MILLIMAN REPORT

Actuarial Examination of the Cost and Effort to Deliver Healthcare Services Through Telehealth

Analysis Supporting Preserve Telehealth Access Act of 2023 (Chapter 382/Senate Bill 534, 2023)

Prepared for Maryland Health Care Commission

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Executive summary

BACKGROUND

Chapter 382 (Senate Bill 534), Preserve Telehealth Access Act of 2023, passed by the Maryland General Assembly in 2023 requires the Maryland Health Care Commission (MHCC) to conduct a study and make recommendations regarding the delivery of health care services through telehealth, including payment parity for the delivery of healthcare services through audiovisual and audio-only telehealth technologies. Milliman was competitively selected by MHCC to provide actuarial services that compare claim amounts and clinical intensity of health care services delivered in-person and through telehealth.

Milliman reviewed relevant literature and completed an analysis of private payer, Medicaid, and Medicare data from MHCC's Maryland's All Payer Claims Database (APCD).

ANALYSIS OVERVIEW

From 2019 to 2023, the Maryland APCD includes claims data for approximately 3.0 million to 3.5 million individuals per year. This includes those with commercial insurance (excludes self-insured ERISA data and federal employees), Medicare Advantage, or Medicaid managed care health plans.

To compare reimbursement of services delivered in person and through telehealth, Milliman used the average cost per relative value unit (RVU). With input from physicians, the Centers for Medicare & Medicaid Services (CMS) determines RVUs representing the work, practice expense, and malpractice costs for each CPT®/HCPCS[1] in the Medicare Physician Fee Schedule (MPFS). This analysis uses RVUs as a measure of the clinical intensity of services.

The average cost per RVU metric represents the amount reimbursed to providers for services rendered, after normalizing for the clinical intensity of services. The analysis was performed on services categorized in the Evaluation and Management (E&M) category of the Restructured Berenson-Eggers Type of Service Classification System (RBCS). The RBCS provides a nomenclature grouping of clinically meaningful categories and subcategories for Medicare Part B services. Milliman summarized medical claims by year (2019-2023), by practice location (rural or urban counties as defined by the Maryland State Department of Planning), whether a provider is a primary care provider (PCP), and RBCS subcategories. The analysis compares the average cost per RVU of telehealth services to in person services. The clinical intensity of services delivered in person and through telehealth were analyzed similarly using the average RVU per service.

In addition to our actuarial analysis, a literature review was also conducted to examine the difference in cost and clinical intensity of providing services in person and through telehealth from a provider perspective.

There are limitations for the use and interpretation of this analysis. These include limitations related to service mix and geography mix variations impacting reimbursement levels. Please see the limitation section of the report for more details.

KEY FINDINGS

Cost of telehealth services compared to in-person services

A review of literature has shown that evidence comparing the cost of telehealth to in-person services is inconclusive. The costs of telehealth services relative to in-person services can vary depending on site of care, geographic location, condition being treated, and type of provider. Systematic literature reviews have found few studies that

[1] CPT copyright 2024 American Medical Association. All rights reserved. Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein. CPT is a registered trademark of the American Medical Association. Healthcare Common Procedure Coding System (HCPCS) is a collection of standardized codes that represent medical procedures, supplies, products, and services.

report costs of providing telehealth services from the U.S. provider perspective. These reviews also note significant variation in how costs were defined and reported, making it difficult to determine general cost-effectiveness.

In this study, the reimbursement level of audiovisual and audio-only telehealth services was compared to the reimbursement level of in-person visits for addressing the question regarding the cost of telehealth services. Maryland's telehealth payment parity law requires insurers, nonprofit health service plans, and health maintenance organizations to reimburse for telehealth services at the same rate as in-person services from July 1, 2021 to June 30, 2025. The comparison of reimbursement level in this study is presented at the RBCS subcategory level, not at the more granular service code level. Differences in reimbursement levels may be due to service mix and the limitations described in this report.

Audiovisual telehealth services were reimbursed at a higher level than in-person visits for the two subcategories in the RBCS E&M category with the highest data volume: Behavioral Health Services (112.9 percent) and Office/Outpatient Services (107.5 percent). The percentage values represent the relative reimbursement levels of telehealth services compared to in-person services in urban and rural locations by service category. Values above 100 percent indicate that telehealth services are reimbursed at a higher rate than in-person services, and values less than 100 percent indicate that telehealth services are reimbursed at a lower rate than in-person services.

The level of reimbursement between urban locations and rural locations for audiovisual telehealth services varies; however, this difference was not consistent among service categories. For Behavioral Health Services, the relative reimbursement level for urban locations did not vary much from the reimbursement level for rural locations. For Office/Outpatient Services, the relative reimbursement level for urban locations was much lower than the relative reimbursement level for rural locations (107.5 percent for urban locations compared to 132.2 percent for rural locations).

Audio-only telehealth services were reimbursed either at a similar level as that for audiovisual services, in the case of Office/Outpatient Services (107.5 percent for audiovisual compared to 107.3 percent for audio-only), or at a lower level than that for audiovisual services, in the case of Behavioral Health Services (112.9 percent for audiovisual compared to 107.3 percent for audio-only).

The change in relative reimbursement level from 2019 to 2023 varied by service category and location. For urban locations, the relative reimbursement level steadily increased from 2019 to 2023 for Behavioral Health Services (from 101.1 percent in 2019 to 112.9 percent in 2023). However, the relative reimbursement level decreased from 2019 to 2022 for Office/Outpatient Services (from 132.4 percent in 2019 to 104.6 percent in 2022). For rural locations, the relative reimbursement level for both service categories increased from 2021 to 2023 (from 105.2 percent to 110.3 percent for Behavioral Health Services and from 117.9 percent to 132.2 percent for Office/Outpatient Services).

The direction of the difference in relative reimbursement level between primary care providers (PCPs) and non-PCPs varied by service category but was consistent by location. For Behavioral Health Services provided as audiovisual telehealth services, the relative reimbursement level for PCPs was lower than the reimbursement level for non-PCPs in both urban and rural locations (104.2 percent for PCPs compared to 113.1 percent for non-PCPs in urban locations and 94.3 percent for PCPs compared to 110.5 percent for non-PCPs in rural locations). For Office/Outpatient Services provided as audiovisual telehealth services, the relative reimbursement level for PCPs was higher than the reimbursement level for non-PCPs in both urban and rural locations (109.6 percent for PCPs compared to 105.4 percent for non-PCPs in urban locations and 140.9 percent for PCPs compared to 107.8 percent for non-PCPs in rural locations).

The difference in relative reimbursement levels for audiovisual telehealth services among different types of behavioral health providers was directionally consistent between urban and rural locations. The relative reimbursement level of audiovisual telehealth services for all types of providers was greater than 100 percent, except for psychiatrists in rural locations.

Variation in intensity of telehealth services compared to in-person services

A review of literature has shown that evidence related to time spent delivering a service via telehealth relative to in-person care is mixed and varies on the type of service being delivered. For example, assessing injuries or other physical symptoms has been found to take more time over video than in person. Several studies have reported

shorter encounter length for telehealth for pre- and post-operative services. In two surveys administered to clinicians, the majority of respondents reported that telehealth visits took the same amount of time relative to in-person visits.

The level of clinical intensity of audiovisual and audio-only telehealth services was also compared to the level of clinical intensity of in-person visits using APCD data.

Audiovisual telehealth services were provided at a lower level of clinical intensity than in-person visits for Behavioral Health Services and Office/Outpatient Services (92.4 percent for Behavioral Health Services and 83.4 percent for Office/Outpatient Services for urban locations and 94.6 percent and 77.1 percent for rural locations).

The difference in level of clinical intensity between urban locations and rural locations was small. For Behavioral Health Services, the relative clinical intensity level for audiovisual telehealth services was 92.4 percent for urban locations and 94.6 percent for rural locations, with a 1.2 percentage point difference.

The level of relative clinical intensity for audio-only telehealth services is directionally inconsistent when compared with the level of relative clinical intensity for audiovisual telehealth services. For Behavioral Health Services provided in urban locations, the level of relative clinical intensity for audio-only telehealth services was less than the level of relative clinical intensity for audiovisual telehealth services. For Office/Outpatient Services, the level of relative clinical intensity for audio-only telehealth services was similar to the level of relative clinical intensity for audiovisual telehealth services for urban locations.

The relative clinical intensity of audiovisual and audio-only telehealth services has been decreasing in recent years for Behavioral Health Services and Office/Outpatient Services.

PCPs provided services consistently at lower relative clinical intensity than non-PCPs in both urban and rural locations for Behavioral Health Services and Office/Outpatient Services (75.1 percent for PCPs compared to 91.2 percent for non-PCPs for Office/Outpatient Services and 78.8 percent for PCPs compared to 92.7 percent for non-PCPs for Behavioral Health Services in urban locations; and 70.3 percent for PCPs compared to 95.7 percent for non-PCPs for Office/Outpatient Services and 81.4 percent for PCPs compared to 94.8 percent for non-PCPs for Behavioral Health Services in rural locations).

The relative clinical intensity level of audiovisual telehealth services for all types of providers was less than 100 percent, except for psychiatrists in rural locations.

Introduction

Maryland law requires carriers to reimburse providers for services rendered via telehealth, including audio-only telehealth, the same as if the service was provided in person. This requirement, among others, was enacted in 2021 to ensure access to care in response to the COVID-19 Public Health Emergency (PHE); subsequent legislation in 2023 extended the requirement through June 30, 2025.

Chapter 382/Senate Bill 534, Preserve Telehealth Access Act of 2023 passed by the General Assembly in 2023 requires MHCC to conduct a study answering the following questions:

- Is it more or less costly for health care providers to deliver health care services through telehealth?
- Does the delivery of health care services through telehealth require more or less clinical time and clinical intensity on the part of the health care provider?
- Address any other issues related to telehealth as determined necessary by the Commission.

Milliman was competitively selected by MHCC to provide actuarial services that compare claim amounts and clinical intensity of health care services delivered in-person and through telehealth using commercial payer, Medicaid, and Medicare data from its APCD. MHCC will use findings in this report to inform their development of recommendations regarding fee levels for the delivery of medical and behavioral health services through audiovisual and audio-only telehealth modalities.

Study approach and limitations

STUDY APPROACH

Milliman used a two-pronged approach to evaluate costs and clinical efforts involved in the delivery of audio-only and audiovisual telehealth services. Milliman performed a literature review to determine if it is more or less costly for health care providers to deliver health care services through telehealth and whether the delivery of healthcare services through telehealth requires more or less clinical time and intensity on the part of the provider. This information is supplemented with an analysis of claims data from Maryland's APCD to compare the intensity and reimbursement of services performed in person and via telehealth.

The analysis uses RVUs to represent the intensity of services provided in person and by telehealth. Developed by the Centers for Medicare and Medicaid Services (CMS), RVUs represent the work, practice expense, and malpractice liability involved with performing a service. RVUs per service measures the intensity of the services provided, and the allowed cost per RVU normalizes the reimbursement for the intensity of the services provided. The RVUs and claims were aggregated and summarized by service categories (behavioral health or primary care provider), urban and rural, and whether a service was provided by audio only, audiovisual, or in person. The mix of services under each service category, provider, region, and delivery type combination reflects the mix of services provided and will be reflected in the summarized results.

LIMITATIONS

This analysis compares telehealth and in-person visits using RVUs. RVUs at the procedure code level are the same for in-person and telehealth services. This methodology inherently assumes that the work, practice expense, and malpractice of each service is the same whether it is delivered in a telehealth or in-person setting.

While the level of reimbursement for a certain service in MPFS is generally commensurate with the cost of providing the service from healthcare provider's perspective, it is not an exact proxy. The analysis of historical reimbursement levels, requested by MHCC, is intended to provide insight into how payers view the cost of providing telehealth services, compared to the cost of in-person services. Determining the cost to the provider to perform each service would require a time and expense study and was beyond the scope of this analysis.

