

Telehealth Utilization Higher Than Pre-Pandemic Levels, but Down from Pandemic Highs

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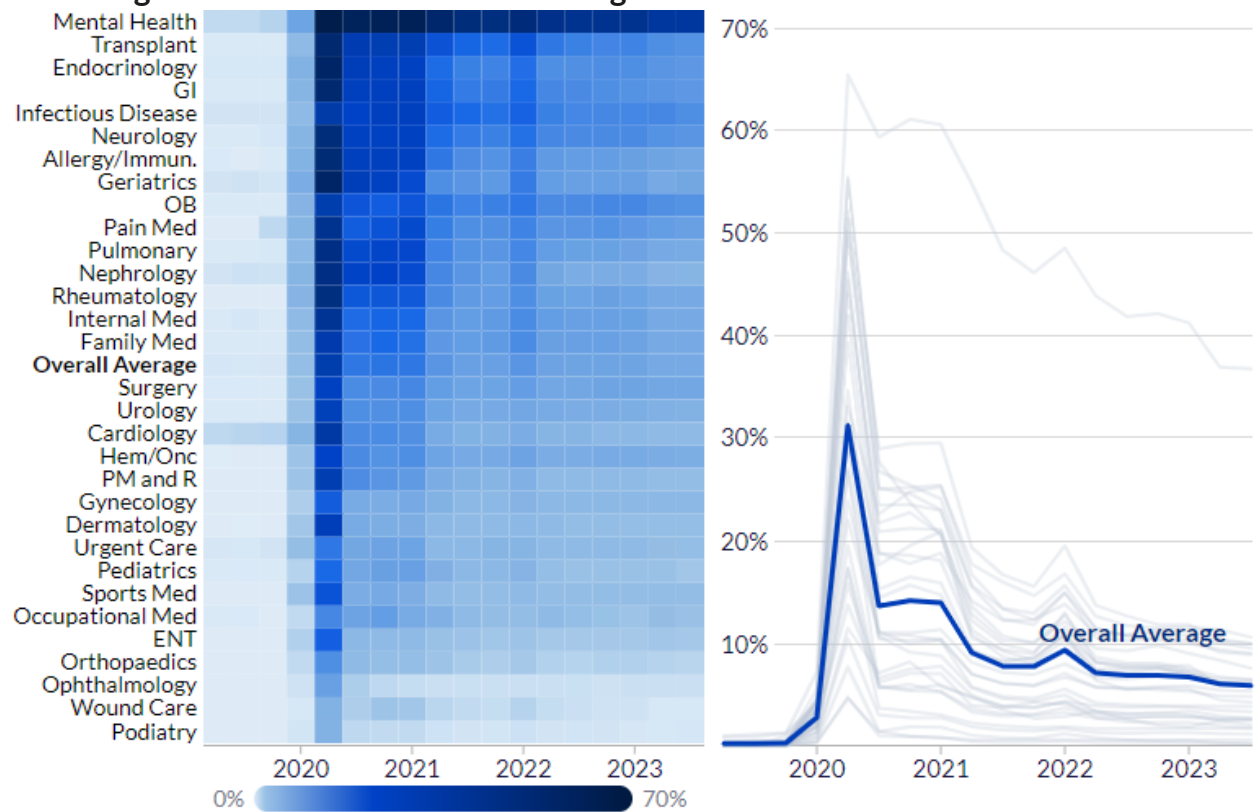
Key Findings:

- While telehealth usage has declined since the initial peak early in the pandemic, it is still used much more broadly than before the pandemic.
- In mental health, infectious disease, OB, and transplant departments, the proportion of encounters that used telehealth in the third quarter of 2023 is higher than other specialties.

Telehealth is used for a wide range of acute and chronic medical conditions in both specialties and primary care. It allows healthcare providers to reach underserved populations, such as those in rural areas.¹ Telehealth became a necessary means of healthcare delivery during the peak of the COVID-19 pandemic. We previously reported increased rates of telehealth early in the pandemic.² In this study, we are seeking to understand how telehealth use now compares to telehealth use before the pandemic.

