TheAcademy

# The Academy COVID-19 Brief

## Measuring COVID-19 Financial Impact & Recovery | June 15, 2020

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The COVID-19 pandemic has had a profound impact on health system economics. The hit on revenues was sudden and extensive from March into May. Revenue rebound, defined by the recent restart of elective services across most markets, has also provided important insight into health system economics. Partnering with Iodine, an artificial intelligence (AI)-based healthcare software company, The Academy has analyzed the inpatient side of health system financial impact and recovery. The Q&A that follows includes valuable data from Iodine's database, as well as Academy survey data reflecting Leading Health System (LHS) executive perspectives related to COVID-19 impact and recovery. The Academy will continue to track and report on COVID-19 pandemic recovery efforts. Look for updates to data included in this brief in coming weeks.

### Spotlight on Iodine's Unique Data Assets

- Iodine developed a new machine learning approach—Cognitive Emulation—to help healthcare finance leaders with clinical documentation integrity (CDI) performance.
- Iodine has partnered with 600+ hospitals in the United States to create a large and diverse clinical data set encompassing 20M+ patient admissions (1 in every 7 inpatient stays in the US), 400K+ physicians' behaviors, and 60,000+ COVID-19 cases.

### Topics Explored in this Briefing

- ✔ Inpatient Financial Impact
- ✔ Health System Recovery Priorities
- ✔ Case Volume Recovery
- ✔ Revenue Forecasts

## Q: What has been the financial impact on inpatient services? How does this differ for health systems that have treated a significant volume of COVID-19 patients versus those that did not?

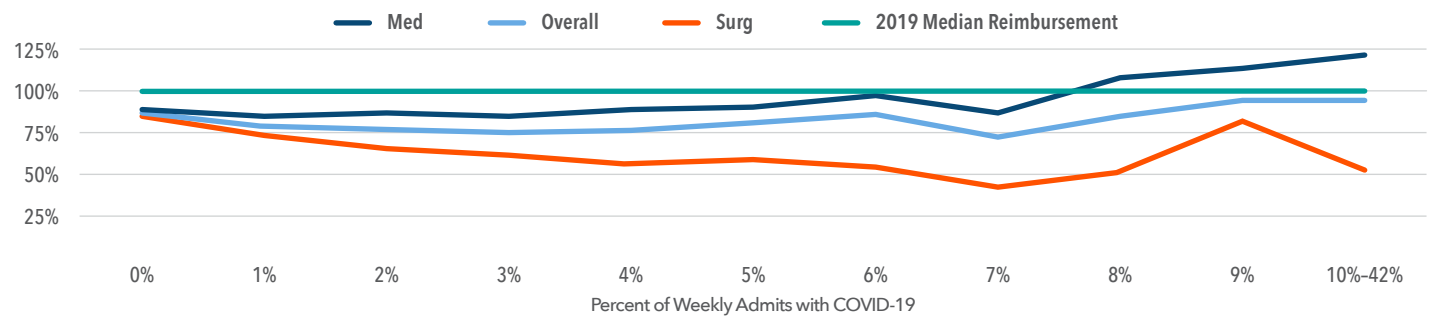
As soon as the pandemic was taken seriously in the United States, health systems initiated a rapid shut down of elective procedures and services. Even prior to handling an appreciable volume of COVID-19 patients, hospitals were already experiencing an approximately 30% dip year-over-year in expected inpatient reimbursement.

Interestingly, the extent of revenue impact was modest relative to the percentage of COVID-19 admissions for hospitals, up to a threshold level of COVID-19 admissions. Depressed reimbursement levels remained fairly consistent until COVID-19 patients accounted for 7% of weekly admissions. At about 7% COVID-19 admissions, reimbursement began to recover, as a result of an increased case mix index (CMI) from the higher percentage of very sick COVID-19 cases, an increased medical case volume with more COVID-19 admissions, or both factors.

However, even as overall reimbursement rose as hospitals treated higher volumes of COVID-19 patients, surgical reimbursement continued to be suppressed. Overall reimbursement reached about 95% of the previous year's level when the volume of COVID-19 patients reached 10% of weekly admissions. But during this period, surgery reimbursement significantly dropped to only 52% of the previous year's level.

To be clear, these analyses do not account for outpatient services, which experienced an even more dramatic drop in demand that was not made up for by COVID-19 in the same way as inpatient. Moreover, the reimbursement inflection correlated with high COVID-19 caseloads was experienced by very few hospitals across the country (because the greatest surges were concentrated in few regions).

