

Supplemental Online Content

Patel KB, Gonzalez BD, Turner K, et al. Estimated carbon emissions savings with shifts from in-person visits to telemedicine for patients with cancer. *JAMA Netw Open*. 2023;6(1):e2253788. doi:10.1001/jamanetworkopen.2022.53788

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This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. CO₂ Emission Savings and Equivalencies From Reduced Emissions Due to Telemedicine for Patients Driving ≤60 Minutes and >60 Minutes One Way

CO₂ emission of 411 g/mile was considered midpoint. Estimates corresponding to lower limit (386 g/mile) and upper limit (435 g/mile) are provided as reference.

	Estimates with g/mile CO ₂ emissions	Driving time ≤ 60 minutes			Driving time > 60 minutes		
		386 g/mile	411 g/mile	435 g/mile	386 g/mile	411 g/mile	435 g/mile
	Number of patients	10 027			13 201		
	Number of visits	21 489			27 840		
	Total miles saved^a	1 032 775			6 677 002		
	Miles saved per visit^a Mean (SD) Median (25 th – 75 th percentile)	48.1 (22.8) 49.0 (30.0 – 65.0)			239.8 (133.3) 204.0 (148.0 – 302.0)		
	Total CO₂ kg emissions saved	398 651	424 471	449 257	2 577 323	2 744 248	2 904 496
	CO₂ kg emissions saved per visit Mean (SD) Median (25 th – 75 th percentile)	18.6 (8.8) 18.9 (11.6 – 25.1)	19.8 (9.4) 20.1 (12.3 – 26.7)	20.9 (9.9) 21.3 (13.1 – 28.3)	92.6 (51.5) 78.7 (57.1 – 116.6)	98.6 (54.8) 83.8 (60.8 – 124.1)	104.3 (58.0) 88.7 (64.4 – 131.4)
Equivalent greenhouse gas emissions from	Passenger vehicles driven for one year	85.9	91.5	96.8	555	591	626
Equivalent CO₂ emissions from	Gallons of gasoline consumed	44 858	47 763	50 552	290 010	308 794	7 209 556
	Homes' electricity use for one year	77.6	82.6	87.4	501	534	565
	Homes' energy use for one year	50.2	53.5	56.6	325	346	366
Equivalent carbon sequestered by	Tree seedlings grown for 10 years	6 592	7 019	7 429	42 616	45 376	48 026
	Acres of U.S. forests in one year	472	502	532	3 050	3 248	3 437

