



Continuum of Care Screener: A Risk Mitigation Tool to Guide Decision Making When Environmental Factors Affect Service Delivery

Zahra Hajiaghamohseni¹  · Jennifer Sweeney² · Mary Caruso Anderson³ · Sarah Duarte⁴ · Christy Evanko⁵

Accepted: 17 November 2021 / Published online: 8 February 2022
© Association for Behavior Analysis International 2022

Abstract

Navigating novel, unpredicted service disruptions can be complex and unparalleled. To effectively handle service interruptions, board certified behavior analysts (BCBAs®) must make sound clinical decisions, comply with the Behavior Analyst Certification Board's Ethics Code for Behavior Analysts (2020a), and critically engage in ongoing risk/benefit assessments for each individual client. Unfortunately, most BCBAs do not receive coursework, training, or fieldwork supervision in advanced risk mitigation. Those who have been practicing longer may have more experience in organizational systems and mitigating risk; however, half of all BCBAs have been certified in the last 5 years and two thirds have been certified in the last 7 years (BACB, 2021). This rapid growth of the profession poses significant challenges in navigating novel situations outside of the practitioner's scope of competency and learning history. In this article, we present a systematic formalized approach to risk management through an organizational behavior management lens. The article includes a screening tool, a summary of the model, and case examples of ongoing risk assessment during unexpected service disruptions. This screener is designed to help BCBAs think critically and systematically as they consider social and contextual factors across stakeholders, the client's behavioral status and treatment needs, state policy and law, and professional and ethical obligations during the decision-making process.

Keywords ABA · COVID-19 · Screener · Telehealth · Risk mitigation · Ethics · OBM

The COVID-19 pandemic caused world wide disruptions, forcing social institutions, businesses and individuals to drastically adapt their behavior. For practitioners of applied behavior analysis (ABA), the COVID-19 pandemic created risks across the entire network of providers regardless of subfield of practice, population served, business location, or organizational size. Few recent events have introduced such widespread risks to the health and human services industry or demonstrated the impact environmental conditions can have on service provision. In this way, the pandemic created an impetus for the field of behavior analysis to consider a

systematic approach to the development and maintenance of risk mitigation skills for ABA practitioners, especially as the field grows and spreads internationally. Unfortunately, as we learned from our rapid attempts to acquire and become fluent with these skills during the COVID-19 pandemic, there is a dearth of research in this area. Although various models exist to aid ethical decision making (Bailey & Burch, 2016; Brodhead, 2015; Brodhead et al., 2018a, b; Newhouse-Oisten et al., 2017; Schreck & Miller, 2010; Sush & Najdowski, 2019), there are significant gaps in the literature specific to risk mitigation in ABA. However, although in general BCBAs do not have extensive experience in risk mitigation, they do have training in how to break down complex behaviors into teachable component skills (Behavior Analyst Certification Board [BACB], 2012). This skill can be applied to risk mitigation to help practitioners react efficiently, effectively, and ethically to abrupt loss or change in service.

Given the lack of research specific to risk mitigation in ABA, an interdisciplinary approach is warranted. Research and practice in public health may have much to contribute and we can also look within the field of ABA to the

✉ Zahra Hajiaghamohseni
zhajiaghamohseni@gmail.com

¹ Greenspace Behavioral Technology, LLC, 2340 Treescap Drive-8, Charleston, SC 29414, USA

² Solutions Behavioral Consulting, Macedonia, OH, USA

³ Intercare Therapy, LLC, Baltimore, MD, USA

⁴ Arion Care Solutions, LLC, Chandler, AZ, USA

⁵ Snowflakes ABA, LLC, Mechanicsville, VA, USA

subfield of organizational behavior management (OBM), which provides foundational research on which we can conceptualize the integration of risk mitigation practices into complex multilayered organizations such as those that provide ABA services. Research on behavior systems analysis (BSA) prove particularly helpful. For example, McGee and Deiner-Ludwig (2010) conducted a BSA using six performance truths to affect system-wide change in a large health and human services organization. Some of these performance truths apply to risk mitigation; in particular, the acknowledgement that organizations are complex systems that must respond to both internal and external changes with a well-planned and managed workflow if they are to survive and achieve their mission (McGee & Deiner-Ludwig, 2010). Moreover, risk management, like performance management, must occur cross-functionally at all levels of the organization. In ABA organizations many processes have both clinical and administrative components. Risk management (and measurement of the outcomes of this process) must occur smoothly and dynamically across these two critical functions to be effective. Managing risk in an administrative or clinical silo is likely to inadvertently introduce risk in other areas of the organization or even fail due to lack of appropriate resources (Grant & Lusk, 2015; McGee & Deiner-Ludwig, 2010). These ideas were integrated into the development of a general risk mitigation tool that is presented in the context of the COVID-19 pandemic. We focus on the COVID-19 pandemic as a model because it provides an example of the need for risk mitigation to which the entire field can relate, regardless of experience level, geographical location, or subfield of ABA in which the reader works. However, an additional example of risk mitigation in response to major funding source changes, such as those recently implemented by TRICARE, is included (see Appendix A) to demonstrate the utility and generalizability of the tool.

