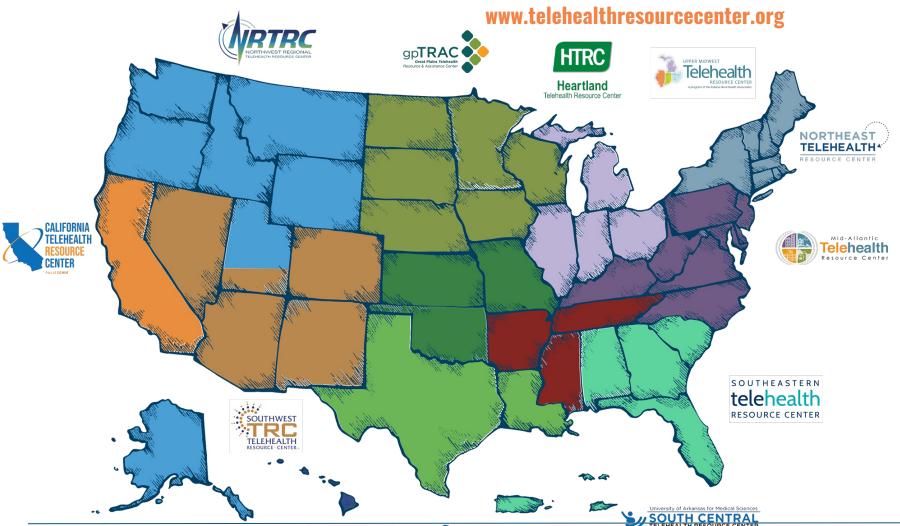


Telehealth Equity Among Medicare Beneficiaries (2018-2020)

June 15, 2023



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Outline





Background/Aims



Methodology



Aim 1 Preliminary Results



Aim 1 Key Findings



Aim 2 Preliminary Results



Aim 2 Key Findings

(click any box to jump to that section)









Background/Aims (1)

Background

- Telehealth has the potential to address existing health disparities among such underserved populations as rural residents, racial/ethnic minorities, and those with chronic conditions
- The first few months of the COVID-19 public health emergency saw unprecedented telehealth expansion
 - Although rates of telehealth utilization have dropped since, rates remain much higher than pre-COVID rates
- Our RTEC Year 2 project sought to examine how telehealth expanded for underserved populations using a 20% random sample of national Medicare claims









Background/Aims (2)

Specific Aims

- 1) To assess trends in telehealth utilization among a national sample of Medicare beneficiaries, including comparisons between
 - Rural/urban residents
 - Racial/ethnic minorities
 - Those with chronic conditions
- 2) To compare monthly telehealth spending (allowed amounts) among Medicare beneficiaries overall and among telehealth utilizers prior to and following the COVID-19 PHE, including comparisons between
 - Rural/urban residents
 - Racial/ethnic minorities
 - Those with chronic conditions









Methodology (1)

Study design and data source

- We conducted a longitudinal study using a data set from a 20% random sample of Medicare beneficiaries between 2018 and 2020
- Data were restricted to Medicare beneficiaries
 - Not enrolled in a Medicare Advantage plan in any month of any year of data
 - Enrolled in both Parts A and B or enrolled in both Part As and B through a state buy-in program









Methodology (2)

Data coding

- Race/ethnicity was coded using the Research Triangle Institute race/ethnicity variable in the Medicare master beneficiary file
- Rural/urban residence was coded merging beneficiary zip code in the Medicare master beneficiary file with Rural-Urban Commuting Area codes
 - Primary codes 1-3 were coded as urban
 - Primary codes 4-10 were coded as rural









Methodology (3)

Data coding

- 30 chronic conditions were coded using the Chronic Conditions Data Warehouse Algorithms
 - Using a 1-year or 2-year look-back period, depending on the condition
 - The algorithm utilizes diagnosis codes from a combination of inpatient, skilled nursing facility, home health agency, hospital outpatient, and carrier claims (depending on the specific condition)
 - Note that because several chronic conditions (e.g., diabetes, hypertension) use a 2-year look-back period, chronic conditions could not be determined for beneficiaries in 2018, as data from 2017 would be needed. Chronic conditions were therefore assessed in both 2019 and 2020









Methodology (4)

Telehealth Utilization

- Assessed using carrier claims, including any carrier (fee-for-service) claim with
 - A place of service of "02"
 - A modifier of "GT," "GQ," "95," or "G0"
 - A CPT code of 99441, 9942, or 99443









Aim 1 (Telehealth Utilization) Preliminary Results (1)

