Ethical Considerations in the Design and Implementation of a Telehealth Service Delivery Model

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Telehealth service delivery models have become increasingly popular in the provision of behavior analytic services. Telehealth provides an opportunity to enhance care by providing clinicians and consumers with the ability to bridge issues related to geography by improving access to behavioral health care and reducing health disparities between urban and rural populations. As technology advances, this raises for consideration ethical challenges that may arise within this new model. Further, changes in the clinical and business infrastructure may be warranted to ensure safe, effective, and quality treatment for consumers. This paper explores ethical concerns when designing a telehealth service model within a behavior analytic organization. Recommendations related to the development of clinical and business infrastructure are provided to guide clinicians and organizations to promoting ethically sound services.

Keywords: telehealth, ethics, applied behavior analysis

According to the Centers for Disease Control, one in 68 children are diagnosed with autism spectrum disorder (ASD; Christensen et al., 2016). While applied behavior analysis (ABA) is the gold standard for treatment of individuals with ASD, a persistent obstacle for families is treatment accessibility. For over a decade, access to quality health care has consistently been identified as the number one priority for families living in rural locations (Bolin et al., 2015), and the geographical location of a family has been identified as the primary variable influencing whether an individual with a disability will access treatment (World Health Organization, 2007). Obstacles faced by individuals residing in America’s most rural communities are vastly different than those in urban areas. For example, families in rural states have traditionally been unable to access services in their local community, often requiring families to travel extensively to receive specialty care. Given that two thirds of rural counties in the United States are below the national poverty level (Bishop, 2010), it is not feasible for the majority of families to travel outside of their local communities to access ongoing intensive care. As a result, families often experience significant delays in accessing behavior analytic treatment, incur a substantial financial burden obtaining services from out-of-state providers, or simply do not receive the necessary treatment (Wacker et al., 2013a).

With nearly one fifth of the United States living in rural areas (U.S. Census Bureau, 2010), a new model of behavioral health care delivery is needed. Telehealth (i.e., Telemedicine, Telepractice), defined as the delivery of health-related services and information via tele-
communication technologies, offers a cost-effective, high impact solution to address the barriers families face when attempting to access behavioral health treatment in rural and underserved communities (Boisvert, Lang, Andriano-poulos, & Boscardin, 2010). Researchers and clinicians alike have adopted various technological solutions to leverage the scarce behavioral health resources in an effort to increase access and build capacity.

Modern technologies, such as electronic health records and video conferencing, provide a platform from which a Board Certified Behavior Analyst (hereafter referred to as “clinician”) may deliver training and monitoring of ABA treatment plans that are carried out by local in-home behavior technicians, eliminating the time and financial burden of travel (Fisher et al., 2014). Using a videoconferencing platform compliant with the Health Insurance Portability and Accountability Act (HIPAA), a clinician can securely connect with a behavior technician and observe the implementation of treatment in real-time. During feedback sessions, the clinician may provide synchronous feedback, coaching, and can even model correct implementation of skills via a two-way video and audio feed. Using these methods, researchers have successfully trained parents, professionals, and behavior technicians to implement behavior analytic teaching strategies and preference assessments, as well as conduct functional assessments (Barretto, Wacker, Harding, Lee, & Berg, 2006; Boisvert et al., 2010; Fisher et al., 2014; Gibson, Pennington, Stenhoff, & Hopper, 2010; Machalicek et al., 2009; Vismara, Young, Stahmer, McMahon Griffith, & Rogers, 2009; Wacker et al., 2013a, 2013b). Importantly, researchers report that telehealth service delivery has not disrupted treatment efficacy and was as effective as live instruction when training parents to implement behavior analytic teaching strategies (Suess et al., 2014; Vismara, McCormick, Young, Nadhan, & Monlux, 2013). Furthermore, social validity ratings have been high, with parents reporting confidence in their ability to implement the intervention and recommendation of the telehealth model for training (Vismara et al., 2013).

Advances in technology and increased reliance on telehealth to provide behavior analytic services to families in rural areas, highlights novel ethical challenges for clinicians providing ABA treatment. Though telehealth guidelines have been established by the American Psychological Association (APA; 2013) and the American Telemedicine Association (ATA; 2008), practice guidelines designed to promote high quality, safe, and effective ABA telehealth treatment have yet to be developed. To that end, the goal of this article is to describe ethical and sociocultural considerations when designing clinical and business infrastructure to support quality tele-practice within a behavior analytic organization. We aim to raise considerations and assist organizations with determining an ethical telehealth development plan that is founded on best practice standards of care within the behavior analytic field and the ethical principles of the Behavior Analysis Certification Board (BACB) and the American Psychological Association (APA). The overarching goal of the recommendations provided herein is to provide an educational resource for clinicians, consumers and organizations alike and to promote the development of high quality, ethically sound tele-practice as an approach to effectively address health access disparities in rural and underserved communities.

