

BRIEF

Healthcare Professionals and the Impact of COVID-19

A Comparative Study of Revenue and Utilization

A FAIR Health Brief, June 10, 2020



Summary

This brief reports on FAIR Health’s in-depth study of the impact of the COVID-19 pandemic on healthcare professionals’ utilization and revenue, an impact that has not previously been assessed in depth. It also looks at how the impact varies by specialty. To study these issues, FAIR Health drew on its repository of private claims data to analyze, on a monthly basis, changes in utilization and estimated allowed amounts¹ for professionals in the first four months of 2020 as compared to 2019. The changes nationwide are compared to the changes in the Northeast, where the pandemic hit hardest in March and April.² The second part of the study focuses on seven specialties: cardiology, dermatology, oral surgery, gastroenterology, orthopedics, pediatric primary care and adult primary care. For each specialty, FAIR Health analyzed changes in utilization and estimated allowed amounts in the first four months of 2020 as compared to 2019, as well as changes in the five most common procedures in the first four months of 2020. Among the findings:

- Nationally, from March 2019 to March 2020, utilization of professional services decreased 65 percent and professional revenue based on total estimated allowed amounts decreased 45 percent. From April 2019 to April 2020, utilization fell 68 percent and revenue 48 percent.
- In the Northeast, from March 2019 to March 2020, utilization of professional services fell 60 percent and revenue based on total estimated allowed amounts declined 55 percent. In April, utilization fell 80 percent and revenue 79 percent.
- Of specialties studied, oral surgery had the largest decreases in March 2020 utilization (80 percent), March 2020 revenue based on total estimated allowed amounts (84 percent), April 2020 utilization (81 percent) and April 2020 revenue (92 percent). Gastroenterology had the second largest decreases in all four categories.
- Of specialties studied, pediatric primary care had the smallest decreases in March 2020 utilization (52 percent), March 2020 revenue based on total estimated allowed amounts (32 percent), April 2020 utilization (58 percent) and April 2020 revenue (35 percent).
- Across many specialties from January to April 2020, office or other outpatient evaluation and management (E&M) visits became more common relative to other procedures, both by utilization and total estimated allowed amounts. This may have been due in part to the fact that many of these E&M services could be rendered via telehealth, whereas certain other procedures that became less common required in-person visits.
- A routine electrocardiogram with at least 12 leads, with interpretation and report (CPT^{®3} 93000), fell out of the top five cardiology procedures by total estimated allowed amounts in March and April 2020.
- A tangential biopsy of skin, single lesion (CPT 11102), fell from the top five dermatology procedures by both utilization and total estimated allowed amounts in April 2020.
- In oral surgery, a procedure specifically for telehealth—telephone E&M by a physician or other qualified healthcare professional, 11-20 minutes (CPT 99442)—climbed from number 131 in utilization in January 2020 to number 1 in April 2020.

¹ An allowed amount is the total fee negotiated between an insurance plan and a provider for an in-network service. Because payors’ contracted network rates are proprietary, FAIR Health employs an imputation methodology to determine benchmarks for allowed amounts. First, FAIR Health calculates the ratios of actual allowed amounts to charges for groups of procedure codes on a regional basis. The resulting ratios are applied to the actual charges for each specific procedure at the local (geozip) level to develop an “imputed” or “estimated” allowed amount for each claim line.

² The US census region of the Northeast comprises Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

³ CPT © 2019 American Medical Association (AMA). All rights reserved.

- In January 2020, the top five gastroenterology procedures by utilization included an endoscopy (CPT 43239, esophagogastroduodenoscopy) and a colonoscopy (CPT 45380) procedure, but by April 2020 both had dropped out of the top five.
- Total knee replacement (CPT 27447) and total hip replacement (CPT 27130) ranked high in the orthopedic top five procedures by total estimated allowed amounts in January 2020. They fell out of the top five by April 2020.
- From January to April 2020, a test for streptococcus (CPT 87880) fell out of the pediatric primary care top five by utilization.
- From January to April 2020, a vaccination procedure (CPT 90471) dropped out of the adult primary care top five by utilization.
- There was little change from March-April 2019 to March-April 2020 in preventive care visits for pediatric patients 0-4 years of age, whether from the standpoint of utilization or of revenue based on total estimated allowed amounts. Decreases in these months were much greater for preventive care visits for older pediatric patients (5-17 years of age) and adults (18 and older).

Background

The COVID-19 pandemic has strained many aspects of the US healthcare system. A series of studies from FAIR Health have examined several of these aspects. The first brief projected the costs to the nation of inpatient services for COVID-19 patients, and delved into the potential of telehealth for helping to cope with the pandemic.⁴ The second brief analyzed the impact of COVID-19 on hospitals and health systems.⁵ The subject of this third brief is the impact of COVID-19 on non-facility providers, or healthcare professionals.

Healthcare professionals have been characterized as the “front lines” of the nation’s pandemic response. In treating COVID-19 patients, they have had to put themselves at risk of infection, often in the midst of shortages of personal protective equipment. In many cases, professionals trained in critical care have been in short supply, requiring some providers to step in on an emergency basis at assignments that may not be their specialty.⁶ Under the prolonged stress of working extended shifts while making life-and-death decisions, many professionals have become subject to increased mental health issues.⁷

Paradoxically, at the same time that many professionals are overworked caring for COVID-19 patients, many are in a position of having not enough work or too little compensation for their work. The widespread deferral of elective procedures, intended to free up resources and limit the spread of COVID-19, has imposed a sizable financial burden on the healthcare system, which depends on such procedures

⁴ FAIR Health, *COVID-19: The Projected Economic Impact of the COVID-19 Pandemic on the US Healthcare System*, A FAIR Health Brief, March 25, 2020, <https://s3.amazonaws.com/media2.fairhealth.org/brief/asset/COVID-19%20-%20The%20Projected%20Economic%20Impact%20of%20the%20COVID-19%20Pandemic%20on%20the%20US%20Healthcare%20System.pdf>.

⁵ FAIR Health, *Illuminating the Impact of COVID-19 on Hospitals and Health Systems: A Comparative Study of Revenue and Utilization*, A FAIR Health Brief, May 12, 2020, <https://s3.amazonaws.com/media2.fairhealth.org/brief/asset/Illuminating%20the%20Impact%20of%20COVID-19%20on%20Hospitals%20and%20Health%20Systems%20-%20A%20Comparative%20Study%20of%20Revenue%20and%20Utilization%20-%20A%20FAIR%20Health%20Brief.pdf>.

⁶ Tara Bannow and Maria Castellucci, “Hospitals Redeploy Specialists to COVID-19 Front Lines,” *Modern Healthcare*, March 30, 2020, https://www.modernhealthcare.com/hospitals/hospitals-redeploy-specialists-covid-19-front-lines?utm_source=modern-healthcare-daily-dose&utm_medium=email&utm_campaign=20200330&utm_content=article1-readmore.

⁷ Kristen Santarone, Mark McKenney and Adel Elkbuli, “Preserving Mental Health and Resilience in Frontline Healthcare Workers during COVID-19,” *American Journal of Emergency Medicine* (April 15, 2020), <https://doi.org/10.1016/j.ajem.2020.04.030>.

for a large part of its income. The Commonwealth Fund reported a decline of nearly 60 percent in visits to ambulatory care practices by early April; since then, visits are said to have rebounded but are still approximately a third lower than before the pandemic.⁸ Furloughs and pay cuts have become common, and medical practices have had to scale back.^{9,10} Even when medical practices have continued to function via telehealth, many have experienced lower reimbursements for telehealth visits than for in-person visits and more time educating patients on how to use the technology.¹¹ A survey of New York City primary care practices in mid-April showed that the COVID-19 pandemic was having a severe impact on 85 percent of such practices.¹²

To investigate the pandemic's impact on professionals' utilization and revenue, FAIR Health analyzed data from its database of over 31 billion private healthcare claim records, the largest such repository in the nation, which is growing by over 2 billion claim records per year.

The first part of the study analyzes, on a monthly basis, change in utilization and estimated allowed amounts for professionals in the first four months of 2020 as compared to 2019. The changes nationwide are compared to the changes in the Northeast, where the pandemic hit hardest in March and April. The second part of the study focuses on seven specialties: cardiology, dermatology, oral surgery, gastroenterology, orthopedics, pediatric primary care and adult primary care. For each specialty, the study investigates changes in utilization and estimated allowed amounts in the first four months of 2020 as compared to 2019, as well as changes in the five most common procedures in the first four months of 2020.

A national, independent nonprofit organization dedicated to bringing transparency to healthcare costs and health insurance information, FAIR Health based this study, as noted, on its repository of private healthcare claims data. The data are contributed by over 60 payors and third-party administrators who insure or process claims for private insurance plans covering more than 150 million individuals—an estimated 75 percent of the nation's privately insured population. The dataset includes data on fully insured and employer self-funded plans and Medicare Advantage (Medicare Part C) enrollees, but not on uninsured individuals or those on Medicare Parts A, B and D.¹³ Those insured under other government programs, such as Medicaid, CHIP, and state and local government programs, are also not included. In addition, this study excludes services for which claims were not submitted to a commercial insurer or administrator. For example, some elective procedures, such as those that are cosmetic in nature, are not typically covered by commercial insurance and would not be included in the FAIR Health database.

Methodology

From its repository of private claims, FAIR Health retrieved data for January through April 2020 that were submitted to FAIR Health through the end of May. FAIR Health also retrieved claims data from the first

⁸ Ateev Mehrotra et al., "The Impact of the COVID-19 Pandemic on Outpatient Visits: A Rebound Emerges," *To the Point* (blog), Commonwealth Fund, May 19, 2020, <https://doi.org/10.26099/ds9e-jm36>.

⁹ David Cutler, "How Will COVID-19 Affect the Health Care Economy?," *JAMA Health Forum*, April 9, 2020, <https://jamanetwork.com/channels/health-forum/fullarticle/2764547>.

¹⁰ Dee Dee Grays, "The Lasting Impacts of COVID-19 on the Health Care System," *Texas A&M Today*, April 22, 2020, <https://today.tamu.edu/2020/04/22/the-lasting-impacts-of-covid-19-on-the-health-care-system/>.

¹¹ Grays, "The Lasting Impacts of COVID-19 on the Health Care System."

¹² Jennifer Henderson, "Primary-Care Practices Fear They May Not Survive the Pandemic," *Modern Healthcare*, June 3, 2020, https://www.modernhealthcare.com/physicians/primary-care-practices-fear-they-may-not-survive-pandemic?utm_source=modern-healthcare-daily-dose-wednesday&utm_medium=email&utm_campaign=20200603&utm_content=article6-readmore.

¹³ FAIR Health also receives the entire collection of claims for traditional Medicare Parts A, B and D under the Centers for Medicare & Medicaid Services (CMS) Qualified Entity Program, but those data are not a source for this report.

four months of 2019 (i.e., with dates of service from January through April), obtaining only those data that were submitted to FAIR Health from January 1, 2019, to May 31, 2019. This restriction meant that the data would be subject to the same incurred but not reported (IBNR) conditions as the data retrieved for the corresponding time period in 2020, providing an “apples-to-apples” comparison of the lag in filing claims.¹⁴ It was assumed that the rate of IBNR was the same in 2020 as in 2019.¹⁵

Due to IBNR claims, the data for both periods were incomplete, although statistically significant. Because of the substantial amount of data available and the importance of the findings to public health and policy discussions, FAIR Health deemed it worthwhile to release the study at this stage.

