A Behavioral Safety Model for Clinical Settings: Coaching for Institutionalization

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Abstract

Decades of research in the field of behavior analysis has offered a framework to assess behavior–environment interactions across any population and setting that involves behavior. This foundation makes a behavior-analytic perspective of safety systems a vital area of applied behavior analysis and one that can have a tremendous impact on the tens of thousands of behavior analysts working in frontline and leadership positions in clinical settings. Given the important work being done by clinicians and the growing need for behavioral services worldwide, organizations should create systems that are measured by more than just outcomes. Systems should be built to support the safe and effective practices that lead to those outcomes. This article discusses a behavioral safety model applied to clinical systems and showcases the role of training and coaching in the institutionalization of this model.

Keywords Safety · Balance of variables · Coaching · Organizational behavior management · Autism

The application of the principles of behavior has benefited numerous populations around the world for decades. Whether working with educational systems (e.g., Cooper, 1982), business and industry (e.g., Bucklin, Alvero, Dickinson, Austin, & Jackson, 2000), or even our animal cousins in zoos and aquariums (e.g., Alligood, Dorey, Mehrkam, & Leighty, 2017), if it involves behavior then the science behind understanding behavior is relevant and necessary for improvements in these areas. One area of particular strength in applied behavior analysis is in the clinical application of behavior analysis, particularly services provided to individuals with autism spectrum disorder (ASD) and related developmental disabilities. A survey conducted by the Association of Professional Behavior Analysts (APBA, 2014) showed that over 60% of Board Certified

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Behavior Analysts® (BCBAs®) and Board Certified assistant Behavior Analysts® (BCaBAs®) work in areas of autism service provision, with the next highest area of work (13%) being intellectual and development disabilities (Association of Professional Behavior Analysts, 2014). With the high level of experimental and applied impact behavior analysts have working in these areas, coupled with the growth of licensure and insurance reform (Johnston, Carr, & Mellichamp, 2017), this reflective job market is most likely not very surprising. Yet the systems in which these clients, clinicians, managers, administrators, and caregivers interact cannot be ignored. These systems are responsible for ensuring sustainable service delivery that is safe, ethical, effective, and efficient.

The same science of behavior that is the foundation of clinical success can be used as the foundation of valued leadership skills as well. Organizational Behavior Management (OBM) researchers and practitioners have had considerable success improving staff performance in clinical settings (e.g., schools, clinics, hospitals, residential programs) across areas such as training and development, supervisory procedures, feedback systems, and other areas of system support (McGee & Diener, 2010; Reid & Parson, 2000). Although OBM has historically omitted functional assessment techniques when assessing performance problems (Austin, Carr, & Agnew, 1999), a number of advancements have been made in the area of organizational functional assessments, particularly with the use of the Performance Diagnostic Checklist (PDC; e.g., Wilder, Lipschultz, King, Driscoll, & Sigurdsson, 2018). Carr, Wilder, Majdalany, Mathisen, and Strain (2013) recently adapted the PDC to human service settings with the Performance Diagnostic Checklist-Human Services (PDC-HS), offering a way to identify the environmental variables responsible for performance deficits in clinical areas of application. They also provided resources to help the user of the checklist match an evidence-based solution to the results of that assessment. The field of applied behavior analysis has seen demonstrable success integrating behavior-analytic principles into areas of performance management and systems analysis within clinical settings. However, the safety of the individuals working within these systems can sometimes be overlooked when developing systems that focus solely on producing high-quality results.

Clinical Safety

Clinical safety is a broad topic that can be applied at multiple levels with multiple individuals and is a unique topic compared to areas of industrial safety. Both clinical and industrial safety organizations are adaptive, goal-directed systems (Malott & Garcia, 1987; Rummeler & Brache, 1995) with a foundation of inputs, processes, and outputs. For example, the inputs in the injection molding industry include raw materials, technical standards, and labor, processed in a plant to produce an output of high-quality products that meet industry and market standards. Safety initiatives in injection molding are targeted toward those operators, supervisors, die setters, and others working to produce these outputs. However, human-services industries have an added factor inputted into these systems—the humans being served. Instead of raw materials being processed in clinical settings, the focus shifts to clients in need of care and behavioral improvements. These clients are a safety priority, with at-risk behaviors

related to their treatment plans (e.g., reduction of self-injurious behavior) and other unrelated risks that still need to be managed (e.g., slip-and-falls). Those frontline clinicians, supervisors, and caregivers working with the client must work diligently to protect the safety of the client, themselves, and others. The priority of a typical industrial safety system might be to protect the worker because the organization can always produce another part. Clinical safety systems must prioritize protecting the client, along with those providing services.