We evaluated 475,229,277 telehealth and in person encounters between Q2 2019 and Q3 2023. Pre-pandemic, across all specialties, telehealth was a low proportion of visits, averaging less than 1% of visits in the last three quarters of 2019. In Q2 2020, the proportion of telehealth visits peaked across all specialties, with the highest rates in mental health (65.5%), endocrinology (55.5%), geriatrics (55.2%), transplant (52.2%), and GI (51.5%). Across all specialties, we saw another, smaller spike in telehealth in Q1 2022 when the omicron variant contributed to another spike in COVID cases. As of Q3 2023, the specialties with the highest rates of telehealth utilization were mental health (37%), infectious disease (11%), OB (10%), and transplant (10%). The specialties with less than 1% of visits occurring through telehealth in Q3 2023 include ophthalmology, podiatry, and wound care. This likely reflects the hands-on nature of the care provided by these specialties.

Percentage of Encounters Conducted Using Telehealth



n=475,229,277 encounters

"Percentage of Encounters Conducted Using Telehealth," 2023. EpicResearch.org

Figure 1. The proportion of visits in each specialty that are completed using telehealth sorted by average proportion of telehealth encounters over the study period.

These data come from Cosmos, a collaboration of 222 Epic health systems representing over 220 million patient records from 1,272 hospitals and more than 27,200 clinics from all 50 states and Lebanon. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions. Graphics by Brian Olson.

References

1. Barbosa, W., Zhou, K., Waddell, E., Myers, T., & Dorsey, E. R. (2021). Improving access to care: Telemedicine across medical domains. *Annual Review of Public Health*, 42(1), 463–481. <https://doi.org/10.1146/annurev-publhealth-090519-093711>
2. *Expansion of Telehealth During COVID-19 Pandemic*. (2020, May 5). Epicresearch.org. <https://epicresearch.org/articles/expansion-of-telehealth-during-covid-19-pandemic/>

Data Definitions

Term	Definition
Study period	Q2 2019 – Q3 2023
Study population	Patients who had a virtual visit or in person visit during the study period.
Virtual visit	Any encounters of types: <ul style="list-style-type: none"> • “Telemedicine” • “Telephone” or “Telephone Visit” with a billing code

	<ul style="list-style-type: none"> • “Office Visit” with a CPT billing code of 99441-99443 <p>These encounters are categorized by the department specialty in which they occurred.</p>
In person visit	<p>Any encounters of type “Office Visit,” except those with a CPT billing code of 99441-99443.</p> <p>These encounters are categorized by the department specialty in which they occurred.</p>
Department specialty	<p>Group categories of department specialties were:</p> <p>Allergy/Immunology: Allergy, Allergy and Immunology, Immunology, Pediatric Allergy, Pediatric Allergy/Immunology, Pediatric Immunology</p> <p>Cardiology: Adult Congenital Heart Disease, Advanced Heart Failure and Transplant Cardiology, Cardiac Electrophysiology, Cardiac Rehabilitation, Cardiology, Cardiovascular Disease, Clinical Cardiac Electrophysiology, Electrophysiology, Interventional Cardiology, Pediatric Cardiology, Pediatric Cardiology Center</p> <p>Dermatology: Dermatology, Dermatopathology, Pediatric Dermatology</p> <p>Endocrinology: Endocrinology, Endocrinology, Diabetes & Metabolism, Pediatric Endocrinology</p> <p>ENT: Otolaryngology, Otolaryngology/Facial Plastic Surgery, Pediatric Otolaryngology</p> <p>Geriatrics: Elder Care Services, Geriatric Medicine, Gerontology</p> <p>GI: Gastroenterology, Hepatology, Pediatric Gastroenterology</p> <p>Gynecology: Gynecology, Maternal & Fetal Medicine, Maternal and Fetal Medicine, Midwifery, Obstetrics, Obstetrics & Gynecology, Obstetrics and Gynecology, Urogynecology, Women’s Health, Women’s Health Care, Ambulatory</p> <p>Hem/Onc: Hematology, Hematology and Oncology, Hematology-Oncology Clinic, Hematology-Oncology Specialty Care Area, Medical Oncology, Oncology, Pediatric Hematology, Pediatric Hematology and Oncology, Pediatric Hematology-Oncology, Pediatric Oncology</p> <p>Infectious Disease: Infection Control, Infectious Disease, Infectious Diseases, Pediatric Infectious Disease</p> <p>Mental Health: Behavioral Health, Behavioral Health Clinic, Counseling, Developmental – Behavioral Pediatrics, Domestic Abuse Support Services, Marriage and Family Therapy, Mental Health, Neuropsychology, Pediatric Psychology, Post Trauma Therapy and Support, Psychology, Psychotherapy, Social and Spiritual Support, Child and Adolescent Psychiatry, Geriatric Psychiatry, Neuropsychiatry, Pediatric Psychiatry, Psychiatric/Mental Health, Psychiatry</p> <p>Nephrology: Dialysis Clinic, Nephrology, Outpatient Hemodialysis Clinic, Pediatric Nephrology</p> <p>Neurology: Clinical Neurophysiology, Neurology, Neurology Clinic, Neurophysiology, Pediatric Neurology, Spinal Cord Injury Medicine</p> <p>Obstetrics: Same categories as Gynecology if the woman is pregnant</p> <p>Occupational Medicine: Occupational Medicine, Preventative Medicine/ Occupational Environmental Medicine</p>