As stated, the impact of COVID-19 has caused individuals across the world to adjust some aspect of their behaviors, either at work or on a personal level. The ongoing impact and stages of recovery from the COVID-19 pandemic are forecasted through early 2024, postrecovery (Christakis, 2020). During the initial months of the pandemic, disruptions were extensive and there was limited professional guidance for practitioners in essential service-oriented professions such as ABA. As practitioners of ABA searched for answers on how to navigate widespread service disruptions, leaders in the profession were quick to point to rapidly changing conditions and a lack of concrete, specific information as barriers to decision making (Association for Professional Behavior Analyst [APBA], 2020).

At first, the development of general health guidelines by the World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) as well as profession-specific resources developed by the Behavior

Analysis Certification Board (BACB), Association for Professional Behavior Analysts (APBA), Council of Autism Service Providers (CASP), and others quickly disseminated wide-ranging information pertinent to the clinical practice of behavior analysis (APBA, 2020; Behavior Analyst Certification Board [BACB], 2020b; Council of Autism Service Providers [CASP], 2020). Modifications to mandates and policy are ongoing as new barriers are identified and progress is made toward a return to normalcy. In the United States, where most behavior analysts' practice, clinicians continue to experience limitations on options for providing services due to the effects related to COVID-19 (e.g., vaccine hesitancy, mask-refusal, uneven rates of vaccination across the country, FDA vaccine approval across age ranges, and the threat of COVID-19 variants).

A systemic, formalized approach to assess consumer and staff health and safety is essential. In recognition of these and other important gaps in the literature specific to our field's response to COVID-19, representatives from state ABA associations met in the spring 2020 to coordinate the dissemination of information and resources to practitioners across the United States. A subcommittee, five individuals from these state association discussions, collaborated to develop a tool to guide the risk/benefit analysis of treatment modality. In the early stages of the pandemic, the authors presented the Continuum of Care Screener (CCS) to an attorney for review, then introduced it via webinar disseminated by state ABA associations throughout 2020, and then revised it based on user feedback. To obtain user feedback, a content review form was developed and disseminated among colleagues of the authors who had been known to use the tool or who had potential to use the tool. The CCS was developed to aid practitioners in ABA in conducting a systematic, objective, cross-functional evaluation of risk. Although it was initially developed to meet the specific needs of ABA practitioners throughout the long-term phases of the COVID-19 pandemic, it was redesigned based on user feedback to be an adaptable tool similar to the organizational design questions used in conducting a BSA (McGee & Deiner-Ludwig, 2010). Thus, the CCS can be utilized across a variety of situations that present risk for ABA practitioners as will be demonstrated in the brief case examples presented in this article. The CCS is not prescriptive and is not intended as a replacement for clinical judgment or ongoing training and supervision in risk mitigation but instead calls attention to the broad range of clinical, administrative, and operational variables required to perform risk/benefit analyses. In this article, we aim to provide a practical discussion for using the Continuum of Care Screener to make decisions regarding treatment during service disruptions. We will discuss and present the screener, provide case scenario examples, and outline the process for developing the screener.

The Continuum of Care Screener

The Continuum of Care Screener (CCS) provides a framework for ethical risk mitigation when making treatment decisions during a pandemic or other environmental situation that affects service delivery. It should be completed for each functional unit (e.g., treatment team) in the organization. The informal open-ended question format allows for a comprehensive assessment of the risks involved in its service delivery system during the acute phase and as conditions change over time. It should be noted that the screener does not constitute legal or medical advice and practitioners should gain written consent from clients and/or guardians prior to utilizing the screener.

The screener is divided into three parts. Part I addresses government or other professional mandates along with organizational climate. Part II focuses on each families' coping and support systems, family and provider practices or behaviors specific to the environmental event affecting service provision, and the client's current behavioral needs. In Part III, the information gathered in the first two parts is synthesized and analyzed to mitigate identified risks and guide risk mitigation strategy selection for functional units.

Part I. Administrative Decisions

This part of the screener prompts administrative review of nonclinical factors within and outside the organization that may set parameters on clinical decision-making efforts. In this top-down approach, government and profession-specific mandates are considered before organizational climate (operational considerations). Both will affect an organization's entire client base and should be recognized before clinical interviews begin. This allows clinicians to assess family needs with knowledge of potential limitations on clinical practice recommendations.

