Evaluating How Service Delivery and Program Outcomes in an Outpatient Setting Changed After the Use of Telehealth Services During COVID-19

by

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Evaluating How the Use of Telehealth Services During the COVID-19 Pandemic Affected Outpatient Service Delivery and Program Outcomes in an Outpatient Setting

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Abstract

Background

Regulatory restrictions for licensed community-based outpatient mental health providers were lifted during the COVID -19 pandemic. During this time, the needs of outpatient clients dramatically shifted, which influenced Milestone Centers, Inc. to provide phone-only telehealth services for the first time.

Aim

This study aimed to evaluate how service delivery and program outcomes in a licensed outpatient setting changed after the first-time use of phone-only telehealth services during the COVID-19 pandemic.

Methods

Three different data collection systems were used to gather data for this evaluation study, Including the organization's in-house analytics dashboard, AnalyticsRx, the data management software for their electronic health record (EHR), Pentaho, and IMPACT Reports. Data was collected five quarters before and after the transition to telehealth between January of 2019 and June 2021 and a trend analysis was completed on demographics and specific factors relative to service delivery and assessment outcomes.

Results

The number of individuals using Medical Assistance as their payer source increased by 8 %. Average kept appointment rates increased by 10 %. Average number of intakes decreased from an average of 177 per quarter to an average of 11.6 per quarter. The average duration of a therapy appointment changed from 54.1 minutes to 39.8 minutes. The average number of voluntary discharges decreased by 6.4 %. The average rate of improvement for the GAD-7 assessment increased by 6.06 %.

Conclusion

Even though this trend analysis is significantly limited in providing insights into degree of association without controlling for any variables, Milestone is implementing a video/audio telehealth platform. However, it is unclear how much of the observed changes in variables can be attributed to the pandemic and how much can be attributed to the use of telehealth services.

Limitations

This evaluation has many limitations due to the specific context in which data was collected. The results of this study may not be generalizable to video services that will be used in the future and cannot be applied to individual level situations. Findings may not be reflective of the total client population and excludes those most disenfranchised from care from the study.

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1.0 Introduction

1.1 Purpose

The purpose of this study was to evaluate how overall service delivery and program outcomes for the outpatient behavioral health program at Milestone Centers, Inc. changed after the abrupt first-time use of phone-only telehealth services during the COVID-19 pandemic. Data was collected five quarters before and after the transition to telehealth occurred between January of 2019 and June 2021. Results of the evaluation were used to determine if the organization should pursue telehealth as a permanent method of service delivery after the end of the emergency declaration period.

1.2 Research Question

The research question explored in this essay is, “How did overall service delivery and program outcomes in Milestone’s outpatient program change during the COVID-10 pandemic when the phone-only telehealth services were introduced?”

1.3 Milestone Centers

Milestone Centers, Inc. is a licensed, private, non-profit organization (501c3) that provides outpatient behavioral health services in two brick-and-mortar locations to over 2,000 unique clients

in western Pennsylvania over five counties. As a licensed outpatient setting, Milestone accepts all payer sources and holds contracts with Medicare, Medical Assistance, and commercial insurance providers. According to Scott Douglass, Director of Quality Assurance and Compliance for Milestone's administrative entity Partners for Quality, 60 % of Milestone's clientele have Medicaid as their insurance provider, followed by Medicare (23 %), and private insurance payers (17 %) (Douglass, personal communication, 2021).

Kenneth Wood, Assistant Director of Administration and previous Chief Operations Officer of Milestone Centers, Inc., provided professional insight into the strict oversight requirements Milestone must follow to receive reimbursement for service provided. Because a significant portion of the organization's clients use Medicaid (CCBHO), Medicare, or both as their primary payers, the organization is required to follow reimbursement requirements and regulations of OMHSAS, Allegheny County Office of Behavioral Health, and the Centers of Medicare and Medicaid Services (CMS), and was regulatory hindered from using telehealth as modality of treatment until the COVID-19 pandemic (Wood, personal communication, 2022). Prior to the COVID-19 pandemic, Milestone's outpatient clinics followed guidance of OMHSAS bulletin OMHSAS-20-02 and current CMS reimbursement requirements. Because CMS regulations did not permit the use of telehealth services in an outpatient setting except in certain circumstances for underserved rural populations, Milestone Centers provided over 95 % of their outpatient behavioral health services via traditional in-person modalities at that time (Douglass, personal communication, 2022).

1.4 Literature Review

Telemental health has been described by many names, including but not limited to telepsych, tele-behavioral health, teletherapy, online counseling, online therapy, and more. Due to inconsistencies in terminology used within laws passed by mental health state licensure boards across the United States (U.S.), a slew of telemental health terms and phrases have been used over the years to define the same processes (Ostrowski & Collins, 2016). According to the National Institute of Mental Health (NIMH), telemental health is simply "the use of telecommunications or videoconferencing technology to provide mental health services" ([NIMH], n.d.).

According to the Department of Health and Human Services (HHS) Telehealth Recommendations for Providers, telehealth includes audio and video calls, online communication, and storage of patient data that can be offered to clients through asynchronous care, synchronous care, or remote patient monitoring. Asynchronous is care that is not completed in real time, while synchronous care includes real-time video and audio-calls, sometimes referred to in the literature as phone or video-teleconference services (VTC), and real-time text messaging engaging in active treatment or services to a client ([HHS], 2020). For the purpose of this evaluation, the term telehealth will refer to the use of phone-only services during the COVID-19 pandemic.

Telemental health has been increasingly studied to provide necessary empirical background for development and general use within physical health and clinical behavioral health settings. The U.S. government recognizes the importance of telehealth research and development and has issued multiple grant opportunities for providers to implement telehealth within recent years. In addition, the Office for the Advancement of Telehealth was developed to expand telehealth to underserved populations, and the 2015 Treatment Improvement Protocol was published by the Substance Abuse and Mental Health Services Administration (SAMHSA), which

is a support manual for direct practice clinicians with implementation of telehealth (Ostrowski & Collins, 2016).

