

A Positive Behavior Approach for Aggression in Forensic Psychiatric Settings

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Aggression toward self and others by complex patients admitted to forensic psychiatric settings is a relatively common yet extremely difficult behavior to treat. Traditional interventions in forensic inpatient settings have historically emphasized control and management over treatment. Research over the past several years has demonstrated the value of behavioral and psychosocial treatment interventions to reduce aggression and to increase prosocial skill development in inpatient forensic population. Positive behavioral support (PBS) offers a comprehensive approach that incorporates the science of applied behavioral analysis (ABA) in support of patients with challenging behaviors, including aggression and violence. In this article, we describe a PBS model to treat aggression in forensic settings. PBS includes a comprehensive functional assessment, along with four basic elements: ecological strategies, positive programming, focused support strategies, and reactive strategies. Other key components are described, including data collection, staff training, fidelity checks to ensure correct implementation of the plan, and ongoing monitoring and revision of PBS strategies, according to treatment outcomes. Finally, a behavioral consultation team approach within the inpatient forensic setting is recommended, led by an assigned doctoral-level psychologist with specialized knowledge and training in behavioral methods. The behavioral consultation team works directly with the unit treatment team and the identified patient to develop, implement, and track a plan that may extend over several weeks to several months including transition into the community. PBS can offer a positive systemic impact in forensic inpatient settings, such as providing a nonpharmacologic means to address aggression, reducing the incidences of restraint and seclusion, enhancing staff proficiency in managing challenging patient presentations, and reducing recidivism when used as part of the bridge to community re-entry.

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The value and effectiveness of psychiatric medications in managing aggression in psychiatric patients have been recognized and well documented over the years.^{1–3} Adjunctive interventions, such as behavioral management strategies (e.g., token economies and reinforcement schedules) and effective communication techniques (i.e., using social skills to express dissatisfaction) have also been useful in managing aggression. Despite these, however, a relatively small but significant number of psychiatric patients continue to exhibit violent behaviors that place both staff

and other patients at risk of serious injury. The problem is worse in forensic psychiatric hospital facilities where the most dangerous of psychiatric patients often end up, either through legal mandates or, for civil patients, because a determination has been made that their behavior can be safely managed only in a maximum-security forensic psychiatric setting. For these individuals, a positive behavioral support (PBS) plan could provide an alternative and adjunctive strategy for managing their dangerous behaviors.

PBS is a model that incorporates the science of applied behavioral analysis (ABA) in support of patients with challenging behaviors that include aggression and violence. It is a supportive approach, in that it supports the development of positive behaviors (e.g., coping skills) through teaching, modeling, and reinforcing prosocial behaviors based on a comprehensive assessment of individuals and their environment.^{4–7} The primary focus of PBS is to improve the quality of life of the person receiving services, de-

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crease problem behaviors by teaching new skills, and modify the environment to maximize positive outcomes.⁸ Originally based in schools and residential centers for treatment of developmentally disabled and behaviorally challenged students,^{5,9} an integrative PBS model can be adapted to psychiatric populations.

Over the past 20 years, a growing evidence base for PBS has developed, indicating its effectiveness as a model for treating the problem behaviors of individuals admitted to institutional settings. Further, research has demonstrated that PBS is a model that can be cost effective, easily taught to direct care psychiatric staff, and integrated into an individual's discharge plan for transitioning to community living from an inpatient facility.^{9,7,10–11}

It is our belief that adapting the PBS model in inpatient forensic psychiatric settings can be an effective way of improving care and treatment for patients, while reducing problematic behaviors of aggression and violence, particularly for those patients who remain minimally responsive to psychotropic medications and other psychosocial interventions. However, this model (and behavioral therapy as a whole) has been underused in many inpatient psychiatric settings, particularly maximum-security forensic psychiatric hospitals.^{12–15}

The purpose of this article is to highlight how adapting a PBS model to a forensic psychiatric hospital can serve as an important adjunctive intervention to medications and other psychosocial interventions for managing the most refractory and dangerous of patients. Using case examples, we will highlight the effectiveness of a PBS model in decreasing violent behaviors in a maximum security forensic psychiatric hospital.