Specific Aims

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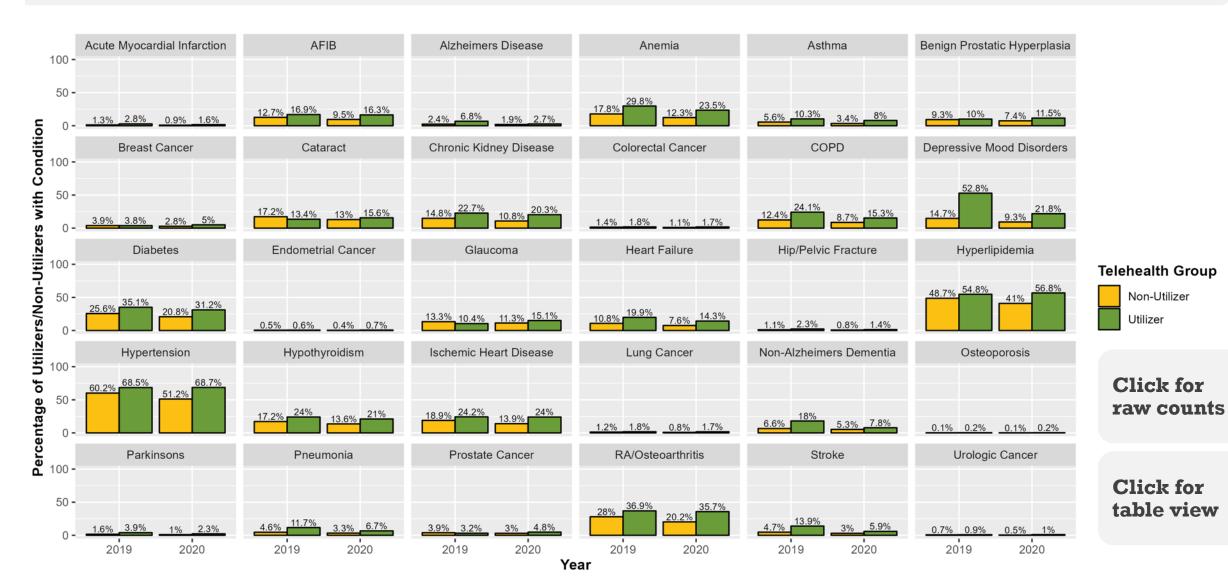


Aim 1 (Telehealth Utilization) Preliminary Results (2)

	Telehealth Utilizers			Telehealth Non-Utilizers			
	2018	2019	2020	2018	2019	2020	
	(n = 53,859)	(n = 69,658)	(n = 4,815,828)	(n = 11,069,171)	(n = 11,257,237)	(n = 6,863,304)	
	n (col %)	n (col %)	n (col %)	n (col %)	n (col %)	n (col %)	
Rural/urban							
Rural	29,953 (55.6)	35,412 (50.8)	858,180 (17.8)	2,611,479 (23.6)	2,632,508 (23.4)	1,863,876 (27.2)	
Urban	23,893 (44.4)	34,223 (49.1)	3,954,838 (82.1)	8,425,563 (76.1)	8,592,833 (76.3)	4,970,500 (72.4)	
Missing rural/urban (zip code)	13 (0)	23 (0)	2,810 (0.1)	32,129 (0.3)	31,896 (0.3)	28,928 (0.4)	
Race							
Unknown	580 (1.1)	930 (1 3)	99,619 (2.1)	195,744 (1.8)	218,614 (1.9)	144,656 (2.1)	
Non-Hispanic White	42,492 (78.9)	55,037 (79)	3,846,103 (79.9)	8,897,866 (80.4)	9,015,572 (80.1)	5,444,056 (79.3)	
Non-Hispanic Black/African-American	5,266 (9.8)	6,664 (9.6)	404,132 (8.4)	917,104 (8.3)	930,575 (8.3)	573,235 (8.4)	
Non-Hispanic Other	289 (0.5)	400 (0.6)	39,682 (0.8)	87,517 (0.8)	90,410 (0.8)	55,417 (0.8)	
Non-Hispanic Asian/Pacific Islander	783 (1.5)	1,231 (1.8)	133,633 (2.8)	294,138 (2.7)	306,654 (2.7)	194,901 (2.8)	
Hispanic	3,275 (6.1)	4,018 (5.8)	264,057 (5.5)	294,138 (5.5)	306,654 (5.6)	194,901 (6.1)	
Non-Hispanic American Indian/Alaska							
Native	1,174 (2.2)	1,378 (2)	28,602 (0.6)	612,795 (0.6)	632,672 (0.6)	416,285 (0.5)	
Sex							
Unknown	(suppressed)	(suppressed)	(suppressed)	(suppressed)	(suppressed)	(suppressed)	
Male	23,863 (44.3)	30,847 (44.3)	2,032,593 (42.2)	5,049,727 (45.6)	5,144,203 (45.7)	3,315,430 (48.3)	
Female	29,996 (55.7)	38,811 (55.7)	2,783,235 (57.8)	6,019,443 (54.4)	6,113,033 (54.3)	3,547,872 (51.7)	
Presence of any chronic conditions							
0 chronic conditions	-	4.057 (5.8)	261.710 (5.4)	-	1,842,416 (16.4)	1,851,562 (27)	
1 chronic condition	-	7,031 (10.1)	536,184 (11.1)	-	1,488,228 (13.2)	1,085,987 (15.8)	
2 chronic conditions	-	7,378 (10.6)	689,941 (14.3)	-	1,655,731 (14.7)	1,043,312 (15.2)	
3 chronic conditions	-	7,643 (11)	722,106 (15)	-	1,587,289 (14.1)	887,998 (12.9)	
4 or more chronic conditions	-	43,549 (62.5)	2,605,887 (54.1)	-	4,683,573 (41.6)	1,994,445 (29.1)	



Aim 1 (Telehealth Utilization) Preliminary Results (3)



Aim 1 Key Findings (1)

- Among Medicare beneficiaries, telehealth utilization surged in 2020, relative to 2018/2019
 - Urban telehealth surged more than rural telehealth
 - Rural increase from 2019 to 2020: 2,323%
 - Urban increase from 2019 to 2020: <u>11,456%</u>
- Non-Hispanic Black/African-American, American Indian/Alaska Native, and Hispanic beneficiaries were a smaller proportion of all telehealth utilizers in 2020 relative to 2019









Aim 1 Key Findings (2)

- Medicare beneficiaries with 1-3 chronic conditions were a larger proportion of all telehealth utilizers in 2020 than in 2019
 - Those with 0 chronic conditions and those with 4 or more chronic conditions were a smaller *proportion* of all telehealth utilizers in 2020 relative to 2019







Aim 1 Key Findings (3)

