



Telemedicine, Telehealth, and Home Telemonitoring in Texas Medicaid

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Executive Summary

Texas Government Code, [Section 531.0216](#) requires the Texas Health and Human Services Commission (HHSC) to report biennially on the effects of teleservices in Texas Medicaid. The COVID-19 federal public health emergency (PHE) generated a rapid expansion of telemedicine, telehealth, audio-only (telephone) and telemonitoring services delivery in Medicaid during the 2020-2021 biennium. In response to [House Bill \(H.B.\) 4, 87th Legislature, Regular Session, 2021, HHSC](#) made many of these methods permanent delivery options.

Telemedicine, telehealth, audio-only (telephone) and telemonitoring services are collectively called teleservices for the purposes of this report. While telemedicine, telehealth, and audio-only are modalities for delivering services, telemonitoring is itself a service. Teleservices provide another option for accessing care and in Texas Medicaid, providers are paid the same amount for healthcare services delivered through telehealth, telemedicine and in-person visits. Texas Medicaid continued to experience an increase in expenditures for teleservices, with a 68 percent rise between fiscal years 2020 and 2021. The number of teleservice visits in Texas Medicaid increased over 500 percent between fiscal years 2020 and 2021. Common diagnoses among clients receiving telemedicine and telehealth services included mental, behavioral, and neurodevelopmental disorders. Clinic/group practice was the most frequent provider type of teleservices for both fiscal years 2020 and 2021. Texas Medicaid providers most frequently delivered teleservices in Harris County, the most populous Texas county. Telemedicine may have played an important role in addressing PHE-related health concerns as visits related to respiratory diseases increased 108 percent from 173,175 to 360,233 between fiscal years 2020 and 2021. For home telemonitoring, the number of Medicaid clients increased by 9 percent between fiscal years 2020 and 2021. However, during this time, telemonitoring expenditures decreased by 10 percent.

Introduction

Since 2002, HHSC reports biennially on teleservices utilization data in Texas Medicaid. See the [previous biennium's report](#) for a history of teleservices legislation in Texas. Texas Medicaid teleservices currently include telemedicine, telehealth, audio-only (telephone), and telemonitoring. H.B. 2056, 87th Legislature, Regular Session, 2021, amended Texas Occupations Code Chapter (Ch.) 111 to include teledentistry as a teleservice, and the State Board of Dental Examiners implemented [Rule §108.16](#) in Title 22 of the Texas Administrative Code in June 2022. Additionally, Texas Government Code Section 531.0216 requires information on teledentistry dental services to be included in the biennial reports. Once the State Board of Dental Examiners adopted their rules addressing teledentistry, HHSC was able to begin the work to add teledentistry as a benefit in Texas Medicaid. This work is currently underway. HHSC will include information on teledentistry in future reports.

In the study developed on utilization and expenditure trends during fiscal years 2012 to 2018, Texas A&M University, under contract with HHSC, analyzed a total of 42 treatment groups and 42 comparison groups to study costs for teleservices in Texas Medicaid. Texas A&M University compared the groups and reported the results of the study to HHSC in 2020. Findings, including analysis of cost savings related to teleservices, are included in the previous biennium's report, [Telemedicine, Telehealth, and Home Telemonitoring Services in Texas Medicaid, 2020](#).

Prior to the PHE, use of teleservices increased slowly due to regulatory and legal constraints. The federal government and the State of Texas waived or modified certain regulations around the use of teleservices during the PHE so providers could meet the needs of individuals, ensure continuity of care, reduce risk of disease transmission, conserve medical supplies, and minimize strain on healthcare system capacity.¹ H.B. 4 focused on making many of the PHE flexibilities permanent and required HHSC to expand services eligible to be delivered via telemedicine or telehealth in any program, benefit, or service HHSC determines to be cost-effective

¹Demeke HB, Merali S, Marks S, Pao LZ, Romero L, Sandhu P, Clark H, Clara A, McDow KB, Tindall E, Campbell S, Bolton J, Le X, Skapik JL, Nwaise I, Rose MA, Strona FV, Nelson C, Siza C. Trends in Use of Telehealth Among Health Centers During the COVID-19 Pandemic - United States, June 26-November 6, 2020. MMWR Morb Mortal Wkly Rep. 2021 Feb 19;70(7):240-244. doi: 10.15585/mmwr.mm7007a3. PMID: 33600385; PMCID: PMC7891688.