Professional data were segregated from facility data based on the form type of the claim: CMS-1500s were categorized as professional and UB-04s as facility. A professional service was defined as any service provided by an individual (e.g., physician, nurse, nurse practitioner, physician assistant) instead of being billed by a facility.

Data were analyzed by specialty, month, region and procedure code. Total estimated allowed amounts by month were calculated. The Consumer Price Index (CPI) was used to adjust the 2019 numbers to reduce any confounding variables of rate negotiations between 2019 and 2020.¹⁶ Series ID CUSR0000SEMC01 was used, which has the series title “Physicians’ services in U.S. city average, all urban consumers, seasonally adjusted.” The 2020 value was divided by the 2019 value (as the 2019 value is the base year) to obtain the following:

Table 1. Consumer Price Index values, January-April 2019, 2020

	January	February	March	April
2019	381.812	382.114	381.183	381.593
2020	384.492	385.300	386.622	386.298
CPI Value Used against 2019	1.007	1.008	1.014	1.012

For professional service volume evaluation, the number of claim lines received in 2019 was compared to the number of claim lines received in 2020 for the same region and individual analytic variable (e.g., specialty). The calculation used was:

$$\frac{Volume_{2020} - Volume_{2019}}{Volume_{2019}} = PercentageChange$$

Where:

Volume₂₀₂₀ is the utilization amount for the time period in 2020.

Volume₂₀₁₉ is the utilization amount for the time period in 2019.

¹⁴ IBNR claims are valid claims for covered services that have been performed but not yet reported to the insurer.

¹⁵ FAIR Health’s data contribution program did not change from 2019 to 2020 and FAIR Health received all the contributions expected through the end of May 2020.

¹⁶ US Bureau of Labor Statistics, “Series Report,” <https://data.bls.gov/cgi-bin/srgate>.

For professional service allowed amount evaluation, the total estimated allowed amounts received in 2019 were compared to the total amounts received in 2020 for the same region and individual analytic variable. The calculation used was:

$$\frac{MonthAmount_{2020} - (MonthAmount_{2019} \times CPIValue_{Month})}{(MonthAmount_{2019} \times CPIValue_{Month})} = PercentageChange$$

Where:

MonthAmount₂₀₂₀ is the total estimated allowed amounts calculated for the month in 2020.

MonthAmount₂₀₁₉ is the total estimated allowed amounts calculated for the month in 2019.

CPIValue_{Month} is the CPI value for the associated month.

Results

Change in Utilization and Allowed Amounts

Across all specialties, utilization of professional services nationwide decreased 65 percent from March 2019 to March 2020 and 68 percent from April 2019 to April 2020 (figure 1). This was in comparison to zero percent change in January and two percent growth in February 2020.

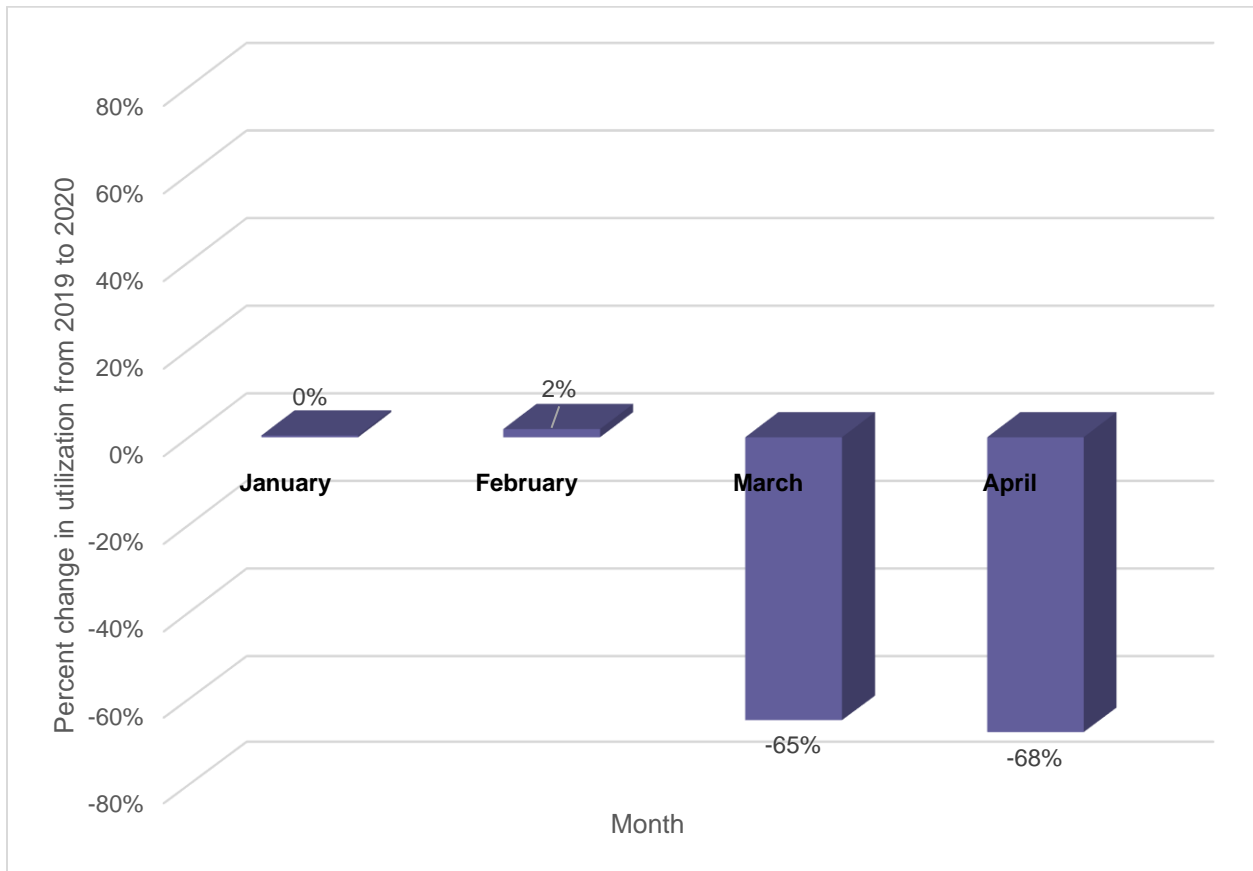


Figure 1. Monthly percent change in utilization of professional services from 2019 to 2020, nationally

Nationally, professional revenue based on estimated allowed amounts decreased 45 percent from March 2019 to March 2020 and 48 percent from April 2019 to April 2020 (figure 2). Both decreases were smaller on a percentage basis than the corresponding declines in utilization (figure 1). This may be because there was a greater decline in relatively less expensive procedures that were equally weighted in volume but accounted for less in allowed amounts. Also, some of the more expensive procedures, especially those that were emergent or urgent, were still occurring even as the volume of other procedures was reduced.

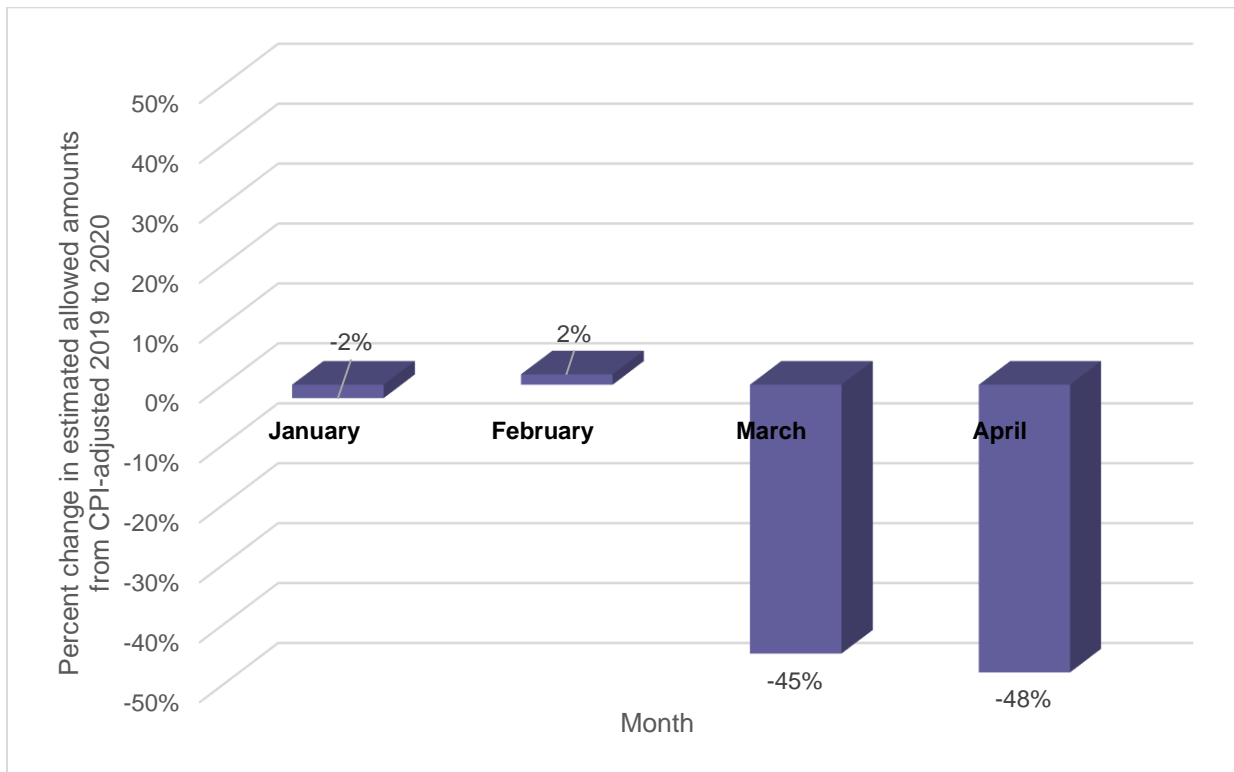


Figure 2. Monthly percent change in professional revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, nationally

In the Northeast, the drop in utilization from March 2019 to March 2020 was 60 percent (figure 3), lower than the corresponding drop (65 percent) nationally (figure 1). This may have been due in part to increased sickness in the Northeast, with people persisting in seeing providers out of concern about COVID-19. But in other respects, the Northeast had more severe decreases than the nation as a whole, especially in April. Revenue based on total estimated allowed amounts declined 55 percent in March 2020. In April 2020, utilization fell 80 percent and revenue based on total estimated allowed amounts 79 percent.