**Clinical Infrastructure**

Telehealth models of ABA intervention are often employed in communities that have limited to no access to traditional models of care. These communities typically have limited choice or access to providers, thus making it critical that the highest standard of care is provided. With clinicians spread throughout the country and even outside of the United States, it becomes critical to establish consistent clinical standards for program implementation, processes for assuring high quality, effective, legal, and ethical services, and infrastructure to monitor implementation of clinical standards across clinicians, programs, and regions. To this end, we suggest organizations begin by creating a clinical infrastructure designed to ensure quality of care by outlining policies, procedures, and clinical standards for all levels of providers within their telehealth department. Telehealth manuals should include detailed protocols on assessing and creating a therapeutically beneficial environment, including designating a location for technology to allow for optimal camera view of session; environmental safety inspec-
tion and a plan to identify potential safety concerns for clients with self-injurious behavior or aggression; therapeutic materials inventory to determine family’s in-home resources and optimize the treatment environment; and a task analysis for establishing and troubleshooting technology (e.g., Internet connectivity, sound quality of Bluetooth earpieces). In the following sections, we discuss potential ethical challenges related to developing a clinical infrastructure support system and provide guidance on maintaining ethical behavior as it relates to determining appropriate clients, ensuring client protection, and establishing reliable quality assurance and improvement systems.

Considerations When Determining Appropriate Clients

In accordance with the BACB, “Behavior analysts accept as clients only those individuals or entities whose requested services are commensurate with the behavior analysts’ education, training, experience, available resources, and organizational policies” (BACB Guideline 2.01, Accepting Clients; BACB, 2014b, p. 6). Therefore, one must assess if telehealth service delivery is clinically appropriate for the client based available resources and cultural considerations related to the family’s comfort level with the telehealth service delivery model.

Available resources. Beneficence and nonmaleficence, two core ethical principles of the APA, includes protecting the consumer and taking care to do no harm (APA, 2010). When determining appropriate clients, a clinician is responsible for identifying whether the resources are available to effectively implement the behavior intervention via a telehealth service delivery model. Such considerations may include the client’s age and severity of challenging behavior, as well as the systems of support within the family and surrounding community. The provider and organization must determine whether they have the clinical support staff on-site and within the organization via telehealth to provide safe, effective treatment. It may be clinically necessary to provide additional oversight of the on-site staff and have a crisis management team in place to assist the on-site team, as needed. As such, the clinician must be aware of local resources that the family can access in case of emergency and provide appropriate referrals, if necessary. This should be conducted prior to starting services, so referrals and resources can be accessed in a timely manner.

It is also important to determine whether the technical resources are available and sufficient to provide the services. For example, the family must have access to a reliable Internet connection with sufficient bandwidth for real-time video streaming, as well as a computer or tablet with a webcam. If a family does not have Internet, a Wi-Fi enabled device or mobile hotspot can be purchased by the provider or family. With the poverty rate higher in rural compared to urban communities, providers may encounter this barrier more frequently and therefore will need to determine if they will provide the Internet access and accompanying technology for families.

Cultural considerations. Behavior analysts have the ethical obligation to ensure that the behavior analyst’s behavior conforms to the legal and moral codes of the social and professional community of which the behavior analyst is a member (BACB Guideline 1.04e, Integrity; BACB, 2014b). This is particularly relevant in communities where sociocultural factors may significantly affect the behavior analyst’s work (APA Ethics Code, Principle A Beneficence & Nonmaleficence, APA, 2010; BACB Guideline 1.05c, Professional & Scientific Relationships, BACB, 2014b). The severity of challenges faced by clinicians and families in rural communities can impede treatment outcomes, resulting in lifelong challenges for children and their families (Bolin et al., 2015). When working with diverse ethnic populations, ethical planning requires flexibility and sensitivity to the contextual challenges and concerns of each ethnic group (U.S. Department of Health and Human Services, 2001). As such, clinicians and administrative staff assisting with the intake process may require additional training to apply a cultural perspective to the evaluation of risks and benefits of implementing a telehealth treatment model, especially if their primary clinical practice has been in urban communities. Economic concerns are often a barrier for families living in rural, economically distressed communities. For instance, it may be a significant burden for a family to take time off from work for an assessment or they may not have the means to transport their child to treatment.
Despite the fact that delivering services in rural communities presents unique challenges, the telehealth service model mitigates many of these obstacles and can even create opportunities to enhance care. For example, through the use of telehealth, the organization has the ability to utilize a bilingual clinician from any location. Delivering treatment in a family’s native language may improve the clinician’s ability to describe a complex treatment. Moreover, incorporating a bilingual clinician (vs. an outsourced interpreter) can help ensure clear and direct client-provider communication while adhering to best practice privacy protection standards. Likewise, the clinician and family may be able to more efficiently access translated treatment plans and written protocols through the use of telehealth technology (e.g., an electronic medical record).

