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Financial implications of coronavirus disease 2019 on a tertiary academic vascular surgery practice

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ABSTRACT

Background: The coronavirus disease 2019 (COVID-19) pandemic has had an unprecedented impact on the healthcare system in the United States. The redistribution of resources and suspension of elective procedures and other services has resulted in financial stress across all service lines. The financial effects on the practice of vascular surgery have not yet been quantified. We hypothesized that vascular surgery divisions have experienced losses affecting the hospital and professional sides that will not be recoupable without significant productivity increases.

Methods: Administrative claims data for clinical services performed by the vascular surgery division at a tertiary medical center for March and April 2019 and for March and April 2020 were analyzed. These claims were separated into two categories: hospital claims (inpatient and outpatient) and professional claims (professional reimbursement for all services provided). Medicare reimbursement methods were used to assign financial value: diagnosis-related group for inpatient services, ambulatory payment classification for outpatient services, and the Medicare physician fee schedule for professional reimbursement and work relative value units (wRVUs). Reimbursements and productivity (wRVUs) were compared between the two periods. A financial model was created to determine the increase in future productivity over baseline required to mitigate the losses incurred during the pandemic.

Results: A total of 11,317 vascular surgery claims were reviewed. Hospital reimbursement during the pandemic decreased from $4,982,114 to $2,649,521 (−47%) overall (inpatient, from $3,505,775 to $2,128,133 [−39%]; outpatient, from $1,476,339 to $521,388 [−65%]) and professional reimbursement decreased from $933,897 to $430,967 (−54%) compared with the same period in 2019. Professional productivity as measured by wRVUs sustained a similar decline from 10,478 wRVUs to 5386 wRVUs (−51%). Modeling sensitivity analyses demonstrated that if a vascular division were able to increase inpatient and outpatient revenue to greater than prepandemic levels by 10%, 5%, or 3%, it would take 9, 19, or 31 months, respectively, for the hospital to recover their pandemic-associated losses. Similarly, professional reimbursement recovery would require 11, 20, or 36 months with corresponding increases in productivity.

Conclusions: The COVID-19 pandemic has had profound and lasting effects on the world in terms of lives lost and financial hardships. The financial effects on vascular surgery divisions has resulted in losses ranging from 39% to 65% compared with the prepandemic period in the previous year. Because the complete mitigation of losses is not feasible in the short term, alternative and novel strategies are needed to financially sustain the vascular division and hospital during a prolonged recovery period. (J Vasc Surg 2021;73:1869-75.)

Keywords: Vascular surgery; COVID-19; Financial analysis; Reimbursement

The coronavirus disease 2019 (COVID-19) pandemic has had unprecedented effects on the healthcare system in the United States. During the early stages of the pandemic in the Northeastern United States in March 2020, many medical centers cancelled elective procedures and in-person clinic visits to reduce the transmission of the virus, preserve personal protection equipment (PPE), and increase hospital capacity for patients with COVID-19. At an institutional level, the redistribution of resources toward the expansion of critical care

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capacity and concomitant suspension of elective procedures and other clinical services placed a financial stress across all healthcare service lines. As the "first wave" of the pandemic passed, it has become increasingly clear that hospitals have sustained financial losses without comparison in the era of modern medicine.[1]

The path to financial recovery is a salient topic among both small and large medical centers and achieved early recognition at the national level, with $150 billion dollars in funds earmarked for hospitals and healthcare providers through the 2020 Coronavirus Aid, Relief, and Economic Security (CARES) Act.[2] Although the CARES Act was meant to provide acute relief to hospitals on the front lines of the pandemic, the long-term financial outlook is unclear. Although hospitals have largely returned to a "new normal" with regular COVID-19 surveillance testing and increased PPE usage, the overall patient volume has been very slow in returning to prepandemic levels.[1]

Vascular surgery is no exception, and the extent of the financial damage has yet to be quantified. We hypothesized that vascular surgery divisions have experienced losses on both the hospital and the professional side that, without significant productivity increases, will not be recoupable.

