Best Practice Guidelines for Behavioral Interventions

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Behavioral Interventions

Several behavioral approaches, when combined with medication, have been shown to reduce symptoms or the impact of symptoms of serious mental illness (Corrigan, 1997). Behavioral interventions used to care for and treat persons with serious mental illness include self-control strategies (Corrigan, Schade & Liberman, 1992) token economies (Ayllon & Azrin, 1968; Corrigan, 1995), behavioral contracting (Kirschenbaum & Flanery, 1983; O'Banion & Whaley, 1981), skills training (Wallace, Liberman, MacKain, et. al., 1992), cognitive rehabilitation (Brenner, Hodel, Roder & Corrigan, 1992), and behavior family management (Liberman, 1988). These approaches will be addressed in this and other BHRM practice guidelines.

Behavioral treatment is concerned with the analysis and change of behaviors. Thorough assessment is an integral part of any behavioral intervention. Behavioral assessment seeks to identify the relationship between a behavior and the environment in which it occurs. It is a means to understand the behavior of an individual. The goals of behavioral assessment are to identify target behaviors, to select intervention strategies, and to evaluate their effectiveness. Behavior therapy is the implementation of procedures to aid in the change of behavior. Thus, the success of a behavioral intervention hinges on the adequacy of the behavioral assessment, as assessment findings guide the clinician in selecting appropriate interventions (Nelson & Hayes, 1986).

There are many misconceptions about behavior therapy (Corrigan, 1997; Skinner, 1974) that lead some clinicians to reject behavioral intervention altogether. Common misconceptions include the beliefs that behavioral interventions are disempowering, dehumanizing, mechanical, rely on aversive control, are not therapeutically challenging, only address superficial problems, ignore the importance of the therapeutic relationship, and teach people to manipulate each other.

In contrast to this view, there is much evidence to support the efficacy of behavioral interventions (Corrigan, 1997) and there is much to recommend their use. Some of the advantages of behavioral interventions include:

Behavioral interventions are precise:

Behavioral interventions have measurable outcomes, such as the change in the frequency of a behavior. Measurable outcomes allow for accurate assessment of an intervention's efficacy and timely modification of ineffective intervention procedures.

Behavioral interventions facilitate empowerment:

Behavioral interventions, when done correctly, do not seek to control people. Instead, they enable individuals to exert more control over their environment and their own behavior, including behaviors that help them attain their goals or that interfere with goal attainment. Empowerment is realized through providing safe environments, clarifying the choices available to the consumer, teaching independent living skills, and acquiring self-management techniques that give individuals more control in their environment.

Behavioral treatments are collaborative:

Interventions are developed jointly by consumer and treatment provider through the identification of goals, target behaviors and methods for change. Interventions are clearly described, making treatment understandable to the consumer, which fosters participation.

Behavioral interventions focus on accessible, measurable phenomena:

Interventions focus on observable (by staff and/or consumer) behaviors. Target behaviors are described quantitatively, which allows for objective hypothesis testing and evaluation of consumer progress.

Behavioral interventions are effective with a wide range of disorders and ability levels:

Behavior therapy is effective for consumers with different levels of cognitive ability and with a variety of problem behaviors and psychiatric diagnoses.

Behavioral treatments are conducive to effective treatment planning:

Behavior therapy's focus on target behaviors allows for the clear identification of goals in treatment planning. Adequately detailed descriptions of behavioral interventions are likely to meet the documentation requirements of accrediting agencies.

Behavioral treatments are conducive to program evaluation and development:

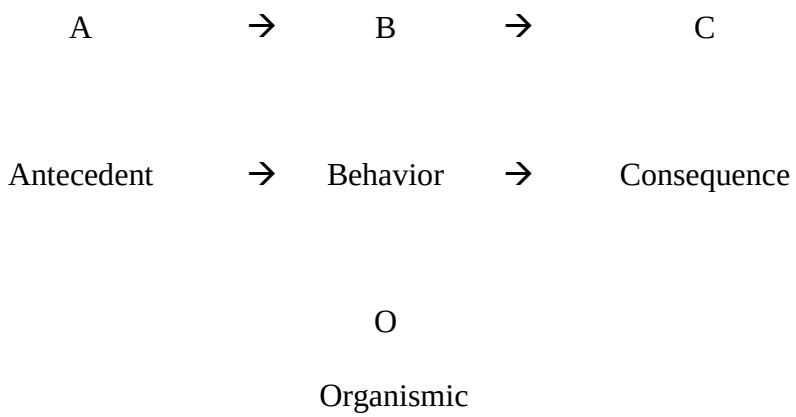
The objective, quantifiable nature of behavioral interventions allows for easy data collection and facilitates program evaluation and program development.

Principles of Behavior

Successful behavioral interventions require some understanding of basic principles of behavior. One can describe a behavior in terms of its form or topography; that is, what it looks like. A behavior can also be described in terms of its function; that is its effect on the environment. For example, if we observe a consumer shout until a staff member approaches him and asks what is wrong, we might describe the form of the behavior as yelling loudly and its function as getting help or receiving staff attention. Behavior can be understood functionally when one considers the variables that control an individual's behavior. That is, what factors in the environment, including those that precede and follow the behavior of interest, help explain its occurrence and suggest appropriate interventions. In behavioral terms, a functional understanding of behavior requires that one describe the response, and its antecedents and consequences. In some cases organismic variables are also considered. Each of these will be described in detail below.

The relationship among these variables is illustrated by the following chart and example (Figure 1):

Figure 1: The relationship among behavioral variables



Example: **Antecedent** → **Behavior** → **Consequence**

Feel too warm — Turn down thermostat — Feel cooler

Organismic

Just finished exercising, so unusually warm

An antecedent is an environmental or physiological stimulus that precedes a behavior (also called a discriminative stimulus). For example, a red light is a stimulus for putting on the brakes, and a growling stomach is a stimulus for eating.

A behavior (also called a response) is the target behavior, or phenomenon of interest. A behavior is anything the whole person does. For example, eating is a behavior while digesting food is not; speaking is a behavior while vibration of the vocal chords is not; looking at something is a behavior while a visual image striking the retina of the eye is not.

A consequence is an event that follows the behavior. A consequence will increase or decrease the probability of the behavior occurring again in the presence of the same antecedent. Reinforcing consequences increase the probability of the behavior occurring again, and punishing consequences decrease the probability.

Organismic variables represent biological and cognitive factors that affect the target behavior. For example, the effect of caffeine on trying to fall asleep, or the effect of a delusional belief on attending a doctor's appointment, are both organismic variables.

Contingencies

A contingency is a relationship between a behavior and a consequence, in which the consequence is presented if and only if the response occurs. For example, getting a paycheck is contingent on going to work. Contingencies can be described in the form of if: then statements. For example, *if* you go to work, *then* you will get your paycheck. Five types of contingencies affect learning a behavior. (see Figure 2) A contingency might either be a desirable stimulus (e.g., praise, money) or an aversive stimulus (e.g., being yelled at or being fined). These stimuli might either be applied to a person after a behavior, or taken away. A consequence that leads to an increase in behavior is a reinforcer. A consequence that leads to a decrease in behavior is a punisher. Reinforcement is generally more effective than punishment for changing behavior. The reasons for this will be elaborated below.

The procedure in which desired stimuli are presented to a person after a behavior is called positive reinforcement. Positive reinforcement increases behavior. That is, people are more likely to repeat a behavior that has been positively reinforced. Examples might include praising a consumer for showing up on time for an appointment, or awarding points that can be exchanged for goods to reward participation in a therapy group, or getting paid to come to work. Positive reinforcement is *positive* in the sense that something is added to the environment.