Telehealth services such as diagnostic evaluations, individual and group therapy, and medication management have increased overall accessibility and convenience of obtaining mental health services while decreasing costs, but Social Determinants of Health (SDOH) still play an influential role in whether an individual is able to obtain telemental health services. Factors such as age, sex, median household income, insurance status, and marital status are associated with probability of participation in telehealth (Clare, 2021). Practical barriers such as the "absence of required technology, telephone and internet connectivity, language and communication skills, cultural competence, and digital literacy" also have the potential to decrease overall accessibility and compound existing health disparities for low-income communities, rural communities, communities of color, and older adults (Clare, 2021). Ironically, these populations were also the ones most likely to experience mental health concerns and require services during the COVID-19 pandemic (Qian et al., 2021). There is also an associated cost for providers hosting telehealth platforms that are compliant with the requirements of the Health Insurance Portability and Accountability Act (HIPAA). The inability to afford reputable platforms that can guarantee HIPAA compliance with quality synchronous audio and video can affect how services are provided and received by clients, affecting overall quality standards of care ([NIMH], n.d.).

1.5 Telehealth's Effects on Service Delivery and Program Outcomes

Community-based behavioral health organizations usually lack the organizational capacity to be able to analyze outcomes data for trends due to the regulatory administrative burden they

experience, which is why the context of regulatory oversight is so important to the use and evaluation of telehealth services in this very specific setting. On a day-to-day basis, administrators in licensed programs must spend a large amount of administrative time in the weeds of service delivery ensuring stringent regulatory requirements are followed by their front-line staff, such as meeting required timeframes for treatment planning, clinical supervision, or caseload management. Having to helicopter their staff to avoid licensing citations significantly impacts their ability to dedicate time to macro-level projects like trend analysis. As a result, there is currently little published data on the use of telehealth during the COVID-19 pandemic in licensed behavioral health settings, and even less on changes in specific factors related to service delivery and program outcomes other than overarching trends or client satisfaction.

However, there is an extensive amount of research detailing how the use of telehealth services affects service delivery, client outcomes, and program outcomes in outpatient physical health settings. While this data may be useful in interpreting the effectiveness of telehealth in the behavioral health sector, it is difficult to apply those results directly to outpatient therapy due to the complex nature of the therapeutic relationship and overall lack of measurement criteria to determine when a client with a mental health diagnosis no longer needs treatment. In a physical health setting, determining a client's wellness can be documented by obvious changes in physical healing; however, behavioral health relies upon validated assessment criteria from multiple assessment tools and the direct reports of the client to determine overall wellness. This difference between behavioral health and physical health makes telehealth's overall effects on treatment difficult to reveal.

In the resources that do exist, the use of synchronous video telehealth within outpatient clinical behavioral health practice has been reputably noted in the literature by multiple sources to

be just as effective as traditional in-person services for common mental health conditions like anxiety, depression, post-traumatic stress disorder (PTSD), and adjustment disorder (Varker et al., 2019). According to a meta-analysis completed by Osenbach et al. in 2013, 14 studies that used synchronous telehealth as a modality of outpatient treatment showed no statistically significant systematic difference between traditional in-person delivery and synchronous telehealth methods (Osenbach et al., 2013). Client experience and satisfaction is a major service delivery factor to determine the continuation of telehealth services. Client satisfaction and engagement, as well as the relationship between a client and their doctor or therapist, have shown to remain steadfast when compared to traditional in-person services (Clare, 2021).

Synchronous telemental health services have also been shown to reduce Social Determinant of Health (SDOH) barriers that could potentially be contributing to a client's mental health diagnosis. According to the World Health Organization (WHO), SDOH barriers are ""the conditions in which people are born, grow, live, work and age" (Claire, 2021). Because virtual appointments provide less interruption to a client's daily live, clients are more likely to keep scheduled telehealth appointments over in-person appointments. Telehealth appointments help clients have more time toward work and childcare responsibilities while also removing the need for transportation to and from a brick-and-mortar site location ([HHS, 2021.). According to the Department of Health and Human Services (HHS), using VTC over traditional in-person services has several benefits, including reducing patient "no-shows" and increasing overall patient retention ([HHS], 2021.).

Fine-tuning service delivery over phone-only telehealth became a learn-as-you-go process for professional clinicians in Milestone's outpatient program. Due to the sudden nature of the transition, the organization was not immediately prepared technologically to support remote

synchronous telehealth services. Not all staff members involved in providing outpatient services had a desktop or a laptop at home, and staff members who did have access to a desktop or laptop did not necessarily have a set up for synchronous audio and video communication with clients. Along with staff technology challenges, there were also challenges with clients having access to the appropriate technology for synchronous telehealth services. At the time of the transition, the organization did not have the capacity to immediately implement synchronous audio and video services via a HIPAA compliant video platform. The agency also struggled with the intake process, as most of the client's intake paperwork was previously completed on paper during their first in-person appointment. When the agency began using telehealth, intake appointments became difficult due to lack of established processes over telehealth.

2.0 Licensed Outpatient Telehealth Requirements

2.1 Before COVID-19

In the world of payer reimbursement requirements, CMS develops the playbook, and commercial providers like Highmark and UPMC follow the rules (Wood, personal communication, 2022). Prior to the COVID-19 pandemic, entities like CMS and private insurance payers like Highmark and UPMC showed little urgency to begin full reimbursement for telehealth services despite the empirical evidence showing telehealth as an evidence-based intervention. As a result, community-based outpatient providers experienced significant financial barriers to providing synchronous telehealth services. Limited and unclear Medicare reimbursement policies set forth by CMS lacked incentive for providers to offer telehealth and telehealth was only offered to clients who had limited access to treatment, such as those in rural communities. For example, if a client lived in a rural area and had to travel to a hospital or clinic to receive remote treatment, Medicare would reimburse one-half of the amount of an in-person visit (Claire, 2021). These barriers significantly broadened the already existing disconnect between empirical research and direct practice.

