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# Increased utilization of teledermatology among Medicare Part B beneficiaries during the COVID-19 pandemic

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**Abstract** Enhanced telehealth flexibilities in response to the COVID-19 pandemic have prompted heightened use across many physician specialties; yet, national trends have not been assessed within dermatology, specifically. In this longitudinal review of 2017 to 2020 Medicare billing data, we identified a 210-fold increase in teledermatology evaluation and management (E&M) visits between 2019 and 2020, which helped to slightly offset the substantial 20.1% decline in in-person E&M visits. Teledermatology comprised an overall greater proportion of E&M visits in states with the largest declines in in-person visits. Teledermatology E&M visits were primarily comprised by established patient *video* visits (74.3%); yet, the relatively more substantial role of *telephone-only* visits in certain rural states may reflect limitations in technologic access in these areas. Asynchronous teledermatology (including store-and-forward dermatology) also increased by 34-fold in 2020, supporting its utility for evaluation of a changing lesion or for triage purposes. The findings underscore the growing role of telehealth in dermatologic care and are important given that certain telehealth flexibilities are set to expire at the end of the public health emergency without additional congressional intervention.

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## Introduction

In March 2020, the Centers for Medicare and Medicaid Services issued enhanced telehealth flexibilities following the COVID-19 pandemic.<sup>1</sup> Recent analyses have thus far demonstrated telehealth increases across all physician specialties in 2020, and survey data suggest that 96% of dermatologists used teledermatology during the pandemic, up from 14% previously;<sup>1,2</sup> however, national and state-specific teledermatology trends have not been assessed,<sup>1</sup> which is impor-

tant given its potential to aid in common diagnoses,<sup>3</sup> increase practice efficiency, reach patients without local dermatologists, and improve care flexibility.<sup>2</sup>

## Methods

We reviewed the 2017–2020 Medicare Part B Procedure Summary data sets (the most recently available Medicare data) to identify national and state-specific teledermatology trends prior to and during the COVID-19 pandemic.<sup>4</sup> Consistent with Medicare classifications, teledermatology encounters included (1) *synchronous* video or telephone-only evalu-

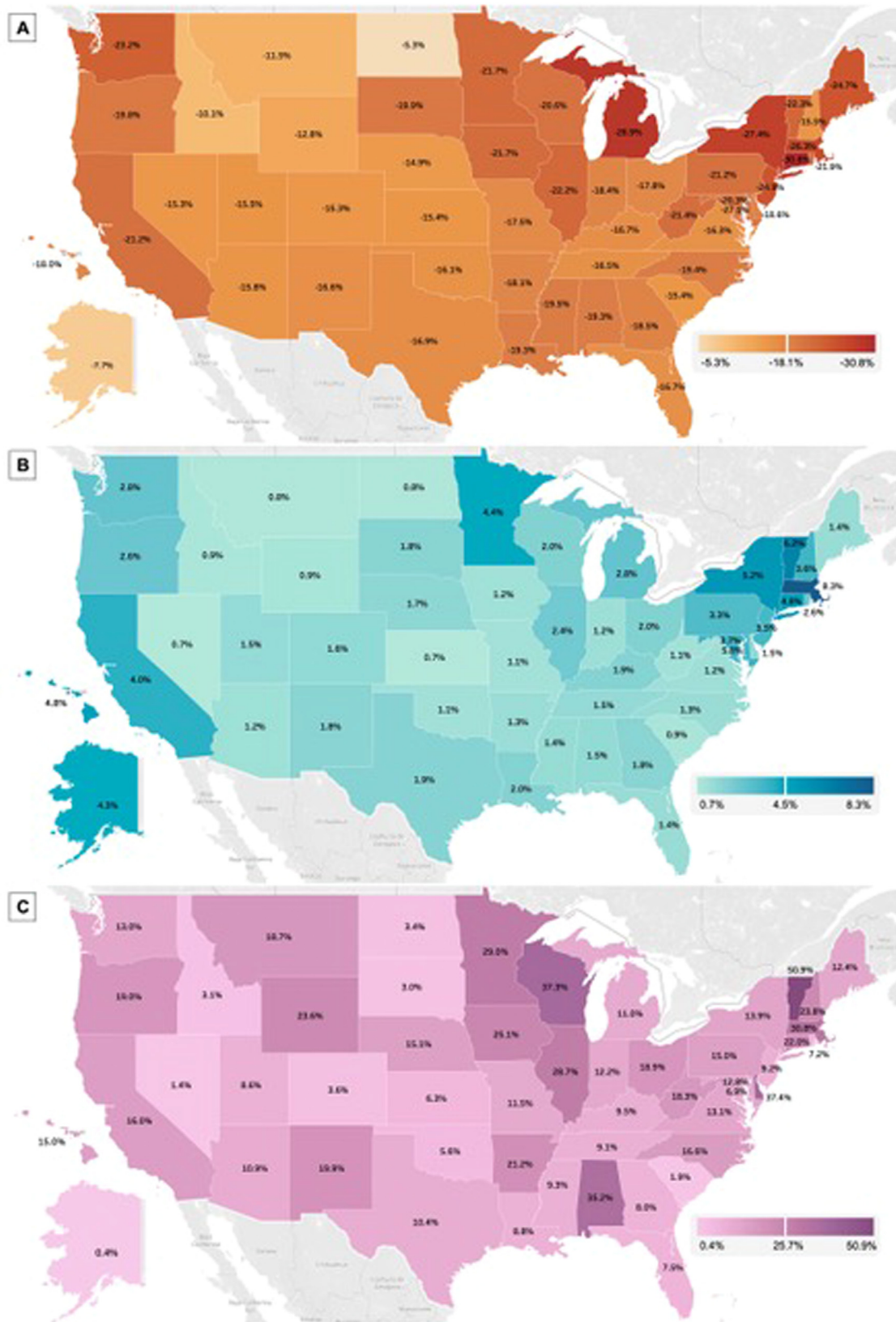
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**Table 1** Use of in-person and telehealth E&M visits and asynchronous telecommunications among Medicare Part B dermatology beneficiaries, 2017-2020