Using the RVUs per service grouped according to the RBCS category level enabled a comparison of the intensity and reimbursement of the services provided in person and by telehealth. However, there are several sources of variation that may cause the differences between in-person and telehealth visits.

- Service mix – Not all of the services provided in person are provided in audiovisual and audio-only settings. Limiting the study to only the services that are provided in audiovisual and audio-only services would not provide a full review of current reimbursement situations and was not performed.
- Carrier reimbursement mix – A carrier's relative reimbursement level for telehealth services in a particular service category may differ from another service category. An "overall" reimbursement level for all RBCS service categories for each carrier is based on the mix of services for the carrier. A mix of services for one carrier may differ from the mix of services for another carrier, and a comparison of the overall reimbursement level by carrier may not reflect the reimbursement level by carrier for each service category.
- Provider mix – It is possible that providers may provide different sets of services in person or by telehealth for each service category. The underlying mix of provider types in each service category may differ, causing underlying variation between the in-person and telehealth visits. A detailed review of provider mix impact was beyond the scope of this analysis.
- Area mix – It is possible that certain providers are being reimbursed at a more favorable rate for telehealth services than other providers. If these providers are concentrated in a certain area (for example, in areas with few providers that provide in-person visits), then the comparison of reimbursement levels may be skewed. This analysis does not account for such situations and instead is a summary of the reimbursement level as a whole.

Services with procedure codes (CPT®[2] and HCPCS codes) that do not have RVUs assigned in the MPFS were excluded from the analysis. The exclusion impacts applied behavior analysis (ABA) services, a part of services provided under the Behavioral Health Services service category. All other services in the RBCS E&M category were included in the analysis.

The costs in 2019 through 2022 for services provided by Kaiser Permanente were imputed using Kaiser Permanente's cost data in 2023. An average cost per RVU was calculated for each type of service at a granular level using the 2023 data, and the average cost per RVU adjusted for trend was used in conjunction with service volume to arrive at the imputed costs in 2019 through 2022.

Milliman performed a limited review of the data used directly in our analysis for reasonableness and consistency and did not identify material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent.

Methodology

The study included data from MHCC's APCD for private payers, Maryland Medicaid, and Medicare to conduct quantitative analysis. The APCD includes enrollment, provider, and claims data for Maryland residents enrolled in private insurance, Medicare Advantage, Medicare fee-for-service, and Medicaid managed care organizations. Data from 2019 through 2022 was used for Medicare fee-for-service and Medicaid managed care and from 2019 through the third quarter of 2023 for private payers, which include Aetna Health & Life Insurance Company; CareFirst BlueCross BlueShield, Inc.; CIGNA Health and Life Insurance Company; Kaiser Foundation Health Plan of The Mid-Atlantic States, Inc.; NAMSI Life and Health Insurance Company; Optimum Choice, Inc.; United Healthcare of the Mid-Atlantic, Inc.; and United Healthcare Insurance Company.

Certain elements in the claims data, such as CPT[3] and HCPCS codes, modifiers, place of service (POS) codes, and actual cost gross of member cost sharing (allowed cost) were used in the analysis. The allowed cost reported in the Medicaid managed care data is an imputed amount calculated by a vendor hired by the state and represents

[2] Procedure codes include the following: Current Procedural Terminology (CPT) system, developed by the American Medical Association (AMA), is used to describe tests, surgeries, evaluations, and any other medical procedure performed by a healthcare provider on a patient. Healthcare Common Procedure Coding System (HCPCS) is a collection of standardized codes that represent medical procedures, supplies, products and services.

[3] Ibid.

payment amounts according to the Maryland Medicaid fee schedule. Claims data was excluded for services provided to individuals residing outside of the state and performed by providers whose practice location was not in Maryland.

The analysis was performed on audiovisual/audio-only telehealth and in-person visits defined by a list of CPT and HCPCS codes provided by MHCC. The codes correspond to the services included in the E&M category. The RBCS provides a nomenclature grouping of clinically meaningful categories and subcategories for Medicare Part B services. Subcategories in the E&M category are represented in Tables 1 through 4. Audiovisual and audio-only telehealth services were identified using modifiers and POS codes provided by MHCC and obtained from payers' public facing websites. Provider types were identified using taxonomy codes provided by MHCC. PCPs included physicians, nurse practitioners, and physician assistants with specialties such as family practice, general internal medicine, pediatrics, and general practice.

Services provided in urban and rural locations were identified using ZIP Codes of providers rendering service. ZIP Codes were mapped to urban or rural locations based on a definition of rural location provided by the Maryland Office of Rural Health, which recognized 18 of 24 counties as rural.[4] The mapping was refined using a summary of 2020 Census urban and rural population by jurisdiction provided by the Maryland Department of Planning.[5]

RVUs assigned to CPT and HCPCS codes were used to measure the clinical intensity of services provided in audiovisual/audio-only telehealth and in-person visits. The RVUs are published in the MPFS annually. The RVUs were aligned with the year the telehealth services and in-person visits were performed.

RVUs are made up of three components: work, practice expense (PE), and malpractice. CMS develops PE RVUs specific to the facility and non-facility settings. Facility PE RVUs are used for services performed in inpatient or outpatient hospital settings, emergency rooms, skilled nursing facilities, or ambulatory surgical centers. The non-facility PE RVUs are used for services furnished in all other settings. The POS codes recorded in claims were used to assign facility and non-facility RVUs. CMS also uses a geographical practice cost index (GPCI) to make payment adjustments according to locality. Adjustments for GPCI were not included in the analysis.

Among CPT and HCPCS codes provided by MHCC were codes that did not have meaningful RVUs assigned for the purpose of our analysis. These were services that were either missing from the MPFS or assigned an RVU of zero and were excluded from the analysis.

Material impact exists related to excluded services in the Behavioral Health category related to ABA therapy services. The MPFS does not contain RVUs for ABA therapy services in the 2019-2023 payment years.

The allowed cost per RVU and number of RVUs per service were based on allowed costs and stratification type assigned in the MPFS. The stratification type includes the following:

- Payer type (private insurance, Medicare fee-for-service, and Medicaid managed care)
- Payment year
- RBCS category, subcategory, and family
- Provider type
- Service type (audiovisual, audio-only, and in-person)

There was one exception to using actual allowed costs from the APCD database. The allowed costs in the Kaiser Permanente data cannot be relied upon in payment years other than 2023. For 2019-2022 payment years, the rural and urban allowed costs were imputed using actual 2023 allowed cost per RVU by CPT and HCPCS codes trended back to appropriate payment years, along with the number of RVUs from actual data. The imputed allowed cost per RVU in those payment years provides a reasonable basis for developing allowed cost per RVU for all private insurance payers in composite.

[4] Maryland.gov (July 2024). Maryland State Office of Rural Health. About Us. Office of Population Health Improvement. Retrieved from: https://health.maryland.gov/pophealth/Pages/Rural-health.aspx

[5] Maryland.gov. Urban and Rural Areas. Maryland State Data & Analysis Center. Retrieved from: https://planning.maryland.gov/MSDC/Pages/census/Census2020/2020-Census-urban_rural.aspx

Findings

STUDY ITEM #1- COST OF TELEHEALTH SERVICES

Cost of telehealth services from a provider perspective

The costs of clinical effort, malpractice insurance, personnel, and practice expenses (overhead) such as rent, supplies, and utilities may be taken into account when determining reimbursement rates for healthcare services.

There are some costs that are expected to be fixed regardless of care modality. For example, Milliman could not find any evidence from peer reviewed literature that suggests malpractice insurance should differ between care modalities. However, it is possible that telehealth providers are rated differently depending on the type of patient and care necessary for telehealth. Care modality has also not historically been used when determining clinical effort when coding for outpatient services.[6,7] However, that may be because telehealth was relatively rare prior to the pandemic.

Telehealth services do not require medical supplies, but there may be other indirect costs specific to telehealth services, including digital tools, software subscriptions, computers, webcams, equipment maintenance, technical support for staff and patients, and setting up and maintaining HIPAA compliance. Though some practice expenses would be reduced for telehealth only companies, hybrid clinics would still need to cover practice costs for in-person care.

Evidence comparing the cost of telehealth to in-person services is inconclusive. The costs of telehealth services relative to in-person services can vary depending on site of care, geographic location, condition being treated, and type of provider.[8,9,10] Systematic literature reviews have found few studies that report costs of providing telehealth services from the U.S. provider perspective.[11,12] These reviews also note significant variation in how costs were defined and reported, making it difficult to determine general cost-effectiveness.[13] In a review of 36 economic analyses ending in 2009, including U.S. and international studies, 17 studies (49 percent) found that telehealth services were more costly from a health system perspective and 16 studies (46 percent) found that telehealth services were less costly.[14] A more recent literature review focused on behavioral health services found that 60 percent of studies reported that telepsychiatry was less expensive and 32 percent found that telepsychiatry was more expensive.[15]

A study that compared the costs of traditional in-person follow up visits at urology and general surgery clinics found that from the provider perspective, the costs of a physician-led visit were the same regardless of care modality.[16] This study also found that physician time was the most expensive component of visit costs, contributing to 70 percent of costs for an in-person visit and 100 percent of the telehealth visit. Telehealth visits conducted by a physician's assistant were 64 percent less expensive than physician-led telehealth visits, suggesting that cost savings may come from the cost of labor, not the treatment modality. This study did not include the costs of implementing a telehealth program at the clinic.

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[6] Ellimoottil, C. (May 2021). Understanding the Case for Telehealth Payment Parity. *Health Affairs*. Retrieved from: https://www.healthaffairs.org/content/forefront/understanding-case-telehealth-payment-parity

[7] AAFP. Coding for Evaluation and Management Services: Answers to Common Questions. Retrieved from: https://www.aafp.org/family-physician/practice-and-career/getting-paid/coding/evaluation-management.html

[8] Portney, D., Ved, R., Vahagn, N. et al. (October 2020). Understanding the cost savings of video visits in outpatient surgical clinics. Mhealth. Retrieved from: https://pubmed.ncbi.nlm.nih.gov/33437830/

[9] Naslund J.A., Mitchell, L.M., Joshi, U., et al. (2022). Economic evaluation and costs of telepsychiatry programmes: A systematic review. *Journal of Telemedicine and Telecare* 2022; 28(5):311–330; doi: 10.1177/1357633x20938919

[10] Wade, V., Kamon, J., Elshaug, A., & Hiller, J. (2010). A systemic review of economic analyses of telehealth services using real time video communication. *BMC Health Services Research.*

[11] Naslund, op. cit.

[12] Wade, op. cit.

[13] Naslund, op. cit.

[14] Wade, op. cit.

[15] Naslund, op. cit.

[16] Portney, op. cit.

RVUs for outpatient office visits do not vary by care modality, though there may be differences across these factors by modality. A 2022 study that estimated telehealth specific practice RVUs (e.g., overhead costs) for outpatient office visits ranging from 20 to 39 minutes at their clinic found that virtual video services were 0.46 RVUs lower than the current RVUs assigned by CMS to these services. These results suggest that telehealth requires lower practice expenses than in-person care.[17] A comparison of telehealth and in-person behavioral health services and payment in 2020 in a rural multi-site study found that services provided by telehealth had slightly lower RVUs per encounter (2.92 versus 3.15) and lower total cost per patient than in-person services ($228.40 versus $251.40). The lower average RVUs for telehealth were associated with shorter therapy sessions and less expensive services provided via telehealth. Lower costs and RVUs were not associated with clinician type.[18]

More research is needed to quantify implementation costs. A financial analysis of revenue scenarios for a tele-emergency program in South Dakota estimated implementation costs between $17,000 and $50,000.[19] Costs included hardware and software installation, such as cameras, computers, monitors, wireless internet connectivity and specialized digital medical equipment. The cost to train staff was not included in this study.