and clinically appropriate. It also required HHSC to implement audio-only benefits for behavioral health services and authorized, but did not require, HHSC to implement audio-only benefits in any program or services, if determined to be clinically appropriate and cost-effective. H.B. 4 builds on S.B. 670, 86th Legislature, Regular Session, 2019, which authorized the Medicaid managed care organizations (MCOs) to determine which services could be delivered remotely in Medicaid managed care. HHSC analyzed the clinical and cost effectiveness of Medicaid and CHIP telemedicine and telehealth PHE-related flexibilities to align with H.B. 4 requirements and transitioned certain state plan and 1915(c) waiver services delivered in the fee-for-service (FFS) system from temporary PHE flexibilities to permanent policy. HHSC authorized FFS providers to submit claims for reimbursement of synchronous audio-visual delivery for several benefits and services including, but not limited to:

- Behavioral health services and benefits, including audio-only delivery in some cases;
- Healthy Texas Women (HTW) and HTW Plus services and benefits;
- Professional and specialized services including speech therapy, occupational therapy, and physical therapy;
- Certain school health and related services; and
- Certain case management services.

HHSC also authorized telehealth and telemedicine reimbursement, and reimbursement of patient site fees for telemedicine, for rural health clinics and federally qualified health centers. The majority of the changes implemented in alignment with H.B. 4 were effective September 1, 2022. Data related to these changes will be available to be analyzed in the next report.

Texas Medicaid teleservices visits increased between fiscal years 2020 and 2021. This is likely due to the PHE beginning January 31, 2020 and accompanying changes in state and federal regulations related to remote delivery of healthcare services.

Background

This report is due in even-numbered years, and HHSC must report on the effects of telemedicine medical services, teledentistry dental services, telehealth services, and home telemonitoring services on Medicaid in Texas, including:

- The number of physicians, dentists, health professionals, and licensed health care facilities using telemedicine medical services, teledentistry dental services, telehealth services, or home telemonitoring services;
- The geographic and demographic disposition of the physicians, dentists, and health professionals;
- The number of patients receiving telemedicine medical services, teledentistry dental services, telehealth services, and home telemonitoring services;
- The types of services being provided;
- The cost of utilization, and;
- The cost savings of telemedicine medical services, teledentistry dental services, telehealth services, and home telemonitoring services to Medicaid.

Information about the Data in this Report

Terms and Definitions: Telemedicine, teledentistry, and telehealth are defined in [Texas Occupations Code Ch. 111](#). Home telemonitoring is defined in [Texas Government Code Ch. 531](#). Telecommunications is information technology that transfers (and stores) information over a distance.

Billing and Coding: Providers use procedure codes to bill healthcare claims for reimbursement of services delivered to clients. Modifiers on a claim can be used to denote when services are delivered remotely rather than in-person. Throughout the PHE until September 2022, only one modifier was available to indicate audio-only or audio-visual delivery: modifier 95. The use of a single modifier makes it difficult to determine which method providers used for service delivery and the data reflect both audio-visual and audio-only services. In response to federal updates, HHSC made policy changes in 2022 to require providers to use modifier 93 to identify services delivered via an audio-only modality. The new modifier will be used to identify audio-only services and modifier 95 will indicate utilization of audio-visual services in future reports.

County Descriptions:

Urban Counties²: Counties that are home to the largest city, according to population size, within a federally-delineated Metropolitan Statistical Area (MSA). The Office of Management and Budget (OMB) is the federal agency responsible for delineating MSAs for the U.S. as a whole.

Suburban Counties: All other counties within a federally-delineated Metropolitan Statistical Area (MSA). The exception to this rule is Tarrant County. Due to its large population size (over 1.8 million residents), Tarrant County, part of the Dallas-Fort Worth-Arlington MSA, is classified as an urban county.

Rural Counties³: Counties that are not designated by the OMB as Metropolitan, or that are not part of a larger MSA.

Appendices: HHSC analyzed Texas Medicaid fee-for-service and managed care organization data for telemedicine, telehealth, and home telemonitoring services for fiscal years 2020 and 2021. Data summaries are in Appendices A, B, and C. Appendix A shows client service utilization and associated expenditures for fiscal years 2020 and 2021. Appendix B shows location by metropolitan statistical area for telemedicine, telehealth, and home telemonitoring services providers. Appendix C lists commonly billed procedure codes.

² [Data Access - Urban Rural Classification Scheme for Counties \(cdc.gov\)](#)

³ [Defining Rural Population | Guidance Portal \(hhs.gov\)](#)

Telemedicine Services

Physicians and health professionals under the supervision of a physician provide telemedicine to a person in a different physical location. Physician delegates include physician assistants, nurse practitioners, clinical nurse specialists, and certified nurse midwives.

Telemedicine Providers

Compared to fiscal year 2020, 727 fewer Medicaid providers were reimbursed for a telemedicine service in fiscal year 2021. A total of 8,232 Texas Medicaid providers delivered a telemedicine medical service in fiscal year 2020 and 7,505 in fiscal year 2021. The drop in telemedicine providers from 2020 to 2021 may be partially related to in-person visits resuming after the PHE. However, it is important to note that the number of telemedicine providers in fiscal year 2021 (7,505) is significantly larger than the number in fiscal year 2019 (455).

