

REPORT TO CONGRESS

**REDUCING BARRIERS TO FURNISHING SUBSTANCE USE DISORDER (SUD)
SERVICES USING TELEHEALTH AND REMOTE PATIENT MONITORING FOR
PEDIATRIC POPULATIONS UNDER MEDICAID**

FINAL REPORT

As Required by section 1009(d) of the
Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment
for Patients and Communities Act (Pub. L. 115-271)

May 15, 2020

Section 1009(d) of the SUPPORT for Patients and Communities Act required the Secretary of Health and Human Services (HHS), acting through the Administrator of the Centers for Medicare & Medicaid Services (CMS), to issue this final report. The Office of the Assistant Secretary for Planning and Evaluation (ASPE) and their contractor RTI International prepared this final report in consultation with CMS. While this report includes programs and cites to laws administered by federal agencies, it is not a federal endorsement of specific programs. All research included in this report was completed in 2019 prior to the COVID-19 national public health emergency.

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EXECUTIVE SUMMARY

Introduction

Section 1009(d) of the SUPPORT Act requires the Secretary of the Department of Health and Human Services, acting through the Administrator of the Centers for Medicare & Medicaid Services (CMS), to provide a report to Congress identifying best practices and potential solutions for reducing barriers to using services delivered via telehealth to furnish services and treatment for substance use disorder (SUDs) among pediatric populations under Medicaid. The Office of the Assistant Secretary for Planning and Evaluation (ASPE) and their contractor Research Triangle Institute (RTI) International drafted this final report in consultation with CMS. Although generally telehealth has become more prevalent in the last decade, uptake is not yet widespread (Bashshur, Shannon, Bashshur, & Yellowlees, 2016; Benavides-Vaello, Strode, & Sheeran, 2013; Dorsey & Topol, 2016), particularly among pediatric populations with SUD. Understanding the barriers to the use of telehealth and best practices to overcome these barriers among the pediatric population is critical to increasing access to SUD services for this population.

Methods

RTI conducted an environmental scan, interviewed key researchers, clinicians, and healthcare administrator informants via phone, and conducted two in-person case studies to identify best practices, barriers and potential solutions for using services delivered via telehealth to diagnose and provide services for pediatric patients with SUD. Differences in service provision for children with SUD using services delivered via telehealth and using services delivered in person were also explored with respect to utilization rates; costs; avoidable inpatient admissions and readmissions; quality of care; and patient, family, and provider satisfaction.

Results

Best Practices

Best practices are still evolving and emerging; however, there are a few general principles for telehealth applicable to behavioral health, including the need for organizational readiness, engagement of clinical and administrative staff, investment in technology, efforts to increase

technology acceptance, and support of ongoing service delivery. Key informants also mentioned workforce shortages, balancing face-to-face and telehealth sessions, having a designated telehealth coordinator, and engagement of families, specifically.

Barriers

The environmental scan revealed that the lack of technology investment and technology acceptance are barriers to the provision of services via telehealth. Ongoing service delivery, capacity issues, licensing and credentialing requirements can also be challenging. Key informants added that barriers often exist due to state limits and restrictions on reimbursement for telehealth services. They also noted workforce shortages and concerns about the loss of non-verbal cues or other SUD-related cues are barriers (e.g., the patient's smell, hygiene, or visual indicators of self-harm). A specific barrier that emerged in the case studies were state laws that prohibited prescribing any controlled substances for students in a school-based clinic other than attention-deficit/hyperactivity disorder (ADHD) medications.

Potential Solutions

Identification of systems and processes to support coordination within and across organizations may help address the barriers associated with capacity and ongoing service development. The key informants stressed the value of having a dedicated telehealth program coordinator to facilitate solutions to common barriers, and the importance of site-based staff to support telehealth programs was emphasized in the case studies. Initiatives to increase technology access (e.g., broadband internet) and decrease technology costs may help address barriers to service delivery. Training of clinical and administrative staff and patients may also improve technology acceptance.

Utilization Rates

The environmental scan showed that utilization rates may be higher at schools with versus without services delivered via telehealth for students with special health care needs and in rural areas versus urban areas. The case studies showed that the telehealth program representatives feel that their patients are much more likely to persist in treatment than face-to-face patients, with one program reporting a 90% completion rate. Further study is needed to obtain more robust

estimates of the net changes in health care utilization associated with telehealth-delivered mental health or substance use disorder (MH/SUD) services.

Costs

Information specific to the total cost of care and treatment was limited. Few studies provided any quantifiable results on the costs of telehealth models. While case study participants also did not have formal economic data available, they noted that payers and other providers had not reported excess costs or use of other services among their patients. They also noted that, beyond near-term health care cost savings, they felt strongly that their programs would ultimately save society resources by reducing inefficient use of misapplied community resources (e.g., teacher time) and reducing the long-term costs associated with untreated pediatric disorders. On average, the program representatives believe that the cost of their services delivered via telehealth was equal to that of in-person services, even including some fixed technology costs.

Avoidable Inpatient Admissions and Readmissions

There was limited information in the environmental scan about how telehealth for pediatric patients with SUD impacts avoidable inpatient admissions and readmissions. Results are varied with respect to whether telehealth interventions increase or decrease use of urgent or emergency care.

Quality of Care

Overall, the quality of telehealth care is similar to that of face-to-face care, both generally and in behavioral health, specifically. Case study participants felt that the quality of their programs was as good as or better than face-to-face delivery.

Patient, Family and Provider Satisfaction

Telehealth use and satisfaction is influenced by both pediatric patients' and their caregivers' access to technology, knowledge of available resources, and willingness to interact with the technology, all factors that may be influenced by the potential user's educational, socioeconomic, health, and other personal characteristics. Key informants agreed that telehealth as a modality for pediatric SUDs is often preferred by patients over traditional encounters.

Telehealth satisfaction and uptake is also influenced by provider factors such as training and technology acceptance.

The environmental scan also yielded examples of programs that demonstrate the potential advantages of providing services via telehealth, including the reduction of unnecessary patient transfers, improved access to services through school-based care, and provision of training, expertise, and/or certification opportunities to providers in areas that are relevant to the patients they are treating.

Many of the resources reviewed in the environmental scan called for regulatory changes to promote the uptake of telehealth delivery methods to treat SUDs. The scan identified a number of policies, many of which support the use of telehealth more generally and were not unique to pediatric patients with SUD. Those policies that did specifically address telehealth service delivery methods emphasized the treatment of opioid use disorder (OUD) and medication assisted treatment (MAT). Policies governing privacy and protection of personal data influence telehealth models, particularly for pediatric patients and their parents and for sensitive care areas like SUD and mental health.

Medicaid coverage for services delivered via telehealth varies by state according to factors such as the setting where the patient is located, types of services, provider type, and whether the service was delivered synchronously or asynchronously. Some states restrict reimbursement for services delivered via telehealth for behavioral health issues. All states providing Medicaid-covered services delivered via telehealth include some form of coverage and reimbursement for certain mental health services.

Discussion/Conclusion

Much of the evidence base for the use of telehealth with pediatric patients comes from treatment of mental disorders, which provides valuable lessons learned and next steps forward. Overall, programs are successfully providing quality services to patients who may not otherwise have access. Many questions remain, however, around best practices in different settings with different pediatric patient disorders, optimal staffing and financial viability.

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BACKGROUND

Substance use disorder (SUD) among the pediatric population (ages up to 21) has been identified as a significant public health concern. As of 2018, an estimated 3.7 percent of adolescents aged 12 to 17, and 12.9 percent of young adults aged 18 to 20, had an SUD (SAMHSA, 2019). Substance use during adolescence is associated with short- and long-term negative effects on functioning and well-being. Brain development may be delayed or altered with consequences that can persist throughout adulthood (Chassin et al., 2010; Eiden et al., 2016; Squeglia, Jacobus, & Tapert, 2009; Tapert, Caldwell, & Burke, 2004). Substance using adolescents are more likely to experience worse mental health and have behavioral problems (Ali et al., 2015; Bouvier et al., 2019; Poon, Turpyn, Hansen, Jacangelo, & Chaplin, 2016; Schuler, Vasilenko, & Lanza, 2015; Trim, Meehan, King, & Chassin, 2007; Volkow, Baler, Compton, & Weiss, 2014) and to have poorer academic outcomes (Heradstveit, Skogen, Hetland, & Hysing, 2017; Kelly et al., 2015). Adolescents with early onset heavy substance use are most likely to remain heavy users as they transition into adulthood (Derefinko et al., 2016; Winters et al., 2018). Despite evidence for the effectiveness of many different treatment modalities for adolescents (Nelson, Ryzin, & Dishion, 2015; Wu, Zhu, & Swartz, 2016), only 14.1 percent received any form of SUD treatment. Among all adolescents with an SUD, those with opioid use disorder (OUD) are the least likely to receive treatment (Winters et al., 2018; Wu et al., 2016). Adolescents face many barriers to accessing treatment, including stigma, which may prevent adolescents or their guardians from seeking help; logistical limitations, such as a lack of transportation or locally available specialty treatment providers; and financial limitations, such as being uninsured or underinsured. Among many strategies to reduce barriers to treatment access, telehealth models of service delivery have the promise of expanding access, improving treatment engagement and retention, enhancing the clinical outcomes of evidence-based services, and reducing costs (Bashshur et al., 2016; Benavides-Vaello et al., 2013; Wu et al., 2016).

Although generally telehealth has become more prevalent in the last decade, its it has not been adopted widely across all patient groups (Bashshur et al., 2016; Benavides-Vaello et al., 2013; Dorsey & Topol, 2016), particularly pediatric patients. Much of the existing work on barriers and facilitators to telehealth to support SUD treatment focuses on the adult population. Common barriers to telehealth implementation for a general patient population include staff and patient acceptance; cost and reimbursement; workflow challenges; and technology

availability/connectivity (Myers et al., 2017). Additionally, providers often experience barriers related to ensuring privacy, confidentiality, and security; initial setup costs; and other technical difficulties that can potentially compromise confidentiality.

While many telehealth considerations apply equally to adult and pediatric populations, there are some potential differences. For example, pediatric patients may be more likely to embrace technology. Recent surveys from the Pew Foundation have pointed to adult technology and social media use remaining stagnant and teen use increasing (Pew Research Center, 2018, 2019a). Meanwhile, privacy while living with family or roommates can be a concern for pediatric patients. In contrast, stigma about receiving mental health or substance use disorder (MH/SUD) services may be lessened when delivered via telehealth. However, there is some evidence that parents' willingness to access mental health services is more influenced by stigma when the services are delivered via telehealth (Polaha, Williams, Heflinger, & Studts, 2015). Financing is another potential barrier to telehealth for the pediatric population. While Medicaid and the Children's Health Insurance Program are the main coverage sources for behavioral health coverage and treatment of SUD for the pediatric population (Centers for Medicare & Medicaid Services, n.d.-a), Medicaid-covered services delivered via telehealth vary by state. Although variation in coverage across states is also a challenge for providers serving adults, it can exacerbate the existing workforce challenges for pediatric patients with MH/SUD who need services from providers with specialized training. Understanding the barriers to the use of telehealth and best practices to overcome these barriers among the pediatric population is critical to increasing access to SUD services delivered via telehealth for this group.

PURPOSE AND SCOPE

The goal of this work is to gain a greater understanding of contextual factors influencing the use of telehealth for SUD services for pediatric populations, with a focus on services funded by Medicaid. For the purposes of this work, the term *pediatric* refers to individuals up to the age of 21. *Telehealth* refers to synchronous and asynchronous provider-to-provider and provider-to-patient services (RTI International, 2017, September 15). However, only provider-to-patient services are eligible for Medicaid coverage. The literature on telehealth for SUD among pediatric populations is limited and varied in scope and quality. This report includes relevant findings for

telehealth for SUD among adult populations where appropriate, as well as information on mental health services delivered via telehealth for pediatric patients.

This study will support fulfillment of the requirements of section 1009(d) of the Substance Use–Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act (SUPPORT for Patients and Communities Act), Public Law No. 115-271, which requires the Secretary of the Department of Health and Human Services to provide a report “identifying best practices and potential solutions for reducing barriers to using services delivered via telehealth to furnish services and treatment for SUDs among pediatric populations under Medicaid.”

Pursuant to section 1009(d) of the SUPPORT for Patients and Communities Act, the research questions guiding this work are:

1. What are the best practices, barriers and potential solutions for using services delivered via telehealth to diagnose and provide services and treatment for children with SUD, including OUD?
2. What are the differences, if any, in furnishing services and treatment for children with SUD using services delivered via telehealth and using services delivered in person with respect to:
 - utilization rates;
 - costs;
 - avoidable inpatient admissions and readmissions;
 - quality of care; and
 - patient, family, and provider satisfaction.

To answer these questions, RTI conducted an environmental scan, met with key informants via phone, and conducted two in-person case studies. RTI used qualitative analysis methods to analyze the data and identify themes. This report presents the findings from each component of the study.

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DATA AND METHODS

DATA COLLECTION

Data collection includes findings from the environmental scan, discussions with key informants, and case studies. The objective of the environmental scan was to assess the current state of the literature on SUD services delivered via telehealth to help answer our research questions and inform the discussions with key informants and with case study participants. Key informant interviews supplemented the environmental scan by ensuring that we identified newer information and programs, provided the opportunity for more in-depth discussion of key topics, and helped to identify possible case study sites. The objective of the case studies was to learn from on-the-ground experiences of those who administer and use telehealth in the field. Even when literature or documented guidance exists for key topics, firsthand accounts and explanations add clarity and provide a broader context for the published information, address emerging issues, and provide concrete examples of challenges and solutions.

Environmental Scan

The scan included a literature review that identified and synthesized findings from peer-reviewed journals; gray literature; issue briefs; Federal, state, and local government reports; and conference proceedings and presentations. Where possible, we focused on publications from 2012 through May 2019. Earlier publications were included if they provided key insights not available in the more recent literature. To conduct the literature review, we developed a list of keywords from the research questions. MLS-trained librarians provided input on the keywords and assisted in searches. We then obtained relevant articles for review and analysis using the following process.

Search Parameters

We performed a literature search of the four major databases listed below for peer-reviewed and gray literature published from 2012 to date:

- PubMed
- Web of Science (includes Science Citation Index Expanded, Social Sciences Citation Index, Conference Proceedings Citation Index-Science, and Conference Proceedings Citation Index-Social Science & Humanities)

- PsycINFO
- New York Academy of Medicine Grey Literature Database (to 2016)

Each database was queried for the intersection of:

- telehealth AND pediatric populations
- telehealth AND opioids OR substance abuse OR behavioral health
- telehealth AND other terms.

Below are the search parameters.

- **Telehealth:** telehealth OR "tele-health" OR telemental OR "tele-mental" OR telemedicine OR "tele-medicine" OR telerehabilitation OR "tele-rehabilitation" OR teleconsultation* OR "tele-consultation*" OR "remote consultation*"
- **Pediatric population:** pediatric* OR pediatrician* OR child* OR youth* OR adolescent* OR teen* OR school* OR college* OR university* OR "young adult*" OR "transition age"
- **Opioids, substance abuse, behavioral health:** opioid* OR opiate* OR heroin OR fentanyl OR OxyContin OR Vicodin OR hydrocodone OR oxycodone OR narcotic* OR behavioral OR "substance us*" OR "substance abuse*" OR "drug abuse*" OR "drug us*" OR addiction OR "mental health" OR alcohol
- **Other terms:** Medicaid OR barrier* OR quality OR utilization OR cost OR costs OR economic* OR financial* OR finance* OR financing OR satisfaction OR readmission* OR admission* OR "best practice*"

In addition to the searches listed above, we conducted targeted Google searches to identify changes in policies around telehealth for this population, relevant Medicaid policies, and specific telehealth applications such as school-based health.

All publications were downloaded to an EndNote database. We identified 215 unduplicated articles. Two analysts from the research team reviewed abstracts for each and identified 189 articles for full review. Each member of the team participated in reviewing a selection of the articles which included reading the entire article and extracting information to be recorded into a tracking form.

Discussions with Key Informants

To supplement the findings from the environmental scan, we conducted semi-structured discussions via telephone with nine key informants and categorized findings based on themes and research questions. Specifically, the results are presented by the best practices, barriers and solutions, and differences in in-person versus telehealth service delivery for SUD treatment in pediatric patient populations.

Potential key informants were identified based on the findings of the environmental scan and a review of professional organizations. From this potential list, informants were categorized based on several criteria, including the following:

- Experience with telehealth for behavioral health services
- Geography
- Type of behavioral health services provided
- Diversity of role at organization

A discussion guide was developed to support the interview and included probing sub-questions to prompt the informant to provide their unique perspective on different topics (Appendix A). The perspectives represented included the following:

- Researchers
- Clinicians
- Health care administrators

The key informant discussions were conducted to help us gain a better understanding of policies that influence treatment of the pediatric population with SUD via telehealth and reimbursement aspects, such as coverage by Medicaid and private payers. The RTI team developed a semi-structured discussion guide to support the discussions that covered the key research questions. The guide was designed to take advantage of the unique perspectives of each selected informant.

Key Informant and Program Characteristics

Discussions were held with nine key informants covering a variety of perspectives, including the following non-mutually exclusive categories:

- five physicians, three of whom were psychiatrists
- three nurses
- three researchers with university faculty appointments
- three government officials
- three acting as administrators in a provider organization

Three university medical centers were represented as well as two private provider organizations. Two separate state governments were represented. At least one respondent was also associated with each of the following:

- Indian Health Service
- Telehealth Resource Center funded by the Health Resources & Services Administration
- American Telemedicine Association

The key informants' backgrounds in telehealth were varied, ranging from only very recent experience to more than 20 years of experience with telehealth. One clinician worked for 20+ years in pediatric care and then transitioned into the role of clinical information technology liaison where they have been developing and running the telemedicine program for the past 7 years. Another stakeholder reported using telehealth for pediatric behavioral health services for more than 20 years and provided a unique perspective on how telehealth has evolved in their state. One administrator had worked for more than 24 years within their current state's department of public health and has been the point of contact for all telehealth-related activities since the department established an office dedicated to telehealth. One administrator wrote their provider organization's first policy on telehealth and has since continued to expand it.