 Only 9 of the 30 chronic conditions investigated showed larger proportions of all telehealth utilizers in 2020 than in 2019

	Percentage of all Telehealth Utilizers		
Chronic Condition	2019	2020	
Hypertension	68.5	68.7	
Hyperlipidemia	54.8	56.8	
Cataract	13.4	15.6	
Glaucoma	10.4	15.1	
Benign Prostatic Hyperplasia	10	11.5	
Cancer, Breast	3.8	5	
Cancer, Prostate	3.2	4.8	
Cancer, Urologic (Kidney, Renal Pelvis, and Ureter)	0.9	1	
Cancer, Endometrial	0.6	0.7	











Aim 2 (Telehealth Spending) Preliminary Results (1)

Specific Aims

- 1) To assess trends in telehealth utilization among a national sample of Medicare beneficiaries, including comparisons between
 - Rural/urban residents
 - Racial/ethnic minorities
 - Those with chronic conditions
- 2) To compare monthly telehealth spending (allowed amounts) among Medicare beneficiaries overall and among telehealth utilizers prior to and following the COVID-19 PHE, including comparisons between
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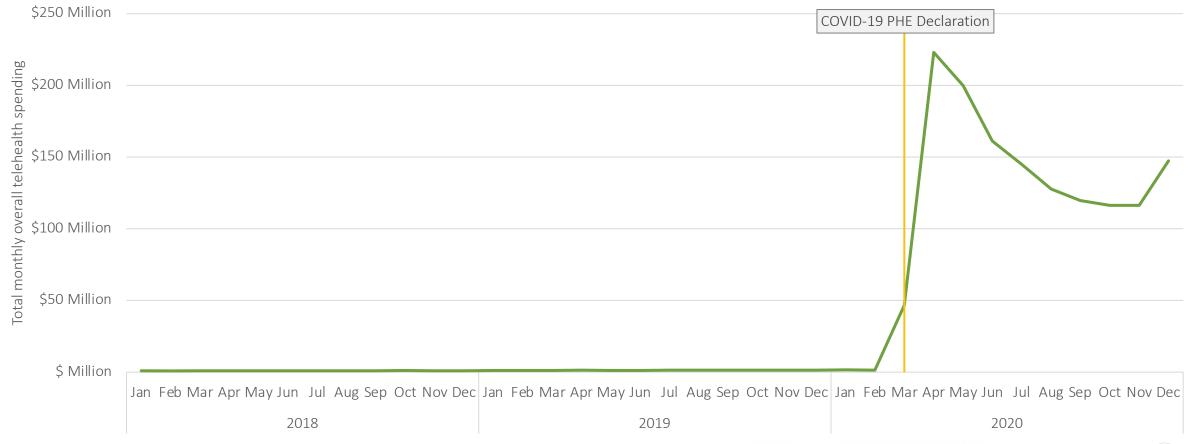






Aim 2 (Telehealth Spending) Preliminary Results (2)

Total monthly telehealth spending, overall



By race/ethnicity

By rural/urban

By number of chronic conditions





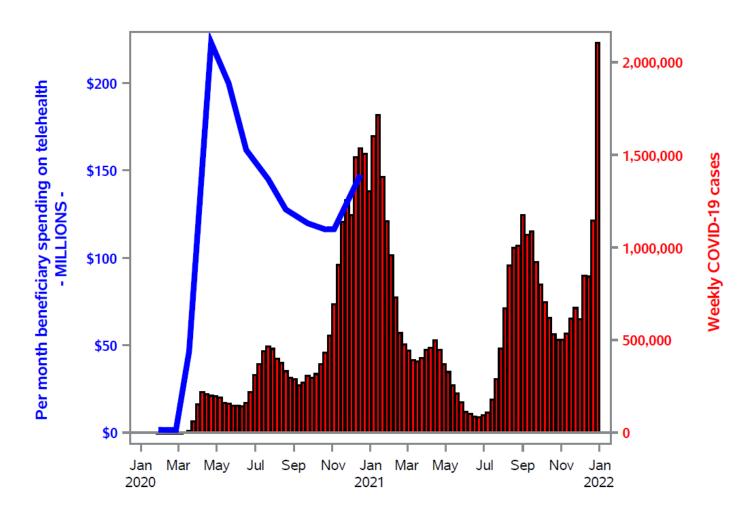






Aim 2 (Telehealth Spending) Preliminary Results (3)

Total monthly telehealth spending, overall, relative to weekly COVID-19 cases





Aim 2 (Telehealth Spending) Preliminary Results (4)

Per beneficiary telehealth spending, overall



By race/ethnicity

By rural/urban

By number of chronic conditions





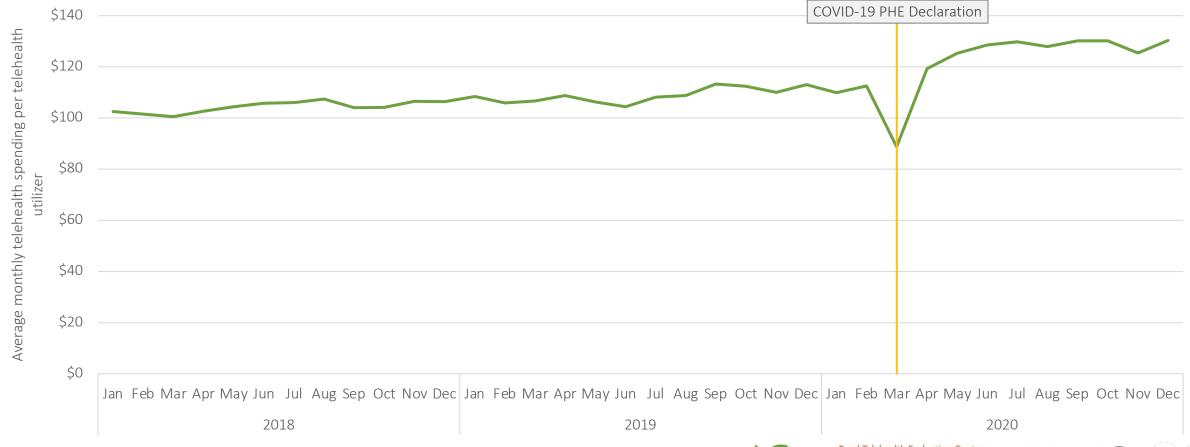






Aim 2 (Telehealth Spending) Preliminary Results (5)