Client Protection

When providing services in small or rural communities, there are additional opportunities for breaching confidentiality that put both clinicians and their organizations at risk. To mitigate exposure, we recommend that provider agencies establish policies and safeguards to minimize risk on the individual and organizational level and provide additional training to supervising clinicians as it relates to (a) informed consent; (b) treatment monitoring and care coordination; (c) client privacy and confidentiality protection; and (d) dual relationships.

Informed consent. In ethnic minority communities, familiarity with ABA treatment and telehealth may also be a barrier to developing rapport and obtaining a truly informed consent for services. Informed consent protects consumers’ autonomy and welfare by providing a description of the risks and benefits of services, thereby allowing the consumer to make an informed decision about treatment. Culturally sensitive informed consent procedures may help improve a family’s comfort level with telehealth services, as well as facilitate rapport between the clinician and family. The development and implementation of culturally sensitive informed consent procedures can be enhanced through community education initiatives designed at educating consumers about ABA treatment via telehealth. Information can be disseminated through mechanisms such as parent handbooks and community presentations in the family’s preferred language (Fisher et al., 2002). In addition, visual aides, such as photos or videos of the telehealth videoconferencing system and health records system, can be incorporated to improve the consumer’s understanding of the telehealth model.

When rendering services via telehealth, additional consents should be obtained from the family. Typically, a family should be provided with a telehealth release, with information detailing the risks and benefits of telehealth service delivery (APA Ethics Code, 4.02, Discussing limits of confidentiality, APA, 2010; BACB Guideline 2.05c Rights of Clients, BACB, 2014b). Risks to loss of privacy and confidentiality should be shared with the family, detailing how this risk may be heightened with the service model. If the provider is using an asynchronous observation method (i.e., permanent video product), consent must be obtained for use across settings. For example, the family may provide consent for the video to be used for training members of their child’s clinical team, but not for other internal company trainings.

Barriers related to the family’s economic status may create challenges with obtaining signed informed consent. This may pose a challenge when serving rural areas because many families may not have access to a computer or the Internet. It is important for clinicians to set the expectations and obtain consent prior to the onset of services (BACB Guideline 2.12, Contracts, Fees, & Financial Arrangements; BACB, 2014b), therefore, when these barriers arise policies should be in place outlining alternative methods for completing paperwork. This may include providing the family with a self-addressed envelope for submission via U.S. mail or scheduling a preservice visit with an agency staff member, during which time the staff member could securely scan all intake information and submit it directly to the organization. If the organization opts for this method of transmission, additional privacy considerations include ensuring the staff member is utilizing company issued technology and not storing patient information on their personal devices.

Dual relationships. Because telehealth service delivery often occurs in rural communities with provider shortages, challenges such as mutual relationships and conflict of interest are a
constant risk. These same factors can pose challenges to confidentiality of the client and may even arise during the hiring process. Organizations often must recruit and provide training to a member of the community to establish a clinical treatment team for intensive ABA services. To maintain client confidentiality, it is unknown as to whether the potential technician has a prior relationship with the family. In this case, we recommend a careful process in which the family is consulted throughout the recruitment and case assignment process, to ensure their comfort level with the clinical team. As an example, it is not uncommon for individuals who work at the local school district to apply for a behavior technician position, and to work after school hours. In a small community, the school personnel may work with the child in the school and the family may not be comfortable with the school provider rendering services in their home.

Because pre-existing relationships often exist when residing in a rural community, dual relationships may result from treating friends or colleague’s children, family members, or through participation in school or community activities. However, denying services to a family because of a preexisting relationship may result in the family not receiving any services (Schank & Skovholt, 1997). As such, the APA Ethics Code (APA, 2010) acknowledges that not all multiple relationships are harmful or avoidable; however, clinicians are urged to examine the potential risk if a dual relationship emerges and take reasonable actions to resolve the conflict.