Description of the PBS Model

A PBS model adapted to forensic psychiatric hospital settings includes the following key components:

A behavioral consultation team led by a behavioral psychologist working collaboratively with the attending psychiatrist and other members of the treatment team.

Identification of the functions that influence behavior.

Development of a skills-based program.

Measurement of the effectiveness with data collection and graphing.

Acceptance of regular hospital administration oversight to monitor and review PBS supports.

The foundation for PBS interventions is the development of a functional behavior assessment (FBA), which is a comprehensive method for understanding the function(s) (i.e., meaning or purpose) of an individual's behavior. Rather than just trying to render the challenging behavior obsolete, it is critical to understand the function that the individual's behavior serves in the specific environment and to apply this understanding toward the development and teaching of replacement or functionally equivalent skills (for example, using a calm voice to express one's feelings, rather than yelling).

A PBS plan contains five basic elements:

Ecological strategies that remove mismatches between an individual's needs and the environment.

Positive programming (sometimes referred to as psychosocial rehabilitation) that emphasizes teaching general social skills, functionally equivalent or replacement behaviors, and coping (e.g., distress tolerance) skills.^{16–22}

Focused support strategies designed to achieve rapid and efficient management of challenging behaviors using behavioral interventions such as a token economy system, differential reinforcement of other behaviors, and positive praise.

Proactive or preventive strategies that set clear expectations for behaviors before activities that increase self-esteem, and that build interpersonal effectiveness by developing and reinforcing positive qualities about the person through the use of a centering construct. A centering construct is a statement or phrase that the patient identifies as an important core value (e.g., I am a caring person; I am a good Citizen).^{23,24}

Reactive strategies designed to reduce the episodic severity of aggression, such as active listening and empathic validation techniques.

The PBS model relies on data collection as an integral part of the functional behavioral assessment and for tracking outcomes to ensure effectiveness. During the functional assessment, data collection can serve as a probe to determine the most salient problem behaviors to address. The data collection

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Date/Shift	Activity Refusal	Physical Aggression:	Self-Injury	Verbal Aggression	Property Destruction	Running Away	Sleep Problem
1		1-9:15am 2-1:00pm					
2							
3							

Figure 1. Data collection form.

tracking forms may include frequency of aggressive behaviors during a specified time frame or an in-depth analysis of a demonstrated aggressive behavior (Figs. 1 and 2). A PBS model or approach also seeks to measure episodic severity. This is a quantified measure of a behavioral incident that explores the intensity, frequency, and duration of a behavior of concern (for example, verbal aggression can be measured based on duration, rate, and intensity on a scale of 1, lowest, to 4, highest). Plans that track episodic severity help to provide more specific and socially valid data, compared with simple frequency data. Widely used measures of episodic severity include the Overt Aggression Scale (OAS),²⁵ Modified Overt Aggression Scale (MOAS),²⁶ The Staff Observation Aggression Scale-Revised (SOAR-R),²⁷ and The Overt Behavior Scale (OBS).²⁸

The development of PBS plans requires the expertise of a behaviorally trained clinician such as a clinical psychologist or a master’s level board-certified behavioral analyst. A behavioral consultation team approach is recommended within a forensic psychi-

atric hospital setting to address the most challenging cases across the facility, provide staff training, and offer support for discharge transitions. The behavioral consultation team is led by an assigned doctoral-level psychologist with specialized knowledge and training in behavioral methods. Other members of the behavioral consultation team may include master’s level behavioral analysts and paraprofessionals trained in behavioral methodology. The behavioral consultation team works directly with the psychiatrist, the unit treatment team, and the identified patient, to develop, implement, and track a plan. The planning may extend over several weeks to several months and could be transitioned along with the patient to the community upon discharge.

Special Considerations

Psychiatrists managing individuals with intractable aggressive behavior should consider requesting consultation for a PBS plan in the following circumstances:

- Optimal doses of psychiatric medications, including a trial of clozapine, have not yielded much benefit.

- Optimal doses of medications cannot be used because of significant or dangerous side effects that limit their use.