Per telehealth utilizer telehealth spending, overall







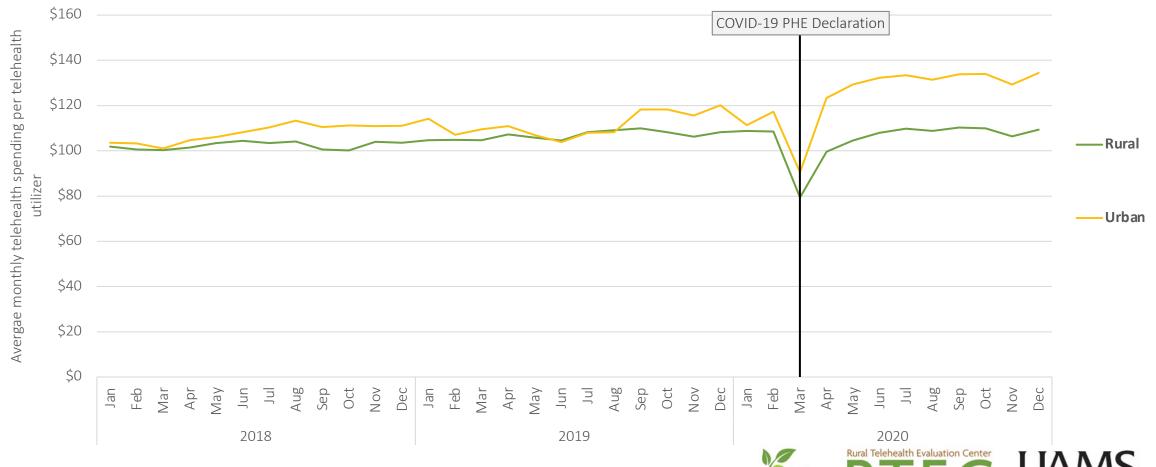






Aim 2 (Telehealth Spending) Preliminary Results (6)

Per telehealth utilizer telehealth spending, by rural/urban status

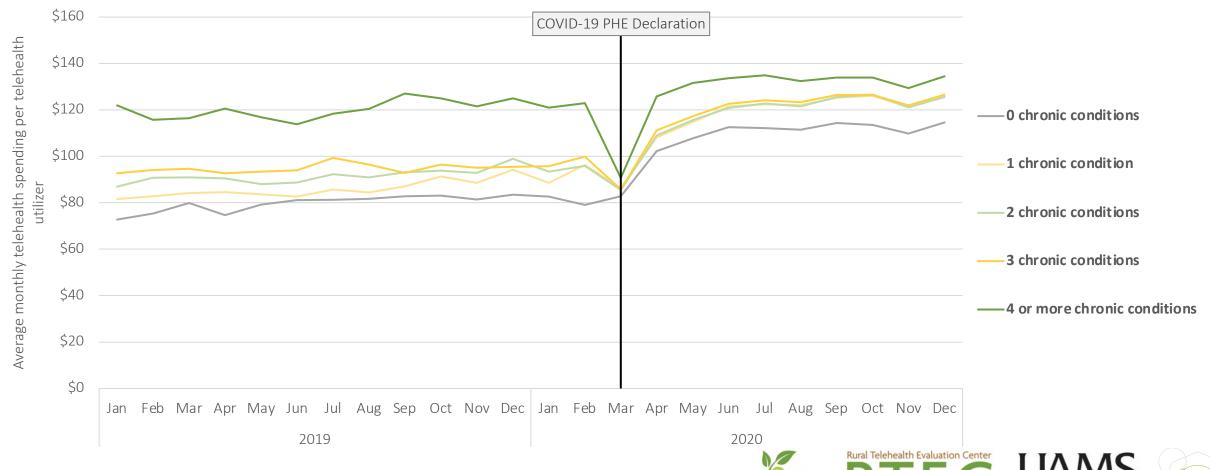






Aim 2 (Telehealth Spending) Preliminary Results (7)

Per telehealth utilizer telehealth spending, by rural/urban status









Aim 2 Key Findings (1)

- Among Medicare beneficiaries, overall telehealth spending surged in 2020, peaking in April 2020
- However, per telehealth utilizer spending has shown a continual increase following a drop in March 2020
- Gaps in per telehealth utilizer spending have grown between urban and rural beneficiaries
- However, the gap in per telehealth utilizer spending has decreased among those with/without chronic conditions
 - With those who have fewer chronic conditions seeing larger increases than those with 4 or more chronic conditions