**Privacy and confidentiality.** Behavior analysts have an ethical duty to maintain confidentiality (BACB Guideline 2.06, Maintaining Confidentiality; BACB, 2014b) and care must be taken to ensure privacy and confidentiality is protected. The key strength of the telehealth model is that it enhances specialty care access in underserved communities and facilitates coordinated care among multidisciplinary professionals. Coordinated care can lead to better quality outcomes for individuals with chronic and complex conditions and is best implemented through a collaborative team based approach (Arora et al., 2014; Weiss, 2001). Because telehealth services are often rendered in small or rural communities, clinicians need to be aware of the added difficulties of protecting the confidentiality of individuals. For example, a provider may mention that they work with a child on the autism spectrum and provide the name of the school. In a small community, there may only be one child with autism receiving services in that particular school. Additional training and oversight related to privacy protection should be considered in an effort to prepare clinicians and behavior technicians to adhere to HIPAA privacy standards within their daily practice, avoiding any potential breaches of protected health information.

Many funding sources are now requiring real-time video monitoring of ABA treatment. Although there are numerous videoconferencing platforms available, provider organizations should research such platforms and determine which technology solutions meet HIPAA requirements and offer the ability to engage the organization in a business associate agreement. Because technology companies assume more risk and have higher operational expenditures when securing protected health data, the cost of HIPAA compliant technology is often higher. To protect consumers during real-time video feeds, the organization should establish privacy protocols that include creating unique meeting codes for each supervision session, requiring passwords to enter videoconferencing rooms, or locking meeting rooms so others are not able to join once the video stream is in progress. Clinicians should be aware of the environment and potential privacy risks when setting up their workspace to ensure confidentiality. For example, many clinicians provide their supervision from a home office and therefore should establish guidelines for family who live within the home to prevent disruption of sessions. Clinicians who are supervising from a home office should consider the use of a wireless headset and potentially locking the door to ensure privacy.

**Records and data.** Because of agreements with funding sources and the potential risk, both the organization and behavior analyst are liable for accurate documentation and storage of health records. Organizations considering a telehealth model for service delivery will need to consider how their behavior analysts will monitor treatment outcomes from a distance in accordance with best practice guidelines. Because an organization may accept clients across the country, an electronic health record system
can help ensure confidentiality, while preventing lost or stolen records that are required when audited by a funding source (BACB Guideline 2.07, Maintaining Records and BACB Guideline 2.11 Records & Data; BACB, 2014b). Many of these programs are cloud-based, allowing all members of a child’s treatment team (e.g., behavior technician, behavior analyst, parents, and teachers) to access up-to-date data.

In addition, individual clinicians should remain informed and be prepared to identify and mitigate potential risks for a breach in confidentiality. Prior to providing telehealth services, clinicians should research organizations to determine what resources are available to protect and support clinicians in delivering confidential care. While organizations may be at risk for losing service contracts in the event of a breach, the clinician is also at risk for losing their certification and/or license to practice. If working as a contractor, the clinician will be responsible for ensuring data is stored and transmitted safely. Because clients may be widely dispersed throughout the country, an electronic transmission of data will be essential. Therefore, careful consideration must be made to ensure data is stored on an encrypted site, adhering to HIPAA requirements, and is transmitted securely through an encrypted e-mail, fax or message system.

Community-based services. Service provision in community and school settings via telehealth requires additional planning and coordination. First and foremost, a relationship must be established in the community setting (e.g., daycare, school) to determine whether telehealth supervision will be permitted and if so, what requirements must be in place. Protocols determining the source of the Internet connection (e.g., school, Wi-Fi), confidentiality and privacy of other children and individuals in the community setting, supervision modality (e.g., synchronous vs. asynchronous methods), and environmental safety and crisis plan all need to be established. A care coordination meeting is essential prior to commencing services in order to communicate community-based care objectives, establish roles and responsibilities, and gather information about expectations for delivering care in the environment.

When providing services via telehealth, it can be more difficult to obtain information about the environment. For example, if the child has a goal targeted to reduce elopement, the clinician would need an understanding of the environment to ensure safety. To address this, the behavior technician on-site may need to take photos, videos, and/or provide other information to the supervising clinician about the environment, such as location of exits and whether the playground is fenced. A clear crisis plan should also be place that specifies who to call in case of an emergency. Whereas in a traditional model of service delivery, a clinician may be able to respond on-site to assist, this will not be possible when services are delivered via telehealth. If other agency staff (e.g., senior behavior technician) are located in the same area that are qualified to assist, an option may be to incorporate their assistance within the crisis plan. On the other hand, an advantage of the telehealth model is that the supervising clinician may immediately join a session and provide support to a behavior technician, when needed.