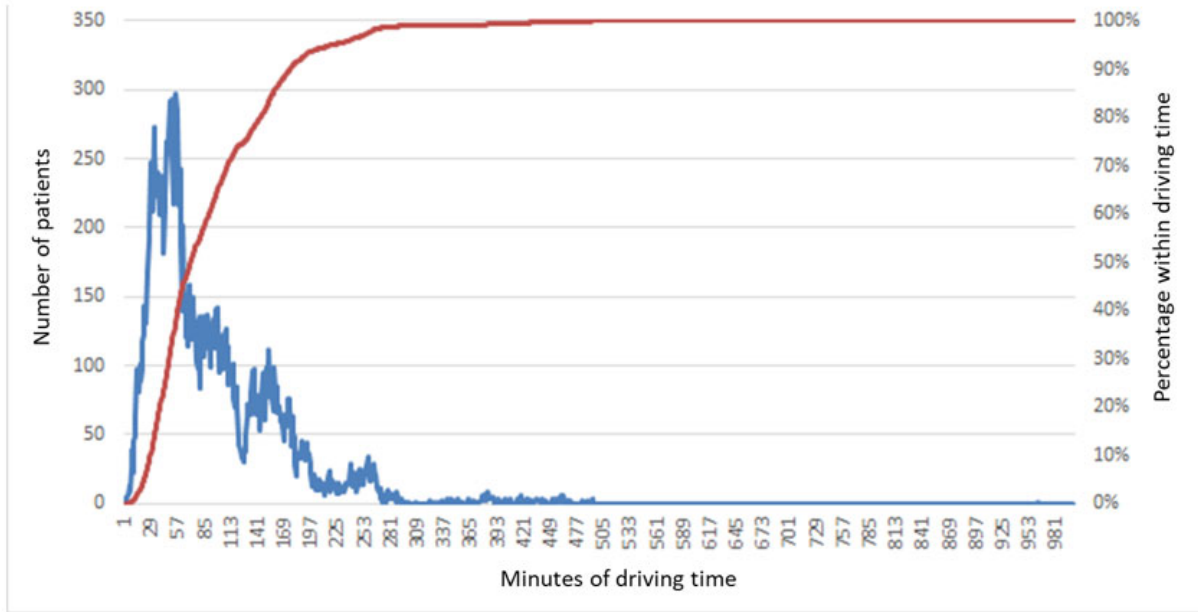
a: round trip

eTable 2. Number of Cancellations/No Shows for In-person and Telemedicine Visits

April 1, 2018 – Jun 30, 2019 was deemed to be reference period compared to the study period of April 1, 2020 – Jun 30, 2021. Percent In-person/no-show cancellation were determined to be (number of cancellations or no-shows) / (completed visits + cancellation or no-shows).

	April 1, 2018 – Jun 30, 2019	April 1, 2020 – Jun 30, 2021
Number of total visits	304,650	350,782
Number (%) of total cancellations/no-shows	95,582 (23.9%)	119,408 (25.2%)
In-person visits	304,650	301,453
Number (%) of in-person cancellation/no-shows cancellations	95,582 (23.9%)	103,834 (25.6%)
Number (%) of telemedicine visits	Not offered	49,329
Number (%) of telemedicine cancellation/no-shows	N/A	15,574 (24.0%)

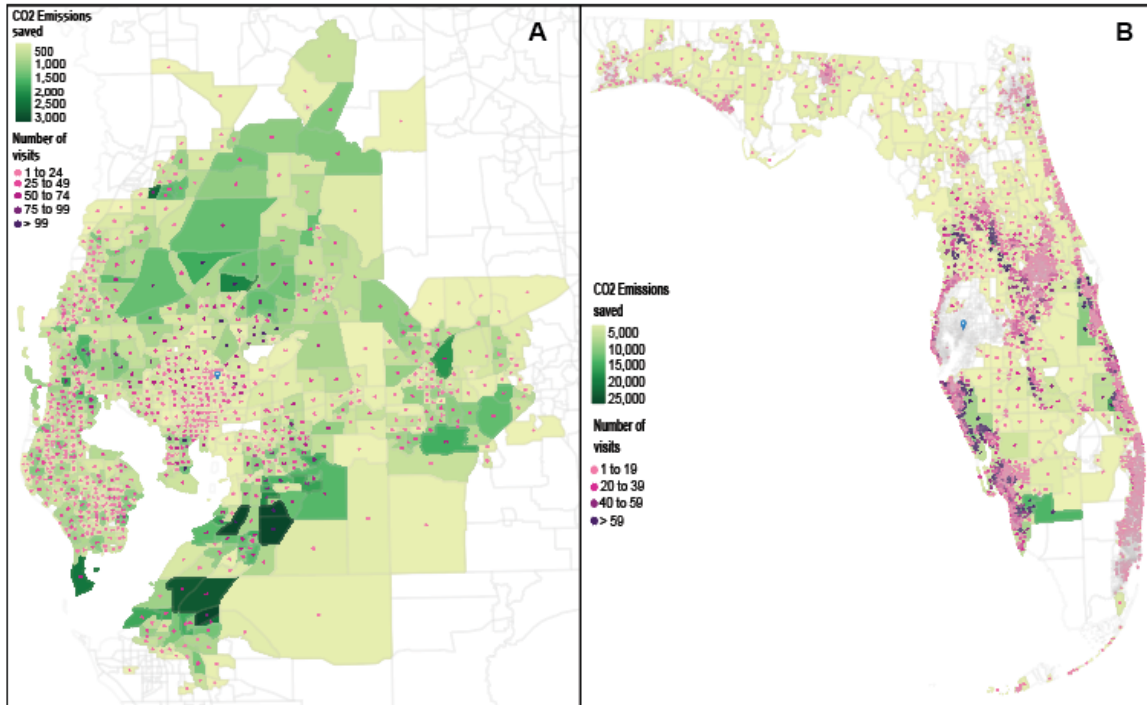
eFigure 1. Representation of Number and Percentage of Patients and Their Drive Times to Moffitt Cancer Center From April 1, 2020, to June 30, 2021