The procedure in which aversive, or unpleasant stimuli are removed or withheld from a person after a behavior is called negative reinforcement. Negative reinforcement also increases behavior. That is, people are more likely to repeat a behavior that is negatively reinforced.

Examples might include a parent who stops nagging after his daughter cleans her room, or the beeper stopping after you buckle your seat belt. Negative reinforcement is *negative,* in the sense that something is subtracted, or removed from the environment.

The procedure in which unpleasant stimuli are presented to a person after a behavior is called positive punishment. Positive punishment decreases behavior. That is, people are less likely to repeat a behavior that has been punished. Examples might include spanking a misbehaving child, or reprimanding a staff person who did not finish charting his group notes on time. Positive punishment is *positive* in the sense that something is added to the environment.

The procedure in which desired stimuli are withheld or removed from persons after a behavior is called a response cost, or negative punishment. Response costs decrease behavior. That is, people are less likely to repeat a behavior that is followed by a response cost. Examples might include fining a person (taking money from them) for speeding or taking dessert away from a child for having a tantrum at the dinner table. Response cost is a form of *negative* punishment in the sense that something is subtracted or removed from the environment.

Extinction is the procedure in which a behavior that has previously been reinforced is no longer reinforced. Extinction decreases (extinguishes) the frequency of behavior. For example, suppose that we establish that a child's temper tantrums at the grocery store are reinforced by her mother buying her a candy bar. This behavior would be extinguished by no longer buying candy when the child has a tantrum. Another example might be ignoring a consumer who shouts to get attention from treatment team staff, if it has been established that the consumer's shouting has been reinforced by staff attention. When an extinction procedure is introduced the target behavior often briefly increases in frequency before it decreases. This increase in the target behavior's frequency is called an extinction burst. For example, the tantruming child and

shouting consumer might briefly increase the intensity or frequency of their tantrums and shouting before these behaviors decrease. It is important for the clinician to recognize that this extinction burst will occur. Many an extinction procedure has been abandoned because staff observed the extinction burst, concluded that the intervention was not working, and prematurely terminated it.

We can only know whether a consequence is a reinforcer or punisher after we observe an increase or decrease in the behavior that produces that consequence. That is, one can only call something a punisher or reinforcer based on the effect it has on behavior. A reinforcer *increases* the probability that the behavior that precedes it will be repeated, and a punishment *decreases* the probability that the behavior that precedes it will be repeated. For example, it is easy to assume that candy is always a reinforcer, or that being yelled at is always a punishment. However, candy may not function as a reinforcer for someone who doesn't like candy, is allergic to sugar, or has just eaten a large meal. Similarly, if someone doesn't mind being yelled at, or if being yelled at is the only time one is acknowledged, being yelled at will not function as a punisher. If we apply a consequence, and the behavior doesn't change, that consequence is not a reinforcer regardless of what our intention was when we applied the consequence. We might erroneously conclude that positive reinforcement does not work. However, before reaching such a conclusion, we should first find out what is reinforcing to the individual and try a new consequence. While some contingencies are almost universal, e.g., money as a reinforcer or pain as a punisher, we can only define reinforcers and punishers in relation to the effect they have on the behavior of an individual. Figure 2 below outlines the types of contingencies and their effects on behavior.

Figure 2: Types of contingencies and their effects on behavior

Effect on Behavior	Behavior produces event	Behavior removes or postpones event	Contingencies terminated
Increased rate or likelihood of recurring	Positive Reinforcement	Negative Reinforcement	
Decreased rate or likelihood of recurring	Punishment	Time Out, Response Cost	Extinction

Considerations for selecting reinforcers

When considering possible reinforcers the clinician should select reinforcers that can be presented immediately following the behavior, can be presented repeatedly with minimum satiation, and are in reasonable supply. For example, using a movie as a reinforcer may not work well because it is unlikely that the individual will be able to view the movie immediately following the behavior. One might instead award points that can be exchanged for goods and privileges. Points can be given immediately, and the individual might later choose to buy a movie ticket with the points. Food may not work as well as some other reinforcers because people get full (become satiated).

Where possible the clinician should use a variety of reinforcers to minimize satiation. The clinician should use natural reinforcers, that is, those likely to be encountered in the community such as praise and attention. For example, natural consequences of using social skills are that one can ask for what they want, talk about what interests them, or expand their social network, all of which increase opportunities for positive reinforcement. Possible reinforcers are listed in

Table 1:

Possible Reinforcers

Social Reinforcers

Informative Feedback
Activities and Privileges
Tangibles and Edibles
Generalized Reinforcers (e.g., money, tokens, or points)
Self-Reinforcement

Social reinforcers, include, for example, praise and attention, status in the program (e.g., an opportunity to lead the community meeting). Informative feedback is identifying progress made toward accomplishing a goal. It is most effective when combined with goal setting. Informative feedback is usually combined with praise or self-reinforcement (e.g., "Good job! You completed your homework and are half way toward meeting your goal."). Activities and privileges can also be reinforcing, for example, an opportunity to go on an outing, use a computer, make a phone call, or obtain a special pass. The Premack principle states that one can use a high frequency behavior to reinforce, and thus increase the frequency of, a lower frequency behavior. For example, an individual who reads the newspaper every morning might be assigned to walk three blocks to get a newspaper instead of having it delivered to increase the frequency of exercising.

Tangibles and edibles, for example candy, coffee, personal care products, stamps, etc. may also be used as reinforcers. However, edibles in particular may be subject to satiation. Generalized reinforcers (e.g., money or tokens) are usually more versatile. These are reinforcers that can be exchanged for other items that are desirable to the consumer. An advantage of generalized reinforcers is that consumers can exchange them for different things or activities, and they are resistant to satiation (we have yet to encounter anyone who has said, "No thanks, I have too much money."). Tokens should always be given along with social reinforcement, (e.g.,

"Good job. You arrived on time and participated in the group, so you earn 25 points."). In self-reinforcement, the consumer might use any of the above reinforcers, but delivers them herself (e.g., "I completed my conversation skills homework by calling a friend so I am going to watch my favorite television program.").

Of course, the clinician must first find out what is reinforcing to the consumer(s). This can be accomplished in a variety of ways. Most simply, the clinician can ask the individual, "What do you like to do for fun?" "If I gave you five dollars, what would you spend it on?" "What are your hobbies?" These questions can be asked in a verbal interview or in a written questionnaire. (A sample questionnaire is included in the resource section of this guideline.) The clinician may also ask people who know the client well, such as family members or other treatment providers. The clinician can observe the individual, noting what she does frequently, what she asks for, what she complains about, etc. Variations of identified reinforcers can also be used, for example, if the consumer says he likes playing Nintendo games the clinician might use access to a different computer game as a reinforcer.

Problems with punishment

There are several features of punishment that make it problematic as a behavior change strategy. Punishment does not teach the person what to do, only what not to do. For example, if a staff person is punished for turning in an assignment late, she has not learned anything about how to manage her time better, improve her report writing skills, set priorities, or change any behaviors that may have contributed to her tardiness.