Prior to the onset of COVID-19, providers like Milestone Centers were unable to provide "telepsych" services as defined by OMHSAS under the active bulletin OMHSAS-14-01 titled "OMHSAS Guidelines for the Approval of Telepsych Services in HealthChoices" issued on March 18, 2014, without the approval of the department and the documented endorsement of the county mental health program and the HealthChoices Behavioral Health Managed Care Organization (BHMCO) (Marion, 2014). The use of "telepsych" was also heavily restricted to psychological

diagnostic evaluations, psychological evaluations, pharmacological management, family and client consultations, and psychotherapy provided by licensed psychologists and psychiatrists only. This bulletin did not include services provided by Licensed Clinical Social Workers (LCSWs); Licensed Professional Counselors (LPCs), and Licensed Marriage and Family Therapists (LMFTs) (Marion, 2014).

2.2 During COVID-19

The COVID-19 pandemic drastically shifted how outpatient therapy services were delivered in the United States. To protect the health and well-being of clients and guarantee continuity of care, telehealth became the primary mode of service delivery for community-based outpatient providers essentially overnight. The Department of Health and Human Services (HHS) used its 1135 waiver authority through section 1135 of the Social Security Act (SSA) to temporarily modify telehealth reimbursement requirements for Medicare, Medicaid, and the Health Insurance Portability and Accountability Act (HIPAA) ([CMS], n.d.)

The "COVID-19 Emergency Declaration Blanket Waivers for Health Care Providers" document included specific policy changes including expanding the type of eligible practitioners able to bill for telehealth services under Medicare in a wider range of settings, fixing the reimbursement parity by improving reimbursement rates of telehealth services to be the same reimbursement rates as in-person visits, and adding reimbursement for certain audio-only services, which included outpatient behavioral health in the reimbursement code list ([CMS], 2021). Following in suit of CMS, telehealth requirements and restrictions for licensed community-based

outpatient mental health providers in the state of Pennsylvania (PA) changed during the pandemic through a series of bulletins issued by OMHSAS, which can be found in Appendix A.

On February 20, 2020, OMHSAS issued telehealth bulletin OMHSAS-20-02 titled "Guidelines for the Use of Telehealth Technology in the Delivery of Behavioral Health Services," which rebranded the use of "telespych" services to "telehealth" services and significantly expanded the use of telehealth to behavioral health practitioners who provided services in the MA Fee for Service (FFS) delivery system, including Licensed Clinical Social Workers (LCSWs); Licensed Professional Counselors (LPCs), and Licensed Marriage and Family Therapists (LMFTs) (Vicari, 2020). It also contained newly developed Current Procedural Terminology (CPT) codes that could be used to bill for these services. However, this bulletin restricted telehealth services to real-time, two-way interactive audio-video transmission only and did not permit the use of telephone only conversations between licensed practitioners and clients (Vicari, 2020). The release of this bulletin provided Milestone Centers with their first opportunity to bill for telehealth for many service types that were previously restricted under OMHSAS-14-01 (Douglass, personal communication, 2021).

Fourteen days after the new telehealth bulletin was released on March 6, 2020, Governor Tom Wolf (D-PA) issued a "Proclamation of Disaster Emergency" to provide a more robust, coordinated response to the COVID-19 pandemic in PA ("Governor Issues", 2021). In response to this emergency declaration, OMHSAS released a memorandum 9 days later on March 15, 2020, that added temporary flexibilities for telehealth service delivery and discussed telehealth as the preferred method of delivery for medically necessary behavioral health services as ordered, referred, or prescribed by a provider during the COVID-19 pandemic (Vicari, 2020). This memorandum temporarily expanded the use of telehealth services from previous restrictions of

real-time, two-way interactive audio-video transmission only described in bulletin OMHSAS-20-02 to real-time, two interactive audio (Vicari, 2020). The flexibility described in this memorandum was the first opportunity many community-based outpatient providers had to introduce any type of telehealth services not provided by a licensed psychiatrist or psychologist, and they were essentially being asked to do so overnight to protect the health, safety, and wellbeing of their clients. The emergency declaration changed the face of telehealth. “We saw more flexibility than has ever been witnessed from state and county governments. There was always a reason we couldn’t do things, and suddenly, now we could” (Wood, personal communication, 2021).

2.3 The Immediate Need for Telehealth

“The amount of time that innovation and research translate into practice in the behavioral health field is 15 years. Regulation gets in the way of adopting new evidence-based practice” (Wood, personal communication, 2022). The regulatory resistance to telehealth may have been built-up over a period of many years, the abrupt operational transition to telehealth services during the COVID-19 pandemic occurred over a period of exactly three days. Even though the Memorandum released by OMHSAS on March 15, 2020, listed telehealth as the preferred method of delivery and not the required method of delivery, Milestone made an organizational-level decision to protect the health and well-being of clients and staff by transitioning all outpatient therapeutic services to telehealth as quickly as possible. “There was little guidance. As an organization, we didn’t know how we were going to get paid or what we were going to get paid, but we knew we had to make the transition to protect people” (Wood, personal communication, 2021).

Even after phone-only telehealth was in use for multiple months as the preferred method of service, Milestone did not want to move forward with adopting a video telehealth platform without ensuring due diligence for evaluation and implementation. Even without a HIPAA-compliant synchronous telehealth platform, staff were quick to adapt to ongoing changes with a "do whatever you need to do" mentality to continue to provide adequate services for clients. Under the temporary audio-only expansion of the telehealth memorandum issued March 14, 2020, staff provided phone-only outpatient appointments to most clients without proper training, guidance, or knowledge of what changes would be implemented for telehealth in the future (Wood, personal communication, 2022).

2.4 Telehealth Guidance Moving Forward

The future of telehealth has arrived more quickly than expected. On September 30, 2021, bulletin OMHSAS-21-09 was issued titled "Guidelines for the Delivery of Behavioral Health Services Through Telehealth," which updated previous guidelines surrounding the delivery of telehealth services previously issued in OMHSAS-20-02. This updated bulletin once again restricted an outpatient provider's ability to provide audio-only telehealth services except in certain circumstances and required a waiver process to continue to do so, which once again forced licensed outpatient providers to deliver services in-person or begin using an audio/video telehealth format starting in April 2022. Milestone's outpatient program applied and obtained a waiver approval to continue phone-only telehealth waiver until the end of 2023 while working through telehealth implementation.

