

Using Applied Behavior Analysis to Treat Behaviors Typically Associated with Major Mental Illness

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Introduction

The field of mental health continues to expand exponentially. Parents in the home, parent/agency advocacy groups, outpatient clinics, public school settings, inpatient hospitals and residential programs all contact persons carrying a range of DSM-V diagnoses who engage in challenging behavior and substance abuse. The prescribed treatment for each of these diagnoses can encompass a wide margin and consensus on the best course of action is not guaranteed. Applied Behavior Analysis (ABA) is often thought of as a very specific treatment that is only utilized for individuals diagnosed with Autism Spectrum Disorder (ASD) or Intellectual Disability (ID). This notion is supported by the fact that the majority of peer reviewed, clinical practice ABA articles focus on the application of ABA to treat problem behavior of individuals with ASD and/or ID. This poster focuses on the successful application of ABA to treat overt problem behaviors (e.g., physical aggression, substance abuse, self-injury, bizarre behavior, etc.) associated with various mental health diagnoses. In the case studies presented, no individuals carry an ASD diagnosis and only one individual carries an ID (mild) diagnosis.

Applied Behavior Analysis (ABA) is typically associated with treatment for individuals with intellectual disabilities and/or autism spectrum disorder and is often not considered as a treatment option for the behavioral issues of someone diagnosed with major mental illness. Individuals entering a community based or residential treatment setting with specific mental health diagnoses are often prescribed the corresponding long-established treatment modality. For example, an individual who presents with diagnostic symptoms of depression will typically receive Cognitive-Behavioral Therapy and possibly an antidepressant. Someone who has symptoms of schizophrenia will typically receive medication as a primary intervention with supplemental therapy. Someone who is struggling with symptoms of addiction and substance abuse will typically receive therapy using the Transtheoretical Model and possibly some type of 12-step program. An individual who is reporting symptoms of anxiety will likely receive some form of exposure therapy and possibly an anti-anxiety medication.

At the Judge Rotenberg Educational Center (JRC) we believe that Applied Behavior Analysis can be a highly effective primary intervention for individuals with a variety of “symptoms” or problematic behavior. ABA can also be effective with supplemental treatments such as CBT or DBT, and in rare cases, medication. Individuals come to our facility with a variety of diagnoses: bipolar disorder, depression, schizophrenia, substance abuse, post-traumatic stress disorder, anxiety disorders, conduct disorder, etc. Our primary intervention utilizes Applied Behavior Analysis to treat the observed behaviors, or symptoms (i.e. diagnostic criteria) of these disorders.

The charts displayed highlight some of the success we’ve had using behaviorally based interventions as the primary mode of treatment. We have brought about deceleration in a wide of

variety of challenging behaviors typically associated with mental health diagnoses without the use of more intrusive interventions (e.g., medications, jail time, hospitalizations, etc.).

Method

Case studies of 8 participants ranging in age from 15 to 33. Setting was a residential treatment facility with day educational and vocational services and group home placement in the community. Length of stay for these individuals ranged from 8 months to 16.9 months.

JRC's goal is to provide each individual with the least intrusive most effective form of treatment to insure his/her safety, the safety of others, and to promote healthy growth and development. The individuals referred to the program present a plethora of educational and clinical needs. Functional assessment of problematic behaviors begins upon admission. The assessment process can include record review, interview with the client and collaterals, direct and video observations across settings, QABF screening tool, scatterplot analysis, preference assessment, and review of behavioral data and incident reports. An intensive behavior intervention plan is developed to target problem behaviors for deceleration, positive replacement behaviors for acceleration, improved social skills and educational progress. The treatment package for this difficult to treat population can include:

- DRO, DRL, and DRA contingencies: “contracts” to earn reinforcers; the type, magnitude, and frequency of the reinforcers are adjusted as needed.
- Behavioral Counseling: no predetermined time, date or location that the session must take place; focuses on teaching and modeling skills for recognizing triggers and how to return to baseline, debriefing following an incident and when a problem is particularly evident. During the sessions, individuals and the clinician discuss coping mechanisms, replacement behaviors, frustration tolerance and the individual's behavioral program in which he or she is able to practice in all settings with or without the assistance of support staff members.
- Traditional group and individual counseling: predetermined date and time each week; focuses on goal-setting, planning and decision making, and on each student's unique needs, strengths and preferences.
- Rewards - JRC has built an indoor “street” that is 223 feet in length and houses all the major reward facilities of the school. The street has a Wizard of Oz theme and has Yellow Brick Road flooring. The reward facilities include: a party room (the Whimsy Room); an auditorium; an arcade; a movie theatre; snack bar; hair salon; arcade; fitness gym; basketball court; internet café; retail store ; and a library.
- Positive Behaviors: we teach the individuals at JRC positive replacement behaviors in an effort to replace the inappropriate behaviors they emit. In some cases, we can teach one general behavior or skill that replaces many inappropriate behaviors. In other cases, we might teach a specific ‘replacement’ behavior that exclusively replaces one behavior.
- Money Reward/Fine System for Appropriate/Inappropriate Behaviors: JRC motivates individuals to work on academics and behaviors with real money. They earn, on average, \$20 per week, but on some weeks, certain individuals have earned as much as \$130. The money, when earned is not paid immediately in cash; instead, the money goes into a special account. Deposits into this account are made only by JRC as a result of desired academic or other behaviors that the individual shows. Deductions are made from the account when the individual is fined for inappropriate behaviors, or when he or she spends some of the money in the account. The updated balance in this account is displayed on the individual's

computer screen at all times. When he or she wants to spend money that is in this account, staff give the individual the cash and the account balance is updated appropriately. They can then spend the money anywhere they want—on field trips, online shopping, for takeout food, etc.

- **Level System:** the privilege level system consists of 12 levels. The levels are differentiated in terms of: (1) the behavioral contracts that are made available to the student; (2) the degree of independence (time unsupervised by staff) that is granted to the student; and (3) the extent to which the student is eligible to work in part- or full-time jobs at JRC or in the community. The level system can be modified to support the specific needs of each individual.
- **Decelerative Consequences:** if rewards alone are insufficiently effective to modify a problem behavior, a decelerative consequence will be programmed as a consequence for the problem behavior. This can include:
 - Giving a firm “No” following the targeted problematic behavior
 - “Ignore” -staff give no direct attention to the behavior but still record the frequency of occurrence
 - Loss of Privileges- length of time in which an individual will not receive any rewards or positive attention following an inappropriate behavior
 - Token or money fine
- **Safety Protocols:** In times of crisis or following severe dangerous behavior, certain safety protocols can be put into place to maintain the individual’s safety as well as other’s around him or her. These can include restricted access to items one could harm self or others with (i.e. sharps, belts, pens, etc.), staff wear protective equipment, increased staffing, physical escorts in transition, increased video monitoring and personal item searches.