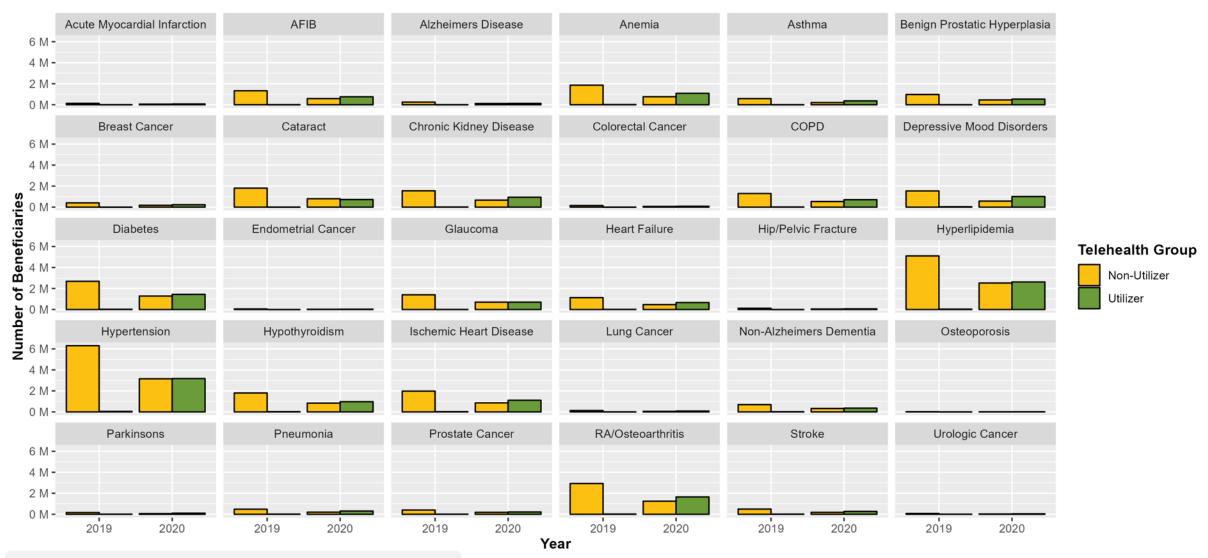








Aim 1 (Telehealth Utilization) Preliminary Results (3a)





Aim 1 (Telehealth Utilization) Preliminary Results (3b)

		2019			2020	
		Telehealth Non-	Telehealth		Telehealth Non-	
	Overall*	Utilizers	Utilizers	Overall*	Utilizers	Telehealth Utilizers
	(n = 10,539,539)	(n = 10,472,297)	(n = 67,242)	(n = 10,781,361)	(n = 6,160,060)	(n = 4,621,301)
Chronic Condition	n (col %)	n (col %)	n (col %)	n (col %)	n (col %)	n (col %)
Hypertension	6,347,508 (60.2)	6,301,460 (60.2)	46,048 (68.5)	6,325,552 (58.7)	3,152,201 (51.2)	3,173,351 (68.7)
Hyperlipidemia	5,139,647 (48.8)	5,102,825 (48.7)	36,822 (54.8)	5,146,341 (47.7)	2,523,369 (41)	2,622,972 (56.8)
Rheumatoid						
Arthritis/Osteoarthritis	2,954,795 (28)	2,929,991 (28)	24,804 (36.9)	2,899,007 (26.9)	1,247,200 (20.2)	1,651,807 (35.7)
Diabetes	2,709,804 (25.7)	2,686,224 (25.7)	23,580 (35.1)	2,721,624 (25.2)	1,281,588 (20.8)	1,440,036 (31.2)
Ischemic Heart Disease	1,994,565 (18.9)	1,978,258 (18.9)	16,307 (24.3)	1,965,329 (18.2)	857,775 (13.9)	1,107,554 (24)
Anemia	1,883,617 (17.9)	1,863,592 (17.8)	20,025 (29.8)	1,848,114 (17.1)	760,609 (12.3)	1,087,505 (23.5)
Hypothyroidism	1,816,778 (17.2)	1,800,630 (17.2)	16,148 (24)	1,807,397 (16.8)	836,978 (13.6)	970,419 (21)
Cataract	1,814,746 (17.2)	1,805,719 (17.2)	9,027 (13.4)	1,519,882 (14.1)	799,093 (13)	720,789 (15.6)
Depression, Bipolar, or Other						
Depressive Mood Disorders	1,576,270 (15)	1,540,781 (14.7)	35,489 (52.8)	1,580,850 (14.7)	573,730 (9.3)	1,007,120 (21.8)
Chronic Kidney Disease	1,567,321 (14.9)	1,552,046 (14.8)	15,275 (22.7)	1,605,176 (14.9)	665,185 (10.8)	939,991 (20.3)
Glaucoma	1,405,286 (13.3)	1,398,270 (13.4)	7,016 (10.4)	1,394,155 (12.9)	697,527 (11.3)	696,628 (15.1)
Atrial Fibrillation and Flutter	1,341,604 (12.7)	1,330,228 (12.7)	11,376 (16.9)	1,339,425 (12.4)	584,642 (9.5)	754,783 (16.3)
Chronic Obstructive Pulmonary						
Disease	1,313,604 (12.5)	1,297,371 (12.4)	16,233 (24.1)	1,238,738 (11.5)	532,939 (8.7)	705,799 (15.3)
Heart Failure and Non-Ischemic						
Heart Disease	1,143,324 (10.8)	1,129,963 (10.8)	13,361 (19.9)	1,126,473 (10.4)	466,493 (7.6)	659,980 (14.3)
Benign Prostatic Hyperplasia	981,928 (9.3)	975,180 (9.3)	6,748 (10)	988,456 (9.2)	456,385 (7.4)	532,071 (11.5)