Ophthalmology: Cornea Ophthalmology, Glaucoma Ophthalmology, Glaucoma Specialist, Neuro- Ophthalmology, Ophthalmology, Ophthalmology Clinic, Pediatric Ophthalmology, Pediatric Ophthalmology and Strabismus Specialist, Retina Ophthalmology, Retina Specialist

Orthopaedics: Adult Reconstructive Orthopaedic Surgery, Foot & Ankle Surgery, Foot and Ankle Surgery, Hand Surgery, Joint Surgery, Orthopaedic Surgery of the Spine, Orthopaedic Trauma, Orthopedic, Orthopedic Surgery, Pediatric Orthopaedic Surgery, Pediatric Orthopedic Surgery

Pain Medicine: Interventional Pain Medicine, Pain, Pain Clinic, Pain Management, Pain Medicine

PM and R: Outpatient Rehabilitation Clinic, Physical Medicine and Rehabilitation, Rehabilitation

Podiatry: Orthotics, Pediatric Podiatry, Podiatric, Podiatry

Primary Care: Adolescent Medicine, Adult Health, Adult Medicine, Ambulatory Care, Chronic Care, Clinical Child & Adolescent, Developmental, Developmental and Behavioral Pediatrics, Family Medicine, Federally Qualified Health Center (FQHC), General Care, General Internal Medicine, General Practice, Internal Medicine, Internist, Medical, Medical Clinic, Pediatric Internal Medicine, Pediatrics, Physician's Office, Preventative Medicine, Primary Care

Pulmonary: Pediatric Pulmonology, Pulmonary Clinic, Pulmonary Disease, Pulmonology, Thoracic Diseases

Rheumatology: Pediatric Rheumatology, Rheumatology

Sports Medicine: Exercise & Sports, Pediatric Sports Medicine, Sports Medicine

Surgery: Ambulatory Surgery Center, Bariatrics, Breast Surgery, Burn Surgery, Cardiothoracic Surgery, Colon and Rectal Surgery, Female Pelvic Medicine and Reconstructive Surgery, General Surgery, Maxillofacial Surgery, Oral Surgery, Orthopaedic Surgery, Pediatric Cardiothoracic Surgery, Pediatric Neurosurgery, Pediatric Plastic Surgery, Pediatric Surgery, Pediatric Trauma Surgery, Plastic and Reconstructive Surgery, Plastic Surgery, Plastic Surgery within the Head & Neck, Spine Surgery, Surgical, Surgical Oncology, Surgical Services Clinic, Thoracic Surgery, Transplant Surgery, Trauma Surgery, Vascular Surgery

Transplant: Abdominal Transplant, Blood and Marrow Transplant, Pediatric Transplant Hepatology, Transplant, Transplant Hepatology, Transplantation