Results

Participant 1

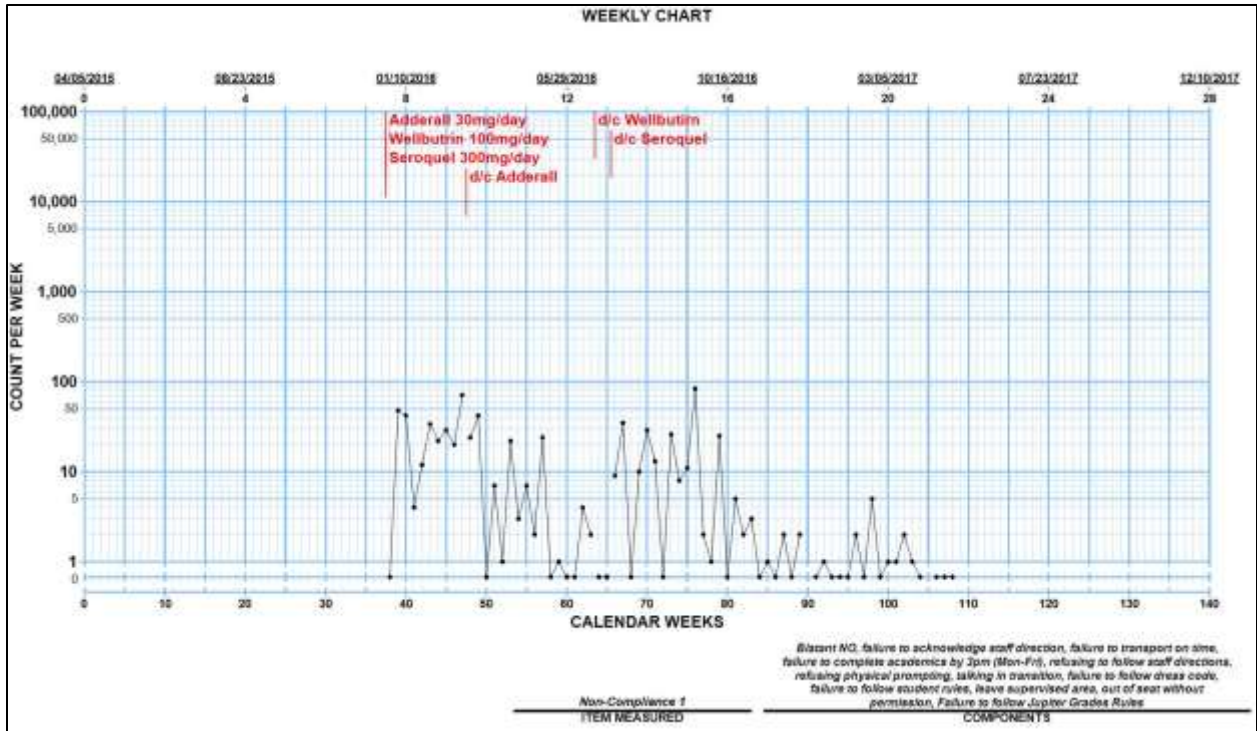
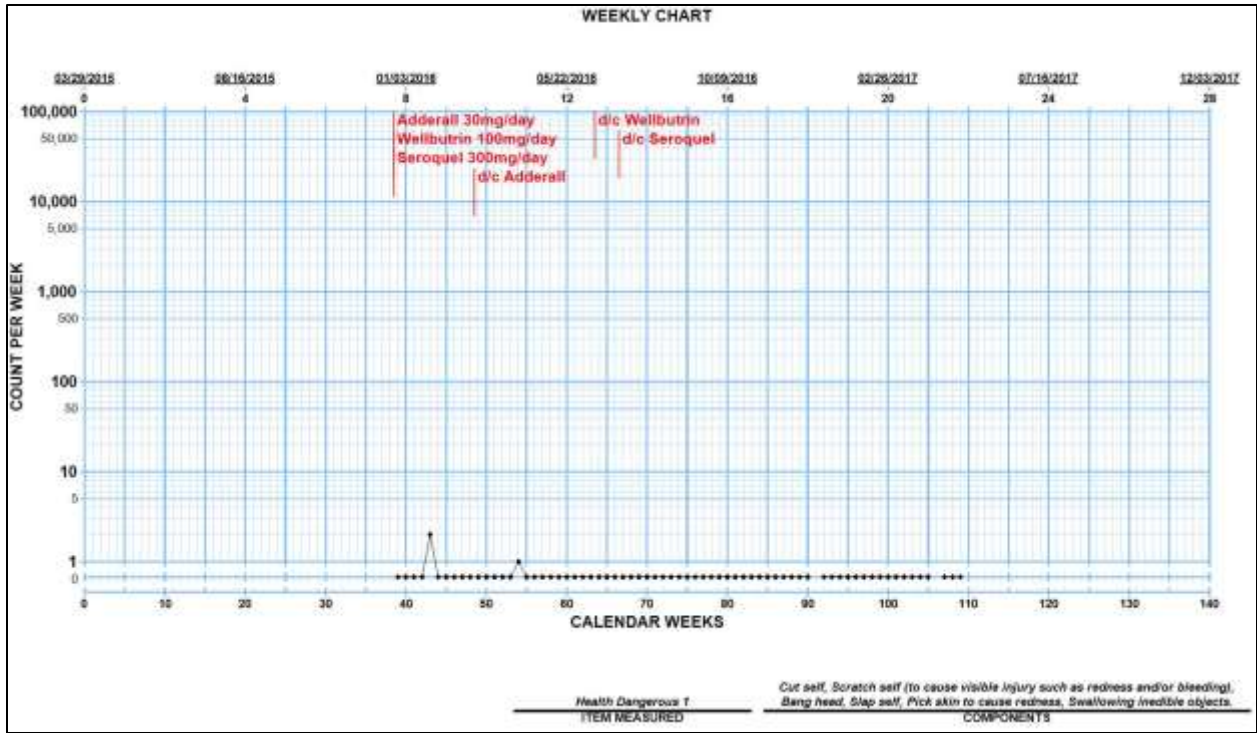
Primary Concern: Non-suicidal self-injury, noncompliance, substance abuse

Diagnostic History: Major Depressive Disorder (Severe), Mood Disorder NOS, Conduct Disorder, Post-Traumatic Stress Disorder, Marijuana Abuse, Alcohol Abuse

Treatment History: Outpatient counseling, individual and family, and psychotropic medication. Adherence to psychotropic medication regimen was intermittent. The severity of challenging behaviors escalated to include physical aggression (hitting, throwing objects) and non-suicidal self-injury (cutting forearms and legs) with broken plastic, glass and box cutters. Suicidal ideation was present on multiple occasions and in-patient hospitalization occurred twice prior to admission to JRC.