Government and Professional Mandates

Throughout the COVID-19 pandemic, it became evident that organizations needed to consider a wide range of operational variables prior to determining or modifying a client's treatment modality and plan. This section prompts the organization to review mandates that will affect the organization (e.g., are behavior analysts considered essential, are behavior analysts included in telehealth policies). In the BACB's Ethics Code for Behavior Analysts (hereinafter referred to as "the Code"), code 1.02 states that "Behavior analysts follow the law and the requirements of their professional community (e.g., BACB, licensure board"; BACB, 2020a). This section encourages the documentation of mandates to ensure

adherence to the code. For example, in the United States, some state mandated restrictions and stay at home orders began in March 2020, and most nonessential work ceased. Therefore, in states where ABA for individuals with disabilities was not considered essential, organizations were forced to put services on hold while they evaluated alternatives (e.g., telehealth). There may be a wide variance between government and professional guidelines. If restrictions that prevent face-to-face services were mandated at the state level for example, the BCBA would use the responses from the CCS when developing crisis or maintenance plans for any communication and functional life skills that the caregivers are able to sustain through the mandates. If there is a conflict among the guidance, it becomes necessary to consult with colleagues and members of the functional unit to evaluate the different levels of restriction, review the results of the CCS, and assess consequences of implementation.

Organizational Climate

Complex administrative considerations may have an adverse impact on an organization's ability to maintain fiscal or clinical operations during environmental conditions that disrupt service delivery. Organizations will need to assess the administrative readiness to provide and sustain services while balancing changing contingencies. For example, with COVID-19 changing contingencies could include: (1) evolving or modified health and safety standards; (2) financial viability during quarantine protocols or sick leave policies related to COVID-19; (3) securing vaccines for employees; (4) steady supply of personal protection equipment (PPE); (5) employee risks; (6) scope of competence (e.g., for telehealth); (7) employee readiness to work face-to-face; (8) possible short- or long-term company closure; and (9) incompatible insurance or funder benefits. Information collected in this section of the CCS will assist the organization in identifying known operational barriers that may affect clinical service delivery options. These considerations may be especially important for BCBAs in a dual role as an administrator or business owner, which can add layers of complexity to risk mitigation efforts. Organizational barriers or mandates that impede the provision of consumer services (e.g., lack of approved third-party telehealth policy, inadequate supply of PPE for the workforce; changing criteria for payors) should be clearly communicated to clinical teams prior to conducting family interviews for Part II of the screener.

For instance, consider the following scenario in which funding sources for specific clients limited the organization's choices for service delivery during the pandemic. At the outset of the pandemic, the ABC Company had 30 clients, 10 of whom had a third-party funder that did not allow a telehealth provision during COVID-19. Although ABC is a

for-profit company, their mission incorporates aspects of the not-for-profit health and human services sector, in particular an emphasis on client well-being and satisfaction. Their response to the pandemic was no exception. The administrative team considered the financial impact and feasibility of sustaining nonbillable telehealth services before clinicians conducted Part II of the screener with families. This allowed the administrative team to set sustainable parameters on nonbillable services while they pursued other forms of funding to cover employee salary and other costs. They communicated these parameters to the BCBA, who in turn were able to have productive discussions with caregivers on how to best meet client and family treatment needs. By examining these issues prior to making clinical decisions, the BCBA were able to have transparent and efficient conversations regarding service delivery options. Proactively presenting realistic and clear options to caregivers during the screening section provided an organized, comprehensive exchange of information, which in turn allowed these 10 families to make informed decisions relative to the risk of continuing face-to-face services in the absence of third-party payer telehealth funding (Table 1).

Part II. Caregiver Screening: Family, Provider, and Client Behaviors

This part of the screener prompts a review of factors related to the clinical context and is usually conducted by the BCBA who should have knowledge of any organizational constraints (from Part I) that may affect the clinical decision-making process. The intent of Part II, the direct interview portion of the screener, is to assess the family context, in particular behaviors and risk factors relevant to the environmental event causing the service disruption (either its onset or changes since the last screening). The family and treatment team form a functional unit; the treatment team is part of the family’s context and are therefore included as caregivers in this section. This section of the screener examines (1) family support systems; (2) family and provider practices, behaviors, or risk factors specific to the environmental event affecting service provision; and (3) the client’s current treatment needs (e.g., behavioral and skill acquisition status).