- Pre-existing medical (physical health) conditions, such as poorly controlled diabetes mellitus or cardiac conduction defects, limit the use of psychotropic medications.

- A concurrent intellectual disability leads to misinterpretation of cues that complicate a psychotic or severe mood disorder presentation.

- Certain characterologic deficits (other than a sole antisocial personality disorder) drive aggressive behavior in an individual with otherwise stable or well-controlled severe mental illness.

- There is a frequent necessity for restrictive measures (restraints or seclusion) to control behaviors of concern.

Of note, patients would have to be sufficiently alert to participate fully in the behavioral plans, an observation that calls for judicious use of medications to decrease drowsiness and sedation.

The effective implementation of a PBS plan in a forensic psychiatric hospital setting relies, to a large

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Date/Time	Duration of Episode	General Mood	Antecedent and Precursor Behavior	Behavior of Concern	Maintaining Consequences	Comments	Initials
12/18/15 1 PM	5 min.	Upset, fixated on dinner	Eating dinner with roommate	Taking Food without asking	Moved JC to opposite end of table	He followed directions when they were given slowly	JM

Figure 2. Behavioral analysis form.

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extent, on the endorsement of the treating attending psychiatrist. A supportive psychiatrist would motivate other members of the front-line staff to carry out the interventions as prescribed, particularly during off-shift hours when members of the professional staff are absent. A major challenge is the training of *per diem* or float staff members assigned to the unit for coverage. As difficult as it is to maintain the integrity of the plan on all shifts with regular staff, it is nearly impossible for a behavioral plan to be successful with frequent use of float staff who are unfamiliar with the patients or inexperienced with the nuances of the behavior plan. Therefore, ongoing training for new and float staff, which may include web-based programs, is essential to ensure the successful implementation of a plan.

Hospital clinical administration also plays an important role in efforts to use a PBS approach to reduce episodes of aggression and violence, as well as to minimize or eliminate (where possible) the associated use of restraints and seclusion.^{13,29–31} The development of a formal case conference review process (perhaps, through a case conference committee) can be helpful in determining when to recommend a PBS approach. The case conference should be conducted with the purpose of reviewing cases that reach specific thresholds set by the hospital for episodic severity of aggression and use of restraints and seclusion. An example of a hospital threshold for having a case conference could be more than 1 restraint episode in 30 days. The case conference committee should include the medical director of the hospital, a behavioral psychologist, and the heads of psychology, nursing, social work, and rehabilitation therapy. The attending psychiatrist and other members of the treatment team are invited to present the case and participate in the discussion. The committee then makes treatment recommendations to the treatment team, including, but not limited to recommending a PBS plan. The committee will continue to monitor and follow-up regularly on these cases by tracking data, modifying treatment recommendations, and inviting additional consultants as needed, for the most difficult cases.

Case Examples

Here are two identified case examples the demonstrate the types of clinical presentations commonly recognized by staff in forensic psychiatric hospital environments. They will be used to illus-

trate the effectiveness of PBS for managing challenging behaviors.

Case Example One

Background

The patient had exhibited developmental delays, particularly with socialization, into his teenage years. His family of origin had been a significant source of distress for him because of paternal alcoholism and the associated feelings of abandonment and rejection.

The patient had history of psychotic disorder characterized by religious, grandiose, and persecutory delusions, as well as auditory hallucinations. He also had mood instability with marked episodes of mania and depression. He carried the diagnoses of schizoaffective disorder, bipolar-type, and substance use disorder (alcohol and cannabis). Over the years, he received adequate trials of combinations of anti-psychotic medications (typical and atypical) and mood stabilizers, with minimal benefit. A trial of clozapine failed because of crippling side effects at high doses and poor response at tolerable doses.

During brief periods when the patient's psychiatric symptoms appeared to be under better control, there was evidence of mixed personality pathology traits in the form of narcissistic, antisocial, borderline, and dependent characteristics. His unlawful behavior began during his adolescence and subsequently led to involvement with the legal system. The severity of his crimes escalated from minor crimes to murder, for which he was found not guilty by reason of mental disease or defect (NGRI) and admitted to a maximum-security psychiatric hospital.