Relative reimbursement of telehealth services compared to in-person services

In this study, the analysis was performed on services categorized in the Evaluation and Management (E&M) category of the Restructured Berenson-Eggers Type of Service Classification System (RBCS). The RBCS provides a nomenclature grouping of clinically meaningful categories and subcategories for Medicare Part B services. The reimbursement level of audiovisual and audio-only telehealth services was compared to the reimbursement level of in-person visits for addressing the question regarding the cost of telehealth services. The reimbursement level was compared at a granular level and aggregated by service category, location, and provider type. Statistical testing was performed to validate that the average cost per RVU for audiovisual and audio-only telehealth services, which is not identical to the average cost per RVU for in-person visits (i.e., relative reimbursement level of audiovisual and audio-only telehealth services) is not 100 percent. The results presented below are statistically significant at a 0.05 significance level. The relative reimbursement levels that were deemed not to be statistically significant were masked with “NA” in the table.

Table 1 and Table 2 describe the relative reimbursement levels of telehealth services compared to in-person services in urban and rural locations by service category. Values above 100 percent indicate that telehealth services are reimbursed at a higher rate than in-person services, and values less than 100 percent indicate that telehealth services are reimbursed at a lower rate than in-person services.

[17] Aremu, E., Heffernan, J. & Kvedar, J. (2022). The Difference in Practice Expense Costs Between Telehealth and In-office Care Could Serve as the Basis for Differential Reimbursement Structures. *Telemedicine and E-health*. Retrieved from: https://www.liebertpub.com/doi/epub/10.1089/tmj.2021.0229

[18] Ward, M., Bhagianath, D, Merchant K. et al. (November 2023). Comparison of Telehealth and In-Person Behavioral Health Services and Payment in a Large Rural Multisite Usual Care Study. *Telemedicine and E-health.*

[19] MacKinney, A., Ullrich F., & Bell, A. (December 2015). The Business Case for Tele-emergency. *Telemedicine and E-health.*

TABLE 1. RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - URBAN, 2023

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	1,225,893	894	112.9%	107.3%
Care Management/Coordination	1,110	39	125.4%	NA
Critical Care Services	11	0	NA	NA
E&M – Miscellaneous	66,656	614	67.7%	72.1%
Emergency Department Services	164	0	NA	NA
Home Services	219	2	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	1,271	7	101.1%	NA
Nursing Facility Services	199	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	692,444	77,185	107.5%	107.3%
Ophthalmological Services	4	0	NA	NA

TABLE 2. RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - RURAL, 2023

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	69,908	155	110.3%	NA
Care Management/Coordination	66	1	NA	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	1,817	0	118.1%	NA
Emergency Department Services	1	0	NA	NA
Home Services	9	1	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	28	0	NA	NA
Nursing Facility Services	2	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	38,672	1,384	132.2%	94.1%
Ophthalmological Services	0	0	NA	NA

Comparing services at the same level of clinical intensity, audiovisual telehealth services were reimbursed at a higher level than in-person visits, with the exception of E&M - Miscellaneous Services in urban locations. The two service categories with highest data volume—Behavioral Health Services and Office/Outpatient Services—show the relative reimbursement level at greater than 100 percent: 112.9 percent and 107.5 percent respectively for urban locations and 110.3 percent and 132.2 percent respectively for rural locations.

The difference in level of reimbursement between urban locations and rural locations was not consistent among service categories. For Behavioral Health Services, the relative reimbursement level for urban locations did not vary much from the reimbursement level for rural locations: 112.9 percent and 110.3 percent respectively. However, for Office/Outpatient Services, the relative reimbursement level for urban locations was much lower than the relative reimbursement level for rural locations: 107.5 percent and 132.2 percent respectively. The driver for the much higher relative reimbursement level for rural locations is the relative reimbursement level for services provided by PCPs. The

relative reimbursement level for PCPs was much higher than the relative reimbursement level for non-PCPs for all families under the Office/Outpatient Services subcategory, such as Office E&M – Established Visits and Office E&M - New Visits.

Audio-only telehealth services were provided less frequently than audiovisual telehealth services. Similar to audiovisual telehealth services, the two service categories with highest data volume are Behavioral Health Services and Office/Outpatient Services. For services provided in an urban location, the relative reimbursement level of audio-only services is at a similar level as that for audiovisual services in the case of Office/Outpatient Services, or at a lower level than that for audiovisual services in the case of Behavioral Health Services. For services provided in a rural location, the relative reimbursement level of audio-only services is also lower than that for audiovisual services.

The relative reimbursement levels shown in Table 1 and Table 2 depict the relative reimbursement levels for services provided in 2023. The reimbursement levels for other years (2019-2022) are provided in Appendix 1.

Chart 1A, Chart 1B, and Chart 1C note the change in relative reimbursement level of audiovisual telehealth services from 2019 to 2023 for certain categories.

Using the reimbursement level grouped according to the RBCS category level enabled a comparison of the reimbursement of the services provided in person and by telehealth. However, there are several sources of variation that may cause the differences between in-person and telehealth visits including service mix, carrier reimbursement mix, provider mix, and area mix. See the limitations section for details on the sources of variation. Maryland's telehealth payment parity law requires insurers, nonprofit health service plans, and health maintenance organizations to reimburse for telehealth services at the same rate as in-person services from July 1, 2021 to June 30, 2025.

CHART 1A. CHANGE IN RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL TELEHEALTH SERVICES – BEHAVIORAL HEALTH SERVICES, 2019-2023

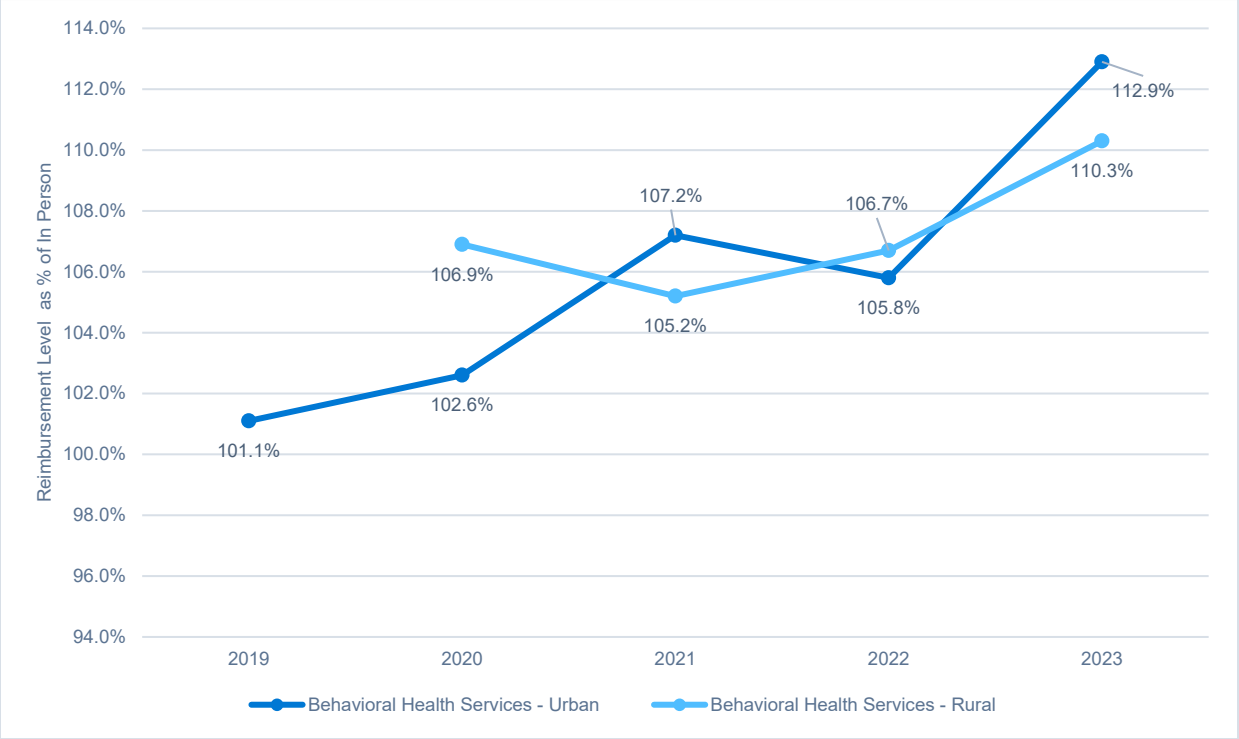
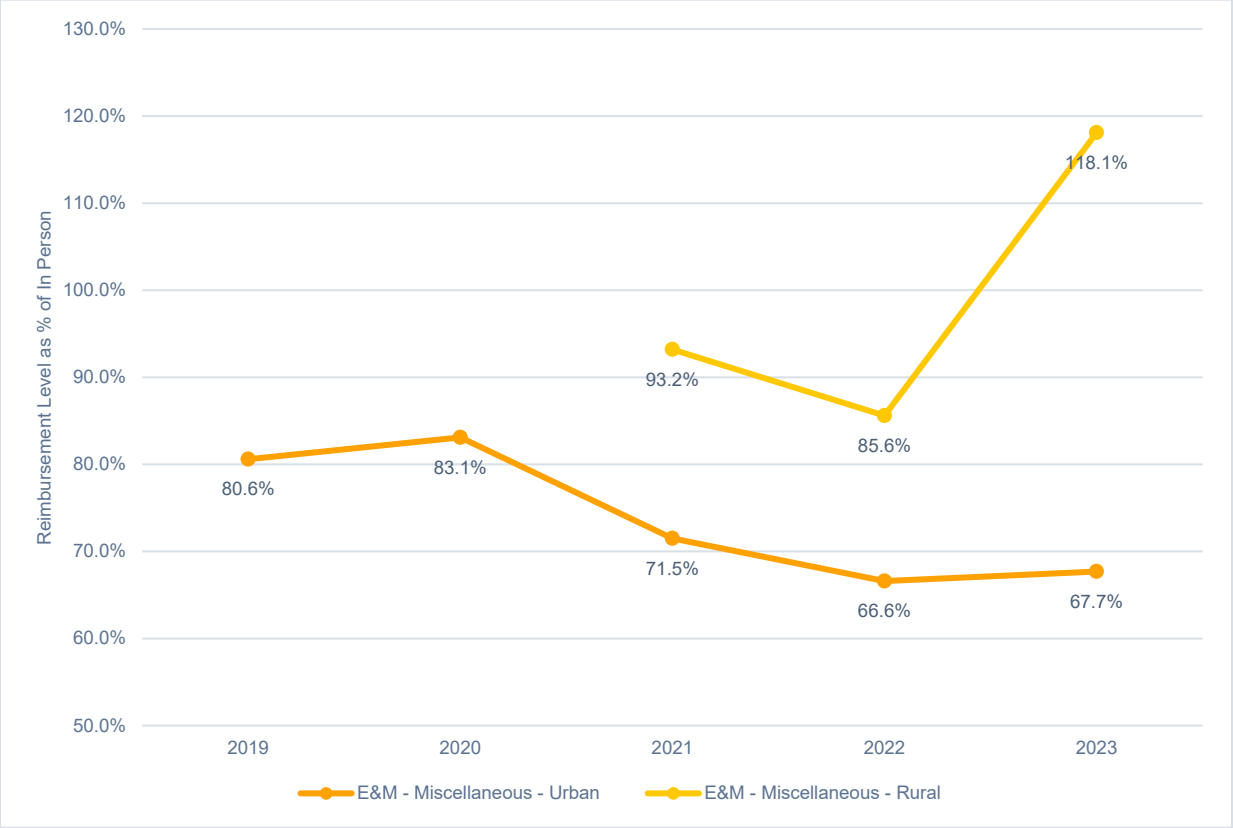


CHART 1B. CHANGE IN RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL TELEHEALTH SERVICES – OFFICE/OUTPATIENT SERVICES, 2019-2023

CHART 1C. CHANGE IN RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL TELEHEALTH SERVICES – E&M – MISCELLANEOUS, 2019-2023



The change in relative reimbursement level from 2019 to 2023 varied by service category and location. For urban locations, the relative reimbursement level increased from 2019 to 2023for Behavioral Health Services. However, the relative reimbursement level decreased from 2019 to 2022 and increased slightly from 2022 to 2023 for Office/Outpatient Services and E&M – Miscellaneous Services.