Children with ASD, particularly those children with co-occurring conditions such as seizures, have been shown to engage in more risk-taking behaviors and sustain more frequent and severe injuries than children without ASD (Cavalari & Romanczyk, 2012; Jain et al., 2014). An analysis of claims data from a commercial health plan by Jain et al. (2014) found that 44.8% (15,023) of children with ASD had at least one injury over the period studied (between 2001 and 2009) compared to 31.5% (43,762) of children without ASD (p. 392). They also found that children with ASD and seizures had a 40% increase in injury risk (p. 394). Behaviors such as elopement, food refusal, and self-injurious behaviors can cause serious harm to individuals with autism spectrum disorder and communication deficits can restrict safe behaviors like asking for help and pointing out painful or dangerous situations. Working with individuals with elevated risk for injury adds a level of complexity to a workforce already responsible for multiple clinical demands.

Researchers and practitioners can directly manage the at-risk behaviors of clients by working to build client skillsets that foster safe interactions. Likewise, clinical leaders are responsible for managing a safe environment that prevents not just client injury, but staff injury as well. A report from the U.S. Bureau of Labor Statistics showed that technicians and aides who care for people with mental illness and development disabilities experience higher rates of injury, particularly injuries related to violence in the workplace than all other occupations noted in the Occupational Outlook Handbook of the Bureau of Labor Statistics (Longton, 2015). In 2011, the rates of nonfatal occupational injuries due to violence by patients was 38 times higher for technicians working in health-care facilities (those with a certificate or graduate degree) and 69 times higher for psychiatric aides (high-school level care providers; Longton, 2015). Even with a near exponential increase in the number of BCBAs in recent years, the number of Registered Behavior Technicians™ (RBT®) has surpassed the number of BCBAs and BCaBA in just 2 years since the inception of the credential by the Behavior Analyst Certification Board® (BACB®; Carr & Nosik, 2017). The number of high-school and graduate-level individuals practicing behavior analysis in clinical settings is higher than ever, with no reason to assume these trends will not continue given the high demand for behavioral services. These individuals do noble and important work, but this work also puts them at risk for injury. Progress in clinical applications of behavior analysis isn't measured simply by growth, demand, and clinical outcomes. Success comes from creating safe systems that effectively lead to those outcomes.

A Behavioral Safety Model for Clinical Settings

Clinical leaders build safe working environments through efficient behavioral safety systems. The efficient leader seeks to maximize and sustain the impact of their

management solutions, saving resources by using proven strategies that raise the probability of success and avoid unnecessary delays. For example, when asked for feedback on the value of their training and development departments, surveyed Fortune-500 CEOs noted that the most important metric to them was the impact the system has on their critical business impact measures (Phillips, 2010). The foundational and advanced principles of behavior outlined throughout the behavior-analytic literature can guide effective and efficient leadership decisions. The safety, health, and well-being of staff, caregivers, and clients are dependent on these decisions.

Scientific advancements evolve through application and experimentation. These advancements help prevent informed practitioners from wasting time reinventing the wheel. A number of behavior analysts have offered safety processes and components based on both scientific foundations and successful applications that provide a path to replicable success. We change a safety culture by building systems that integrate proven behavioral strategies, not by simply implementing individual interventions in isolation. Organizations that embed proven safety processes can find sustainable value and replicable success.