Urgent Care: Urgent Care, Urgent Care Center

Urology: Pediatric Urology, Proctology, Urology

Wound Care: Wound Care

Table 1: Percentage of Encounters Conducted Using Telehealth

Specialty	N	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1
Mental Health	14,432,456	0.8%	0.9%	1.1%	7.2%	65.5%	59.4%	61.1%	60.6%
Transplant	1,026,709	0.1%	0.1%	0.1%	3.3%	52.2%	29.0%	29.5%	29.5%
Endocrinology	9,119,971	0.2%	0.3%	0.2%	4.7%	55.5%	26.8%	25.4%	24.1%
GI	8,882,531	0.2%	0.2%	0.2%	4.2%	51.5%	25.1%	25.2%	25.4%
Infectious Disease	1,442,047	0.3%	0.4%	0.4%	3.5%	33.0%	22.6%	24.8%	25.3%
Neurology	9,985,565	0.2%	0.2%	0.2%	4.1%	49.6%	23.5%	23.5%	22.9%
Allergy / Immunology	1,671,539	0.1%	0.1%	0.1%	4.6%	50.3%	25.1%	24.6%	23.0%
Geriatrics	1,285,449	0.4%	0.5%	0.4%	5.5%	55.2%	27.7%	23.8%	20.6%
OB	2,374,726	0.1%	0.2%	0.1%	4.3%	31.6%	18.8%	17.8%	18.8%
Pain Medicine	3,294,936	0.0%	0.0%	0.9%	4.3%	42.0%	17.6%	19.5%	20.9%
Pulmonary	7,878,320	0.2%	0.2%	0.2%	3.7%	45.4%	20.9%	21.2%	21.1%
Nephrology	2,267,008	0.3%	0.4%	0.5%	4.1%	44.1%	21.7%	22.7%	20.6%
Rheumatology	4,534,875	0.0%	0.0%	0.0%	4.1%	46.2%	18.8%	18.6%	18.1%
Internal Medicine	70,196,560	0.2%	0.2%	0.2%	3.5%	39.3%	15.3%	16.5%	15.9%
Family Medicine	114,814,283	0.1%	0.1%	0.1%	2.7%	31.1%	14.4%	15.7%	14.7%
Overall	475,229,277	0.2%	0.2%	0.2%	2.7%	31.2%	13.6%	14.1%	13.9%
Surgery	23,927,410	0.1%	0.1%	0.1%	2.0%	23.9%	11.1%	11.0%	11.3%
Urology	9,610,862	0.1%	0.1%	0.1%	2.3%	27.1%	10.4%	10.3%	10.4%
Cardiology	31,017,969	0.9%	1.1%	1.2%	4.1%	34.6%	10.9%	10.8%	10.2%
Hem/Onc	16,047,537	0.0%	0.1%	0.1%	1.9%	22.0%	11.1%	9.9%	10.3%
PM and R	6,095,921	0.0%	0.0%	0.0%	1.9%	29.4%	10.7%	9.1%	8.8%
Gynecology	16,895,648	0.1%	0.1%	0.1%	1.4%	17.4%	5.8%	5.5%	5.9%
Dermatology	7,589,795	0.1%	0.0%	0.0%	1.7%	26.7%	5.8%	5.3%	5.3%
Urgent Care	27,742,070	0.3%	0.3%	0.3%	2.3%	13.7%	6.2%	7.1%	7.0%
Pediatrics	28,366,793	0.1%	0.1%	0.1%	1.2%	15.8%	6.6%	7.5%	7.7%
Sports Medicine	3,315,012	0.0%	0.0%	0.0%	1.9%	19.6%	5.6%	6.0%	5.2%
Occupational Medicine	1,258,745	0.1%	0.1%	0.1%	0.8%	11.4%	7.1%	8.2%	5.8%
ENT	8,656,578	0.1%	0.1%	0.1%	1.3%	17.2%	3.7%	3.4%	3.0%
Orthopaedics	25,690,539	0.0%	0.0%	0.0%	0.9%	10.4%	3.0%	2.7%	2.7%
Ophthalmology	8,937,955	0.0%	0.0%	0.0%	0.5%	7.7%	1.4%	0.9%	0.7%
Wound Care	2,227,026	0.0%	0.0%	0.0%	0.3%	4.6%	1.4%	1.8%	1.8%
Podiatry	4,642,442	0.0%	0.0%	0.0%	0.4%	4.7%	1.0%	0.9%	0.8%

Table 1 (Continued)