For rural locations, statistically significant results were not available for 2019 and/or 2020 for two of the three service categories. From 2021 to 2023, the relative reimbursement level for rural locations increased for all three service categories. The "No RBCS Family" is the main driver of the high level of relative reimbursement for the Office/Outpatient Services category in rural locations.

Relative reimbursement of telehealth services compared to in-person services by PCPs and non-PCPs

Chart 2 and Chart 3 characterize the relative reimbursement level of audiovisual and audio-only telehealth services provided by PCPs and non-PCPs for certain service categories in urban and rural locations.

CHART 2. RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES FOR PCP AND NON-PCP – URBAN, 2023

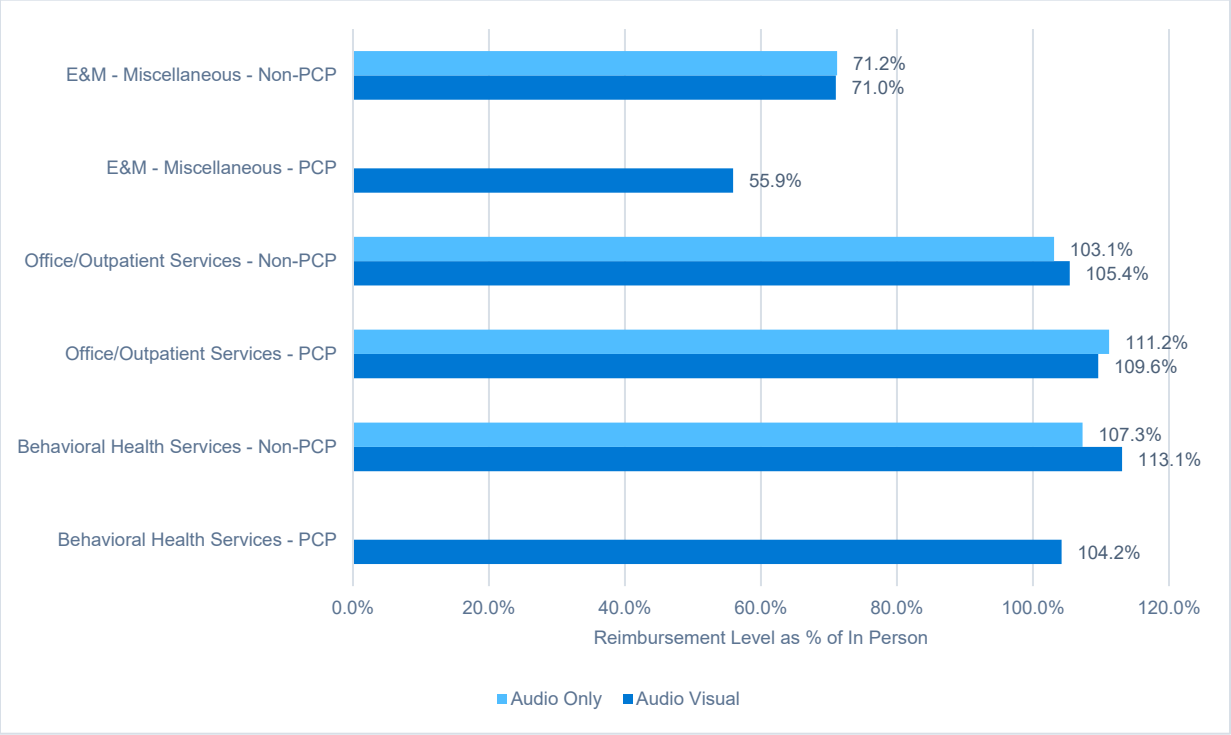
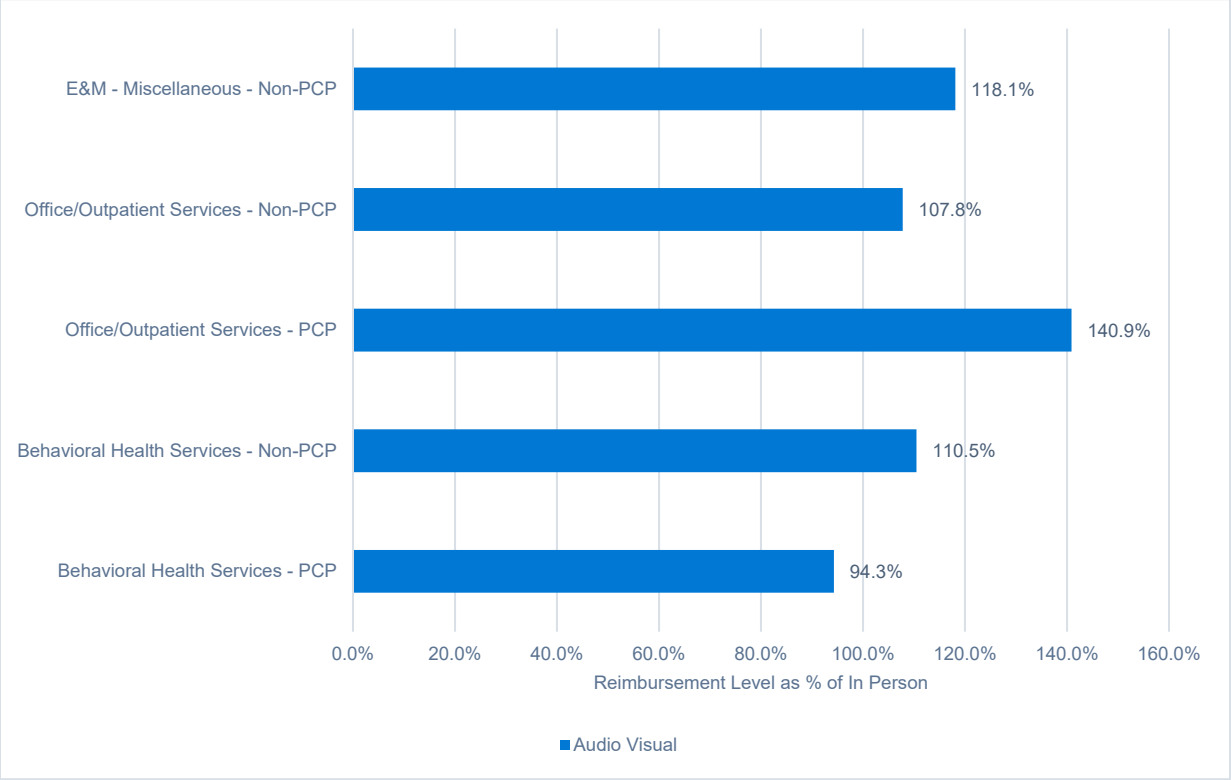


CHART 3. RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL TELEHEALTH SERVICES FOR PCP AND NON-PCP – RURAL, 2023



The direction of the difference in relative reimbursement level between PCPs and non-PCPs varied by service category but was consistent by location. For Office/Outpatient Services provided as audiovisual telehealth services, the relative reimbursement level for PCPs was higher than the reimbursement level for non-PCPs in both urban and rural locations: 109.6 percent versus 105.4 percent for urban and 140.9 percent versus 107.8 percent for rural locations. For Behavioral Health Services provided as audiovisual telehealth services, the relative reimbursement level for PCPs was lower than the reimbursement level for non-PCPS in both urban and rural locations: 104.2 percent versus 113.1 percent for urban and 94.3 percent versus 110.5 percent for rural locations. The results for audio-only services, as well as E&M – Miscellaneous Services for PCPs in rural locations, were not statistically significant and were not considered in the comparison between PCPs and non-PCPs.

Behavioral Health Services are provided by many distinct provider types that vary in training and credentials. In addition to analyzing the relative reimbursement level for PCPs and non-PCPs, the study also analyzed the relative reimbursement level for Behavioral Health Services, more specifically non-group psychotherapy, by specialty. Chart 4 and Chart 5 express the relative reimbursement level of audiovisual and audio-only telehealth services provided by specialists for non-group psychotherapy, in urban and rural locations.

CHART 4. RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES FOR NON-GROUP PSYCHOTHERAPY BY SPECIALTY – URBAN, 2023

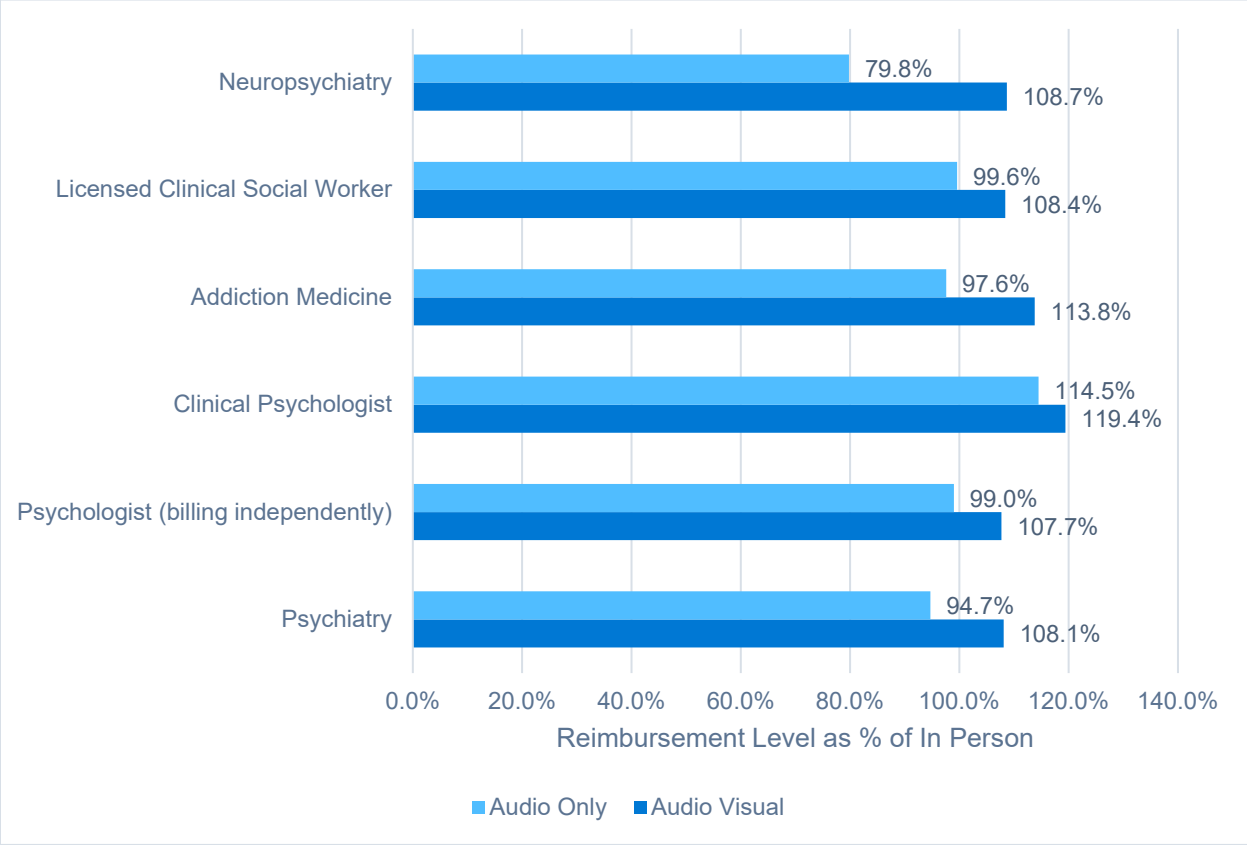
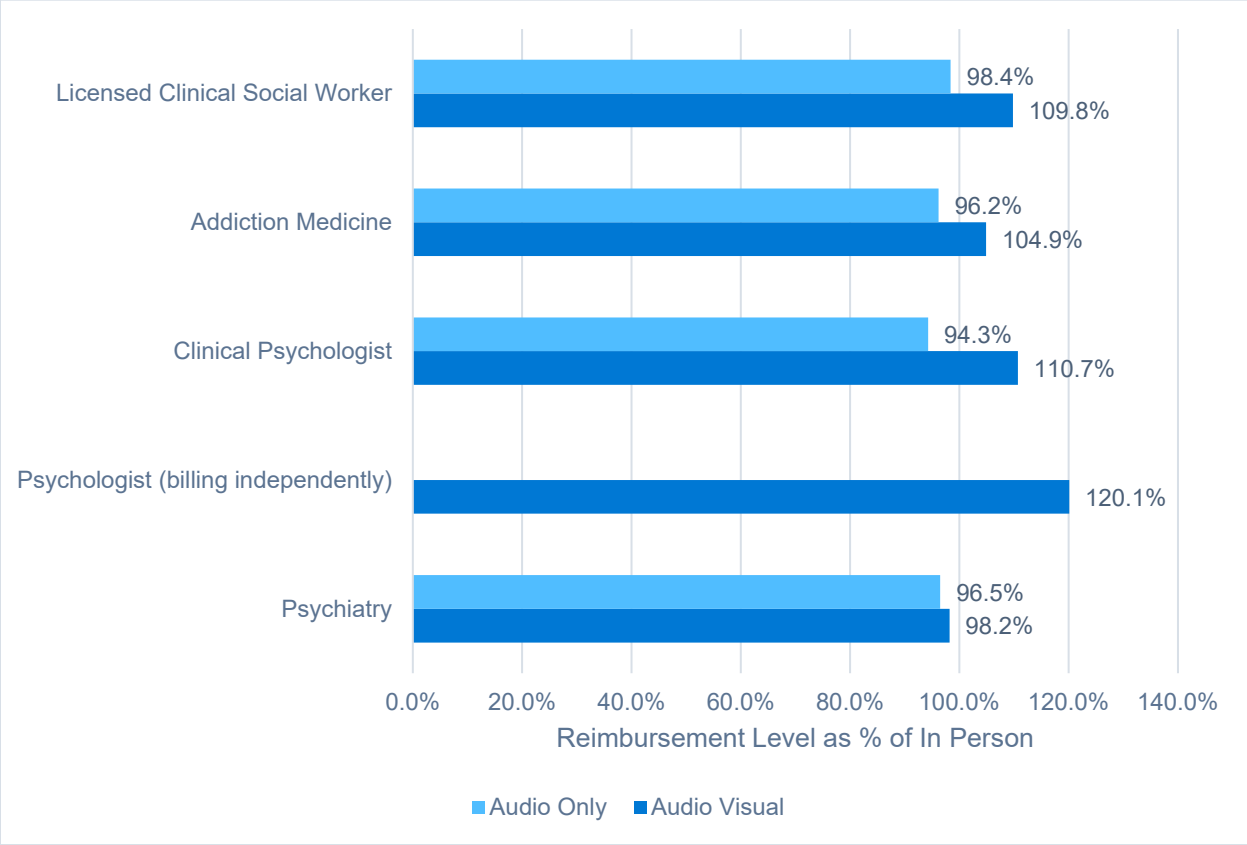