Quality Assurance Systems

Following the development of the clinical infrastructure as outlined above, establishing robust quality assurance and improvement systems is a critical process to ensure that the clinical team members are providing services within best practice, legal, and ethical guidelines. The telehealth model is unique in that it enables agencies to provide consistent, standardized training and monitor quality of care across all levels of providers regardless of location. Use of the telehealth model can enhance an organization’s ability to monitor adherence to standardized company treatment protocols, data collection procedures, and professional behavior. We recommend a quality assurance process that includes three interrelated and iterative pillars of practice: (a) targeted education and training; (b) systems for regular review of clinical records (i.e., data collection, clinical notes, reports); and (c) regular communication and review with all stakeholders in the system. Development, monitoring, and training on these standards can be thought of as antecedent strategies which, when implemented properly, can results in higher quality of care and greater consumer protection.

Training and education. A systematic pre-employment and ongoing training program is the first pillar of a best practice quality assur-
Clinician training and telehealth competence. Quality assurance training processes provide opportunities for specific training of telehealth clinicians in areas that they may not be familiar. One critical and common aspect of clinician level training is related to providing professional development and familiarity with new techniques and research. When providing a telehealth model of intervention, however, it becomes just as critical to provide clinicians with situation specific training based upon the locality of their clients. It is essential that the organization evaluate its behavior analysts’ effectiveness in leveraging technology as a medium for delivering care. Prior to operating independently, the organization should ensure that the clinician possesses the knowledge, skills, and judgment necessary to make sound clinical decisions when delivering care under a telehealth treatment model. This includes the clinician’s ability to identify when additional resources are required in order to ensure optimal care (ATA, 2008).

Treatment monitoring. Systematic review of program records is the second pillar of quality assurance processes in a telehealth model of intervention where isolation rather than collaboration is a significant risk. Reviews should be conducted both as part of regular weekly supervision practices by individual clinicians supervising behavior technicians as well as by organization-wide quality assurance focused supervisors. This review process is critical to ensuring that all clients are receiving effective treatment. Prior to operating independently, the organization should ensure that the clinician possesses the knowledge, skills, and judgment necessary to make sound clinical decisions when delivering care under a telehealth treatment model. This includes the clinician’s ability to identify when additional resources are required in order to ensure optimal care (ATA, 2008).

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Electronic health records provide simple and immediate access to patient data for both remote clinicians as well as quality assurance team members. Clinicians are able to easily access and monitor the fidelity of implementation of their treatment plan by examining electronically stored data for progress, patterns, and irregularities. Electronic health records also provide a critical infrastructure support to ensuring that quality services are provided across programs. These systems provide framework for disseminating template documentation and timely re-
view of data to ensure that needed data is consistently best practice across clinicians and compliant with the expectations of the law and funding sources (APA Ethical Code 6.01 Documentation of Professional and Scientific Work and Maintenance of Records and APA Ethical Code 6.06, Accuracy in Reports to Payors & Funding Sources, APA, 2010; BACB Ethical Code 2.10, Documenting Professional Work & Research, BACB, 2014b).

Stakeholder communication. The third pillar of a quality assurance program involves regular communication and review of programs with all stakeholders involved in a client’s care. The goals of regular and systematic quality assurance oriented communication across team members is to decrease the isolation experienced at each level of a behavior analytic team. Frequent stakeholder meetings, when implemented using best practice guidelines, build a more cohesive, consistent, and high quality team. Three forms of communication we recommend as integral to the quality assurance process are: (a) team meetings involving all members of the clinical team; (b) parent meetings involving at minimum parents and clinicians; and (c) parent satisfaction monitoring.

Clinical team meetings. Provision of in-home ABA services can be rather isolating for behavior technicians. It is potentially more isolating when supervision is exclusively provided via telehealth, as the clinician may not be aware of specific situational variables and stressors encountered by behavior technicians. Regular biweekly team meetings make dialogue more likely to occur than if the technician is left to problem solve or raise concerns independently (Brodhead & Higbee, 2013). Therefore a model of supervision and feedback that incorporates the recommended oversight at a ratio of two hours of supervision to every 10 hr of weekly direct treatment is critical to ensuring that all team members are adequately supervised, trained, and supported (BACB Practice Guidelines; BACB, 2014a). Team meetings should actively promote clinical and ethical discussions by encouraging candid discussion of and training on concerns, questions, and treatment barriers.

Parent meetings. Parent meetings are a second crucial component of a comprehensive quality assurance minded communication process. Regular review of programs, client progress, parent goals, and parent education needs are all part of this process. This is of particular importance for telehealth service delivery, as the development of trust and rapport may be hindered based on the family’s comfort level with telehealth. When parent meetings are provided in a sensitive and culturally competent manner, clinicians may gain an understanding of the resources (e.g., financial, social, infrastructure) available to the family. Through this process clinicians often become aware of treatment barriers that must be addressed to facilitate optimal outcomes (BACB Guideline, 4.07, Environmental Conditions that Interfere with Implementation; BACB, 2014b).

