021 saw relative calm, on the COVID-19 front in the U.S. as half of all adults received at least one COVID-19 vaccine dose and adolescents became vaccine eligible.

Q3 2021:

- Seventy percent of the U.S. population and 90% of Americans 65 years and older, have received at least one doses of a COVID-19 vaccine; several companies mandate COVID-19 vaccines for employees.
- In Q2 2021, the Delta variant emerged, causing a surge in cases towards the end of Q3 2021. Delta is more transmissible than the Alpha variant and the classic COVID-19 virus and less susceptible to existing COVID-19 vaccines.
- Importantly, the surge in cases is not distributed evenly over the U.S. Initially the surge hit the South, but towards the end of Q3 2021, Delta became widespread across other parts of the country.

Q4 2021:

- In November, the U.S. restricts travel from South Africa and seven other African countries because of concern over a new variant from that area, called Omicron.
- The first case of Omicron is detected in the U.S. (December 1st). Omicron would become the dominant COVID-19 strain in the second half of December.
- Hospitals, already understaffed after many healthcare workers left the profession, become again overwhelmed with the Omicron surge.

The Healthcare Economy: Detailed Report Updated Through Q4 2021

OBJECTIVE

Alvarez & Marsal's (A&M) Healthcare Industry Group (HIG) helps health systems navigate local, state and federal market dynamics. The COVID-19 pandemic, and its accompanying economic and social disruptions, led A&M to investigate the impact of these economic and social forces on the healthcare economy. We aim to provide executable insights for healthcare leaders, investors and lenders as they navigate the COVID-19 healthcare environment, based on financial and operating trends of the top 25 U.S. not-for-profit health systems through Q3 2021.

THE DATA

To better understand the effect of COVID-19 on healthcare providers, A&M analyzed a cross-section of health systems throughout the U.S., using publicly available financial statements of the 25 "largest" not-for-profit health systems. The size of health systems was defined by the number of hospitals within those health systems. Financial statements were accessed via health system websites, and/ or websites where bond-related information is reported publicly. Data were collected from the beginning of calendar year 2019, to establish a pre-pandemic baseline, through Q4 2021. Financial statements are usually reported between three and six months after the end of the quarter, creating a lag in the data. However, there is no alternative data set in our industry that collectively models these health systems. A high-level, blinded summary of the health systems is included in the analysis below:

#	Number of Hospitals	Calendar Year (2020) Net Patient Service Revenue (in 000s)	Calendar Year (2020) Total Operating Revenues (in 000s)	Fiscal Year End
1	145	\$22,686,935	\$26,103,659	June 30
2	137	\$26,905,000	\$30,947,000	June 30
3	92	\$15,377,531	\$19,405,182	June 30
4	52	\$8,470,000	\$10,844,000	June 30
5	51	\$18,964,000	\$25,675,000	December 31
6	50	\$8,970,458	\$9,969,660	December 31
7	46	\$11,572,183	\$12,623,222	December 31
8	46	\$3,611,525	\$6,654,113	December 31
9	42	\$6,520,536	\$7,290,964	December 31
10	40	\$9,199,717	\$23,093,417	December 31
11	35	\$1,899,653	\$2,612,513	June 30
12	35	\$5,198,499	\$5,890,088	June 30
13	30	\$7,370,066	\$10,397,111	December 31
14	27	\$4,458,777	\$4,861,920	December 31
15	26	\$10,216,386	\$13,132,189	December 31
16	24	\$10,532,000	\$13,220,000	December 31
17	23	\$11,501,000	\$13,910,000	December 31
18	23	\$9,081,218	\$13,430,463	December 31
19	23	\$4,916,815	\$8,253,201	December 31
20	22	\$3,932,963	\$4,612,051	December 31
21	15	\$2,346,544	\$2,550,780	June 30
22	10	\$7,653,326	\$9,115,093	December 31
23	20	\$4,097,000	\$4,774,000	December 31
24	12	\$2,910,118	\$3,311,063	December 31
25	12	\$3,978,564	\$8,861,351	December 31
	1,038	\$ 222,370,814	\$291,538,040	