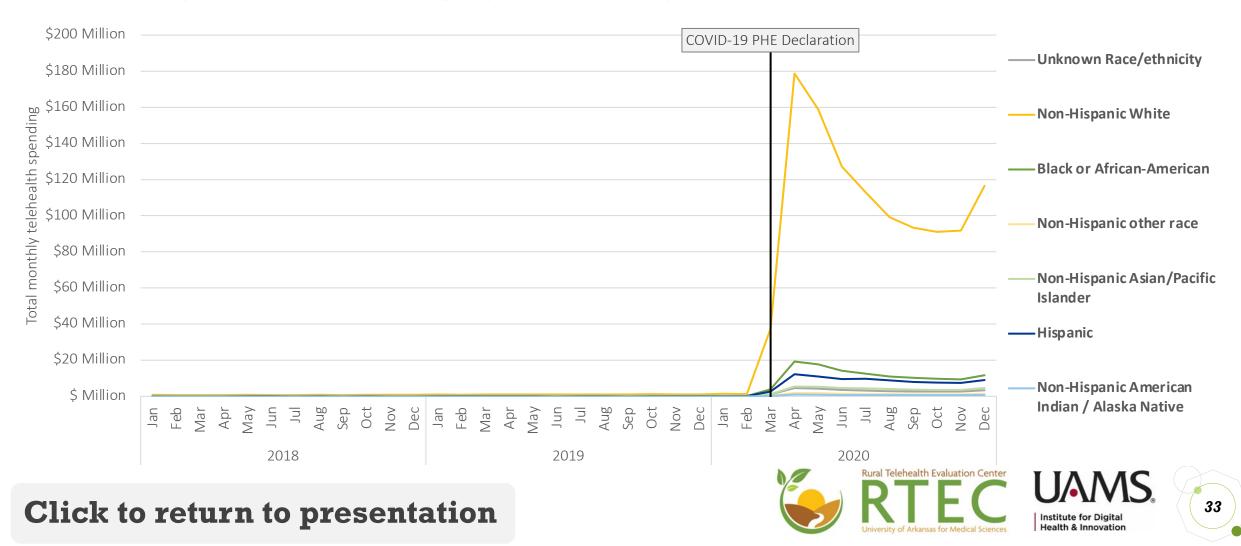
Aim 1 (Telehealth Utilization) Preliminary Results (3c)

		2019			2020	
		Telehealth Non-	Telehealth		Telehealth Non-	
	Overall*	Utilizers	Utilizers	Overall*	Utilizers	Telehealth Utilizers
	(n = 10,539,539)	(n = 10,472,297)	(n = 67,242)	(n = 10,781,361)	(n = 6,160,060)	(n = 4,621,301)
Chronic Condition	n (col %)	n (col %)	n (col %)	n (col %)	n (col %)	n (col %)
Non-Alzheimer's Dementia	705,219 (6.7)	693,112 (6.6)	12,107 (18)	685,303 (6.4)	325,713 (5.3)	359,590 (7.8)
Asthma	588,715 (5.6)	581,772 (5.6)	6,943 (10.3)	577,720 (5.4)	209,965 (3.4)	367,755 (8)
Stroke/Transient Ischemic Attack	503,810 (4.8)	494,433 (4.7)	9,377 (13.9)	459,341 (4.3)	186,311 (3)	273,030 (5.9)
Pneumonia, All-cause	491,027 (4.7)	483,194 (4.6)	7,833 (11.6)	514,030 (4.8)	205,254 (3.3)	308,776 (6.7)
Cancer, Breast	408,229 (3.9)	405,688 (3.9)	2,541 (3.8)	406,215 (3.8)	174,335 (2.8)	231,880 (5)
Cancer, Prostate	407,957 (3.9)	405,803 (3.9)	2,154 (3.2)	409,281 (3.8)	187,751 (3)	221,530 (4.8)
Alzheimer's Disease	255,738 (2.4)	251,169 (2.4)	4,569 (6.8)	239,497 (2.2)	114,066 (1.9)	125,431 (2.7)
Parkinson's Disease and						
Secondary Parkinsonism	168,837 (1.6)	166,192 (1.6)	2,645 (3.9)	166,803 (1.5)	61,323 (1)	105,480 (2.3)
Cancer, Colorectal	151,428 (1.4)	150,214 (1.4)	1,214 (1.8)	145,114 (1.3)	66,277 (1.1)	78,837 (1.7)
Acute Myocardial Infarction	133,438 (1.3)	131,561 (1.3)	1,877 (2.8)	131,338 (1.2)	56,021 (0.9)	75,317 (1.6)
Cancer, Lung	130,829 (1.2)	129,647 (1.2)	1,182 (1.8)	128,997 (1.2)	50,154 (0.8)	78,843 (1.7)
Hip/Pelvic Fracture	118,132 (1.1)	116,579 (1.1)	1,553 (2.3)	109,588 (1)	47,027 (0.8)	62,561 (1.4)
Cancer, Urologic (Kidney, Renal						
Pelvis, and Ureter)	74,267 (0.7)	73,689 (0.7)	578 (0.9)	74,645 (0.7)	28,087 (0.5)	46,558 (1)
Cancer, Endometrial	52,700 (0.5)	52,285 (0.5)	415 (0.6)	52,388 (0.5)	21,884 (0.4)	30,504 (0.7)
Osteoporosis With or Without						
Pathological Fracture	13,316 (0.1)	13,182 (0.1)	134 (0.2)	13,716 (0.1)	5,678 (0.1)	8,038 (0.2)



Aim 2 (Telehealth Spending) Preliminary Results (2a)