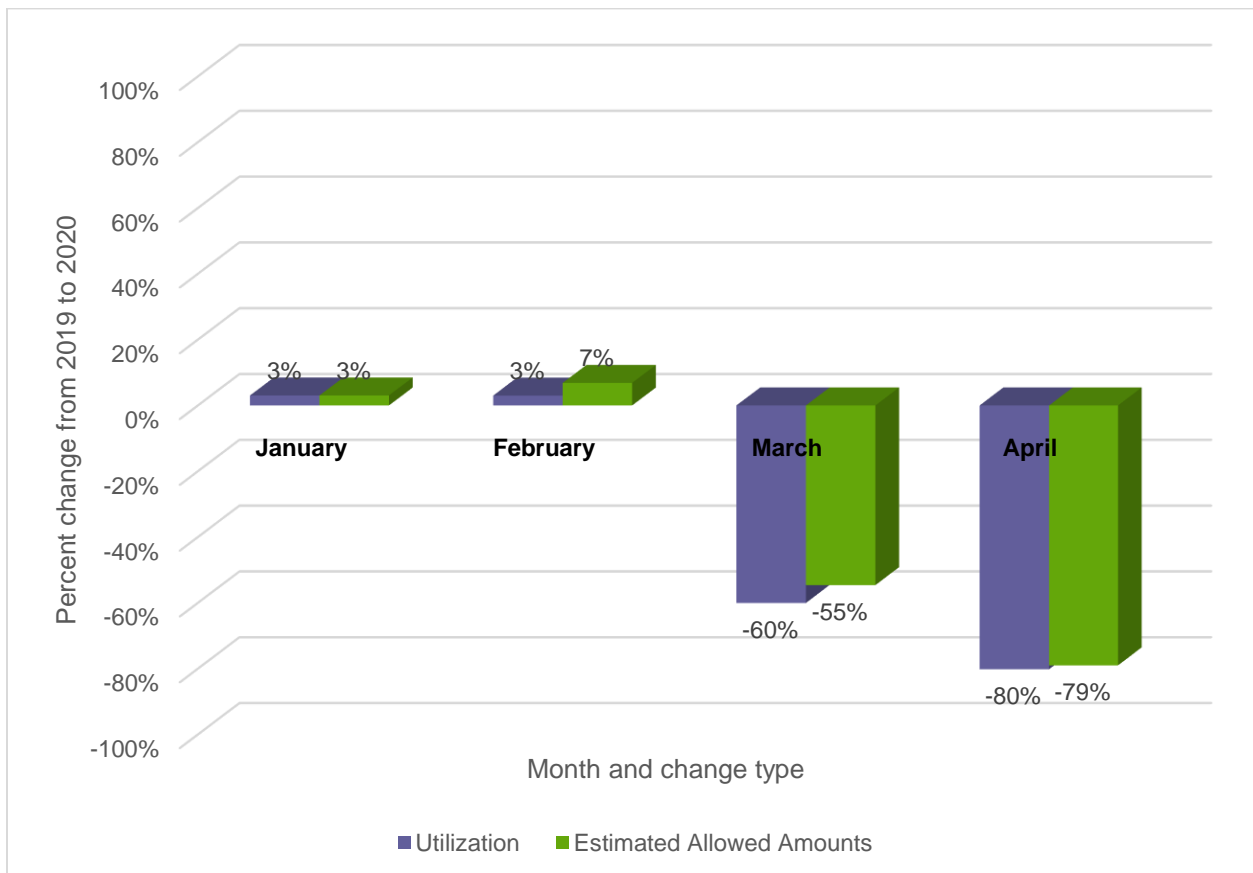


Figure 3. Monthly percent change in professional services' utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, Northeast

Specialties

The remainder of this study examines seven specialties, selected because of their large volume of claim lines, their large declines in March and April 2020 and for various aspects of interest. The specialties are cardiology, dermatology, oral surgery, gastroenterology, orthopedics, pediatric primary care and adult primary care.

Cardiology

Cardiology is one of the specialties that specifically has been expected to experience loss of revenue from the COVID-19 pandemic.¹⁷ FAIR Health data show that, from March 2019 to March 2020, cardiology declined 62 percent in utilization and 57 percent in total revenue based on estimated allowed amounts (figure 4). The drop was greater in April 2020: 71 percent in utilization and 73 percent in total revenue based on estimated allowed amounts.

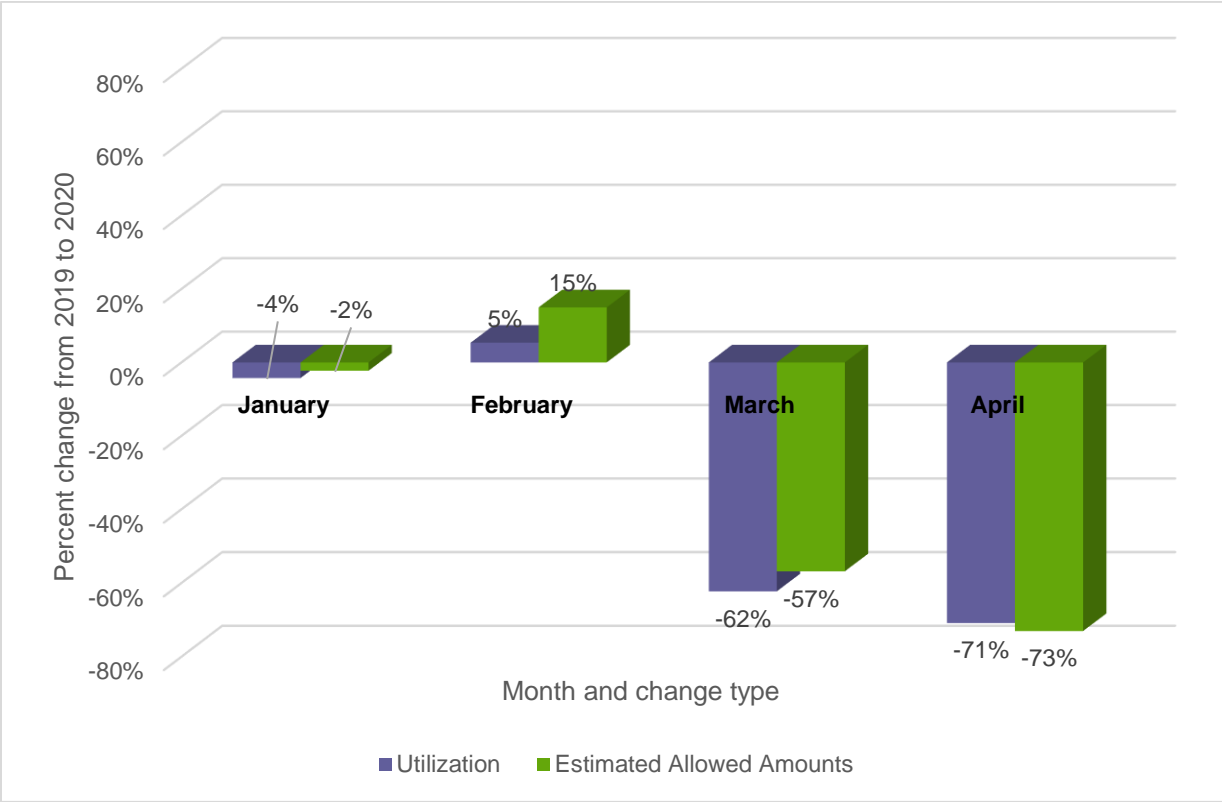


Figure 4. Monthly percent change in cardiology utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, nationally

¹⁷ Sunny Goel and Abhishek Sharma, “COVID-19 Pandemic and Its Impact on Cardiology and Its Subspecialty Training,” *Progress in Cardiovascular Diseases* (May 16, 2020), <https://doi.org/10.1016/j.pcad.2020.05.004>.

For each specialty, starting with cardiology, tables are presented showing the five most common procedures for each month from January 2020 to April 2020, first by utilization, then by total estimated allowed amounts. The top five codes by utilization remained the same for cardiology throughout this period, though with some reordering within the top five (table 2).

Table 2. Five most common cardiology procedures by utilization, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
93010	ECG ROUTINE ECG W/AT LEAST 12 LEADS INTERPRETATION & REPORT ONLY	1	2	1	2
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	2	1	2	1
93000	ECG ROUTINE ECG W/AT LEAST 12 LEADS W/INTERPRETATION & REPORT	3	3	3	5
93306	ECHO TRANSTHORACIC REAL-TIME 2D W/WO M-MODE COMPLETE SPECTRAL & COLOR FLOW DOPPLER	4	4	4	3
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	5	5	5	4

There was a greater degree of change in the top five cardiology procedures by total estimated allowed amounts (table 3). In 2020, a 15-minute office or other outpatient visit for an established patient (CPT 99213) climbed from number six in January and February to number five in March and number four in April. One possible reason for this change is that more expensive procedures, such as surgeries, fell off the list in March and April, so that CPT 99213 in the aggregate accounted for a greater portion of allowed amounts. A routine electrocardiogram with at least 12 leads, with interpretation and report (CPT 93000), fell out of the top five in March and April.

Table 3. Five most common cardiology procedures by total estimated allowed amounts, with number of rank, January-April 2020

Row Labels	Description	January	February	March	April
93306	ECHO TRANSTHORACIC REAL-TIME 2D W/WO M-MODE COMPLETE SPECTRAL & COLOR FLOW DOPPLER	1	1	1	1
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	2	2	2	2
78452	MYOCARDIAL SPECT MULTIPLE STUDIES	3	3	3	3
99204	OFFICE OUTPATIENT NEW 45 MINUTES	4	4	4	5
93000	ECG ROUTINE ECG W/AT LEAST 12 LEADS W/INTERPRETATION & REPORT	5	5	7	10
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	6	6	5	4

Dermatology

A survey of dermatologists in March 2020 found that 66.3 percent of respondents estimated a greater than 50 percent decrease in patient volume in the coming two weeks.¹⁸ Indeed, FAIR Health data showed decreases in dermatology in March and April 2020 (figure 5), though in most cases these were lower than for cardiology (figure 4). From March 2019 to March 2020, dermatology declined 62 percent in utilization and 50 percent in revenue based on total estimated allowed amounts. In April 2020, the decline was 68 percent in utilization and 59 percent in revenue based on total estimated allowed amounts.