Note: The blue line represents number of patients within certain drive time from Moffitt Cancer Center (MCC). The orange line represents the percentage of patients that are within any given driving time or less. For example, 60% of patients come from 97 minutes or closer. The highest number of patients on a per minute basis occurs within 60 minutes of the facility. This can be noticed both by the high peaks on the blue line and by the steep slope of the orange line.

eFigure 2. CO₂ Emissions Saved From Telemedicine Visits

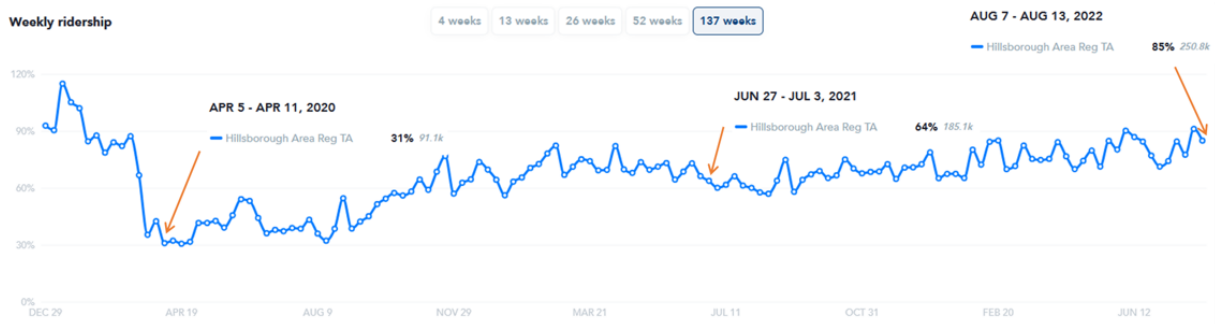
Suppl Fig 1: CO₂ emissions saved from telemedicine visits. (A) For patients with driving time ≤ 60 minutes, 10,069 patients had 21,548 visits, which saved 424,471 kg CO₂ emissions (per-visit average savings of 48.1 miles and 19.8 CO₂ kg emissions). (B) For patients with driving time > 60 minutes, 13,232 patients had 27,893 visits, which saved 2,744,248 kg CO₂ emissions (per-visit average savings of 239.8 miles and 98.6 CO₂ kg emissions).



Note: Blue marker represents Moffitt Cancer Center. Geographical boundaries represent census tracts. Census tract centroids were used to map the number of visits per tract. Census tract color represents CO₂ emissions saved, and dot color represents the number of telemedicine visits.

eFigure 3. Weekly Public Transit Ridership in Hillsborough Area from December 19, 2019, to August 13, 2022

Supplementary Figure 3: Weekly public transit ridership in Hillsborough Area from Dec 19, 2019 to Aug 13, 2022. Public ridership continues to be below pre-pandemic levels. The percentages displayed in the figure represent the percent difference between actual pre-pandemic ridership and estimated ridership for a given period during the pandemic. At the start of the study period (April 1, 2020) public transit ridership was 31%, at the end of the study period (Jun 30, 2021) ridership was 64% and in Aug 7, 2022 it was 85% of pre-pandemic levels.



Source: <https://transitapp.com/apta>