Sulzer-Azaroff and Austin (2000) surveyed various safety processes and noted the shared fundamental elements across models. The first shared element was to identify behaviors that impact safety metrics, followed then by defining these behaviors precisely, measuring performance, providing feedback, and reinforcing progress (p. 19). Likewise, Geller (2005) provided seven key principles to successful behavior-based safety (BBS) applications that have emerged across years of research on behavioral safety solutions. These key principles were: (a) focus intervention on observable behavior, (b) look for external factors to understand and improve behavior, (c) direct with activators and motivate with consequences, (d) focus on positive consequences to motivate behavior, (e) apply the scientific method to improve intervention, (f) use theory to integrate information, not to limit possibilities, and (g) design interventions with consideration of internal feelings and attitudes. Adhering to the commonalities linking safety models can provide a replicable and systematic roadmap to building a safe clinical culture. What follows is a behavioral safety model based on these commonalities that can fit any clinical infrastructure.

Aligning Safety Metrics with Behavior

Safety initiatives begin with a focus on metrics so organizations don't lose sight of what the employees are working toward and the process by which the employees get to these goals. Whether documenting injury to the staff or client, lost time, workers' compensation, or other metrics applicable to clinical safety, organizations need to identify leading and lagging indicators of clinical success to guide safety priorities. Getting the complete picture of safe behaviors, unsafe behaviors, and safety outcomes helps justify the need for safety solutions and can clarify priorities for improvement. This alignment is important to the integrity of safety solutions, ensuring an accurate representation of the safety needs of an organization.

A study by Martin and Foxx (1973) demonstrates this alignment. The client involved was an adult with an IQ of 48 who had initially been admitted to the hospital due to failed attempts at using medication and because of the frequency and severity of her aggressive behaviors. She was maintained in the hospital for over 5 years. The

amount of time spent in the hospital is an example of a lagging indicator for how well the client was doing. The leading indicators of the client's status that were most often available included the daily drug routines, the amount of time in seclusion, the number of aggressive episodes during 15-min experimental conditions, and injuries (client and others). Health care providers can track these items more frequently to assess what treatment and programs are working and what are not. Martin and Foxx also identified behaviors associated with three classes of physical aggression: toward objects, toward victims, and self-aggression. Behaviors such as slapping, kicking, and biting further refined the at-risk behaviors that affected the level of injuries and other leading indicators. Finally, social reinforcement was established as the at-risk staff behavior linked to the at-risk (i.e., aggressive) client behaviors. This meant that in order to reduce the number of aggressive client behaviors, increase the client's responding to treatment without instances of aggression, and affect injuries and other leading and lagging indicators of success, the staff needed to ignore and avoid instances of aggressive behaviors. Aligning the various levels of safety metrics to the behaviors of the client and the staff provided an actionable path to use social extinction to reduce the client's aggressive episodes to zero by the end of the experimental sessions.

Focus on the Observable

While on the path to understanding critical safety metrics and the behaviors that lead to improvement in those metrics, a worker might start noting behaviors like “safely lift client” or “use caution when attaching the seat.” These descriptors refer to larger complex composite skills that are made up of the individual component behaviors that need to be shaped and maintained. If the people responsible for engaging in those behaviors knew what those descriptors meant then terms would be fine to use. However, organizations need reliability between both leaders and frontline clinicians for the benefit of all involved. It's possible that most people know how to “safely” lift a client, but some might need further explanation. If someone is unclear of the definition of a behavior then any prompts or feedback statements related to this behavior would be virtually meaningless. Mastering the critical clinical behaviors that make up the repertoire of a productive and safe clinician can seem like a never-ending daunting task to a new clinician. Supervisors will find difficulty getting agreement on what needs to be changed and how things need to be changed if these leaders cannot discuss behavior precisely to supervisees, colleagues, and consumers. If a supervisee cannot discuss their behavior precisely then managers will find difficulty understanding how the clinician got the results they did. Managers, most likely, are unable to constantly observe staff directly, particularly in an area of behavior-analytic application that includes in-home and community-based services. Talking about behavior and results precisely helps ensure everyone is in agreement on the situations being discussed, leaving little room for ambiguity and fostering clear communication across all those involved.