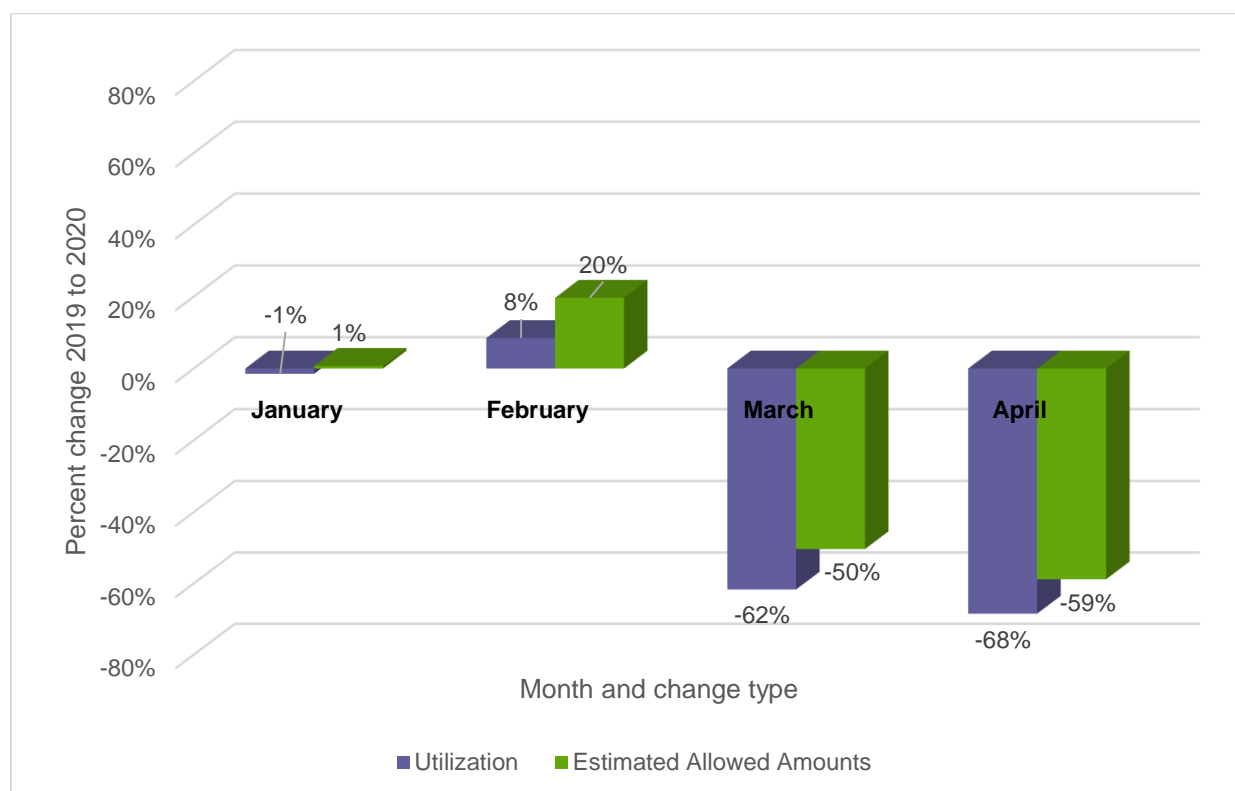


Figure 5. Monthly percent change in dermatology utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, nationally

¹⁸ Graham H. Litchman and Darrell S. Rigel, "The Immediate Impact of COVID-19 on US Dermatology Practices," *Journal of the American Academy of Dermatology* (May 16, 2020), <https://doi.org/10.1016/j.jaad.2020.05.048>.

In 2020, the top five procedures by utilization remained the same for dermatology in January and February but changed in March and April (table 4). A 20-minute office or other outpatient visit for a new patient (CPT 99202) climbed from seventh place to the top five in March and April 2020; a 10-minute office or other outpatient visit for an established patient (CPT 99212) rose from 10th place to 7th in March and 4th in April. These evaluation and management (E&M) visits were largely conducted via telehealth (as shown by the place of service code of 02). A surgical procedure that requires in-person visits—destruction, premalignant lesions, first lesion (CPT 17000)—fell out of the top five in March 2020, as did another, tangential biopsy of skin, single lesion (CPT 11102), in April 2020.

Table 4. Five most common dermatology procedures by utilization, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	1	1	1	1
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	2	2	2	2
99203	OFFICE OUTPATIENT NEW 30 MINUTES	3	3	3	5
17000	DESTRUCTION PREMALIGNANT LESION 1ST	4	4	6	7
11102	TANGENTIAL BIOPSY SKIN LESION	5	5	5	6
99202	OFFICE OUTPATIENT NEW 20 MINUTES	7	7	4	3
99212	OFFICE OUTPATIENT VISIT 10 MINUTES	10	10	7	4

Similar changes happened in the top five dermatological procedures by total estimated allowed amounts (table 5). In 2020, a 20-minute office or other outpatient visit for a new patient (CPT 99202) rose into the top five in April; a tangential biopsy of skin, single lesion (CPT 11102), fell from the top five in April.

Table 5. Five most common dermatology procedures by total estimated allowed amounts, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	1	1	1	1
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	2	2	2	2
99203	OFFICE OUTPATIENT NEW 30 MINUTES	3	3	4	5
17311	MOHS MICROGRAPHIC H/N/H/F/G 1ST STAGE 5 BLOCKS	4	4	3	3
11102	TANGENTIAL BIOPSY SKIN LESION	5	5	5	6
99202	OFFICE OUTPATIENT NEW 20 MINUTES	9	9	7	4

Oral Surgery

Oral surgery experienced a much steeper decline in March and April 2020 (figure 6) than either cardiology (figure 4) or dermatology (figure 5). From March 2019 to March 2020, oral surgery fell 80 percent in utilization and 84 percent in revenue based on total estimated allowed amounts. In April 2020, the decrease was 81 percent in utilization and 92 percent in revenue based on total estimated allowed amounts.

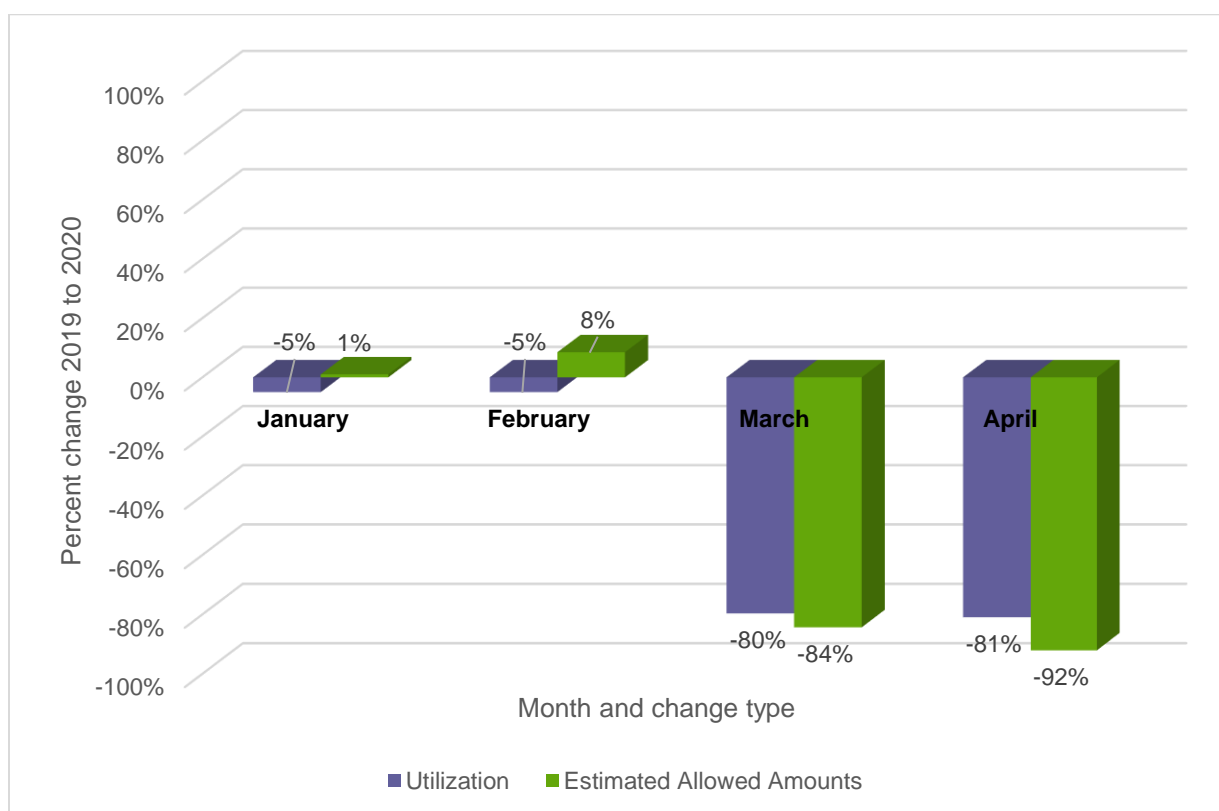


Figure 6. Monthly percent change in oral surgery utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, nationally

The top five procedures by utilization for oral surgery changed considerably from January to April 2020 (table 6). In oral surgery, a procedure that is specifically for telehealth—telephone E&M by a physician or other qualified healthcare professional, 11-20 minutes (CPT 99442)—climbed from number 131 in January 2020 to number 1 in April 2020. This fits an observation from an April 2020 conference in oral and maxillofacial surgery that use of telehealth in that specialty had “exponentially increased for triaging and following up with patients.”¹⁹ Two other E&M codes that can be used with telehealth also joined the top five by April 2020: a 15-minute office or other outpatient visit for an established patient (CPT 99213) and a 25-minute office or other outpatient visit for an established patient (CPT 99214). In 2020, of the procedures that ranked in the top five in January, only two remained in the top five in April: orthopantomogram (e.g., panoramic X-ray; CPT 70355); and removal of impacted tooth, completely bony (D7240).

Table 6. Five most common oral surgery procedures by utilization, with rank number, January-April 2020

CPT/ CDT ^{®20} Code	Description	January	February	March	April
D7240	REMOVAL OF IMPACTED TOOTH	1	1	1	5
D9223	DEEP SEDATION/GENERAL ANESTHESIA - EACH SUBSEQUENT 15 MINUTES	2	2	2	7
70355	ORTHOPANTOGRAM	3	3	3	2
99203	OFFICE OUTPATIENT NEW 30 MINUTES	4	7	5	6
99202	OFFICE OUTPATIENT NEW 20 MINUTES	5	5	8	8
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	8	8	4	3
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	10	9	9	4
99442	PHYS/QHP TELEPHONE EVALUATION 11-20 MINUTES	131	119	10	1
D7230	REMOVAL OF IMPACTED TOOTH	6	4	6	9

¹⁹ Tim T. Wang, “Oral and Maxillofacial Surgeons Respond to COVID-19,” *Penn LDI* (blog), May 26, 2020, <https://ldi.upenn.edu/healthpolicysense/oral-and-maxillofacial-surgeons-respond-covid-19>.

²⁰ The Code on Dental Procedures and Nomenclature is published in *Current Dental Terminology* (CDT), American Dental Association (ADA). All rights reserved.

In the top five oral surgery procedures by total estimated allowed amounts, removal of impacted tooth, completely bony (D7240), remained number one from January to April 2020 (table 7). D7230, removal of impacted tooth, partially bony, shifted from second to third rank in that period. A procedure for reconstruction of the jaw (CPT 21196), rose from number four in January 2020 to number two in April 2020. These procedures remained top sources of revenue despite the COVID-19 pandemic, though, as noted, revenue based on total estimated allowed amounts fell by more than 90 percent in April 2020. Continuous positive airway pressure (CPAP) device (E0601) climbed from number 46 in January 2020 to number 4 in April 2020, possibly because it can be ordered for an existing patient separate from a visit.

Table 7. Five most common oral surgery procedures by total estimated allowed amounts, with rank number, January-April 2020

CPT/ CDT/ HCPCS Code	Description	January	February	March	April
D7240	REMOVAL OF IMPACTED TOOTH	1	1	1	1
D7230	REMOVAL OF IMPACTED TOOTH	2	2	2	3
D9223	DEEP SEDATION/GENERAL ANESTHESIA - EACH SUBSEQUENT 15 MINUTES	3	3	3	8
21196	RECONSTRUCTION OF MANDIBULAR RAMI AND/OR BODY, SAGITTAL SPLIT; W/INTERNAL RIGID FIXATION	4	4	7	2
D9222	DEEP SEDATION/GENERAL ANESTHESIA - FIRST 15 MINUTES	5	5	4	13
99203	OFFICE OUTPATIENT NEW 30 MINUTES	6	6	5	11
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	19	13	8	5
E0601	CPAP DEVICE	46	39	17	4

Gastroenterology

Like oral surgery (figure 6), gastroenterology had a fairly steep decline in March and April 2020 (figure 7). From March 2019 to March 2020, utilization fell 73 percent and revenue based on total estimated allowed amounts fell 75 percent. In April 2020, the drop in utilization was 77 percent and in revenue based on total estimated allowed amounts 80 percent.