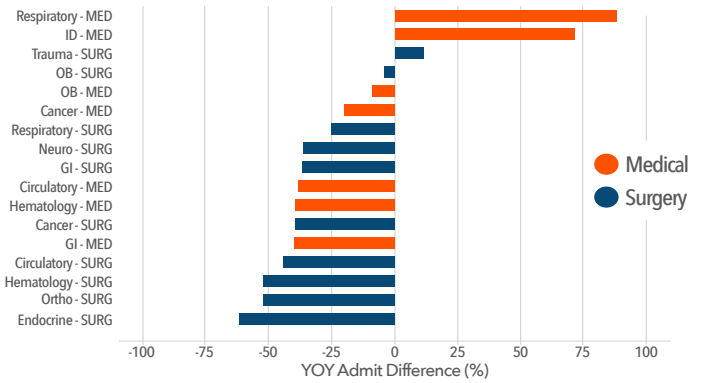
**Relative Reimbursement by Percentage of Weekly Admissions with COVID-19**
Measured from March 4, 2020 until each facility's peak week of COVID-19 admissions; Data provided by Iodine



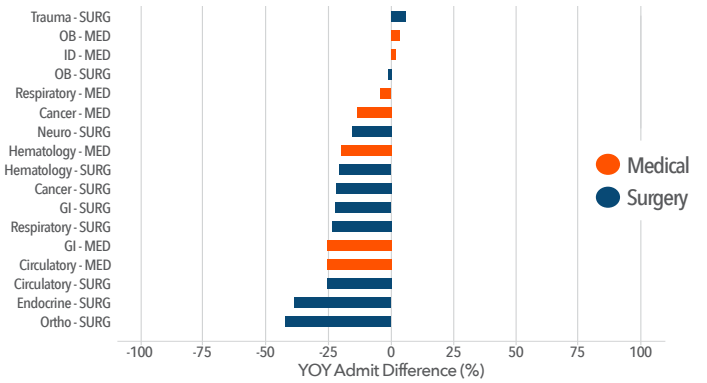
Given hospitals' cross-subsidy economics–with surgical services providing the lion's share of profitable business–the dramatic and persistent drop in inpatient surgery, irrespective of COVID-19 cases has been disastrous for hospitals' bottom lines. At hospitals with higher COVID-19 caseloads (defined as at least 5% of total admissions in the month), the average inpatient surgical volume reduction from March 1 through April 22 was 38%, while at lower COVID-19 caseload hospitals, surgery fell by a still meaningful 22%. Most medical admissions fell comparably, with the exception that hospitals with comparatively high COVID-19 caseloads saw a dramatic increase in admissions for respiratory and infectious disease conditions (90% and 70%, respectively).

A comparison of the two figures below shows that at "COVID facilities," the average Major Diagnostic Category (MDC) surgical volume decreased by 41%, while at non-COVID facilities, the average MDC surgical volume only decreased by 23%.

**High COVID-19 Case Load Hospital Admissions: Surgical & Medical Cases**
Year-Over-Year Change 3/1/2020 – 4/22/2020 by Major Diagnostic Category




**Low COVID-19 Case Load Hospital Admissions: Surgical and Medical Cases**
Year-Over-Year Change 3/1/2020 – 4/22/2020 by Major Diagnostic Category




*Note: Data provided by Iodine; Higher COVID-19 caseload hospitals defined by having at least one week of 5%+ of inpatient admissions with COVID-19. Lower COVID-19 caseload hospitals defined by having no week with 5%+ admissions as COVID-19.*