Medication History: Lexapro, Seroquel, Adderall, Wellbutrin

Most Effective Treatment Component: Level System, most specifically the level associated with access to internet capable devices



Participant 2

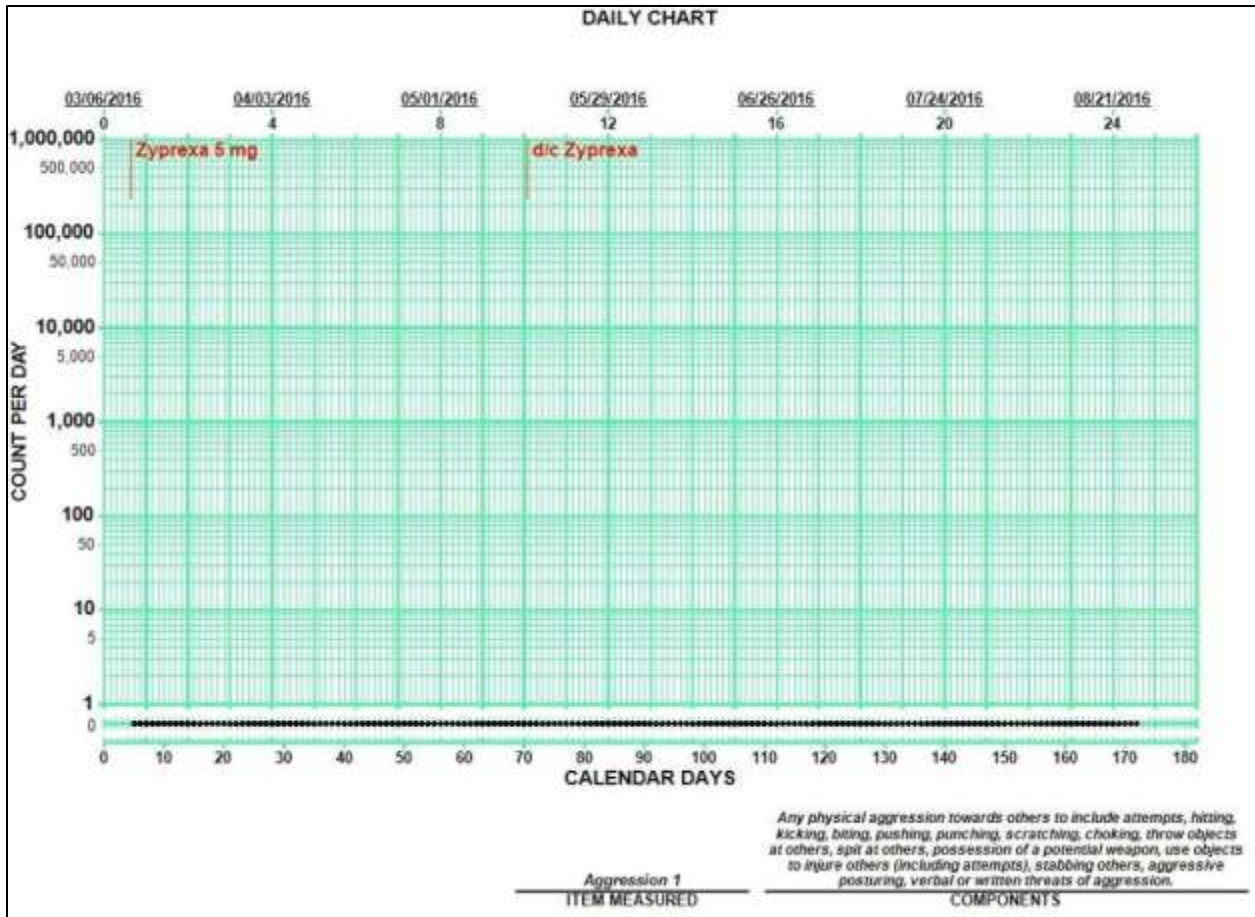
Primary Concern: Aggression, elopement, non-suicidal self injury, substance abuse, and drug seeking behaviors

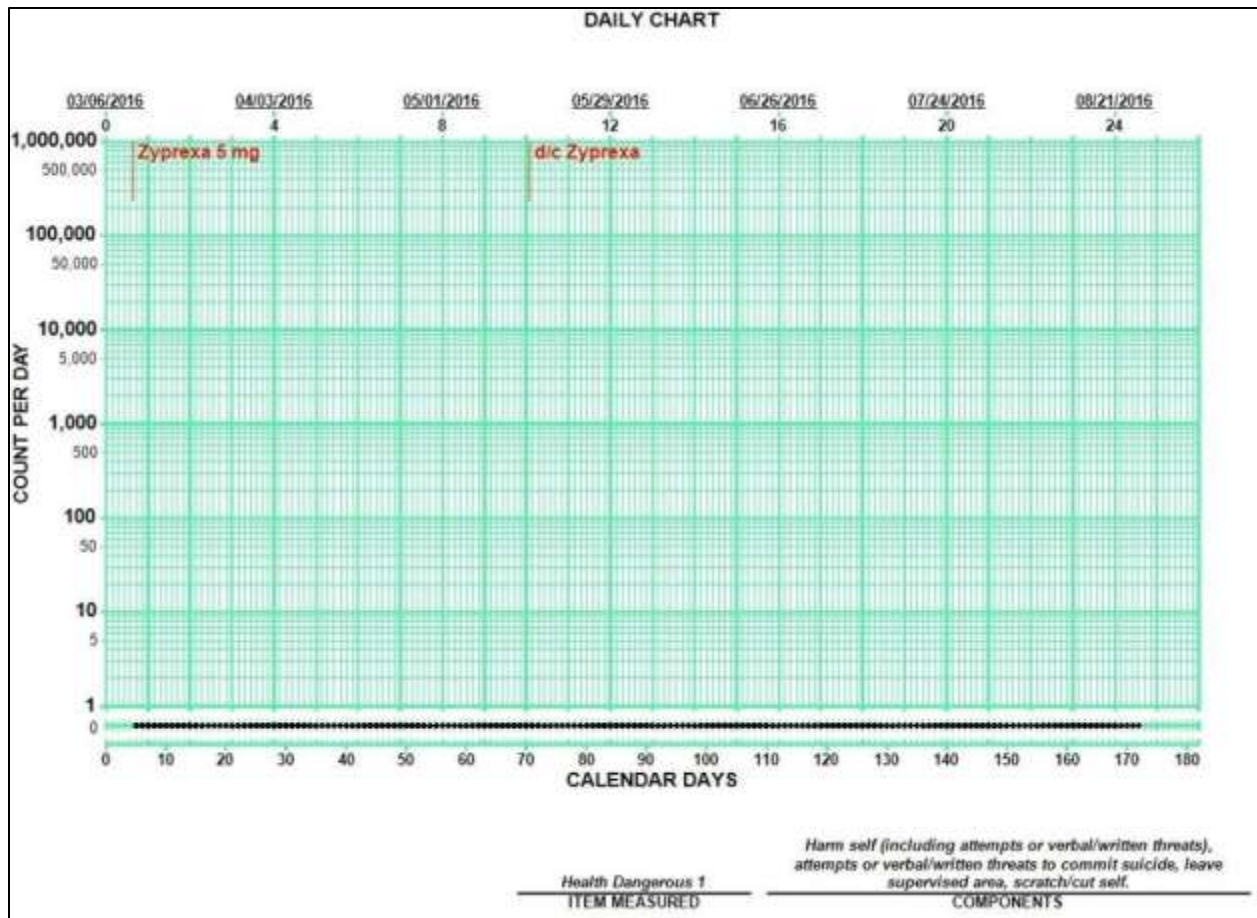
Diagnostic History: Bipolar Disorder, Conduct Disorder, Cannabis Use Disorder, Obsessive Compulsive Disorder

Treatment History: Outpatient counseling, individual and family, and psychotropic medication. One residential school, and multiple psychiatric hospitalizations and detention by law enforcement. Challenging behaviors escalated to physical aggression, cutting self, suicidal ideation, high risk behaviors in the community, and significant drug and alcohol use.