A large variety of Medicaid providers in Texas Medicaid (e.g., physicians, other licensed healthcare professionals, hospitals and centers) deliver telemedicine services. The most frequent provider types were clinic/group practices followed by physicians for both the 2020 and 2021 fiscal years.

Table 1: Top Three Telemedicine Provider Types⁴

Provider Type	FY 2020	FY 2021
Group Practices / Clinics	5,064	5,044
Physicians	1,909	1,301
Delegated Medical Professionals	296	220

Most Medicaid providers practice in metropolitan statistical areas (MSAs⁵), with large populations of Medicaid clients.

⁴ *Group practice/clinics* include: Clinic/group practice (code 22); podiatry group (code 95); family planning clinic (code 71); maternity service clinic (code 55). *Physicians* in the table include physician, MD (code 20); physician, DO (code 19); podiatrist (code 32). *Delegated medical professionals* include certified nurse midwife/registered nurse/licensed midwife (code 33); physician assistant/nurse practitioner/clinical nurse specialist (code 10).

⁵ [MSA Areas 2013 \(texas.gov\)](https://www.texas.gov/MSA-Areas-2013)

Table 2: Top 3 MSAs by Telemedicine Provider Geographical Distribution

FY 2020 MSAs	FY 2021 MSAs
Houston-The Woodlands-Sugar Land	Houston-The Woodlands-Sugar Land
Dallas-Fort Worth-Arlington	Dallas-Fort-Worth-Arlington
Austin-Round Rock-Georgetown	San Antonio-New Braunfels

In some counties there were no providers reimbursed for delivering services via telemedicine in either fiscal year. In 2020, 15 counties had no providers offering telemedicine and 40 counties had only one provider. In fiscal year 2021, 22 counties had no providers offering telemedicine, and 39 counties had one provider. Most of the counties without providers offering telemedicine were rural. However, rural counties saw the highest overall increase by percentage in providers offering telemedicine between fiscal years.

Table 3: Telemedicine Providers by County Type

County Type	Number of Telemedicine Providers FY 2020	Number of Telemedicine Providers FY 2021
Urban	5,871	5,320
Suburban	1,609	1,525
Rural	845	764

Persons Receiving Telemedicine

The unduplicated number of Texas Medicaid clients receiving telemedicine increased by 25 percent in rural areas and nearly 30 percent in urban areas between fiscal years.

Table 4: Texas Medicaid Telemedicine Clients by County Type

County Type	Number of Telemedicine Clients FY 2020	Number of Telemedicine Clients FY 2021
Urban	557,187	733,470
Suburban	131,640	161,586
Rural	87,910	109,961

Over 3.7 million telemedicine services were delivered to Texas Medicaid clients in fiscal year 2021. Telemedicine office visits were the most frequent type of telemedicine encounter. Physicians and their delegates typically provide preventive care, care for minor illnesses and chronic diseases, and referrals to specialists through office visits.

Texas Medicaid clients were most frequently seen by telemedicine providers for diagnoses related to behavioral health. However, the highest increase in telemedicine services by percentage overall was related to respiratory illness.

Table 5: Most Common Diagnostic Categories for Client Diagnoses in Telemedicine Services

Diagnostic Category	FY 2020	FY 2021
Behavioral Health⁶	234,913	304,674
Abnormal Laboratory or Clinical Findings	136,497	206,761
Diseases of the Respiratory System	118,081	211,770

Diagnostic categories contain subsets of related diagnoses. For example, the behavioral health category includes diagnosis codes for attention deficit hyperactivity disorders, depression and depressive disorders, and anxiety disorders. Likewise, hypertension (HTN) or high blood pressure and hyperglycemia (elevated blood sugar) diagnosis codes typically related to chronic disease care are in the category of abnormal clinical or laboratory findings.

The most frequent diagnosis codes recorded likely demonstrate the impact of COVID-19. Upper respiratory infections (diagnosis code J069) became the most frequent diagnosis in 2021, with over 70,000 occurrences.

Table 6: Most Frequent Diagnoses (and Diagnosis Codes) for Clients Receiving Telemedicine Services

Diagnosis Description (Code)	FY 2020	FY 2021
Attention-Deficit Hyperactivity Disorder, Combined Type (F902)	47,005	59,163
Essential (Primary) Hypertension (I10)	32,560	31,641
Contact/Exposure to Viral Communicable Diseases (Z20828)	26,209	45,626
Upper Respiratory Infection (J069)	19,799	70,842

⁶ Behavioral health includes mental, behavioral and neurodevelopmental disorders.