The reinstated restriction to audio-only telehealth services defined in OMHSAS-21-09 is important to consider in assessing potential impacts of the switch to telehealth. Not only has it affected how clients cope with a new series of changes in service delivery, but it also affected a client's ability to receive treatment. Under the most recent telehealth guidance documents from OMHSAS-21-09 issued September 30, 2021, telehealth should only be provided to the client if considered "clinically appropriate" to do so. To measure clinical appropriateness, the bulletin offers a list of factors to consider when deciding to continue telehealth services for a client, including the preference of the individual, length of time in treatment, level of acuity needed for care, any barriers to in-person services, access to technology, and ability to communicate (Hauser, 2021). If clients do not possess the technology required to complete a synchronous audio/video appointment have a high level of acuity, they will most likely need to participate to in-person sessions. When implementing a new video telehealth platform or requesting that clients receive services in-person once again, it's important for the organization to consider the personal situation of each individual client, the appropriateness of telehealth services, the SDOH barriers they could be facing on a day-to-day basis, and their personal access to adequate technology.

2.5 Diffusion of Innovation Theory and the Adoption of Telehealth

Diffusion occurs in systems over time through new changes in method and technology. Telehealth as a method of service delivery for mental health services, although in use for over 20 years, is a more recent innovation to the behavioral health system. To explain how telemental health was enacted, Diffusion of Innovations theory provides an insightful framework for adoption and implementation of telemental health in the community-based sector. This theory was

developed in 1962 by Everett Rodgers in response to questions posed by sociologist Robert K. Merton to explain practical population behavior in relation to product marketing (Dearing & Cox, 2018). Even though the origins of this theory are not based in public health alone, it has been used since its inception by public health experts to explain population behavior and the adoption of public health interventions over time (Dearing & Cox, 2018).

Diffusion of an "innovation" refers to the process by which members of a social system adopt a new change in that system over time. In the context of telemental health, diffusion would be the process by which community-based providers learned about telehealth as an evidence-based approach and began communicating to their oversight bodies to be able to adopt it as an evidence-based practice within their own outpatient programs (Dearing & Cox, 2018). The regulatory bodies that govern these services would then respond with changes in regulation, policy, and process for reimbursement to implement telehealth efficiently and effectively across the sector. The rate at which providers adopt telehealth would place them into the category of innovator, early adopter, early majority adopter, late majority adopter, or laggard. An appropriate breakdown of these categories shows a bell-shaped curve and from left to right shows innovators at 2.5 %, early adopters at 13.5 %, early majority at 34 %, late majority at 34 %, and laggards at 16 %.

Diffusion of Innovations can be practically applied to the adoption of telehealth within the behavioral health sector as well as telehealth adoption within Milestone Outpatient. In the context of a community-based outpatient provider, it is important to recognize how regulatory oversight at the federal and state levels impacted the organization's ability to adopt a new and effective treatment modality like synchronous telehealth (Dearing & Cox, 2018). The ability to adopt synchronous telehealth as a modality of treatment is entirely dependent on the reimbursement

requirements of the payer source as well as the rules and regulations of organization's oversight bodies.

Communication with payer sources remains the main hinderance of the ability to adopt telehealth as a modality of treatment. Private, non-licensed practices are free to develop exclusive contracts with any major commercial insurance providers or require cash payment for service up front, allowing them the freedom of choice to adopt evidence-based treatment modalities at a much quicker rate than community-based practice. This freedom of choice exercised by private, non-licensed practices allowed them to be innovators, early adopters, and early majority adopters of telehealth modalities. Due to regulatory oversight and reimbursement requirements, community-based mental health providers like Milestone were forced into the late majority or laggard category. It is possible that the regulatory hinderance of adopting evidence-based telehealth modalities created a provision of service disparity based on the "digital divide" that affected overall quality of care.

3.0 Methods

This study evaluated how service delivery and program outcomes changed after the use of telehealth during the COVID-19 pandemic. Data was collected five quarters before and after the transition to telehealth between January 2019 and June 2021. Three different data collection systems were used to gather data for this evaluation study, and a trend analysis was completed on specific variables relative to service delivery and program outcomes. The organization's in-house analytics dashboard, AnalyticsRx, was used to measure overall trends in factors related to service delivery such as average length of appointments, number of kept or missed appointments, and number of new intakes or discharged clients per quarter. The agency's data management software for their electronic health record (EHR), Pentaho, was used to collect aggregate quarterly client demographic data using a manual coding process. Aggregate quarterly assessment outcomes for the PHQ-9 and GAD-7 were collected using IMPACT Reports, which are quarterly data reports on the PHQ-9 and GAD-7 developed through the organization's electronic health record (EHR), Qualifacts.

Completing a trend analysis on measures related to service delivery and program outcomes is an important step to understanding how the behavioral health sector can successfully adopt telehealth as a permanent method of service delivery. Using the context of Diffusions of Innovations theory, one can discern how regulatory burden and communication with payer sources hinders the adoption of evidence-based practice. Milestone's payer sources and oversight bodies have already started reinstating regulatory restrictions surrounding phone-only telehealth service delivery through OMHSAS-21-09, even after successfully utilizing it as a method of service delivery for over two years. Providing and communicating changes in variables related to service

delivery and program outcomes to these entities will be a vital step in solidifying telehealth as a permanent method of service delivery in licensed behavioral health.

3.1 Setting

This evaluation study was completed for active and discharged clients who received services in Milestone's two brick-and-mortar outpatient centers located in Pittsburgh's east suburbs in the communities of Wilkinsburg and Monroeville. Even though Milestone only has two locations in Allegheny County, Milestone's clients come from a wide geographical area of western Pennsylvania, including Armstrong, Butler, Cambria, Clearfield Fayette Green, Washington, and Westmoreland counties. Separate demographics tables for individuals who completed GAD-7 and PHQ-9 assessments can be found on page 33.