Assess a Balance of Variables

Behavior-analytic research on workplace performance can sometimes portray a technology that seeks solutions with only a limited discussion of assessment (Austin et al., 1999), placing the focus instead simply on a particular target behavior or class of

behaviors and using an assigned intervention or intervention package to increase or decrease that behavior. The issue with this approach is that workplace performance does not occur in a vacuum with a single behavior and one or two contingencies controlling that behavior. For every safe behavior identified there is a competing unsafe behavior. For example, a manager could be targeting the number of injuries to a staff member and have noticed that the staff member is following the wrong protocol to address a particular violent client behavior even though she has been well-trained on the new safety protocol for this behavior. In this case, the unsafe behavior (i.e., following the wrong protocol) likely has more powerful contingencies than the safe behavior (i.e., following the new protocol). Leaders use safety solutions to tip the scale of these contingencies into the favor of the safe behavior. Shifting the balance to desired behaviors is the foundational premise of OBM interventions. Assessing the variables responsible for both the safe and unsafe behaviors allows for the strategic selection of safety solutions.

Basic principles of behavior dictate that most everyday behavior occurs because of the multiple antecedents evoking that behavior and multiple consequences, some positive and some aversive, linked to that particular behavior. Some of these antecedents and consequences have a greater impact than others and together help dictate whether that behavior will continue. Without an assessment of these maintaining variables service providers are left selecting a safety solution without all the information needed to maximize the efficacy and impact of that solution. Moving forward without knowing the cause of the problem can waste valuable time and resources, proving to be costly in more ways than one. With safety, failed attempts at managing at-risk situations can lead to dangerous consequences. Organizational functional assessments, such as the Performance Diagnostic Checklist, help to isolate these variables, and the PDC has even been recently revised into an indirect assessment for safe performance (Martinez-Onstott, Wilder, & Sigurdsson, 2016). The value of the PDC-Safety and other Antecedent-Behavior-Consequence (ABC) models can maximize the impact and efficacy of safety solutions by avoiding time-wasting trial-and-error strategies.

One application of the ABC model was demonstrated by Petrock in 1978. He developed an action plan for balancing consequences, focusing on the timeliness (immediate vs. delayed) and probability (certain vs. uncertain) of reinforcing and punishing consequences on desired and undesired behaviors. Based on this balance-of-consequences model, the more immediate and certain a consequence, the more powerful that consequence will be. The scale is tipped toward either the desired or undesired behavior by altering the consequences for the desired and/or undesired behavior. Petrock originally used the model to identify factors surrounding the proper preparation of boxcars when shipping products for a manufacturing company. Based on the balance-of-consequences model, Petrock identified the more powerful consequences punishing proper boxcar preparation that overpowered the reinforcing consequences supporting proper preparation. He used interventions related to this analysis such as personal praise and recognition to tip the scale toward the proper behavior and increase the percentage of boxcars leaving fully prepared from 45% to 95%. The balance-of-consequences analysis has also been referenced to explain how performance is affected in various individualized incentive systems (Bucklin & Dickinson, 2001; Frisch & Dickinson, 1990) and to evaluate the role of a positive reinforcement system as a replacement for quota systems (Mawhinney & Fellows-Kubert, 1999).

In accordance with a traditional ABC analysis, the scale is tipped not only by manipulating consequences of safe and unsafe behaviors but by managing the antecedents for both sides as well. As showcased with organizational functional assessments such as the PDC, sometimes the critical variable responsible for a performance deficit is an antecedent and the consequences are not the priority. If a new clinician does not know how to run a particular behavior-reduction program the correct way, then the graphic feedback and incentive systems will have little impact on performance until the organization uses training and various antecedents to build those required skills. This does not mean consequences are not needed, just that antecedent problems can't be fixed by simply adding more consequences. Numerous contingencies can affect behavior at any given time and one of those contingencies could very well contain strong reinforcers that, given the right opportunity for the behavior to occur, would effectively build and maintain performance. The performance assessment becomes less of a balance of consequences and more of a balance of all applicable variables responsible for current and optimal levels of performance, with antecedents and consequences for an unsafe behavior competing with the antecedents and consequences for the safe behavior.

Balance shifts from one behavior to the other by identifying, adding, and removing antecedents and consequences to manage the contingencies surrounding safe and unsafe behaviors, tipping the scale to promote safe clinical practices. Managing to these antecedents and consequences is the foundation of behavior change and allows for both a function-based safety solution, as required by Code 3.01 of the BACB Professional and Ethical Compliance Code, and a least-restrictive alternative, as required by Code 4.09, focusing on antecedent-based solutions and reinforcement-based solutions instead of immediately relying on more restrictive alternatives (BACB, 2017).