Telemedicine Costs

While the data in Tables 1 and 3 shows a decrease between 2020 and 2021 in the number of providers rendering telemedicine, the number of telemedicine visits during that time increased. In fiscal year 2021, there were almost 1.5 million additional telemedicine visits compared to 2020. Fee-for-service Medicaid and Medicaid managed care organizations together made payments to providers for services delivered via telemedicine totaling⁷ more than \$100 million in fiscal year 2020 and over \$200 million in fiscal year 2021.

Table 7: Telemedicine Costs in Texas Medicaid

Telemedicine Costs	FY 2020	FY 2021
Total Amount Paid to Providers	\$115,388,085	\$214,981,242

⁷ The total amount paid to providers is not equal to the total cost to Medicaid. Most of the Medicaid population is in managed care, and Texas pays a capitated rate to managed care organizations based on a client's health risk and other factors. Therefore, the total of all capitated payments may be more or less than the amount managed care organizations paid to providers.

Telehealth Services

Telehealth services refer to healthcare services, other than telemedicine services, provided by a health professional licensed, certified, or otherwise entitled to practice in this state, using telecommunications to deliver care to persons located in a different physical location than the health professional.

Telehealth Providers

There were 3,921 Texas Medicaid providers who billed and were reimbursed for a telehealth service in fiscal year 2020 and 4,488 in fiscal year 2021. The more prevalent telehealth providers were behavioral health specialists such as licensed professional counselors, licensed clinical social workers, and psychologists.

Table 8: Top Three Telehealth Provider Types

Provider Type	FY 2020	FY 2021
Licensed Professional Counselors	1,414	1,591
Licensed Clinical Social Workers	241	256
Psychologists	148	162

Telehealth providers generally are located in MSAs with large populations of Medicaid enrollees.

Table 9: Top 3 MSAs by Telehealth Provider Geographical Distribution

FY 2020-2021 MSAs
Dallas-Fort Worth-Arlington
Houston-The Woodlands-Sugar Land
Austin-Round Rock-Georgetown

In some counties there were no providers reimbursed for delivering services via telehealth. There were 40 counties with no providers offering telehealth services in fiscal year 2020 and 44 with one provider. In 2021, there were 26 counties without no providers offering telehealth services and 41 with a single provider. Providers with at least one telehealth encounter in a rural county increased by 29 percent between fiscal years 2020 and 2021.

Table 10: Texas Medicaid Telehealth Providers by County Type

County Type	Number of Telehealth Providers FY 2020	Number of Telehealth Providers FY 2021
Urban	2,749	3,052
Suburban	739	890
Rural	479	617

Persons Receiving Telehealth

The number of clients using telehealth increased in all three county types between fiscal years 2020 and 2021.

Table 11: Texas Medicaid Telehealth Clients by County Type

County Type	Number of Telehealth Clients FY 2020	Number of Telehealth Clients FY 2021
Urban	111,984	161,193
Suburban	25,668	37,294
Rural	19,068	25,741

The number of telehealth visits increased from just over 1.5 million in fiscal year 2020 to nearly 3 million in fiscal year 2021.

Behavioral health diagnoses comprised the most frequent diagnosis category in the Texas Medicaid teleservices population at 70 percent. A single diagnosis helps explain why a service was provided. Diagnostic categories⁸ contain many related diagnoses and allow comparisons between populations.

[Factors influencing health status](#) include diagnoses for problems other than illness or injury affecting an individual's health. It is a broad diagnosis category without details of the health aspect addressed (e.g., mental health, blood pressure).

Table 12: Top Three Diagnostic Categories for Client Diagnoses in Telehealth Services

Diagnostic Category	FY 2020	FY 2021
Behavioral Health ⁹	113,412	150,065
Abnormal Laboratory or Clinical Findings	28,480	41,179
Factors Influencing Health Status	16,033	38,097

⁸ World Health Organization. International Statistical Classification of Diseases and Related Health Problems (ICD). <https://www.who.int/standards/classifications/classification-of-diseases>.

⁹ Behavioral health includes mental, behavioral, and neurodevelopmental disorders.

Individuals may experience adverse developmental and mental health outcomes from social isolation. The PHE’s impact to health may partially explain the increase in services related to delayed milestones and speech delays, as detailed in Table 13. Social restrictions minimized infants’ exposure to a wider variety of diverse communication and activities.^{10,11} Telehealth services for Major Depressive Disorder (diagnosis code F331) and Adjustment Disorders (F4320; F4323) both increased by 50 percent from fiscal year 2020 to fiscal year 2021 and may have been impacted by social restrictions and isolation.