3.2 Data Collection and Analysis

The agency's data management software for their electronic health record (EHR), Pentaho, was used to collect aggregate quarterly client demographic data using a manual coding process. Aggregate quarterly assessment outcomes data for the PHQ-9 and GAD-7 were collected using IMPACT Reports, which are developed through the organization's electronic health record (EHR), Qualifacts. The PHQ-9 and GAD-7 are validated assessment tools in behavioral health to measure the severity of depression and anxiety. The PHQ-9 is a self-administered measure that comprises five categories, where 0-4 indicates no depressive symptoms, 5-9 mild depressive symptoms, 10-

14 moderate depressive symptoms, 15-19 moderately-severe depressive symptoms, and 20-27 severe depressive symptoms. The GAD-7 is also a self-administered measure that has a score range from 0 to 21 and cut-off scores for mild, moderate, and severe anxiety symptoms as 5,10, and 15 respectively. An IMPACT report is a precalculated report calculated in the background within Qualifacts that shows variables related to assessment outcomes, such as the average number of administrations, the mean initial score, the mean last score, the average rate of improvement, and the overall improvement per quarter. These scores are already calculated for the reviewer. Raw demographic data sets from Pentaho were placed into excel sheets by quarter using excel pivot tables and matched with aggregate quarterly IMPACT reports to develop the master data files for each assessment outcomes evaluation.

Trend analysis was completed on demographic data and factors related to service delivery and program outcomes, such as kept appointments rates vs did not show (DNS) rates, number of intakes per quarter, average duration of an appointment, and number of voluntary discharges from the program. In addition, trend analysis was completed on IMPACT report data. Kept appointment rates, DNS rates, number of intakes per quarter, and number of voluntary discharges were precalculated %ages pulled from the AnalyticsRx dashboard. The average duration of an appointment was calculated by the formula below, and an average duration was calculated for five quarters before telehealth and five quarters after:

(Proportion of visits * midpoint of visit length), summed

3.3 Inclusion Criteria

To be included in the data set for evaluation, an individual needed to be an active or discharged client in the Qualifacts system, keep at least one billable appointment, and complete two or more PHQ-9 or GAD-7 assessments within the given evaluation period of January 2019 to June 2021, which encompasses a five-quarter period prior to the use of telehealth and a five-quarter period after the use of telehealth. The following code was utilized to pull demographic data information from Pentaho, Qualifacts data management software, to match the aggregate IMPACT assessment reports:

```
        SELECT
           "RPT_SCHEDULED_ACTIVITIES"."CLIENT_ID",
           "RPT_CLIENT"."AGE",
           "RPT_CLIENT"."GENDER",
           "RPT_CLIENT"."RACE",
           "RPT_CLIENT_PAYER_PLAN"."PAYER_PLAN_NAME"
        FROM
           "RPT_SCHEDULED_ACTIVITIES" INNER JOIN "RPT_CLIENT" ON
"RPT_SCHEDULED_ACTIVITIES"."CLIENT_ID" = "RPT_CLIENT"."CLIENT_ID"
           INNER JOIN "RPT_CLIENT_PAYER_PLAN" ON "RPT_CLIENT"."CLIENT_ID" =
"RPT_CLIENT_PAYER_PLAN"."CLIENT_ID"
        WHERE
           "RPT_SCHEDULED_ACTIVITIES"."PROGRAM_ID" =
1014
         AND "RPT_SCHEDULED_ACTIVITIES"."SERVICE_DATE" BETWEEN '01-APR-2020'AND '30-JUN-
2021'
         AND "RPT_SCHEDULED_ACTIVITIES"."STATUS" = 'Kept'
         AND "RPT_SCHEDULED_ACTIVITIES"."ACTIVITY_ID" <> 1433
         AND "RPT_CLIENT_PAYER_PLAN"."SEQUENCE" = '1'
```

Figure 1 Pentahoe Manual Coding Sequence

4.0 Trend Analysis

From January 2019 to March of 2020, Milestone had a total of 2,153 active clients that kept a billable appointment. Out of those clients, 1,092 completed 2 or more assessments. From April of 2020 to March of 2021, Milestone had a total of 2,007 active clients that kept a billable appointment. Out of those clients, 1,102 completed two or more assessments. Milestone serves clients ages 5 and up. The demographics of Milestone's client base stayed relatively the same throughout the COVID-19 pandemic, with 7 % are between ages 5 and 17, 29 % between 18 and 35, 27 % between 36 and 53, 32 % between 54 and 71, and 4 % 72 and up. However, the number of individuals identifying as male decreased by 2 % after the use of telehealth services and the number of individuals identifying as female increased by 3 %. The number of individuals using Medical Assistance as their payer source increased by 8 %, while the number of individuals using Medicare and commercial insurance decreased by 3 % and 4 %, respectively.

Table 1 Number of Clients Per Demographic Category

	# Of Unique Clients	0-17	18 - 35	36 - 53	54- 71	72 - 89	F	M	Other	B/AF	W	Other
B-TH	2153	161	630	579	690	93	891	1258	4	660	972	521
A-TH	2007	149	586	575	630	67	784	1217	6	583	853	571

B-TH = Before Telehealth
A-TH = After Telehealth
F = Female
M = Male
B/AF = Black/African American
W= White

Table 2 Number of Clients Per Payer Source

	Medical Assistance	Medicare	Commercial
B-TH	**973**	**712**	**468**
A-TH	**1025**	**611**	**371**

4.1 Kept Appointment Rates

Two key program outcome factors to determine the effects of telehealth services included kept appointment rats and "Did Not Show" rates (DNS). Kept appointment rates include appointments where a client presented for treatment via in-person or via phone-only telehealth. DNS rates include all appointments that were either cancelled by the client by failing to present for treatment or by the clinician. Before the use of telehealth services, the average kept appointment rate was 62 %, and the average DNS was 23 %. In Q2 of 2020 during the beginning of the pandemic and the use of telehealth, kept appointment rates reached their highest level in the agency's history at 75 %, and then slowly began to decrease. After the use of phone-only telehealth services, the average kept appointment rate was 72 %, and the average DNS rate was 19 %. Overall, the agency's kept appointment rates increased 10 % and the DNS rates decreased by 4 %.