Four of the key informants had experience providing clinical pediatric MH/SUD services face-to-face and using telehealth, including one in a school-based telehealth program. The rest were either administrators associated with such programs or had related policy roles.

Case Studies

In order to gain additional perspective from providers in the field, we conducted in-person discussions with staff from selected provider organizations. These visits helped to address

gaps and supplement findings from the literature and the key informant interviews. Based on results from the environmental scan and key informant interviews, we developed an interview guide for providers, administrators and community partners/stakeholders (Appendix B).

We identified potential provider sites based on several criteria, including:

- Experience with telehealth for pediatric populations
- Experience with telehealth for delivering MH/SUD treatment services
- Geography (rural vs. urban and U.S. regions)
- Setting (e.g., outpatient clinic, Federally Qualified Health Center)
- Type of telehealth in use (provider-to-provider or provider-to-patient)

Sites were contacted by phone or email to discuss the possibility of a site visit following a script explaining the purpose of the visit and what they might expect during the visit. During the site visit, we spoke with different stakeholders involved in the telehealth program(s). These included providers, administrators, and other representatives of the organization delivering the telehealth services. When feasible, we also met with stakeholders from partner organizations who may have been directly or indirectly involved with the telehealth program. In addition, we briefly reviewed the telehealth technology and setting firsthand. We recognized that organizations' time was very limited and that meeting with us could have been disruptive; therefore, we worked with each site to plan a visit that would minimize any burden. We were on-site for no longer than one day during regular business hours, and our team consisted of two staff and a representative from ASPE.

The two case study sites that we visited are university medical centers with Health Resources and Services Administration (HRSA)-funded Telehealth Resource Centers. Both sites have a broad portfolio of telehealth activities, including programs that provide services to pediatric patients with mental disorders. Descriptions of the two case study sites are provided in ***Appendix B***.

DATA ANALYSIS

All study data were analyzed using qualitative analytic methods. Results from the literature review were analyzed by identifying themes relevant to the research questions. Qualitative data from key informant and in-person discussions were also analyzed thematically.

The results of each of the three data sources are organized by primary research question. The key informant and in-person case studies reflect on the environmental scan results when appropriate. We also highlight innovative programs and approaches to the use of telehealth identified in the literature and in discussions with key stakeholders and providers.

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RESULTS

OVERVIEW OF ENVIRONMENTAL SCAN RESULTS

Overall, the environmental scan highlighted the knowledge gaps in the field about the use of telehealth for SUD services for the pediatric population. Much of the evidence base for the use of telehealth with pediatric patients comes from treatment of mental disorders. Most of the evidence found regarding use of telehealth for SUD services is based on adult populations, and it is unclear the extent to which these experiences would be similar among a pediatric population.

Exhibit 1 summarizes differences in the evidence base by modality, funding sources, barriers and facilitators. We have categorized the strength of evidence as scant (very little or no information about this topic), emerging (several resources about the topic, but not enough to gain a consensus) or strong (many resources about this topic over a period of time).

Exhibit 1. Summary of Evidence from Available Literature

Category	State of Evidence
Research Question 1. Best practices, barriers and solutions	
Telehealth best practices	
SUD treatment with pediatric populations	Scant
SUD treatment with adult populations	Emerging
Other treatment focus with pediatric populations	Scant
Barriers/issues for using telehealth treatment/services for SUD	
SUD treatment with pediatric populations	Emerging
SUD treatment with adult populations	Strong
Other treatment focus with pediatric populations	Emerging
Facilitators to address barriers	
SUD treatment with pediatric populations	Emerging
SUD treatment with adult populations	Strong
Other treatment focus with pediatric populations	Emerging
Research Question #2: Telehealth vs. in-person	
Utilization rates	
Utilization rates for adult or pediatric populations with SUD	Scant

Exhibit 1. Summary of Evidence from Available Literature (continued)

Category	State of Evidence
Costs	
Costs for treatment of adult or pediatric populations with SUD	Scant
Avoidable inpatient admissions and readmissions	
Avoidable inpatient admissions and Readmissions for adult or pediatric SUD	Scant
Quality of care	
SUD treatment for pediatric populations	Scant
SUD treatment for adult populations with SUD	Scant
Other treatment focus with pediatric populations	Emerging
Patient and family satisfaction	
SUD treatment with pediatric populations	Scant
SUD treatment with adult populations	Emerging
Other treatment focus with adult or pediatric populations	Strong
Provider satisfaction	
SUD treatment with pediatric populations	Scant
SUD treatment with adult populations	Scant
Other treatment focus with pediatric populations	Emerging
Examples of programs	
Telehealth in schools	
SUD treatment with pediatric populations	Emerging
SUD treatment with adult populations	Emerging
Other treatment focus with pediatric populations	Emerging
Teleconsultations in the emergency department	
SUD treatment with pediatric populations	Scant
SUD treatment with adult populations	Scant
Other treatment focus with pediatric populations	Emerging
Family-based treatment approaches	
SUD treatment with pediatric populations	Strong
Other treatment focus with pediatric populations	Emerging
Provider to provider use of telehealth to augment face-to-face care	
SUD treatment with pediatric populations	Scant
SUD treatment with adult populations	Emerging
Other treatment focus with pediatric populations	Scant

ENVIRONMENTAL SCAN AND DISCUSSION RESULTS BY QUESTION

What Are the Best Practices, Barriers and Potential Solutions for Using Services Delivered Via Telehealth to Diagnose and Provide Services and Treatment for Children With SUD, Including OUD? (Research Question #1)

Best Practices

As telehealth use has grown, some best practices have been formalized and disseminated in the form of handbooks or guidelines. These are not specific to SUD for pediatric populations and apply to telehealth generally or to pediatric telehealth generally (American Academy of Pediatrics, 2017). Some of these resources offer broad guidance—for example, the United Kingdom’s National Health Service released a guide on telehealth capabilities aimed at demonstrating value to public officials (National Health Services, 2016). Other telehealth best practices are tailored to specific treatment programs, such as enhancing access to medication assisted treatment (MAT) and frequent contact with support systems for OUD treatment (Knopf, 2013). Although best practices are still evolving and emerging, there are a few general principles for telehealth that will apply to telehealth for behavioral health.

Organizational Readiness

One of the best practices frequently noted in the literature involves ensuring organizational readiness. These activities include planning, understanding the current state of the organization’s culture and infrastructure and its particular needs. Planning should begin with an early assessment of the needs of the community and the capability of telehealth to address any gaps or issues (California Telehealth Resource Center, 2014). Factors such as the existing technology available, how technology might be adapted for future programs, and quality assurance should all be considered and addressed early on (Molfenter, Brown, O’Neill, Kopetsky, & Toy, 2018; V. Perry, 2016). In addition, planning should include how telehealth will be integrated into clinical and administrative workflows (Molfenter et al., 2018). This includes identifying how care will be scheduled, coordinated and delivered (Gagnon, Duplantie, Fortin, & Landry, 2006). This also includes mechanisms for identifying emergency and non-emergency communications (Tofighi, Grossman, Sherman, Nunes, & Lee, 2016).

Engagement

Involving clinical and administrative staff in the decision to implement telehealth and develop related policies and protocols can improve their engagement and perceptions of telehealth. Often, administrative staff such as telehealth coordinators at originating and distant sites maintain communication and work together closely on tasks such as coordinating scheduling, relaying laboratory results, and following up with providers and patients. In addition, administrative engagement at the leadership level can help facilitate buy-in and engagement.

Provider engagement and buy-in are needed to support telehealth uptake. One way to do that is to get provider involvement in identifying and developing clinical practice guidelines and outlining the ways in which telehealth is appropriate (Myers et al., 2017). Initiatives are more likely to have an impact on care outcomes and facilitate access to care when providers champion telehealth use. In rural Alabama, for example, a community organized a child telepsychiatry program using distance learning equipment available at the county technical high school. To accomplish this, providers in the community had to work with state Medicaid officials to understand reimbursement policies, as well as arrange for services from the University of Alabama Department of Psychiatry to be furnished. Their program now provides weekly services to children with a range of diagnoses (Merrell & Doarn, 2013).

Barriers and Solutions to Overcome Them

The literature includes discussion of several barriers to telehealth use, including the need for technology investment, technology acceptance, and challenges associated with ongoing service delivery.

Technology Investment

Barriers.

Although specific equipment needs vary across telehealth programs, all programs need internet connectivity. Broadband gaps throughout the United States mean that some areas are more likely than others to have sufficient connectivity to support telehealth (Federal Communications Commission, n.d.-a). Applications such as videoconferencing require more bandwidth and a faster connection than what is consistently available throughout the country (California Telehealth Resource Center, 2014; McGinty, Saeed, Simmons, & Yildirim, 2006). A

strong internet connection is needed to prevent quality issues such as lagging or skipping while providing services. In addition, high network use by a telehealth application may interfere with other staff members' work, particularly if the organization uses cloud-based services. Current industry standards recommend that small physician practices and rural health clinics have internet capability in line with U.S. Federal Communications Commission (FCC) broadband internet benchmarks. Broadband download speeds are generally 25 Mbps for streaming ultra HD 4k video. Accounting for at least that capacity would allow for EHRs, videoconferencing, and other uses of technology (Federal Communications Commission, 2019a; HealthIT.gov, 2019a). This is in line with the bandwidth needed to stream high-quality video generally.

Solutions.

There are a number of initiatives aimed at increasing broadband capability throughout the country which may ameliorate these concerns (Federal Communication Commission, 2010). For example, the FCC has allocated funds to expand broadband access (Federal Communications Commission, 2019b) and 4G access throughout the country (Federal Communications Commission, n.d.-b). In addition, efforts have been made to support broadband adoption through launching the Broadband Deployment Advisory Committee (Federal Communications Commission, 2019c) and developing, reviewing and revising rules to promote streamlining the process to transition to modern broadband networks. These initiatives may reduce the cost of increasing the bandwidth necessary for telehealth interventions.

Technology Acceptance

Barriers.

Lack of access to technology and low technology competency across providers and patients are barriers to telehealth (Muench, n.d.; K. Perry, Gold, & Shearer, 2019). In addition, interruptions, technological complexity or other challenges in the visit can reduce technology acceptance for both providers and patients (Boudreaux, Haskins, Harralson, & Bernstein, 2015; Tofighi et al., 2016).

Solutions.

Organizations can help promote technology acceptance and combat issues by providing initial training and technical support for both patients and providers (Batastini, King, Morgan, & McDaniel, 2016).

Some provider associations have started being proactive to encourage technology use and assuage concerns. For example, the American Telemedicine Association maintains directories of their members, allowing practitioners the opportunity to communicate with their peers (Becevic, Boren, Mutrux, Shah, & Banerjee, 2015). The National Frontier and Rural—Addiction Technology Transfer Center holds an annual summit for telehealth training during which providers can interact in person (Reynolds & Maughan, 2015).

Telehealth can greatly reduce initial visit wait times for patients seeking mental health services in rural clinics by making additional providers available, which can influence patient acceptance. Thorough planning for integration into provider workflow (organizational readiness) can help support efficiency and reduce interruption to workflow, both of which are critical to physician buy-in and the ultimate success of initiatives (Gagnon et al., 2006).

Supporting Ongoing Service Delivery

Barriers.

Ongoing service delivery can be challenging due to workforce shortages and capacity issues and the need for coordination. In the past, telehealth educational services were scheduled as far a year in advance because of demand (HealthIT.gov, 2019b; Kraetschmer, Deber, Dick, & Jennett, 2009). In addition, telehealth services across organizations require coordination and information sharing, which may be difficult due to interoperability concerns.

Solutions.

Identification of systems and processes to support coordination within and across organizations may help address the barriers associated with capacity (Luxton, Pruitt, & Osenbach, 2014). In one model, remote providers can more quickly perform initial diagnostic assessments and help plan for ongoing medication maintenance (Johnston & Yellowlees, 2016). The Office of the National Coordinator is embarking on efforts to improve interoperability to enhance data sharing across organizations, including for technologies to enable services delivered via telehealth (The Office of the National Coordinator for Health Information Technology, 2015).

What Are the Differences, If Any, in Furnishing Services and Treatment for Children With SUD Using Services Delivered Via Telehealth and Using Services Delivered in Person? (Research Question #2)

For the general population, the literature indicates no significant difference between services delivered via telehealth and face-to-face services. Limited information is available about telehealth use for pediatrics, particularly for those patients with SUD.

Utilization Rates

Although there were no studies comparing the rates of service utilization for SUDs for a pediatric population between telehealth and face-to-face encounters, a few studies analyzed service utilization rates for broader health care services. In a systematic review of school-based telehealth studies for acute and chronic illness, utilization was equal or higher in schools with telehealth for students with special health care needs or medical complexities (Sanchez, Reiner, Sadlon, Price, & Long, 2019). In another national study of Medicaid beneficiaries of all ages, rural patients used telehealth more than urban patients, particularly for psychotropic medication management (Talbot et al., 2018).

Costs

Although there was information available about financing, information specific to the total cost of care and treatment was limited. Some publications mentioned that telehealth reduced transfers to other facilities and reduced the use of transportation overall, but few showed quantifiable results on the costs of telehealth models.

There are a number of business models to support telehealth, depending on the specific application used (Chen, Cheng, & Mehta, 2013). However, there is no clearly established best practice approach to compare cost between services delivered via telehealth and face-to-face care. For example, the cost of equipment (e.g., computers or higher-speed internet) should be included in any comparison if that equipment is only used for the telehealth intervention. However, its inclusion in a cost assessment is less clear if the equipment is used for non-telehealth purposes (Bounthavong et al., 2016).

Avoidable Inpatient Admissions and Readmissions

There was limited information available about how telehealth for pediatric patients with SUD impacts avoidable inpatient admissions and readmissions. Some studies show decreases in urgent care or emergency room settings with use of telehealth interventions. In one study, 67 percent of parents of patients with varying acute health concerns would have visited an urgent care center, emergency room, or retail clinic had the telehealth intervention not been available (Vyas, Murren-Boezem, & Solo-Josephson, 2018). However, in a claims data analysis for a large national health plan, use of direct-to-consumer telehealth by pediatric patients was associated with greater use of both urgent care and emergency department visits (Ray, Shi, Poon, Uscher-Pines, & Mehrotra, 2019; Talbot et al., 2018). One current program estimates a reduction in downstream costs (Williams & Vance, 2019).

Quality of Care

Overall, the quality of telehealth care is similar to that of face-to-face care. This appears to be true, both generally and in behavioral health, specifically (Lin et al., 2019). In one retrospective review study, telehealth was associated with similar MAT outcomes in comparison to face-to-face care (Zheng et al., 2017). In another, telehealth was associated with similar treatment retention rates compared to face-to-face care (Fleischman et al., 2016).

With respect to quality as a process (Hanefield, Powell-Jackson, & Balabanova, 2017), telehealth can help overcome issues of distant providers not being able to engage with local resources or conduct assessments. An effectiveness review of telemental health in 2013 by Hilty and colleagues found that telehealth is effective for behavioral health diagnosis and assessment across many populations (adult, pediatric, geriatric, and minority) and for disorders in many settings (e.g., emergency, home health), and appears to be comparable with in-person care (Hilty et al., 2013). A recent review by the Agency for Healthcare Research and Quality (AHRQ) found a large volume of research reporting that telehealth interventions produced positive results when used in the clinical areas of chronic conditions and behavioral health, and when used for providing communication or counseling and monitoring or management (Totten et al., 2016). These review articles suggest that using telehealth for behavioral health services provides quality similar to in-person services.

Telehealth does create new challenges for quality of service delivery. Some areas lack access to broadband, high-speed internet with stable connectivity (Bashir, 2018). Poor connectivity can cause poor quality audio and video, disconnections, and slowed information exchange (Celio et al., 2017; Cunningham, Connors, Lever, & Stephan, 2013). For pediatric patients, it is important to ensure that they can see and be seen on the computer screen; this entails making sure that webcams are set to the appropriate height, and that a staff member is present to provide flexible or moveable technology (Goldschmidt, 2016; Stiles-Shields, Corden, Kwasny, Schueller, & Mohr, 2015). For home-based services, some patients and families may not have access to technology to participate in telehealth (Fischer et al., 2017).

Additional quality of care measures related to patient and family satisfaction are discussed below.

Patient, Family, and Provider Satisfaction

Patients and Families

Telehealth use and satisfaction is influenced by individuals' access to technology, knowledge of available resources, and willingness to interact with the technology. For pediatric patients, this includes both the patient and their caregiver. Some patients and their families may face digital and cultural barriers (Bashir, 2018), and it may be difficult for those with limited technology skills to adopt treatment approaches delivered via telehealth (Batastini et al., 2016).

Patient and family experiences may vary across demographics. For example, Schmeida and McNeal (2007) found that older, low-income individuals were likely to search for Medicare and Medicaid information online and young, highly-educated, and wealthy individuals were more likely to use the internet in general. College graduates, young adults and those from high-income households have extremely high levels of internet use and 80 percent of users have searched for health information online in general (Pew Research Center, 2019b). Patients with more than a high school education were more likely to use services delivered via telehealth than those without a high school education (Lowery, Bronstein, Benton, & Fletcher, 2014).

Computer-based treatments for OUD have been shown to be more effective for patients who are employed, suffering from anxiety, or are ambivalent about continuing substance use than for other populations (Kim, 2015). Goldschmidt (2016) found that patients and families

using telehealth for cognitive behavioral therapy needed support to ensure that they knew how to use the technology, that they were aware of camera placement, and that they removed distractions during therapy.