ARTICLE HIGHLIGHTS

- **Type of Research:** Single center, retrospective financial analysis
- **Key Findings:** Losses ranged from 39% to 65% during the pandemic compared to the prior year. Modeling suggests that these losses cannot simply be mitigated with increased volume.
- **Take Home Message:** This vascular surgery division at a tertiary care center lost a substantial amount of revenue due to the COVD-19 pandemic that is unlikely to be recouped. Vascular surgery divisions should explore novel strategies to sustain the division moving forward until operations can resume as normal.

METHODS

Data source

Administrative claims data for clinical services performed by the vascular surgery division at a tertiary medical center for March and April 2019 (designated as "prepandemic") and March and April 2020 (designated as "pandemic") were obtained from a prospectively maintained database at the Department of Finance at the UMass Memorial Medical Center. The institutional review board of the University of Massachusetts Medical School exempted the present study from review and determined that patient informed consent was not required. The institutional review board waiver was maintained throughout the duration of the present study. Our division consisted of eight active vascular surgeons during both the prepandemic and the pandemic study periods. A rotating call schedule was continued from the prepandemic to the pandemic study period. No faculty members required quarantine because of COVID-19 exposure.

Case sorting

The claims were separated into three revenue streams: hospital inpatient claims, hospital outpatient claims, and professional claims. For the purposes of the present study, the term "medical center" referred to the combination of inpatient and outpatient hospital claims. Medicare reimbursement methods were used to assign financial value: diagnosis-related group (DRG) for inpatient services, ambulatory payment classification (APC) for outpatient services, Medicare physician fee schedule for professional reimbursement, and work relative value units (wRVUs).

Hospital inpatient claims. All vascular surgery inpatients were included in the inpatient claims as defined by the vascular surgery service line. The Centers for Medicare and Medicaid Services (CMS) prospective payment service was used to obtain the national reimbursement rate for inpatient hospitalizations as assigned to each DRG.[3] Geographic payment adjustments for capital and labor rates were used for our region. However, to make this method more widely applicable, we removed adjustments such as direct and indirect medical education, disproportionate share hospital, and other CMS programs, such as value based purchasing, and outlier payments, which might not be universally applicable to other medical institutions. This allowed us to generate values that will be replicable at any institution using CMS values and hospital volume. The DRG relative weight for each admission was multiplied by the CMS reimbursement rate as published in their annual report, which resulted in an estimated reimbursement for the service. The inpatient reimbursement was based on the completed and submitted claims.

Hospital outpatient claims. All clinic visits, outpatient imaging studies, outpatient surgical procedures, outpatient catheter laboratory procedures, and hospital clinic-based procedures were included in the outpatient claims category. The CMS APC was used to calculate the reimbursement for each claim.[4]

Professional claims. All clinical services performed within the vascular surgery division by either physicians or advanced practice providers were included in the professional claims category. The Medicare physician fee schedule was used to calculate the reimbursement and the wRVUs generated by each claim.[5]

Comparison of study periods

Reimbursements and productivity (wRVUs) were compared between the prepandemic (March and April 2019) and pandemic (March and April 2020) periods. Medicare reimbursement rates were used for the medical center and professional billing, and we assumed that all claims were reimbursed to standardize the comparisons between the study periods. Modeling sensitivity analyses were used to determine the increase in future productivity over baseline required to mitigate the losses incurred during the pandemic. The reimbursement levels for each revenue stream in 2019 were used to define baseline productivity. The time required to "make up" the difference between the pandemic and baseline reimbursement levels was then calculated for various increased levels in productivity.