It can be difficult to ensure that the target behavior will be suppressed after punishment is applied. For example, suppose a group leader scolds John for speaking out of turn during group by reprimanding him. John responds by no longer speaking at all in the group. The group leader

thought the punishment would decrease the inappropriate behavior of speaking out of turn. However she actually punished (decreased) speaking in groups at any time. Punishment teaches sneakiness; that is, the person learns not to do the behavior when others are observing. For example, a staff person was punished when his supervisor observed him taking office supplies. Now he continues to take office supplies, but makes certain his supervisor is not looking. Punishment may lead to emotional states that interfere with learning. For example, Marco is told he will lose his afternoon walk privilege after he arrives to group late. He is so upset about losing the walk that he ruminates about it and does not pay attention for the duration of the group. The mood of the person delivering the punishment often influences when and how it is delivered. Suppose there is a rule against swearing. A consumer stubs his toe and shouts "damn!". In one instance you have just been reprimanded by your supervisor for being late, because you were caught in a traffic jam and got a late start after having to change a flat tire, and were told you couldn't take your preferred vacation day because someone else asked for the day off first. In another instance, you have just returned from a two-week vacation to Hawaii and were informed you will be getting a raise. In which instance would you be more likely to punish the behavior, and in which would you be more likely to ignore it? Punishment is likely to increase anger and aggression. For example, Mark is shouting because he is angry and wants to go to the courtyard and smoke and has not yet earned this privilege. He is told that not only can he not go outside and smoke, he cannot go to the vending machine this evening as punishment for yelling. Is his anger now likely to increase or decrease? Reinforcement is preferred over punishment whenever possible as a strategy for influencing behavior.

Differential reinforcement

Differential reinforcement strategies are often effective alternatives to punishment for decreasing undesirable behavior. There are three common forms of differential reinforcement: differential reinforcement of other behavior (DRO), of alternative behavior (DRA), and of incompatible behavior (DRI).

When reinforcing other behavior a consumer is reinforced for engaging in any behavior other than the behavior targeted for decrease. For example, if decreasing shouting were the target behavior, the consumer might be reinforced each hour he does not shout. One drawback to DRO interventions is that the focus is on what the consumer is NOT doing, so it does not teach new behaviors. For this reason, DRO interventions have been humorously referred to as "The Dead Man's Program", as a dead person could follow the program by not being aggressive, disruptive, etc. In contrast, DRA and DRI programs are focused on what the consumer is doing as well as what he or she is not doing.

In differential reinforcement of alternative behavior (DRA), the consumer is reinforced each time they use an alternative to the behavior targeted for decrease. For example, continuing with the target behavior of shouting, the consumer might be reinforced for leaving the room when angry instead of shouting. This type of intervention is more specific than a DRO intervention in that the consumer would only be reinforced for other behavior in situations when they are likely to engage in the target behavior. Thus the consumer is reinforced for what he or she does, not merely for what he or she does not do.

Differential reinforcement of incompatible behavior (DRI) is even more specific in its focus on the target behavior. When a DRI intervention is used the consumer would be reinforced only for engaging in behaviors incompatible with the target behavior. For example, the consumer

who tends to shout would be reinforced for making a request in a soft tone of voice. This is an incompatible behavior, as one cannot shout and speak softly the same time. Differential reinforcement can be used to decrease undesirable behavior by focusing on what the consumer does instead of engaging in maladaptive behavior, and does not have the disadvantages associated with punishing interventions.

Schedules of reinforcement

Schedules of reinforcement are the rules that specify how often to provide a reinforcer in return for performing a targeted behavior. If behavior is reinforced often, people learn more quickly. Once a behavior is learned and is performed consistently in the appropriate situation, reducing (but not eliminating) the frequency of reinforcement may increase the likelihood that the behavior will be maintained. If reinforcement stops completely, people may stop performing the behavior. For example, employees will stop coming to work if they stop getting a paycheck. Extinction occurs when a person stops performing a behavior because it is no longer reinforced.

Reinforcers may be delivered to a consumer according to different schedules. Different schedules of reinforcement may affect the speed of learning, increase the likelihood that a newly learned behavior will be maintained, or increase the resistance of a behavior to extinction.

Continuous reinforcement schedule (CRF)

One of the fastest ways to teach a new behavior is to use a continuous reinforcement schedule (CRF), which provides a reinforcer every time a behavior is performed. A student who is praised each time he correctly spells a word is on a CRF schedule. Some behaviors, such as social behaviors, may remain on a CRF schedule even after they are learned. For example, every time one says “hello” to a friend, the friend says “hello” back. However, one problem with a CRF schedule is that the behavior tends to extinguish quickly when it is no longer reinforced.

Also, the person may become satiated on some reinforcers. For example, if a consumer was reinforced with a candy bar every time she initiated a conversation, she might not want anymore candy bars and may stop initiating conversations after three or four times. Finally, CRF schedules are demanding on staff time and resources, unless the reinforcer is natural or is quickly switched to a natural reinforcer. For example, one might start by awarding points for initiating a conversation, but we would want the natural social consequences of conversation to take over so that points are no longer needed to maintain conversation.

Fixed reinforcement schedule (Fixed Ratio [FR] or Fixed Interval [FI])

One way to address problems with the CRF schedule is to provide the reinforcer after the behavior has been performed a specified number of times (a fixed ratio), or after a specified interval of time has passed (a fixed interval). Getting a frequent flier ticket every time 10 flights have been completed is an example of a fixed ratio schedule. Getting a paycheck every two weeks is an example of a fixed interval schedule. Clinically, a reinforcer may be given every third time a behavior, such as initiating a conversation, is performed. This would be an FR-3 schedule (Fixed Ratio of three). Notice that continuous reinforcement is a fixed ratio schedule in which the behavior is reinforced every one time it occurs (FR-1). Alternatively, the behavior might be reinforced after a fixed time interval. For example, a consumer might be reinforced every ten minutes during which she initiates at least one conversation. This would be an FI-10 schedule (Fixed Interval of ten minutes).

Increasing the number of times the behavior is performed before getting a reinforcer is called fading. That is, requiring the behavior five times (FR-5), then ten times (FR-10), or increasing a time interval from 10 minutes (FI-10) to 20 minutes (FI-20) would fade the reinforcer. Fixed

ratio schedules are more resilient to extinction than are CRF schedules. However, the behavior is likely to extinguish if the reinforcer is completely removed.

Variable reinforcement schedule

Moving from a fixed schedule to a variable (VR or VI) schedule reduces the likelihood of extinction. VR schedules use an average number of target behaviors for reinforcement, e.g. on an average of X times the behavior is performed, a reinforcer is given. Slot machines operate on a variable ratio schedule, paying a jackpot after some average number of lever pulls. On a VR-5 schedule, reinforcers could be given after 2, 8, 4, and 6 times a behavior is performed - an average of 5 behaviors per reinforcer. On a VI schedule, reinforcers are given after an average amount of time has passed. For example, one might arrive at a bus stop knowing that the bus arrives an average of once every fifteen minutes. On some occasions the wait might be 5 minutes and on other occasions 25 minutes. On a VI-8 schedule, a reinforcer might be delivery after 6, 10, and 8 minutes, for an average of once every eight minutes. Under variable schedules, people cannot figure out exactly when they are going to receive a reinforcer. For this reason, behaviors learned on variable schedules are very resilient to extinction. Moving from continuous reinforcement (FR1) to a greater fixed ratio, and then to a variable schedule makes the behavior occur more quickly and extinguishes less frequently. For example, the gambler playing a slot machine does not know exactly when the jackpot will hit. The large amount of time and money an individual might spend at a slot machine illustrates just how resistant to extinction a variable ratio schedule is.

Contingencies of reinforcement are the foundation for all behavioral interventions. Some of the behavioral interventions that will be discussed further include token economies, behavioral

contracting, and skills training, including planning for generalization. However, the clinician must first conduct a thorough assessment before identifying the most suitable intervention.

Assessment

The goals of a behavioral assessment are to identify target behaviors, identify controlling variables and potential reinforcers (contingencies), select appropriate treatment strategies, and determine useful outcome measures for evaluating the effectiveness of treatment. There are several appropriate assessment strategies.