The patient's extensive history of seemingly unprovoked assaults that emerged while living in the community remained pronounced throughout his forensic hospitalization. Although the frequency of dyscontrolled behavioral was variable over the course of his lengthy hospitalization, the intensity of the episodes of assault remained high. Furthermore, he manifested significant difficulties with needy and demanding behaviors that tended to co-occur with his aggressiveness. His ongoing aggression toward others (despite adequate doses and duration of psychiatric medications) and his poor understanding of interpersonal boundaries precipitated a referral for behavioral intervention services.

The patient's intellectual functioning had declined considerably in recent years, falling into the borderline range of intelligence. Neuroimaging confirmed the presence of brain atrophy, and the patient's cognitive decline appeared to have worsened because of the numerous head injuries he received during incidents of assault with his peers. In light of the concerns about his cognitive deterioration, adjustments were made by the attending psychiatrist to limit the cognitive side effects of his psychiatric medications. These adjustments included a careful balancing of his medication needs so that doses associated with the least potential for side effects were prescribed. He was placed on continuous observation because of concerns for a potential increase in aggression as a result of his medication adjustments.

His persisting aggression toward others and his poor understanding of interpersonal boundaries precipitated a case conference review. His restraint usage exceeded the hospital standard of no more than two episodes within a 30-day period. His psychiatrist requested an evaluation by the Behavioral Intervention Service (BIS) for possible development of a PBS plan.

Clinical Formulation and Functional Assessment

The presence of family dysfunction during vulnerable periods of the patient's upbringing shaped his adult behavior by contributing to the development of significant character pathology. His character-related problems, when combined with his early-onset schizophrenia and his cognitive decline in recent years, created a complex clinical picture.

The patient's excessive neediness appeared to reflect unresolved aspects of his upbringing and served several behavioral functions. Foremost, this maladaptive behavior reflected his underdeveloped self-soothing skills that stemmed in part from the lack of secure bonds with his caregivers during his formative years. Furthermore, the patient's demands on others seemed to be a re-enactment of his upbringing. That is, these re-enactments provided him with an opportunity to undo the effects of the problematic dynamics with his parents and gain a sense of mastery when people empathically met his unresolved needs. Getting others to meet his needs immediately also gave the patient a powerful sense of socioenvironmental control, which was congruent with his grandiose personality style. Finally, pressuring others to meet his needs provided the patient with a predictable way to

modulate any sources of his emotional discomfort, such as boredom and loneliness, as well as fears of abandonment and rejection. These internal factors helped to explain why direct-care staff encountered difficulty in clearly identifying the antecedents in the environment that influenced the patient's needy and aggressive behavior and why staff oftentimes viewed his acting out as entirely unprovoked.

The patient's cognitive decline complicated an already treatment-resistant profile. It was recognized that his cognitive impairment (e.g., poor executive functioning) was highly implicated in his misreading of social situations and his problems with impulse control. As a result, the patient was prone to disruptive outbursts when he perceived others to be critical, unavailable, or most especially, rejecting.

In the social realm, the patient had poor insight into his behavior of alienating others with his excessive demands. For example, when he made requests in a perseverative manner, it often left others feeling overwhelmed. A cyclical maladaptive pattern developed where the patient feared abandonment and then clung to others. His behavior inadvertently led to others' pulling away and distancing themselves from him because they felt smothered and overtaxed by his demands. As a consequence of his narcissistic style, when others failed to meet his needs quickly, he interpreted this failure as their seeing him as inferior. He then resorted to maladaptive behavior (e.g., splitting or aggression) to regain his sense of empowerment.

The baseline data revealed that once the patient engaged in aggression, there was frequently a cascading effect where he went from verbal outbursts to physical acting out. This reflected his significant problems with impulsivity and self-regulation. It also explained his poor response to the de-escalation techniques used by staff and emphasized the importance of using proactive measures, rather than reactive approaches to help prevent his troubling behaviors.