RESULTS

A total of 11,687 vascular surgery claims were reviewed. The number of inpatient claims submitted decreased from 152 during the March and April 2019 period to 87 during the corresponding 2020 period (−43%). The number of outpatient claims decreased from 2586 during March and April 2019 to 833 during the corresponding 2020 period (−68%). The number of professional claims decreased from 5621 during March and April 2019 to 2408 during the corresponding 2020 period (−57%). An increase occurred in the case mix index to 3.27 during the pandemic period from 3.04 during the prepandemic period.

Medical center reimbursement during the pandemic decreased from $4,982,114 to $2,649,521 (−47%) compared with the same period in 2019. This corresponded to a decrease in inpatient reimbursement from $3,505,775 to $2,128,133 (−39%) and a decrease in outpatient reimbursement from $1,476,339 to $521,388 (−65%; Fig). Professional reimbursement decreased during the study period from $933,897 to $430,967 (−54%). Professional productivity (measured using wRVUs) sustained a similar decline, from 10,478 wRVUs to 5386 wRVUs (−51%; Fig).

Modeling sensitivity analyses demonstrated that if a vascular division were able to increase medical center inpatient and outpatient revenue to greater than prepandemic levels by 10%, 5%, or 3%, it would require 9, 19, or 31 months, respectively, for the hospital to recover pandemic-associated losses (Table I). Similarly, professional reimbursement recovery would require 11, 20, or 36 months with a 10%, 5%, or 3% increase in productivity, respectively (Table II). The top five most common inpatient procedures (sorted using the DRG) were compared between the prepandemic and pandemic study periods (Table III). The top five most common outpatient claims (sorted using the APC and International Classification of Diseases, 10th revision) were also compared between the prepandemic and pandemic study periods (Tables IV and V).

DISCUSSION

In the present study, we have demonstrated that the COVID-19 pandemic has resulted in a significant reduction in both medical center and professional reimbursement for a vascular surgery division. The net effects of the reallocation of resources, reductions in operative volume and clinic visits, and attempts to safeguard patients from further exposure resulted in a >50% reduction in reimbursement across all avenues of vascular surgery services. At our institution, COVID-19 admissions had peaked at 28% of inpatients and 125% of our intensive care unit capacity. Furthermore, our results have provided compelling evidence that the financial effects of COVID-19 will be difficult to mitigate.

Although it is impossible to completely determine the clinical, social, and psychological consequences of the COVID-19 pandemic, there have been numerous attempts to understand the financial impact. The reason to do so is twofold: (1) the magnitude of the loss is important for developing future budgets; and (2) the types of losses might suggest areas of opportunity for recovery. A financial market analysis estimated that the effects on U.S. hospitals was >$200 billion as of June 2020.[6] However, the report lacked a granular assessment of the effects on an individual service line.[6] It is likely that different specialties have experienced different magnitudes and types of losses, such that a one-size-fits-all budgeting and recovery strategy would not be optimal. To the best of our knowledge, the present study is the first to both quantify the financial impact of the COVID-19 pandemic on an academic vascular surgery division and to project the time and increased productivity required to recoup those losses.

The COVID-19 pandemic required the reallocation of resources and personnel and the cancellation of elective procedures and visits. This was clearly seen in the reduction of outpatient services, with a 68% reduction in volume and 65% reduction in reimbursement. Inpatient services, however, were not as heavily affected. Vascular surgery inpatient services experienced a 43% reduction in volume and 39% reduction in reimbursement. These findings are consistent with previous data showing that >50% of inpatient vascular care is emergent.[7] Furthermore, it is likely that these inpatients, although fewer, were more ill and required more care, as evidenced by the reimbursement decreasing 10% less than the volume (volume decreased by 43% and reimbursement only decreased by 39%). Thus, the patients might have only presented for care if absolutely necessary owing to their fear of contracting COVID-19 in the hospital setting, which is consistent with studies showing that ≤60% of patients were uncomfortable seeking care in hospitals.[8] Although the patients were fewer, they had more