CHART 5. RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES FOR NON-GROUP PSYCHOTHERAPY BY SPECIALTY – RURAL, 2023



The difference in relative reimbursement levels for audiovisual telehealth services among different types of providers was directionally consistent between urban and rural locations. The relative reimbursement level of audiovisual telehealth services for all types of providers was greater than 100 percent, except for psychiatrists in rural locations. The relative reimbursement level for psychiatrists was lower than the relative reimbursement level for psychologists and was similar to the reimbursement level for non-psychologists, including licensed clinical social workers. Psychologists, who provide most non-group psychotherapy provided as audiovisual or audio-only telehealth services, at 55 percent of all telehealth services for non-group psychotherapy, had a higher relative reimbursement rate than that for other provider groups.

STUDY ITEM #2 - CLINICAL INTENSITY OF TELEHEALTH SERVICES

Provider time spent delivering telehealth and in-person services

Evidence related to time spent delivering a service via telehealth relative to in-person care is mixed and varies on the type of service being delivered. For example, assessing injuries or other physical symptoms has been found to take more time over video than in person.[20] A study that compared visit time in outpatient urology and general surgery clinics also found that on average, physicians spent slightly more time with patients over video than in person (13.8 minutes versus 10.2 minutes), but physician-assistant-led (PA) visits took slightly less time (9.7 minutes).[21] This study did not address possible differences between the types of cases a physician would see versus PA. It is possible that the difference in visit time between physicians and PAs was driven by physicians seeing more complex cases.

[20] Benger, J., Noble, S., Coast, J. et al. (July 2004). The safety and effectiveness of minor injuries telemedicine. *Emergency Medicine Journal*. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1726357/

[21] Portney, op. cit.

Several studies have reported shorter encounter length for telehealth for pre- and post-operative services.[22,23,24] For example, providers at an orthopedic clinic in Massachusetts spent 8.61 minutes per shoulder surgery patient for a virtual post-operative visit and 17.09 minutes per patient for an in-person visit.[14] Cognitive behavioral therapy telehealth visits have also been found to be 10 to 15 minutes shorter than in-person visits.[25,26] In two surveys administered to clinicians, the majority of respondents reported that telehealth visits took the same amount of time relative to in-person visits.[27,28] Other time variables that have not been well described in the literature include time spent troubleshooting technology with the patient and the initial learning curve for the provider.

In this study, the level of clinical intensity of audiovisual and audio-only telehealth services was compared to the level of clinical intensity of in-person visits for addressing the question regarding the clinical intensity of telehealth services. The level of clinical intensity was compared at a granular level and aggregated by service category, location, and provider type. The relative level of clinical intensity of audiovisual and audio-only telehealth services is expressed as a percentage of the level of clinical intensity of in-person visits. The level of clinical intensity was determined using average RVU per service. The relative clinical intensity levels that were deemed not to be statistically significant were masked with “NA” in the table.

Clinical intensity of visits for urban and rural locations

This analysis uses RVUs as a measure of the clinical intensity of services. Table 3 and Table 4 represent the level of clinical intensity for audiovisual and audio-only telehealth services compared to the level of clinical intensity for in-person visits for providers providing care in urban and rural locations, respectively.

[22] Soegaard Ballester, J.M., Scott, MF, Owei, L., et al. (April 2018). Patient preference for time-saving telehealth postoperative visits after routine surgery in an urban setting. *Surgery*. Retrieved from: https://pubmed.ncbi.nlm.nih.gov/29398042/

[23] Mullen-Fortino, M., Rising, K.L., Duckworth, J., et al. (February 2019). Presurgical Assessment Using Telemedicine Technology: Impact on Efficiency, Effectiveness, and Patient Experience of Care. *Telemedicine Journal and E-health*. Retrieved from: https://pubmed.ncbi.nlm.nih.gov/30048210/

[24] O'Donnell, E.A., Haberli, J.E., Martinez, A.M., et al. Telehealth Visits After Shoulder Surgery: Higher Patient Satisfaction and Lower Costs. *Journal of the American Academy of Orthopedic Surgeons Global Research & Reviews*. 2022 6;6(7):e22.00119. doi: 10.5435/JAAOSGlobal-D-22-00119

[25] Ward et al. (2023).

[26] Arnedt, J.T., Conroy, D.A., Mooney, A., et al. (January 2021). Telemedicine versus face-to-face delivery of cognitive behavioral therapy for insomnia: a randomized controlled noninferiority trial. *Sleep*.

[27] Minen, M., Szperka, C., Kaplan, K., et al. July 2021). Telehealth as a new care delivery model: The headache provider experience. *Headache: The Journal of Head and Face Pain*. Retrieved from: https://headachejournal.onlinelibrary.wiley.com/doi/abs/10.1111/head.14150

[28] Donelan, K., Barreto, E.A., Sossong, S., et al. (January 2019). Patient and Clinician Experience with Telehealth for Patient Follow-up Care. *American Journal of Managed Care*. Retrieved from: https://www.ajmc.com/view/patient-and-clinician-experiences-with-telehealth-for-patient-followup-care

TABLE 3. RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – URBAN, 2023

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In person Clinical Intensity	Audio Only Clinical Intensity as % of In Person Clinical Intensity
Behavioral Health Services	1,225,893	894	92.4%	80.3%
Care Management/Coordination	1,110	39	132.1%	NA
Critical Care Services	11	0	NA	NA
E&M – Miscellaneous	66,656	614	155.9%	107.9%
Emergency Department Services	164	0	NA	NA
Home Services	219	2	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	1,271	7	93.5%	NA
Nursing Facility Services	199	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	692,444	77,185	83.4%	83.7%
Ophthalmological Services	4	0	NA	NA

TABLE 4. RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – RURAL, 2023

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In person Clinical Intensity	Audio Only Clinical Intensity as % of In Person Clinical Intensity
Behavioral Health Services	69,908	155	94.6%	NA
Care Management/Coordination	66	1	NA	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	1,817	0	96.3%	NA
Emergency Department Services	1	0	NA	NA
Home Services	9	1	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	28	0	NA	NA
Nursing Facility Services	2	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	38,672	1,384	77.1%	84.5%
Ophthalmological Services	0	0	NA	NA

Audiovisual telehealth services were provided at a lower level of clinical intensity than in-person visits for Behavioral Health Services and Office/Outpatient Services. These two service categories show the relative clinical intensity level at less than 100 percent to 92.4 percent and 83.4 percent respectively for urban locations and 94.6 percent and 77.1 percent for rural locations.

The difference in level of clinical intensity between urban locations and rural locations was small. For Behavioral Health Services, the relative clinical intensity level for audiovisual telehealth services was 92.4 percent and 94.6 percent, with a 1.2 percent difference. The difference in relative clinical intensity level for Office/Outpatient Services provided in urban locations was greater at 6.3 percentage point difference between 83.4 percent for urban and 77.1 percent for rural, but the difference in relative clinical intensity level for the same services provided in rural locations was at 0.8 percent difference.

The level of relative clinical intensity for audio-only telehealth services is not always less than the level of relative clinical intensity for audiovisual telehealth services. For Behavioral Health Services provided in urban locations, the level of relative clinical intensity for audio-only telehealth services was less than the level of relative clinical intensity for audiovisual telehealth services, at 80.3 percent for audio-only and 92.4 percent for audiovisual. For Office/Outpatient Services, the level of relative clinical intensity for audio-only telehealth services was similar to the level of relative clinical intensity for audiovisual telehealth services for urban locations (83.7 percent and 83.4 percent respectively) but higher for rural locations (84.5 percent and 77.1 percent respectively).

The relative levels of clinical intensity shown in Table 3 and Table 4 overview the levels of clinical intensity for services provided in 2023. The levels of clinical intensity for other years (2019-2022) are provided in Appendix 2.

Chart 6A, Chart 6B, and Chart 6C characterize the change in relative clinical intensity of audiovisual telehealth services from 2019 to 2023 for certain categories.