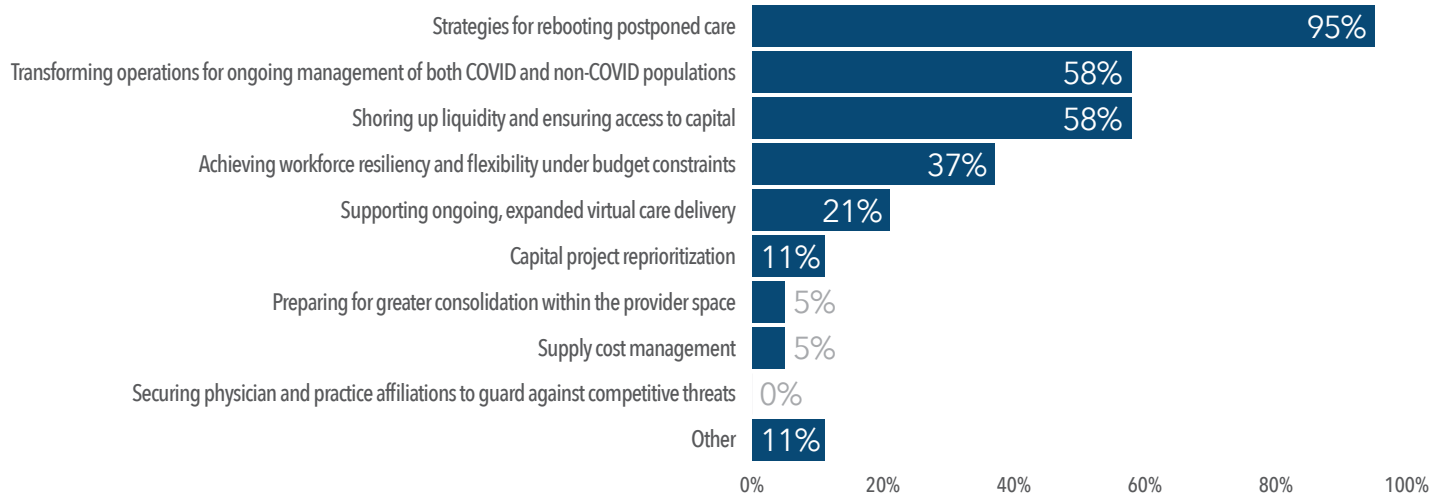
## Q: In light of this revenue disruption, what are health systems' top priorities on the road to recovery?

There is no doubt that hospitals cannot operate for long with revenue losses like those seen in the spring. No amount of cost cutting can close a 30-50% hole, especially in an industry with operating margins averaging less than 5%. So, it should come as no surprise that when asked in a mid-May Academy survey for their near or mid-term priorities for their health systems, 95% of health system CFOs selected restarting elective care as their top priority.

However, restarting is not as easy as shutting down. For many health systems and hospitals, elective procedures were green-lighted to resume in early or mid-May. But for many providers, resource constraints and persistent rates of COVID-19 admissions meant tiering their resumption of elective cases, including capping initially at 25% or 50% pre-COVID-19 baseline to ensure the system is not overwhelmed.

Other top priorities selected by CFOs included shoring up liquidity and ensuring access to capital and transforming operations for ongoing management of both COVID-19 and non-COVID-19 populations. On this latter point, health systems are focused on workforce, supply chain, and operational resilience to avert future shutdowns in the event of a second wave of COVID-19 cases.

**CFO Top Near or Mid-term Priorities for Their Health System**



### Importance of Proper Clinical Documentation

***Iodine shares its insights with The Academy***

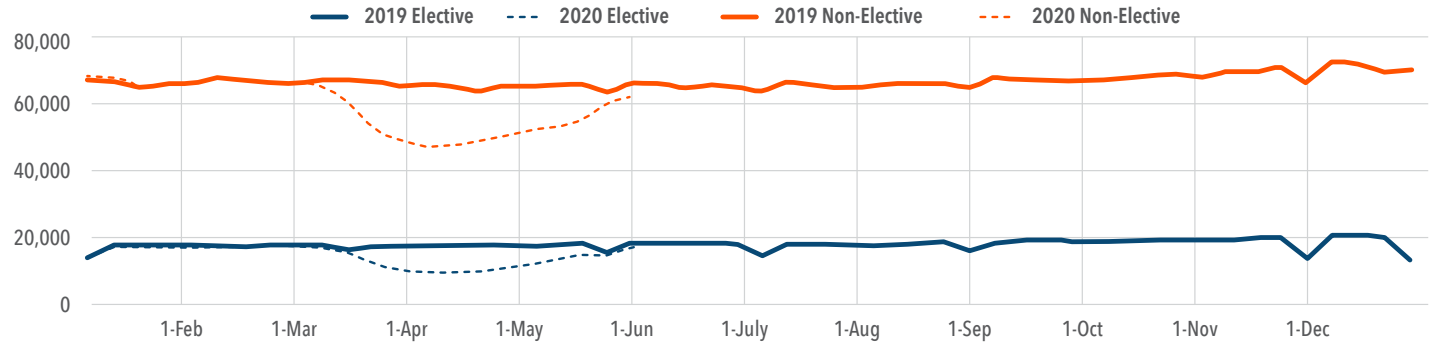
The pandemic has intensified the need to accurately capture documentation of all conditions monitored and treated during the patient encounter. This has resulted in an increase of reviews, sometimes daily, to ensure documentation integrity. Organizations that have not put the necessary processes in place are at risk of leaving money on the table. Given that providers' primary focus is the provision of care, accurate and complete documentation is not always a priority, resulting in lack of documentation integrity and loss of codes that could contribute to better financial and quality reporting.