Medication History: Latuda, Zyprexa

Most Effective Treatment Component: Academic money system





Participant 3

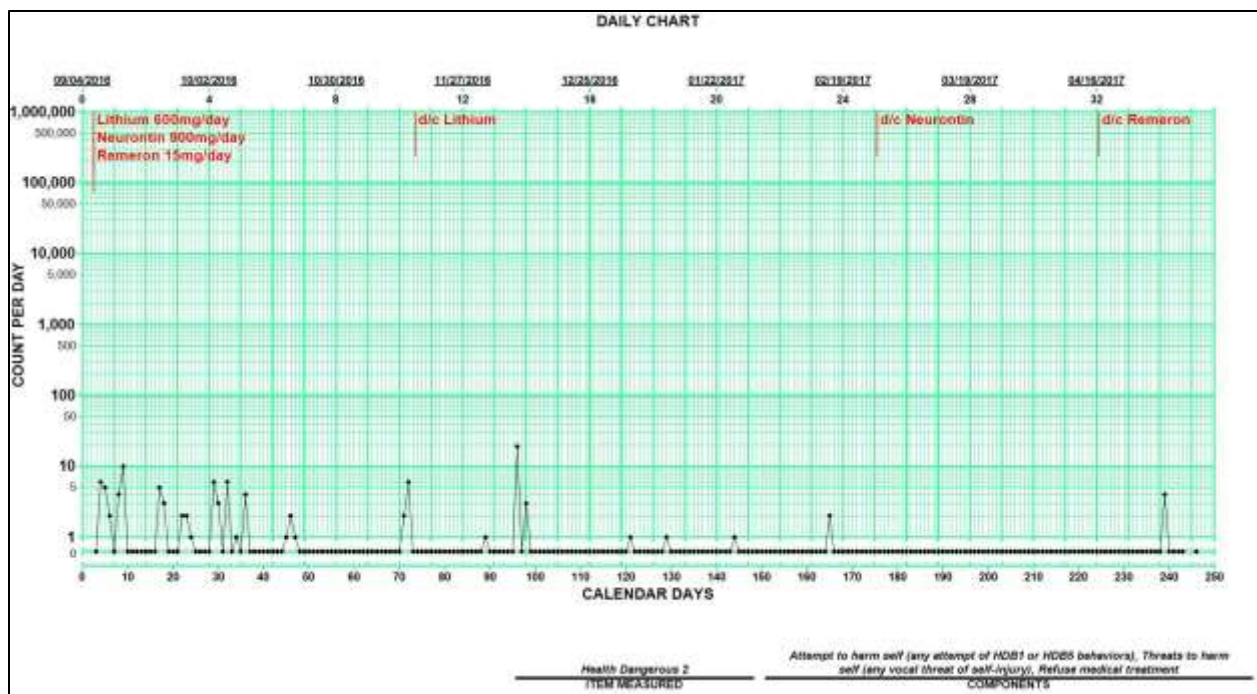
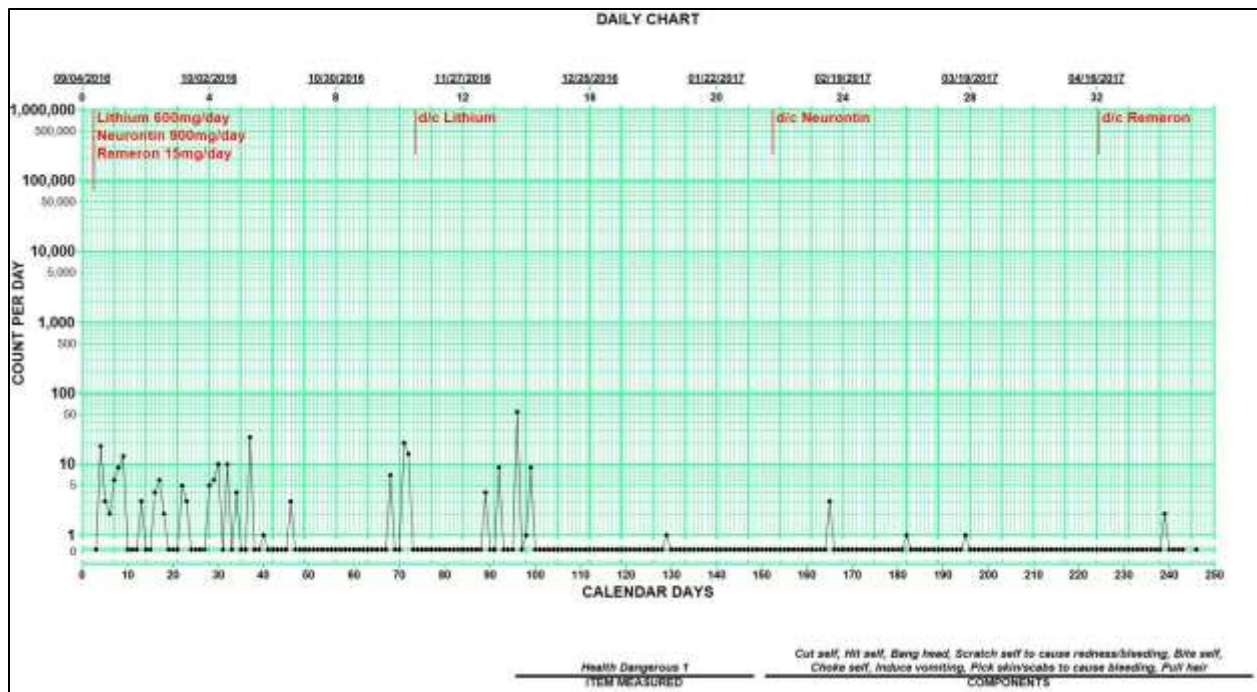
Primary Concern: Non-suicidal self-injury, aggression

Diagnostic History: Post-Traumatic Stress Disorder, Major Depressive Disorder, Mood Disorder NOS, Generalized Anxiety Disorder, Reactive Attachment Disorder, Anorexia Nervosa, Bipolar Disorder

Treatment History: Target behaviors included high frequency and intensity self-injury to include: cut wrist, scratch neck/face to cause bleeding, bite hand/arm, cut torso, cut leg, bang head to wall/floor, and food restriction. The severity of these behaviors resulted in deep bruising, lacerations requiring stitches by medical professionals and intravenous nourishment secondary to food restriction. Psychiatric hospitalization was required 10+ times. Treatment prior to JRC included counseling (individual, group, and family), special education, residential treatment and psychotropic medications.