High quality parent meetings use an “exchange of information model” in which parents are empowered to give and receive information. Parents have the unique ability to provide information to clinicians that may otherwise be difficult to gain based on distance or the clinician’s familiarity with the unique sociocultural environment. For example, parents are often excellent reporters of rapport, cultural competence, and reliability of technician staff. They also frequently have unique insight into the client’s functioning, information about preferences, and behavioral history (BACB Practice Guidelines; BACB, 2014a). It is through this communication process that clinicians not only tailor their interventions to the needs of the individual but also to the unique environmental variables of the client (BACB Guideline 4.03, Individualized Behavior-Change Program, BACB, 2014b). Providers should become familiar with funding source requirements regarding the modality of parent meetings. For example, most funding sources require real-time video streams for caregiver meetings and may not reimburse for information exchanged via telephone, email, or other electronic methods. Therefore, careful review of the telehealth requirements is critical for organizations.

Parent satisfaction monitoring. At the organizational level, quality assurance check-ins focused on client satisfaction function to connect families more closely to the company infrastructure as a whole. Through at least bimonthly surveys and/or conversations, parents are able to express what is working, as well as any concerns they have about programming and/or staff. These processes often prevent challenges from escalating into unresolvable issues, allow
monitoring of satisfaction with clinical and ethical processes, and identify system wide areas of excellence and opportunities for improvement.

**Business Infrastructure**

Organizations considering a telehealth model for core service delivery must ensure that they have the administrative capacity to effectively manage a telehealth practice. Although many of these systems may be in place, the nature of telehealth raises considerations related to working in multiple states, funding source requirements and IT infrastructure.

**Considerations When Working in Multiple States**

Given the telehealth model is highly standardized, it is also remarkably replicable and lends itself well to growth outside of core service areas. When developing in new geographic areas, the organization must ensure that it is operating in total compliance with all federal, state, county and local laws, rules, and regulations.

**Legal compliance.** Achieving compliance begins with having a thorough understanding of all applicable business, tax and labor laws and frequently requires registration and/or licensing with a number of state agencies, including the secretary of state, state department of taxation and state department of labor. The business must also obtain worker’s compensation insurance and comprehensive liability coverage for all providers employed and/or practicing in the state. We recommend engaging an experienced corporate tax attorney, as employees who live in one state and work in another may be subject to income tax in both states. Further, an engagement with a nationwide human resources firm or local employment attorney is advised to help ensure compliance with state specific labor laws.

**Licensure.** Multistate provider organizations should familiarize themselves with state specific licensure requirements for behavior analysts. “Within the United States, organizations can contact the Association of Professional Behavior Analysts (APBA) or their state professional association regarding licensure laws specific to their geographic location” (BACB, 2012). Providers should educate themselves on the details of all applicable statutes, including the process for obtaining and renewing a license to practice ABA, licensure fees, ethical and disciplinary standards, continuing education requirements, complaint and investigatory procedures and sanctions that can be imposed on certificants (BACB, 2012). If a behavior analyst intends to render telehealth treatment to a patient residing in a state that requires licensure, the clinician will need to become fully licensed prior to the onset of treatment.

**Mandated reporting.** In addition to federal law, most states within the United States have enacted state-specific laws and requirements related to the reporting of suspected abuse and/or neglect of a client. As health care professionals, behavior analysts, behavior technicians and health care administrators are legally required to comply with all federal and state mandated reporting laws. Multistate provider organizations must educate themselves on all applicable mandated reporting laws and should invest in the training of mandated reporters prior to the onset of service. For instance, child abuse and reporting guidelines differ from state to state (Brodhead & Higbee, 2013) and may be unfamiliar to clinicians. To reduce the risk of potential violations, it is important that the organization find a way of making such information easily accessible. To monitor adherence to state specific laws and requirements, we recommend review of all such reports by an internal risk management committee.