Caregiver Considerations

Assessing the context in which intervention occurs is important when developing a comprehensive treatment plan. Thoroughly understanding the antecedents and consequences is not only imperative but warranted when adapting treatment plans to the constraints placed on organizations and families due to unusual service disruptions. This section is intended to assist the BCBA in collecting information

Table 1 Summary of Part I screener

	Governmental mandates	Workplace safety	Financial	Workforce	Additional staff
Summary	Addresses any country, province, state, local mandates that would override company decisions	Asks questions about the workplace environment	Asks questions about the stability of the company and its ability to survive disruptions in service	Ask questions about the ability and capacity of the workforce	Asks questions about the mindset of the staff and willingness and ability to continue to provide services
Critical considerations	Mandates	What if business is unable to accommodate and needs to close	What if financial situation isn't robust enough to survive disruption	What if workforce is not able to adapt	What if workforce is unwilling to adapt
			Administrative Outcome		
					List critical considerations and mitigation strategies to determine next steps in Part II.

needed to create a comprehensive plan, and it is intended to be repeated as necessary to assist in monitoring needs as conditions change.

In this section, the interviewer determines the family unit's strengths and needs, assesses the risk of exposure to the environmental condition based on the functional unit's (i.e., family and provider) social behaviors. The questions in this section should be asked of all individuals in the treatment environment and their immediate social network (i.e., the client, family, provider, and their households). In addition, this section prompts the BCBA to establish a routine medical attestation system that requires caregivers (i.e., family and provider) to attest to any known symptoms associated with medical-related environmental events, such as COVID-19.

The Caregiver Considerations Section is meant to provide a similar framework for examining the functional unit's (e.g., family and providers) risk of exposure given their social behaviors and responsibilities. Evaluating the social behaviors of the treatment team allows the organization to conduct comprehensive and contextual risk mitigation. If the screener reveals high risk among team members (e.g., caregiver uses mass transit or travels frequently for work; medically vulnerable person lives in the home), the organization may consider adjustments to the assigned treatment team to reduce the risk inherent in face-to-face services, especially if those high-risk factors cannot be attenuated. The following case scenarios are provided to illustrate the utility of gathering social information for both family and provider. These examples will be extended through the remainder of the paper to illustrate the process and possible results.

Scenario 1: The Davis family The Davis family receives services from the ABC Company. During Part I of the assessment, the administrative team determined that the Davis family's medical insurance does not have a telehealth policy provision that would apply to ABA. The BCBA conducts the CCS Clinical (Part II) interview with the Davis family and discovers several significant risk factors for virus exposure: (1) one parent works outside of the home in a public retail setting, (2) the other parent works as direct care staff at a nursing home, (3) all of the children in the home attend full-time, in-person school programs, and (4) two high-school-aged siblings participate in close-contact indoor group sports without masks and spend time with friends on the weekends. Due to these factors, the family has frequent contact with multiple people that increases their overall exposure. The client is 10 years old, does not tolerate wearing a mask, and engages in behaviors that require physical prompting.

The current provider team is composed of a BCBA and a registered behavior technician (RBT) who provide regular face-to-face services to this family. Evaluation of risk factors reveals that both team members have spouses that are front-line healthcare workers. In addition, the BCBA has a child

with a high-risk medical condition. The RBT has two children under the age of 5 who attend day care. According to state guidelines, the children are not required to wear masks at day care due to their young age. Given the information collected, the BCBA and the ABC Company's administrative team identify several courses of action that will allow for the continuation of services during the pandemic. The ABC Company can sustain up to 6 weeks of BCBA-specific nonbillable services via telehealth. During this time, the administrative team will research alternate funding sources for continued telehealth if needed. The child's skill and behavioral status suggest that continued face-to-face services are warranted. Therefore, although the family is receiving telehealth, the clinical team will develop a plan to (1) help the Davis family make the transition to a BCBA who does not have a medically fragile family member or other risk factors; (2) assign an RBT with fewer risk factors to work in the home; and (3) work with the family to mitigate risk where possible and develop COVID safety protocols that allow for the continuation of face-to-face services.

Scenario 2: The Rivera family Scenario 2 examines risk mitigation for a different type of service disruption. In this case, a third-party insurance policy change regarding the provision of applied behavior analysis services to clients instituted location of service restrictions (causing loss of billable service hours) and a requirement to bill certain CPT codes monthly or face recoupment of a percentage of monies remitted to the company per a patient affected by the policy change. Based on initial calculations, the ABC company will lose \$40,000 a month. This represents more than 50% of revenue. Many of the considerations that were necessary when adjusting for the COVID-19 pandemic (such as government mandates and workplace safety) are not applicable in this instance, but risk mitigation is still crucial. The Rivera family is one of the families whose insurance provisions changed. Their son, Donovan, receives services from the company. The administration worked with them and other families to make alterations to accommodate the third-party funding changes. Unfortunately, the required adjustments did not work for the Rivera family's situation, and the ABC Company plans to phase out services for parent maintenance ahead of the forthcoming changes. As part of the phase-out, the ABC Company and the Rivera family will modify the Donovan's service schedule for 8 weeks to conduct family training sessions at night or in the evenings. For more information about this situation, see the Third-Party Payor Insurance Example (Appendix A).