Medication History: Zyprexa, Seroquel, Cogentin, Haldol, Trileptal, Depakote, Prozac, Prazosin, Ambien, Ativan, Lorazepam, Lamictal, Klonopin

Most Effective Treatment Component: combination of DRO and DRA contingencies to earn tangible items and social reinforcement from preferred staff members



Participant 4

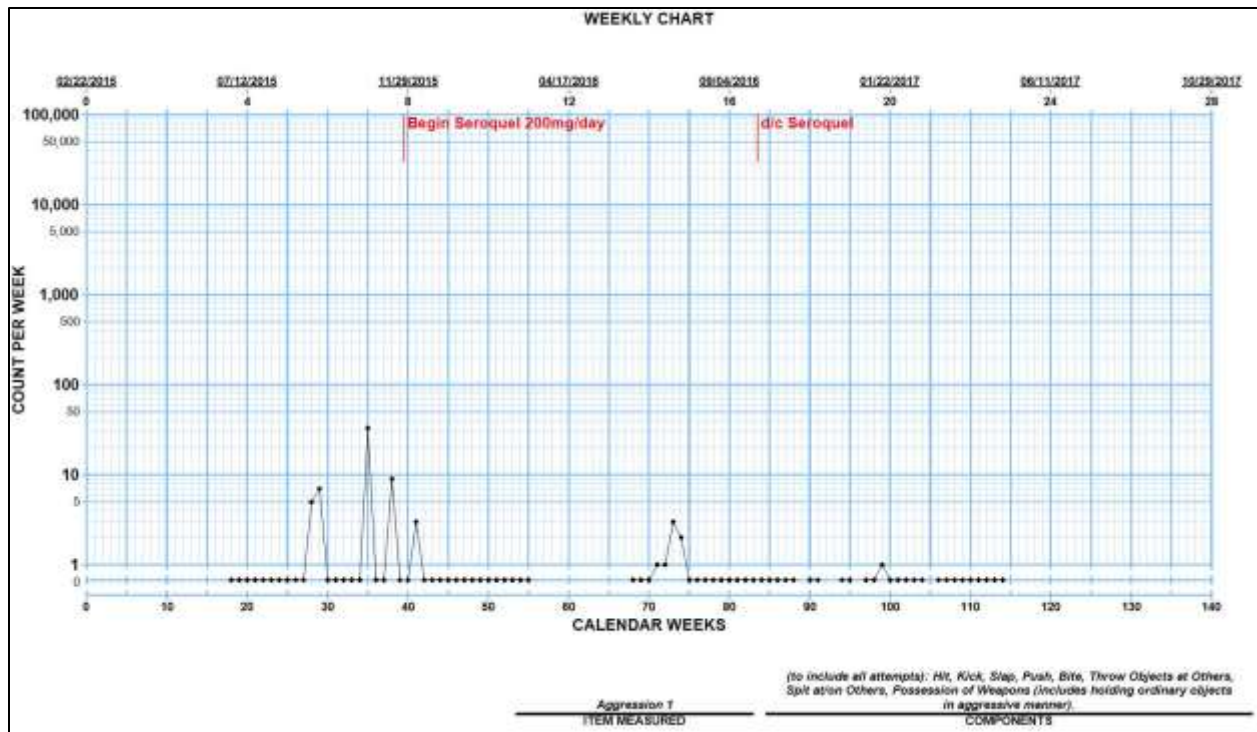
Primary Concern: Aggression, significantly disruptive behavior

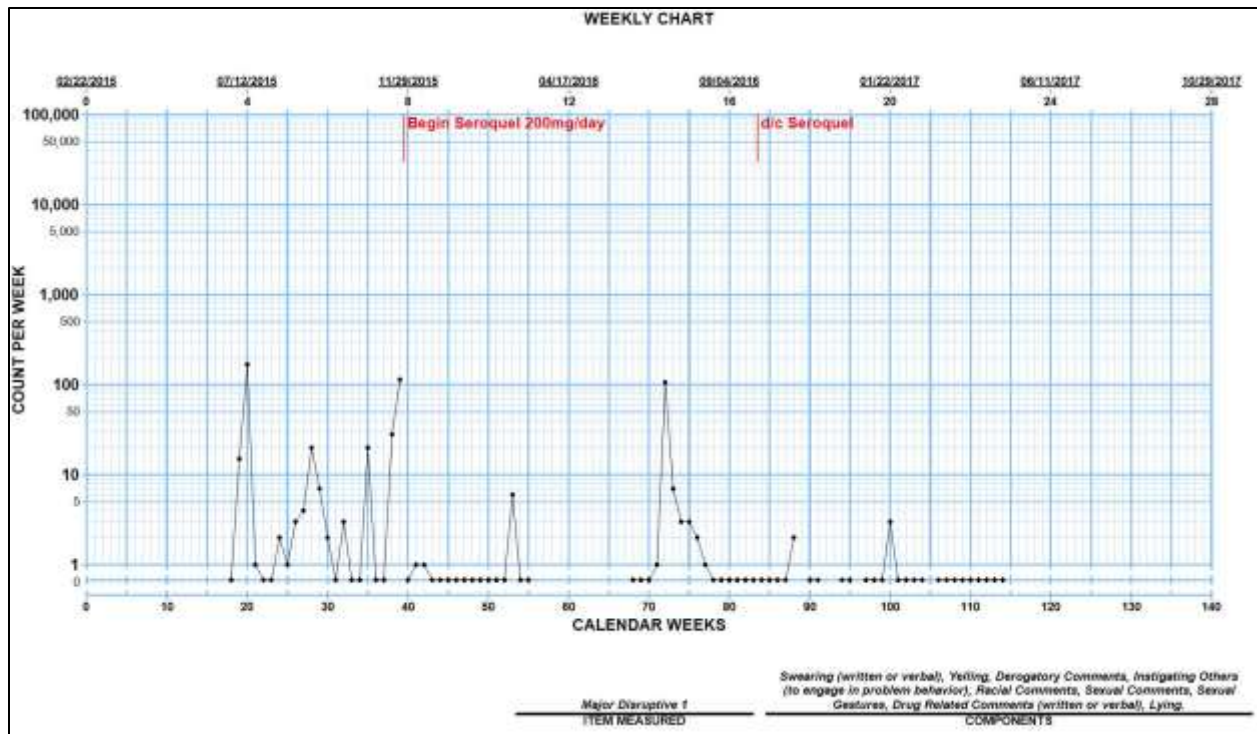
Diagnostic History: Bipolar Disorder, Schizophrenia, Attention Deficit/Hyperactivity Disorder, Major Depressive Disorder, Intermittent Explosive Disorder

Treatment History: Behavioral history included physical aggression (hit, kick, punch, bite), aggression with weapons (machete, knives, fire setting), self-injury (cutting wrists), suicidal ideation, and high frequency disruptive behaviors (swearing, racial comments, drug related comments, instigation of others, lie and drug related comments). Frequency and severity of these behaviors resulted in arrest on several occasions and psychiatric hospitalization on 8 different occasions. Treatment for challenging behaviors prior to enrollment at JRC included outpatient counseling (individual and group), special education services, and psychotropic medications.