Select Assessment-Based Solutions

Assessing the cause of a safety issue opens the door for solutions linked to that cause. In their analysis of injuries with children with ASD, Cavalari and Romanczyk (2012) found that caregivers typically rated their children as low risk for injury despite patterns of engaging in at-risk behaviors. Given this perceived improbable chance of injury, a caregiver has a choice to either spend time engaging in injury-prevention activities with their child or use that time to focus on other skills. Both caregiver behaviors are important, but one is more desired than the other in terms of risk-prevention. Unfortunately, the likelihood of injury to their child is most likely too improbable to have a substantial impact on the optimal caregiver behavior. On the contrary, the caregiver loses out on valuable time spent doing other more preferred activities with their child if they choose to focus instead on these new risk-prevention behaviors. This further shifts the balance away from the desired caregiver behavior. Given this assessment, a manager might choose to address caregiver decision making with a solution that reminds the parents of their child's risk of injury. However, adding antecedents that emphasize ineffective contingencies that are already too improbable or too delayed to affect performance won't change the value of those contingencies. An alternative could be to find a way to make time for the more preferred activities the caregiver wishes to engage in, while not sacrificing the valuable time to work on risk-prevention. If a leader was to also add reinforcing consequences for the risk-prevention activities this person

could use these assessment-based solutions to start tipping the scale toward the preferred caregiver activities. Understanding the balance of antecedents and consequences for safe and unsafe behavior allows for the proper use of the collection of antecedent-based and consequence-based OBM solutions the behavior-analysis literature has to offer (Weatherly & Malott, 2008) to find the most effective and efficient way to shift the balance of variables to the desired risk-prevention behaviors.

Implement, Track, and Refine

With an assessment-based safety solution selected and implemented, tracking both the behaviors and the results of those behaviors will help ensure the results are met and met the right way. These data are critical for the feedback conversation and must be reviewed consistently by leadership and communicated effectively. There must be accountability and support for leaders engaging in the type of measurement system that will work long-term in their respective system, finding ways to reduce barriers such as time, effort, and complexity to ensure measurement takes place. If practitioners fail to identify and track the safety metrics, they could be spending a lot of time focusing on behaviors that have no relation to those outcomes, which can be wasteful and potentially hazardous. If practitioners fail to identify and track the safety behaviors, then they could be allowing the wrong behaviors to affect those safety outcomes. A clinician can track the number of injuries that occur during mealtime at their school and realize that they can avoid any injuries by allowing the child to use their hands instead of using their utensils. The data show progress but come dinner time at home the parent quickly realizes that these progress data hide the real issue. A staff member can also simply withhold reporting an injury if the focus is solely on injury reduction and not on the behaviors that lead to injury reduction. Focusing on results while disregarding relevant behaviors allows the at-risk behaviors to occur, which can ultimately result in injuries to both staff and client.

Coaching for Institutionalization

The behavioral safety model outlined in this article combines commonly referenced behavioral approaches that can serve as the foundation for a replicable path to function-based safety solutions. This model targets both safe and at-risk behaviors that are aligned with key safety metrics and tracked to ensure progress. This model also targets critical areas like planning, shaping, monitoring, and data review that are important to leaders when improving safety (McSween, 2015). If a safety system is to last over time then the employees responsible for safety need support, as do the managers responsible for the performance of those employees. First, new caregivers need training to ensure they know how to work safely. What is the protocol for preventing safety incidents during transitions? How should a practitioner react when a client starts engaging in self-injurious behavior? How do practitioners protect themselves, clients, and others from violent outbursts? Training is also needed to ensure leaders know how to build and manage the safe behaviors (e.g., training on the behavioral safety model outlined in this article). Why does the staff person keep breaking safety protocol? How can I reduce injuries in my classroom? How can I identify and remove barriers in our daily

schedules to better affect safety? Training is essential to ensuring people at all levels of the organization have the knowledge and skills needed to integrate safety as part of the workplace culture.

However, training is just one piece to implementing a behavioral safety model. The goal of training is to produce demonstrable learning (Johnson & Rubin, 2011; Molenda & Russell, 2006). This intervention has a start and a stop based on when that learning goal is met. It is hoped that the skills will transfer to the work environment once training ends and access natural contingencies or other external support that will provide continued support for these behaviors. The training component of a behavioral safety model is designed to get safe behaviors at all levels started. But what contingencies are in place to continuously support safe frontline and leadership behaviors *over time*?