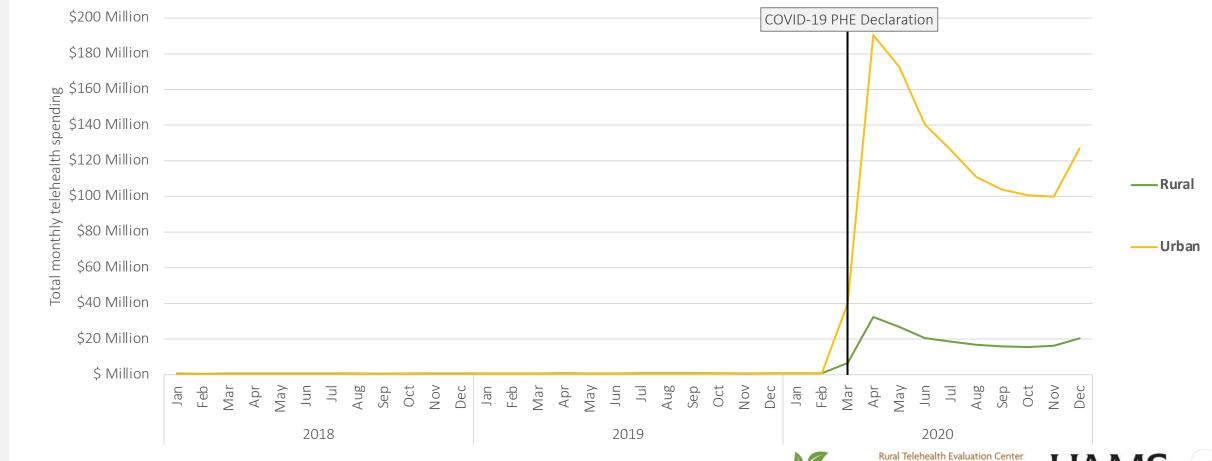
Total monthly telehealth spending, by race/ethnicity





Aim 2 (Telehealth Spending) Preliminary Results (2b)

Total monthly telehealth spending, by rural/urban status





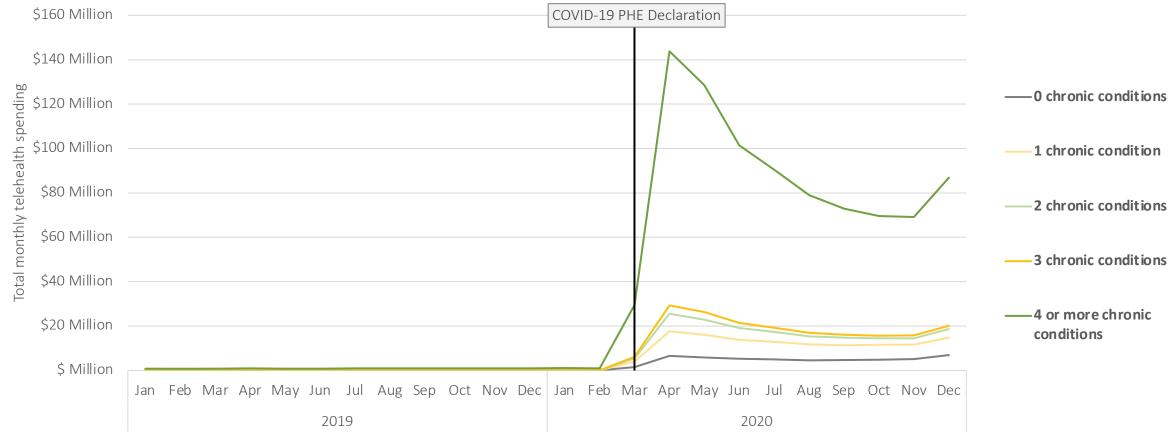






Aim 2 (Telehealth Spending) Preliminary Results (2c)

Total monthly telehealth spending, by number of chronic conditions







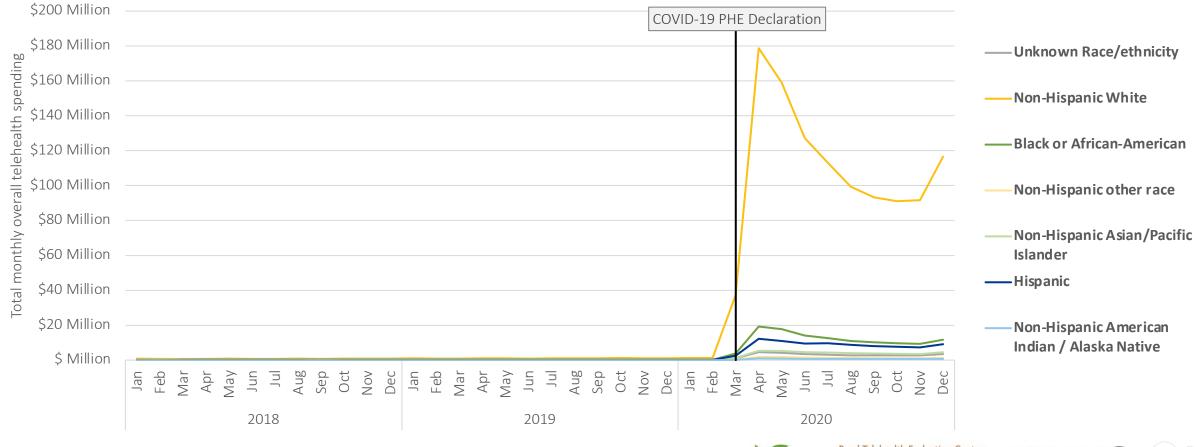






Aim 2 (Telehealth Spending) Preliminary Results (4a)