NOTE:

1. Not-for-Profit Health Systems with publicly available financial statements are included.

2. The initial "sizing" of health systems was defined by number of hospitals. 3. N = 25.

4. Dollars displayed in 000s.

DEMOGRAPHICS FOR THE 25 NOT-FOR-PROFIT HEALTH SYSTEMS INCLUDED IN THIS ANALYSIS

Whereas this analysis includes only 25 health systems, it covers a significant part of the U.S. health system because of the size and scale of these organizations.

- Out of all 6,093 hospitals in the U.S., 49% (2,960) are non-government, not-for-profit community hospitals⁽¹⁾.
- The top 25 largest not-for-profit health systems included in this analysis jointly own more than 1,000 hospitals, representing roughly a third of all non-profit hospitals.
- All U.S. health systems together account for more than \$1,2T in OpEx(1). This analysis covers roughly one quarter of that.

⁽¹⁾ Source: https://www.aha.org/statistics/fast-facts-us-hospitals, accessed June 6th, 2022. Data from the 2020 AHA Annual Survey. *AHA Hospital Statistics, 2022 Edition*

PERFORMANCE METRICS

The metrics reported in publicly available financial statements with the most overlap across the health systems, are detailed below along with their sample size, N (out of the 25 health systems):

- 1. NET PATIENT REVENUE, NPR (in \$ per Q, N = 25) Revenue collected from paid medical bills.
- 2. TOTAL OPERATING EXPENSES (in \$ per Q, N = 25)

Operating expenses as part of care delivery, incl. salaries/benefits, medical supplies, interest and depreciation on buildings and equipment.

3. OPERATING INCOME (in \$ per Q, N = 25)

Total operating revenue (incl. net patient revenue/NPR, 340B profits, CARES relief funds, grants and contracts) minus Total operating expenses.

- DISCHARGES (patients per quarter, N = 22) Total number of patients released from the hospital in the quarter period.
- PATIENT DAYS (patients per quarter, N = 21) Total number of patients (daily census) occupying beds for all days in the quarter period.
- LENGTH OF STAY (average number of days in the quarter, N = 21)
 Average length of an inpatient episode of care from day of admission to discharge in the quarter period (Patient days/Discharges).
- SURGERIES (surgeries per quarter, N = 14)
 Total number of inpatient surgeries, leading to at least one night in the hospital, in the quarter period.
- 8. EMERGENCY DEPARTMENT VISITS (N = 18)

Total number of emergency department visits in the quarter period.

RESULTS

	NET PATIENT REVENUE	Decreased 2.7% from 2019 to 2020 Increased 14% from 2020 to 2021 In Q4 2021, 12% above pre-pandemic levels (Q4 2019)
\$	TOTAL OPERATING EXPENSE	Increased 5% from 2019 to 2020 Increased 8.9% from 2020 to 2021 In Q4 2021, 18% above pre-pandemic levels (Q3)
	OPERATING INCOME Note: CARES Act Funding included*	Decreased 11% from 2019 to 2020 Increased 67% from 2020 to 2021* In Q4 2021, 34% below pre-pandemic levels (Q4 2019)
	DISCHARGES	Decreased 9% from 2019 to 2020 Increased 3.9% from 2020 to 2021 (both ending Q3) In Q4 2021, 5.5% below pre-pandemic levels (Q4 2019)
	PATIENT DAYS	Decreased 4.4% from 2019 to 2020 Increased 7% from 2020 to 2021 In Q4 2021, 6.5% above pre-pandemic levels (Q4 2019)
	LENGTH OF STAY	Increased 6% from 2019 to 2020 Increased 4% from 2020 to 2021 In Q4 2021, 3/4 days above pre-pandemic levels (Q4 2019)
	SURGERIES	Decreased 12% from 2019 to 2020 Increased 13.8% from 2020 to 2021 In Q4 2021, 2.9% below pre-pandemic levels (Q4 2019)
பு	EMERGENCY ROOM VISITS	Decreased 18% from 2019 to 2020 Increased 10% from 2020 to 2021 In Q4 2021, 5.5% below pre-pandemic levels (Q4 2019)

Further details associated with each metric are provided on the following pages.