Intervention Strategies

The key intervention strategy with the patient involved developing a centering construct related to being a "gentleman" (the patient identified this quality as how he would like to be portrayed during the initial interview) with the following positive self-attributions:

Respectfulness by "treating people safely," such as using a low "inside" voice, keeping his feet and

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hands down when upset, and listening to other persons as much as giving his opinion.

Responsibility by “doing the right thing,” such as walking away to keep the peace, “sealing off” anger, waiting patiently with a good attitude, and following directions from his staff and his treatment team.

In light of his cognitive limitations, staff was instructed to use concise phrases that indicated what they wanted the patient to do, in affirmative language, rather than stating what they did not want him to do. For example: “Wait until the planned time to make requests,” rather than “stop asking for things right now” and “listen to what others say,” instead of “don’t interrupt people.”

To deal with his demanding behavior, the plan gave the patient planned attention at regularly scheduled times, to allow him to express his wants and needs and to receive assistance from an assigned staff member. This approach functioned as a means of providing him the perception of control and the sense of attunement that he desired, but in a circumscribed manner. Having staff proactively approach him, rather than having them wait for him to approach them, meant the patient was less likely to seek help on his own under distress. Contact times with him were short (e.g., five minutes); they were focused on the here and now, included the brief use of empathic validation, and emphasized his engagement in prosocial behaviors to meet his needs. Given his poor impulse control, caution was taken not to ask the patient to explore, identify, or process any emotions related to anger (e.g., frustration, irritation, and rage), because it might inadvertently raise the risk that he would act out these feelings aggressively.

Staff members were instructed to tell the patient consistently that decisions about his requests and privileges would be based on a team process. This method minimized his opportunities to engage in the regressive behaviors associated with his borderline level of personality organization, such as splitting (i.e., polarized feelings of attachment and abandonment). It also prevented a single staff member from absorbing his anger if limits were imposed. The treatment team provided him with a structured schedule of meeting times where his problems would be reviewed and a response would be provided. In the event that he made demands outside of the recommended period that were not deemed urgent, the

patient was asked to wait patiently until the next team meeting to have his needs addressed, which helped him tolerate frustration, delay his gratification, and control his impulses.

The above-mentioned interventions were effective in helping the patient use adaptive behavior to remain in control and to meet his needs. Before the implementation of a PBS plan, an event of the type described below would reportedly trigger an episode of the patient’s physical aggression toward staff. An entry in his communication book stated that the patient became very frustrated when the treatment team would not meet with him outside of the scheduled time. Without being encouraged by staff, he used his positive behaviors such as taking time to “cool off” in his bedroom and putting on his weighted vest to help him wait patiently. When asked why he was so calm and understanding, the patient replied, “I’m working on being more responsible, to show others that I can be a gentleman.”

Outcome Data

To evaluate the effectiveness of these interventions, baseline data were collected for a period of four weeks. Following implementation of the plan, active treatment data were collected for a period of three months. Baseline and active treatment data were compared. In this case, there was a decline in the use of restraints, meeting the hospital standard threshold of one or fewer restraints per 30 days.

Case Example Two

The following case example involves a woman with severe self-injurious behaviors.

Background

The patient’s intellectual functioning fell in the average range. Her principal diagnosis was borderline personality disorder. She also carried the diagnoses of bipolar disorder with psychotic features (e.g., command-type hallucinations) and posttraumatic stress disorder secondary to sexual abuse. Her psychotropic regimen included optimal doses of olanzapine, lamotrigine, and sertraline, with intermittent use of clonazepam and haloperidol, as needed for agitation.

She flatly declined the psychiatrist’s recommendation of clozapine and lithium for various reasons, including a reluctance to cooperate with regular blood collections.

The patient had a significant history of suicidal and homicidal ideation. She had perpetrated serious

assaults against her family members, hospital staff, and other patients at a previous hospitalization, which resulted in imprisonment. Furthermore, she was opportunistic in her attempts to engage in self-harm, especially by swallowing objects (e.g., batteries) and inserting items (e.g., pens and utensils) into the vaginal and anal cavities. She required multiple surgeries with general anesthesia to remove these foreign bodies. The Department of Correction (DOC) staff determined that her intractable self-injurious behaviors could not be managed in the DOC milieu. She was subsequently transferred to a maximum-security psychiatric hospital while awaiting trial for her crimes. Soon thereafter, a referral was sent for a case conference review with hospital clinical administration secondary to the high number of serious self-injurious behaviors and frequency of aggression toward others (more than three episodes in a 30-day period, exceeding the hospital threshold). The psychiatrist subsequently referred her case to the BIS for consultation, as recommended at the case conference.