Client Behaviors

The purpose of the client behavior section is to examine service-related needs so they can be juxtaposed against the

risks involved in providing intervention services at a range of intensities. The tool provides guiding questions to gather information regarding the functions of existing or new problem behavior so they can be reviewed, and programs can be adapted to meet current restrictions. The clinical team is also led to consider the need to prioritize skill acquisition programming and instructional control issues across the range of service delivery modalities (Ming, 2020). In addition, the tool addresses the necessity of teaching new pandemic-related skills (e.g., how to wear a mask, to tolerate a mask, how to make the transition to and from at-home workspace, to problem-solve when the computer will not work, what to do in case of an emergency at home).

Consider the client in the Davis family from the example above. In this section of the screener, the BCBA documents that the client does not have the recommended prerequisite skills for telehealth (e.g., attending to the screen, instructional control). In addition, the BCBA documents moderate interfering behaviors such as refusing hygiene routines, disrupting family mealtimes, and resisting changes in routine. In this situation, the BCBA would need to consider the effectiveness of telehealth services and if essential telehealth skills can be taught. Completing this section provides the BCBA with pertinent client-specific information for treatment planning under current pandemic conditions. Once this section is complete, the organization should have a contextual overview of (1) national, regional, and local pandemic-related conditions, laws, and policies; (2) organizational conditions as they pertain to providing services during the pandemic; (3) family conditions; and (4) client need and status (Table 2).

Part III. Analysis and Treatment Development

The final section of the CCS is designed to systematically guide decision-makers through organizing the information they have gathered from Parts I and II for the purpose of arriving at a decision regarding the appropriate treatment

modality for each client. Although Parts I and II are intended to guide the organization in collecting data from a wide range of sources, Part III involves the synthesis and analysis of those data for decision-making purposes. Part III is not intended to be prescriptive but instead provides a structure by which to organize the obtained data to facilitate decision making. Given the wide-ranging and complex contexts under which organizations are making these decisions, it may be necessary to seek collaboration, supervision, and mentorship during the decision-making process. The CCS may be helpful in this context as well.

Risk/Benefit Analysis

This section is designed to organize the data obtained during administrative and clinical information-gathering processes to determine how best to meet each client’s treatment needs across a range of service provision options (1) face-to-face; (2) telehealth; (3) hybrid; (4) temporary suspension of services; or (5) another applicable option. As the number of variables under consideration increases, risk mitigation becomes more complex and higher-level discriminations are required. Thus, it is advisable to confer with peers and mentors. Although this section of the screener offers a framework for organizing a wide range of salient variables, decisions regarding treatment modality under unusual or disrupted environmental conditions require critical thinking, creative problem solving, flexibility, and consideration of moderating and mediating variables that may not be immediately apparent. In addition, it is important to note that any decision made during the acute phase of a service disruption should be revisited often, in particular as circumstances change throughout the phases of the disruption.

The following case scenario is provided to illustrate the changes that may need to be considered on an ongoing basis. Six months into the pandemic, the ABC Company continues to monitor each client/caregiver team through systematic case review using pertinent sections of the screener. Members of

Table 2 Summary of Part II screener

	Acute family changes and family social behaviors	Provider social behaviors	Client behaviors
Summary	Guides questions about family changes, stressors, environment, and risk of exposure	Guides questions about home environment, and risk of exposure and to exposure	Guides questions about changes affecting client behaviors
Critical considerations	Is family self-quarantined; are members working outside of the home; are precautions taken at their work; are family community activities risky, including use of mass transit	Are provider families self quarantined; are other members working outside of the home; are precautions taken at their work; are family community activities risky, including use of mass transit	Changes in client behaviors, especially those that affect safety of client and family members
Clinical Outcome			

List critical considerations and mitigation strategies to determine next steps in Part III.

their workforce have expressed fear of contracting the virus when working with clients who are known to have higher-risk social environments such as face-to-face school, regular congregation in groups of 10 or more, or parents who work in high-risk jobs. To alleviate employee concerns and potential administrative strain, the organization is considering the incorporation of a policy of routine COVID testing for clients and providers who live in higher risk households. The organization’s state-specific health department offers free testing and is encouraging members of the community to test regularly. After consulting their legal team, the ABC Company plans to compile information on testing sites, time, and logistics for families and employees. They will incorporate this information into their systematic review of specific client/caregiver teams (e.g., family and provider households) moving forward to improve their decision-making capabilities with regard to ongoing risk mitigation. Recall that in the Davis family, significant high-risk social behaviors were identified, and the organization was able to mitigate some of that risk. In the acute phase of the pandemic, this was done through the use of temporary telehealth, staff reassignment, and safety protocols, but as the pandemic progressed, the organization found additional ways to mitigate risk through the addition of biweekly COVID testing and eventually through the organization’s proactive dissemination of resources regarding the COVID vaccine. Thus, although the data collected in this framework are critical in making decisions during the acute phase of the pandemic, it is also useful in monitoring changes at all four levels of analysis (geographic, organizational, caregiver, and client) in ongoing risk mitigation efforts.

