Impact of 2020 COVID-19 Pandemic on US Hospital Service Lines 2019-2020

With Medicare claims data now available to measure the impact of the 2020 COVID-19 pandemic on US hospital operations, this cursory summary uses that information to examine how medical service lines were affected. Using Federal fiscal year 2019 and 2020 MedPAR claims data along with the 06/30/2021 snapshot of Hospital Medicare Cost Report Data, claims data were classified into medical services based on their MS-DRG codes.

Table 1: Percentage change in key measurements by medical service during FY 2020

		FY2019 to FY 2020 Percent Change					
Medical Service	Hospitals Reporting	Discharges	Days	Charges	Cost	Payment	CMI
Burns	100	-8.21%	-9.91%	0.34%	1.26%	2.08%	11.02%
Cardiology	4,062	-17.88%	-17.58%	-13.30%	-12.79%	-13.94%	1.31%
Cardiovascular Surgery	1,937	-13.08%	-16.52%	-9.19%	-9.61%	-9.56%	1.15%
Gynecology	697	-29.30%	-28.69%	-21.37%	-19.92%	-25.08%	1.11%
Medicine	4,396	-11.54%	-7.65%	-1.62%	-1.36%	-2.59%	4.76%
Neurology	3,302	-13.51%	-11.96%	-7.03%	-7.36%	-7.28%	3.08%
Neurosurgery	1,128	-8.34%	-6.66%	-1.57%	-1.71%	-1.51%	4.28%
Obstetrics	492	-17.47%	-17.05%	-14.02%	-12.04%	-15.23%	2.97%
Oncology	2,122	-10.99%	-10.63%	-3.17%	4.29%	-2.87%	3.99%
Orthopedic Surgery	3,291	-20.96%	-16.98%	-14.00%	-14.67%	-16.21%	2.92%
Orthopedics	3,184	-14.98%	-11.72%	-8.25%	-7.50%	-7.60%	1.76%
Psychiatry	2,297	-15.93%	-13.71%	-9.20%	-11.39%	-10.52%	3.16%
Pulmonology	4,347	-8.12%	3.41%	7.87%	8.34%	10.14%	10.32%
Surgery	3,192	-11.86%	-9.92%	-3.17%	-2.30%	-3.99%	4.47%
Surgery for Malignancy	1,185	-13.50%	-14.05%	-7.85%	-7.50%	-9.15%	2.56%
Urology	3,980	-15.88%	-14.55%	-9.66%	-9.04%	-11.21%	1.66%
Vascular Surgery	1,696	-14.43%	-14.32%	-7.74%	-8.14%	-8.38%	3.78%
Total	**4,656**	**-13.80%**	**-10.50%**	**-6.04%**	**-5.75%**	**-6.67%**	**3.72%**

Nationally, total Medicare discharges declined 13.8% while utilization measures such as charges, costs and payments declined by less than half that amount. Despite these declines, however, the Case Mix Index (CMI) increased 3.72%. In other words, hospitals served fewer patients, but the patients seen presented with a higher average severity of illness. Shifts in volumes and patient mix were likely driven by two primary factors:

- Patients were reluctant to seek care for elective procedures due to a perceived risk of exposure to Covid

- Many hospitals were overwhelmed by Covid and declined admissions for less urgent procedures

In this study almost all Covid cases are categorized into the pulmonology medical service. (Based on coding guidelines, exceptions include infants, asymptomatic patients with other principal diagnoses, and HIV patients.) Despite an 8.12% decline in the number of pulmonology patients there was a 3.41% increase in patient days and all other utilization measures including 10.41% in payment and 10.32% in Case Mix Index (CMI). It should be noted that with some facilities not yet having their FY2020 cost reports available at the time of this analysis, it would be reasonable to expect an increase to our cost estimates as more current data becomes available in future cost report data updates.

Orthopedic Surgery experienced a significant decline in discharges with nearly 21% lower volumes in FY2020 versus FY2019. This outcome is not surprising given the number of procedures in this category that could be considered elective, making them prone for deferral during this time (e.g. hip or knee replacements). This will be an important area to observe going forward as Orthopedic Surgery departments attempt to return to their normal volumes as well as work in the deferred caseload from the prior year.

These data should be useful to those in the industry analyzing the anticipated effects of the pandemic on US hospitals. As we strive to return to something closer to 'normal', planning will be necessary to include capacity for making up for the lost time in providing care both for elective procedures and management of chronic conditions. It may be necessary in coming years to monitor for shifts in the intensity of care among patients with chronic conditions who were unable to seek out care for the management of their conditions during this unusual time.

About the data

For the purposes of this analysis, only Medicare claims from short-term acute care and critical access hospitals, as defined by the Centers for Medicare and Medicaid Services (CMS) were included with instances of 10 or fewer claims at the medical service level omitted per CMS data privacy rules. The most current available hospital Medicare Cost Report was matched to each individual facility's claims data for the purpose of estimating a cost of the care provided. For most facilities studied, FY2020 cost report information was available for use at the time of analysis. Estimated costs were calculated using department specific charges in the claims data to corresponding departmental level cost to charge ratios from the cost report. Methodologies for the alignment of cost and charge data between claims and cost report data as well as Medical Service category definitions are available at www.ahd.com.