Beyond patient demographics, other factors may influence use and effectiveness of telehealth. In a clinical trial of a remote Screening, Brief Intervention and Referral to Treatment (SBIRT) program implemented in an emergency department setting, researchers found several factors that could hinder use, including complications with provider engagement, delays in warm handoffs to other remote behavioral health interventions, and disruptions from other medical staff during the encounter, as well as family members and friends. Overall, the evidence indicates that patients and caregivers had positive perceptions about telehealth. Despite the challenges with SBIRT, the feedback and acceptance ratings from participants were generally favorable, and the study ultimately concluded that a remote SBIRT application held great promise. In addition, in a regional survey of patients across specialties, the majority found that lack of physical touch was not a barrier and they were satisfied with the care received via telehealth (Becevic et al., 2015; Vyas et al., 2018). Two additional studies—one of patients diagnosed with attention-deficit/hyperactivity disorder (ADHD) and their caregivers and one of parents with children with varying acute health concerns—reported a high degree of satisfaction with care via telehealth (McCarty, Stoep, Violette, & Myers, 2015). Several other treatment studies were found where patients with complex psychological problems (e.g., adult substance use, PTSD), reported high rates of client satisfaction (Frueh, Henderson, & Myrick, 2005; King, Brooner, Peirce, Kolodner, & Kidorf, 2014; Luxton, Pruitt, O'Brien, & Kramer, 2015; Martinez et al., 2018; McKellar et al., 2012).

Providers

Telehealth satisfaction and uptake is also influenced by provider factors such as training and technology acceptance. In a comprehensive survey study across provider types, providers indicated that they were able to treat patients with telehealth and were satisfied with care delivery via this mode (Becevic et al., 2015). However, from a long-term perspective, another pilot study found that after 10 months, only two of 12 rural providers were using the telehealth methods for which they trained. The physicians cited difficulty with the infrastructure needed to implement telehealth as a key barrier (SAMHSA, 2016). Providers may also be wary of

becoming credentialed (a process that involves a facility's acceptance of a remote providers medical credentials) at facilities they plan to serve only through telehealth.

A state-wide telepsychiatry intervention in Wyoming found that telehealth produced noticeable results only when a range of providers were included and involved (Hilt et al., 2015). Hilt (2017) found that ensuring that providers understand how to use technology is key to provider engagement and satisfaction (Hilt, 2017).

Provider Organizations.

Telehealth also necessitates changes within the organizations through which care is delivered. Provider organizations vary in size, complexity and resources. Thus, the ability to accommodate a change in care delivery such as telehealth varies. Some organizational challenges include credentialing, billing, technical barriers, and workflow.

Care delivery across organizations has implications for credentialing (McSwain & Marcin, 2014). Facilities require that providers delivering services in their locations be credentialed to ensure that services are within their scope of practice. Although the use of delegated credentialing has increased, providers may not wish to undertake the credentialing process for multiple organizations. And while there have been some strides to streamline credentialing for telehealth purposes, it remains an issue (LeRouge & Garfield, 2013).

Although Medicaid, Medicare, and private payers have expanded payment for services delivered via telehealth over time, the variability of requirements between states related to coverage and payment remain a barrier. States vary with respect to policies around reimbursement for telehealth and the conditions under which telehealth encounters are reimbursable (Center for Connected Health Policy, n.d.-a). In addition, recent legislation, as discussed in the next section, has changed certain payment policies for Medicare telehealth services, such as what is considered a permissible originating site (site at which the beneficiary is located) for certain services, which CMS implemented in 2019 (Centers for Medicare & Medicaid Services, 2019). Members from provider organizations perceive that billing for services delivered via telehealth in general is a challenge (N. M. Antoniotti, Drude, & Rowe, 2014). This is, in part, due to lack of training on how to manage these claims, perceptions that these claims may be audited more frequently, and changes in billing codes and modifiers (N. M. Antoniotti et al., 2016).

Although patient visits are largely similar regardless of modality, there are a few workflow differences between services delivered via telehealth and face-to-face visits that organizations must accommodate. These include identifying when to refer and schedule telehealth visits (Lambert, Gale, Hartley, Croll, & Hansen, 2016). Other workflow considerations include streamlining data entry to save time and promote information sharing (Langkamp, McManus, & Blakemore, 2015). Identifying staff and processes to manage telehealth visits is an important part of telehealth uptake and use.

DELIVERY OF PEDIATRIC BEHAVIORAL HEALTH TREATMENT VIA TELEHEALTH

Program Examples

Telehealth in the Emergency Department: Reducing Transfers

Telehealth delivery methods in emergency departments can be used to bring expertise quickly and prevent unnecessary transfers to different institutions. The literature search did not yield resources addressing SUD in pediatric patients specifically; however, just as services delivered via telehealth can be used for diagnosis and treatment planning for other areas (Burke & Hall, 2015), it can also be used for this application. Some potential outcomes include patient and provider satisfaction and reducing transfers without degradation of care (Burke & Hall, 2015). Telehealth has been successful in reducing or eliminating the time psychiatric patients wait in an emergency department for an inpatient bed by facilitating the development of a tailored treatment plan (Deslich, Thistlethwaite, & Coustasse, 2013).

Telehealth Supplementing in-Person Visits: Enhancing Care

Telehealth delivery methods can supplement in-person visits by establishing links between providers and pediatric patients when ongoing in-person care is infeasible. This is of particular importance for those who might not be able to travel due to their location in a childcare center, preschool, school, or juvenile detention facility (Burke & Hall, 2015). When used as part of an enhanced medical home, some reported advantages of this model for the pediatric population include fewer school absences for the children; less money spent by parents on travel; less time away from employment for parents; and less crowding in emergency departments where there may be a lack of pediatric expertise.

Telehealth in the School Setting: Meeting the Population in the Community

Delivering services via telehealth while school-aged patients are at school allows patients to receive care where they are during the day. In addition, school-based telehealth can help connect patients and families with community resources that can help them manage their health (Reynolds & Maughan, 2015). School-based services delivered via telehealth have shown promising results to improve social, emotional, and behavioral outcomes among school-aged children in need of a school psychologist, especially in rural settings where psychologist travel time is a real concern (Bice-Urbach & Kratochwill, 2016). Teachers, students, and counselors had favorable perceptions of telehealth. This mirrors an experience of using telehealth delivery methods to address behavioral problems in the schools, where teachers had positive impressions and there was a notable decrease in on-task behavior after implementation (Fischer et al., 2017).

Other school-based health clinics served as a medical home for patients who received a variety of services delivered via telehealth for specialty care, including psychiatric care (RTI International, 2016). In order for school-based interventions to be successful, communication and coordination with school administration and teachers is important (Bice-Urbach & Kratochwill, 2016). One school-based telepsychiatry intervention emphasized the importance of communication and coordination between different providers, staff, and parents (Cunningham et al., 2013). Students had positive perceptions of telehealth used in this way. Similarly, in a telehealth intervention designed for pediatric obesity, the importance of coordination was identified as a key factor for success (Slusser, Whitley, Izadpanah, Kim, & Ponturo, 2016).

Telehealth to Support Family-Based Treatment Approaches

Family-based treatment approaches view SUD as a disease that includes the entire family system. Thus, therapeutic approaches involve treating the individual and his or her family system in tandem (Center for Substance Abuse Treatment, 2004; Kuhn & Laird, 2014; Lammers et al., 2019; Sherr, 2018). Family-based treatment has been shown to be more effective than approaches that focus on the patient alone (Crum & Comer, 2016). These approaches are often used in face-to-face care (Allen et al., 2016; Donelan et al., 2019; Kaslow, Broth, Smith, & Collins, 2012). In studies of the use of telehealth for substance use treatment and prevention, interventions via telehealth demonstrated equal or better outcomes to face-to-face interventions (Danaher et al., 2018; Donelan et al., 2019). Some considerations with this approach include

ensuring the entire family is engaged with technology and ensuring connectivity at home for home-based interventions (Crum & Comer, 2016). In another study of non-pediatric patients with chronic disease at the Veterans Administration, patients found that incorporating family members in care planning with telehealth had similar satisfaction rates as incorporating them using face-to-face interaction (Bashir, 2018).

In a family-based approach using telehealth for a behavioral intervention focused on diabetes management, outcomes were similar between telehealth and face-to-face cohorts, but patients reported greater satisfaction with their provider in the telehealth cohort (Freeman, Duke, & Harris, 2013). Project ECHO: Supporting Provider to Provider Education

The primary focus of telehealth financing has been on reimbursing direct services from remote providers to patients. Provider to provider training is not covered by most payers, including under Medicare and Medicaid. However, one of the most promising telehealth approaches is the use of telehealth to connect providers with training, expertise, and/or certification in areas that are relevant to the patients they are treating. This is of particular importance for pediatric SUD, where there is a dearth of providers.

Project ECHO (Extension for Community Healthcare Outcomes) is a telehealth program focused on building capacity at the local level. This effort virtually links specialists at an academic “hub” to providers in local communities—the “spokes” of the model. Connections occur by providing remote training and specialist consultations. Specifically, the spokes participate in weekly teleECHO clinics, which are virtual grand rounds, combined with mentoring and patient case presentations facilitated by the hub. As of 2017, this model is in use in more than 130 hubs across the United States, as well as 23 other countries (Lewiecki et al., 2017). Many of the studies we reviewed were based on the ECHO model or were working directly with the model, and reported an increase in the number of MAT-prescribing providers in rural communities. Some communities integrated support for the Drug Addiction Treatment Act (DATA 2000) waiver for prescribing medications for OUD with training to further support spoke providers (Quest, Merrill, Roll, Saxon, & Rosenblatt, 2012).

One of the challenges affecting provider participation is the lack of funding for the time providers spend attending and participating in these types of telehealth activities. Project ECHO has addressed this concern by holding TeleECHO clinics at or near lunchtimes for the local

providers and by offering Continuing Education Units as an incentive (American Medical Association, 2016; University of New Mexico, 2016). In some cases, Project ECHO participation is covered by grant funding or included as time to be covered by the provider organization under employment contracts. Although these efforts may be effective in some cases, some providers may still choose not to take advantage of telehealth training in the absence of specific reimbursement for their time.

In one study, sites noted that funding for TeleECHO is a challenge. Payers including Medicaid do not reimburse for provider to provider communication and training. Often, such programs have been initiated with grant funding and face a sustainability challenge after the grant ends (Dunlap et al., 2018).

POLICY AND REIMBURSEMENT CONSIDERATIONS

Many of the resources we reviewed called for regulatory changes to promote the uptake of telehealth delivery methods to treat SUDs. Policies supporting the use of telehealth more generally were not unique to pediatric patients. Some articles examined regulatory issues as a component of payment policy, for example focusing on variation in licensure requirement.

Telehealth Policies that Influence Delivery of SUD Treatment

Our environmental scan found that many of the policies explicitly focused on telehealth delivery methods for SUD treatment emphasized the treatment of OUD and MAT in particular. The majority of resources describing these policies either reflected adult populations or did not make any age distinctions. Telehealth-delivered MAT for OUD is not as prevalent as the use of telehealth in other behavioral health services due to some unique considerations. Methadone is only available from federally designated opioid treatment providers who typically require in-person visits. Naltrexone requires a 7- to 10-day period of abstinence prior to start, which is often a challenge without local provider support. Limitations on prescribing controlled substances is recognized as a barrier for the provision of MAT via telehealth. For pediatric patients, MAT is uncommon. Methadone and naltrexone are not approved for patients under age 18 (although an exception can be made for methadone if the patient has had two documented unsuccessful attempts at detoxification and has parental consent). Buprenorphine products are allowed for patients 16 or older.

Regardless, many of the policies are likely to have a similar influence on treatment for pediatric patient populations delivered via telehealth. Other policies we describe below do apply specifically to services delivered via telehealth for pediatric populations. Finally, some policies apply similarly to all medical conditions while others are particular to both mental and substance use disorders.

The Agriculture Improvement Act of 2018 (Pub. L. No. 115-334), commonly known as the Farm Bill, includes key provisions for the use of telehealth to address SUD in rural communities. These include increasing the annual budget for U.S. Department of Agriculture Distance Learning and Telemedicine grants from \$75 million to \$82 million, and requiring 20 percent of all financial assistance for telehealth projects to be set aside for programs that address SUD. In addition, this Act addresses connectivity concerns by increasing Federal resources for broadband expansion projects in rural parts of the country. This includes creating a Federal advisory committee to study opportunities for and barriers to rural broadband expansion.

The Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act of 2018 (“SUPPORT for Patients and Communities Act”, Pub. L. 115-271) includes a number of provisions to support services delivered via telehealth. For example, the SUPPORT for Patients and Communities Act amended section 1834(m) of the Social Security Act (Pub. L. 74-271) to change certain payment policies for Medicare telehealth services, as described in section 3.4.2.

The Ryan Haight Online Pharmacy Consumer Protection Act of 2008 (“Ryan Haight Act”, Pub. L. 110-425) modified the Controlled Substances Act (CSA, Pub. L. 91-513), placing challenges on the ability of telehealth providers to prescribe controlled substances. The Ryan Haight Act requires providers to conduct at least one in-person medical evaluation prior to prescribing controlled substances via telemedicine, with limited exceptions. However, there was a clarification of the Ryan Haight Act which allowed MAT prescribers to be exempted from a required in-person medical evaluation (U.S. Department of Justice, n.d.). States, however, still vary in their own provisions around telehealth delivery methods for MAT; for example, Connecticut recently joined the minority of states who make a specific exception for MAT for OUD (Dizon, 2018).

Credentialing

Credentialing requirements remain a general barrier to telehealth delivery of services. Hospitals require providers to be credentialed per Joint Commission Standards (Joint Commission on Accreditation of Healthcare Organizations, 2012, January). Hospitals may need the services of numerous telehealth providers such as psychiatrists and counselors to meet the needs of their patients. In turn, those providers may serve patients across numerous hospital systems in which they must be separately credentialed. Depending on the model being used for telehealth, credentialing can be a very expensive and burdensome activity for hospitals and telehealth providers (Zeller & Mao, 2016).

Privacy Laws and Regulations

Policies around privacy and protection of private data influence telehealth models, particularly for pediatric patients and for sensitive care areas like SUD and mental health. The Privacy Rule, issued pursuant to Title II of the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191) (HIPAA) addresses patient privacy generally and 42 CFR Part 2, implementing 42 U.S.C. § 290dd-2, specifically governs the confidentiality of substance use disorder patient records of federally-assisted SUD treatment programs. The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) provides privacy protections for student education records maintained by educational agencies (for, e.g., school districts) and institutions (i.e., schools) that receive funds under any program administered by the U.S. Department of Education. Further, the Individuals with Disabilities Education Act (IDEA) contains confidentiality provisions that are similar to, but broader than, FERPA. IDEA Part B protects the privacy of personally identifiable information in education records of children with disabilities ages 3 through 21, while IDEA Part C protects the privacy of personally identifiable information in early intervention records of children with disabilities under the age of 3 (20 U.S.C. 1417(c) and 1442; 34 CFR 300.610 through 300.626; 34 CFR 303.401 through 303.417).

Compliance with these federal laws and rules presents some burden to telehealth provider organizations, especially smaller ones (Mountain-Pacific Quality Health, 2017, Sept 27). And the complexities of HIPAA, FERPA, and the IDEA together can complicate how student health information is shared, which can create a particular challenge to telehealth providers for students

in school-based settings (Boling & Company, 2016). See section 3.4.4 of this report for further discussion of how these federal privacy laws influence telehealth models. It is also important to note that state privacy laws, which may be more protective of, or contain different provisions regarding, privacy than federal law, and should be reviewed to determine how student health information is shared.

Consent for Services

Most states and the District of Columbia require informed consent for telehealth service delivery for general and behavioral health care (Center for Connected Health Policy, n.d.-b). Telehealth service delivery for pediatric patients can be particularly challenging for providers because they must follow laws regarding age of consent. The ages at which a child is able to offer consent on their own behalf, without requiring involvement of a parent or legal guardian, vary not only by state but also by specific conditions (Hoffman, 2019; McSwain et al., 2017). McSwain et al. reported an example of a state in which a 12-year old may provide consent to treatment for a sexually transmitted disease, and may consent to treatment for substance abuse at age 14 (2017).

This means that telehealth providers of care for MH/SUD must develop and enforce complex policies around patient interaction and clinical care that may lead to re-consent, new consent, or the need for parent/guardian involvement at any point over the course of treatment.

Medicare and Medicaid Coverage

Medicare Coverage

The health care community uses the term “telehealth” broadly to refer to medical services furnished via communication technology. Although all of these kinds of services might be called “telehealth” by patients, other payers and health care providers, CMS has generally used the term “Medicare telehealth services” to refer to the subset of services defined in section 1834(m) of the Social Security Act (the Act). Section 1834(m) of the Act defines Medicare telehealth services and specifies the payment amounts and circumstances under which Medicare makes payment for a discrete set of services, all of which must ordinarily be furnished in-person, when they are instead furnished using interactive, real-time telecommunication technology. Section 1834(m) of the Act limits the scope of Medicare telehealth services for which payment may be made to those

furnished to a beneficiary who is located in certain types of originating sites in certain, mostly rural, areas and permits only physicians and certain other types of practitioners to furnish and be paid for Medicare telehealth services.

For CY 2019, CMS aimed to increase access for Medicare beneficiaries to physicians' services that are routinely furnished using communication technology, but are not Medicare telehealth services. CMS established a discrete set of separately billable services that are defined by and inherently involve the use of communication technology. Accordingly, in the CY 2019 Physician Fee Schedule (PFS) final rule, CMS finalized several proposals for modernizing Medicare physician payment for communication technology-based services. These included two newly defined physicians' services that are furnished using communication technology: the brief communication technology-based service (i.e. a virtual check-in) and the remote evaluation of recorded video and/or images submitted by an established patient. Additionally, CMS finalized policies to pay separately for new coding describing chronic care remote physiologic monitoring and interprofessional internet consultation. Because these services are not considered Medicare telehealth services, they are not subject to the geographic and other limitations in section 1834(m) of the Act.