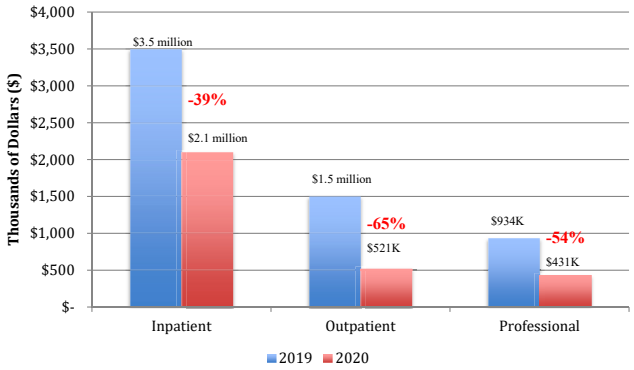

Fig. Reimbursements for March and April 2019 vs March and April 2020.

Table I. Projected time required to recoup medical center deficit ($2.3 million)

Reimbursement increase to greater than prepandemic period, %	Time required to recoup pandemic-associated losses, months
10	9
5	19
3	31

advanced disease (including nonvascular comorbidities) and, thus, required more services, which, in turn, generated more reimbursement. Outpatient services, however, are largely elective and experienced a more drastic volume reduction in the hospital outpatient setting (catheter laboratory), clinic visits, and vascular laboratory studies.

Financial viability is an important component of a healthy hospital system to allow the hospital system to meet the needs of its patient population. However, the pandemic has simultaneously led to massive financial losses and created a tremendous demand for the provision of high-quality healthcare. It is, therefore, critically important that hospital systems understand their losses and can estimate how long it might take for hospital and professional revenues to "bounce back." Analysis by the American Hospital Association showed that the losses will continue to increase at a rate of >$20 billion per month until the end of 2020, largely owing to decreased patient volumes and cancellation of elective procedures.[1] This would bring the total losses for the U.S. health system to >320 billion dollars: a staggering amount that does not include the additional costs for required items such as PPE. Although the CARES Act was meant to help blunt these financial constraints, it has fallen far short of covering these losses. Our institution did receive funds from the CARES Act; however, the exact amount has not been divulged. Also, although some fund exchange occurred between

Table II. Projected time required to recoup professional deficit ($503,000)

Reimbursement increase to greater than prepandemic period, %	Time required to recoup pandemic-associated losses, months
10	11
5	20
3	36

the medical center and our medical group, we are not privy to the specific details and have no control over the distribution. This highlights the financial obstacles in recouping losses. We most likely will not be able to increase our volume to greater than prepandemic levels, assuming that medical institutions could facilitate such increases, and safeguards such as government aid have fallen far short of creating a stopgap for the sustained losses.

Many potential obstacles exist to making up these losses. First, increasing hospital operative volume to greater than the prepandemic levels will be very challenging for both clinicians and medical centers. Opening additional operating rooms for longer times during the evening or weekends will incur additional personnel-related costs such as hiring additional staff and paying a higher rate for overtime. An additional obstacle is the reduced operating room availability owing to the mandated restrictions aimed at reducing the overall hospital census. The risk also exists of less tangible effects such as surgeon and staff burnout. Vascular surgery has been reported to have the longest hours of any specialty in the medical profession.[9] Therefore, a 10% increase in productivity for a 9- to 11-month period (the time required to recoup losses according to our models) would not be sustainable or safe, especially given the recent findings from the Society for Vascular Surgery Wellness Task Force showing that 30% of vascular surgeons met the criteria for burnout before the pandemic.[10] We believe that such an attempt to recoup lost revenue would certainly exacerbate this finding and be detrimental to any vascular surgeon. Second, patients who have missed or had their appointments rescheduled because of the pandemic might no longer be candidates for their originally intended surgical procedures. An example of this would be a patient who would have originally been seen with dry gangrene but has presented with wet gangrene, necessitating an amputation rather than a bypass. Another possibility is that patients with claudication might decide to more aggressively pursue an exercise regimen than they otherwise would have, resulting in an improvement in symptoms rather than deterioration. Finally, as previously stated, patients remain reluctant to visit a medical center or physician's office because of ongoing concerns for contracting COVID-19.