Specialty	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3
Mental Health	54.8%	48.4%	46.2%	48.6%	43.9%	41.9%	42.2%	41.3%	36.9%	36.8%
Transplant	19.3%	16.7%	15.5%	19.5%	13.7%	12.7%	11.8%	11.8%	10.3%	9.9%
Endocrinology	15.5%	12.4%	11.8%	14.9%	10.5%	10.2%	10.5%	10.3%	9.1%	8.9%
GI	16.7%	13.4%	12.9%	15.6%	11.4%	10.7%	10.3%	10.0%	9.4%	9.0%
Infectious Disease	17.7%	16.0%	14.6%	16.8%	12.6%	11.7%	11.5%	11.6%	11.3%	10.6%
Neurology	15.6%	13.4%	12.3%	14.9%	11.5%	10.7%	11.0%	10.8%	10.0%	9.5%
Allergy / Immunology	13.6%	10.7%	10.0%	12.8%	8.6%	8.1%	8.1%	7.5%	6.7%	6.4%
Geriatrics	10.5%	9.4%	8.9%	13.0%	8.1%	7.8%	7.7%	7.8%	5.9%	6.3%
OB	14.1%	12.2%	12.3%	13.8%	10.9%	10.9%	11.3%	11.2%	10.2%	10.0%
Pain Medicine	12.9%	10.3%	10.1%	12.1%	9.5%	9.2%	9.8%	9.0%	8.3%	7.6%
Pulmonary	12.2%	9.9%	9.2%	11.6%	8.1%	7.5%	7.5%	6.9%	6.0%	5.8%
Nephrology	11.3%	9.2%	8.3%	11.0%	6.4%	5.5%	5.7%	5.5%	4.4%	4.2%
Rheumatology	10.9%	8.6%	8.0%	10.3%	7.3%	7.2%	7.5%	7.2%	6.1%	6.0%
Internal Medicine	9.4%	8.2%	8.6%	10.8%	8.2%	7.8%	7.8%	7.3%	6.2%	6.0%
Family Medicine	8.8%	8.3%	8.6%	10.8%	7.5%	7.6%	7.6%	7.1%	6.0%	6.0%
Overall	9.1%	7.7%	7.7%	9.3%	7.1%	6.8%	6.9%	6.7%	6.0%	5.8%
Surgery	8.1%	7.1%	6.9%	8.0%	6.6%	6.5%	6.8%	6.8%	6.5%	6.4%
Urology	7.0%	6.0%	5.9%	6.7%	5.8%	5.6%	5.5%	5.3%	4.8%	4.8%
Cardiology	5.8%	4.8%	4.6%	5.5%	4.1%	4.0%	3.9%	3.7%	3.4%	3.3%
Hem/Onc	7.0%	6.1%	5.9%	7.0%	5.7%	5.6%	5.7%	5.8%	5.4%	5.3%
PM and R	5.6%	4.6%	4.4%	4.9%	3.3%	3.2%	3.2%	3.4%	2.8%	2.7%
Gynecology	4.7%	3.9%	3.7%	4.3%	3.9%	3.7%	3.8%	3.9%	3.8%	3.8%
Dermatology	3.6%	3.1%	3.1%	3.7%	3.0%	2.8%	2.8%	2.7%	2.5%	2.6%
Urgent Care	3.9%	3.7%	4.2%	4.0%	3.3%	3.1%	3.2%	3.0%	2.4%	2.5%
Pediatrics	4.9%	3.8%	3.7%	4.3%	2.7%	2.3%	2.2%	2.3%	1.9%	1.8%
Sports Medicine	3.3%	2.9%	2.9%	3.2%	2.7%	2.6%	2.9%	2.9%	2.6%	2.6%
Occupational Medicine	4.8%	3.5%	2.6%	2.8%	3.3%	2.6%	2.0%	1.8%	2.4%	2.0%
ENT	2.2%	1.9%	1.8%	1.9%	1.6%	1.6%	1.7%	1.7%	1.7%	1.7%
Orthopaedics	1.9%	1.5%	1.4%	1.6%	1.3%	1.2%	1.3%	1.3%	1.2%	1.1%
Ophthalmology	0.6%	0.5%	0.6%	0.6%	0.6%	0.5%	0.5%	0.6%	0.6%	0.6%
Wound Care	1.0%	0.8%	0.7%	1.2%	0.8%	0.6%	0.5%	0.5%	0.3%	0.2%
Podiatry	0.4%	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%