Although section 1834(m) of the Act grants the Secretary the authority to add services to, and delete services from, the list of Medicare telehealth services based on the established annual process, it does not provide any authority to change the limitations relating to geography, patient setting, or type of furnishing practitioner because these requirements are specified in statute. However, we note that sections 50302, 50324, and 50325 of the Bipartisan Budget Act of 2018 (BBA of 2018) (Pub. L. 115-123) have amended section 1834(m) and certain other provisions of the Act to modify or remove the limitations relating to geography and patient setting for certain telehealth services, including for certain home dialysis end-stage renal disease-related services, services furnished by physicians and other practitioners in certain Medicare Shared Savings Program Accountable Care Organizations (ACOs), and acute stroke-related services, respectively. Additionally, in accordance with the BBA of 2018, CMS finalized changes that would allow Medicare Advantage plans to cover certain Part B benefits on a telehealth basis as "additional telehealth benefits," starting in plan year 2020. These additional telehealth benefits offer patients the option to receive these health care services from places like their homes, rather than requiring them to go to a healthcare facility.

The SUPPORT for Patients and Communities Act amended section 1834(m) of the Act to change certain payment policies for Medicare telehealth services. Specifically, the SUPPORT for Patients and Communities Act removed the originating site geographic requirements and added the home of an individual as a permissible originating site for telehealth services furnished for purposes of treatment of a substance use disorder or a co-occurring mental health disorder for services furnished on or after July 1, 2019.

Additionally, the SUPPORT for Patients and Communities Act established a new Medicare Part B benefit for opioid use disorder (OUD) treatment services, including medications for medication- assisted treatment (MAT), furnished by opioid treatment programs (OTPs). To support the use of telehealth technology in the provision of OUD treatment services, CMS finalized a policy to allow OTPs to furnish the substance use counseling, individual therapy, and group therapy included in the OTP bundled payment via two-way interactive audio-video communication technology, as clinically appropriate, in order to increase access to care for beneficiaries. This includes allowing these services to be furnished via telecommunications technology in a beneficiary's home. By allowing use of communication technology in furnishing these services, OTPs in rural communities or federally-designated geographic health professional shortage areas would be able to facilitate treatment through virtual care coming from an urban or other external site, subject to applicable requirements relating to professional licensing and scope of practice. To further increase access to OUD treatment, CMS established new bundled payments under the Medicare Physician Fee Schedule beginning in 2020 for OUD treatment services furnished by clinicians in an office or outpatient setting. These services were also added to the Medicare telehealth services list beginning in CY 2020.

Although these Medicare policies do not directly affect Medicaid programs, Medicaid program policies are often informed by Medicare policy (Olson, McSwain, Curfman, & Chuo, 2018).

Medicaid Coverage

Forty-nine states and the District of Columbia have formal definitions of telehealth, but those definitions vary by state (Center for Connected Health Policy, 2019a). This variation is reflected in coverage by Medicaid, which is not consistent across states (Thomas & Capistrant, 2015). All 50 states and the District of Columbia provide Medicaid reimbursement for some form of live video for telehealth (Center for Connected Health Policy, n.d.-a). However,

Medicaid reimbursement varies across states in several ways including the setting where the patient is located (often restricted to hospitals or clinics), types of services that are reimbursable, and type of health care provider providing services (Center for Connected Health Policy, n.d.-c). The District of Columbia and 24 states do not restrict the location and setting in which patients receive services delivered via telehealth. Fifteen of these states do not restrict the type of health care provider delivering services via telehealth. Overall, we did not find evidence of any explicit restrictions for pediatric patients whose services are reimbursed by Medicaid.

Finally, CMS issued a guidance document to State Medicaid directors in June of 2018 outlining ways that technology can be used to support identification, management and treatment of SUD, specifically focused on OUD (Centers for Medicare & Medicaid Services, 2018a). In this document, CMS suggested integrating telehealth delivery methods into treatment programs, and specifically suggested “telehealth optimized Medication Assisted Treatment.” In later guidance to State Medicaid directors, CMS described the possibility of financial matching for state development of telehealth-enabling technology for Medicaid providers to use for better care coordination for patients with serious mental illness or serious emotional disturbance (Centers for Medicare & Medicaid Services, 2018b; Medicaid.gov, n.d.).¹

State Medicaid Variations

All state Medicaid programs include some form of coverage and reimbursement for mental health services delivered via telehealth (Center for Connected Health Policy, 2019b). In addition, they all require providers to be licensed in the state in which the patient is located (Centers for Medicare & Medicaid Services, n.d.-b). Nine states have special licenses to allow out-of-state providers to deliver services via telehealth (Center for Connected Health Policy, 2019a), and compacts between states and licensing agencies are becoming more common. For example, 29 states and the District of Columbia belong to the Interstate Licensing Compact (Interstate Medical Licensure Compact, 2019), and compacts also exist for other professional designations.

¹ Under MITA 3.0, implementation of new technologies may qualify for enhanced match of 90 percent federal match for establishing the technology and 75 percent match for operational support. See CMS State Medicaid Director Letter # 18-006, “Leveraging Medicaid Technology to Address the Opioid Crisis” (June 2018): <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18006.pdf>

There are other reimbursement considerations that vary by state (Federation of State Medical Boards, n.d.). Reimbursement may depend on whether the service was delivered synchronously or asynchronously. Some states restrict reimbursement for services delivered via telehealth for behavioral health issues to physicians who are psychiatrists, advanced practice nurses with clinical specialties, and psychologists. Other states also allow licensed clinical social workers or licensed professional counselors to provide services. However, only a few states specify coverage for telehealth when provided by an SUD or addiction specialist (Thomas & Capistrant, 2015).

State Medicaid policies around services delivered via telehealth for MH/SUD are also continuing to evolve: California passed legislation allowing Medicaid reimbursement for services delivered via telehealth provided by licensed or certified SUD counselors (Dizon, 2018); Illinois is requiring Medicaid to reimburse for telehealth-delivered mental health services; and, Kentucky has eliminated the requirements that a physician be present and prior authorization be given for telehealth reimbursement for any type of care. We found no indication that these policy changes are applied differentially to pediatric patients.

The American Telemedicine Association's Telemental Health and Business and Finance Special Interest Groups conducted a survey to study private payer reimbursement of services delivered via telehealth (N. M. Antoniotti et al., 2014). Of the respondents 65 percent indicated they did not provide services delivered via telehealth because of perceived lack of reimbursement. Some respondents did indicate that they continued to provide services delivered via telehealth even when they were not reimbursed.

Federal Models and Programs to Support Telehealth

Federal agencies are supporting several new efforts to include telehealth in opioid use disorder treatment and behavioral health care. For example, AHRQ is supporting three demonstrations in Colorado, Oklahoma, and Pennsylvania that will attempt to train rural primary care providers in OUD treatment. Their model includes collaboration with Project ECHO for specialty training (Whitman, 2016).

The Health Resources and Services Administration (HRSA) supports the Pediatric Mental Health Care Access (PMHCA) Program to promote the integration of behavioral health into pediatric primary care by supporting the development of new, or the improvement of

existing, statewide or regional pediatric mental health care telehealth access programs. These programs provide tele-consultation, training, technical assistance, and care coordination for pediatric primary care providers to diagnose, treat and refer children with behavioral health conditions. HRSA supports 21 PMHCA programs, which are authorized by the 21st Century CURES Act.

In addition, the CMS Center for Medicare and Medicaid Innovation (Innovation Center) develops new payment and service delivery models in accordance with the requirements of section 1115A of the Social Security Act. For example, in August 2018, the Innovation Center announced the Integrated Care for Kids (InCK) Model, which seeks to reduce expenditures and improve quality of care for children enrolled in Medicaid and CHIP (Center for Medicare and Medicaid Innovation, 2019). Awardees have developed state-specific pediatric alternative payment models and service delivery infrastructure to coordinate and integrate health care services for children with significant health needs, including those with behavioral health challenges. The use of telehealth is identified as a possible strategy to increase capacity to deliver services.

In addition, CMS also uses its waiver authority under the Innovation Center statute to waive certain Medicare requirements solely for purposes of testing models, including waiving Medicare telehealth requirements. For example, the Next Generation ACO Model's benefit enhancements include the option to use telehealth in circumstances not otherwise permitted under Medicare, including providing coverage for teledermatology and teleophthalmology services furnished using asynchronous store and forward technologies.

CMS has also established regulations that govern the payment for certain telehealth services furnished by ACO participants in Medicare Shared Savings Program ACOs participating under performance-based risk, in accordance with section 50324 of the Bipartisan Budget Act of 2018. This policy allows for payment for telehealth services furnished by physicians and other practitioners to prospectively assigned beneficiaries in non-rural areas, and allows beneficiaries to receive certain telehealth services at their home, to support care coordination across settings.

Privacy and Confidentiality Considerations

Resources reviewed highlight the need for provider organizations to establish mechanisms to protect patient privacy when using telehealth delivery methods. Privacy for patients receiving SUD services is generally protected through the HIPAA Privacy Rule and 42 CFR Part 2, which applies to substance use disorder patient records. The former protects patient privacy and security for all types of health care services. The latter provides specific, stronger protections for the privacy of patients who receive treatment at federally-assisted SUD treatment programs (SAMHSA.gov, n.d.). With few exceptions, providers covered by 42 CFR Part 2 are prohibited from sharing patient information without patient consent, even to law enforcement or other health care providers.

Telehealth services provided in a school-based setting or by educational agencies and institutions may implicate FERPA. FERPA addresses how and to whom educational agencies and institutions can share, both internally and externally, personally identifiable information from student education records, without the prior written consent of the parent or the eligible student. An eligible student is a student who is aged 18 years or older or attending an institution of postsecondary education. For example, FERPA protects student health and health care records maintained by an educational agency or institution or by a person acting for such agency or institution in the process of a student receiving health care services, such as from a school nurse. None of these three laws and regulations specifically address telehealth services, which are often delivered through outside vendors. Many organizations rely on their vendors to address technical aspects of legal compliance.

School-based telehealth programs generally need to comply with the HIPAA Privacy Rule or FERPA (both standards may apply in the limited instance that a program serves students and non-students). While the HIPAA Privacy Rule specifically excludes FERPA-protected education records and “treatment records” from its coverage, a key ambiguity is whether a telehealth provider from an external organization is considered to be “acting on behalf” of the school, in which case FERPA would apply to students’ health records maintained by the telehealth provider (note: a narrow exception to FERPA’s applicability exists under 20 U.S.C. § 1232g(a)(4)(B)(iv) for “treatment records” of students aged 18 years or older attending institutions of postsecondary education; however, of note, among other things, this exception

generally does not apply to records made available to anyone other than persons providing treatment to the students). Whether the HIPAA Privacy Rule or FERPA applies would impact the telehealth provider's flexibility in sharing, without prior written consent, protected health information for purposes of payment, treatment, and operations. Meanwhile, FERPA would allow school staff to share, without prior written consent, a student's health records maintained by the school or by a person acting for the school with other school employees who constitute "school officials" and who have a "legitimate educational interest" in the records for purposes unrelated to health care, provided they meet the school official requirements under FERPA.

Federal guidance issued jointly clarified the HIPAA-FERPA interaction in 2008 and more recently in 2019, but did not anticipate telehealth provision (U.S. Department of Health and Human Services & U.S. Department of Education, 2008, November). Given the remaining uncertainty, providers for school-based programs continue to carefully tailor their policies and procedures in cooperation with each school or district, often under consultation with legal counsel. Of note, some providers ensure compliance by requiring their partner schools to sign a business associate agreement that contractually commits them to follow HIPAA rules (Boling & Company, 2016). Provider organizations can address operational aspects of compliance by incorporating telehealth delivery methods into their privacy plans when considering aspects such as ensuring privacy during a consultation, obtaining and sharing consent virtually, coordinating care, and exchanging data. In addition, patients may have concerns about privacy. One study recommended that organizations develop patient education materials to assuage those concerns (Adkins et al., 2017). In a study of adults using tablet computers to support methadone treatment, participants were taught how to use the tablet, how to select a private space for the intervention, and how to use secure connections to preserve privacy (Brusoski & Rosen, 2015).

Other operational aspects include measures to ensure that patients know with whom they are communicating. To address this, some practices have policies in place to limit the number of people communicating with a patient; some place a limit on one provider at a practice who can communicate with a patient via text messaging. Other ways to protect patient privacy mirror face-to-face considerations, such as ensuring that only individuals who are involved with the patient's care are involved in visits (Paing et al., 2009). Organizations must take both technical and process factors into account when planning and implementing telehealth delivery methods to protect patient privacy.

For some uses, patients preferred telehealth delivery methods because they felt it gave them privacy. In a feasibility study for a home-based telehealth intervention for service personnel with post-traumatic stress, service members reported that they preferred telehealth because it afforded them privacy that they would not have by going to a Veterans Health Administration facility (Luxton et al., 2015). Similarly, those in small communities may feel that telehealth delivery methods afford privacy so that they don't feel the stigma of being seen in a behavioral health setting (Dunlap et al., 2018).

KEY INFORMANT DISCUSSIONS

OVERVIEW OF KEY INFORMANT DISCUSSION RESULTS

To supplement the findings from the environmental scan, we conducted semi-structured discussions via telephone with nine key informants and categorized findings in similar fashion to the environmental scan. Specifically, the results are presented by the primary research topics, barriers and solutions, and differences in service delivery for in-person versus telehealth for SUD treatment in pediatric patient populations.

For several areas in both research questions, the key informant interviews supported the results from the environmental scan around barriers and enhanced our understanding of potential solutions and important next steps. In some areas such as utilization, costs, and avoidable inpatient admissions, key informant discussion yielded limited information. Much of the key informant information below applies to serving pediatric patients with a MH/SUD via telehealth, as well as to other patient populations. Where appropriate, we explain the rationale for why a general consideration applies specifically to our study's target population. We also make clarifying notes in cases in which information may apply differently for a mental health disorder service rather than a SUD service, applies to pediatric patients generally or applies to a subset of our study's target population, such as for younger patients or patients with less stability.

WHAT ARE THE BEST PRACTICES, COMMON BARRIERS AND POTENTIAL SOLUTIONS FOR USING SERVICES DELIVERED VIA TELEHEALTH TO DIAGNOSE AND PROVIDE SERVICES AND TREATMENT FOR CHILDREN WITH SUD, INCLUDING OUD (RESEARCH QUESTION 1)?

Best Practices

Several of the best practices frequently mentioned in the environmental scan were also mentioned by the key informants. Their suggestions included: organizational readiness and provider engagement; addressing workforce shortages; balancing face-to-face and telehealth sessions; and engaging families. Key informants noted that available resources often determine what best practices can be implemented and what barriers a program could face during implementation. Resources include reliable technology with appropriate assurances for privacy and staff with capacity for both treating pediatric SUDs and for using the technology.

Clinical Practice

The most common telehealth-delivered MH/SUD services provided for pediatric patients were in the form of traditional counseling with sessions lasting an hour or less. Models based on motivational interviewing and cognitive behavioral therapy were the most common clinical approaches. Family-based therapy or informal family involvement were a common variant in these counseling programs. Medication management by a psychiatrist or other provider with prescribing privileges was also referred to in some programs described by the key informants. However, medication management was specific to mental health and the informants did not know of any programs focused on MAT for OUD or alcohol use disorder. For young adult patients (age 18 to 20) seeking MAT in conventional settings, there was no discussion of particular telehealth barriers outside of what is typical for all adults as described in the environmental scan results.

Only one key informant described using telehealth for MH/SUD assessments in school-based settings and noted several challenges. The established models for pediatric patients with which they were most familiar were based on MH/SUD treatment providers serving patients in their originating location after some screening and assessment had already occurred. There was difficulty making linkages with MH/SUD treatment providers (either in the community or via telehealth) in general. In his state, Medicaid Accountable Care Organizations (ACOs) could not bill for initial assessments and thus focused on assessing a smaller number of referral patients who were most likely to become a patient following assessment (and thus making the model more sustainable).

Telehealth Modality

The key informants all agreed that patient-provider videoconferencing is the only prominent telehealth modality for MH/SUD patients. Five of the nine key informants currently provide such services. Asynchronous methods were not used by many known programs and were considered less relevant than synchronous methods by several key informants. Asynchronous video for direct counseling has less of an evidence base and there are concerns about rapport, therapeutic alliance and the overall clinical impact of using it to conduct current evidence-based in-person practices. One consideration is that asynchronous video may become more prominent for medication management, in stable, well-established patients.

Several key informants did describe some emerging direct-to-consumer telehealth for pediatric MH/SUD patients in which the patient could access a clinician via videoconferencing at certain times of the day using a personal device with a secure interface. The services were not limited to MH/SUD services although managing crises in real time was a major goal. In one model, the pediatric patients to whom the direct-to-consumer option was being made available were primarily MH/SUD patients who were most likely to overuse emergency care.

Several informants were hopeful about the use of texting to support treatment. Texting was seen as an additional tool for keeping patients engaged in treatment, appointment reminders and other types of care coordination. The ability to prompt or interact with patients at different times of the day has potential to keep patients mindful of their moods, risk factors and the exercises they need to continue to practice as part of their recovery. Informants posited that texting could be an evidence-based clinical strategy.

Finally, all informants were very positive about the use of provider-to-provider consultation and training to enhance care for patients. All were familiar with Project ECHO and similar models but noted that many health systems were also developing their own internal practices. Although not unique to pediatric patients with MH/SUD, Project ECHO type models should be considered relevant because of concerns about too few providers having such narrow clinical expertise.

Financing

The specific programs described by key informants were based within health systems, specialty behavioral health providers that focused on MH/SUD, and school-based clinics. All such settings could bill Medicaid and other payers. However, billing Medicaid was less common for school-based programs. Current programs in the health systems were likely to be sustained and continue to expand. Often, health system programs had been built to enhance or expand care for a currently-covered population and the business case for using telehealth had been carefully made at each step to ensure that revenue from payers would sufficiently maintain the model. Conversely, several informants noted that programs based in specialty behavioral health providers and schools were heavily dependent on other funding sources such as grants and direct funding for certain necessary infrastructure (e.g., telehealth equipment, school nurse salaries).