**Technical competence and security awareness.** As threats to information security can also come from within the organization, telehealth providers should offer comprehensive training and support to ensure technical competence and optimal privacy protection within its operations. Therefore, it is essential to train providers on the basics of information security. Common barriers to achieving information security awareness include the technical skills of employees, organizational budgets, frequency of training and comprehensiveness of content. We recommend leveraging technology to offer online information security training. Not only is distance education a cost-effective and scalable option for a multistate business, the use of multimedia has also shown to improve the perception and comprehension of learners (Shaw, Chen, Harris & Huang, 2009).
In addition to education and training, technology driven service agencies should have comprehensive policies governing security and the acceptable use of company property. Acceptable use policies should include information pertaining to the user’s legal and ethical obligations to protect PHI and proprietary information; outline requirements for reporting theft, loss or unauthorized disclosure of protected information; and detail the functions and activities that are acceptable as well as those that are unacceptable when using company-owned devices. To ensure that policies are meaningful, the organization must have a means to monitor adherence, address negligence, and measure overall effectiveness.

**Funding Source Requirements**

Telehealth organizations should conduct treatment consistent within the jurisdictional regulatory, licensing, credentialing, malpractice and insurance laws for their profession in both the jurisdiction in which the providers are practicing as well as the jurisdiction where the patient is receiving treatment, and shall ensure compliance as required by appropriate regulatory agencies (ATA, 2014). The organization must also verify that the model is supported by all third party payers as there are often specific guidelines related to the acceptable use of technology when delivering ABA treatment and guidelines frequently differ based on the type of service being rendered. For example, many leading health insurance carriers have specific requirements related to the use of technology during assessment, treatment modification, supervision, and caregiver meetings. Funding sources that support the use of technology often do so under a hybrid model, allowing some extent of treatment to be delivered remotely via live secure video streaming and requiring the remaining services be delivered in-person. Management of varying requirements has proven to be challenging for organizations operating under agreements with multiple funding sources and in every case, requires significant organizational resources.

**Noncovered activities.** Despite this variation, it is important that the organization establish ongoing opportunities for behavior analyst clinicians to engage in the functions and activities that are critical to quality outcomes. For example, telehealth clinicians may utilize store and forward methodologies to analyze low frequency behavior. Although some funding sources may not recognize the analysis of store and forward videos as a covered service, it is critical that the organization continue to support its clinicians in engaging in evidence-based practice. In such circumstance, the organization would be prohibited from billing the funding source for a noncovered activity and must absorb the cost of any time spent analyzing video. Behavior analysts must put the patient’s care above all others and, should the third party make requirements for services that are contraindicated by the behavior analyst’s recommendations, behavior analysts are obligated to resolve such conflicts in the best interest of the client (BACB Guideline 2.04, Third-Party Involvement in Services; BACB, 2014b). If limitations to services are anticipated because of limitations in funding, the provider must discuss such limitations with the client as early as is feasible (BACB Guidelines 2.13, Accuracy in Billing Reports; BACB, 2014b).

**Accuracy in billing reports.** When providing a tiered service delivery model of services, the clinician and organization are responsible for ensuring accuracy in billing reports. Telehealth organizations must accurately state the nature of the services provided, the fees or changes, the identity of the provider, relevant outcomes and other required descriptive data (BACB Guideline 2.13, Accuracy in Billing Reports, BACB, 2014b). Ensuring accuracy in reporting can be complex when working with managed health contracts, and telehealth may add additional challenges to an already complex process.

Billing for noncovered activities can lead to serious consequences, including but not limited to, disciplinary action by the BACB and other regulating bodies, financial recovery on previously paid claims, loss of a third party contract/ removal from the established provider network, and a disruption or total loss of coverage for the patient. Therefore, it is imperative that telehealth organizations achieve a robust understanding of all funding source requirements and have the infrastructure to achieve and maintain compliance. Many practice management solutions offer quality management functionality, including automated time stamping of data entries, permanent record of users entering and
editing data, and ability for parents and caregivers to electronically verify sessions, allowing for immediate reporting to the organization and subsequent billing. This provides an additional layer of security for all stakeholders to ensure that all time reported is accurate (BACB Guideline 2.13, Accuracy in Billing Reports; BACB, 2014b).

**IT Departments**

To ensure efficient operations of a technology driven service model, the organization should consider the development of an IT Department. IT departments are generally responsible for governance of company owned technology and IT operations. To maintain continuity within a telehealth practice, it is critical that the IT department maintain capacity to adequately establish access and respond to technical difficulties in a timely manner. Issues with connectivity, network configuration and device malfunction can directly impact treatment delivery. When prolonged or repeated, such problems can interfere with patient access, damage provider-patient relations and ultimately impact quality outcomes. Therefore, robust IT support is essential for ensuring continuity within clinical practice.