Clinical Formulation and Functional Assessment

The antecedents to the patient's behaviors of concern included being denied a request, and perceived threats and criticism. In these situations, she frequently had feelings of insecurity, embarrassment, and shame, which engendered self-protective responses that were no longer required in her current life circumstances. The baseline data collected indicated that her periods of relapse coincided with disappointments (e.g., missed family holidays), transitions, relationship conflicts, and attempts to re-establish her identity as a sick patient whenever she exhibited signs of improvement.

The patient's clinical and behavioral challenges were consistent with complex developmental trauma. They involved repeated exposure to maltreatment during childhood, which resulted in emotional dysregulation. With regard to her poor self-regulation, the patient shifted between states of hyperarousal (e.g., hypervigilance, aggressiveness, and attempts to escape) and hypoarousal (e.g., pervasive avoidance, somnolence, self-isolation, and emotional detachment) with a narrow window of tolerance, as described in the Structural Dissociation and Trauma Stabilization Model.³² Her self-mutilating behavior appeared to be a learned response that served to function as a means of modulating her in-

ternal distress, such as anxiety, frustration, and rage. The reinforcement she received from self-harm appeared to be on a physiological level, where it reduced her tension and dysphoria by stimulating the release of adrenaline and endorphins.

Intervention Strategies

In light of her severe self-injurious behavior, maintaining the patient's physical integrity was our primary focus. Any reduction in her level of observation was based on the presence of her prosocial behaviors (i.e., use of self-soothing), rather than solely the absence of her behaviors of concern, or her stating that she agreed to behave appropriately.

Staff members were consistently required to conduct themselves in a fair and firm manner with the patient. Limits were set in a noncontrolling, nonpunitive way. The patient responded best when rules and expectations were clearly defined with little room for ambiguity. She was encouraged to ask for help at the first signs of confusion or agitation. Coping techniques for self-soothing were practiced proactively as a scheduled part of her routine and used reactively to help her de-escalate. An emphasis was placed on body-centered techniques using the five senses to bring about a parasympathetic (calming) response, particularly using restorative yoga. The patient also received a steady regimen of cognitively enriching activities (e.g., doing school work, reading the newspaper, and playing word games) that promoted focused attention and self-regulation. Staff continued their attempts to keep the patient actively engaged because when she turned her focus inward, it often gave rise to unpleasant emotions and made efforts to implement the behavioral strategies much more difficult. To this end, we developed a report-card intervention to encourage the patient to communicate her thoughts and feelings to staff, even when she refused an activity.

Maintaining a positive rapport and establishing a therapeutic agenda in individual psychotherapy with the patient proved to be exceptionally challenging. The overarching goal was not merely to interrupt her cycle of traumatic re-enactments and self-injury, but rather to help her develop functionally equivalent coping techniques (i.e., mindfulness and grounding) to replace her self-harming behavior. Over her course of treatment, there were many fluctuations in her willingness to engage in psychotherapy, which appeared to correlate with periods of difficulty in reg-

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ulating her internal distress and her use of self-injurious behavior. Given her tendency to experience intense feelings of guilt and shame, setbacks were framed as a normal part of the recovery process. Staff was asked to avoid any discussion about the patient's past trauma or plans for her discharge until she achieved emotional and behavioral stability.