Detailed Best Practices Emphasized by Key Informants

Videoconferencing

For several reasons, the most common telehealth modality being used to deliver MH/SUD services to pediatric patients is videoconferencing between a provider and a patient. Videoconferencing is well-established and has been well-studied for general health and adult populations. Pediatric MH/SUD programs have taken advantage of past successes in health care around overcoming videoconferencing technology and workflow challenges and obtaining institutional support within health systems. For MH/SUD services, the technology needs are even simpler than for other telehealth-delivered services. Only a device with a video camera and an internet connection are needed. The devices are usually common technology that both providers and patients are familiar with, typically laptops or tablets. Videoconferencing provides services to patients who would otherwise have no access due to location or other barriers. Finally, when videoconferencing is used to reproduce the same service unit as an existing in-person service (e.g., a session of counseling), it has a clear potential revenue source under conventional health care payment models.

A major feature of videoconferencing with pediatric patients with a MH/SUD is being able to flexibly incorporate family members. This was done through three-way videoconferencing, patient and family together at home or in a clinic site, or meeting with parents separately from the child in order to accommodate work and school schedules. Several key informants noted how in face-to-face settings, getting patients and their families to a clinic location is very challenging.

Support Staff

The value of staff supporting telehealth programs was a clear message from five of the key informants. This is succinctly emphasized by the statement made by a clinical provider that “telehealth is more than a counselor and a screen.” The most common support staff discussed were telehealth coordinators, nurses, and guidance counselors. Their roles included outreach, intake processing, screening and assessments, technical support for the use of technology, scheduling and planning, coordinating with other systems like the school administration or other health care providers, and case management—all of which make the program efficient, increase

treatment engagement and help provide integrated care for pediatric MH/SUD patients who often have broader health care needs.

While support staff are also ideal for adult patients, there are two reasons that they are potentially more important for pediatric patients with MH/SUDs. As noted earlier, pediatric patients have less agency and autonomy than adult patients. They rely heavily on their caregivers for transportation, financial access, and administrative tasks like making appointments and completing intake paperwork. Yet the patients who need telehealth to have access to care are most often in the areas with more poverty, more single-parent families, and fewer community resources. Moreover, pediatric patients with MH/SUD are more likely to have a parent who also has a MH/SUD (Moreira-Almeida & de Souza, 2016; Pearson et al., 2013; Sawyer, Zunszain,

“One of the things we found is that having people connected to the community involved in the program and supporting the program helps in uptake in acceptance. In every county we have a program director who is from there and they handle relationships with school nurses and schools and they’re at PTA meetings and that presence is really important for success. It’s all about relationships and how the system operates that needs the most effort.”

Dazzan, & Pariante, 2019; Smith, Wilson, & Committee on Substance Use and Prevention, 2016; Weissman, Warner, Wickramaratne, Moreau, & Olfson, 1997), which may decrease their support of their child’s non-emergency care (Alston, Bennett, & Rochani, 2019; Gopalan et al., 2010; Sills, Shetterly, Xu, Magid, & Kempe, 2007). Several informants noted that pediatric patients’ traumatic experiences may be associated with the same caregivers they rely on to access care. Local support staff are an effective strategy for overcoming the challenge of pediatric patients relying on caregivers to access treatment. The support staff help by coordinating community resources, reducing the administrative barriers to participating in treatment and by doing effective outreach to help a pediatric patient engage in and complete treatment. In many programs, these staff are the in-person, “warm, friendly face” that the patient first interacts with prior to building rapport with the direct service provider. They are a key component to providing a consistent “safe space” for the patients.

The second reason support staff are crucial is ensuring the safety of pediatric patients receiving telehealth-delivered MH/SUD services. Outside of a home-based setting, these staff are

the first line of defense for patients who may be a danger to themselves or others, and are key to implementing safety protocols. The best practices around these safety protocols are described later in this report.

School-based Programs

When delivering telehealth in school settings for pediatric MH/SUD, access is perhaps the biggest challenge. Access to behavioral, developmental specialists and psychiatrists is a major problem. In order to keep pediatric patients with MH/SUD treatment-compliant, they need consistency in appointment attendance and medication monitoring. School is an ideal setting for this as it is difficult to miss appointments when patients are receiving care in a place they regularly attend. Discussants mentioned how difficult it is to get enough specialized care (e.g.,

“If the patient has the option to join remotely, you are increasing the likelihood of appointment being kept and therefore outcomes are going to be better. I think the school needs to be a place of service in all states.”

MH/SUD services) in schools and telehealth approaches lent themselves perfectly for this.

Barriers and Solutions

Key informants discussed seven barriers to using telehealth for pediatric populations. One common theme that emerged from discussion was that barriers often exist due to limits and restrictions states place on reimbursement.

Technology investment and performance

Similar to what was reported in the environmental scan, internet connectivity is critical with more bandwidth and faster connections being essential. One key informant noted that it is also important to prioritize bandwidth for telehealth services and limit other network clinic use during telehealth service delivery. One solution mentioned by key informants was the use of cellular networks and data-enabled devices.

Another technology-related barrier that was raised was incompatibility of EHR systems. This challenge emerges in two ways. First, telehealth services often need a tailored EHR that

does not always integrate well with the provider organization's main EHR. Second, as telehealth providers often serve patients across different health systems, they have to deal with more than

“Promising Practice: Have a telehealth checklist at each site that providers can have in case they need help troubleshooting. Also, bandwidth isn't always what you need. You can have a lot and it be taken up by other clinic or site activities. Make sure traffic is low and telehealth is prioritized.”

one EHRs. One key informant noted that getting providers to use their EHR was already a barrier for face-to-face service provision but was amplified when delivering telehealth services.

Although these issues also affect adult patients and general health care delivery, they can be particularly frustrating for pediatric patients and their providers. Disruptions for these patients can lead to a larger amount of distraction time than for adult patients or more stable patients. Having on-site staff to intervene when technology leads to a disruption was a recommended solution. The key informants offered no current solutions for EHR incompatibility.

Technology Acceptance

Obtaining provider buy-in to use technology was mentioned as a challenge by several key informants. One reason was adaptation; key informants noted that telehealth adoption is often more challenging for older providers. One key informant referred to this as the “real digital divide” in that providers who are more hesitant to use new technology may also be resistant to telehealth service provision. Still, anecdotal reports from key informants suggest that many providers learn to adapt quickly within the first 15 minutes of the session. Another concern related to loss of non-verbal cues and other substance use relevant cues. Such cues might include the client's smell (indicating, for example, hygiene or recent smoking) or evidence of self-harm such as cutting. Overall, rapport development and engagement were viewed to be the same by the key informants between face-to-face and telehealth, and in some cases, telehealth was superior for the pediatric population. Non-verbal communication can still be observed, and some providers felt that videoconferencing actually made the patient more relaxed and thus more likely to manifest non-verbal cues.

Workforce shortages

Workforce shortages were noted by all key informants and include multiple practitioner types: psychiatrists, nurse practitioners, psychologists, and counselors with pediatric experience and MH/SUD expertise. Shortages are more acute in remote or rural areas. Two key informants were particularly worried about the lack of expertise for working with younger pediatric patients (e.g., age 12 and under).

Licensure and Credentialing

Contributing to the workforce shortage were barriers around licensure and credentialing. The principal licensing issue is the state-to-state variability in requirements to practice and be reimbursed. Thus, servicing multiple states is a challenge due to state-specific licensing regulations. One key informant also expressed concern in the state allowing training and licensing companies to drive the conversation around licensure and credentialing regulatory requirements. Another key informant noted that providers themselves are also concerned about conducting unallowable services because it can affect their licensure. Although these challenges are not unique to providers serving pediatric patients with a MH/SUD, it exacerbates the already major workforce shortage.

Overall, credentialing was noted to be a major challenge. For credentialing, providers must have privileges at the site (school, clinic hospital, city) where the patient is located. The credentialing process can take a substantial amount of time to complete. This can be a major hindrance to providers being available to a broad range of locations. If the potential number of patients in a remote site is too small, a telehealth-based provider may decide not to invest in credentialing with their organization. Adding to the problem is the fact that provider organizations may have their own practices and requirements for credentialing. As an example of this almost ubiquitous issue, one discussant noted that there could be eight or nine different credentialing practices if they work with eight or nine sites.

Some states have licensure policies in place to specifically address workforce shortages. For example, in Wisconsin, if a provider has a practice license, they can work from any other state. One key informant described a provider living in Maryland with a Wisconsin license who was currently providing services via telehealth to patients in Wisconsin. This is not the case in many other states. Hybrid models exist where pediatric specialists at one site can consult with

providers who primarily serve adults on mild to moderate cases but use telehealth for more severe cases. Several discussants advocated for an eventual move towards national interstate licensure agreements as the best way to address many of the licensure. While interstate licensing compacts are somewhat reducing the licensing barrier, credentialing remains a challenge for providers of pediatric MH/SUD services. The key informants knew of no programs taking advantage of credentialing by proxy or any other practical solution.

Consent for Services

Issues around consent vary by the age of the child across state. Consent in some states can be gathered in children as young as 12 years old. One discussant noted that for pediatric SUDs and related mental health issues, consent should be obtained with adolescents. When working with younger patients with MH/SUD, family involvement is preferred in any treatment modality and gathering consent from a parent/guardian with the child is ideal. However, as noted above, some of these patients may have parents and caregivers who can be a barrier to care. Thus, programs need to be careful in how they balance compliance with their state's laws and patient safety and access to care. The key informants felt that this was an area for more research.

Privacy

Key informants noted that privacy issues should be attended to early in the program planning process, especially when considering equipment and platform. This is a particular challenge in school-based settings in which FERPA, the HIPAA Privacy Rule, and State privacy laws may apply. Successful programs have developed solutions tailored to their state and setting. These are based on a technology platform and detailed processes that control how information is stored in separate systems, and limits who can access and share different records. During the development phase for these solutions, attorneys with relevant privacy law expertise were consulted. On a positive note, once a solution was developed, implementing it in new settings within the same state was much simpler. As mentioned above one key informant suggested having a telehealth coordinator that could assist the patient with telehealth related service delivery (e.g., set up and troubleshooting technological challenges).

Patient Safety

Concerns about crisis support and important recommendations were provided by some key informants. These are important for all telehealth service provision but are especially relevant for providers working with pediatric MH/SUD patients. One key informant speculated that provider resistance to telehealth with this population might be around concerns with safety and crisis management when at a distance. Many safety concerns could be assuaged with crisis policies and procedures, which should address technology troubleshooting, general emergencies, behavioral health-specific emergencies, self-harm, and interpersonal violence. Specific guidelines for attending to situations when patient is at danger to him/herself and/or others is crucial. Clear definitions to determine risk levels for involuntary commitment and other decisions are also critical. Again, the role of on-site staff was cited as a solution to this problem.

Financing Services

Many programs rely on grant or other state funding in order to operate, even if their patients are covered by insurance. Grants and state funding pay not only for telehealth equipment and support staff and other administrative costs, but also support the providers themselves. Limits on what providers can be reimbursed for specific services delivered by telehealth is a major problem that varies across states. Providers trained and licensed to provide MH/SUD services to pediatric patients often command higher wages. School-based programs face challenges depending on how the onsite staff are funded. For example, if a school nurse is funded by an independent source, such as the local school district, the financial viability of a program is substantially improved.

Potential solutions are focused on changing state Medicaid policies and exploring APMs. For state Medicaid policies, the emphasis varies by state but includes better coverage and reimbursement for telehealth services and increasing the types of providers eligible for reimbursement. One key informant from a provider serving patients in multiple states described how one state mandated coverage parity *and* reimbursement parity for telehealth services with face-to-face services while their home state on mandated only coverage parity.

Both shared savings and value-based models have potential to sustain telehealth-delivered pediatric MH/SUD services. However, much more research is needed to understand the viability of such models. For value-based models, programs are optimistic about the viability of

quality-based payments around pediatric access and treatment completion. However, such models are still in an exploration stage with many policy hurdles yet to be overcome.

WHAT ARE THE DIFFERENCES, IF ANY, IN FURNISHING SERVICES AND TREATMENT FOR CHILDREN WITH SUD USING SERVICES DELIVERED VIA TELEHEALTH AND USING SERVICES DELIVERED IN PERSON? (RESEARCH QUESTION 2)

Utilization rates, costs and avoidable inpatient admissions and readmissions

Key informants could cite little evidence on rates of general health care utilization of patients receiving pediatric MH/SUD services via telehealth. Most felt that more MH/SUD assessments were happening due to telehealth access or to related programs targeting the pediatric population. Several informants also believed strongly that the amount of MH/SUD treatment services being provided per patient was higher via telehealth than for patients who traveled to receive equivalent care in-person simply because they lacked easy access to services locally. In addition, the informants believed that patients in underserved areas were more likely to complete their treatment program when delivered via telehealth. However, despite the greater amount of MH/SUD services being provided overall, informants did not believe that patients receiving services via telehealth had higher total health care utilization than those receiving services in-person from a local provider on a per patient basis. All noted that there are many communities that would have no access to any of the services without telehealth.

Most of the key informants felt that telehealth-delivered services had, on average, comparable costs to face-to-face services and thus could be profitable under conventional fee-for-service reimbursement if coverage were available and reimbursement rates were comparable to those for in-person services. The main exception to this was around how to support on-site or in-community staff support.

More evidence is needed on the possible cost savings to payers of providing such services, but these studies face several challenges. First, it is difficult to obtain rigorous, accurate estimates of cost savings in programs that do not have comparison groups who received no services. Second, for pediatric patients with these disorders, a large portion of preventable costs may occur years or decades later. The possible solution to this second challenge is to focus on avoidable near-term, high-cost care such as emergency department visits and inpatient stays. The

one caveat with that approach is that such findings apply may apply more to a higher risk, higher severity patient group at the expense of a larger, less severe patient group. Nonetheless, multiple key informants believed that telehealth could reduce avoidable emergency and inpatient care among a certain portion of the patient population. As noted above, at least one direct-to-consumer telehealth access program was being implemented specifically for those patients.

Quality and Satisfaction

Some providers have been concerned that videoconferencing reduces the quality of a service and reduces fidelity to evidence-based practice. The concern for MH/SUD for pediatric patients is that the therapeutic relationship will not develop and that the providers will not be able to observe non-verbal communication which they find particularly important for pediatric patients. However, the key informants, overall, did not feel that this was a major issue. Providers and patients feel good about the relationship and some providers even believe videoconferencing helps patients engage more easily. Non-verbal communication was still being observed and, again, some providers felt that videoconferencing actually made the patient more relaxed and thus more likely to manifest non-verbal cues.

Key informants consistently emphasized that telehealth approaches have an important edge when compared to face-to-face therapy with pediatric populations. This is the case regardless of the actual treatment approach used (e.g., cognitive behavioral therapy). Telehealth counseling and family therapy allow for enhanced engagement, especially with pediatric populations. Because pediatric populations today are more connected than ever, this assists in engagement. One key informant noted that pediatric patients are not bothered by technology and services using telehealth modalities. Providers can develop rapport with pediatric patients quicker than face-to-face particularly for pediatric patients with anxiety or shyness. One key informant shared anecdotal experiences where pediatric patients communicate more openly between one and two sessions earlier than they would in a similar face-to-face encounter.

Although technology disruptions were considered a problem, the key informants felt that this was primarily with a minority of patients who are either much younger or are in crisis. One key informant noted pediatric patients are rarely bothered by technological glitches and often offer to help.

“Youth overall prefer using technology and interacting with their provider on a screen; they prefer this to interacting with providers in person...youth feel less intimidated even if they are not familiar with the platform used, they are receptive to it and open to interacting on it”

None of the key informants had concerns about quality of care provided by telehealth for pediatric MH/SUD treatment. Consistent with what was reported in the environmental scan, telehealth services can enhance treatment engagement in most therapeutic telehealth contexts. One key informant did mention safety issues are more challenging when there is a distance between provider and a patient who is in danger (e.g., of self-harm) but if there are plans in place to attend to these, quality is not compromised, and may in fact be enhanced.

All key informants had anecdotes for how satisfied patients, their caregivers and providers are with telehealth services. One key informant noted that, with this population, telehealth encounters were well received and often preferred to traditional face-to-face encounters. They added that patients will frequently include comments in their post encounter surveys that detail their enjoyment of this modality, and that telehealth for pediatric patients with SUD allows more flexibility for getting families into therapy. Caregivers and providers strongly note that there would simply be no access to care without telehealth. Caregivers also find the flexibility of telehealth to be a great benefit relative to traveling to a clinic. Providers describe their frustration at not being able to provide the services their patients need the most and telehealth allows them to close the treatment gaps. Although patients themselves volunteer fewer anecdotal reports on their satisfaction, their providers claim that patients receiving services via telehealth are as satisfied as those receiving in-person services. Several key informants were aware of satisfaction surveys delivered to patients and caregivers in certain programs. The survey results were consistently positive.

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CASE STUDIES

CASE STUDY PROGRAMS

To investigate the practices of innovative pediatric MH/SUD services programs delivered via telehealth, we visited two sites in-person and met with multiple providers, administrators and experts. Both programs provide services to pediatric patients in schools across their state. The programs' providers operate out of university medical centers. They are both embedded in a larger portfolio of telehealth programs targeting a variety of patient populations.

Case Study 1: The Medical University of South Carolina's Telehealth Outreach Program

The RTI/ASPE team visited the Medical University of South Carolina (MUSC) in Charleston, South Carolina and spoke with five individuals including clinicians, administrators, telehealth specialists and a community partner. Among a variety of adult and pediatric telehealth programs, the MUSC operates the Telehealth Outreach Program (TOP) which uses telehealth technology to increase access to mental health services for underserved, trauma-exposed children across South Carolina. The program began in 2015 and works with students in over 80 schools in 18 counties across the state. Most of the counties being served are rural. The TOP program sees patients aged 7 to 18.

Organizational Context

The MUSC Center for Telehealth is one of two HRSA-funded National Telehealth Centers of Excellence. The Center for Telehealth is also the headquarters and fiscal agent of the state-funded South Carolina Telehealth Alliance (SCTA), a statewide collaboration of stakeholders dedicated to expanding the use of telehealth. Their innovative programs include "Tele-ICU" for continuous patient monitoring in remote hospital intensive care units, telepsychiatry delivering (primarily adult) MH/SUD services including medication for opioid use disorder (MOUD) and supporting skilled nursing facilities.