Developing the Treatment Plan

In the previous section, the provider synthesized the Davis family’s caregiver team information and determined the most effective service setting relative to the pandemic. Returning to our second scenario of risk mitigation involving the third-party payer scenario, consider the ABC Company and the

Rivera family choose to modify the client’s service schedule for 8 weeks to conduct family training sessions at night or in the evenings. The training will target seven identified social-communicative behaviors that will support Donavon’s success across environments. The BCBA will conduct behavior skills training with parents and ensure the parents meet a performance and competency-based assessment. If the parents’ need additional booster sessions, the company owner has agreed to cover the cost of three additional booster sessions past the 8 weeks.

Scenario summary The Davis and Rivera family examples highlight the need for careful consideration of multiple variables, ongoing monitoring, collaboration, and problem solving even as company staff is overwhelmed with adjusting to environmental conditions and maintaining day-to-day operations. Although the complexity of the screener mirrors the complexity of the conditions with which ABA organizations are faced, it may also limit its social validity (Table 3).

Content Review

The authors recognize that the use of a lengthy assessment such as the CCS, especially during the acute phases of a pandemic or large shift in conditions, may be overwhelming. However, it is during these chaotic shifts that risk mitigation errors can be made. As a result, to support content validity, the authors sought feedback from multiple sources to support the use of the screener.

To identify barriers to utilizing the CCS, prior to its first dissemination via webinar in March 2020, the CCS was reviewed by an attorney. The attorney did not recommend substantive changes or identify legal concerns. At this time, minor suggestions were incorporated by the authors including the addition of a question to caregivers regarding disruption to the client's schedule across additional social

Table 3 Summary of Part III screener

	Workplace safety requirements	Technology requirements
Summary	If face-to-face is determined to be the best option (or a hybrid), these questions guide the user to consider key environmental changes.	If telehealth is determined to be the best option (or a hybrid), these questions guide the user to consider key technology requirements.
Critical considerations	Will family comply with requirements; will staff comply with requirements; are requirements within the capacity of the company	Is there a telehealth provision in the payor’s policy, can adequate technology be set up to allow the services to be effective
Service Delivery Outcome		
Use critical considerations and risk mitigation information to determine best outcome for each client and then develop the treatment plan. Revisit as often as necessary		

contexts (e.g., playground, church) and a query regarding the consumer's preference to remain in contact with the regular provider via virtual format (e.g., phone, video technology options) during face-to-face service disruptions.

Next, a Google form was provided to 10 content reviewers to obtain informal feedback on the content and social validity of the screener. The content reviewers were BCBA's or BCBA-Ds in good standing and had used the CCS at least once. Demographic data collected on content reviewers included the number of years in practice and risk mitigation experience using a Likert scale of 1 to 5. In this scale, 1 means "no experience," and 5 means "expert—have had coursework and applied training in the field through professional development." Reviewers were also asked to rate the clarity, comprehensiveness, and utility of the CCS and to point out potential strains in the collection of critical information. A Likert scale was also used to question reviewers on "Ease of Use" where 1 means "easy to use with little to no coaching," and 5 means "difficult to use and the format affected the flow of the process" (Table 4).

Overall, practitioner feedback supported the use of the screener; however, practitioners did recommend substantive changes that were incorporated in the final screener. These included (1) adding "n/a" for certain questions that may not apply in particular situations; (2) providing operational definitions for CDC terms such as "social distancing" and "close contact"; (3) incorporating questions about COVID testing history; (4) organizing the risk–benefit analysis as a separate section to assist the novice with attending to the relevant aspects of risk mitigation; and (5) providing a breakdown of the service placement continuum with a checklist of corresponding risk-mitigation actions.

Discussion

The Continuum of Care Screener was initially developed to guide clinical decisions during a global pandemic that disrupted and, in many cases, restricted face-to-face therapy.