Outcome Data

To evaluate the effectiveness of these interventions, baseline data were reviewed for the three-month period before implementation of the positive behavioral support plan. After implementation of the plan, active treatment data were collected for a period of six months. Baseline and active treatment data were compared. In this case, there was a decline in both self-harming behaviors and aggression toward others. Aggression data were significantly reduced, meeting hospital standards after the plan had been implemented for one month. Self-injurious behavior, while reduced, continued to exceed hospital standards during the first two months of implementation. By month three, these behaviors, too, were reduced and met hospital standards. Her periods of relative stability coincided with increased engagement in treatment, heightened structure in her daytime activities, and striving to meet personally meaningful goals. With her increased stability after her long-term hospitalization in the forensic setting, an arrangement was worked out between her attorney and the court that allowed her to transition from the maximum-security hospital setting to a general psychiatry inpatient unit that housed other young adults. This permitted her to enjoy greater autonomy and to access more specialized trauma treatment.

Conclusion

Although the literature indicates that positive behavioral programming helps to reduce problem behaviors without raising significant concerns about negative side effects or ethics-related ramifications, there are limitations associated with the use of a PBS approach in forensic psychiatric hospital settings. These include a recognition that PBS is heavily reliant on resources such as a behavioral consultation team, qualified staffing for forensic units, and available funding. Furthermore, its implementation requires careful program design, foundation training for all staff including float personnel, case-specific teaching, and data monitoring, all of which can be

costly. However, the literature shows that PBS can be cost effective in both forensic (maximum and medium secure) and nonforensic hospital settings. When aggression is decreased, there is a reduction in staff injuries with subsequent reduction in staff absences (because of sick leave) from work and in requests for workers' compensation payments. In addition, decreased patient aggression leads to a decrease in the need for extra staffing to provide special observation of dangerous patients and, ultimately, to a significant decrease in the cost of running the hospital. Hiring a team of behaviorists could be expensive at the outset, but would lead to net savings for the hospital from decreased costs, as described earlier. Having only one team of behaviorists to serve all units of the hospital could limit the expense.

An accompanying caveat is that forensic psychiatric inpatients must be properly screened to assess their appropriateness for PBS-based programs. For example, the PBS model may be clinically contraindicated for individuals who are highly prone to engaging in impulsive, opportunistic, or predatory behaviors unrelated to severe mental illness. It is also far less effective for those who are acutely psychotic or have severe cognitive impairments that limit their ability to learn new behaviors.

In summary, a PBS approach can be adapted to any hospital setting, including a forensic psychiatric hospital, to reduce aggression. Most important, however, as the case descriptions presented earlier highlight, PBS plans can provide psychiatrists with an adjunctive intervention for patients who are not responding to adequate doses of medications and whose behaviors exceed hospital thresholds for aggression and for restraint and seclusion.

References

1. Felthous AR, Stanford MS: A proposed algorithm for the pharmacotherapy of impulsive aggression. *J Am Acad Psychiatry Law* 43:456–67, 2015
2. Jones RM, Arlidge I, Gilham S, *et al*: Efficacy of mood stabilizers in the treatment of impulsive and repetitive aggression: a systemic review and meta-analysis. *Br J Psychiatry* 198:93–8, 2011
3. Stahl SM, Morrissette DA, Cumings M, *et al*: California State Hospital Violence and Treatment (CAL-VAT) Guidelines. *CNS Spectrums* 19:449–65, 2014
4. Carr JE, Sidener TM: On the relation between applied behavior analysis and positive behavior support. *Behav Anal* 25:245–53, 2002
5. Horner RH: Positive behavioral supports: focus on autism and other developmental disabilities. *Positive Behav Supports* 15:97–105, 2000
6. LaVigna GW, Willis TW: Antecedent analysis. *Positive Pract* 3:1, 1997