Telehealth Outreach Program

TOP is specialized in providing Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), an evidence-based treatment for individuals aged 3 to 21 who have experienced trauma ranging from physical or sexual abuse, crime victimization, traumatic grief, disasters and multiple or other complex traumas (Gillies, Taylor, Gray, O'Brien, & D'Abrew, 2013; Goldbeck,

Muche, Sachser, Tutus, & Rosner, 2016; Lenz & Hollenbaugh, 2015; Weiner, Schneider, & Lyons, 2009) lasts approximately 12 to 24 sessions. It is on the National Child Traumatic Stress Network list of recommended treatments (NCTSN, 2019). Recent research has demonstrated the value of TF-CBT delivered via telehealth pediatric patients (Stewart, Orengo-Aguayo, Cohen, Mannarino, & de Arellano, 2017a; Stewart, Orengo-Aguayo, Gilmore, & de Arellano, 2017b).

In TOP, most services are school-based with some interactions occurring with the patient at home or with parents at home when family is included in the therapy. Patients are typically identified in a school setting by guidance counselors, although a small number of referrals come from other community organizations, providers or the criminal justice system. They serve patients aged 7 to 18. Once a patient is referred and assessed they can receive from 12 to 20 TF-CBT weekly sessions lasting from 30 to 45 minutes. For sessions in the school setting, the guidance counselor calls the child out of class, checks the telehealth connection with the TOP provider and leaves the room. The guidance counselor or school staff member is always near the room and has the child's emergency contacts accessible. The TOP provider has the cell phone and landline number of the counselor or other staff person in case of an emergency. At the end of the session, the guidance counselor gets a call on their cell phone that the session is over and goes back to the room to bring the child to class.

Cellular data-enabled iPads and laptops are used for video conferencing. The TF-CBT is currently being provided by PhD-level psychologists. They are supported by case managers who help coordinate with schools and other referral sources, and support the patients and their families in linking to other community resources and coordinating their broader health care. TOP has four hours per week of a child psychiatrist's time for medication management.

TOP uses telehealth to include family members in treatment. A parent has the option of coming to the school to participate during a session or video-conference in from a remote location. TOP providers also do independent sessions with parents at times outside the patient's session time. TOP loans the program's cellular data-enabled iPads to families who have limited or no internet access at home.

TF-CBT sessions provided to pediatric patients in the home are clinically identical to school-based sessions. TOP requires that a caregiver over the age of 18 be present in the home with the child and remain available by phone. TOP providers have the patient periodically step

out and interact with the caregiver to ensure that they are still present. Knowing the location of the patient is also necessary in case they need to call emergency services.

TOP Challenges

The providers noted that there are some challenges in conducting telehealth visits with younger children. The children may have issues with being by themselves and they may not stay in the view of the camera, which can be a safety hazard. Thus, the program has a minimum age of seven for eligibility. Some children may be too high risk for telehealth, such as those who engage in self-harm or experience suicidal ideation. These patients are sometimes referred to other community-based health care providers.

TOP providers face multiple barriers to getting prescriptions for their patients, even with access to a psychiatrist. Controlled substances are difficult to prescribe via telehealth and the only controlled substances that can be prescribed in a school-based setting are those for ADHD. Until recently, paper-based prescriptions were still required and delivering them to parents was a challenge.

A major concern is the lack of aftercare or ongoing services that are needed for patients once the TOP intervention is completed. There are a limited number of local providers who offer related services and there have been few linkages to them. Integrated telehealth-delivered care would be an ideal strategy to increase access. However, even when available, patients may not be covered for services by insurance.

When TOP started in 2015, they had difficulties getting buy-in with schools and school districts. Ultimately, having a champion TOP provider travel to these sites and do outreach was the key to making meaningful connections with each community.

Finally, it was noted that EHR systems do not all integrate very well together, even when built by the same vendor. Telehealth programs are often siloed by default as they are based in a different health system with a different EHR, or the telehealth technology was developed with a tailored version of an EHR that is not fully compatible with the main EHR.

Policy and Financing

Although TOP does not emphasize prescribing via telehealth, the Ryan Haight Act and state policies were noted as a barrier to care for pediatric and adult patients with a variety of

conditions. The 2016 South Carolina Telemedicine Act reinforces restrictions around prescribing Schedule II and Schedule III controlled substances, and certain other medications via telehealth. It emphasizes the need for in-person diagnosis for related conditions in order to establish the physician-patient relationship prior to initiating pharmacotherapy. It was noted that changes in national law and clearer guidance on the Ryan Haight Act would be the best solution for increasing access equally across all states and eliminating an additional barrier to telehealth being used to treat patients.

The program is funded mainly through a grant from the Substance Abuse and Mental Health Services Administration (SAMHSA), which pays for the providers' time and administrative costs. Additional support is provided by the MUSC Center for Telehealth, the South Carolina Telehealth Alliance, and the Duke Endowment. The South Carolina Telehealth Alliance funds the telehealth equipment. Although over half the patients are covered by Medicaid, the TOP providers (PhD-level counselors) are not eligible for reimbursement. In South Carolina, only physicians, physician assistants and nurse practitioners can be reimbursed for mental health services delivered via telehealth (Center for Connected Health Policy, 2018). Staff at the Center for Telehealth did not anticipate these restrictions changing until 2021 at the earliest. Currently, the project is working on other sustainability options as the SAMHSA grant ends in two years. They will likely depend on additional grants from SAMHSA and foundations to sustain core project service delivery moving forward.

Case Study 2: University of Kansas Medical Center's Telehealth ROCKS Schools, Rural Outreach for Children of Kansas

The RTI/ASPE team visited the University of Kansas Medical Center in Kansas City, Kansas and spoke with 24 individuals leading and facilitating telehealth projects including the Telehealth Rural Outreach for the Children of Kentucky (ROCKS) Schools program. These included providers (physicians, nurses, and counselors), administrators, researchers and other program stakeholders. Telehealth ROCKS Schools brings "telemedicine into the school setting in South Central and Southeast Kansas to assist children and families with developmental and behavioral concerns." Implemented in 2017, Telehealth ROCKS Schools serves 11 counties and is present in 19 schools and is continuing to expand. The services supported include behavioral strategies for autism, psychological strategies for behavioral concerns, trauma and chronic

conditions, behavioral medication management, family-based counseling, and other behavioral issues such as eating disorders and obesity. More students under the age of 12 are served than students aged 13 to 18.

Organizational Context

The University of Kansas Medical Center houses the Center for Telemedicine and Telehealth which was founded in 1992. Its Tele-Behavioral Health Network has more than 100 sites throughout the state and has conducted over 100,000 clinical consultations and educational events. Since 2006, the Medical Center has also been home to The Heartland Telehealth Resource Center, a federally designated telehealth resource center providing technical assistance to developing and existing telehealth programs. Telehealth is integrated throughout the entire Medical Center.

A major development in the telehealth network was supported by a Health Care Innovation Award from CMS in 2014 to the University of Kansas Hospital Authority (which has oversight over the Medical Center's hospital). The project, the Kansas Heart and Stroke Collaborative, developed a rural, clinically integrated network of providers to improve cardiovascular health and acute and chronic stroke care. Telehealth solutions were a key part of implementing the project. They have been able to improve the network of providers and use telehealth to improve access to clinical expertise, to improve overall care practice and processes and to ensure fidelity to evidence-based practices. Coordination of care and patient engagement are led by local health coaches, a title chosen deliberately to distinguish the role from "care coordinator" or "patient navigator." The health coaches have broader expertise around health care resources, help link between primary care and specialty care and are trained in practices such as motivational interviewing to improve patient engagement. In addition, the health coaches are trained on other community resources to help link patients and their families to non-clinical recovery support services. The project is now a Medicare Shared Savings ACO and is simply called the Kansas Clinical Improvement Collaborative.

The Medical Center is using the infrastructure and the lessons learned from the Care Collaborative experience as it develops care systems for other patient populations, including for pediatric patients and for care for MH/SUD. In support of state Medicaid policymakers, the team is currently exploring how an APM might work for a Medicaid population, including for

pediatric patients. Their research includes analyses of patient costs and outcomes from a private payer partner in order to accurately represent populations for which they have less experience providing services. Overall, the team feels that their Care Collaborative experience is very useful for helping rural, small providers participate in an APM.

They noted that rural community hospitals, in particular, are reluctant to participate in an APM. One concern they have is that their patient populations increase downside risk in APMs, whether using shared savings or quality-based reimbursement. Their patients are often geographically dispersed, reducing access to specialty care and overall decreasing treatment adherence. Moreover, their populations lack the volume of care episodes needed to make an APM actuarially sound. Finally, rural community hospitals have less experience with APMs and have fewer resources to invest in infrastructure changes that might be needed.

As part of their efforts to reduce SUD treatment gaps, the Medical Center is leveraging a recent HRSA Rural Communities Opioid Response Program grant to disseminate best MAT practices around the state. They noted that urban populations have the least access to MAT per capita. In addition, the Medical Center is using their telehealth network and lessons from the collaborative to train and ensure fidelity to the Centers for Disease Control and Prevention (CDC) guideline for the prescribing opioids for chronic pain (Dowell, Haegerich, & Chou, 2016).

Telehealth ROCKS Schools' Autism Spectrum Disorder Programming

A key strategy for supporting children who may have autism spectrum disorder (ASD) is early diagnosis. Currently, 40 teams across Kansas have been trained in early diagnosis. A team may be comprised of psychologists, developmental specialists, and certain school staff. For children meeting diagnosis, Medical Center experts can provide services via telehealth. HIPAA-compliant Zoom software is used to provide services and can be used on a typical laptop with a standard high-speed internet connection. Patients can be located in mental health facilities, hospitals, and schools. Telehealth ROCKS coordinates with a distant site close to the family so they do not have to travel far to get care.

The main therapies provided for children meeting ASD diagnostic criteria are based on Applied Behavioral Analysis (ABA). ABA is a framework designed to understand patterns of behavior and to promote sustained behavior change through individualized interventions and

positive reinforcement. ABA is an effective therapy to help individuals with autism manage behaviors and acquire skills. (Roane, Fisher, & Carr, 2016; Steege, Mace, Perry, & Longenecker, 2007; Virues-Ortega, Rodríguez, & Yu, 2013). ABA-based methodologies have also been used as an adjunct to cognitive behavioral therapy for pediatric and emerging adult patients with ASD (Kerns, Roux, Connell, & Shattuck, 2016). The theory underlying ABA is similar to that of contingency management for treating adult SUDs (Petry, 2013).

Telehealth ROCKS Schools also combine direct patient services with parental support and training via their Online and Applied System for Intervention Skills (OASIS) Training Program. The OASIS training uses online instruction and training to provide parents with skills to best teach and care for their child with ASD. Parents can access eight web-based tutorials as well as connect with coaches to learn specific skills with their child. Some trainings may involve other family members, such as siblings, grandparents, and extended family. The program enables parents to implement and evaluate interventions when a service provider is unavailable. OASIS also empowers the parent to be an equal member of their child’s care team. One goal of this program is to decrease family separation that may result from the lack of local ASD services. Children with ASD may need to seek services that are a significant distance away, leading them to live with another family member who lives closer to services, or for a caregiver to travel with their child to find services. The OASIS program addresses this issue by increasing access to ASD services through telehealth. Students, their families, and the partner schools had “very positive feedback” for services provided via telehealth.

Telehealth ROCKS Schools’ Parent-Child Interaction Therapy

Parent-Child Interaction Therapy (PCIT) is an evidence-based therapy for children with ADHD (Bussing, Nelson, & Kurtz, 2016) and has also been used to support management of externalizing disorders among children (Zimmer-Gembeck et al., 2019) and to support pediatric patients with ASD (Scattone, Sarver, & Cox, 2018). PCIT is conducted in schools and delivered to the parent and child at the same time. PCIT is a hands-on approach that involves the parent and child in one room, typically a classroom, and the provider in another room watching the parent and child via video. The provider communicates with the parent through an earpiece using Bluetooth technology, which enables multiple people to listen to the provider and parent interaction without the child knowing.

Telehealth ROCKS Schools: Challenges

One challenge for both pediatric programs is establishing a safe space for the child so they cannot hurt themselves or others. This challenge was overcome by conducting the therapy in a school classroom with the classroom door cut horizontally in half to allow viewing and easy access by staff who could intervene quickly in an emergency.

Not all students do well with the telehealth-delivered ASD services. Students who have positive experiences generally have obvious indicators of ASD, have strong communication skills, have attended the school long enough that staff have observed their interactions with peers, and have received services previously. Comparatively, older, reluctant students or those who are particularly uncommunicative do not do as well with telehealth-delivered services.

An ongoing challenge for the schools is inadequate internet service, which can cause lags, delays, or issues with visuals. Nonetheless, the program reported that the connectivity challenges did not seem to disrupt the overall therapeutic impact. They noted that major connectivity problems are usually fixed in a timely manner.

One major infrastructure challenge to all its school-based programs is that it has become difficult to maintain appropriate support staff on-site. Some schools do not have school nurses and other schools only have a nurse once per week. The nurses are responsible for facilitating the communication of information about the child from teachers, school psychologists and other school-based administrative data such as the results of general testing. One school hired a full-time nurse who used telehealth to prevent and resolve inappropriate placement in special education. The teachers are also heavily involved in PCIT, which instills a unified approach that supports the child and improves treatment outcomes.

An initial challenge with PCIT, in particular, was demonstrating its potential value to parents. Another challenge for PCIT was the parent's implementation and maintenance of skills acquired through training. Between the telehealth sessions there is little ability for the program to monitor parental fidelity to the evidence-based practice. In face-to-face practice, providers are more likely to have some informal interactions with the parents and the students to observe whether PCIT-informed parental behaviors are used.

We spoke with the Pediatric Care Coordinator at The Community Health Center of Southeast Kansas which services three counties in southeast Kansas. A care coordinator is located in most call centers to connect people with necessary resources and establish a relationship with the community. Their presence builds trust over time, as patients are more comfortable with a familiar face. The care coordinator calls patients daily to promote treatment compliance, address any barriers to care, and support patients in navigating services. The Health Center noted that one challenge patients and providers face in southeast Kansas is a low literacy rate. According to the Pediatric Care Coordinator, one in four adults in southeast Kansas cannot read. Often, when patients are provided their intake summary to take home, it “usually ends up in the trash on their way out”. To try to address this, the Health Center conducts outreach and education to their patients, but it is a difficult barrier to overcome. Overall, the Patient Care Coordinator notes that the availability of telehealth-delivered services increases the likelihood that pediatric patients and their families will engage in treatment.

Policy and Financing

The governor of Kansas signed into law, the Kansas Telemedicine Act in late 2018, to take effect January 1st, 2019. The act requires private payers to cover telehealth services, though not necessarily at the same reimbursement rates as in-person services. In addition to physicians, physician assistants, advance practice registered nurses, behavioral health professionals who are “registered, certified or otherwise authorized to practice by the Behavioral Sciences Regulatory Board” were identified as eligible providers for reimbursement. Store-and-forward was specifically included as a covered telehealth modality beyond videoconferencing. The law allows for state Medicaid (KanCare) to cover services delivered via telehealth including individual psychotherapy and mental health assessments. KanCare reimburses for live video and home telehealth (remote patient monitoring) for certain medical conditions. It is not clear how store-and-forward services will operate for Medicaid given the KanCare requirement that patients be present at the originating site for coverage. Private insurance companies must cover telehealth for mental health services which include any psychological services provided in Kansas. Kansas is part of the Interstate Medical Licensure Compact, which helps expedite the medical licensing process across state lines. This makes it easier for out-of-state health care providers to serve patients in Kansas using telehealth.

The Telehealth ROCKS Schools program is partly funded by insurance (mostly Medicaid). For children meeting the diagnosis criteria, ABA and PCIT services delivered via telehealth are billable. A grant from the Children’s Cabinet pays for services when patients are uninsured, as well as for other support services to help families who struggle financially, such as transportation and accessing food stamps. The grant money is also used to train staff, provide equipment, and enhance or supplement services (e.g., allowing providers to observe the kids in their natural setting via telehealth).

A major challenge to sustaining telehealth delivery models for their pediatric patients is the paying for telehealth coordinators. Telehealth ROCKS Schools noted that good models are not simply “a provider on one end and patient on the other.” Rather, the support system in place is what brings the most value, namely: having staff who coordinate schedules, present the patient, manage workflow, test the equipment, do patient outreach and help patients and their families find other resources they need that are not directly related to the primary clinical services being delivered. These services and service supports are not sustainable since they typically are not billable.

A related staffing challenge is that rural clinics struggle to find qualified staff. The shortage of “pediatric behavioral health care providers” (speaking of mental health providers, generally) can only be partially remedied using telehealth delivery because the compensation of these in-demand providers is too high for the typical reimbursement rates. In another telehealth program at the Medical Center that serves oncology patients covered by Medicare, they noted that they were able to take advantage of shared savings (a type of value-based APM) when billing through the rural health clinics to make up the difference. They do not see a similar path for telehealth-delivered behavioral health services currently and hope that Medicaid will eventually adopt similar APMs.

Another consideration in the financial viability of telehealth-delivered services is equipment costs. For their telehealth-delivered oncology services, they estimated that within five years of purchase, 50 percent of the telehealth equipment was no longer functioning. However, they noted that telehealth equipment for oncology services is very complex and niche-specific, and thus particularly expensive. In contrast, the equipment needed to deliver their pediatric services via telehealth is minimal, typically only a laptop computer.

CASE STUDY RESULTS BY QUESTION

The case study programs are for pediatric patients with specific mental disorders. However, almost all the information we collected pertains directly to programs that use telehealth to provide services to pediatric patients with broader MH/SUD.