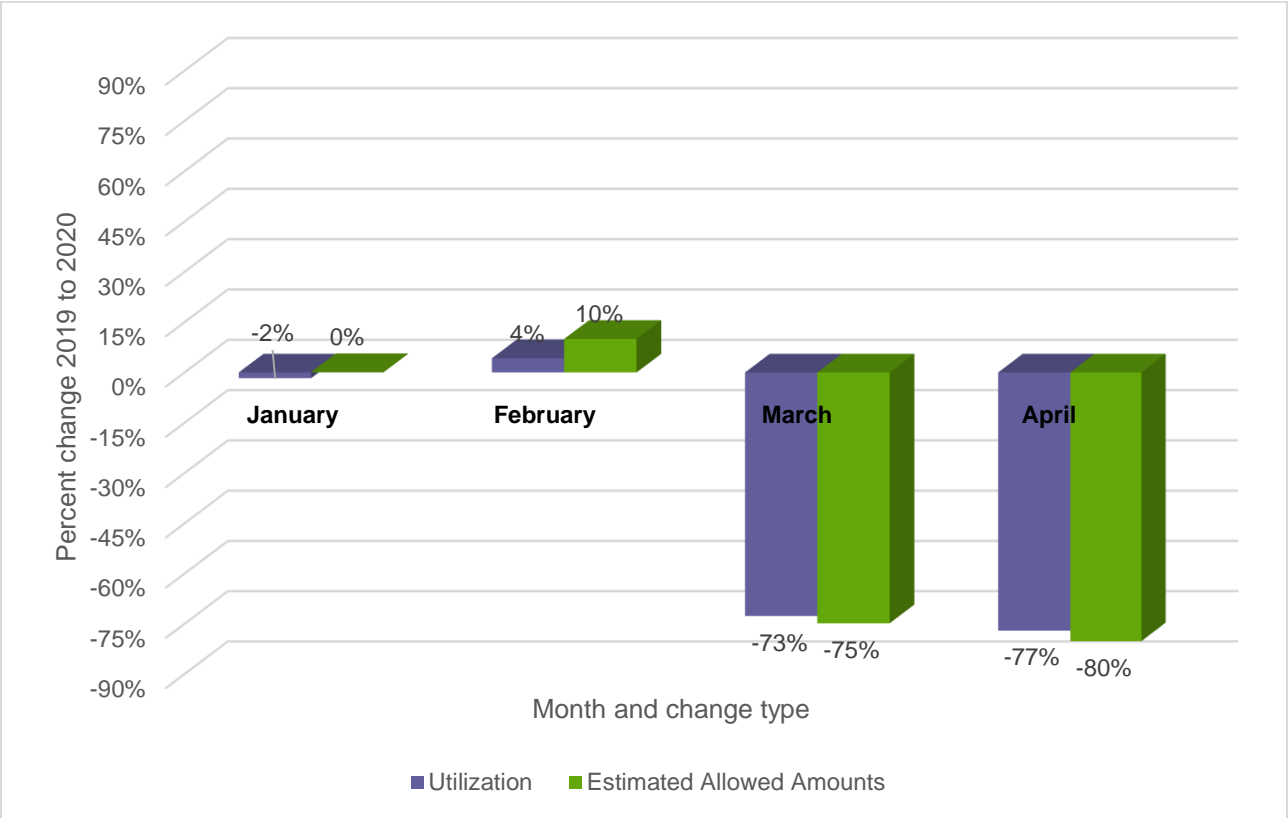


Figure 7. Monthly percent change in gastroenterology utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, nationally

In January 2020, the top five gastroenterology procedures by utilization included an endoscopy (CPT 43239, esophagogastroduodenoscopy) and a colonoscopy (CPT 45380) procedure, but by April 2020 both had dropped out of the top five (table 8). This is in accord with gastroenterology professional society guidance to delay all elective procedures.²¹ Instead, a 30-minute office or other outpatient visit for a new patient (CPT 99203) joined the similar office or other outpatient E&M visits (CPT 99213, CPT 99214, CPT 99204) already in the top five. All are more amenable to telehealth than endoscopy and colonoscopy, though patients with more emergent issues may still have been doing in-person office visits.

Table 8. Five most common gastroenterology procedures by utilization, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	1	1	2	2
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	2	2	1	1
43239	ESOPHAGOGASTRODUODENOSCOPY TRANSORAL BIOPSY SINGLE/MULTIPLE	3	3	4	6
45380	COLONOSCOPY W/BIOPSY SINGLE/MULTIPLE	4	4	6	8
99204	OFFICE OUTPATIENT NEW 45 MINUTES	5	6	3	4
45385	COLONOSCOPY FLEXIBLE W/REMOVAL OF TUMOR POLYP LESION SNARE TECHNIQUE	6	5	7	20
99203	OFFICE OUTPATIENT NEW 30 MINUTES	8	8	5	3
99232	SUBSEQUENT HOSPITAL CARE/DAY 25 MINUTES	9	9	8	5

²¹ Gastroenterology Professional Society Guidance on Endoscopic Procedures during the COVID-19 Pandemic, March 31, 2020, https://webfiles.gi.org/links/media/Joint_GI_Society_Guidance_on_Endoscopic_Procedure_During_COVID19_FINAL_impending_3312020.pdf.

The top five gastroenterology procedures by total estimated allowed amounts also shifted between January and April 2020 (table 9). Whereas colonoscopies and endoscopies were the highest reimbursed procedures prior to the pandemic, the top procedures receiving payment in April 2020 were treatments for Crohn’s disease and ulcerative colitis (J3380, injection, vedolizumab, and J1745, injection, infliximab). Office and other outpatient E&M visits (CPT 99214, CPT 99213, CPT 99204) rounded out the top five in April.

Table 9. Five most common gastroenterology procedures by total estimated allowed amounts, with rank number, January-April 2020

CPT/ HCPCS Code	Description	January	February	March	April
45380	COLONOSCOPY W/BIOPSY SINGLE/MULTIPLE	1	1	1	7
45385	COLONOSCOPY FLEXIBLE W/REMOVAL OF TUMOR POLYP LESION SNARE TECHNIQUE	2	2	3	9
43239	ESOPHAGOGASTRODUODENOSCOPY TRANSORAL BIOPSY SINGLE/MULTIPLE	3	3	2	6
45378	COLONOSCOPY FLEXIBLE DIAGNOSTIC W/COLLECTION OF SPECIMEN WHEN PERFORMED	4	4	7	10
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	5	5	5	3
99204	OFFICE OUTPATIENT NEW 45 MINUTES	6	6	9	5
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	8	8	8	4
J1745	INJECTION, INFLIXIMAB	9	9	6	2
J3380	INJECTION, VEDOLIZUMAB	7	7	4	1

Orthopedics

Orthopedics had less of a decline in March and April 2020 (figure 8) than gastroenterology (figure 7) or oral surgery (figure 6). Nevertheless, the drop was still substantial, representing over half of volume and reimbursements. From March 2019 to March 2020, utilization fell by 58 percent and revenue based on total allowed amounts by 59 percent. In April 2020, utilization fell by 65 percent and revenue based on total allowed amounts by 59 percent.

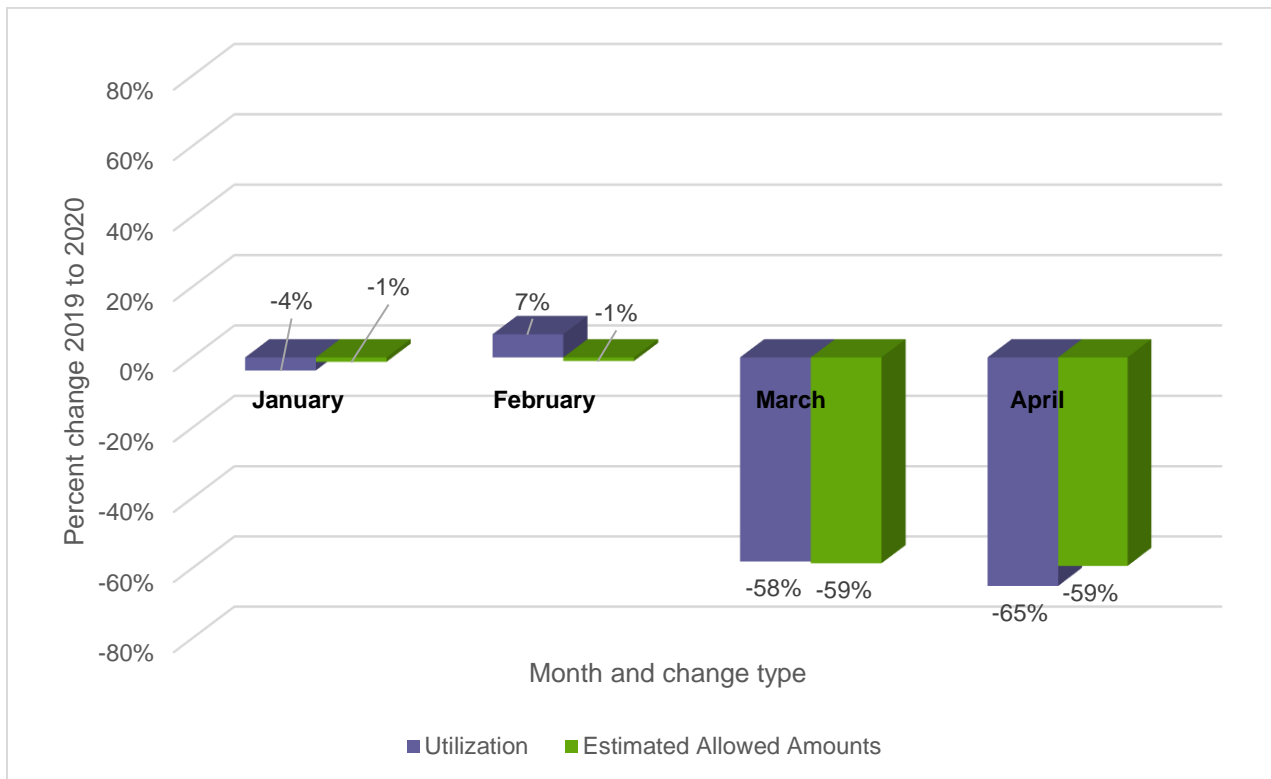


Figure 8. Monthly percent change in orthopedic utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, nationally

Most of the top five orthopedic procedures by utilization in January 2020 remained in the top five in April 2020 (table 10). The only exception was a long (45-minute) office or other outpatient visit for a new patient (CPT 99204), which dropped from number five to number eight. A shorter office visit—a 10-minute office or other outpatient visit for an established patient (CPT 99212)—rose from number 12 to number 5, perhaps reflecting changes due to telehealth.