Table 13: Frequent Diagnoses (and Diagnosis Codes) for Clients Receiving Telehealth Services

Diagnosis Description (Codes)	FY 2020	FY 2021
Speech Language Disorder (F801, F802, F809)	27,031	38,639
Delayed Milestone in Childhood (R620, R6250)	15,216	33,625
Attention-Deficit Hyperactivity Disorder (F902)	10,851	13,185

Telehealth Costs

Between fiscal years, the number of services provided to clients through telehealth increased by 81 percent, while the total amount paid to telehealth providers had an increase of 72 percent.

Table 14: Telehealth Costs in Texas Medicaid

Telehealth Costs	FY 2020	FY 2021
Total Amount Paid to Telehealth Providers ¹²	\$134,426,917	\$231,811,584

¹⁰ Huang P, Zhou F, Guo Y, et. al. Association Between the COVID-19 Pandemic and Infant Neurodevelopment: A Comparison Before and During COVID-19. *Front. Pediatr.* 2021;9. <https://doi.org/10.3389/fped.2021.662165>.

¹¹ Ferrari E, Palandri L, Lucaccioni L, et. al. The Kids Are Alright (?). *Infants’ Development and COVID-19 Pandemic: A Cross-Sectional Study.* *Int J Public Health.* 2022;67. <https://doi.org/10.3389/ijph.2022.1604804>.

¹² The total amount paid to providers is not equal to the total cost to Medicaid. Most of the Medicaid population is in managed care, and Texas pays a capitated rate to managed care organizations based on a client’s health risk and other factors. Therefore, the total of all capitated payments may be more or less than the amount managed care organizations paid to providers.

Home Telemonitoring Services

Telemonitoring services facilitate remote monitoring of an individual’s health data. Unlike telemedicine and telehealth, which are methods for delivering services, telemonitoring is itself a service. Health data from remote monitoring must be shared with the individual’s primary care provider and meet requirements in Texas Government Code Ch. 531. Texas Medicaid reimburses home telemonitoring for adults with HTN or diabetes. Clients under 21 years old may receive telemonitoring for end-stage solid organ disease, organ transplantation, and mechanical ventilation.

Home Telemonitoring Providers

Physicians and physician delegates in groups and solo practices order and interpret home telemonitoring services and results. Home health agencies deliver and set up telemonitoring equipment.

Table 15: Top Three Telemonitoring Provider Types

Provider Type	FY 2020	FY 2021
Clinic/Group Practice	592	622
Physicians ¹³	145	96
Home Health Agencies	68	88

Like other provider types, telemonitoring providers who were reimbursed for services in 2020 and 2021 generally were in MSAs with large populations of Medicaid enrollees. However, the third ranking MSA for numbers of Medicaid telemonitoring providers was McAllen-Edinburg-Mission.

Table 16: Top 3 MSAs by Telemonitoring Provider Geographical Distribution

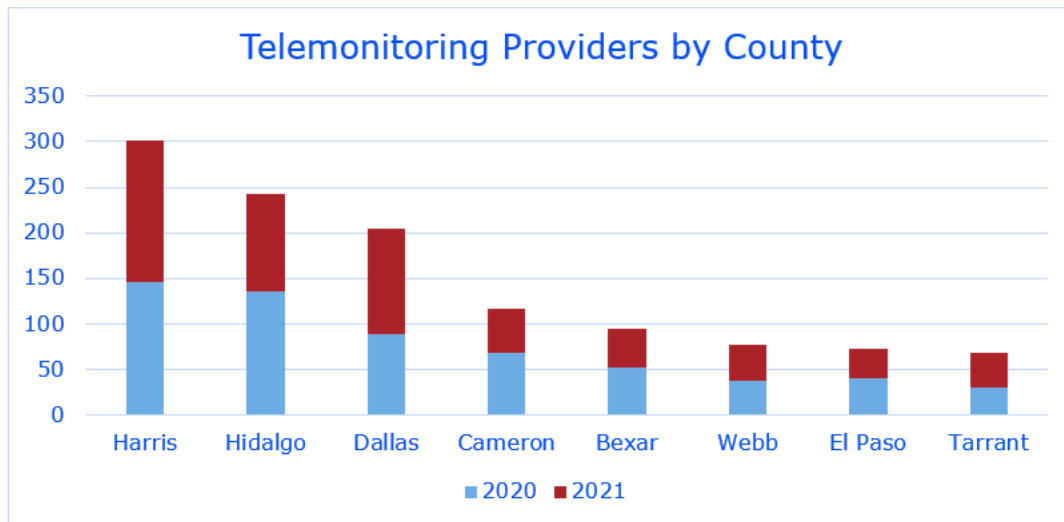
FY 2020-2021 MSAs
Houston-The Woodlands-Sugar Land
Dallas-Fort Worth-Arlington
McAllen-Edinburg-Mission

The two counties in the McAllen-Edinburg-Mission MSA border Mexico, and telemonitoring providers may address some of the need for primary care and

¹³ Doctor of Medicine (M.D.) and Doctor of Osteopathic Medicine (D.O.).

specialist providers in these areas.¹⁴ Population health characteristics of border counties may influence geographical distributions of Medicaid telemonitoring provider visits, as border residents have a higher incidence of diabetes¹⁵.