Qualitative assessment

Qualitative assessment provides a comprehensive description of specific problem behaviors in an organized format. The focus is on the form (topography) rather than the function of the behavior, and how the consumer experiences it. Qualitative assessment answers the question, "Exactly what would I see if I observed you performing the behavior?". The chief advantage of qualitative assessment is its efficiency; a single staff member can complete the assessment, and much information can be obtained from a single, relatively brief interview. It also requires people to be specific about exactly what they are doing.

The disadvantage of qualitative assessment is that it does not provide information about variables controlling behavior other than individual self-report, which is notoriously unreliable.

Functional assessment

The goal of functional assessment is to identify the relationships between a target behavior, and events that precede and follow it. The emphasis is on antecedent-behavior-consequence relationships. Functional assessment answers the question, "What is the effect of the behavior on the environment (the consequence) in a particular situation (the antecedent or discriminative stimulus)?". It is a functional approach in that the assessor focuses on variables controlling

behavior, e.g., discriminative stimuli, consequences to determine the function of a target behavior. For examine, yelling obscenities (target behavior) during quiet time (antecedent) functions as a means of getting attention (consequence).

One advantage of functional assessment is that it has high precision as compared to qualitative assessment, because it relies on the direct observation of behavior, rather than self-report. The clinician directly observes the behavior and the variables controlling it, or relies on the report of the consumer or a collateral who might monitor the behavior via a diary or recording form. (An example of a functional assessment tool, the Specific Event Log, is included in the resource section of this guideline.) The major disadvantage of functional assessment is that it can be time consuming to observe a large enough sample of behavior from which to make valid inferences.

Quantitative assessment

In quantitative assessment behavior is described in measurable terms in order to assess the impact of a behavioral intervention on a target behavior. Behavior is usually measured in terms of its frequency, duration or intensity. Quantitative assessment answers the question, "How frequently (or intensely, or long) does this behavior occur?". For example, in describing the alcohol use of a consumer we might say that she drinks six days a week (frequency) or from noon until she passes out (duration), or that she has 10 drinks on each drinking occasion (intensity). Behaviors described in measurable terms can be easily monitored, recorded, and visually graphed. Thus changes in behavior frequency, duration and intensity are easily observed. For example, we might note that after MISA treatment the consumer's drinking decreased from six days a week to twice a month, or that the 'intensity' decreased to one drink per drinking occasion. The major advantage of qualitative assessment is that changes in

behavior are easily monitored, and the efficacy of interventions is quickly determined. The primary disadvantage is that sufficient pre-intervention, or baseline, data must be gathered before the intervention is begun.

Assessment and the selection of target behaviors

Information gathered from both qualitative and quantitative assessments is important when planning intervention strategies. Functional and quantitative assessment help the clinician gain a functional understanding of behaviors that aids in selecting interventions for each target behavior. Qualitative assessment helps the clinician understand how the consumer experiences his or her problems and can provide useful information for selecting appropriate target behaviors and contingencies. An adequate qualitative assessment must address client strengths, interests, and goals as well as client problems. Information gathered during the assessment is used to select appropriate target behaviors. Consumers with a severe and persistent mental illness often have multiple problem behaviors. It is not always possible to target all behaviors for intervention at once, so they must be prioritized. Target behaviors should be selected by client and treatment provider together. While there is no one way to select appropriate target behaviors, behaviors that might be considered appropriate targets for immediate intervention are described in Table 2.

Table 2

Possible targets of intervention
The behavior of most concern to the client
The easiest behavior to change
The behavior most likely to affect other problem behaviors
The behavior most likely to generalize to other behaviors
The earliest behavior in a behavior chain
The behavior that, if changed, leads to the most opportunities for new behaviors and more reinforcement
Suicide and life threatening behaviors
Treatment interfering behaviors

The clinician can determine the behavior of most concern to the client by asking what they would most like to change, or what they find most distressing. For example, a consumer may report that they are most interested in learning how to cope with anxiety. Alternatively, the clinician and consumer may select the easiest behavior to change so that the consumer begins treatment with confidence-building success. For example, a consumer with a diagnosis of social phobia may opt to learn relatively straightforward medication management skills before working on potentially anxiety provoking social skills.

Selecting the behavior most likely to affect other problem behaviors or that generalize to other behaviors may provide the consumer with the most 'bang for their buck'. For example, starting treatment with substance abuse treatment may lead to changes in the consumer's attendance in treatment and on the job and improve their medication compliance as well as leading to decreased substance use. An example of a new behavior generalizing to other behaviors is a consumer who participates in a skills training group and learns a single set of skills to cope with anxiety, symptoms of psychosis, and inappropriate anger.

Substance abuse treatment can also provide an example of changing the earliest behavior in a behavior chain. For example, suppose when the consumer uses cocaine, he then steals money from his parents, then gets into arguments with them when they find out, leading to his getting kicked out of the home and becoming homeless. Targeting cocaine use might be more productive than targeting arguing with his parents.

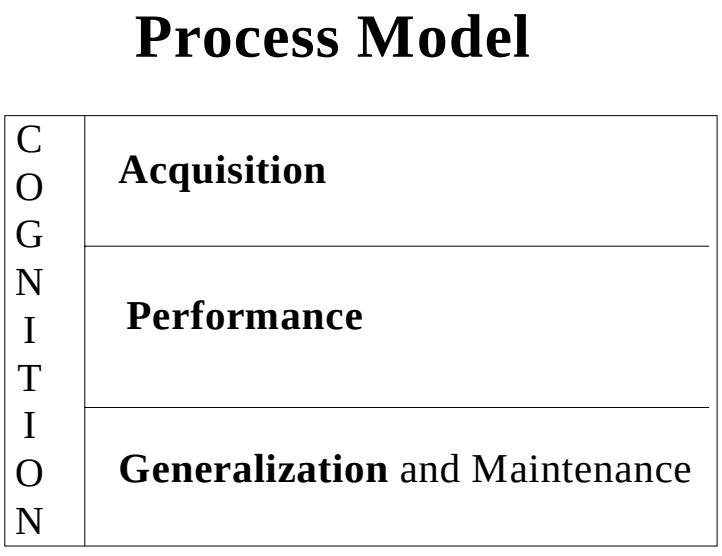
The clinician and consumer might also select the behavior that, if changed, leads to the most opportunities for new behaviors and more reinforcement. For example, a consumer who does not have basic conversation skills or does not know how to use public transportation will have very limited opportunities for social and occupational reinforcement.

Marsha Linehan, in Dialectical Behavior Therapy (1993), recommends that suicide and life threatening behaviors always be the first target for intervention, and that treatment interfering behaviors be targeted second, as other behaviors cannot be adequately addressed in treatment until the consumer is not a danger to herself, and consistently participates in treatment. Finally, she recommends that quality of life interfering behaviors be taught third. After identifying target behaviors the clinician will want to consider possible interventions.

The Process Model and Selecting Interventions

Psychiatric disability is made up in large part of certain skills deficits. The Process Model (Corrigan and Jakus, 1994) considers four psychological processes associated with skills (Figure 3) and how people with severe mental illness are impacted by them.

Figure 3. The Process Model



Acquisition

Before one can perform a skill, one must learn, or acquire it. During adolescence and early adulthood most people learn basic social and coping skills by watching what others around them say and do in both common and difficult situations. This information is stored away in memory for later use; we are able to discriminate which new situations are similar to what we have seen before, and retrieve the corresponding skill from memory. However, people with severe mental illnesses are frequently unable to acquire skills if they are struggling with early symptoms of their illness.

> *Example:* Carl, is a 42 year old, single, Caucasian male, diagnosed with Schizophrenia. He has poor social skills. When he is with a group of people, he alternates between withdrawn silence, and interrupting others with irrelevant remarks. The onset of his illness occurred at the age of 16. He had begun to withdraw from others, and behave somewhat oddly a year prior to his first psychotic episode. An assessment suggested that he never learned appropriate adult social behavior because he was withdrawn or ill during the adolescent years when he would have been learning important social skills through peer interactions. This is an acquisition problem, since he has never learned the skills.