Through CCS development, implementation, and revision, the authors identified the need for broader use and applicability specific to service disruption risk mitigation in ABA. Recognizing the adaptive nature of ABA organizations, the authors developed a tool blending guidance from government and professional guidelines for risk mitigation (APBA, 2020, Behavior Analyst Certification Board, 2020a, 2020b, CDC, 2021, U.S. Department of Labor, 2020) while structuring the tool to account for interactive components of a multilayered, complex organizational environment (McGee & Deiner-Ludwig, 2010). This format is intended to guide practitioners in identifying and prioritizing critical areas of need for each stakeholder and the organization. As the relevant service disruption context evolves, the CCS facilitates ongoing monitoring and allows consideration of changes that facilitate or impede a return to baseline service conditions. The result is a fluid service delivery assessment tool that enables practitioners to systematically assess, monitor, and adapt treatment modality decisions over time.

Limitations

As discussed, the emergence of COVID-19 was abrupt and necessitated quick action by ABA practitioners to determine how to best maintain services for each client. During the decision-making process, the synthesis and critical evaluation of information obtained across diverse and complex contexts is an advanced skill that requires training and practice that is not included in the coursework for ABA practitioners. The authors recognized the gap in experience with risk mitigation and developed the CCS rapidly to meet the urgent practitioner need. Due to this expedited process, the authors were not able to evaluate the effects of the tool on practitioner risk mitigation, treatment decisions, and client outcomes. Although author-solicited feedback indicates that the tool is useful; caution is warranted until the CCS is empirically validated. In addition, the CCS was not intended

Table 4 Content reviewer responses

Reviewer #	Years of practice	Experience with Mitigation	Number of times trialed	Ease of Use	Would use it again?	Recommend to others?	Level of experience needed to use tool
1	0.5	4	1	1	Yes	Yes	Novice with supervision
2	1	2	1	2	Yes	Yes	Novice with supervision
3	3	3	5+	5	Yes	Yes	Novice with supervision
4	5	5	5+	1	Yes	Yes	Novice with supervision
5	5	4	1	4	Yes	Yes	2+ years experience
6	7	2	1	5	No	No	Novice with supervision
7	10	3	1	1	Yes	Yes	Novice with supervision
8	10	5	2	2	Maybe	No	Novice with supervision
9	11	3	4	2	Yes	Yes	2+ years experience
10	12	1	4	1	Yes	Yes	Novice

to replace ongoing training and supervision in risk mitigation skills.

Future Directions

Research is needed to refine and support the continued use of the CCS, in particular its effects on decision making and client outcomes. In addition, the COVID-19 pandemic has revealed challenges that practitioners and researchers must address if we are to navigate future global and regional service disruptions (e.g., due to pandemics, changes in payer policies, or other unpredictable events). It is evident that the sudden emergence of COVID-19 caught many service-oriented businesses unprepared to handle large-scale service disruptions. At first, a lack of guidance and resources contributed to variable responses across ABA service providers even within the same region. Although professional organizations (ABAI, 2020; APBA, 2020; BACB, 2020b; CASP, 2020) were quick to respond with professional resources, guidance, and policy specific to the field of ABA, government responses in some cases were slow or conflicting. The lack of preparation time left practitioners on their own to determine their status (essential or nonessential), when to disrupt services for safety reasons, and how to adapt treatment approaches to prevent total loss of services for those requiring continued support. Special consideration should be given to adopt a formal risk mitigation training for BCBAs. This is due in part to the expanding international reach of behavior analytic practice and challenges related to national and global issues such as climate change, political movements, and unforeseen environmental crises that may arise. Moreover, we must commit to building a foundation of research that supports international ABA-specific risk mitigation strategies. We can do this efficiently by adapting effective techniques from the fields of public health and OBM (Bruinen de Bruin et al., 2020; McGee & Deiner-Ludwig, 2010). It is important to recognize some of the work that has been done in this area in the behavior analysis profession (Deochand et al., 2020) as well as in other professions, such as the insurance industry (Hanafizadeh et al., 2013) and the finance industry (Bol et al., 2009).

The field of ABA must adapt to the realities of our changing world. We should consider the likelihood that we may experience other major service disruptions locally and worldwide. In finding many ABA service providers unprepared, perhaps the pandemic has reminded practitioners of the importance of a least restrictive intervention, generalization of training, and a focus on socially valid treatment goals. The field must prepare for future challenges by continuing to build on the accomplishments of researchers and practitioners during major service disruptions.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s40617-021-00672-7>.

Acknowledgments The authors thank the editorial review team for helpful comments and support with this article.

Declarations

Conflict of Interest We have no conflicts of interest to disclose.