What Are the Best Practices, Barriers and Potential Solutions for Using Services Delivered Via Telehealth to Diagnose and Provide Services and Treatment for Children With SUD, Including OUD? (Research Question #1)

The models in our case studies provide several insights that pertain to MH/SUD services delivered via telehealth for pediatric populations. Most importantly, the case studies demonstrated that existing evidence-based practices for pediatric patients can be provided via telehealth with virtually no change to clinical components. Providers use the same approaches via telehealth as they would in person, including therapeutic language, educational content, worksheets and exercises, roleplaying, tactile activities and games, and developing a therapeutic alliance. In addition, the inclusion of family members as part of the therapeutic process was more likely to occur via telehealth than in traditional office-based visits. Prescribing medication, including MAT for OUD (buprenorphine and naltrexone products) and alcohol use disorder, remains a problem for one program studied due to the broader policy barriers to prescribing via telehealth. The one unique pediatric-specific barrier to prescribing was that state law prohibited prescribing any controlled substances for students in a school-based clinic other than ADHD medications. This restriction limits the possibility of school-based clinics developing a buprenorphine-based MAT program.

Second, the technology requirements for the treatments used in two case studies are minimal. For counseling-based approaches, which comprise the majority of services for MH/SUD, the main technologies needed are a laptop, phone or tablet and an internet connection. Pediatric patients, in particular, are very comfortable with these technologies. No providers or support staff at the case study locations (e.g., school guidance counselors) reported any challenges using standard videoconferencing on these devices. Connectivity continues to be a challenge in certain local sites and for disadvantaged families in rural areas, but case study programs considered it a “periodic challenge” that only disrupted service-delivery rather than

prevented it entirely. Providing cellular-enabled devices on a data plan was one solution to this challenge.

One unique and contrary concern was raised about the licensure and credentialing challenges telehealth providers face. Although increasing access to telehealth is a priority, licensing compacts and easier credentialing have a drawback: they increase the likelihood that large, for-profit national telehealth provider companies will dominate the market. There is concern that they may not provide quality services and that they are not carefully evaluating each new telehealth-delivered service offering for fidelity. The licensing and credentialing barriers somewhat limit those types of health care providers from dominating the market.

On-site Staff

A prominent feature in both case study programs was the role of on-site staff. Having an originating site and a local clinician to support telehealth is not limited to pediatric patients with MH/SUD. However, in the case studies, these staff had some important and unique tasks. In both programs, local staff conducted initial assessments and determined eligibility for the telehealth-delivered services. Importantly, this process included more than asking the patients clinical assessment questions. The local staff informally assessed the maturity and stability of the patient to determine whether telehealth-delivery would be effective. Patients who were overly hyperactive, agitated, or potentially a danger to themselves or others were either excluded from or delayed in program participation. In the case of schools, local provider staff also had other information from administrative records and feedback from other school staff. Although this information was not necessarily shared with the providers using telehealth, it could influence the decision to move forward with the patient. Overall, local staff were uniquely positioned for both active and passive assessment of the appropriateness of patients receiving services via telehealth.

The second unique role of local staff was for ensuring the safety of the patient while receiving services via telehealth. A major concern in using telehealth with pediatric patients with MH/SUD was not being able to respond quickly in case of emergency. It was also noted that, in contrast to adults, pediatric patients are more likely to overreact to minor disruptions in the technology. In both programs, reliable communication with a nearby staff person was a requisite for conducting a telehealth session.

What Are the Differences, If Any, in Furnishing Services and Treatment for Children With SUD Using Services Delivered Via Telehealth and Using Services Delivered in Person? (Research Question #2)

Both case study programs believed that using telehealth did not alter the clinical content of the services delivered. They felt they had the same if not better rapport with patients over telehealth than face-to-face. Several providers felt that pediatric patients are often more comfortable and open with providers using videoconferencing rather than being alone and face-to-face with an adult in a room. Similar to face-to-face services, it is not feasible to simply dialogue with pediatric patients during an entire session. Both programs' evidence-based practices included certain therapy-related activities like games, worksheets and other general, hands-on activities to help the patient feel comfortable and have more open conversation that may occur when they are slightly distracted and not being forced to make eye contact. The providers noted having very little difficulty conducting the same types of activities other than occasionally reminding a patient to orient the camera correctly. One practical difference from the providers' perspective was the greater need to plan ahead for such activities. For example, when in-person, the provider can quickly print off worksheets or run to the supply closet for a particular game. For telehealth-delivered session to work similarly, providers need to plan ahead consistently in order to ship materials or email local staff to print worksheets or have other items prepared.

Utilization Rates, Costs and Avoidable Inpatient Admissions and Readmissions

Both programs feel that their patients are much more likely to persist in treatment than face-to-face patients. One program has a 90 percent treatment completion rate. The main reason noted for this is that telehealth reduces barriers to access. For pediatric patients in particular, coming to in-person appointments relies on coordinating the schedules of parents and the child and even when local providers are available, travel time can often double the time required to attend a session. School-based programs are particularly good for increasing access. In one school-based program it was noted that the child only misses 30-45 minutes of class time in school. The provider can also see the parent at the school during the time of the visit, or they can do a parallel session with the parent at a separate time.

Neither program had conducted an economic analysis of health care utilization, costs and cost offsets. Respondents from both programs did note several points. First, they have received no feedback from either the broader health system or their patients' payers that patients were using more non-program services nor incurring more charges than normal. Second, both programs noted that, beyond near-term health care cost savings, they felt strongly that their programs would ultimately save societal resources by reducing inefficient use of misapplied community resources (e.g., teacher time) and reducing the long-term costs associated with untreated pediatric disorders, including avoidable inpatient care. As part of this argument, they point out that their patients are unlikely to receive *any* services for their disorders without the availability of telehealth.

Finally, on average, the programs believe that the cost of their telehealth-delivered services was equal to that of in person services, even including some fixed technology costs. The one hesitation they had about claiming equivalent costs was paying for the role of local support or provider staff. Nonetheless, they stated that such support staff are not completely absent in traditional settings and that models using staff like patient navigators are becoming more common.

Quality of Care and Patient, Family and Provider Satisfaction

As noted earlier, both programs felt that the quality of their programs was as good as or better than face-to-face service delivery. School-based telehealth service delivery was further described as better than in person because it allows the student patient to receive services in a non-threatening environment with which they are familiar.

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DISCUSSION

In this study, we assessed contextual factors influencing the use of telehealth for MH/SUD services for pediatric populations. The study supports the fulfillment of the requirements of Section 1009(d) of the SUPPORT for Patients and Communities Act, Pub. L. No. 115-271, which requires the Secretary of the Department of Health and Human Services to provide a report “identifying best practices and potential solutions for reducing barriers to using services delivered via telehealth to furnish services and treatment for SUDs among pediatric populations under Medicaid.” In order to identify current models, best practices, barriers and facilitators for such programs, we collected data from an environmental scan, key informants and two case studies.

A primary finding highlighted by the environmental scan and key informants is that telehealth programs designed specifically for SUD services for pediatric patients are still emerging, and there is a limited evidence base for them. Most dedicated telehealth programs targeting any behavioral health condition focus on pediatric mental health services, for which the evidence base is positive. Literature and stakeholder discussions suggest that many of the contextual factors that influence pediatric mental health services also pertain to pediatric SUD services, because many pediatric patients have co-occurring SUD. Thus, our findings on best practices and barriers relevant to telehealth for SUD for pediatric patients are informed by a broader range of pediatric programs. When appropriate, we have also referenced telehealth programs for adult populations.

BEST PRACTICES:

Videoconferencing

For a variety of reasons, videoconferencing is the most common telehealth modality for providing MH/SUD services to pediatric patients. Videoconferencing provides access to pediatric patients who may not receive services otherwise because of a lack of local services or other barriers. Videoconferencing models are working in different clinical and organizational settings, ranging from large health systems to schools. Overall, there is confidence that videoconferencing is able to reproduce the face-to-face counseling-based interventions for pediatric patients. A major feature of programs using videoconferencing is that they can more effectively involve family members in treatment.

Support Staff

The value of staff supporting telehealth programs for pediatric patients with a MH/SUD was a clear message from both key informants and the case study programs. These staff include telehealth coordinators, nurses, and guidance counselors. Increased quality, engagement, and coordination were all cited as significant benefits to programs. In addition, ensuring patient safety was a key function of support staff. Funding such support staff outside of grants or other sources was an open question confronting the models that used them.

School-based Models

School-based programs are successfully using telehealth to provide access to services for pediatric patients with MH/SUD. Telehealth allows for specialty providers to serve patients across a large geographic area and in a safe, easy-to-access location. School-based programs do face some challenges. New programs may have a greater challenge obtaining buy-in from school boards and individual schools than they would in a health care organization. A school-based program is often dependent on support from staff who are not associated with the telehealth provider organization and who must be funded independently. They also face some unique challenges around privacy and consent, including ensuring compliance with IDEA, and FERPA privacy and confidentiality requirements, and HIPAA's rules, if HIPAA applies. There is some evidence that school-based health clinic patients have increased health care costs. More study is needed to explore the economic feasibility of school-based models and understand how a variety of projects have overcome some common challenges.

BARRIERS, SOLUTIONS AND INFORMATION GAPS

Quality and Fidelity

Some providers have been concerned that videoconferencing reduces the quality of a service and reduces fidelity to evidence-based practice. The concern for MH/SUD for pediatric patients is that the therapeutic relationship will not develop and that the providers will not be able to observe non-verbal communication, which they find particularly important in this population. We found little evidence of either of these concerns being a problem. Providers and patients feel good about the relationship, and some providers even believe videoconferencing helps patients engage more easily. Non-verbal communication was still being observed, and

videoconferencing made some patients more relaxed and thus more likely to manifest non-verbal cues.

Studies to date have not shown problems with clinical fidelity. However, some experts voiced concerns that this issue was not resolved. Effectiveness and observational studies in real-world settings need to be conducted to both assess loss to fidelity and develop solutions to maintain fidelity. One key area in which models still need to be developed and be assessed for fidelity is group-based counseling.

Patient Safety

Ensuring safety for pediatric patients with a MH/SUD is a particular concern. The programs and experts all emphasized the vulnerability of this population and the need for specific safety protocols to be followed. The main strategy is to have staff on-site and on call in order to intervene immediately in case of an emergency. Sessions did not begin unless the remote provider had the correct telephone contact information for the local staff. For home-based delivery, an adult caregiver was required to be present.

Acceptance of a Telehealth Program

Currently, despite some challenges, most clinical providers eventually embrace telehealth programs when offered. A minority do have reluctance around the quality and fidelity concerns described above or around using technology. However, receiving training and then using the technology appear to resolve these concerns. Outreach efforts by champions to providers and other community stakeholders was noted as another strategy for overcoming acceptance barriers, particularly for school-based programs.

Financing

The majority of the programs we learned about involved some form of external funding that did not come from a health care payer. Support staff, training, infrastructure and, in some cases, the service units were funded by grants or direct funding from states or foundations. Moreover, limited reimbursement for MH/SUD services delivered by telehealth is a major problem that varies across states. Potential solutions are focused on increasing reimbursement by extending coverage to more provider types (e.g., counselors) for telehealth services and receiving equal reimbursement telehealth services. Of note, these efforts tend to be targeted to individual

states by in-state providers. APMs are also being watched closely. However, such models are still in an exploration stage with many policy hurdles yet to be overcome.

Consent for Services

Age of consent and caregiver notification varies across and within states. While family involvement is often preferred by clinicians working with younger patients with MH/SUD, patient and/or caregiver consent may not be clinically appropriate. Caregiver consent may even be a barrier to care in some cases. More study is needed to understand the implications of consent policy and to help clinicians balance legal compliance with patient safety and access concerns.

Cost Studies

There has been limited rigorous study of whether providing MH/SUD services to pediatric patients via telehealth is associated with cost savings or reductions in avoidable costs. It is difficult to design a population-level study that compares telehealth delivery to either in-person services or to “no services”. However, as programs begin to be implemented on a larger scale, there may be better opportunities to use health care claims data to take advantage of variation by communities in access to telehealth to obtain quasi-experimental estimates of cost savings for broad MH/SUD service bundles delivered via telehealth.

SUMMARY

Key informant interviews from a diverse group of stakeholders and case studies were used to supplement evidence from the environmental scan about current barriers to using telehealth for pediatric populations for MH/SUD services. Important factors for delivering better care and overcoming technological and provider-related barriers were described in the context of financing and policy challenges. There remain a variety of unresolved questions requiring future study. Overall, this study highlights that telehealth for pediatric services in the field of MH/SUD is still an emerging area full of potential (despite the barriers), particularly with respect to increases in access to services where there are no other options for pediatric patients requiring MH/SUD services.

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APPENDIX A: Key Informant Interview Guide

Reducing Barriers to Using Telehealth for Pediatric Populations

ASPE TELEHEALTH KEY STAKEHOLDER DISCUSSION GUIDE

Discussion Lead: **Note Taker:**

Key Stakeholder: **Organization:**

Date/Time of Discussion:

PURPOSE:

The purpose of this discussion is to gather different perspectives on the key issues related to telehealth use for youth populations with substance use disorder. These discussions will provide each key informant an opportunity to identify what they believe are the key factors and reimbursement issues.

INTRODUCTION AND CONSENT TO AUDIO RECORD

Thank you for making time to speak with us today. As we explained in our email, we are independent researchers from RTI International who are contracted with the Office of the Assistant Secretary for Planning and Evaluation (ASPE) to better understand factors influencing use of telehealth for youth with mental and substance use disorders. For the purposes of our project, we are defining youth to include individuals under age 21. To understand this further, we are conducting discussions with key stakeholders to gather different perspectives on the issues related to telehealth use for behavioral health care. Given your position in the field, we are interested in your perspectives and there are no right or wrong answers. Also, we recognize that there is currently limited research on telehealth specifically for youth mental and substance use disorder treatment. With that in mind, we welcome your perspective based on related programs such as telehealth for adult substance use disorder treatment or telehealth for adolescent mental health treatment. In addition, we welcome your perspectives whether they are based on your current involvement in the delivery of telehealth services or based on your general expertise and understanding of the broader landscape of telehealth.

(Introduce team members and briefly describe qualifications/background and roles during the discussion.)

We expect that our conversation will take less than 1 hour. Participation in this discussion is voluntary. If you do not wish to participate or answer any specific questions, please let us know.

Finally, we would like to audio-record our conversation to ensure that our notes from today are complete. Although we are taking detailed notes, the audio recording will help verify our discussion notes. We will not share the recording outside of this team and it will be deleted when the project is complete.

Do we have your permission to record this discussion?

Do you have any questions about what I have explained?

Note to RTI staff:

- If yes, start audio recording.
- Begin discussion.

OVERARCHING QUESTIONS

1. Thanks again for joining us today. Just to start, could you please introduce yourself and tell us about your background with telehealth (and/or other specific domains as appropriate: substance use disorder treatment, pediatric populations, policy, financing, mental health etc.)?
2. How would you describe the current state of telehealth programs for identifying or treating mental and substance use disorders? (e.g., direct delivery, service support or enhancement, telephone/video asynchronous video, mobile technology, etc.)
 - a. What models or practices are common or conventional?
 - b. What populations are typically served using telehealth?
 - i. Have the populations served changed since introducing the use of telehealth?
If so, how?
 - c. What telehealth approaches are still being developed and studied?
 - d. What new models or uses of telehealth technology are on the horizon?
3. How would you describe any differences in telehealth services for youth versus adults?
 - a. Service delivery model (e.g., type of technology, setting, provider staff types, etc.)
 - b. Clinical model/content (e.g., community reinforcement, family involved, MOUD, etc.)
 - c. Accessibility (e.g., logistic, financial, etc.)
4. What are your thoughts on differences between face-to-face and telehealth services for youth mental and substance use disorder treatment in terms of service delivery or clinical approach?
 - a. Rapport?
 - b. Engagement?
 - c. Compliance?
 - d. Quality of care?
 - e. Patient, family, and provider satisfaction

5. What barriers do you see in implementing telehealth for mental and substance use disorders/conditions in youth? What strategies/solutions have been used to overcome those barriers?
 - a. Service delivery?
 - b. Policy barriers?
 - c. Credentialing?
 - d. Reimbursement?
 - e. Operational considerations?
 - f. Patient/caregiver engagement?
 - g. Provider/staff engagement?
6. What are your thoughts on the differences between treating youth with substance use disorders versus mental disorders via telehealth?
7. Are there special considerations in treating youth with co-occurring mental and substance use disorders via telehealth? If so, please explain?
8. Pharmacotherapy is an increasingly important treatment for mental and substance use disorders. What barriers are there for prescribing practices for treating substance use disorders via telehealth?
 - a. Medications for opioid use disorders?
 - b. Alcohol use disorders?
 - c. Mental health?
 - d. Co-occurring disorders?

BEST PRACTICES

9. What factors facilitate the use of telehealth for mental and substance use disorders in youth?
10. Are there best practices you have identified for telehealth to identify and manage mental and substance use disorders/conditions in youth? If so, please describe.

FINANCING QUESTIONS

11. How are telehealth services reimbursed when used in the treatment of mental and substance use disorders? Does reimbursement differ between Medicaid and other payers? (e.g., CHIP, Medicare, private insurance)?
 - a. Are there any payer-based incentives for using telehealth?
 - b. Is telehealth part of a payment bundle?
12. What are your thoughts on differences between face-to-face and telehealth services for youth mental and substance use disorder treatment in terms of financing, utilization and cost?
 - a. Reimbursement amounts?
 - b. Different requirements for coverage (e.g., provider credentials, technology etc.)?
 - c. Utilization rates?
 - d. Costs?
 - e. Reductions in other avoidable healthcare use?
13. Does reimbursement for telehealth for behavioral health disorders differ from reimbursement available for medical/surgical services?
14. Are there any other special considerations with reimbursement for telehealth? If so, please explain.

WRAP UP AND FUTURE DIRECTIONS

15. When thinking of the future of telehealth service delivery for mental and substance use disorders among youth, are there any things you think would need to be changed in order to improve service delivery? If so, what would you change?
16. Is there anything else you think we should know about the use of telehealth for mental and substance use disorder treatment and related services in youth that we have not asked about today?