Table III. Top five most common diagnosis-related group codes[a] stratified by study period

	Prepandamic		Pandemic	
Top five	DRG code	No.	DRG code	No.
1	253	18	253	10
2	38	13	252	8
3	39	12	240	8
4	269	11	38	7
5	254	10	269	6

DRG, Diagnosis-related group.
[a]DRG codes: 38, extracranial procedures with complication or comorbidity; 39, extracranial procedures without complication or comorbidity/major complication or comorbidity; 240, amputation for circulatory system disorders except upper limb and toe with complication or comorbidity; 252, other vascular procedures with major complication or comorbidity; 253, other vascular procedures with complication or comorbidity; 254, other vascular procedures without complication or comorbidity/major complication or comorbidity; 269, aortic and heart assist procedures except pulsation balloon without complication or comorbidity/major complication or comorbidity.

Table IV. Top five most common ambulatory payment classification codes[a] stratified by study period

	Prepandemic		Pandemic	
Top five	APC code	No.	APC code	No.
1	5012	964	5012	284
2	5523	606	5523	173
3	5522	463	5522	169
4	5721	85	5721	27
5	5183	81	5183	25

APC, Ambulatory payment classification.
[a]APC codes: 5012, clinic visits and related services; 5183, level 3 vascular procedures; 5522, level 2 imaging without contrast; 5523, level 3 imaging without contrast; 5721, level 1 diagnostic tests and related services.

Table V. Top five most common International Classification of Diseases, 10 revision, codes[a] stratified by study period

	Prepandemic		Pandemic	
Top five	ICD-10 code	No.	ICD-10 code	No.
1	I73.9	188	N18.6	74
2	I65.23	168	I73.9	68
3	I71.4	166	I71.4	47
4	N18.6	135	M79.89	38
5	R09.89	105	R09.89	35

ICD-10, International Classification of Disease, 10th revision.
[a]ICD-10 codes: I65.23, occlusion and stenosis of bilateral carotid arteries; I71.4, abdominal aortic aneurysm, without rupture; I73.9, peripheral vascular disease, unspecified; M79.89, other specified soft tissue disorders; N18.6, end-stage renal disease; R09.89, other specified symptoms and signs involving the circulatory and respiratory systems.

There will almost certainly be a persistent level of COVID-19–related costs as hospital systems return to what has been colloquially referred to as the "new normal." These will involve increased costs for PPE, testing, and procedural changes until a vaccine is widely available. The long-term financial effects of these changes remains unknown. Considering these changes and the associated costs, it seems likely that the modeling sensitivity analyses we have presented are not conservative enough. Thus, we believe that the complete mitigation of losses will not be feasible in the short term. Alternative, novel strategies are needed to financially sustain the vascular division and hospital during a prolonged recovery period. One strategy that our institution has adopted and implemented is telehealth or telemedicine. Audio and visual clinical services were rapidly expanded through government regulations at both the federal and the state level.[11,12] This allowed >200 clinical services to be performed remotely, reducing physical contact and promoting social distancing.[13] This was a logical step when viewed through the lens of infection control, and insurers signaled their approval by reimbursing telemedicine visits akin to in-person clinic appointments.[14] Furthermore, most insurance carriers reduced or removed copayments and deductibles for telehealth visits to promote improved access to remote care.[15] During the study period, redeployment of team members and administrative support staff to different areas of the hospital occurred; however, we had no instances of furlough or termination within our institution. One of the ways in which our division activities changed was the creation of a surgical workforce access team, which provided catheter placement services (arterial, dialysis, central venous access) to the COVID-19 intensive care unit.[16] Other novel concepts that were originally used for COVID-19 but might assist with increasing volume could be hospitals without walls or temporary expansion sites. Although their overall cost structures and reimbursement models remain uncertain, they could serve as an adjunct resource to increase volume or divert care to a lower cost venue.[17] To further reduce the cost of care and increase capacity, medical centers and physician groups could attempt using lower cost sites of service such as office-based laboratories and ambulatory surgical centers instead of medical centers. However, these ventures require considerable time and resources to launch. Such a strategy is, thus, unlikely to relieve the short-term financial needs. Inevitably, significant government support might be required either through increased reimbursements for medical services or in the forms of low interest/forgivable loans or grants to help the healthcare system recoup losses. It remains to be seen if further government intervention will provide meaningful relief.[18]