Performance

The second step in skill development is performance. People generally perform skills that are reinforced; i.e., when there are good reasons, or incentives, to do so, and when there are no barriers preventing one from performing them. For example, most people would not go to work without the reinforcer of a paycheck. Similarly, people with severe mental illnesses may not

perceive reinforcers to use skills they may have acquired. Conversely, they might perceive reinforcers for performing a skill, but an individual or environmental barrier may prevent them from performing the behavior in question. Individual barriers might include factors like anxiety, a learning disability, or thought disorder that interfere with concentrating in a skills training group. Environmental barriers include such things as lacking transportation or access to childcare that result in one being unable to participate in treatment.

> *Example*: Juanita lives in a large board and care home. The staff at the home complain that she rarely showers and wears soiled clothing. As a result of her poor hygiene practices she has offensive body odor. Juanita spends most of her day sitting on the porch of the home, smoking cigarettes and drinking coffee. She rarely goes anywhere other than to mental health appointments. Several of her fellow residents also have poor hygiene skills. Juanita reports that she knows how to bathe and wash clothing, and says she "just doesn't feel like it". She reports that she does not care if she is dirty since there is no reason for her to wash. "Who cares whether I wash and wear clean clothes? I never see anyone I want to impress."

Most people maintain hygiene because being clean feels good to them, or they want the social approval of others that accompanies appropriate hygiene. Others may be offered a reinforcer for completing hygiene tasks (e.g., you can have a cup of coffee after you shower). The above example illustrates a problem of performance, because, Juanita has *acquired* the skill, but does not *perform* the skill.

<u>Generalization</u>

Once a skill has been acquired and performed, the next step is to apply the skill in ordinary life situations. Distinguishing which skills are useful in a particular setting or situation and then

performing the skill is called generalization. This, too, is a point at which people with severe mental illnesses may have difficulty. They may not have learned to identify and match appropriate skills learned in the rehabilitation program with real world situations they encounter every day.

> *Example:* In an assertiveness training group Mary practiced assertion by completing a homework task of returning a dress to the store where she purchased it after she discovered it was missing a button. She was successful in completing the task and exchanging the dress for a new one. She was pleased with herself, was praised by the group leader, and happy that she had a new dress with all its buttons. A few days later, she was having dinner at a restaurant and was given the wrong order. Instead of returning it, she ate the food she was given. She did not realize that this situation was similar to the dress with the missing button and that she could use the same skills to get the food she actually ordered.

Mary has a problem with generalization, because she has *acquired* the skill (knows how to do it), has incentive to *perform* the skill (feels good about herself, gets what she wants), but was not able to *generalize* the skill from the situation of returning a dress at a store to returning an incorrect food order at a restaurant.

Cognition

Finally, cognitive, or thinking, skills play a part throughout the skill development process. Cognitive skills include mental activities such as planning, remembering, sorting, problem solving and making decisions. One must have the ability to process and sort social information to learn social skills. Because schizophrenia and other mental illnesses are primarily cognitive

illnesses, people with severe mental illnesses may have cognitive processing problems that interfere with their ability to acquire, perform, and/or generalize a skill.

The Process Model can facilitate the selection of appropriate interventions. Different kinds of interventions may have more or less utility depending on which process best accounts for the problem behavior. Problems with skill acquisition are best treated by participation in skills training. Problems with performance may be addressed with various incentive therapies, motivational enhancement strategies (See Motivational Enhancement Techniques guideline), or by addressing the barriers that might interfere with participating in treatment. There are many techniques for increasing skill generalization, which will be discussed further below. Problems with cognition can often be remediated through cognitive rehabilitation or medication.

After considering the process model and narrowing the field of potential interventions there are still many options for addressing the target behavior. The considerations in selecting an intervention are similar to those used in considering which target behavior to select. The clinician should consider the following questions in selecting an initial intervention: (The questions are addressed in more detail in the attached behavioral consultation form in the resources section.) What are possible options for addressing the individual's problem(s)? For example, could the problem be treated with individual treatment, residential treatment, or group therapy? Whose behavior should be targeted for change—the consumer, staff, or others? Are there combinations of interventions that might address the problem? How should you prioritize and sequence interventions should a combination of interventions be determined most appropriate? What are the pros and cons for each alternative? Is the intervention feasible to implement? Does the intervention exceed limitations of number of available staff, staff time, or

other resources? What is the consumer's preference? What are the consumer's priorities for target behaviors and interventions?

Are there potential barriers to the intervention? What are potential barriers to either the implementation or effectiveness of the intervention? Consider staff, program, consumer, and organizational barriers. Examples of staff barriers are that staff do not agree with the choice of the intervention; staff lack skills to implement the intervention; staff are so angry with the consumer that they can't use positive reinforcement. Common program barriers include settings where no appropriate skills training groups are being offered at the agency; there are no staff to transport the individual to a treatment locale; there are so many people in a group that it would be difficult to provide the consumer with sufficient coaching. Consumer barriers may include that a consumer has a learning disability; a consumer has failed in previous attempts to learn a particular skill and is discouraged about being able to do so now; a consumer does not evaluate a particular behavior as problematic. Examples of organizational barriers are that the agency will not allow the use of a selected reinforcer; professional boundaries make it difficult to provide direct supervision to milieu staff who need to implement the program; staff shortages make it difficult to closely monitor and record a frequent behavior.

After an intervention or interventions are selected the clinician must determine when, where, and who will implement the intervention. Who will implement each component of the intervention? When does the intervention occur, under what conditions, in response to which behaviors? Where will the intervention occur? Who will implement it, e.g., all staff, group leaders, or primary therapist?

The clinician must then devise a monitoring plan. How will implementation and outcome of the intervention be monitored? For example, will there be a special sheet for staff to record the

intervention or to graph the behavior? Will the consumer keep a self-report log? Will the behavior be listed on a token card? Consideration of these questions will help the clinician address potential pitfalls before the intervention is begun, or might lead the clinician to select an alternative intervention.

Behavioral Interventions

A variety of behavioral interventions may be used to influence consumer behavior, e.g., to increase or decrease the frequency of target behaviors; to increase contact with components of a larger treatment program; to facilitate the acquisition and generalization of new skills. The variety and number of possible interventions is limited only by the creativity of the practitioner.

The general use of reinforcement, punishment, and extinction procedures has been discussed above. Specific interventions to be addressed in this section include: token economies, which provide a single reinforcement system to be used for consumers in an entire program; behavioral contracts which specify contingencies at the level of the individual; and behavioral interventions for increasing skill generalization at the level of the individual or group.

Token economies

Token economies, or incentive therapies, are reinforcement systems in which positive reinforcers, in the form of tokens or points, that participants can exchange for desired objects and/or privileges, (e.g., use of a video game, access to a telephone) are given for specified desirable behaviors. Token economies can provide program-wide contingencies, i.e. a set of rules for an entire program. Three significant benefits of a token economy are that it greatly decreases the chaos that tends to lead to aggression in a program; it increases incentives for adhering to treatment; and it requires staff to provide opportunities for the desired behaviors to occur and to attend to them when they occur. Token economies can be set up by following three

simple steps: target behaviors are identified; contingencies are specified; and exchange rules are determined.