CHART 6A. RELATIVE CLINICAL INTENSITY OF AUDIOVISUAL TELEHEALTH SERVICES – BEHAVIORAL HEALTH SERVICES, 2019-2023

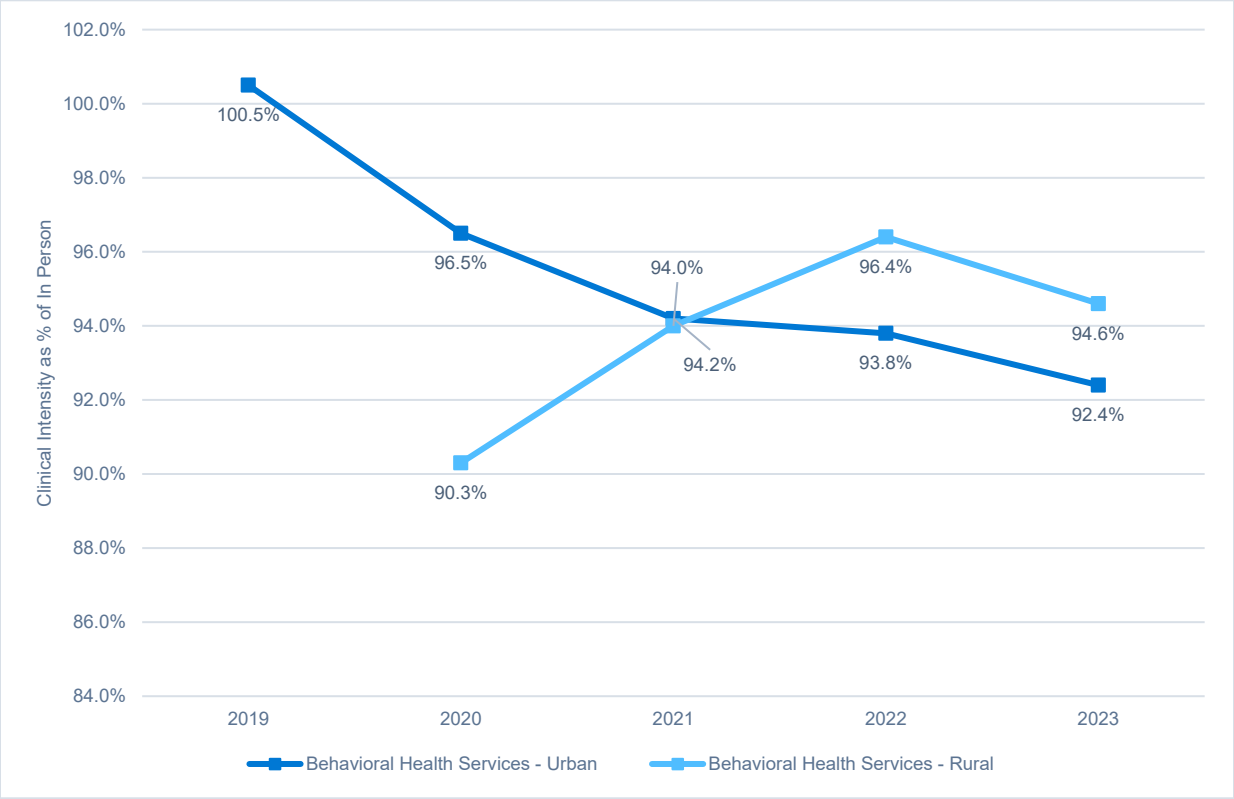


CHART 6B. RELATIVE CLINICAL INTENSITY OF AUDIOVISUAL TELEHEALTH SERVICES – OFFICE/OUTPATIENT SERVICES, 2019-2023

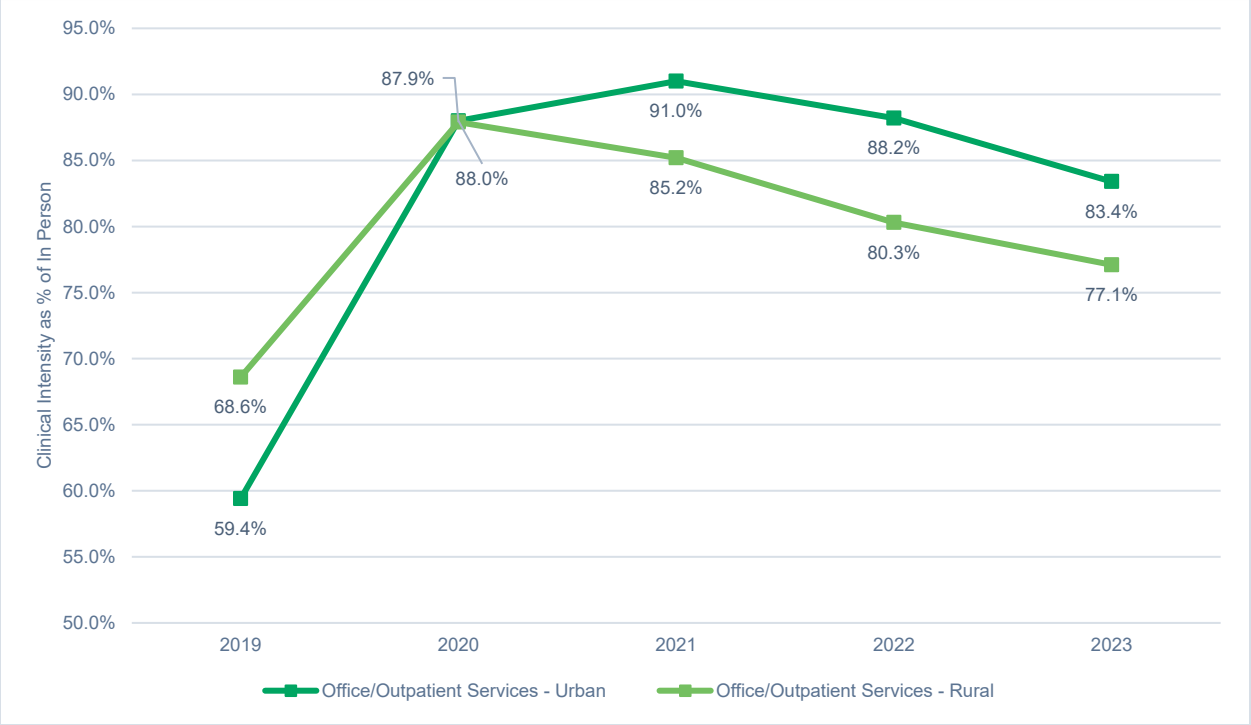
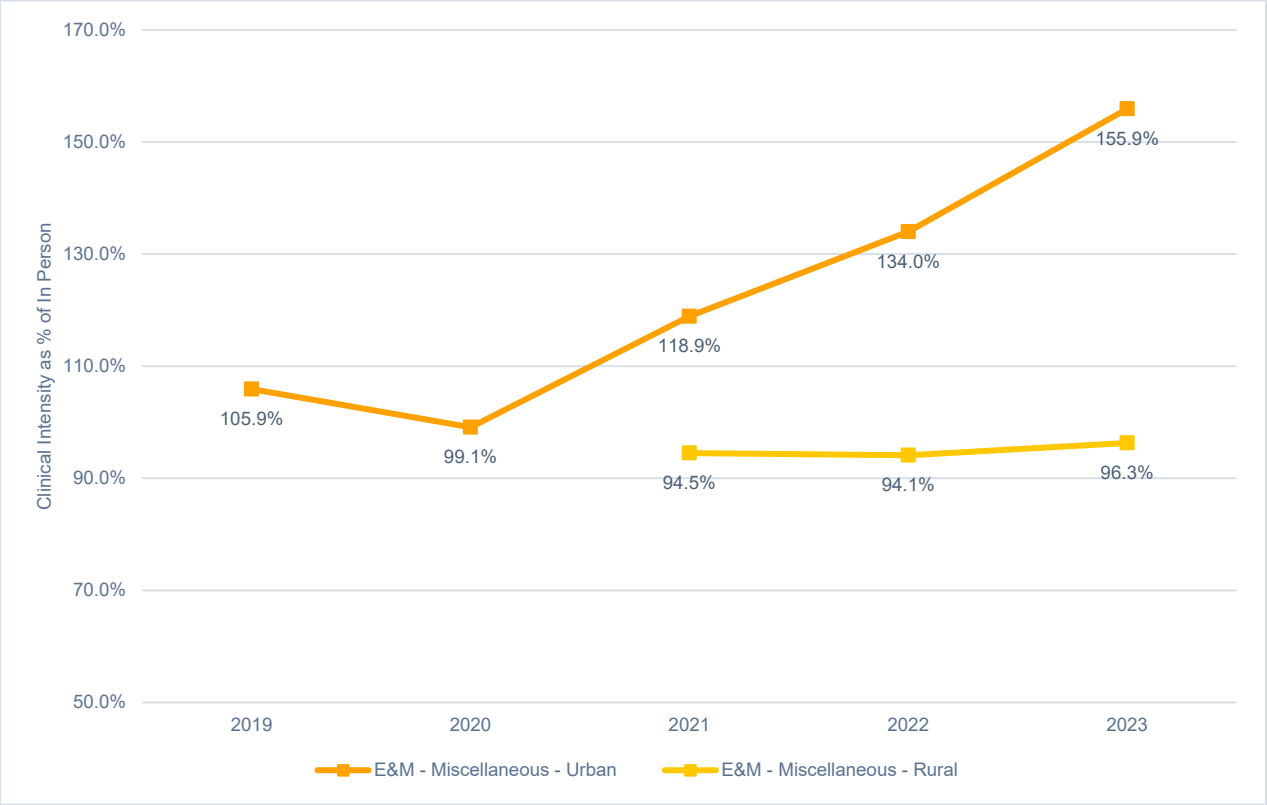


CHART 6C. RELATIVE CLINICAL INTENSITY OF AUDIOVISUAL TELEHEALTH SERVICES – E&M MISCELLANEOUS, 2019-2023



Clinical intensity of visits for urban and rural locations for PCP and non-PCP providers

The direction of the change in relative clinical intensity over time of audiovisual and audio-only varies by service category. The relative clinical intensity of audiovisual and audio-only telehealth services has been decreasing in recent years for Behavioral Health Services and Office/Outpatient Services: 2021 to 2023 for Office/Outpatient Services in both urban and rural locations and Behavioral Health Services in urban locations and 2022 to 2023 for Behavioral Health Services in rural locations. The relative clinical intensity of audiovisual and audio-only telehealth services has been increasing in recent years for E&M – Miscellaneous Services. Chart 7 and Chart 8 detail the relative clinical intensity level of audiovisual and audio-only telehealth services provided by PCPs and non-PCPs for certain service categories in urban and rural locations respectively.

CHART 7. RELATIVE CLINICAL INTENSITY LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES FOR PCP AND NON-PCP – URBAN, 2023