Our study had several limitations. Our data collection period was limited to March and April 2020; however,

the effects of the pandemic have continued well into 2021, without a clear timeline for a return to normalcy. This has likely had the effect of decreasing the magnitude of the financial loss, because decreased clinical volumes persisted into early summer of 2020. The calculated values for "reimbursement per DRG" were also slightly lower than the true values because several adjustments, such as those for direct and indirect medical education, were removed to allow the calculations to be generalizable to nonacademic medical centers. Another limitation was that our reimbursement values were based on Medicare reimbursement levels and did not consider other payers. This could have led to an underestimation of reimbursements, although this would have been somewhat offset by claims that were not successfully reimbursed. We also did not incorporate the effects on office-based practices (private physician offices and office-based laboratories) or ambulatory surgical centers, because these constitute a minority of the vascular surgery volume at our academic medical center. However, other reports have demonstrated that >97% of these practices were negatively affected, with some unable to reopen.[19] Although the present study examined a large number of claims, because of the de-identified nature of the data, we were unable to determine how many of the claims represented unique patients vs readmissions. Finally, our division was able to adopt and implement telehealth visits very early in the pandemic period. These had initially constituted ~4% of the clinical volume for the division during the study period but have markedly increased during the subsequent months. One final consideration is that future additional waves of infections are a realistic possibility. If additional mass cancellations of elective cases is required and resources once again directed solely toward COVID-19 patient care, it is almost certain that the losses projected in the present study would become severe underestimations.

CONCLUSIONS

The COVID-19 pandemic has had devastating, profound, and lasting effects on the world in terms of lives lost and financial hardships. The present study has detailed the financial effects on a vascular surgery division, which have resulted in losses ranging from 39% to 65% compared with the same period during the previous year. Given that the pandemic is ongoing and that our models indicate that the complete mitigation of losses will not be feasible in the short term, alternative, novel strategies are needed to financially sustain the vascular division and hospital during a prolonged recovery period.

AUTHOR CONTRIBUTIONS

Conception and design: ZF, JS, AS, FA
Analysis and interpretation: ZF, JS, DJ, EA, DJ, RS, AS, FA
Data collection: ZF, FA
Writing the article: ZF, JS, AS, FA
Critical revision of the article: ZF, JS, DJ, EA, DJ, RS, AS, FA
Final approval of the article: ZF, JS, DJ, EA, DJ, RS, AS, FA
Statistical analysis: ZF, FA
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Overall responsibility: FA