Medication History: Seroquel, Trazadone, Prozac, Depakote, Abilify

Most Effective Treatment Component: Level System, social attention, access to tangible items





Participant 5

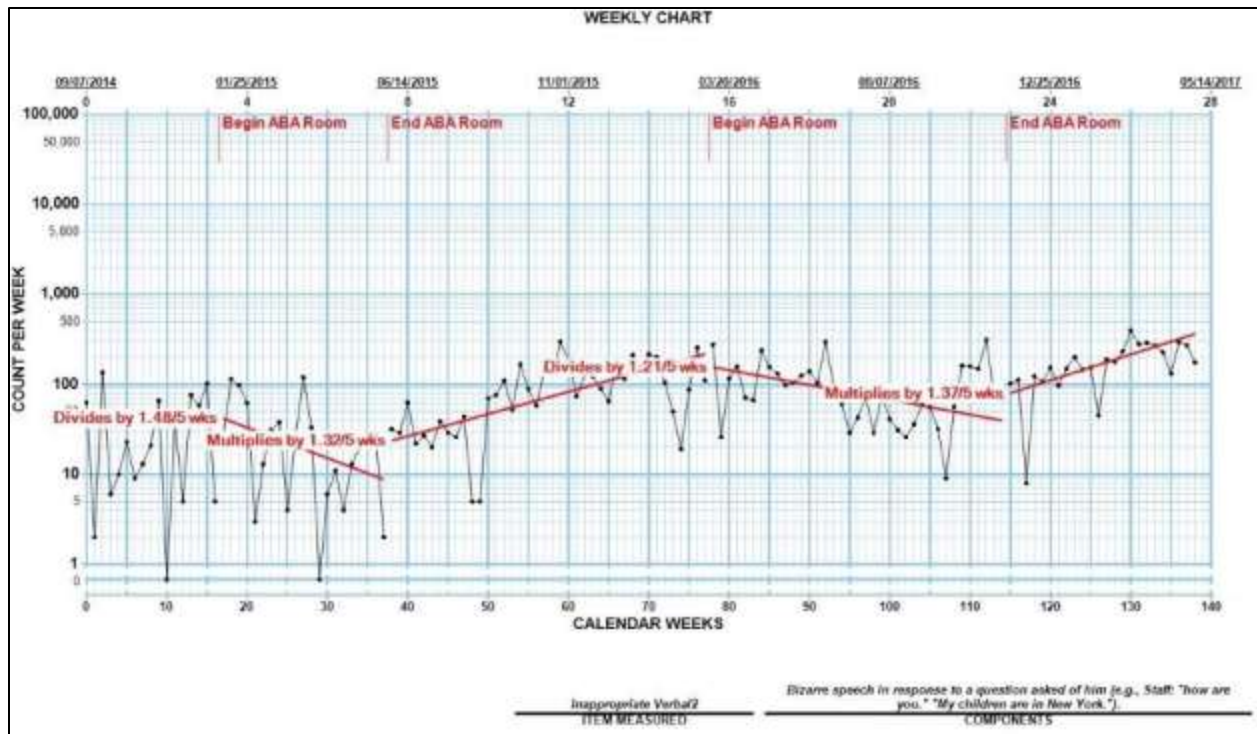
Primary Concern: Incoherent verbal responses, refusing to leave his home, medication refusal, school refusal, intense aggression

Diagnostic History: Schizophrenia (paranoid type), Bipolar Disorder NOS, Depressive Disorder NOS, Intellectual Disability (mild)

Treatment History: Multiple inpatient psychiatric hospitalizations and outpatient therapy

Medication History: Risperidone, Olanzapine, Bupropion, Haloperidol, Diazepam, Gabapentin

Most Effective Treatment Component: Discrete trials targeting appropriate verbal responses



Participant 6

Primary Concern: Suicide attempts, inappropriate sexual behavior

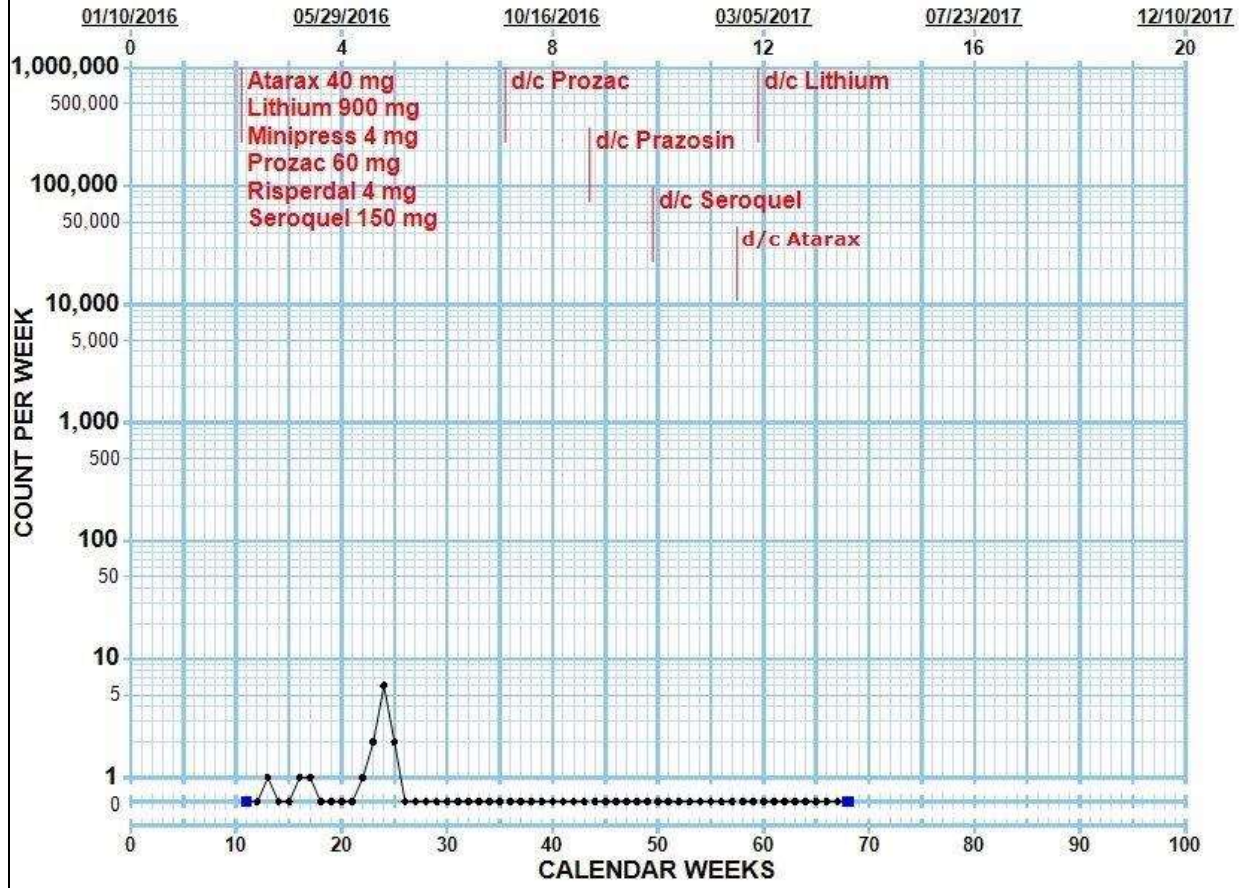
Diagnostic History: Post Traumatic Stress Disorder, Major Depressive Disorder, Borderline Personality traits, Psychosis

Treatment History: At least 8 inpatient psychiatric hospitalizations, residential treatment, individual, family and group therapy, and a rewards program. Behaviors prior to JRC included physical aggression, suicide attempts (running into traffic, hanging, overdose), cutting self, and inappropriate sexual behaviors.