First, consumers and staff identify the targets of the token economy; i.e. what specific behaviors the consumers should perform. For outpatient programs, this may include attending all scheduled activities, being on time, participating in groups, and completing homework activities. An important consideration in selecting behavioral targets is to focus on the do's (i.e. what consumers and staff want participants to do, such as attend skills training classes and complete homework assignments) rather than don'ts (e.g., don't swear, don't smoke in the wrong place). Programs dominated by don'ts have a negative atmosphere and are associated with increased aggression. Both program-wide and individual behaviors should be identified for the incentive program.

Second, staff specify contingencies for performing each target behavior. Contingencies are simply "if...then" rules. "If you attend group, then you get 10 tokens." Each behavior targeted in the first step is paired with a specific number of points or tokens. The number of points should reflect the priority of the behavior (more points, greater priority).

Finally, staff (with input from consumers) specify the exchange rules. These rules tell consumers how they may exchange their accumulated points or tokens, thus giving the points/tokens value. The exchange rules include what the consumer receives in exchange for tokens, such as privileges like telephone or computer time, or commodities like food or toiletries; when they may exchange points; and who does the point exchange. For example, consumers may exchange points for reinforcers at the main office with the lead case manager every afternoon at 3:00; consumers may exchange 25 points for a stamped envelope and greeting card, 30 points for a free phone call, etc.

Behavioral Contracting

Behavioral contracting, like a token economy, is an incentive therapy that provides individual contingencies rather than group contingencies. Behavioral contracts use "if-then" rules. "If you do X, then I will do Y." For example, "If you show up for group, then I will give you a bus ticket." Successful behavioral contracts specify what will happen if the behavior is not performed. For example, "If you attend group, then I will drive you to the store. If you do not attend group, you will have to find your own transportation to the store." Successful behavioral contracts target behaviors that are not too difficult for the individual, and provide reinforcers that are not easily satiated. For example, a person may get too full if they are always reinforced with food, but if reinforced with money they probably won't be satiated, or feel that they have enough and do not want any more.

When preparing a behavioral contract it is important that the clinician negotiate the terms of the contract with the consumer. The clinician should bargain with the consumer if necessary, by suggesting possible deals or compromises, or by making counterproposals. The clinician should find out how the consumer feels about the contract, and empathize with him or her. One of the most important benefits of contracting, in addition to increasing desired behavior, is teaching negotiating skills.

Once the terms of the contract are agreed upon the clinician must make certain that the description of the required behavior is clear and detailed and that the consumer understands the terms. The clinician should then establish when and how the consumer will be informed of his or her progress. Reinforcers should be delivered so that they follow the desired behavior(s) as quickly as possible. Where possible, bonus clauses for exceeding the terms of the contract may be offered.

While new behaviors are being learned in the treatment setting the clinician should make certain that the consumer has opportunities to practice behaviors in the community as well. Generalization strategies are essential to ensuring the transfer of skills training over time and across settings.

Generalization

Generalization occurs when a newly learned behavior is performed in different forms, and in different settings, across time. Problems in skill generalization are common in mental health treatment settings. Consumers often learn to perform skills in a treatment setting then fail to transfer the newly learned skills and practice them in their home, on the job, and in the community. For example, a consumer may learn assertiveness skills and perform them adequately in the skills training group, but fail to use them in the community. Or a consumer may learn cooking skills, but fail to cook for himself in his home.

Generalization is promoted through transfer training; i.e. finding and structuring opportunities to use skills in everyday community experiences. It was once thought that generalization is a naturally occurring process, and therefore that once a behavior was learned it would naturally generalize to other settings as well as to a broader set of skills. However, the Process Model suggests that generalization is *not* a naturally occurring process and that generalization must be planned and implemented just like other parts of the skills training process. There are three types of generalization: stimulus generalization, response generalization and maintenance.

Stimulus generalization occurs when behaviors learned in one setting generalize to other settings. For example, a reddish light on a small traffic signal in a cross walk means ‘don’t walk’. This stimulus is generalized when the person can respond by stopping whether the light is orange or red, and whether it flashes the words ‘don’t walk’ or a figure of a person walking.

Someone saying “hello” is a stimulus for responding with a greeting. In a treatment setting, an example of stimulus generalization might be a person who has learned to respond “hello”, when his caseworker says, “hello”. The stimulus is generalized when the person responds “hello” when a nurse, a peer, or his psychiatrist says “hello”.

Response generalization occurs when specific behaviors learned in the rehabilitation program generalize to a broader set of behaviors. A person is able to use variations of the original response that is learned. For example, a person who has learned to say “hello” might use variations like “Hi there”, or “How are you?”.

Maintenance occurs when newly learned behaviors are maintained over time and in a variety of settings. After a consumer completes conversation skills training, she can perform the skills 3 months, 6 months, or a year later.

Clinicians should plan for generalization before the skill is taught by looking for opportunities to practice the skill in the natural environment, and considering whether the skill can be taught in the natural environment, or a setting close to that environment. For example, can grocery shopping skills be taught at a grocery store rather than in a classroom? When the skill cannot be taught in the natural environment the treatment provider might assign homework to facilitate generalization.

The clinician may also consider whether the skill to be taught is part of a behavioral chain. Generalization fails to occur with respect to behaviors that are part of a chain when early behaviors in the chain are neglected. For example, consumers taught to prepare their own food in a cooking class did not cook in their homes because they were not taught how to shop for food and plan meals.

There are several treatment strategies that facilitate generalization planning. The relevance of the skill must be considered before treatment begins. It is important to teach skills that are meaningful to the consumer. Skills are more likely to generalize if they are relevant to the consumer's goals. For example, consumers living in a rural setting are unlikely to generalize or maintain public transportation skills. They are likely, however, to generalize and maintain skills for which their environment provides ample opportunity to practice such as negotiating a ride with a friend.

The clinician should consider all forms of the skill that need to be taught. If it is not possible to teach all forms of the skill directly, consider teaching those that are most important. All the situations and settings and persons with whom the skill should be performed must be considered. If it is not possible to address all of these in training, focus on the most important settings and persons. When skills training begins, the clinician must make sure that consumers perform a skill at a high level of proficiency before moving on to other skills.

Clinicians should use *in vivo* practice where consumers practice performing skills in real-world settings to facilitate generalization. *In vivo* is Latin for "in life" and refers to real life settings in the community, as opposed to the artificial setting of the classroom. For example, instead of talking about transportation skills in the classroom, the clinician could teach these skills at the bus station or by riding the bus with a consumer. In vivo practice allows the consumer to try out the skill with a staff member present to provide support and prompting.

The clinician might also assign homework to facilitate generalization. Homework generally has the consumer go on their own to try out the skill. If a consumer is learning basic conversation skills, s/he might be asked to start a conversation with three different people over the next week. Homework differs from in vivo practice in that no staff person is present for

homework assignments. The clinician can increase probability of the consumer completing the homework by offering an incentive for doing the homework as assigned. After the homework is completed the consumer should review it with staff.

The fading of reinforcers also facilitates generalization. Skills learned under continuous reinforcement schedules are generalized when the schedules change to a variable schedule. Ideally, the behavior will eventually be maintained by natural reinforcers. For example, even though no longer earning tokens for initiating conversations, a consumer might initiate conversations because s/he values the social engagement.

Self-monitoring protocols are one of the best ways to facilitate generalization. In essence, the treatment provider helps the consumer become his or her own skills trainer. The clinician should have the consumer set up his or her own goals, such as "I'm going to talk to six people this week and try out my conversation skills." Consumers are then asked to evaluate their own progress toward their goal. For example, "I talked to seven people instead of six", or "I know three different ways to start a conversation with a stranger". The clinician should also encourage self-reinforcement where the consumer rewards herself for success in meeting her goal(s). "Because I talked to seven people I am going to give myself an extra hour listening to my favorite music."