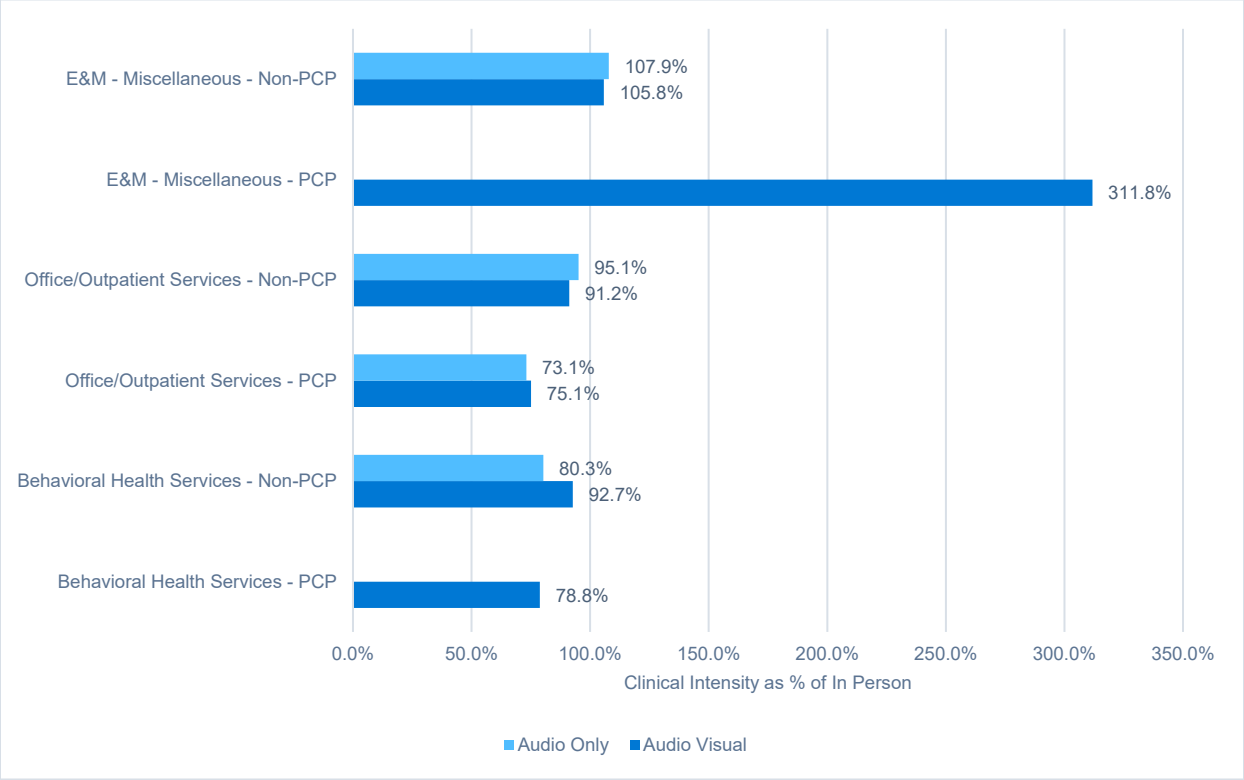
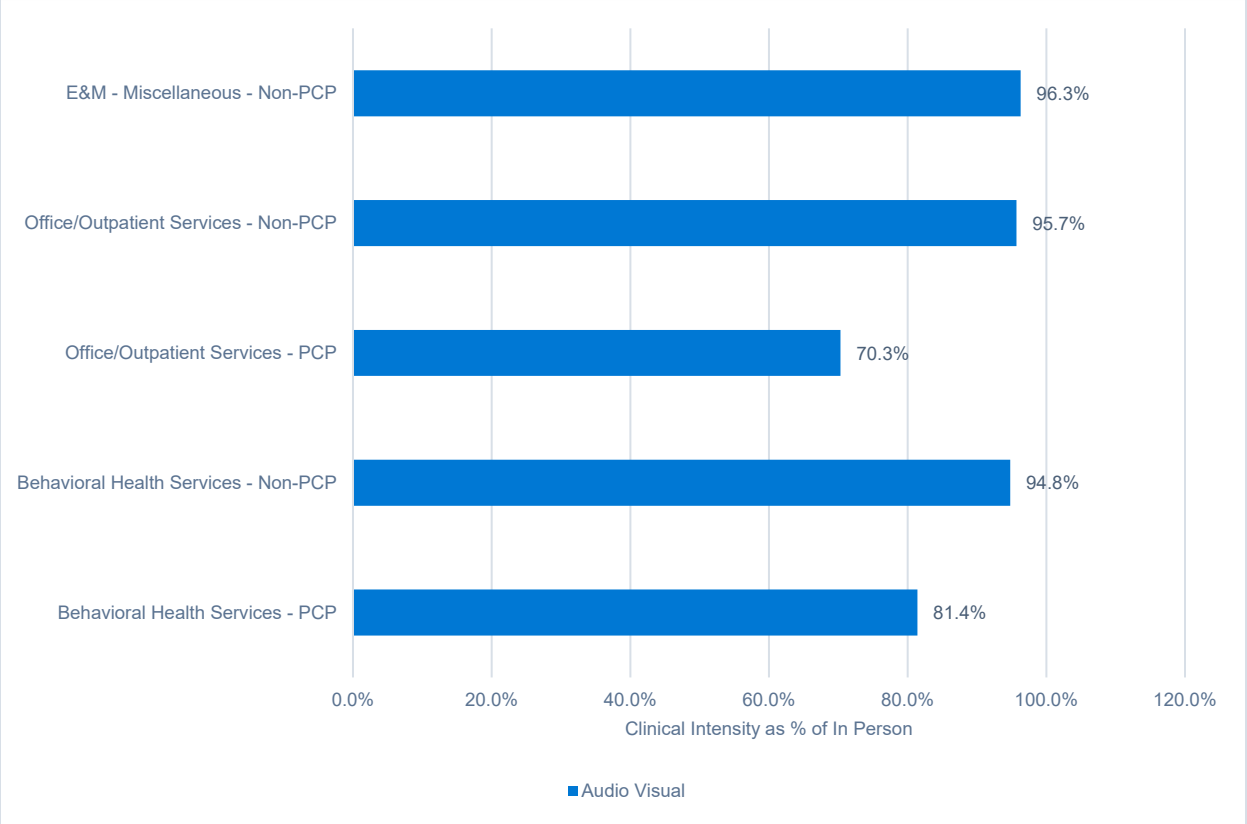


CHART 8. CLINICAL INTENSITY LEVEL OF AUDIOVISUAL TELEHEALTH SERVICES FOR PCP AND NON-PCP – RURAL, 2023



For Behavioral Health Services and Office/Outpatient Services, PCPs provided services consistently at lower relative clinical intensity than non-PCPs at both urban and rural locations. Chart 9 and Chart 10 represent the relative clinical intensity level of audiovisual and audio-only telehealth services provided by specialists for non-group psychotherapy, in urban and rural locations.

CHART 9. RELATIVE CLINICAL INTENSITY LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES FOR NON-GROUP PSYCHOTHERAPY BY SPECIALTY – URBAN, 2023

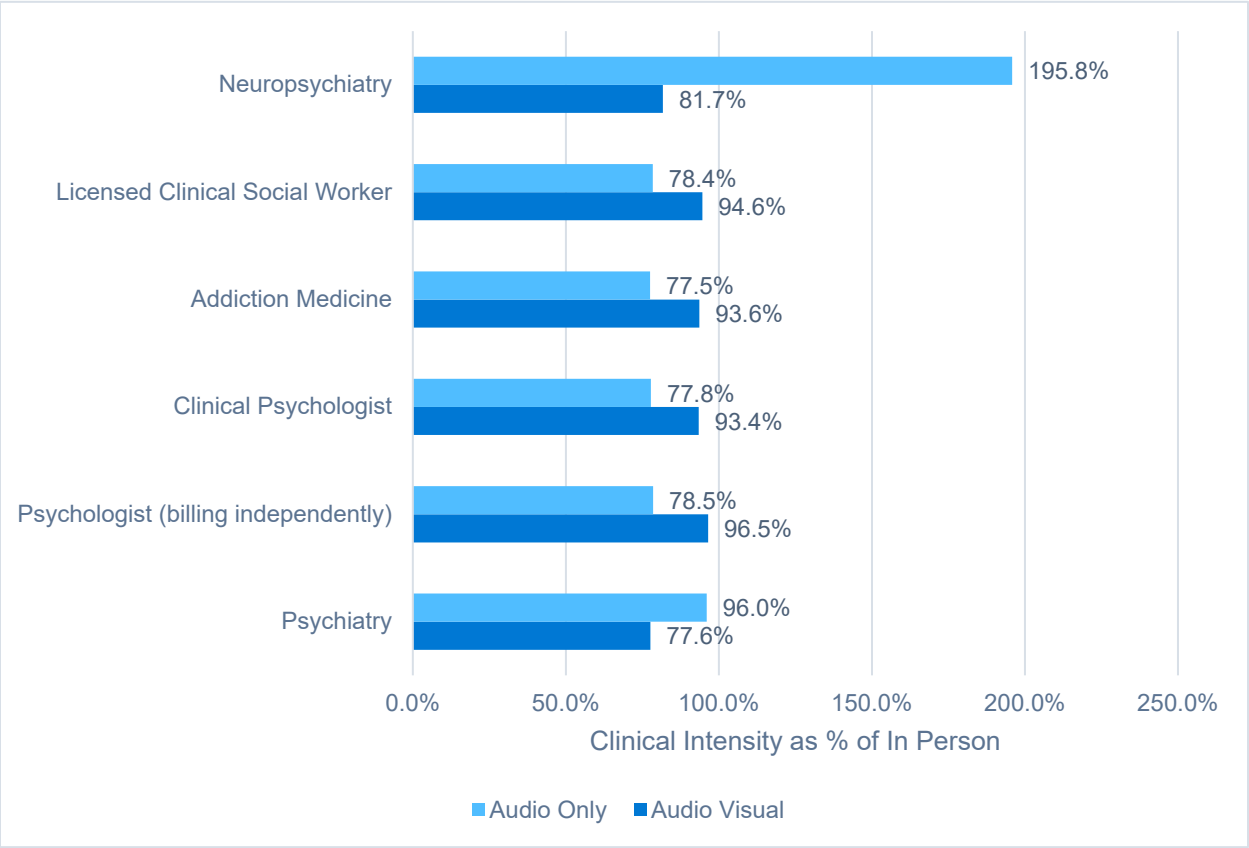
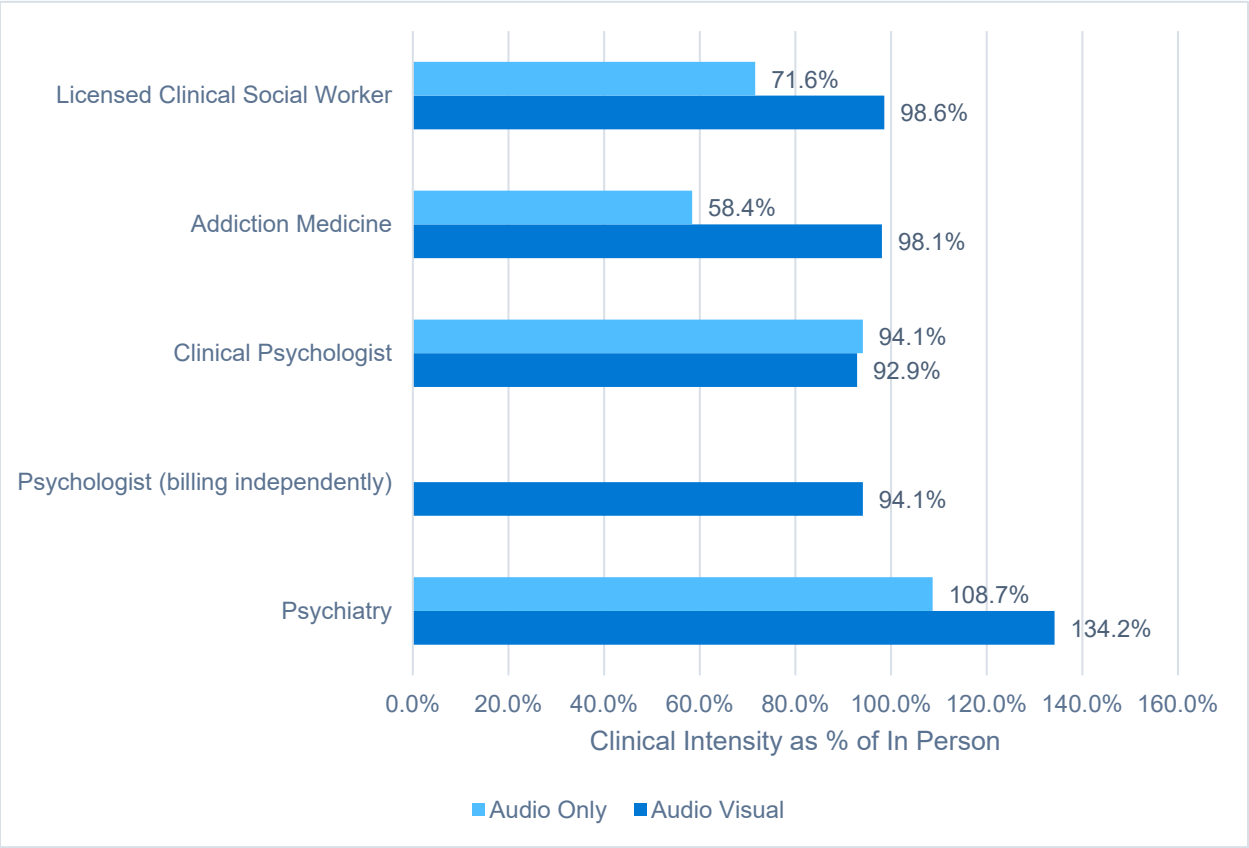


CHART 10. RELATIVE CLINICAL INTENSITY LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES FOR NON-GROUP PSYCHOTHERAPY BY SPECIALTY – RURAL, 2023



The difference in relative clinical intensity levels among different types of providers was directionally consistent between urban and rural locations. The relative clinical intensity level of audiovisual telehealth services for all types of providers was less than 100 percent, except for psychiatrists in rural locations. The relative clinical intensity of audio-only telehealth services for all types of providers was less than 100 percent, except for neuropsychiatrists in urban locations and psychiatrists in rural locations.