Medication History: Fluoxetine, Atarax, Lithium, Prazosin, Risperidone, Lexapro, Wellbutrin

Most Effective Treatment Component: High level of structure and supervision, and safety protocols

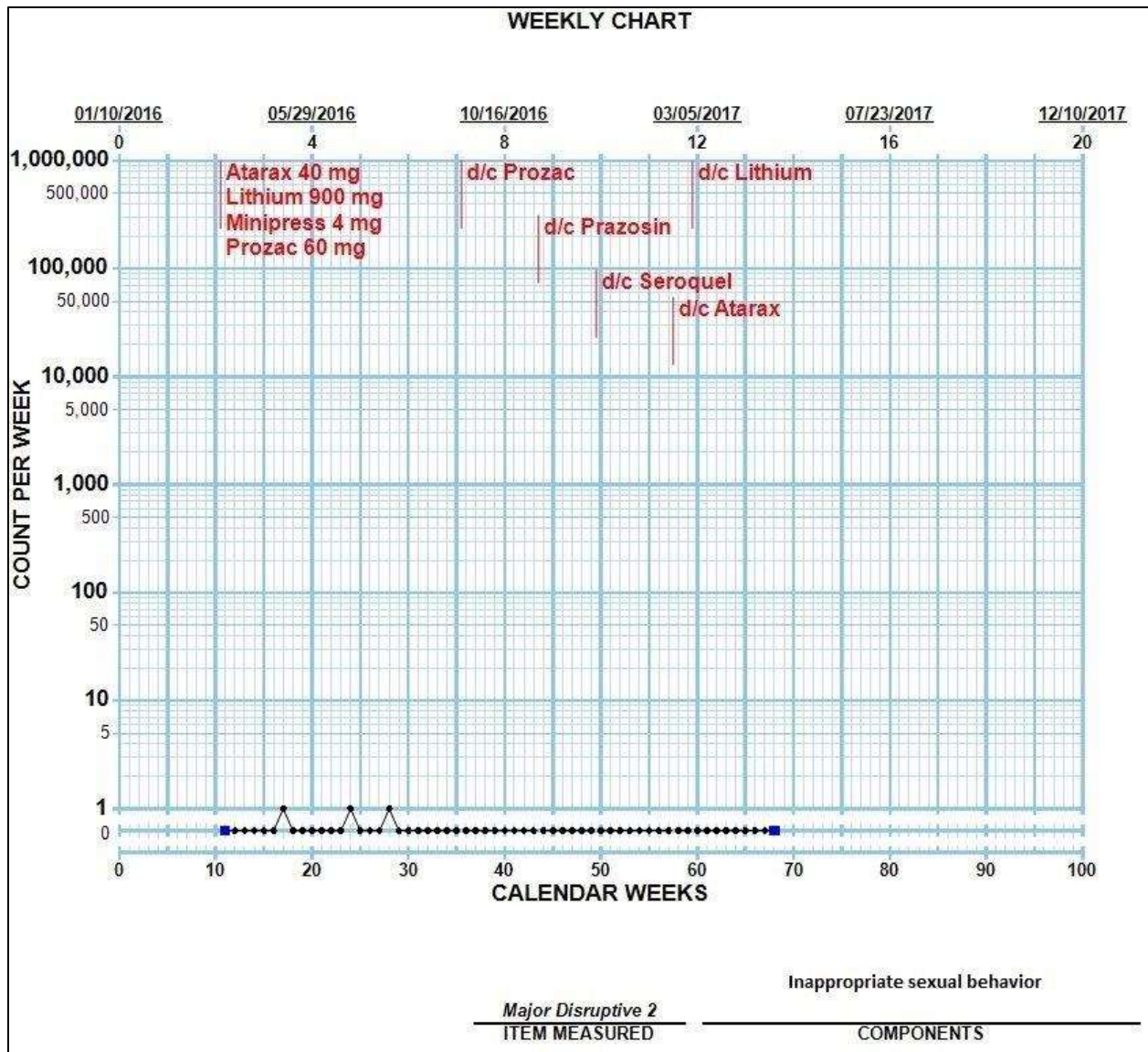
WEEKLY CHART



Any attempted or actual self harm (including but not limited to cutting self, tying objects around neck, scratching/hitting/biting self), being in possession of any object which could inflict self harm (including but not limited to any sharp object, scarves, belts, extra sheets, baggy clothing, sweatshirt strings etc.).