Net Patient Revenue (NPR) Accumulated Across Quarters from Q1 2019 Through Q4 2021



Rate of Change of Total Net Patient Revenue (NPR): 2019 - 2021

2020 vs 2019

% CHANGE IN NET PATIENT REVENUE (NPR)

2021 vs 2020

- N = 25 health systems
 National = nationwide systems
- NPR declined 1%-4% across the board between 2019 and 2020.
- NPR increased between 12%

 19% from 2020 to 2021, and between 4% and 17% from Q4 2020 to Q4 2021.
- Recovery from Q2 2020 (COVIDdip) to Q4 2021 remains sturdy (20% to 40% increase).
- NPR shows regional variation in RoC in most recent quarter for which data are available, with a decrease in the Northeast. National numbers, notably the Southeast, but also the Midwest continue to improve.



Q4 2021 vs Q4 2020

National North East South East Mid West Wes

Q4 2021 vs Q3 2021

Q4 2021 vs Q2 2020



Total Operating Expense Accumulated Across Quarters from Q1 2019 Through Q4 2021

- N = 25 health systems (names blinded, the band width of each layer represents the OpEx of that system)
- OpEx has steadily increased since the start of 2019, in particular over the last parts of 2020 and 2021.
- OpEx increased 5% from 2019 to 2020, and 8.9% from 2020 to 2021.
- OpEx increased 18.3% from Q4 2019 to Q4 2021. During this time, salaries, wages, and benefits increased 21% from prepandemic levels.
- OpEx grew 29% from Q3 2021 to Q4 2021 on an annualized basis.



Rate of Change of Total Operating Expense (OpEx): 2019 – 2021

- N = 25 health systems
 National = nationwide systems
- OpEx increased 1-11% between 2019 and 2020, with the largest health systems experiencing the smallest increase (1%).
- OpEx increased 5%-14% from 2020 to 2021, with lagging spending increases for care delivery by the Northeast region health systems compared to other U.S. regions.
- Since 2020, OpEx increased the most in the Southeast region regardless of the time period examined. On annualized terms, OpEx even increased 72% in the Southeast, comparing Q3 2021 to Q4 2021.





Key Insights and Trends: Operating Income

Total Operating Income by Quarter Q1 2019 Through Q4 2021

- N = 25 Health Systems (names blinded, each colored band represents a health system)
- Operating Income = Total Operating Revenue (incl. NPR) minus Total Operating Expenses
- Because of the dip in NPR in Q2 of 2020, Operating Income for not-forprofit hospital systems was down 11% in Q2 2020 compared to Q4 2019 (pre-pandemic level).
- NOTE that these data include CARES Act funding if and where accepted. Not-for-profit health systems in our analysis collectively received \$14.7B in relief funds, mainly recognized by the health systems at the end of 2020. 2021 also includes smaller portions. Therefore, the 68% increase in Operating Income from Q3 2020 to Q4 2020 is artificial.
- Since Q2 2021, there has been a downward trend, with a 38.9% decrease in operating income between Q3 and Q4.



tal Operating income by Quarter Q1 2019 Through Q4 20





Discharge Volume Across Quarters from Q1 2019 Through Q4 2021

Rate of Change of Total Discharge Volume: 2019 - 2021

N=22 health systems
 National = nationwide systems

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- Discharges decreased 5-11% between 2019 and 2020, with the greatest decreases for the largest health systems and the West region (11%).
- Discharges increased again (1%-8%) from 2020 to 2021: The Northeast and Southeast regions outperform other regions with 7% and 8% growth in discharge volume respectively.
- However, discharges decrease again across the board (5%-9%) comparing Q3 2021 to Q4 2021 on an annualized basis.
- Except in the Southeast (breakeven), discharges in Q4 2021 are still 2%-8% below pre-pandemic levels (Q4 2019).