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7. LaVigna GW, Willis TJ: The efficacy of positive behavioral support with the most challenging behavior: the evidence and its implications. *J Intellect Dev Disabil* 37:185–95, 2012
8. Association for Positive Behavioral Support: APBS evidence-based practice information. Bloomsburg, PA: APBS, March 26, 2013. Available at: <http://www.apbs.org/evidence-based-practice.html/> Accessed June 21, 2016
9. Donnellan AM, LaVigna GW, Zambito J, *et al*: A time-limited intensive intervention program model to support community placement for person with severe behavior problems. *J Assoc Persons Severe Handicaps* 10:122–31, 1985
10. Grey IM, McClean B: Service user outcomes of staff training in positive behaviour support using person-focused training: a control group study. *J Appl Res Intellect Disabil* 20:6–15, 2007
11. McClean B, Grey IM, McCracken M: An evaluation of positive behavioural support for people with very severe challenging behaviours in community-based settings. *J Intellect Disabil* 11:281–301, 2007
12. Donat D: Impact of mandatory behavioral consultation on seclusion/restraint utilization in a psychiatric hospital. *J Behav Ther* 29:13–19, 1998
13. Donut DC: Employing behavioral methods to improve the context of care in a public psychiatric hospital: reducing hospital reliance on seclusion/restraint and psychotropic PRN medication. *Cogn Behav Pract* 9:28–37, 2002
14. Boudewyns PA, Fry TJ, Nightengale EJ: Token economy programs in VA Medical Centers: where are they today? *Behav Ther* 6:126–12, 1986
15. Franco H, Kelly TH: Obstacles in the implementation of a behavioral therapy ward in a state psychiatric hospital, in *Behavioral Therapy in Psychiatric Hospitals*. Edited by Corrigan PW, Liberman RP. New York: Springer, 1994, pp 167–78
16. Anthony WA, Liberman RP: The practice of psychiatric rehabilitation: historical, conceptual, and research base. *Schizophr Bull* 12:542–59, 1986
17. Liberman RP, Corrigan PW: Designing new psychosocial treatments for schizophrenia. *Psychiatry* 56:238–49, 1993
18. Liberman RP, Hilty MD, Drake RE, *et al*: Requirements for multidisciplinary teamwork in psychiatric rehabilitation. *Psychiatr Serv* 52:1331–42, 2001
19. Wallace CJ, Liberman RP, Kopelwicz A, *et al*: Psychiatric rehabilitation, in *Treatment of Psychiatric Disorders* (ed 3) Edited by Gabbard GO. Washington, DC: American Psychiatric Publishing Company, 2001, pp 1093–1112
20. Liberman RP: Commentary: interventions based on learning principle can supplant seclusion and restraint. *J Am Acad Psychiatry Law* 39:480–95, 2011
21. Donnellan AM, LaVigna GW, Negri-Shoultz N: *Progress without punishment*. New York: Teacher's College Press, 1988
22. LaVigna GW, Donnellan AM: *Alternatives to Punishment*. New York: Irvington Publishers, 1997
23. Weiner B: An attribution theory of achievement motivation and emotion. *Psychol Rev* 92:548–73, 1985
24. Lane-Garon P, Yergat J, Kralowec C: Conflict resolution education and positive behavioral support: a climate of safety for all learners. *Conflict Res Q* 30:197–217, 2012
25. Yudofsky SC, Silver JM, Jackson W, *et al*: The overt aggression scale for the objective rating of verbal and physical aggression. *Am J Psychiatry* 143:25–39, 1986
26. Sorgi P, Ratey JJ, Knoedle DW, *et al*: Rating aggression in the clinical setting: a retrospective adaptation of the Overt Aggression Scale: preliminary results. *J Neuropsychiatry Clin Neurosci* 3:S52–6, 1991
27. Nijman HLI, Muris P, Merckelbach H, *et al*: The staff observation Aggression Scale-Revised (SOAS-R). *Aggress Behav* 25:197–209, 1999
28. Kelly G, Todd J, Simpson G, *et al*: The overt behaviour scale (OBS): a tool for measuring challenging behaviours following ABI in community settings. *Brain Inj* 20:307–19, 2006
29. Emerson E, Emerson C: Barriers to the effective implementation of rehabilitative behavior programs in an institutional setting. *Ment Retard* 25:101–6, 1987
30. Donat DC: An analysis of successful efforts to reduce the use of seclusion and restraint at a public psychiatric hospital. *Psychiatr Serv* 54:1119–23, 2003
31. Donat DC: Encouraging alternatives to seclusion, restraint, and reliance on PRN drugs in a public psychiatric hospital. *Psychiatr Serv* 56:1105–8, 2005
32. Fisher J: *Psychoeducational Aids for Working with Psychological Trauma* (ed 10). Chatham, NJ: Center for Integrative Healing, 2011