Table 3 Kept Appointment Rates

		DNS	Kept
B-TH	**Q1 2019**	23%	62%
	Q2 2019	22%	62%
	Q3 2019	24%	64%
	Q4 2019	25%	61%

	Q1 2020	22%	61%
A-TH	**Q2 2020**	17%	75%
	Q3 2020	19%	74%
	Q4 2020	20%	71%
	Q1 2021	18%	70%
	Q2 2021	19%	70%

Table 4 Average Kept Appointment Rates

Averages	DNS	Kept
B-TH	23%	62%
A-TH	19%	72%

4.2 Number of Intake Appointments

An additional service delivery factor analyzed during the use of phone-only telehealth services is the number of new intakes being completed on a quarterly basis. Noted in the AnalyticsRX Dashboard as "Clinical Eval w/o MD Services," intake appointments identify the number of new clients presenting for services at the agency with intake clinicians. Prior to the use of telehealth services, the agency had an average of 177 client intake appointments per quarter. After the use of telehealth, the number of intake appointments significantly dropped to an average of 11.6 per quarter. The figures below show the overall decrease in intake appointments.

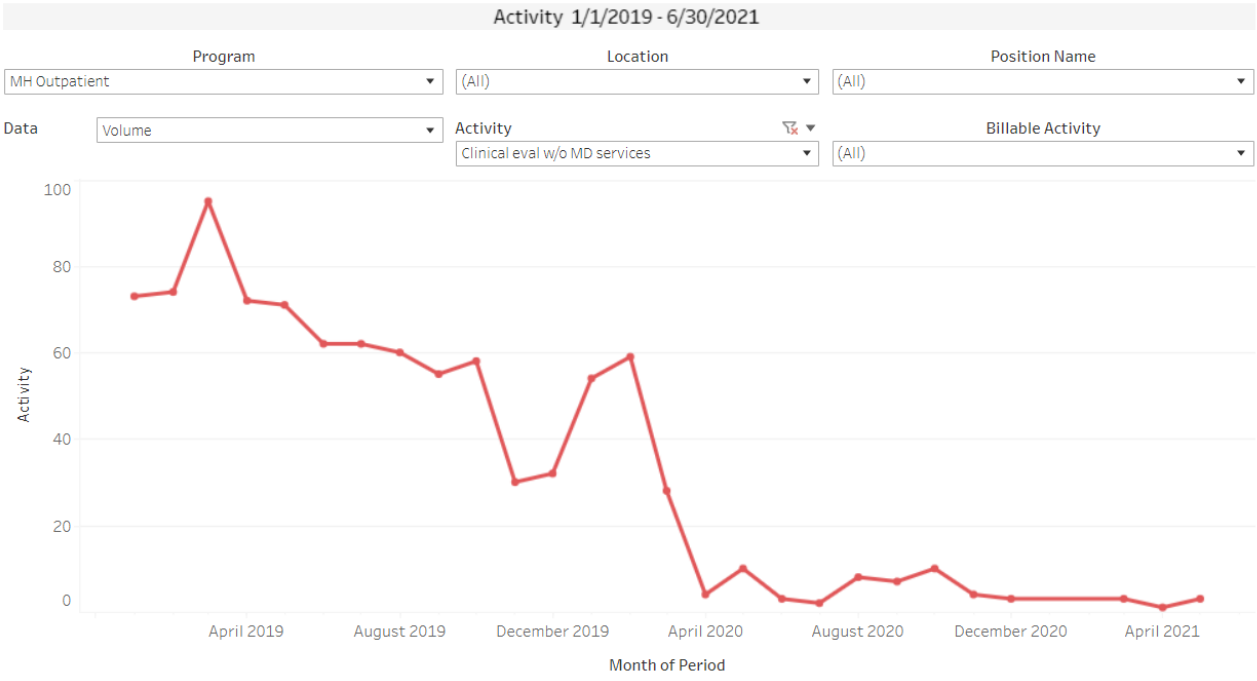

Figure 2 Number of Intake Appointments

Table 5 Number of Intake Appointments Per Quarter

		Number of Intake Apts.
B-TH	Q1 2019	242
	Q2 2019	205
	Q3 2019	177
	Q4 2019	120
	Q1 2020	141
A-TH	Q2 2020	17
	Q3 2020	17
	Q4 2020	17
	Q1 2021	3
	Q2 2021	4

Table 6 Average Number of Intake Appointments

Averages	Number of Intake Apts.
B-TH	177 / quarter
A-TH	11.6 / quarter

4.3 Average Appointment Duration

Another factor related to service delivery analyzed as a part of the evaluation is the average duration of a client's appointment. Below, a graph shows the changes in appointment duration before and after the use of telehealth services. Table 7 shows the total number of appointments by length, and table 7 shows the average duration of appointment by quarter. At the beginning of the evaluation in Q1 2019, the average duration of an in-person therapy appointment was 53.37 minutes, and the average duration rose to 54.53 minutes by Q1 2020. However, After the use of telehealth services began in Q2 2020, the average duration of an appointment dropped significantly to 39.67 minutes and remained that way for the next year until Q2 2021. Overall, the average duration of an appointment changed from an average of 54.1 minutes pre-telehealth to an average of 39.8 minutes post-telehealth.