Table 10. Five most common orthopedic procedures by utilization, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	1	1	1	1
99203	OFFICE OUTPATIENT NEW 30 MINUTES	2	2	2	3
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	3	3	3	2
20610	ARTHROCENTESIS ASPIRATION &/OR INJECTION MAJOR JOINT/BURSA W/O ULTRASOUND	4	4	4	4
99204	OFFICE OUTPATIENT NEW 45 MINUTES	5	5	5	8
99212	OFFICE OUTPATIENT VISIT 10 MINUTES	12	10	10	5

Total knee replacement (CPT 27447) and total hip replacement (CPT 27130), ranked high in the orthopedic top five by total estimated allowed amounts in January (table 11). They fell markedly by April, indicating the widespread deferral of these elective procedures. CPT 27447 fell from 1st in January to 24th in April; CPT 27130 from 3rd in January to 16th in April. This was consistent with estimates in one study that approximately 30,000 primary and 3,000 revision hip and knee arthroplasty procedures would be canceled each week that COVID-19 restrictions concerning nonessential surgery were in effect.²²

Table 11. Five most common orthopedic procedures by total estimated allowed amounts, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
27447	ARTHROPLASTY KNEE CONDYLE & PLATEAU MEDIAL/LATERAL COMPARTMENTS	1	2	5	24
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	2	1	1	1
27130	ARTHROPLASTY ACETABULAR/PROXIMAL FEMORAL PROSTHETIC AUTOGRAFT/ALLOGRAFT	3	3	6	16
99203	OFFICE OUTPATIENT NEW 30 MINUTES	4	4	2	2
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	5	5	3	3
20610	ARTHROCENTESIS ASPIRATION &/OR INJECTION MAJOR JOINT/BURSA W/O ULTRASOUND	6	6	4	4
99204	OFFICE OUTPATIENT NEW 45 MINUTES	9	9	8	5

²² Nicholas A. Bedard, Jacob M. Elkins and Timothy S. Brown, "Effect of COVID-19 on Hip and Knee Arthroplasty Surgical Volume in the United States," *Journal of Arthroplasty* (April 24, 2020), <https://doi.org/10.1016/j.arth.2020.04.060>.

Pediatric Primary Care

Utilization of pediatric primary care services fell 52 percent from March 2019 to March 2020, and 58 percent in April 2020 (figure 9). But the drop in revenue by total estimated allowed amounts in 2020 was smaller: 32 percent in March and 35 percent in April.

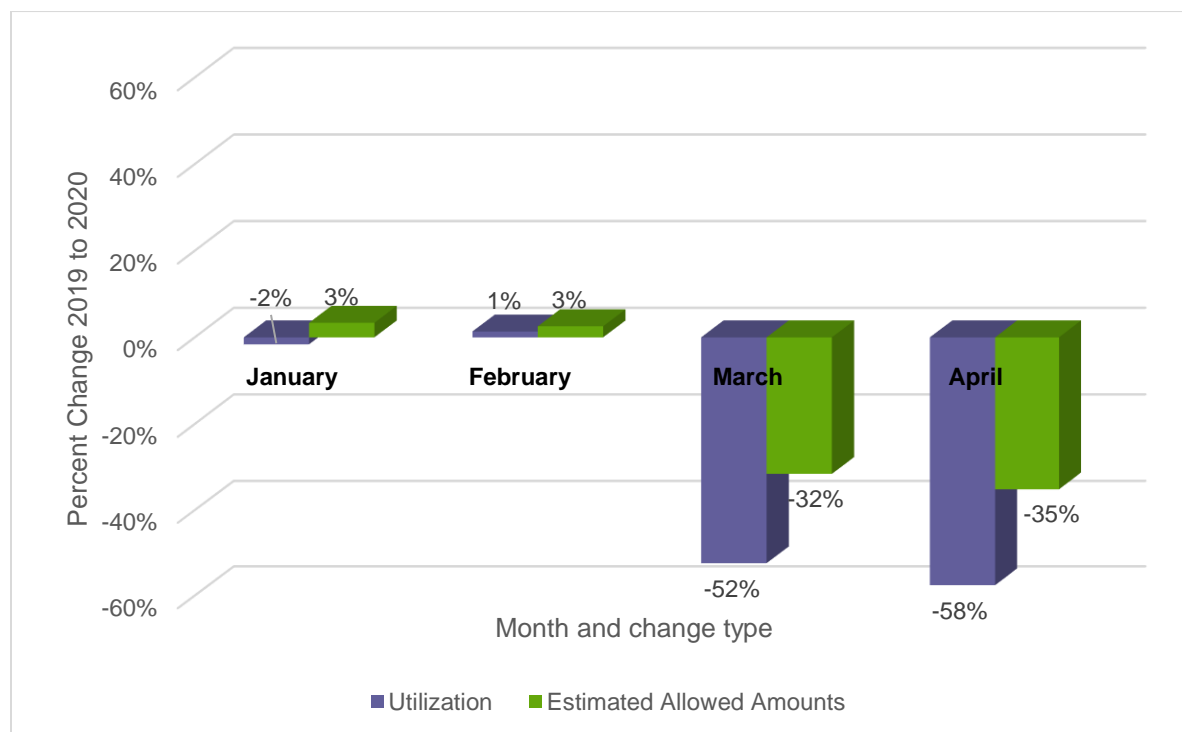


Figure 9. Monthly percent change in pediatric primary care utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, nationally

From January to April 2020, tests for influenza (CPT 87804) and streptococcus (CPT 87880) fell out of the pediatric primary care top five by utilization to much lower ranks—respectively, 54th and 30th (table 12). The decrease in influenza tests may be due to the seasonality of the flu, but strep is less typically confined to the colder months of the year than flu. The drop in strep tests may be due to parents avoiding visits to the doctor’s office during the COVID-19 pandemic. Pediatric primary care providers may have used telehealth to prescribe antibiotics for presumed strep throat without the usual lab test.²³ A vaccine administration procedure (CPT 90461) and preventive medicine visit for an established patient under one year of age (CPT 99391) rose into the top five from January to April 2020.

Table 12. Five most common pediatric primary care procedures by utilization, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	1	1	1	2
90460	IMMUNIZATION ADMINISTRATION THRU 18YR ANY ROUTE 1ST/ONLY COMPONENT VACCINE/TOXOID	2	2	2	1
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	3	3	3	5
87804	INFECTIOUS AGENT ANTIGEN DETECTION BY IMMUNOASSAY WITH DIRECT OPTICAL OBSERVATION; INFLUENZA	4	4	9	54
87880	INFECTIOUS AGENT ANTIGEN DETECTION BY IMMUNOASSAY WITH DIRECT OPTICAL OBSERVATION; STREPTOCOCCUS GROUP A	5	5	11	30
90461	IMMUNIZATION ADMINISTRATION THRU 18YR ANY ADDL COMPONENT VACCINE/TOXOID	6	6	5	4
99391	PERIODIC PREVENTIVE MEDICINE ESTABLISHED PATIENT <1YR	8	8	4	3

²³ Jenny Gold, “Pediatric Practices Struggle to Adapt and Survive amid COVID-19,” *Modern Healthcare*, April 15, 2020, <https://www.modernhealthcare.com/providers/pediatric-practices-struggle-adapt-and-survive-amid-covid-19>.

From January to April 2020, a pneumococcal vaccine (CPT 90670) rose from fifth place to second place among the top five pediatric primary care procedures by estimated allowed amounts (table 13). This may have been because parents were not bringing children to the doctor for minor issues, and the reduction in those visits resulted in the pneumococcal vaccine rising higher. A preventive medicine visit for an established patient 1-4 years of age (CPT 99392) fell out of the top five, and one for a patient under 1 year of age (CPT 99391) rose into the top five.

Table 13. Five most common pediatric primary care procedures by total estimated allowed amounts, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	1	1	1	1
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	2	2	2	4
90460	IMMUNIZATION ADMINISTRATION THRU 18YR ANY ROUTE 1ST/ONLY COMPONENT VACCINE/TOXOID	3	4	5	5
99392	PERIODIC PREVENTIVE MEDICINE ESTABLISHED PATIENT 1-4YRS	4	3	6	6
90670	PNEUMOCOCCAL CONJUGATE VACCINE 13 VALENT FOR INTRAMUSCULAR USE	5	5	3	2
99391	PERIODIC PREVENTIVE MEDICINE ESTABLISHED PATIENT <1YR	6	6	4	3

Concerns have been expressed about whether preventive care visits, especially for children, have been maintained as needed during the COVID-19 pandemic.²⁴ Figure 10, however, shows there was little change from March-April 2019 to March-April 2020 in preventive care visits for pediatric patients 0-4 years of age, whether from the standpoint of utilization or of revenue based on total estimated allowed amounts. The procedures represented in figure 10 are initial preventive medicine, new patient under 1 year (CPT 99381) or new patient 1-4 years (CPT 99382), and periodic preventive medicine, established patient under 1 year (CPT 99391) or established patient 1-4 years (CPT 99392).

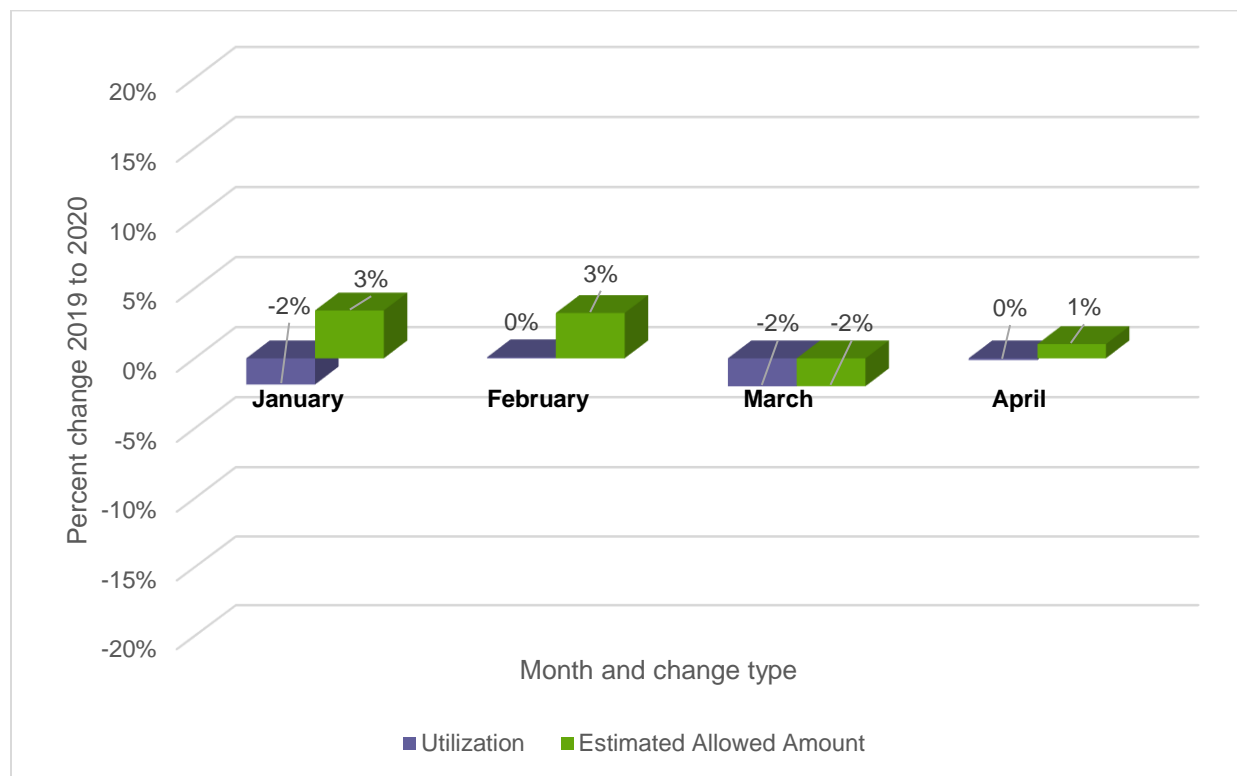


Figure 10. Monthly percent change in utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020 for preventive care visits for pediatric patients 0-4 years of age, nationally

²⁴ Primary Care Collaborative, "Primary Care & COVID-19: Week 10 Survey," May 21, 2020, <https://www.pccpcc.org/2020/05/21/primary-care-covid-19-week-10-survey>.