Figure 1. Counties with the Most Medicaid Telemonitoring Provider Visits



In fiscal year 2021, the five counties with the largest population of individuals enrolled in Medicaid were Harris, Dallas, Bexar, Hidalgo, and Tarrant. All counties with the most telemonitoring provider services were urban. Between fiscal years 2020 and 2021, suburban telemonitoring providers increased by 19 percent.

Table 17: Telemonitoring Providers by County Type

County Type	Number of Telemonitoring Providers FY 2020	Number of Telemonitoring Providers FY 2021
Urban	678	651
Suburban	89	106
Rural	84	86

While suburban telemonitoring providers increased 19 percent, the proportion of telemonitoring providers remained stable. About 10-12 percent of Texas Medicaid telemonitoring providers were located in suburban areas for both fiscal years 2020 and 2021.

¹⁴ Texas Department of State Health Services. Office of Border Public Health. The Texas Portion of the U.S.-Mexico Border. Available at <https://www.dshs.texas.gov/borderhealth/> [Accessed Sept. 26, 2022.]

¹⁵ [Office of Border Health \(texas.gov\)](https://www.borderhealth.texas.gov/)

Persons Receiving Home Telemonitoring

The number of Medicaid clients using home telemonitoring increased between fiscal years 2020 and 2021.

Table 18: Texas Medicaid Telemonitoring Clients by County Type

County Type	Number of Telemonitoring Clients FY 2020	Number of Telemonitoring Clients FY 2021
Urban	14,515	15,533
Suburban	1,385	1,895
Rural	3,012	3,225

Texas Medicaid covers telemonitoring for adults with HTN or diabetes. Adults are more likely than children to have a chronic disease, and most telemonitoring diagnoses fall under the circulatory system (81 percent in fiscal year 2020; 85 percent in 2021) or under endocrine, nutritional, or metabolic diseases (15 percent both fiscal years). Circulatory system diseases include HTN, and diabetes diagnoses are in the endocrine, nutritional, and metabolic disease category. The most common diagnoses are listed in Table 19. Other frequent diagnoses were related to complications or conditions caused by HTN and diabetes.

Table 19: Frequent Diagnoses and Diagnosis Codes for Clients in Telemonitoring Services

Diagnosis Description (Codes)	FY 2020	FY 2021
Essential (Primary) Hypertension (I10)	14,424	16,833
Type 2 Diabetes Mellitus (E1165, E119)	1,829	1,901
Hypertensive Chronic Kidney Disease (I129, I1310)	644	893

Home Telemonitoring Costs

The clinical and cost effectiveness of home telemonitoring services varies widely depending on the severity of a client’s condition and number of days per month data is transmitted. Telemonitoring costs¹⁶ decreased between fiscal years 2020

¹⁶ The total amount paid to providers is not equal to the total cost to Medicaid. Most of the Medicaid population is in managed care, and Texas pays a capitated rate to managed care

and 2021. These reductions may be explained by a number of factors such as fewer clients being diagnosed during the PHE, or a 12 percent decrease in Texas Medicaid telemonitoring clients diagnosed with diabetic kidney disease, which is a high-cost combination to treat.¹⁷

Table 20: Telemonitoring Costs in Texas Medicaid

Telemonitoring Cost	FY 2020	FY 2021
Total Paid to Telemonitoring Providers	\$36,010,389	\$32,537,846
Mean Cost per Client	\$1,900	\$1,572

organizations based on a client’s health risk and other factors. Therefore, the total of all capitated payments may be more or less than the amount managed care organizations paid to providers.

¹⁷ Folkerts K, Petruski-Ivleva N, Kelly A, Fried L, Blankenburg M, Gay A, Kovesdy CP. Annual health care resource utilization and cost among type 2 diabetes patients with newly recognized chronic kidney disease within a large U.S. administrative claims database. J Manag Care Spec Pharm. 2020 Dec;26(12):1506-1516. doi: 10.18553/jmcp.2020.26.12.1506. PMID: 33251992.

Conclusion

In the 2020-21 biennium, utilization and expenditures for telemedicine and telehealth increased. While home telemonitoring utilization increased, expenditures decreased. HHSC expected the increase in utilization and expenditures for telemedicine and telehealth in fiscal year 2020 due to the PHE.