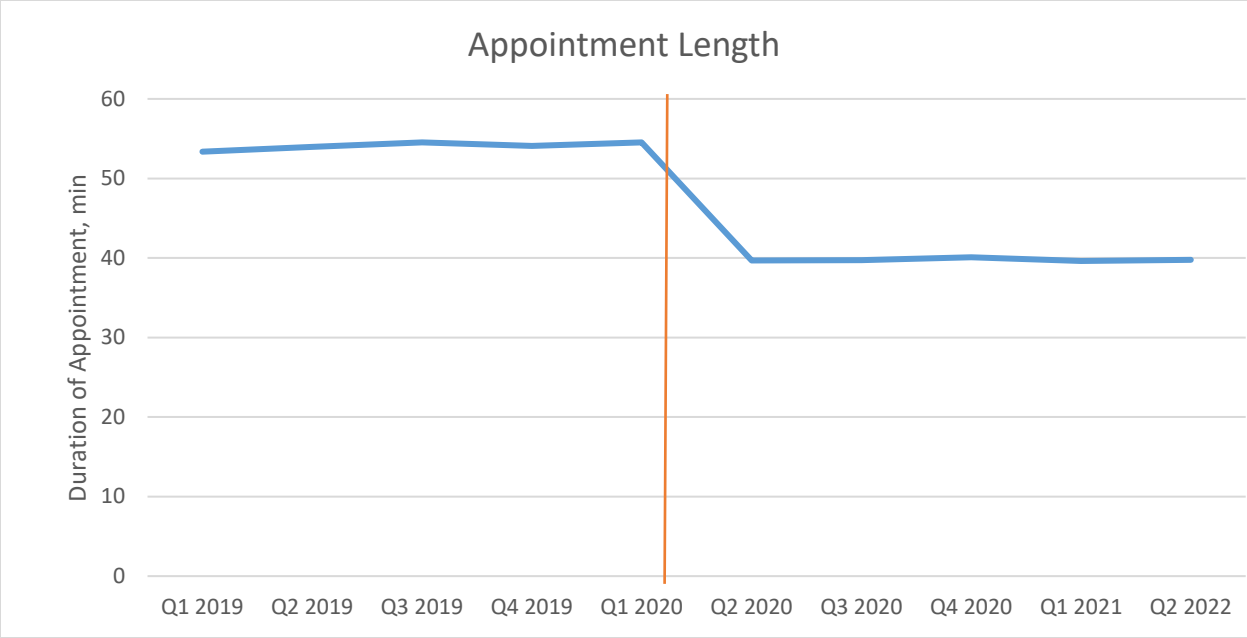

Figure 3 Average Duration of Appointment

Table 7 Total Number of Appointments by length

		16-37 min	38-52 min	53-69 min
B-TH	**Q1 2019**	228	731	1605
	Q2 2019	196	801	1791
	Q3 2019	161	737	1781
	Q4 2019	158	659	1494
	Q1 2020	118	541	1309
A-TH	**Q2 2020**	870	980	1171
	Q3 2020	861	910	1252
	Q4 2020	786	826	1353
	Q1 2021	852	764	1315
	Q2 2022	712	639	1162

Table 8 Average Duration of Appointments by Quarter

	Quarter	Apt Length (min)
B-TH	Q1 2019	53.37
	Q2 2019	53.98
	Q3 2019	54.53
	Q4 2019	54.08
	Q1 2020	54.53
A-TH	Q2 2020	39.67
	Q3 2020	39.73
	Q4 2020	40.10
	Q1 2021	39.62
	Q2 2022	39.76

4.4 Voluntary Discharges

Before telehealth, out of 891 discharged clients, 584 clients (65.5 %) voluntarily withdrew from receiving services. After telehealth, out of 834 discharged clients, 493 (59.1 %) voluntarily withdrew from receiving services. There was an overall 6.4 % decrease in the number of clients voluntarily withdrawing from services after the use of phone-only telehealth services, indicating that more clients chose to remain in services during the COVID-19 pandemic.

Table 9 % of Voluntary Discharges

	% Voluntary Disch.
B-TH	65.5%
A-TH	59.1%

4.5 Average GAD-7 Assessment Outcomes

Before telehealth, the average number of administrations of the GAD-7 was 4.33 administrations per client over a five-quarter period (January 2019 to March 2020). After telehealth, the average number of administrations was 5.28 over a five-quarter period (April 2020 to June 2021), which is an increase of .95. While mean initial scores and mean last scores stayed relatively stagnant in the moderate anxiety range (6-10), client's average rate of improvement increased by 6.06 % after the use of phone-only telehealth. Client's overall improvement increased by 3.69 % and the number of clients improved decreased by 30. This indicates that clients were being assessed more often using the GAD-7 during the COVID-19 pandemic and their rate of improvement and overall improvement increased while using telehealth services. Whether this decreased rate is due to telehealth services, personal factors, or external factors related to the pandemic is unclear.

Table 10 Average GAD-7 Assessment Outcomes (Taken from IMPACT Report)

	Number of Clients	Number of Administrations	Mean Initial Score	Mean Last Score	Rate of Improvement	Overall Improvement	Number of Clients Improved
Before TH	585	4.33	8.99	7.97	11.32%	49.71%	303
After TH	507	5.28	8.78	7.26	17.38%	53.40%	273

4.6 Average PHQ-9 Assessment Outcomes

Before telehealth, the average number of administrations of the PHQ-9 was 4.32 administrations per client over a five-quarter period (January 2019 to March 2020). After telehealth, the average number of administrations was 5.22 over a five-quarter period (April 2020 to June 2021), which is an increase of .9. While mean initial scores and mean last scores stayed relatively stagnant as indicated on the precalculated IMPACT reports, client's average rate of improvement decreased by .74 % after the use of phone-only telehealth. However, client's overall improvement remained relatively the same. This indicates that clients were being assessed more often using the PHQ-9 during the COVID-19 pandemic and client's rate of improvement and overall improvement stayed relatively the same. Whether this is due to telehealth services, personal factors, or external factors related to the pandemic are unclear.

Table 11 Average PHQ-9 Assessment Outcomes (Taken from IMPACT Report)

	Number of Clients	Number of Administrations	Mean Initial Score	Mean Last Score	Rate of Improvement	Overall Improvement	Number of Clients Improved
Before TH	591	4.32	9.83	7.77	21.10%	56.56%	327
After TH	511	5.22	8.91	7.11	20.36%	56.24%	280

5.0 Results

After the use of telehealth, the number of individuals using Medical Assistance as their payer source increased by 8 %, while the number of individuals using Medicare and commercial insurance decreased by 3 % and 4 %, respectively. Kept appointment rates increased by 10 %. Prior to the use of phone-only telehealth services, the agency had an average of 177 client intake appointments per quarter. After the use of telehealth, the number of intake appointments significantly dropped to an average of 11.6 per quarter. Overall, the average duration of an appointment changed from an average of 54.1 minutes pre-telehealth to an average of 39.8 minutes post-telehealth, which is an overall average decrease of 14.3 minutes. There was an overall 6.4 % decrease in the number of clients voluntarily withdrawing from services after the use of phone-only telehealth services.