Health Dangerous 1
ITEM MEASURED

COMPONENTS



Participant 7

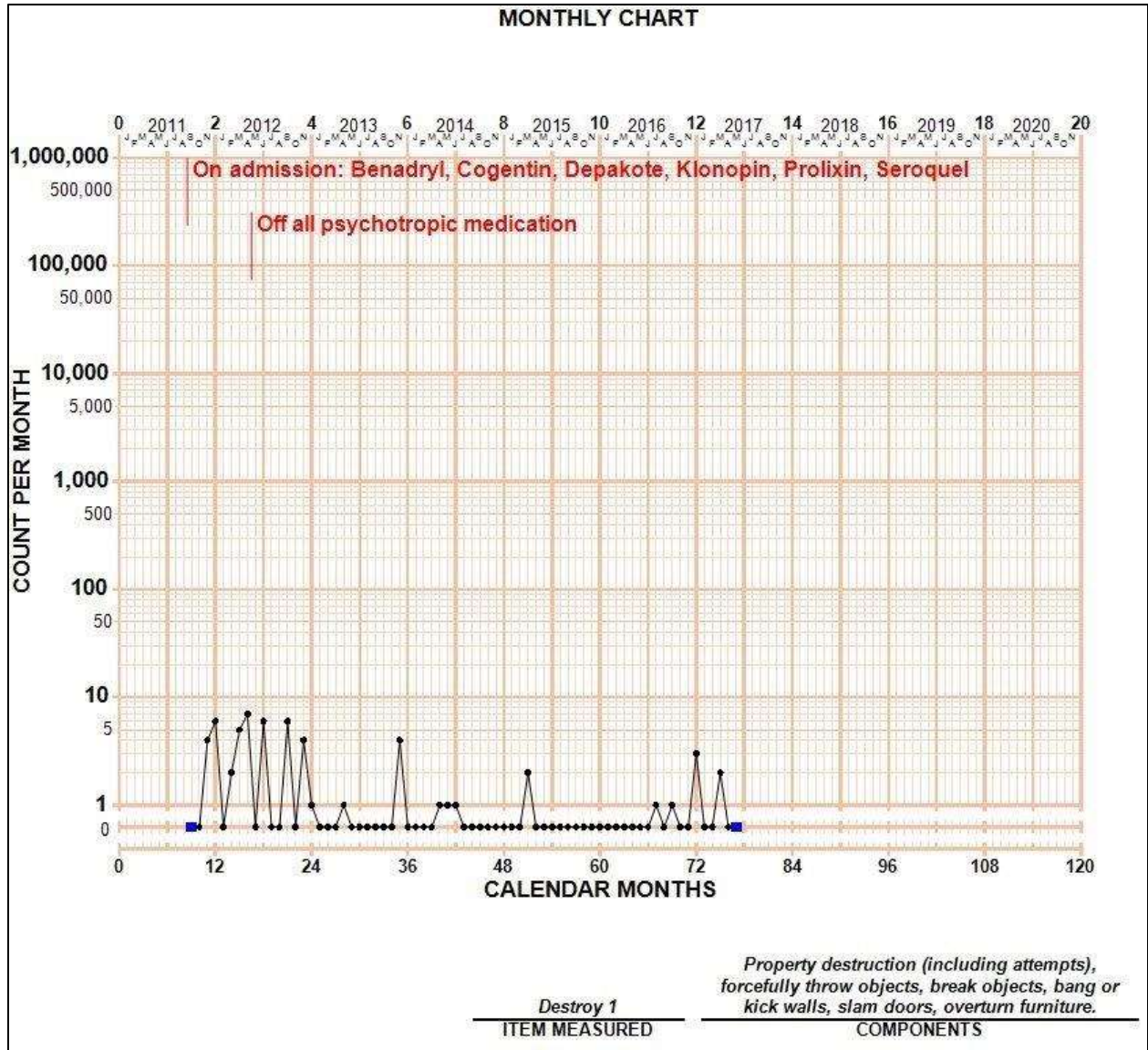
Primary Concern: Severe aggression

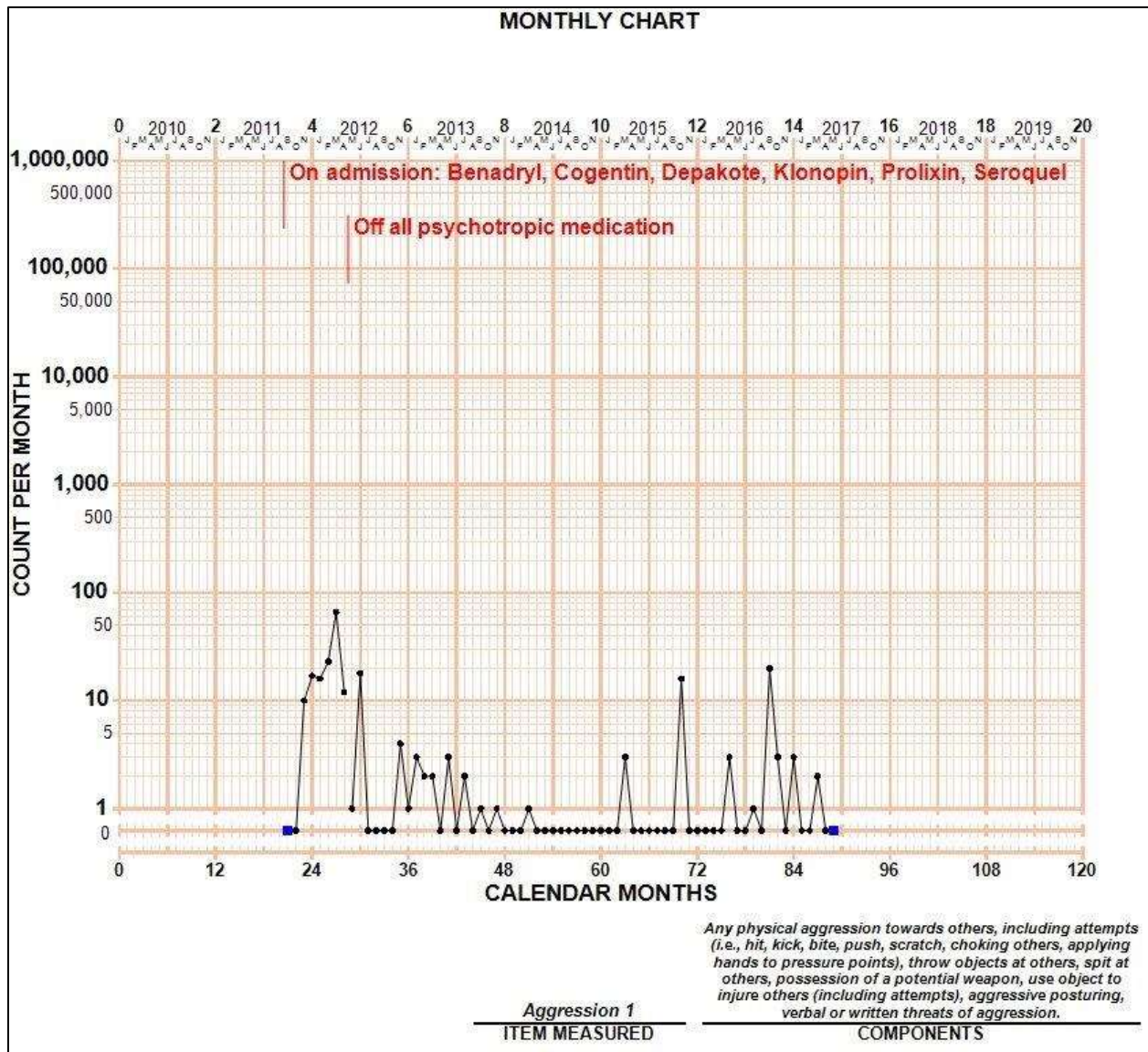
Diagnostic History: Bipolar Disorder NOS, Intermittent Explosive Disorder, Post Traumatic Stress Disorder, Conduct Disorder, Attention Deficit Hyperactivity Disorder

Treatment History: Prior to admission to JRC, severe aggression (punching, choking, using weapons) and significant property destruction resulted in multiple arrests and incarcerations. Treatment in the past included multiple residential programs, psychotropic medication, time out, and counseling. Physical restraint was necessary at times.

Medication History: Cogentin, Klonopin, Benadryl, Depakote, Seroquel, Prolixin, Lithium, Thorazine, Abilify, Clomipramine

Most Effective Treatment Component: combination of DRO and DRA contingencies to earn tangible items and social reinforcement from preferred staff members





Discussion

As can be seen, Applied Behavior Analysis can be an effective intervention with individuals who typically would not receive this form of treatment according to standard practice. In all cases each participant received outpatient counseling with and without psychotropic medications prior to the introduction of a behaviorally based treatment program. All of the individuals noted continued to engage in challenging behaviors that prevented them from making sufficient academic, social and behavioral gains. In some cases, the intensity of the behaviors increased to a level requiring inpatient psychiatric hospitalization, police arrests or admission to a hospital for medical treatment.

Limitations of these case studies include the unknown possible effects of medication tapering that most of the individuals underwent following admission to JRC. Two other possible limitations are

related to substance abuse disorder. A participant could be medically compromised if biological dependence has been established. In regards to these participants, dependence was a factor for one subject and medical clearance was established prior to entering the program. A second consideration related to substance abuse is the possibility that achieved progress was directly related to forced remission in the controlled setting and that generalization may not be achieved outside of this setting. Follow up probes are conducted by JRC in an effort to determine if progress made is maintained in the community setting. A common limitation in the field is treatment integrity. This was addressed by intensive staff training and retraining, audiovisual monitoring, a performance improvement system, and a multi-level supervisory system. Finally, another limitation is the sample size of this poster. It is not representative of the entire population JRC serves, but a small group of case studies that fit the criteria the authors determined were most suitable.