References

- Association for Behavior Analysis International. (2020). Retrieved on April 22, 2020 from <https://www.abainternational.org/constituents/practitioners/covid-19-resources.aspx>
- Association for Professional Behavior Association. (2020). Retrieved on January 23, 2021 from https://cdn.ymaws.com/www.apbahome.net/resource/collection/1FDDBDD2-5CAF-4B2A-AB3F-DAE5E72111BF/APBA_Guidelines_-_Practicing_During_COVID_19_Pandemic_040920.pdf
- Behavior Analyst Certification Board. (2012). *Fourth edition task list*. Retrieved on January 23, 2021 from <https://www.bacb.com/wp-content/uploads/2020/05/BCBA-BCaBA-task-list-fourth-edition-english.pdf>
- Behavior Analyst Certification Board. (2020a). *Ethics code for behavior analysts*. Retrieved on July 1, 2021 from <https://www.bacb.com/wp-content/uploads/2020/11/Ethics-Code-for-Behavior-Analysts-2102010.pdf>
- Behavior Analyst Certification Board. (2020b). *COVID-19 pandemic: Ethics guidance for ABA providers*. Retrieved on April 22, 2020 from <https://www.bacb.com/covid-19-pandemic-ethics-guidance-for-aba-providers/>
- Behavior Analyst Certification Board. (2021). *BACB certificant data*. Retrieved on January 23, 2021 from <https://www.bacb.com/bacb-certificant-data/>
- Bol, G., Rachev, S. T., & Wurth, R. (2009). *Risk assessment: Decisions in banking and finance*. Physica-Verlag.
- Brodhead, M. (2015). Maintaining professional relationships in an interdisciplinary setting: Strategies for navigating nonbehavioral treatment recommendations for individuals with autism. *Behavior Analysis in Practice*, 8(1), 70–78. <https://doi.org/10.1007/s40617-015-0042-7>
- Brodhead, M., Cox, D., & Quigley, S. (2018a). *Practical ethics for effective treatment of autism spectrum disorder*. Elsevier Science & Technology.
- Brodhead, M., Quigley, S. M., & Wilczynski, S. P. (2018b). A call for discussion about scope of competence in behavior analysis. *Behavior Analysis in Practice*, 11(1), 424–435. <https://doi.org/10.1007/s40617-018-00303-8>
- Bruinen de Bruin, Y., Lequarre, S., McCourt, J., Clevestig, P., Pigazzani, F., Zare Jeddi, M., Colosio, C., & Goulart, M. (2020). Initial impacts of global risk mitigation measures taken during the combatting of the COVID-19 pandemic. *Safety Science*, 1(28). <https://doi.org/10.1016/j.ssci.2020.104773>
- Centers for Disease Control & Prevention. (2021). *COVID-19*. Retrieved on January 23, 2021 from <https://www.cdc.gov/coronavirus/2019-ncov/community/large-events/considerations-for-events-gatherings.html>
- Christakis, N. (2020). *Apollo's arrow*. Hachette Book Group.

- Council of Autism Service Providers. (2020). *Coronavirus resources*. Retrieved on April 22, 2020 from <https://casproviders.org/coronavirus-resources/>
- Deochand, N., Eldridge, R. R., & Peterson, S. M. (2020). Toward the development of a functional analysis risk assessment decision tool. *Behavior Analysis in Practice*, 13, 978–990. <https://doi.org/10.1007/s40617-020-00433-y>
- Grant, C. L., & Lusk, J. L. (2015). A multidisciplinary approach to therapeutic risk management of the suicidal patient. *Journal of Multidisciplinary Healthcare*, 15(8), 291–298.
- Hanafizadeh, P., Tabataba’I, A., & Rastkhiz Paydar, N. (2013). A data mining model for risk assessment and customer segmentation in the insurance industry. *International Journal of Strategic. Decision Sciences*, 4(1). <https://doi.org/10.4018/jsds.2013010104>
- McGee, H. M., & Deiner-Ludwig, L. H. (2010). Behavior systems analysis in health and human services. *Behavior Modification*, 34(5), 415–442. <https://doi.org/10.1177/0145445510383527>
- Ming, S. (2020, March). *Pivoting to telehealth: Providing effective, ethical, and socially validated services while sheltering in place*. [Webinar session]. California Association for Behavior Analysis, USA.
- Newhouse-Oisten, M., Peck, K., Conway, A., & Frieder, J. (2017). Ethical considerations for interdisciplinary collaboration with prescribing professionals. *Behavior Analysis in Practice*, 10(2), 145–153. <https://doi.org/10.1007/s40617-017-0184-x>
- Schreck, K., & Miller, V. (2010). How to behave ethically in a world of fads. *Behavioral Interventions*, 25(4), 307–324. <https://doi.org/10.1002/bin.305>
- Sush, D., & Najdowski, A. . (2019). *A workbook of ethical case scenarios in applied behavior analysis: Case studies for practice*. Academic Press.
- U.S. Department of Labor. (2020). *Coronavirus disease*. Retrieved June 26, 2020 from <https://www.osha.gov/SLTC/covid-19/>

Publisher’s Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.