After the use of telehealth services, clients were assessed more often using the GAD-7 and PHQ-9, but clients who took the GAD-7 showed a greater increase in individual improvement and overall improvement. While IMPACT reports show that client's average rate of improvement for the GAD-7 assessment increased by 6.06 % after the use of phone-only telehealth services, clients who took the PHQ-9 assessment showed little to no change. The significant increase in average rate of improvement for individuals who completed the GAD-7 suggest that individuals being treated for anxiety showed a greater rate of improvement over those being treated for depression over the course of the COVID-19 pandemic. Whether this is due to the pandemic itself, telehealth, or other internal or external factors is unclear.

6.0 Discussion

Some changes in the evaluated factors related to service delivery and program outcomes are likely correlated to the use of telehealth services, while change in other factors cannot be without further study. It is unclear why the number of individuals using Medical Assistance as their payer source increased by 8 %, while the number of individuals using Medicare and commercial insurance decreased by 3 % and 4 %. It is reasonable to state that the 10 % increase in kept appointment rates could be attributed to the use of telehealth services, which has been noted in the empirical literature to reduce SDOH barriers and increase adherence to appointments. Because clients are seen more often that they are getting assessed more often using the GAD-7 and PHQ-9, which can explain the overall increase in average number of administrations of assessments.

The overall the decrease in overall client intakes from 177 per quarter from January 2019 to March 2020 to 11.6 per quarter from April 2020 to March 2021 can also likely be attributed to the switch to telehealth services due to the sharp decrease between March and April of 2020 when telehealth was first in use, but it is important to note the additional external factors that could have impeded the organization's ability to complete new intake appointments. There are several possibilities other than telehealth, including full clinician caseloads or a clinician's inability to complete the necessary regulatory paperwork for intake over the phone. Overall, a decrease in intake appointments may not be indicative of an effect of the transition to telehealth services alone.

While the decrease in the average length of an appointment cannot be correlated to slower rates of improvement shown on the GAD-7 and PHQ-9 assessments, it is recommended that additional research on the relationship between the length of a client's appointments and their

progress in treatment be completed, as well as how average length of appointments can affect quality of care. Overall, it is not possible in the context of this study to discern the actual impact of telehealth on overall service delivery and quality of care and COVID-19's impact on these factors due to specific context in which the data was collected and presented.

7.0 Conclusion

In conclusion, the results indicated in this evaluation study show a complex future for the use of telehealth services in the community-based behavioral health sector, but overall did not deter Milestone Centers from continuing telehealth services past the emergency declaration period. Research on the switch from phone-only telehealth services to video services will be completed in the near future, and the data analyzed in this study will allow Milestone to pursue a video telehealth platform with caution and deliberateness to address some of the problematic service delivery outcomes discovered in this study, such as the significant decrease in overall intake appointments per quarter. It is recommended that Milestone pursue video telehealth as a trial and continue to complete trend analysis on factors related to service delivery and program outcomes quarterly.

To better asses the impact and acceptability of telehealth services, it is recommended that Milestone engage outpatient clinicians and clients in community-based participatory research methods. Overall, the evaluation study is missing insightful qualitative information regarding the transition to telehealth during the COVID-19 pandemic that can only be gained through the use of research methods such as focus groups, individual interviews, or qualitative data analysis from open-ended survey responses including patient satisfaction surveys. Additional research using these methods is recommended to gain better context into the changes in service delivery and program outcomes.

While providers in this sector have long been prevented from disseminating this evidence-based practice as a method of service delivery, the COVID-19 pandemic released their burdensome regulatory oversight requirements and opened the floodgates for telehealth to finally become a reality. However, for payer sources such as CMS to accept that telehealth is here to stay for the

foreseeable future, outcomes data supporting improved service delivery and program outcomes, decreased costs, and improved efficiency and effectiveness will need to be present and beyond convincing. It is recommended that providers in the community-based behavioral health sector engage in collective impact through external advocacy groups such as the Rehabilitation and Community Providers Association (RCPA) to begin collecting outcomes data on telehealth services during COVID-19. Collecting this data can support an advocacy campaign to decrease regulatory restrictions surrounding the use of telehealth services. Through continuing to analyze telehealth outcomes data past the duration of the COVID-19 pandemic and implementing strong advocacy efforts, providers in the community-based behavioral health sector will be able to fight for the truth that they've known for years: telehealth works, and it is the future of outpatient service delivery.

Appendix A OMHSAS Bulletin Chronology

Table 12 OMHSAS Bulletin Chronology

Bulletin Date	Bulletin Name	Impact on Telehealth Services
March 18, 2014	**OMHSAS-14-01** "OMHSAS Guidelines for the Approval of Telepsych Services in HealthChoices."	• Providers unable to provide "telepsych services" without the approval of the department and the documented endorsement of the county mental health program and the HealthChoices Behavioral Health Managed Care Organization (BHMCO)
February 20, 2020	**OMHSAS-20-02** "Guidelines for the Use of Telehealth Technology in the Delivery of Behavioral Health Services."	• Telehealth services restricted to real-time, two-way interactive audio-video transmission only • Did not permit the use of telephone only conversations between licensed practitioners and clients
March 6, 2020	**"Proclamation of Disaster Emergency"**	• Caused the immediate transition to phone-only telehealth services
March 15, 2020	**Memorandum:** "Telehealth Guidelines Related to COVID-19."	• Temporarily expanded the use of telehealth services from previous restrictions of real-time, two-way interactive audio-video transmission only described in bulletin OMHSAS-20-02 to real-time, two interactive audio
September 30, 2021	**OMHSAS-21-09** "Guidelines for the Delivery of Behavioral Health Services Through Telehealth."	• Restricted an outpatient provider's ability to provide audio-only telehealth services except in certain circumstances and required a waiver process • Forced providers to use in-person services or audio/video only services

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