**Telehealth technology management.** To prevent disruption in clinical service delivery, the organization must also maintain a sufficient inventory and issuance procedures. Proper inventory management involves careful budgeting for future IT needs, purchasing suitable models and installing them effectively, providing sufficient resources for optimal use, adequately maintaining and repairing equipment, deactivating, disposing, and replacing unsafe and obsolete items, and ensuring that staff possess the right skills use technology optimally (Lenel, Temple-Bird, Kawohl, & Kaur, 2005). An asset management system is recommended to effectively track telehealth technology, manage performance and realize value from investments. In addition to purchasing asset management software, the organization should develop and maintain protocols for the issuance and return of company owned technology, including comprehensive technology loan agreements designed to mitigate unnecessary financial risk. Given occurrences of lost, stolen, and damaged technology are inevitable, the business should also ensure that it has well developed systems for backup, restoration, and protection of data.

**IT recovery plan.** Although the use of telehealth technology can offer significant benefits to the organization and its consumers, increased use of technology may leave the organization at increased risk of a cybercrime attack. In fact, approximately 64% of U.S. companies are estimated to experience Web-based attacks and 44% experience stolen or hijacked computing devices (Poneman Institute, 2011). Telehealth organizations manage large volumes of electronic health information, much of which is vital to the continuity and success of clinical and business operations. Given its importance, the impact of lost data, hardware malfunction, or hacking could be detrimental. Therefore a plan for backup and restoration of electronic health information is essential (Federal Emergency Action Agency, 2012). One of the most cost-effective methods of managing routine backups is through an online secure backup service, including storage in the cloud. When selecting a solution, telehealth organizations should consider the vendor’s ability to comply with the HIPAA Privacy Rule and The Health Information Technology for Economic and Clinical Health Act. To reduce the risk of potential financial losses, the organization should consider purchase cybercrime insurance from a third party carrier.

**Discussion**

A primary goal of this article was to raise for consideration points related to encouraging ethical conduct in the provision of ABA treatment via telehealth, with a focus on the sociocultural perspectives of families living in rural communities. We outline recommendations for clinicians and organizations to develop a model for delivering ABA treatment via telehealth. Many of these recommendations are targeted for organizations interested in designing a robust telehealth service model aimed at serving consumers across a wide geographic area. However, provider organizations are urged to initially begin with a small number of consumers and scale services only when clinical and business systems are in place to ensure the quality and safety of care.

With the increase of telehealth service delivery within the behavior analytic field, ABA
telehealth practice guidelines are needed to promote uniform quality of care for consumers. Until researchers investigate and publish best practice guidelines, organizations may opt to develop their own practice guidelines referencing research from similar fields and resources from relevant professional organizations. For example, the ATA established the “Core Operational Guidelines for Telehealth Services Involving Provider-Patient Interactions” to guide clinicians and agencies to implement high quality, safe, and effective services (ATA, 2014). To further improve ethical telehealth practices, organizations may also elect to form an ethics committee or appoint an ethics advisor whereby ethical concerns can be reported (Brodhead & Higbee, 2013). An individual who is specially trained to evaluate potential ethical dilemmas within the telehealth model should be included on the committee to assist with researching the dilemma, assist with addressing the ethical challenge, and also provide quality improvement recommendations in an effort to prevent similar dilemmas from developing.

On an individual level, clinicians entering the telehealth field should thoroughly research the provision of behavior analytic treatment via telehealth and remain up-to-date on telehealth research. As technology continues to evolve, additional safeguards and training is often needed to protect the consumer. Therefore, we recommend clinicians specifically seek out CEUs related to promoting ethical and legal telehealth practices. Individual clinicians are advised to thoroughly research prospective telehealth employer agencies and determine what resources and support systems are available to promote high quality telehealthcare. For example, an agency may provide an internal system for monitoring and reporting ethical concerns, as well as ongoing education opportunities to support the clinician’s professional development.

Though research using telehealth service delivery models in behavior analysis is emerging, practice guidelines have yet to be researched and developed. To date, most research has focused on staff training and the extent the model can be used with a given teaching methodology. Future researchers may want to investigate systems for monitoring quality improvement within a telehealth model and outline practice guidelines for organizations to guide decisions that are ethically sound and based on the current standards of care within our field. To this end, additional research may be warranted to reduce practice variance. For example, there is much variation among funding source requirements as it relates to the ratios of in-person and telehealth supervision. Some funding sources require up to 25% of supervision in-person and others do not require in-person supervisory visits. Researchers may want to investigate the supervision ratios for telehealth services as it relates to child outcomes.

The recommendations provided above serve as a starting point for individual clinicians and organizations alike. Given telehealth is an emerging field, behavior analysts will continue to encounter novel ethical dilemmas and practice challenges. To effectively address concerns as they inevitably arise, and achieve desired quality outcomes within a telehealth practice, the behavior analytic community must maintain a consistent effort to remain informed via continuing education and research.

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