REFERENCES

1. American Hospital Association. New AHA Report Finds Losses Deepen for Hospitals and Health Systems Due to COVID-19. Available at: https://www.aha.org/press-releases/2020-06-30-new-aha-report-losses-deepen-hospitals-health-systems. Accessed September 25, 2020.
2. U.S. Department of the Treasury. The CARES Act Provides Assistance for State, Local, and Tribal Governments. Available at: https://home.treasury.gov/policy-issues/cares/state-and-local-governments. Accessed September 17, 2020.
3. Centers for Medicare and Medicaid Services. FY 2020 Final Rule and Correction Notice Tables. Available at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2020-IPPS-Final-Rule-Home-Page-Items/FY2020-IPPS-Final-Rule-Tables. Accessed August 21, 2020.
4. Centers for Medicare and Medicaid Services. Hospital Outpatient Prospective Payment System. Available at: https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/LimitedDataSets/HospitalOPPS. Accessed August 21, 2020.
5. Centers for Medicare and Medicaid Services. Physician fee schedule. Available at: https://www.cms.gov/medicare/medicare-fee-for-service-payment/physicianfeesched. Accessed August 23, 2020.
6. MarketWatch. The coronavirus is devastating U.S. hospitals, which will lose $200 billion in revenue by the end of June. Available at: https://www.marketwatch.com/story/the-coronavirus-is-devastating-us-hospitals-which-will-lose-200-billion-in-revenue-by-the-end-of-june-2020-06-11?mod=health-care. Accessed September 17, 2020.
7. Harris DG, Herrera A, Drucker CB, Kalsi R, Menon N, Toursavadkohi S, et al. Defining the burden, scope, and future of vascular acute care surgery. J Vasc Surg 2017;66:1511-7.
8. Blake J. May 2020 National Hospital Flash Report. Available at: https://flashreports.kaufmanhall.com/national-hospital-report-may-2020. Accessed October 8, 2020.
9. Leigh JP, Tancredi D, Jerant A, Kravitz R. Annual work hours across physician specialties. Arch Intern Med 2011;171:1211-3.
10. Burnout Among Vascular Surgeons—A Report From the SVS Wellness Committee. London, UK: BIBA Publishing; 2019. Available at: https://vascularspecialistonline.com/burnout-among-vascular-surgeons-a-report-from-the-svs-wellness-committee/. Accessed October 8, 2020.
11. Centers for Medicare and Medicaid Services, Department of Health and Human Services. Medicare and Medicaid Programs: Policy and Regulatory Revisions in Response to the COVID-19 Public Health Emergency. National Health Council; 2020. Available at: https://nationalhealthcouncil.org/medicare-and-medicaid-programs-policy-and-regulatory-revisions-in-response-to-the-covid-19-public-health-emergency/. Accessed October 8, 2020.
12. Baker CD, Polito KE. Order Expanding Access to Telehealth Services and to Protect Health Care Providers. Boston, MA: Office of the Governor of the Commonwealth of Massachusetts; 2020. Available at: https://www.mass.gov/doc/march-15-2020-telehealth-order/download. Accessed October 9, 2020.
13. Centers for Medicare and Medicaid Services. List of Telehealth Services. Available at: https://www.cms.gov/Medicare/Medicare-General-Information/Telehealth/Telehealth-Codes. Accessed October 9, 2020.
14. Abelson R. Is Telemedicine Here to Stay? The New York Times, August 3, 2020. Available at: https://www.nytimes.com/2020/08/03/health/covid-telemedicine-congress.html. Accessed October 7, 2020.
15. Abelson R. Some Insurers End Pandemic Waivers of Fees and Deductibles for Telehealth. The New York Times, October 3, 2020.

Available at: https://www.nytimes.com/2020/10/03/health/covid-telemedicine-insurance.html. Accessed October 7, 2020.
16. Sheth PD, Simons JS, Robichaud DI, Ciaranello AL, Schanzer A. Development of a surgical workforce access team in the battle against COVID-19. J Vasc Surg 2020;72:414-7.
17. Centers for Medicare and Medicaid Services. Hospitals: CMS Flexibilities to Fight COVID-19. Available at: https://www.cms.gov/files/document/covid-hospitals.pdf. Accessed October 8, 2020.
18. Cooper M, Haberman M. As the virus consumes the U.S. government's elite, Trump presides over a capital in chaos. The New York Times, October 7, 2020. Available at: https://www.nytimes.com/2020/10/06/world/as-the-virus-consumes-the-us-governments-elite-trump-presides-over-a-capital-in-chaos.html. Accessed October 7, 2020.
19. Rubin R. COVID-19's crushing effects on medical practices, some of which might not survive. JAMA 2020;324:321-3.

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