

The Use of Telemedicine Across Surgical Specialties in an Academic Medical Center

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Background

Telemedicine has played an increasingly important role in surgical care during the COVID-19 pandemic. The novelty of telemedicine in most medical centers has created a large gap in the literature regarding its use and the potential impacts. Studying telemedicine trends may elucidate important information as the resource continues to expand, like on surgical specialty-specific guidelines on which aspects of care are best suited to be performed via telemedicine.

Research Objectives

The objective of this study was to quantify the number of telemedicine visits compared to in-person ones across surgical specialties over time. We aimed to study the average use of telemedicine for each specialty and how use changed over time.

Methods

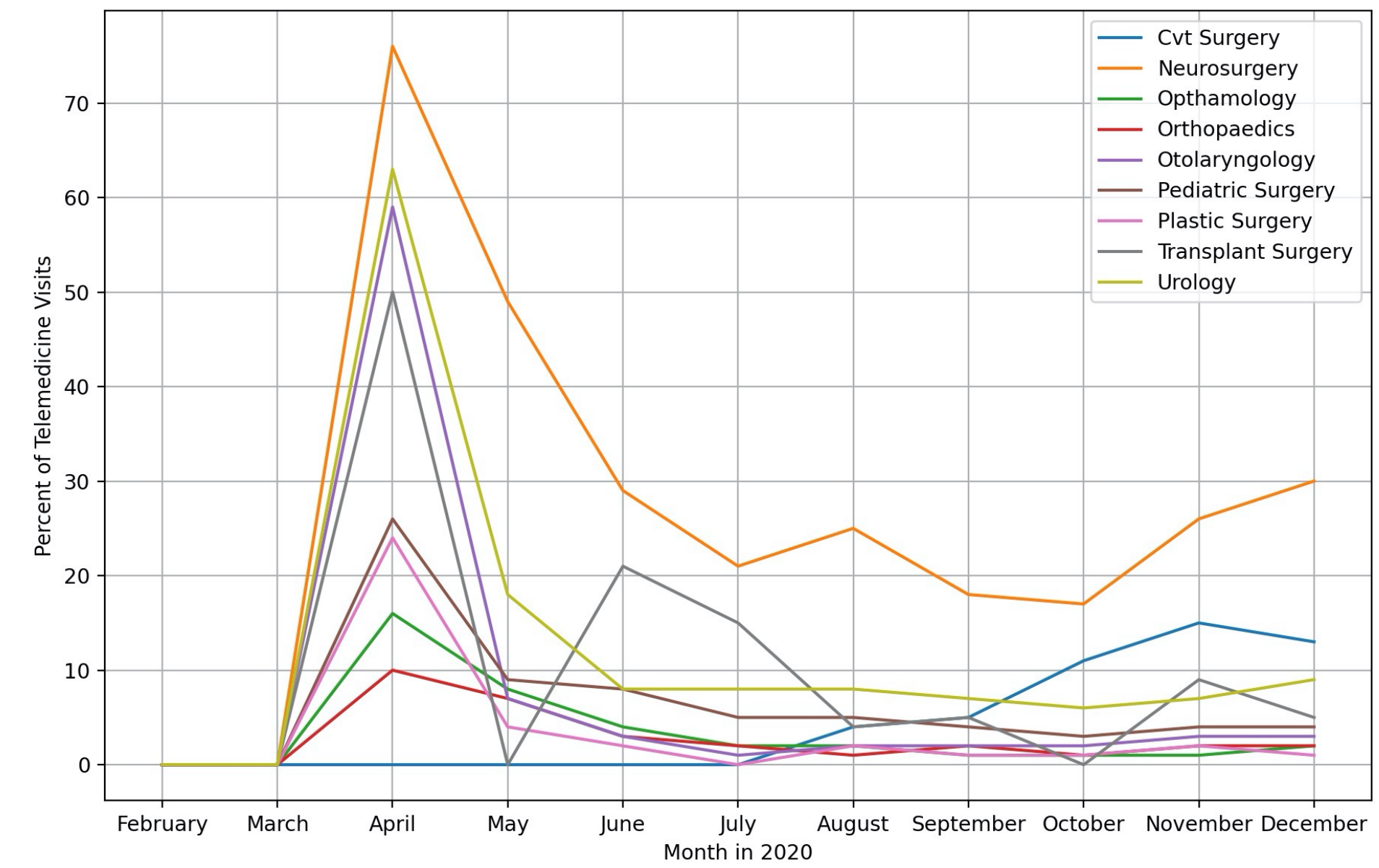
In this single-center retrospective study, we reviewed the total number of both in-person and telemedicine visits for all available surgical specialties (cardiovascular and thoracic, neurosurgery, ophthalmology, orthopedics, otolaryngology, pediatric, plastic, transplant, and urology) between February and December 2020. The percent of total visits that were telemedicine was analyzed over time for each specialty.

Table 1. Average percent of telemedicine visits by surgical specialty

Surgical Specialty	Average Percent of Telemedicine Visits
Cvt Surgery	5%
Neurosurgery	32%
Ophthalmology	4%
Orthopaedics	3%
Otolaryngology	9%
Pediatric Surgery	8%
Plastic Surgery	4%
Transplant Surgery	12%
Urology	15%

Average percent of telemedicine visits from April – December 2020. February and March were excluded because no surgical subspecialties utilized telemedicine.

Table 2. Percent of telemedicine visits by surgical specialty over time



Monthly percent of telemedicine visits for each surgical subspecialty

Results

Of 80,874 surgical clinical visits identified, 4,764 encounters (5.89%) were telemedicine. The specialties with the highest total percentages of telemedicine visits were neurosurgery (32%) and urology (15%). Plastic surgery, orthopedics, and ophthalmology reported the lowest total percentage of telemedicine visits at 4% each. Every surgical specialty except cardiovascular and thoracic experienced its largest percentage of telehealth visits in April. These specialties also experienced the largest decline in percentage of telemedicine visits between April and May. Otolaryngology, transplant surgery, and urology had the steepest decline, with the proportion of telehealth appointments decreasing by at least 70% each. Neurosurgery had the mildest decline, with the proportion of telehealth appointments decreasing by only 36%. Telemedicine usage in most specialties did not fluctuate by more than 5% between June and December. By December 2020, the percentage of telehealth appointments for nearly every specialty was below 10%, while neurosurgery remained at 30%.

Conclusions

Our institutional trends reveal neurosurgery and urology had the highest percentages of telemedicine appointments while plastic surgery, orthopedics, and ophthalmology had the lowest. While nearly all specialties displayed a decrease in telemedicine use from April to December 2020, neurosurgery had the markedly lowest percent decrease. Telemedicine rates for all specialties relatively plateaued from June to December, suggesting that past trends may be indicative of future patterns in telemedicine use. Understanding trends in telemedicine volume instigated by and following the pandemic may better prepare institutions to navigate the accelerated adoption of telemedicine within surgical fields and gauge the utility of telemedicine for different surgical subspecialties.