Per beneficiary telehealth spending, by race/ethnicity







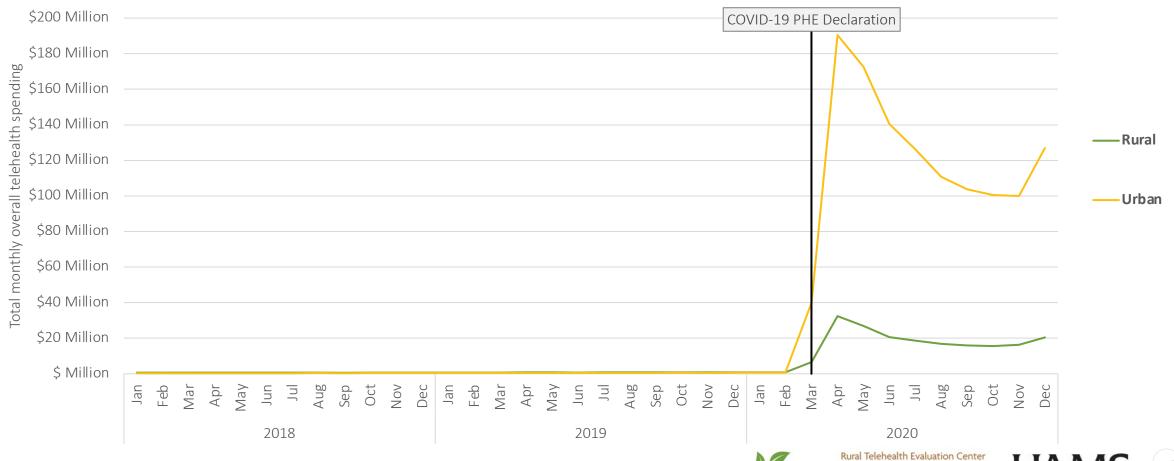






Aim 2 (Telehealth Spending) Preliminary Results (4b)

Per beneficiary telehealth spending, by rural/urban status





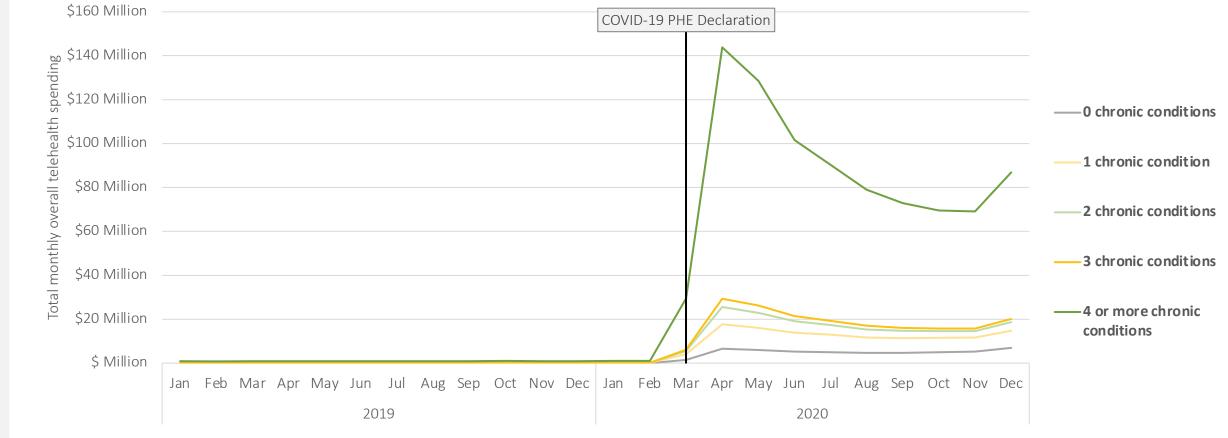






Aim 2 (Telehealth Spending) Preliminary Results (4c)

Per beneficiary telehealth spending, by number of chronic conditions







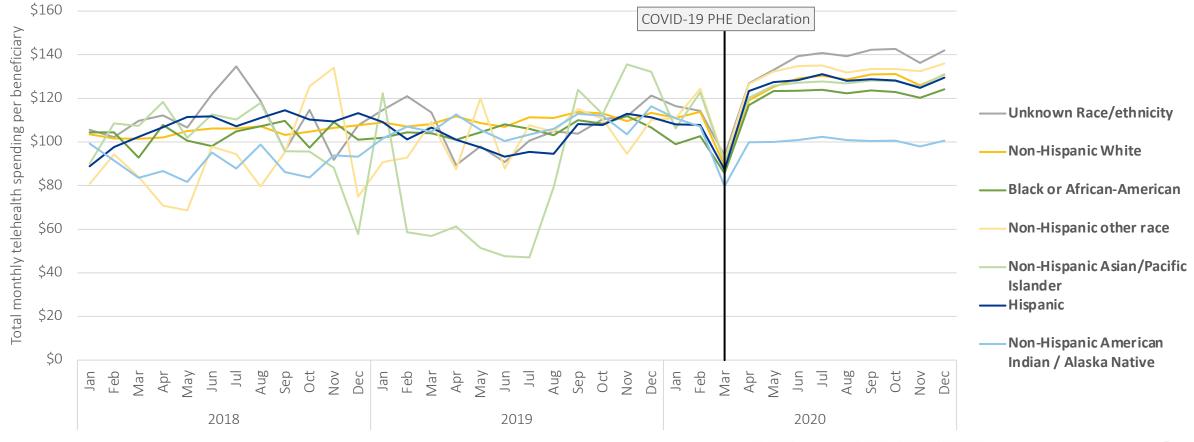






Aim 2 (Telehealth Spending) Preliminary Results (5a)

Per telehealth utilizer telehealth spending, by race/ethnicity













Our Next Webinar

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Hosting TRC: Pacific Basin Telehealth Resource Center (PBTRC)

Date: July 20, 2023

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