Unlike training, the behavioral strategies involved in affecting safety metrics and the safe behaviors that lead to those metrics does not stop. This means that the goal of the second component of the behavioral safety model proposed in this article is *institutionalization*—continuing an intervention over time (Grindle, Dickinson, & Boettcher, 2000; McSween & Matthews, 2001; Sigurdsson & Austin, 2006). Safety is a priority that does not go away with time, thus safety requires behavior-analytic strategies that do not go away over time. People always need feedback, prompting, and reinforcement for one thing or another. Performance always needs to be monitored and those data acted upon. Planning is always needed and the context in which our leadership solutions are being used always need to be evaluated. Regardless of industry or whether targeting safety or nonsafety targets, these leadership components need ongoing accountability and support along the way from all levels. One way to describe the system in which these types of components are integrated is in terms of coaching systems. Coaching clinicians and coaching coaches to support your safety process.

Coaching, particularly *behavioral* coaching, is a historically vague concept in description and application. Seniuk, Witts, Williams, and Ghezzi (2013) pointed out the inconsistent use of the term “coaching” and the detrimental impact this can have on the replication and consistency of coaching as a behavioral strategy. One area of ambiguity can be found in the components used to describe coaching, which can often confuse coaching and training. The foundation of many coaching interventions are practices such as instruction, modeling, and feedback (e.g., Komaki & Barnett, 1977; Shapiro & Shapiro, 1985), which are also part of the components that make up Behavioral Skills Training (BST; Johnson et al., 2005). Sometimes coaching is used synonymously with training (e.g., Stokes, Luiselli, & Reed, 2010), whereas in other cases coaching is used as an alternative to training (e.g., Evers, Brouwers, & Tomic, 2006). As described earlier, the ongoing process of coaching is different from a training process and one system should not be ignored because the system is confused as simply part of the other.

Another alternative when defining coaching is to cast a wide net, incorporating a number of training and non-training solutions under an umbrella of coaching. Tilka and Johnson (2017) described coaching as package intervention that included off-the-job training components such as PowerPoint presentations and flashcards, as well as components of BST (e.g., modeling, role-playing), on-the-job token delivery, and weekly public praise. Moving forward, researchers and practitioners should consider

whether the way coaching is defined casts too wide of a net. The variability in the technological (Baer, Wolf, & Risley, 1968) descriptions of coaching in behavior analysis can cause confusion in the advancement of this area of research and application. One distinction that might offer clarification is in the difference between the coaching *system* and the coaching *interaction*.

The safety coaching *system* being offered here involves the ongoing use of behavioral-safety strategies by internal personnel to directly affect safe behaviors and safety metrics, all of which center on the role of frequent coaching *interactions*. Part of the coaching system involves components like identifying safety metrics, assessing environmental hazards, observing staff, and fixing systems issues. And parts of the coaching system involve components related more to the direct one-on-one interactions a “coach” has with an individual to support improvements in that person’s environment and to manage safe behaviors. These components include things like how a coach is providing feedback, how often a coach is providing feedback, how a coach is prompting safe behavior, and coaching conversations between coaches and the person being coached. The critical feature in this description of coaching is the focus on institutionalization and a direct link to on-the-job safety metrics and behaviors.

Coaching, as a system, is not simply training because training has a stopping point after a skill has been acquired. Training is directly linked to learning outcomes (Johnson & Rubin, 2011; Molenda & Russell, 2006) and indirectly linked to individualized on-the-job metrics and related behaviors. Coaching, as an interaction, is not simply feedback because a coaching interaction can include offering prompts and other antecedents separate from feedback. Coaching is also different from on-the-job training because coaching does not necessarily need to take place on-the-job. Coaching interactions can be remote and still offer opportunities to support safe practices. Consider a frontline technician working in-home with a client. The supervisor is not always present in these situations and coaching interactions should not be restricted solely to the handful of times the supervisor might visit the home during the month. Safe behavior is shaped through the coaching process and shaping requires consistent and frequent communication. If client transitions are historically an at-risk situation for the client and the clinician, a supervisor might identify various times during the week when the clinician can be reached before and after transitions. These conversations are opportunities to provide prompts on safe practices, feedback, and to ask questions to get the clinician talking about what he or she is planning to do or has done to support safe transitions. These types of interactions offer a necessary coaching opportunity to support clinicians working remotely.