There are many considerations in determining which type of generalization strategy is likely to be most effective with a particular consumer with a unique set of deficits, strengths, goals and interests. An intervention is selected after the initial assessment is completed and target behaviors are identified. The clinician must consider many factors when selecting an appropriate intervention. The Process Model also provides one set of guidelines for organizing and narrowing the range of interventions under consideration. There is no one "right" intervention for any given target behavior. Consumer, clinician and agency factors, as well as resources will

all help determine which intervention is most likely to be beneficial for a given consumer with a given problem.

Clinician Resources for Behavioral Interventions

Selected readings
Behavioral journals
Annual reviews
Resources for the therapist and consumer
Phone numbers
Self-help groups
Web sites
Handouts and worksheets

Selected Readings on Behavior Therapy-Related Topics

The following titles are arranged by disorder and by special topics. In general when a title could fall into several categories, it will be listed under the disorder.

I. General Texts.

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Behavioral Journals

Addictive Behaviors, Behavior Modification, Behavior Therapy, Behavioral Assessment, Behavioral Engineering, Behaviour Research and Therapy (BRAT), Biofeedback and Self-Regulation, Child Behavior Therapy, Child and Family Behavior Therapy, Cognitive and Behavioral Practice, Journal of Applied Behavior Analysis (JABA), Journal of Behavioral

Medicine, Journal of Behavioral Assessment, Journal of Behavior Therapy and Experimental Psychiatry, Journal of Experimental Analysis of Behavior.

Though they are not primarily behavioral journals, the Journal of Consulting and Clinical Psychology frequently publishes studies of behavioral interventions and Psychiatric Rehabilitation Skills frequently publishes descriptions of applications of behavioral interventions with individuals with severe and persistent mental illness.

Annual Reviews

Annual Review of Behavior Therapy, Progress in Behavior Modification, Review of Biofeedback and Self-Control, Advances in Cognitive-Behavioral Research and Therapy.

Resources for Therapists and Consumers

Books For Consumers.

Alcoholics Anonymous (1976). Alcoholics Anonymous. New York: Alcoholics Anonymous World Services.

Barlow, D.H. & Associates. Mastery of Your Anxiety and Panic, 2nd ed.; Agoraphobia supplement to the mastery of your anxiety and panic, 2nd ed.; Mastery of Your Anxiety and Worry; Mastery of your specific phobia; Stopping anxiety medication: Panic control therapy for benzodiazepine discontinuation; Mastering depression: A patient's guide to Interpersonal Psychotherapy; Mastery of your alcohol or drug problem; Cognitive behavioral therapy for obsessive compulsive disorder. San Antonio: Graywind/ Harcourt Brace. *(Different manuals have different first authors. Most manuals have client monitoring forms and therapist manuals available. Call Psychosocial Therapeutic Systems 1-800/211-8373 for ordering information or a brochure.)*

Burns, D.D. (1980). Feeling Good: The New Mood Therapy. New York: Signet.

Foa, E.B. & Wilson, R. (1991). Stop obsessing: How to overcome your obsessions and compulsions. New York: Bantam.

Hauri, P. & Linde, S. (1990). No More Sleepless Nights. New York: John Wiley & Sons.

Jamison, K.R. (1995). An Unquiet Mind: A Memoir of Moods and Madness. New York: Vintage.

Marks, I.M. (1978). Living with Fear. New York: McGraw-Hill.

Miller, W.R. & Munoz, R.F. (1982). How to Control Your Drinking, (Rev. Ed.). Albuquerque: University of New Mexico.

Scarf, M. (1980) Unfinished business: Pressure points in the lives of women. New York: Doubleday.

Sheehan, D.V. (1986). The Anxiety Disease. New York: Bantam Books.

Steketee, G. & White K. (1990). When once is not enough: help for obsessive compulsives.

Weeks, C. (1978). Hope and Help for Your Nerves. New York: Bantam Books.

Wilson, R. (1987). Don't panic: Taking control of anxiety attacks.

Phone Numbers.

Community Referrals: (312) 876-0010.

National Clearinghouse for Alcohol and Drug Information (NCADI): (301) 468-2600, (800) 729-6686.
RADAR (Illinois): (217) 525-3456.
Sterns Book Service (Phone Orders): (312) 561-2121.

Self-Help Organizations

Alcoholics Anonymous: (312) 346-1475.
Anxiety Disorders Association of America. 11900 Parklawn Drive, Suite 100, Rockville, Maryland 20852-2624. Telephone: 301/231-9350
Anxiety Control Techniques, Tinley Park, Illinois. Telephone: 708/614-9016. Contact: Shelly Evans.
DDA (Dual Diagnosis Anonymous): (312) 371-5170; (312) 530-5380.
GROW (Illinois Branch Office): 217/352-6989
National Alliance for the Mentally Ill (NAMI) [National Office]: 703/524-7600
NAMI Helpline: 1-800-950-NAMI (6264)
National Depressive and Manic Depressive Association of Metro Chicago (& suburbs): 773/275-3230
The OC Foundation, Inc. Office, 9 Depot Street, Milford, CT 06460 Telephone: 203/878-5660. Mailing Address: P.O. Box 70, Milford, CT 06460.
Obsessive Compulsive Information Center Dean Foundation. 8000 Excelsior Drive, Suite 203, Madison, WI 53717-1914. Telephone: 608/836-8070 Fax: 607/836-8033.

Web sites

Association for the Advancement of Behavior Therapy (AABT) website

www.aabt.org - This website offers information on current topics in behavior therapy, order forms for fact sheets psychiatric disorders, special populations and treatments, and links to psychology, psychiatry, and social work web sites.

NAMI

www.nami.org - This web site has information about mental illness, medication, and links to other sites as well as numerous printable brochures and information sheets for consumers and family members.

Handouts and Worksheets (attached in appendix A)

Medication diary

Incentive Program Evaluation Instrument

Daily event log

Costs and benefits of taking medication

Agitation warning signs

Behavioral consultation worksheet

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Brenner, H., Hodel, B., Roder, V., & Corrigan, P. W. (1992). Treatment of cognitive dysfunctions and behavioral deficits in Schizophrenia. *Schizophrenia Bulletin, 18*, 21-26.

Corrigan, P. W. (1997). Behavior therapy empowers persons with serious mental illness. *Behavior Modification, 21*, 45-61.

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Corrigan, P. W., Schade, M. L., & Liberman (1992). Social Skills Training. In R. P. Liberman (Ed.) *Handbook of Psychiatric Rehabilitation* (pp. 95-126). New York, New York: Macmillan.

Kirschenbaum, D. S., & Flanery, R. C. (1983). Behavioral Contracting: Outcomes and Elements. In M. Hersen, R. M. Eisler, & P. M. Miller (Eds.) *Progress in Behavior Modification* (pp. 217-275). New York, New York: Academic Press.

Liberman, R. P. (1988). Behavioral Family Management. In R. P. Liberman (Ed.) *Psychiatric Rehabilitation of Chronic Mental Patients,* (pp. 199-244). Washington, D. C.: American Psychiatric Press.

Nelson, R. O., & Hayes, S.C. (1986). The nature of behavioral assessment. In R. O. Nelson & S. C. Hayes (Eds.) *Conceptual Foundations of Behavioral Assessment* (pp. 3-41). New York, New York: Guilford.

O'Banion, D. R., & Whaley, D. L. (1981). *Behavioral Contracting: Arranging Contingencies of Reinforcement*. New York, New York: Springer.

Skinner, B. F. (1974). *About Behaviorism*. New York, New York: Random House Inc.

Wallace, C., Liberman, R. P., & MacKain, et al. (1992) Effectiveness and replicability of modules for teaching social skills and instrumental skills to the severely mentally ill. *American Journal of Psychiatry, 149*, 654-658.