In response to the pandemic, Iodine has created special indicators that contribute to prioritization algorithms to identify patients with COVID-19 and support accurate documentation and capture of co-morbid conditions. Many healthcare organizations have created a post-discharge bill hold process for additional scrutiny of the record, before final billing and reporting of patient encounters.

## Q: Relative to pre-COVID levels, what has been the level of case volume recovery for health systems?

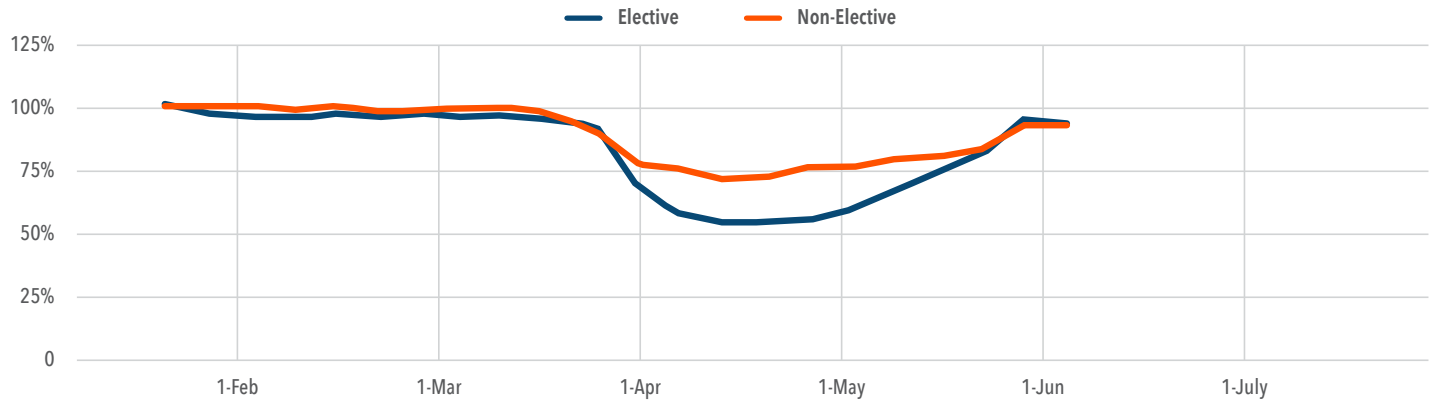
As shown earlier, at the beginning of March, both elective and non-elective inpatient admissions dropped precipitously. Elective surgery inpatient admissions dropped to the lowest volume (23% of 2019 admissions) during the week of April 1. Beginning the week of April 22, admissions began to increase almost as quickly as they declined. Currently, non-elective surgery admission volume is at 94% of 2019 admissions, and elective surgery admission volume is at 96% of 2019 admissions.

**Year-Over-Year Weekly Elective and Non-Elective Admissions**




*From the May 2020 Iodine admission volume study of 350+ facilities and 6M+ admissions.*

**2020 Inpatient Elective and Non-Elective Admissions as a Percentage of 2019**




*From the May 2020 Iodine admission volume study of 350+ facilities and 6M+ admissions.*