APPENDIX B: Case Study Interview Guides

Reducing Barriers to Using Telehealth for Pediatric Populations

ASPE TELEHEALTH CASE STUDY DISCUSSION GUIDE - PROVIDER

Provider Organization:

Discussion Lead:

Note Taker:

Participant(s) (Name and role):

Date/Time of Discussion:

PURPOSE:

The purpose of this discussion is to gain insight into the key issues related to telehealth use for youth populations with mental and substance use disorders from the perspective of different stakeholders at a provider organization. These discussions will provide each stakeholder an opportunity to describe (1) what they believe are the factors associated with successful clinical and service delivery models and (2) the features of the policy and financing environment in which their program is implemented.

INTRODUCTION AND CONSENT TO AUDIO RECORD

(Depending on how much communication may have occurred prior to or during the site visit, the following script may not need to be covered in detail)

Thank you for making time to speak with us today. As we explained in our email, we are independent researchers from RTI International who are contracted with the Office of the Assistant Secretary for Planning and Evaluation (ASPE) to better understand factors influencing use of telehealth for youth with mental and substance use disorders. For the purposes of our project, we are defining youth to include individuals under age 21. To understand this further, we are conducting discussions with providers to gather different perspectives on the issues related to telehealth use. Given your position and expertise we are interested in learning from your experience. There are no right or wrong answers. Also, we recognize that there is currently limited research and work to date on telehealth specifically for youth mental and substance use disorder treatment. With that in mind, we welcome your perspective based on related programs such as telehealth for adult substance use disorder treatment or telehealth for adolescent mental health treatment. In addition, we welcome your perspectives whether they are based on your current involvement in the delivery of telehealth services or based on your general expertise and understanding of the broader landscape of telehealth.

(Introduce team members and briefly describe qualifications/background and roles during the discussion.)

We expect that our conversation will take less than 1 hour. Participation in this discussion is voluntary. If you do not wish to participate or answer any specific questions, please let us know.

Finally, we would like to audio-record our conversation to ensure that our notes from today are complete. Although we are taking detailed notes, the audio recording will help verify our discussion notes. We will not share the recording outside of this team and it will be deleted when the project is complete. If you agree to the audio recording, you may ask us to stop recording at any time.

Do we have your permission to record this discussion?

(Obtain permission from each participant in the interview.)

Do you have any questions about what I have explained?

Note to RTI staff:

- *If yes, start audio recording.*
- *Begin discussion.*

OVERARCHING QUESTIONS

(If there are multiple participants, use plural grammar, inclusive language and guide the discussion in such a way that all participants contribute)

(Factual answers to some questions may already have been discussed earlier in the day and do not need to be repeated. For example, the basic description of the organization and telehealth program may not need to be repeated in each interview.)

(Note: Some questions may not be applicable to the program being visited.)

1. Thanks again taking the time to speak with us today. Just to start, could you please introduce yourself and tell us about how you use telehealth (and/or other specific domains as appropriate: substance use disorder treatment, pediatric populations, policy, financing, mental health etc.)?
 - a. How long have you been using telehealth in your practice?
 - b. How did you get started with it?
2. How does your organization use telehealth for *identifying* or *treating* mental and substance use disorders? (e.g., direct delivery, service support or enhancement, telephone/video asynchronous video, mobile technology, etc.)
 - a. What populations are you typically serving using telehealth?

- i. Have the populations served changed since introducing the use of telehealth?
If so, how?
 - ii. What are the primary mental or substance use disorder service needs of your patients?
 - iii. How do patients get referred to you/linked to your program?
 - iv. Do you also provide similar services face-to-face?
 - b. What types of telehealth are in use?
 - i. Provider to provider?
 - ii. Provider to patient?
 - iii. Are these services synchronous or asynchronous?
 - iv. Are they direct-to-consumer?
3. How would you describe any differences in telehealth services for youth versus adults?
 - a. Service delivery model (e.g., type of technology, setting, provider staff types, etc.)
 - b. Clinical model/content (e.g., community reinforcement, family involved, MOUD, etc.)
 - c. Accessibility (e.g., logistic, financial, etc.)
4. What are your thoughts on the differences between treating youth with substance use disorders versus mental disorders via telehealth?
5. What are your thoughts on differences between face-to-face and telehealth services for youth mental and substance use disorder treatment in terms of service delivery or clinical approach?
 - a. Rapport?
 - b. Engagement?
 - c. Compliance?
 - d. Quality of care?
 - e. Patient, family, and provider satisfaction?

6. What barriers do you see/have you seen in implementing and using telehealth for mental and substance use disorders/conditions in youth?
 - a. Service delivery?
 - b. Policy barriers?
 - c. Credentialing?
 - d. Reimbursement?
 - e. Operational considerations?
 - f. Patient/caregiver engagement?
 - g. Provider/staff engagement?
 - h. Privacy considerations?

7. Are there special considerations in treating youth with co-occurring mental and substance use disorders via telehealth? If so, please explain?

8. Pharmacotherapy is an increasingly important treatment for mental and substance use disorders. What barriers are there for prescribing practices for treating substance use disorders via telehealth?
 - a. Medications for opioid use disorders?
 - b. Alcohol use disorders?
 - c. Mental health?
 - d. Co-occurring disorders?

BEST PRACTICES

9. What works well when using telehealth to identify and manage mental and substance use disorders in youth? What doesn't work so well?

FINANCING QUESTIONS

10. How are your telehealth services for the treatment of mental and substance use disorders with pediatric patients financed?
 - a. Are these patients primarily covered by commercial payers or Medicaid?
 - b. Is this a fee-for-service model, a Managed Care model or other model?
 - c. Are there any payer-based incentives for using telehealth?
 - d. Is telehealth part of a payment bundle?
 - e. Are you aware of any incentives to incorporate telehealth into current care models?
 - f. Are your services supported by any other sources, e.g., foundation grants, Federal discretionary grants, etc.?

11. Does the way in which services are financed change how you deliver telehealth services for the treatment of mental and substance use disorders with pediatric patients?
 - a. Billing and procedure codes
 - b. Interactions with other providers, e.g., operating under other providers' licenses
 - c. Service location considerations
 - d. Others?

12. What are your thoughts on differences between face-to-face and telehealth services for youth mental and substance use disorder treatment in terms of financing, utilization and cost?
 - a. Reimbursement amounts?
 - b. Different requirements for coverage (e.g., provider credentials, technology etc.)?
 - c. Utilization rates?
 - d. Costs?
 - e. Reductions in other avoidable healthcare use?

13. Does reimbursement for telehealth for mental and substance use disorders differ from reimbursement available for medical/surgical services? If so, how?

14. Are there any other special considerations with reimbursement for telehealth? If so, please explain.

WRAP UP AND FUTURE DIRECTIONS

15. When thinking of the future of telehealth service delivery for mental and substance use disorders among youth, are there any things you think would need to be changed in order to improve service delivery? If so, what would you change?
16. If you could give advice to another organization implementing telehealth what would it be?
17. Is there anything else you think we should know about the use of telehealth for mental and substance use disorder treatment and related services in youth that we have not asked about today?

Reducing Barriers to Using Telehealth for Pediatric Populations
ASPE TELEHEALTH CASE STUDY DISCUSSION GUIDE –
DIRECTOR/ADMINISTRATOR

Provider Organization:

Discussion Lead:

Note Taker:

Participant(s) (Name and role):

Date/Time of Discussion:

PURPOSE:

The purpose of this discussion is to gain insight into the key issues related to telehealth use for youth populations with mental and substance use disorders from the perspective of different stakeholders at a provider organization. These discussions will provide each stakeholder an opportunity to describe (1) what they believe are the factors associated with successful clinical and service delivery models and (2) the features of the policy and financing environment in which their program is implemented.

INTRODUCTION AND CONSENT TO AUDIO RECORD

(Depending on how much communication may have occurred prior to or during the site visit, the following script may not need to be covered in detail)

Thank you for making time to speak with us today. As we explained in our email, we are independent researchers from RTI International who are contracted with the Office of the Assistant Secretary for Planning and Evaluation (ASPE) to better understand factors influencing use of telehealth for youth with mental and substance use disorders. For the purposes of our project, we are defining youth to include individuals under age 21. To understand this further, we are conducting discussions with providers to gather different perspectives on the issues related to telehealth use. Given your position and expertise we are interested in learning from your experience. There are no right or wrong answers. Also, we recognize that there is currently limited research and work to date on telehealth specifically for youth mental and substance use disorder treatment. With that in mind, we welcome your perspective based on related programs such as telehealth for adult substance use disorder treatment or telehealth for adolescent mental health treatment. In addition, we welcome your perspectives whether they are based on your current involvement in the delivery of telehealth services or based on your general expertise and understanding of the broader landscape of telehealth.

(Introduce team members and briefly describe qualifications/background and roles during the discussion.)

We expect that our conversation will take less than 1 hour. Participation in this discussion is voluntary. If you do not wish to participate or answer any specific questions, please let us know.

Finally, we would like to audio-record our conversation to ensure that our notes from today are complete. Although we are taking detailed notes, the audio recording will help verify our discussion notes. We will not share the recording outside of this team and it will be deleted when the project is complete. If you agree to the audio recording, you may ask us to stop recording at any time.

Do we have your permission to record this discussion?

(Obtain permission from each participant in the interview.)

Do you have any questions about what I have explained?

Note to RTI staff:

- If yes, start audio recording.
- Begin discussion.

OVERARCHING QUESTIONS

(If there are multiple participants, use plural grammar, inclusive language and guide the discussion in such a way that all participants contribute)

(Factual answers to some questions may already have been discussed earlier in the day and do not need to be repeated. For example, the basic description of the organization and telehealth program may not need to be repeated in each interview.)

(Note: Some questions may not be applicable to the program being visited.)

1. Thanks again taking the time to speak with us today. Just to start, could you please introduce yourself and tell us about your organization's telehealth program(s) (and/or other specific domains as appropriate: substance use disorder treatment, pediatric populations, policy, financing, mental health etc.)?
 - a. How long have you all been using telehealth in your practice?
 - b. How did your organization get started with it?
2. How does your organization use telehealth for *identifying* or *treating* mental and substance use disorders? (e.g., direct delivery, service support or enhancement, telephone/video asynchronous video, mobile technology, etc.)
 - a. What populations are typically being served using telehealth?

- i. Have the populations served changed since introducing the use of telehealth?
If so, how?
 - ii. How does the population served using telehealth fit into your organization's overall patient population?
 - iii. What are the primary mental or substance use disorder service needs of your patients?
 - iv. How do patients get referred to you/linked to your program?
 - v. Do you also provide similar services face-to-face?
 - b. Types of telehealth in use
 - i. Provider to provider
 - ii. Provider to patient
 - iii. Are these services synchronous or asynchronous?
 - iv. Are they direct-to-consumer?
- 3. How would you describe any differences in telehealth services for youth versus adults?
 - a. Service delivery model (e.g., type of technology, setting, provider staff types, etc.)
 - b. Clinical model/content (e.g., community reinforcement, family involved, MOUD, etc.)
 - c. Accessibility (e.g., logistic, financial, etc.)
- 4. What are your thoughts on the differences between treating youth with substance use disorders versus mental disorders via telehealth?
- 5. What are your thoughts on differences between face-to-face and telehealth services for youth mental and substance use disorder treatment in terms of service delivery or clinical approach?
 - a. Rapport?
 - b. Engagement?
 - c. Compliance?
 - d. Quality of care?
 - e. Patient, family, and provider satisfaction?

6. What barriers do you see/have you seen in implementing and using telehealth for mental and substance use disorders/conditions in youth? What strategies/solutions have been used to overcome those barriers?
 - a. Service delivery?
 - b. Policy barriers?
 - c. Credentialing?
 - d. Reimbursement?
 - e. Operational considerations?
 - f. Patient/caregiver engagement?
 - g. Provider/staff engagement?
 - h. Privacy considerations?

7. Has your organization made changes to policies and procedures, service delivery models, or other business operations since adopting telehealth? If so, how?
 - a. Were any changes specific to the pediatric population? If so, please explain?
 - b. Were any changes specific to treatment for mental and substance use disorders? If so, please explain?

8. Are there special considerations in treating youth with co-occurring mental and substance use disorders via telehealth? If so, please explain?

9. Pharmacotherapy is an increasingly important treatment for mental and substance use disorders. What barriers are there for prescribing practices for treating substance use disorders via telehealth?
 - a. Medications for opioid use disorders?
 - b. Alcohol use disorders?
 - c. Mental health?
 - d. Co-occurring disorders?

BEST PRACTICES

10. What works well when using telehealth to identify and manage mental and substance use disorders in youth? What doesn't work so well?
11. Why did your organization adopt its current program?
 - a. What alternative telehealth models were considered?

FINANCING QUESTIONS

12. How are your telehealth services for the treatment of mental and substance use disorders with pediatric patients financed?
 - a. Are these patients primarily covered by commercial payers or Medicaid?
 - b. Is this a fee-for-service model, a Managed Care model or other model?
 - c. Are there any payer-based incentives for using telehealth?
 - d. Is telehealth part of a payment bundle?
 - e. Are you aware of any incentives to incorporate telehealth into current care models?
 - f. Are your services supported by any other sources, e.g., foundation grants, Federal discretionary grants, etc.?
13. How does telehealth service delivery fit in your organization's overall business model or sustainability model?
14. Does the way in which services are financed change how you deliver telehealth services for the treatment of mental and substance use disorders with pediatric patients?
 - a. Billing and procedure codes
 - b. Interactions with other providers, e.g., operating under other providers' licenses
 - c. Service location considerations
 - d. Others?
15. What are your thoughts on differences between face-to-face and telehealth services for youth mental and substance use disorder treatment in terms of financing, utilization and cost?
 - a. Reimbursement amounts?

- b. Different requirements for coverage (e.g., provider credentials, technology etc.)?
 - c. Utilization rates?
 - d. Costs?
 - e. Reductions in other avoidable healthcare use?
16. Does reimbursement for telehealth for mental and substance use disorders differ from reimbursement available for medical/surgical services? If so, how?
17. Are there any other special considerations with reimbursement for telehealth? If so, please explain.

WRAP UP AND FUTURE DIRECTIONS

18. When thinking of the future of telehealth service delivery for mental and substance use disorders among youth, are there any things you think would need to be changed in order to improve service delivery? If so, what would you change?
19. If you could give advice to another organization implementing telehealth what would it be? Is there anything else you think we should know about the use of telehealth for mental and substance use disorder treatment and related services in youth that we have not asked about today?

Reducing Barriers to Using Telehealth for Pediatric Populations

ASPE TELEHEALTH CASE STUDY DISCUSSION GUIDE – PARTNER/COMMUNITY STAKEHOLDER

Associated Provider Organization:

Community Organization Represented:

Discussion Lead:

Note Taker:

Participant(s) (Name and role):

Date/Time of Discussion:

PURPOSE:

The purpose of this discussion is to gain insight into the key issues related to telehealth use for youth populations with mental and substance use disorders from the perspective of different stakeholders at a provider organization. These discussions will provide each stakeholder an opportunity to describe (1) what they believe are the factors associated with successful clinical and service delivery models and (2) the features of the policy and financing environment in which their program is implemented.

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(Introduce team members and briefly describe qualifications/background and roles during the discussion.)

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OVERARCHING QUESTIONS

(If there are multiple participants, use plural grammar, inclusive language and guide the discussion in such a way that all participants contribute)

(Factual answers to some questions may already have been discussed earlier in the day and do not need to be repeated. For example, the basic description of the organization and telehealth program may not need to be repeated in each interview.)

(Note: Some questions may not be applicable to the program being visited.)

1. Thanks again taking the time to speak with us today. Just to start, could you please introduce yourself and tell us about your organization, how it serves your [patients, students, other designation for the population represented by a stakeholder organization] and its relationship with [the telehealth provider organization being studied – hereafter, “the Program”]? (e.g., service delivery partner, referral source or recipient, community stakeholder such as county health department youth services programming, etc.)
 - a. How long have you been partnering with the Program?
 - i. [Alternatively] How long have you been aware of the Program and its role in the community/in the population you represent?
 - b. How long has the Program been using telehealth services with your [patients, students, other designation]?
 - c. How did the partnership form?

2. How has the use of telehealth for your [patients, students, other designation] changed the types of services that you provide?
3. Has the Program's use of telehealth had any impact on your organization? If so, how?
 - a. Population served?
 - b. Increased access?
 - c. Improved patient population outcomes or satisfaction?
 - d. Workload?
4. What are your thoughts on the differences between treating youth with substance use disorders versus mental disorders via telehealth?
5. What are your thoughts on differences between face-to-face and telehealth services for youth mental and substance use disorder treatment in terms of service delivery or clinical approach?
 - a. Rapport?
 - b. Engagement?
 - c. Compliance?
 - d. Quality of care?
 - e. Patient, family, and provider satisfaction?
6. What barriers do you see/have you seen in service delivery using telehealth for mental and substance use disorders/conditions in youth? What strategies/solutions have been used to overcome those barriers?
 - a. Service delivery?
 - b. Policy barriers?
 - c. Credentialing?
 - d. Reimbursement?
 - e. Operational considerations?
 - f. Patient/caregiver engagement?

- g. Provider/staff engagement?
 - h. Privacy considerations?
7. Has your organization made changes to policies and procedures, service delivery models, or other business operations since working with the Program? If so, how?
- a. Were any changes specific to the pediatric population? If so, please explain?
 - b. Were any changes specific to treatment for mental and substance use disorders? If so, please explain?

WRAP UP AND FUTURE DIRECTIONS

8. When thinking of the future of telehealth service delivery for mental and substance use disorders among youth, are there any things you think would need to be changed in order to improve service delivery? If so, what would you change?
9. If you could give advice to another organization implementing telehealth or partnering with a telehealth provider, what would it be?
10. Is there anything else you think we should know about the use of telehealth for mental and substance use disorder treatment and related services in youth that we have not asked about today?