Preventive care visits for older pediatric patients (5-17 years of age) were much more likely than those for younger patients to be deferred during the pandemic months (figure 11). From March 2019 to March 2020, utilization of these visits fell 51 percent and revenue based on total estimated allowed amounts fell 52 percent. The corresponding declines in April 2020 were 61 percent for utilization and 63 percent for revenue. The procedures represented in figure 11 are initial preventive medicine, new patient 5-11 years (CPT 99383) or 12-17 years (CPT 99384), and periodic preventive medicine, established patient 5-11 years (CPT 99393) or 12-17 years (CPT 99394).

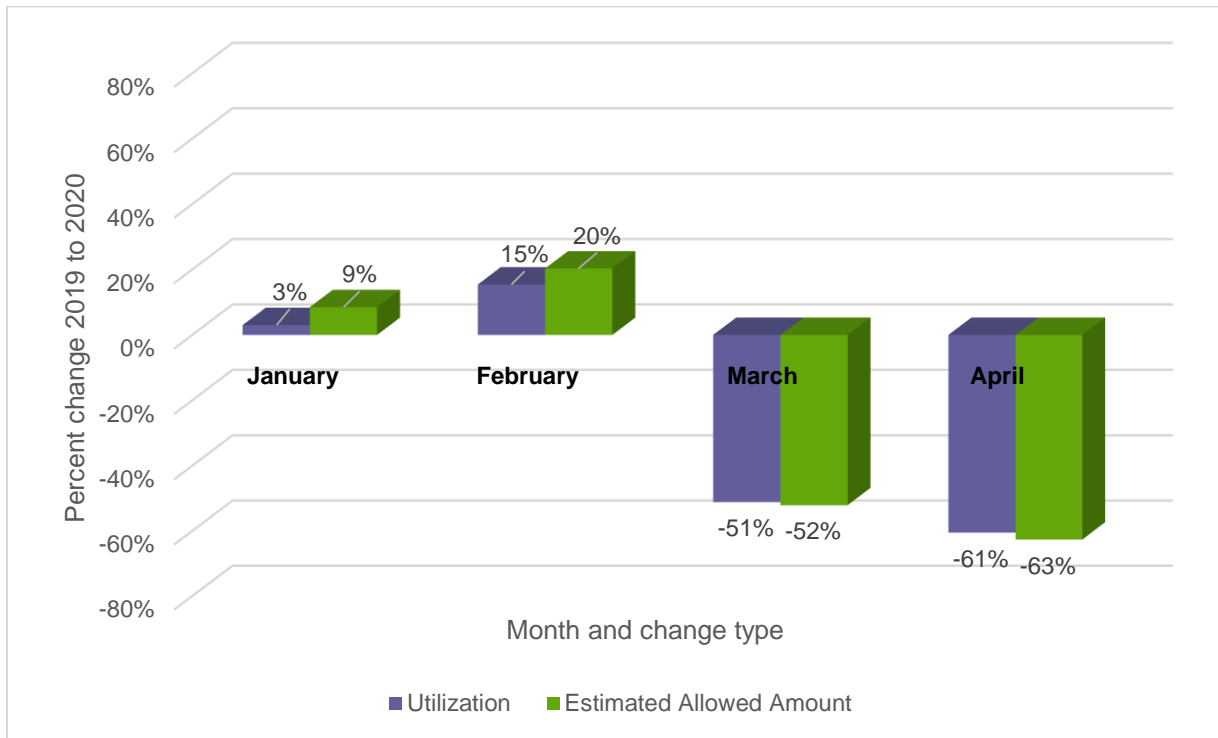


Figure 11. Monthly percent change in utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020 for preventive care visits for pediatric patients 5-17 years of age, nationally

In a May 2020 survey of primary care clinicians, only 13 percent of respondents reported that routine pediatric immunizations were happening as usual.²⁵ FAIR Health data show that pediatric vaccinations were down in March and April 2020 (figure 12), but not nearly as much as pediatric primary care services generally (figure 9). From March 2019 to March 2020, pediatric vaccinations declined 14 percent by utilization and 7 percent by revenue based on total estimated allowed amounts. In April 2020, the decline was 10 percent by utilization and 2 percent by revenue. Much of the drop could be due to older pediatric patients not receiving boosters or teen-based shots (e.g., human papillomavirus [HPV]).

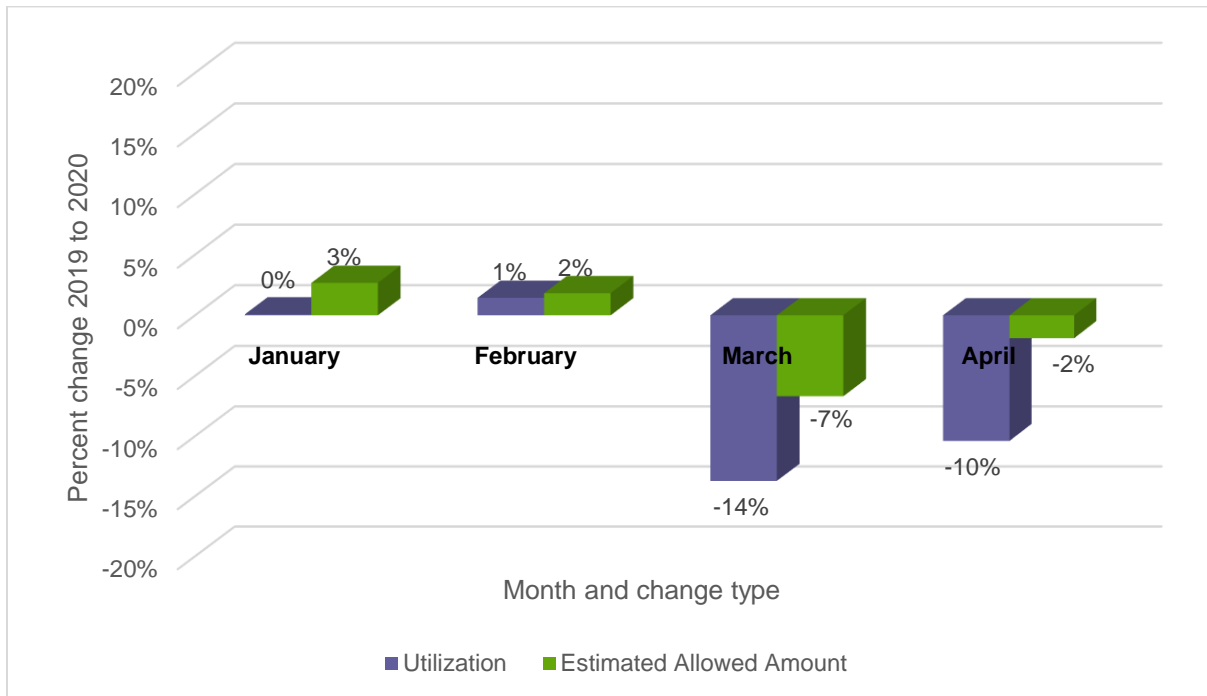


Figure 12. Monthly percent change in utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020 for pediatric vaccinations, nationally

²⁵ Primary Care Collaborative, "Primary Care & COVID-19: Week 10 Survey."

Adult Primary Care

The declines in volume and revenue for adult primary care in March and April 2020 (figure 13) were mostly greater than for pediatric primary care (figure 9). From March 2019 to March 2020, adult primary care fell 60 percent by utilization and 47 percent by revenue based on total estimated allowed amounts. In April 2020, the decline was 68 percent by utilization and 54 percent by revenue based on total estimated allowed amounts.

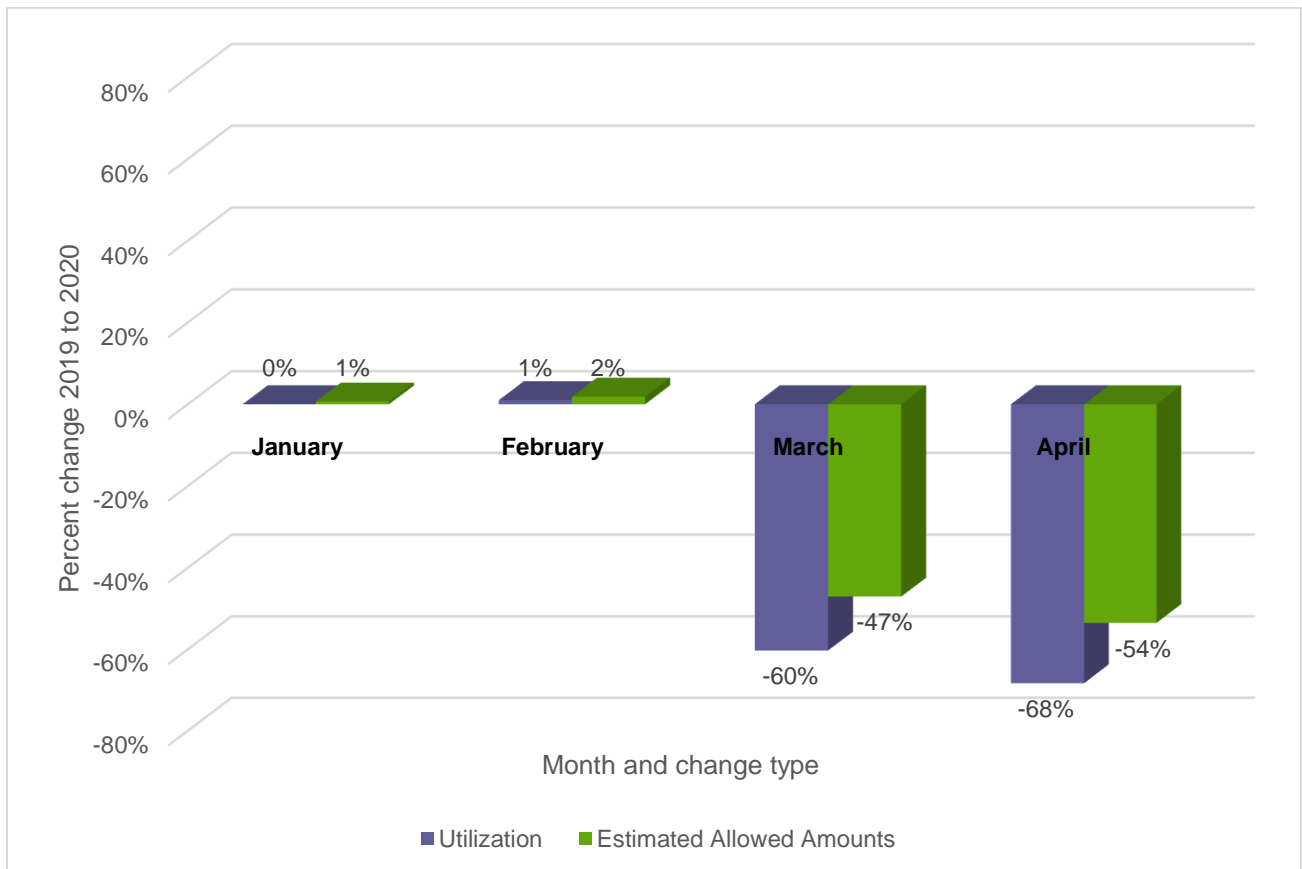


Figure 13. Monthly percent change in adult primary care utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020, nationally