Visit/Interaction type	Annual volume and proportion of visit type				Average annual percent change (2017-2019)	Annual percent change (2019-2020)
	2017	2018	2019	2020		
<i>E&amp;M Visits</i>						
<b>All E&amp;M visits</b>	<b>11,484,780</b>	<b>11,511,099</b>	<b>11,723,676</b>	<b>9,623,981</b>	<b>+1.0%</b>	<b>-17.9%</b>
<i>In-person E&amp;M</i>	<i>11,484,46 (100.0)</i>	<i>11,510,416 (100.0)</i>	<i>11,722,468 (100.0)</i>	<i>9,370,529 (97.4)</i>	<i>+1.0%</i>	<i>-20.1%</i>
New	1,676,225 (14.6)	1,628,113 (14.1)	1,620,992 (13.8)	1,210,571 (12.9)	-1.7%	-25.3%
Established	9,808,242 (85.4)	9,882,303 (85.9)	10,101,476 (86.2)	8,159,958 (87.1)	+1.5%	-19.2%
<i>Telehealth E&amp;M</i>	<i>313 (0.0)</i>	<i>683 (0.0)</i>	<i>1,208 (0.0)</i>	<i>253,452 (2.6)</i>	<i>+96.5%</i>	<i>+20,881%</i>
Synchronous video (new)	189 (60.4)	365 (53.4)	881 (72.9)	24,513 (9.7)	+115.9%	+2,682%
Synchronous video (established)	124 (39.6)	318 (46.6)	327 (27.1)	188,211 (74.3)	+62.4%	+57,457%
Synchronous phone (new or established)	-	-	-	40,728 (16.1)	-	-
<i>Asynchronous telecommunications</i>						
<b>All asynchronous telecommunications</b>	<b>240</b>	<b>264</b>	<b>433</b>	<b>15,912</b>	<b>+34.3%</b>	<b>+3,575%</b>
Virtual check-in (image review)	-	-	47 (10.9)	2,957 (18.6)	-	+6,192%
Virtual check-in (communication)	-	-	111 (25.6)	4,081 (25.6)	-	+3,577%
Digital e-visit	240 (100.0)	264 (100.0)	275 (63.5)	8,874 (55.8)	+7.0%	+3,127%

Note: In-person Medicare E&M visits (HCPCS 99201-99215) performed by dermatologists included those in the office and outpatient hospital facility settings. Synchronous telehealth visits included video (HCPCS 99201-99215 with modifier -95 or place of service: telehealth) or telephone (HCPCS 99441-99443 [established 2020]) E&M visits. Asynchronous telecommunications are patient-initiated and include “virtual check-ins,” potentially with image/media review (HCPCS G2010, G2012 [established 2019]) and digital “E-visits”, typically through portal or email modalities (HCPCS 99421-99423 [2020]; 99444 [2017-2019]). Given data set suppression of small values, a minority (6%) of telehealth visits were estimated from the associated Medicare payment amount provided in the data set. HCPCS, Healthcare Common Procedure Coding System; E&M, evaluation and management.