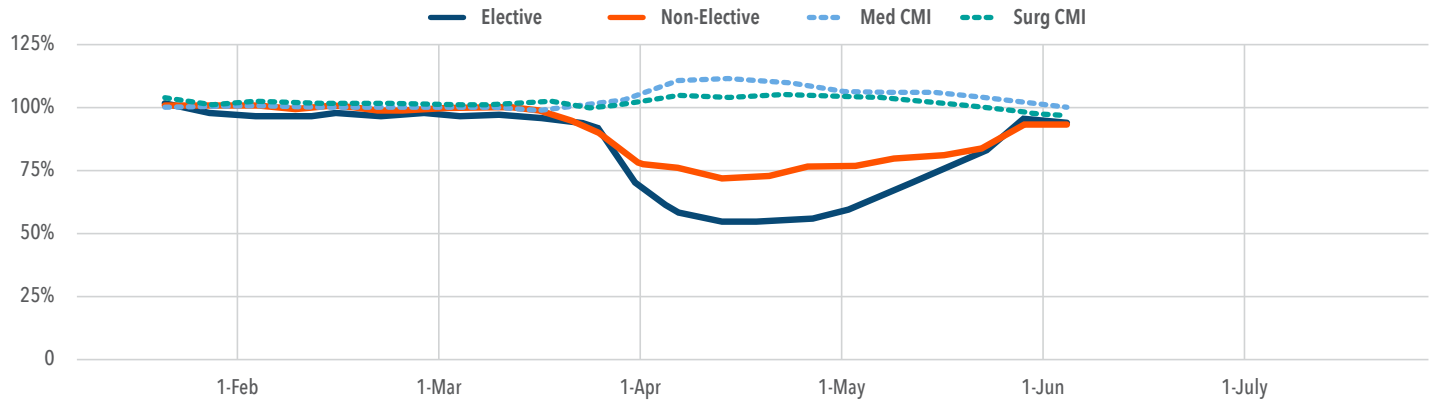
Academy LHS CFO members have noted that the early rush of elective cases (and associated revenue recovery) may not be predictive of a later, steady state. For one thing, the early surge of patients includes cases that have become more acutely ill, and there is urgency to treat them immediately, which will fill OR schedules fast. Second, it is possible that the "well" of patients is no longer as deep as it once was. For instance, some patients have permanently disengaged with respect to a procedure or are no longer candidates; and greater economic hardship may limit some patients' access to care going forward. Demand transformation is also underway, with patients receiving care through new channels—outpatient sites instead of inpatient or virtual care instead of in-person visits. The question that is just now taking shape is whether returning to "normal" is actually 100% of what health systems once saw in their facilities.

## Q: In the early recovery period, how has case severity, as measured by case mix, changed compared to the same period a year ago?

Initially, the influx of COVID-19 cases and the parallel drop in both elective and non-elective surgical volumes had a similar impact on surgical and medical case mix index (CMI). Surgical CMI saw an increase, as those patients still receiving surgical interventions were likely those most at need and therefore the most complex cases. Similarly, medical CMI also saw an increase, driven by the influx of more complex COVID-19 patients and the parallel reduction in non-COVID-19, less severely ill medical admissions.

As surgical and medical volumes began to return to more normal levels, and COVID-19 patient loads were reduced, both CMI for surgical and medical cases began to return to historical norms. CMI is an important indicator to follow, as many health systems are forecasting a meaningful shift of lower acuity patients from inpatient to outpatient settings. Measuring CMI will help reveal the impact of such site-of-care changes.

**2020 Inpatient Admissions and Case Mix Index as a Percentage of 2019**




*From the May 2020 Iodine admission volume study of 350+ facilities and 6M+ admissions.*

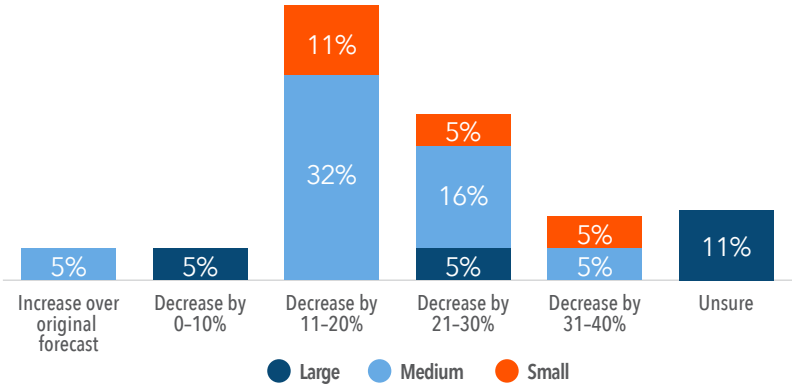
## Q: How have revenue projections changed as a response to financial pressures? When do health systems expect finances to stabilize?