Telemedicine, telehealth, and home telemonitoring providers continue to be located in large MSAs, such as Dallas-Fort Worth-Arlington, San Antonio, and Houston-The Woodlands-Sugar Land. Procedure code data and client diagnoses for fiscal years 2020 and 2021 suggest telemedicine and telehealth services have been primarily used to treat behavioral health conditions, including attention deficit hyperactivity disorders, depressive disorders, and adjustment disorders.

Extensive changes were made to Medicaid policy to authorize remote delivery of additional services and benefits in alignment with H.B. 4, with a particular focus on behavioral health services, rural health clinics, and federally qualified health centers.

List of Acronyms

Acronym	Full Name
CCP	Comprehensive Care Program
H.B.	House Bill
HHSC	Health and Human Services Commission
HTN	Hypertension (also known as high blood pressure)
MSA	Metropolitan Statistical Area
PHE	Public Health Emergency
SFY	State Fiscal Year

Appendix A. Telemedicine, Telehealth and Home Telemonitoring Services Client Utilization and Expenditures

Table 1. Client Utilization and Expenditures, Fiscal Year 2020

Service	Clients	Providers	Services Delivered	Average*** Expenditure per Client	Average*** Expenditure per Provider
Telemedicine	776,243	8,232	2,311,544	\$149	\$14,017
Telehealth	156,467	3,921	1,559,644	\$859	\$34,284
Home Telemonitoring	18,949	853	447,459	\$1,900	\$42,216
Audio-only*	49,681	1,678	77,117	\$20	\$607
All**	885,903	12,338	4,395,764	\$324	\$23,249

Table 2. Client Utilization and Expenditures, Fiscal Year 2021

Service	Clients	Providers	Services Delivered	Average*** Expenditure per Client	Average*** Expenditure per Provider
Telemedicine	1,002,630	7,505	3,771,298	\$214	\$28,645
Telehealth	223,192	4,488	2,898,657	\$1,039	\$51,651
Home Telemonitoring	20,698	839	363,708	\$1,572	\$38,782
Audio-only*	69,612	1,758	126,642	\$38	\$1,515
All**	1,151,329	12,162	7,160,305	\$419	\$39,631

***Audio-only:** Includes telemedicine and telehealth services delivered through audio-only (synchronous telephone) technology.

****Note:** Provider counts are distinct, base Texas Provider Identifiers (TPIs). Client counts are distinct patient control number (PCNs), also known as client Medicaid identifications (IDs). The provider and client counts are unduplicated both within telemedicine, telehealth, and home telemonitoring benefit-delivery methods and in the

totals in each table. However, the same provider might offer both telemedicine and home telemonitoring services. Also, a client may receive both telehealth and telemedicine, for example. Thus, the provider and client counts are not additive across the benefit-delivery methods. For telemedicine services, the total services include both distant and patient site procedure codes reimbursed.

****Average:** The mean average is reported in Appendix A.

Data sources: Analytical Data Store Database, HHSC; Provider Database HHSC. Claims and encounter data prepared by HHSC Center for Analytics and Decision Support.

Appendix B. Telemedicine, Telehealth and Home Telemonitoring Service Providers by Metropolitan Statistical Area (MSA)

Table 1. Telemedicine, Telehealth and Home Telemonitoring Providers by MSA, Fiscal Years 2020-2021

MSA	Tele- medicine FY 2020	Tele- medicine FY 2021	Tele- health FY 2020	Tele- health FY 2021	Home Tele- monitoring FY 2020	Home Tele- monitoring FY 2021	Tele- phonic FY 2020	Tele- phonic FY 2021
Abilene	53	59	52	53	1	1	6	6
Amarillo	70	62	86	85	5	5	26	18
Austin- Round Rock	716	420	398	445	20	14	67	86
Beaumont- Port Arthur	154	132	47	65	10	6	53	45
Brownsvill e- Harlingen	205	191	96	105	68	48	55	52
College Station- Bryan	66	44	20	22	4	4	14	17
Corpus Christi	165	157	70	77	13	8	40	40
Dallas-Fort Worth- Arlington	1,713	1,670	653	766	153	195	402	456
El Paso	355	387	154	225	41	31	52	73