**Fig. 1** State-specific use of in-person and telehealth E&M visits among Medicare Part B dermatology beneficiaries, 2019-2020. The figure illustrates: (A) state-specific percentage change in in-person Medicare Part B E&M visits by dermatologists from 2019 to 2020, (B) state-specific proportions of all Medicare Part B dermatology E&M visits comprised by telehealth in 2020, and (C) state-specific proportions of telehealth E&M dermatology visits that were telephone-only (vs video). Asynchronous telecommunications are not included in the figure.

ation and management (E&M) visits and (2) non-E&M *asynchronous* telecommunications, including “virtual check-ins” and digital “E-visits.” Trends were displayed in aggregate, for each specific teledermatology service type, and within specific states.

## Results

Overall, 255,656 telehealth E&M visits and 16,849 asynchronous telecommunications were analyzed. Aggregate use of telehealth E&M visits was 210-fold greater in 2020 compared with 2019, whereas in-person E&M visits decreased by 20.1%. Asynchronous telecommunications increased substantially by 34-fold in 2020 (Table 1). Telehealth E&M use was notably higher in Massachusetts (8.3%), Vermont (6.2%), and New York (5.2%), with telephone-only E&M visits more frequently used in Vermont (50.9%), Wisconsin (37.3%), and Alabama (35.2%) (Figure 1).

## Discussion

The analysis indicates substantial growth in teledermatology in 2020, closely reflecting the average for other medical specialties (2.6%).<sup>1</sup> This expansion was likely facilitated by temporary government waivers, which increased the Medicare payment rate for telehealth services (audio and video) to the non-facility in-person rate across all regions.<sup>1</sup> Previously, Medicare telehealth was only reimbursed in specified rural regions and at the lower facility rate.<sup>1</sup> Despite teledermatology growth, *aggregate* E&M visits still decreased in 2020, underscoring the importance of careful monitoring for patients with suboptimal follow-up during the pandemic.

Although teledermatology increased across all states, greater use in states with more substantial in-person visit declines suggests its role in addressing care gaps. Although telephone-only E&M visits were infrequently used, they comprised a significant proportion of teledermatology in certain rural states (Vermont, Wisconsin, Alabama), potentially reflecting less developed rural technologic infrastructure in these areas.<sup>2</sup> Importantly, older patients, minorities, and those with disabilities also have decreased digital access,<sup>2</sup> and mitigation of these disparities is therefore critical to promote equitable teledermatology use moving forward.

There are shortcomings to teledermatology, including reliance on digital technologies, potential exacerbation of language barriers,<sup>2</sup> lack of suitability for full-body examinations,<sup>5</sup> and potentially inferior diagnostic accuracy for ma-

ignant lesions;<sup>2</sup> still, it offers acceptable diagnostic accuracy for a number of common skin conditions.<sup>2,3</sup> Surveyed dermatologists are comfortable using live teledermatology for dermatitis and follow-ups,<sup>5</sup> as reflected in these data by the disproportionate use among established patients. Stored digital photography also increased to a significant degree in these data and may offer specific utility for the evaluation of a single changing lesion and assist in triaging patients for in-person evaluation.<sup>2,5</sup>

### Conclusions

Limitations to this analysis include the reliance on Medicare data given that commercial payors were not required in many states to implement telehealth reimbursement parity. Additionally, these data are not available at the provider level, beyond 2020, and cannot be correlated to diagnoses. Despite teledermatology expansion, the lower facility payment rate and geographic telehealth restrictions are set to have returned in October 2022. As such, additional congressional legislation may be required to support long-term use, and further longitudinal assessments will be essential.

## Financial Disclosures

Dr. Grant-Kels serves as Deputy Editor of Journal of the American Academy of Dermatology and is Chief Medical Officer, member of the Board and stockholder of VeraDermics, Inc; Consultant and stockholder for DermaSensor, Inc. Hao Feng is a consultant for Cytrellis Biosystems, Inc and for Soliton, Inc.

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