A common refrain from senior executives across LHS is 2020 will be an anomalous year when it comes to financial performance (and many other issues). In an Academy survey of LHS CFOs, 44% of responders have forecasted a 11-20% decrease in 2020 revenue, and 26% forecasted a decrease of 21-30%. On a year-over-year basis, negative cash flows are expected through June. Considering that 100% of surveyed LHS are predicting a second surge of cases in late summer or fall (separate data not from the CFO survey), additional revenue disruption is highly likely. Ultimately this translates into a weak margin forecast for 2020. In discussions with Academy health system member CEOs and CFOs, nearly all reported typical operating margins between 2.5%-5%, but they are projecting to break-even, at best, for 2020.

Asked when they expect steady-state revenue following the initial COVID-19 surge, most CFOs shared that the "new normal" will come into focus within three quarters, with 36% of CFOs anticipating revenue stabilizing in 2020, another 43% anticipating revenue stabilizing in 2021 (frontloaded in Q1), and 22% sharing uncertainty as to when stabilization will occur. Expecting 2021 will continue to see the impacts of COVID-19, CFOs are already projecting what it would look like for their health systems to operate next year with roughly 10-20% less revenue.

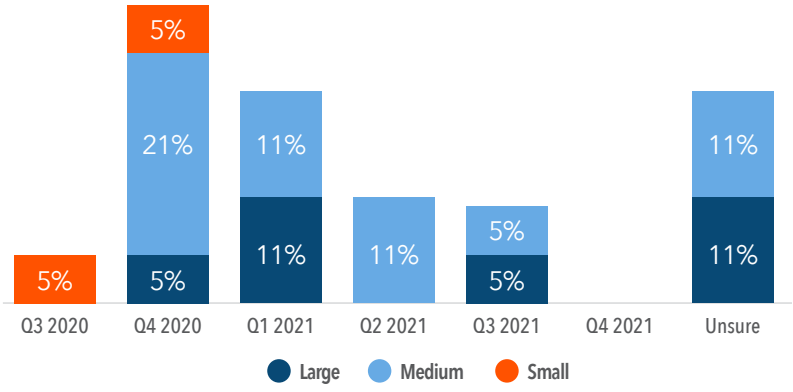
**Change in 2020 Revenue Forecast Due to COVID-19**

Percent Change in 2020 Revenue Forecast, by Size of LHS



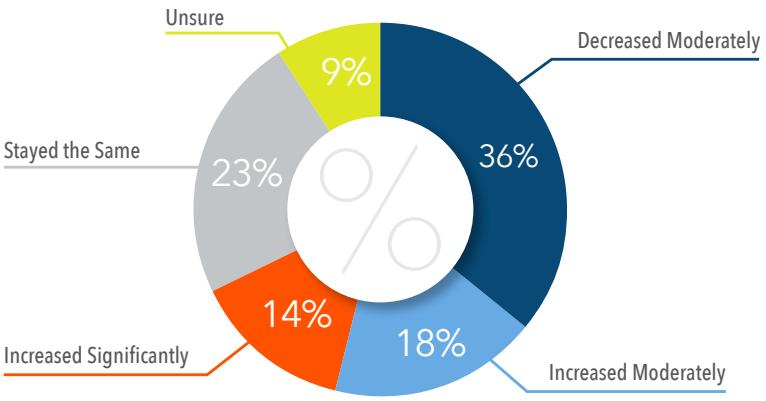

**Timeframe When Revenue Is Expected to Stabilize**

By Relative Size of Health System



Of course, the pandemic is a moving target, with numerous unknowns on the horizon. These include the impact of state re-openings, changing social distancing practices, robustness of contact tracing and testing, vaccine development and availability, and many others. Not surprisingly, health systems' bullishness about case volume recovery changes week-to-week. When asked in a late-May survey how their volume forecast has changed since initiating re-scheduling efforts, Academy members were slightly more bearish than bullish, with 36% reporting a moderate decrease, 32% expecting a moderate or significant increase, and 32% either expecting the forecast to stay the same or they were unsure.

**Volume Forecast Changes, Based on Initial Rescheduling Efforts**




**Additional resources are available in The Academy's COVID-19 Resource Center. Materials specific to topics covered in this briefing include:**

- Contingency Planning Resources
- CFO Townhall: Financial Progress Reports & 2020 Projections
- Restarting Elective Cases: Cleveland Clinic Case Study
- Restarting Elective Cases: CoxHealth Case Study
- Restarting Elective Cases: Sharp Healthcare Case Study
- Restart Elective Services: Patient Engagement & Communication Strategy