MSA	Tele- medicine FY 2020	Tele- medicine FY 2021	Tele- health FY 2020	Tele- health FY 2021	Home Tele- monitoring FY 2020	Home Tele- monitoring FY 2021	Tele- phonic FY 2020	Tele- phonic FY 2021
Houston- The Woodlands -Sugar Land	1,904	1,799	646	743	182	206	358	364
Killen- Temple- Fort Hood	180	62	148	139	11	7	13	11
Laredo	115	108	37	35	37	40	31	25
Longview	59	59	35	40	7	4	11	13
Lubbock	96	80	89	82	2	3	23	19
McAllen- Edinburg- Mission	451	467	313	327	135	107	110	106
Midland	35	39	6	10	2	3	9	6
Odessa	49	48	8	10	2	1	10	9
San Angelo	15	15	22	20	2	3	4	3
San Antonio	713	715	357	423	57	46	168	164
Sherman- Denison	75	75	19	26	7	11	18	25
Texarkana	35	30	17	20	1	1	9	7
Tyler	57	57	46	50	6	4	18	16
Victoria	53	44	37	34	2	6	14	9
Waco	72	63	85	89	3	2	11	10
Wichita Falls	70	72	36	40	2	5	19	26
Non-metro county	845	764	479	617	84	86	156	174
Unknown	88	92	24	45	11	4	13	19
Total	8,232	7,505	3,921	4,488	853	839	1,678	1,758

Note: Provider counts are the number of base Texas Provider Identifiers (TPIs.) A provider may deliver services in more than one county, and totals sum all providers in all counties. The number of providers in each MSA, and the total number of providers, are unduplicated counts. MSAs are based on 2010 census population data.

Data source: Analytical Data Store Database, HHSC; Provider Database HHSC. Claims and encounter data prepared by HHSC Center for Analytics and Decision Support.

Appendix C. Telemedicine, Telehealth and Home Telemonitoring Services Procedure Codes

Table 1. Telemedicine Services, Fiscal Year 2020

Procedure Code	Description	Instances Reimbursed
99213	Office/outpatient visit – established client	709,229
99214	Office/outpatient visit – established client	417,933
Q3014	Patient site facility fee	164,997
99212	Office/outpatient visit – established client	127,563
T1015	Office/outpatient visit	123,227

Table 2. Telemedicine Services, Fiscal Year 2021

Procedure Code	Description	Instances Reimbursed
99213	Office/outpatient visit – established client	1,112,652
99214	Office/outpatient visit – established client	703,007
T1015	Office/outpatient visit	283,220
99212	Office/outpatient visit – established client	253,042
Q3014	Patient site facility fee	123,227

Table 3. Telehealth Services, Fiscal Year 2020

Procedure Code	Description	Instances Reimbursed
92507	Speech/language therapy	522,661
97530	Therapeutic activities	180,963
T1017	Targeted case management (TCM), 15 minutes	147,168
H2014	Skills training, 15 minutes	109,886
90837	Psychotherapy, 1 hour	99,835

Table 4. Telehealth Services, Fiscal Year 2021

Procedure Code	Description	Instances Reimbursed
92507	Speech/language therapy	1,007,184
92508	Speech/language therapy, group	284,720
97530	Therapeutic activities	268,486
T1017	Targeted case management, 15 minutes	260,044

Procedure Code	Description	Instances Reimbursed
90837	Psychotherapy, 1 hour	182,068
All Other	Other procedure codes reimbursed at least once	896,155

Table 5. Home Telemonitoring Services, Fiscal Year 2020

Procedure Code	Description	Instances Reimbursed
99423	Office/outpatient visit	129,357
S9110	Home telemonitoring of patient, including equipment	120,446
99444	Weekly review of patient data	106,228
99422	Office/outpatient visit	41,546
99421	Office/outpatient visit	37,580
All Other*	Other procedure codes reimbursed at least once	12,302

*Note: This category includes Medicare procedure codes that are not Texas benefits but are being billed and paid by Medicaid.

Table 6. Home Telemonitoring Services, Fiscal Year 2021

Procedure Code	Description	Instances Reimbursed
S9110	Home telemonitoring of patient, including equipment	129,677
99423	Office/outpatient visit	122,676
99422	Office/outpatient visit	32,083
99421	Office/outpatient visit	26,332
99091	Collection and interpret of patient data	15,693
All Other *	Other procedure codes reimbursed at least once	37,247

*Note: This category includes Medicare procedure codes that are not Texas benefits but are being billed and paid by Medicaid.

Table 7. Telephone Services, Fiscal Year 2020

Procedure Code	Description	Instances Reimbursed
99442	Office/outpatient visit	34,656
99443	Office/outpatient visit	23,251
99441	Office/outpatient visit	19,210

There were three telephone procedure codes used in reimbursed claims.

Table 8. Telephone Services, Fiscal Year 2021

Procedure Code	Description	Instances Reimbursed
99442	Office/outpatient visit	57,373
99441	Office/outpatient visit	34,754
99443	Office/outpatient visit	34,515

There were three telephone procedure codes used in reimbursed claims.

Note: Full procedure code descriptions are withheld due to American Medical Association (AMA) copyright.

Data sources: Analytical Data Store Database, HHSC; Provider Database HHSC. Claims and encounter data prepared by HHSC Center for Analytics and Decision Support.