Caveats

VARIABILITY OF RESULTS

Differences between our estimates and actual amounts depend on the extent to which future experience conforms to the assumptions made in this model. It is almost certain that actual experience will not conform exactly to the assumptions used in this model. Actual amounts will differ from projected amounts to the extent that the actual experience is better or worse than expected.

MODEL AND DATA RELIANCE

Milliman has used and developed certain models to estimate the rate and clinical intensity of telehealth services relative to in-person services included in this report. We have reviewed this model, including its inputs, calculations, and outputs, for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP).

The models rely on data and information as input to the models. We have relied upon certain data and information for this purpose and accepted it without audit. To the extent that the data and information provided is not accurate, or is not complete, the values provided in this report may likewise be inaccurate or incomplete.

Milliman's data and information reliance includes:

- Data from Maryland's All Payer Claims Database, as accessed via OnPoint
- Mapping of taxonomy codes to provider specialties and CPT/HCPCS/POS codes used to define telehealth services, provided by MHCC
- Mapping of CPT/HCPCS codes to RBCS subcategories, provided by MHCC

The models, including all input, calculations, and output, may not be appropriate for any other purpose.

We have performed a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our investigation.

QUALIFICATIONS TO PERFORM ANALYSIS

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. The authors of this report are members of the American Academy of Actuaries and meet the qualification standards for performing these analyses.

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Appendix A. Relative reimbursement level of audiovisual and audio-only telehealth services – urban, 2019-2022

RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - URBAN, 2022

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	1,291,723	2,240	105.8%	NA
Care Management/Coordination	1,481	166	124.1%	NA
Critical Care Services	14	0	NA	NA
E&M – Miscellaneous	68,643	262	66.6%	79.7%
Emergency Department Services	86	0	NA	NA
Home Services	87	1	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	1,536	134	98.5%	NA
Nursing Facility Services	537	0	90.5%	NA
Observation Care Services	1	0	NA	NA
Office/Outpatient Services	830,943	101,963	104.6%	116.6%
Ophthalmological Services	4	0	NA	NA

RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - URBAN, 2021

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	1,190,012	1,893	107.2%	105.4%
Care Management/Coordination	2,268	119	119.0%	NA
Critical Care Services	75	0	NA	NA
E&M – Miscellaneous	66,080	125	71.5%	NA
Emergency Department Services	130	0	NA	NA
Home Services	247	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	4,096	41	88.7%	NA
Nursing Facility Services	959	0	96.3%	NA
Observation Care Services	7	1	NA	NA
Office/Outpatient Services	1,015,011	155,471	107.2%	125.7%
Ophthalmological Services	16	0	NA	NA

RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - URBAN, 2020

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	882,249	2,500	102.6%	97.8%
Care Management/Coordination	4,159	162	115.3%	90.7%
Critical Care Services	81	0	NA	NA
E&M – Miscellaneous	48,013	328	83.1%	62.0%
Emergency Department Services	187	0	NA	NA
Home Services	685	2	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	3,446	42	102.5%	NA
Nursing Facility Services	5,380	23	85.9%	NA
Observation Care Services	18	0	NA	NA
Office/Outpatient Services	1,411,570	279,106	109.2%	128.1%
Ophthalmological Services	212	8	NA	NA

RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - URBAN, 2019

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	13,968	21	101.1%	NA
Care Management/Coordination	15	0	NA	NA
Critical Care Services	1	0	NA	NA
E&M – Miscellaneous	1,739	0	80.6%	NA
Emergency Department Services	10	0	NA	NA
Home Services	0	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	13	0	NA	NA
Nursing Facility Services	0	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	17,649	59,043	132.4%	154.6%
Ophthalmological Services	7	1	NA	NA

Appendix B. Relative reimbursement level of audiovisual and audio-only telehealth services – rural, 2019-2022

RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - RURAL, 2022

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	73,335	122	106.7%	NA
Care Management/Coordination	133	4	NA	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	1,677	0	85.6%	NA
Emergency Department Services	3	0	NA	NA
Home Services	27	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	26	2	NA	NA
Nursing Facility Services	4	0	NA	NA
Observation Care Services	1	0	NA	NA
Office/Outpatient Services	52,640	3,241	124.5%	129.7%
Ophthalmological Services	0	0	NA	NA

RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - RURAL, 2021

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	75,472	368	105.2%	93.4%
Care Management/Coordination	265	1	NA	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	2,815	0	93.2%	NA
Emergency Department Services	1	0	NA	NA
Home Services	32	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	75	0	NA	NA
Nursing Facility Services	71	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	62,755	5,009	117.9%	130.6%
Ophthalmological Services	0	0	NA	NA

RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - RURAL, 2020

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	55,607	415	106.9%	NA
Care Management/Coordination	425	11	124.0%	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	825	4	NA	NA
Emergency Department Services	34	0	NA	NA
Home Services	16	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	147	0	NA	NA
Nursing Facility Services	271	0	78.6%	NA
Observation Care Services	3	0	NA	NA
Office/Outpatient Services	91,535	14,013	117.9%	117.6%
Ophthalmological Services	0	0	NA	NA

RELATIVE REIMBURSEMENT LEVEL OF AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES - RURAL, 2019

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Rate as % of In-Person Rate	Audio Only Rate as % of In-Person Rate
Behavioral Health Services	628	2	NA	NA
Care Management/Coordination	0	0	NA	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	19	0	NA	NA
Emergency Department Services	0	0	NA	NA
Home Services	0	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	0	0	NA	NA
Nursing Facility Services	0	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	1,055	324	114.4%	NA
Ophthalmological Services	0	0	NA	NA

Appendix C. Relative clinical intensity for audiovisual and audio-only telehealth services – urban, 2019-2022

RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – URBAN, 2022

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In-person Clinical Intensity	Audio Only Clinical Intensity as % of In-Person Clinical Intensity
Behavioral Health Services	1,291,723	2,240	93.8%	NA
Care Management/Coordination	1,481	166	149.0%	NA
Critical Care Services	14	0	NA	NA
E&M – Miscellaneous	68,643	262	134.0%	99.6%
Emergency Department Services	86	0	NA	NA
Home Services	87	1	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	1,536	134	87.7%	NA
Nursing Facility Services	537	0	88.9%	NA
Observation Care Services	1	0	NA	NA
Office/Outpatient Services	830,943	101,963	88.2%	80.3%
Ophthalmological Services	4	0	NA	NA

RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – URBAN, 2021

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In-person Clinical Intensity	Audio Only Clinical Intensity as % of In-Person Clinical Intensity
Behavioral Health Services	1,190,012	1,893	94.2%	79.3%
Care Management/Coordination	2,268	119	170.2%	NA
Critical Care Services	75	0	NA	NA
E&M – Miscellaneous	66,080	125	118.9%	NA
Emergency Department Services	130	0	NA	NA
Home Services	247	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	4,096	41	92.9%	NA
Nursing Facility Services	959	0	99.8%	NA
Observation Care Services	7	1	NA	NA
Office/Outpatient Services	1,015,011	155,471	91.0%	88.2%
Ophthalmological Services	16	0	NA	NA

RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – URBAN, 2020

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In-person Clinical Intensity	Audio Only Clinical Intensity as % of In-Person Clinical Intensity
Behavioral Health Services	882,249	2,500	96.5%	81.9%
Care Management/Coordination	4,159	162	169.0%	97.2%
Critical Care Services	81	0	NA	NA
E&M – Miscellaneous	48,013	328	99.1%	106.7%
Emergency Department Services	187	0	NA	NA
Home Services	685	2	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	3,446	42	92.6%	NA
Nursing Facility Services	5,380	23	98.7%	NA
Observation Care Services	18	0	NA	NA
Office/Outpatient Services	1,411,570	279,106	88.0%	84.8%
Ophthalmological Services	212	8	NA	NA

RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – URBAN, 2019

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In-person Clinical Intensity	Audio Only Clinical Intensity as % of In-Person Clinical Intensity
Behavioral Health Services	13,968	21	100.5%	NA
Care Management/Coordination	15	0	NA	NA
Critical Care Services	1	0	NA	NA
E&M – Miscellaneous	1,739	0	105.9%	NA
Emergency Department Services	10	0	NA	NA
Home Services	0	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	13	0	NA	NA
Nursing Facility Services	0	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	17,649	59,043	59.4%	20.4%
Ophthalmological Services	7	1	NA	NA

Appendix D. Relative clinical intensity for audiovisual and audio-only telehealth services – rural, 2019-2022

RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – RURAL, 2022

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In-person Clinical Intensity	Audio Only Clinical Intensity as % of In-Person Clinical Intensity
Behavioral Health Services	73,335	122	96.4%	NA
Care Management/Coordination	133	4	NA	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	1,677	0	94.1%	NA
Emergency Department Services	3	0	NA	NA
Home Services	27	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	26	2	NA	NA
Nursing Facility Services	4	0	NA	NA
Observation Care Services	1	0	NA	NA
Office/Outpatient Services	52,640	3,241	80.3%	78.0%
Ophthalmological Services	0	0	NA	NA

RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – RURAL, 2021

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In-person Clinical Intensity	Audio Only Clinical Intensity as % of In-Person Clinical Intensity
Behavioral Health Services	75,472	368	94.0%	79.8%
Care Management/Coordination	265	1	NA	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	2,815	0	94.5%	NA
Emergency Department Services	1	0	NA	NA
Home Services	32	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	75	0	NA	NA
Nursing Facility Services	71	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	62,755	5,009	85.2%	88.6%
Ophthalmological Services	0	0	NA	NA

RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – RURAL, 2020

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In-person Clinical Intensity	Audio Only Clinical Intensity as % of In-Person Clinical Intensity
Behavioral Health Services	55,607	415	90.3%	NA
Care Management/Coordination	425	11	108.2%	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	825	4	NA	NA
Emergency Department Services	34	0	NA	NA
Home Services	16	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	147	0	NA	NA
Nursing Facility Services	271	0	100.2%	NA
Observation Care Services	3	0	NA	NA
Office/Outpatient Services	91,535	14,013	87.9%	85.6%
Ophthalmological Services	0	0	NA	NA

RELATIVE CLINICAL INTENSITY FOR AUDIOVISUAL AND AUDIO-ONLY TELEHEALTH SERVICES – RURAL, 2019

RBCS Evaluation & Management	Audiovisual Total Number of Services	Audio-Only Total Number of Services	Audiovisual Clinical Intensity as % of In-person Clinical Intensity	Audio Only Clinical Intensity as % of In-Person Clinical Intensity
Behavioral Health Services	628	2	NA	NA
Care Management/Coordination	0	0	NA	NA
Critical Care Services	0	0	NA	NA
E&M – Miscellaneous	19	0	NA	NA
Emergency Department Services	0	0	NA	NA
Home Services	0	0	NA	NA
Hospice	0	0	NA	NA
Hospital Inpatient Services	0	0	NA	NA
Nursing Facility Services	0	0	NA	NA
Observation Care Services	0	0	NA	NA
Office/Outpatient Services	1,055	324	68.6%	NA
Ophthalmological Services	0	0	NA	NA

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