Appendix A.

Handouts and worksheets

MEDICATION DIARY

Name:_____ Dates: from_____ to_____

DATE	TIME							Side Effects and Symptoms

Medication Schedule (Times):

_____

_____

_____

INCENTIVE PROGRAM EVALUATION INSTRUMENT

Program: _____

Evaluator:_____ Date:_____

General questions about the program: (From interview of unit director, psychologist, unit champion, chair of program committee or other person most knowledgeable about unit program.)

Who did you interview for the information in this section? _____

1. Is there an incentive program in operation on the unit? ___Yes ___No

2. Are all consumers offered the opportunity to participate? ___Yes ___No

3. Approximately what percent of the consumers on the unit do participate (earn points on a daily basis, use the token store)? _____

4. Who identifies behaviors for which consumers receive points on their token cards? _____
_____

5. Who is responsible for handing out points? (For example, many different staff, techs only, nurses only, case managers and nursing staff.) _____
_____

6. Who is responsible for running the token store? (e.g., all staff, staff and consumers, only nursing staff, only activity therapy staff) _____

7. How often and at what times is the token store supposed to be open? _____
_____

8. What kinds of items are available in the token store? (e.g., consumables/snacks, toiletries, stationery, privileges.) _____
_____

9. Who holds the cards/Where are the token cards located?) (e.g., consumers carry their own, nurses keep them on a clip board in nurses station.) _____
_____

10. What barriers are there to consumer participation in the incentive program? (e.g., consumers are not interested in what we have in the token store, staff do not discuss this with all consumers.)_____
_____

11. What barriers are there to staff participation in the incentive program? (e.g., staff do not believe in incentive programs, staff do not feel it is their responsibility, staff do not believe that the hospital administration feel it is a priority.) _____
_____
_____

12. What barriers are there to regular use of the store? (e.g., staff have other responsibilities that are of higher priority, consumers don't use the store when it is open, the store is often empty.)_____
_____
_____

Other comments about the incentive program. _____
_____
_____

Information Gathered from Token Cards:

How many cards did you review? _____

1. Could the current token cards be easily located? ___Yes ___No
   Where were they? (e.g., most consumers had their own, in the nurses station, group leaders had them, primary therapists had them, they couldn't be located.) _____
   _____

2. Were the cards up to date, that is, were points given for activities that had occurred up to the time that the cards were inspected? ___Yes ___No

3. Did it appear that a single individual had made an entire day's entries or did it appear that different individuals had made different entries ? (For example, was the handwriting the same for the whole day or did the handwriting change for different entries. Were there different initials for different entries?) ___Yes, it appeared that the same person had made all entries. ___ No, it appeared that entries were made by different people.

4. When points were not awarded for a particular activity was a zero entered for the activity, or was the activity blank? ___ a zero was entered ___the activity was blank ___points were earned for all activities

5. Were idiosyncratic behaviors identified on the card? (Idiosyncratic behaviors are behaviors that apply specifically to that individual, as opposed to unit-wide behaviors that are identified for all individuals on the unit.) ___Yes ___No

Information Gathered from Interviewing Staff:

How many staff did you interview? _____

What roles did the staff have in the incentive program? (For example, running the token store, awarding points for using specific coping skills.) _____
_____
_____

1. How many staff could identify some specific behaviors for which points are awarded? _____

2. How many staff could tell you when the token store was open and could explain how the token store operated? _____

3. How many staff felt that the incentive program was a useful component of the program on the unit? _____

What were the staff comments about the program?_____
_____
_____
_____

Information Gathered from Interviewing Consumers:

How many consumers did you interview? _____

1. How many consumers were participating in the incentive program (earned at least some points each day, spent points in the token store)? _____

2. How many consumers could show you their token cards or tell you where their token cards were located? _____

3. How many consumers could tell you how they earned points (could identify behaviors for which they earned points)? _____

4. How many consumers were involved in identifying behaviors for which they receive points on the token card? _____

5. How many consumers were satisfied with the incentive program? _____

What did they like or dislike about the incentive program? _____
_____

6. How many consumers felt that the incentive program was a useful part of their program on the unit? _____

   What did they feel is useful or not useful about the incentive program? _____
   _____

7. How many consumers felt that the incentive program was demeaning? _____

   For those who felt that the incentive program is demeaning, what aspects did they feel is demeaning? _____
   _____

What were other consumer comments about the program? _____
_____
_____
_____

Information Gathered from the Treatment Plans:

How many treatment plans did you review? _____

1. How many treatment plans mentioned use of the incentive program? _____

2. For treatment plans that mentioned the incentive program, how was the incentive program used? (For example, to increase use of coping skills, to decrease aggressive behavior, to increase use of social skills, to increase attendance and participation in therapy or skills groups.)

_____
_____
_____

DAILY EVENT LOG

NAME:_____
DATE:_____

TIME	WHERE, WITH WHOM, CONDITIONS	ACTIVITY: What you did. (What you were supposed to do.)	COMMENTS: FEELINGS, THOUGHTS, CONSIDERATIONS, MEDS
Fr: **To:**			
Fr: **To:**			
Fr: **To:**			
Fr: **To:**			
Fr: **To:**			
Fr: **To:**			
Fr: **To:**			
Fr: **To:**			
Fr: **To:**			

Name: _____ Clinic: _____ Date: _____

COSTS AND BENEFITS
OF TAKING AND NOT TAKING MEDICATIONS

	BENEFITS	COSTS
Taking Medications		
Not Taking Medications		

Decision: _____

AGITATION WARNING SIGNS

Name:_____

Month:_____

Goals Group

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	2
Severe																							
Moderate																							
Mild																							
Not Present																							

11:00

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	2
Severe																							
Moderate																							
Mild																							

Not Present																						

After Lunch

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**2**
Severe																							
Moderate																							
Mild																							
Not Present																							

3:00

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**2**
Severe																							
Moderate																							
Mild																							
Not Present																							

BEHAVIORAL CONSULTATION FORM

Program: _____ Date: __/__/__
Contact Staff: _____ Session No.:___
Consumer Name: _____

Problem Identification:

The problem.

_____

Baseline behavior.

_____

Desired results.

_____

Under what conditions.

_____

_____

Problem Analysis:

Perform a functional analysis to identify antecedents and consequences of the target behavior and organismic variables. Identify relevant behavior chains.

Antecedents. _____

_____

Consequences. _____

_____

Organismic variables. _____

_____

Behavior chain. _____

_____

Skill deficits (e.g., alternative behaviors, incompatible behaviors, coping skills).

_____

_____

Incentives for using the skill.

_____

_____

Barriers to using the skill.

_____

_____

Plan Implementation:

Brainstorm Interventions.	Identify pros and cons for each alternative. Pros	Cons
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____

Selection of intervention.

Feasible to implement. *Circle YES or NO.*

1.	YES	NO
2.	YES	NO
3.	YES	NO
4.	YES	NO

Will it solve the problem? Circle YES or NO.

1.	YES	NO
2.	YES	NO
3.	YES	NO
4.	YES	NO

Consumer's choice: _____

Selected intervention.

_____

Identify barriers to selected intervention and a parallel solution.

_____

_____

Determine when, where and who will implement intervention.

When. _____

Where. _____

Who. _____

Devise monitoring plan.

_____

_____

Assess whether relevant staff have skills and incentives to implement the plan.

_____

_____

_____

Develop consultee's skills.

_____

_____

_____

Schedule follow-up session.

_____

_____

Problem Evaluation:

Objectives met? (Complete the ASSESSMENT FORM)

_____

If objectives have not been met, either revise intervention or choose a new intervention to implement and again follow steps.

_____

Continue with follow-up sessions.

_____

_____