Leaders in every organization are responsible for creating a safe culture. To change safety culture, leaders must be able to identify what’s working as well as the disconnects in the various parts of their safety systems in order to prioritize improvement opportunities. Those disconnects might be in how people are being trained (e.g., a clinician might not know how to use a particular piece of equipment), how the frontline clinicians are being coached (e.g., safe behaviors are being ignored and unsafe behaviors are being punished), or how the leaders responsible for coaching are being coached (e.g., a director only reaches out to a supervisor to discuss injuries and not to reinforce safety improvements). Consider the training system for safe clinical practices in a given organization. How would the leaders in that company know the training is working? What about training leaders how to coach those safe practices? What is the support

system (e.g., the coaching system) in the posttraining receiving system? If the posttraining support system is primarily more training, then this system is only addressing skill deficits and is not supporting ongoing safe practices. If training and other leadership solutions are not ongoing and linked to on-the-job individualized behaviors and results, then these components should not be relied upon as the coaching support system. However, if, through frequent ongoing coaching interactions, there is prompting and modeling for on-the-job performance linked to performance metrics then these training strategies offer good examples that can fit into an effective ongoing coaching system. But clinical safety systems must include both training and ongoing coaching support at all levels of the organization if the goal is sustainable culture change.

The type of institutionalization offered in this behavioral safety model comes through programmed and comprehensive internal staff involvement (Sigurdsson & Austin, 2006; Wilk & Redmon, 1998). The coaches, safety champions, and other safety leaders should be responsible for identifying measurable behaviors and results, tracking these items, assessing the cause of unsafe practices, and other components of this behavioral safety model. As with all workplace behaviors, the behaviors of these leaders will only occur if the antecedents and consequences for the desired behaviors are more powerful than those for the undesired behaviors. The safety leaders in the organization are responsible for building an environment that supports safety. Antecedents and related negative reinforcement contingencies (e.g., rules, regulations) will help hold people accountable and get certain behaviors to occur, but leaders are responsible for utilizing positive consequences so that good things happen when people are safe. This needs to occur at all levels of the organization and for all components of the behavioral safety process. Data need to be collected and reviewed frequently, feedback must be provided consistently and those providing the feedback need feedback as well. Leaders need to plan for safety, work that plan, and track to see what's working and what's not. Leaders need clear expectations that they should be following the identified safety model for the organization and these leaders need to be trained on how to implement the components within the model with fidelity. Once leaders can demonstrate competency in the model, there must be a system (e.g., a coaching system) to support these behaviors. Senior leadership should find time to briefly and consistently monitor, discuss, shape, and reinforce both the planning of good safety-leadership behaviors (e.g., finding key behaviors to focus on, assessing safety problems) and the safety-coaching interactions between a supervisor and his or her direct report (e.g., providing on-the-job antecedents and feedback on safe behaviors). If an organization has meetings scheduled throughout the month where leaders discuss client progress, they should use these meetings to also talk to supervisors and managers about what they are doing to support the safety process and improve safety. As with any leadership solution, long-term sustainability comes through the support of those at each level of the organization responsible for change.

Conclusion

A quick Internet search of the term “behavior-based safety” will showcase what one could construe as a victory in the global dissemination of behavior analysis, while

simultaneously highlighting the misinterpretations and confusion about the science of behavior that inevitably results from mainstream dissemination. Nonetheless, the impact a behavioral approach to safety has on risk management has been extensively researched (e.g., Geller, 2005; Grindle et al., 2000; Sulzer-Azaroff & Austin, 2000) and is a seminal example of the successful mainstream application of the principles of behavior. Safety solutions should be conceptually sound, based on evidence-based solutions that result from safety assessments, and contextually accurate, fitting within the constraints of the respective system. As the clinical demand for behavioral services increases, the scientific foundation of those behavioral services needs to extend to safety applications and beyond in order to help all facets of the clinical system.

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