% CHANGE IN DISCHARGES



Key Insights and Trends: Patient Days



Total Patient Days by Quarter Across Q1 2019 Through Q4 2021

- Rate of Change of Total Patient Days: 2019 2021
- N = 21 health systems
 National = nationwide systems
- Patient days decreased 1%-7% between 2019 and 2020, with the largest health systems experiencing the most decrease.
- From 2020 to 2021, patient days increased across the board 2%-15%.
- When differences in the last quarter of 2021 are annualized, large regional differences are visible in the utilization of hospital beds. Indeed, from Q3 2021 to Q4 2021, patient days decreased 9% in the Southeast region, while patient days in the Northeast increased with 38%. It shows the concentration of Omicron repercussions, primarily in the Northeast.

% CHANGE IN PATIENT DAYS



Key Insights and Trends: Length of Stay



Length of Stay per Quarter (Average Across Entire Data Set)







Total Surgery Volume by Quarter Across Q1 2019 Through Q4 2021

Rate of Change of Total Surgery Volumes: 2019 – 2021

- N=14 health systems
 National = nationwide systems
- Surgeries decreased 5%-16% across the board between 2019 and 2020, with the Northeast experiencing the smallest decrease.
- 2020 to 2021 saw a rebound in surgeries across all regions, ranging from 7%-20%.
- Surgeries increased across all regions in the last quarter of 2021 on an annualized basis (Q4 2021 versus Q3 2021), with the most pronounced increase occurring in the Southeast region.



Key Insights And Trends: Emergency Room Visits



Total Emergency Room Visits by Quarter Across Q1 2019 Through Q4 2021

Rate of Change of Total Emergency Visits: 2019 - 2021

• N = 18 health systems National = nationwide systems

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- Emergency visits decreased 15%-19% across the board between 2019 and 2020.
- Emergency visits increased 8%

 13% across all regions from 2020 to 2021, with the largest increases seen in the Northeast and Southeast.
- However, this increasing trend does not continue through 2021 though, and emergency visits begin falling 14%-25% across all regions.



Conclusion

The pandemic in the U.S. entered a new phase with the arrival of the Omicron variant in December 2021. Although net patient revenue, a pivotal metric for a hospital's economic success, in Q4 2021 was comfortably above pre-pandemic levels, the rise in total operating expenses and the decrease in operating income inform us of the difficult times in the first quarters of 2022. Elective surgeries and emergency room visits may never return to their pre-pandemic levels (absolute and growth curve). This will eventually stimulate hospitals to right-size, both inside and outside hospital walls, and form networks to reduce costs while increasing quality. That may be a silver lining to keep in mind, as we await the challenges we will see in the next report analyzing Q1 2022.



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ABOUT ALVAREZ & MARSAL

Companies, investors and government entities around the world turn to Alvarez & Marsal (A&M) for leadership, action and results. Privately held since its founding in 1983, A&M is a leading global professional services firm that provides advisory, business performance improvement and turnaround management services. When conventional approaches are not enough to create transformation and drive change, clients seek our deep expertise and ability to deliver practical solutions to their unique problems.

With over 6,000 people across five continents, we deliver tangible results for corporates, boards, private equity firms, law firms and government agencies facing complex challenges. Our senior leaders, and their teams, leverage A&M's restructuring heritage to help companies act decisively, catapult growth and accelerate results. We are experienced operators, world-class consultants, former regulators and industry authorities with a shared commitment to telling clients what's really needed for turning change into a strategic business asset, managing risk and unlocking value at every stage of growth.

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