Of the top five adult primary care procedures by utilization in January 2020, two dropped out of the top five by April (table 14). One was a preventive medicine visit for an established patient 40-64 years of age (CPT 99396); another was a vaccination procedure (CPT 90471). An influenza test (CPT 87804) was briefly in the top five in February 2020, in 5th place, before falling to 38th place in April. Again, as with pediatric care, this could be related to the seasonality of the flu. A 10-minute office or other outpatient visit for an established patient (CPT 99212) climbed from 27th place in January 2020 to 4th place in April.

Table 14. Five most common adult primary care procedures by utilization, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	1	1	1	1
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	2	2	2	2
36415	COLLECTION VENOUS BLOOD VENIPUNCTURE	3	3	3	3
99396	PERIODIC PREVENTIVE MEDICINE ESTABLISHED PATIENT 40-64YRS	4	4	4	6
90471	IMMUNIZATION ADMINISTRATION PRQ SUBQ/IM NJXS 1 VACCINE	5	6	11	18
87804	INFECTIOUS AGENT ANTIGEN DETECTION BY IMMUNOASSAY WITH DIRECT OPTICAL OBSERVATION; INFLUENZA	6	5	7	38
96372	THERAPEUTIC PROPHYLACTIC/DIAGNOSTIC INJECTION SUBCUTANEOUS/INTRAMUSCULAR	8	8	6	5
99212	OFFICE OUTPATIENT VISIT 10 MINUTES	27	24	9	4
99232	SUBSEQUENT HOSPITAL CARE/DAY 25 MINUTES	9	10	5	7

The five most common adult primary care procedures by total estimated allowed amounts stayed fairly stable from January to April 2020 (table 15). The only member of the top five in January 2020 to leave that list by April was an office or other outpatient visit for a new patient, 45 minutes (CPT 99204); it was replaced by a 30-minute version of the same type of visit (CPT 99203).

Table 15. Five most common adult primary care procedures by total estimated allowed amounts, with rank number, January-April 2020

CPT Code	Description	January	February	March	April
99214	OFFICE OUTPATIENT VISIT 25 MINUTES	1	1	1	1
99213	OFFICE OUTPATIENT VISIT 15 MINUTES	2	2	2	2
99396	PERIODIC PREVENTIVE MEDICINE ESTABLISHED PATIENT 40-64YRS	3	3	3	4
99233	SUBSEQUENT HOSPITAL CARE/DAY 35 MINUTES	4	4	4	3
99204	OFFICE OUTPATIENT NEW 45 MINUTES	5	5	7	6
99203	OFFICE OUTPATIENT NEW 30 MINUTES	7	7	6	5
99232	SUBSEQUENT HOSPITAL CARE/DAY 25 MINUTES	8	8	5	7

Preventive care visits among adults declined in March and April 2020, both by utilization and revenue (figure 14). From March 2019 to March 2020, such preventive care dropped 53 percent by utilization and 54 percent by revenue based on total allowed amounts. In April 2020, the decline was 74 percent by utilization and 77 percent by revenue. The procedures represented in figure 14 are three CPT codes for initial preventive medicine for a new patient (99385 for 18-39 years of age, 99386 for 40-64 years and 99387 for 65 years and older) and three for periodic preventive medicine for an established patient (99395 for 18-39 years of age, 99396 for 40-64 years and 99397 for 65 years and older).

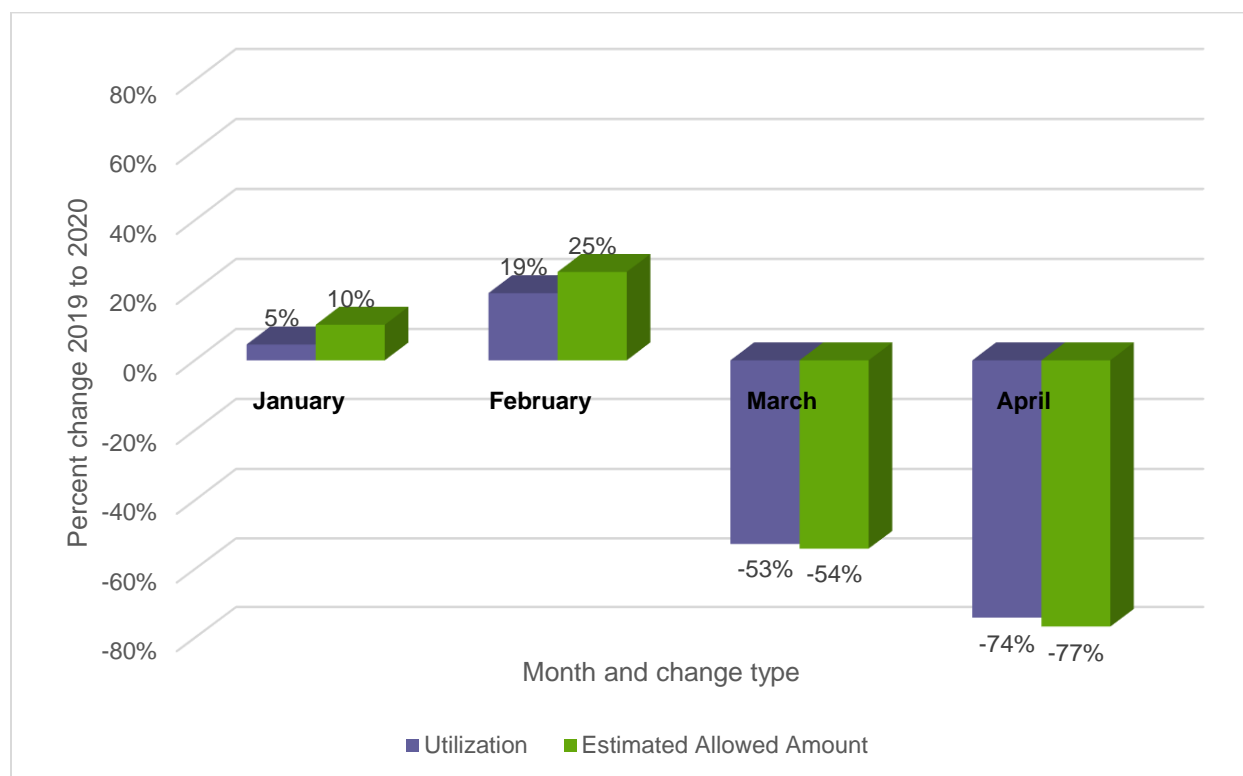


Figure 14. Monthly percent change in utilization and revenue based on total estimated allowed amounts from CPI-adjusted 2019 to 2020 for preventive care visits for adults, nationally

Conclusion

This study found that, from March-April 2019 to March-April 2020, utilization of professional services decreased, as did professional revenue based on total estimated allowed amounts. Nationally and in the Northeast, the decreases were comparable in March, but in April the decreases in the Northeast were notably greater than nationally.

The seven specialties studied (cardiology, dermatology, oral surgery, gastroenterology, orthopedics, pediatric primary care and adult primary care) all experienced declines in utilization and revenue based on total estimated allowed amounts from March-April 2019 to March-April 2020, but the declines varied considerably. Oral surgery and gastroenterology had the first and second largest decreases, respectively. Pediatric primary care had the smallest decreases.

Across many specialties from January to April 2020, office or other outpatient E&M visits became more common relative to other procedures, both by utilization and total estimated allowed amounts. This may have been due in part to the fact that many of these E&M services could be rendered via telehealth, whereas certain other procedures that became less common required in-person visits. One example of the growth of telehealth during the pandemic: Among the most common procedures by utilization for oral surgery, a procedure specifically for telehealth—telephone E&M by a physician or other qualified healthcare professional, 11-20 minutes (CPT 99442)—climbed from number 131 in January 2020 to number 1 in April 2020.

Some elective procedures that were in the top five by either utilization or total estimated allowed amounts in January 2020 dropped out of the top five by April 2020. Examples included, in gastroenterology, an endoscopy procedure and a colonoscopy procedure and, in orthopedics, total knee replacement and total hip replacement.

Decreases in preventive care varied by age of patient. There was little change from March-April 2019 to March-April 2020 in preventive care visits for pediatric patients 0-4 years of age, whether from the standpoint of utilization or of revenue based on total estimated allowed amounts. Decreases in these months were much greater for preventive care visits for older pediatric patients (5-17 years of age) and adults (18 and older).

As with past studies in its COVID-19 series, FAIR Health presents this information in the hope that it will be useful to stakeholders throughout the healthcare sector, including providers, payors, policy makers and researchers.

About FAIR Health

FAIR Health is a national, independent nonprofit organization dedicated to bringing transparency to healthcare costs and health insurance information through data products, consumer resources and health systems research support. FAIR Health qualifies as a public charity under section 501(c)(3) of the tax code. FAIR Health possesses the nation's largest collection of private healthcare claims data, which includes over 31 billion claim records contributed by payors and administrators who insure or process claims for private insurance plans covering more than 150 million individuals. FAIR Health licenses its privately billed data and data products—including benchmark modules, data visualizations, custom analytics and market indices—to commercial insurers and self-insurers, employers, providers, hospitals and healthcare systems, government agencies, researchers and others. Certified by the Centers for Medicare & Medicaid Services (CMS) as a national Qualified Entity, FAIR Health also receives data representing the experience of all individuals enrolled in traditional Medicare Parts A, B and D; FAIR Health includes among the private claims data in its database, data on Medicare Advantage enrollees. FAIR Health can produce insightful analytic reports and data products based on combined Medicare and commercial claims data for government, providers, payors and other authorized users. FAIR Health's free, award-winning, national consumer websites are fairhealthconsumer.org and fairhealthconsumidor.org. For more information on FAIR Health, visit fairhealth.org.

FAIR Health, Inc.
530 Fifth Avenue, 18th Floor
New York, NY 10036
212-370-0704
fairhealth.org
fairhealthconsumer.org
fairhealthconsumidor.org

Copyright 2020, FAIR Health, Inc. All rights reserved.